An Examination of Stormwater Quality and Quantity in Austin Area Creeks

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Executive Summary

The Large Watershed Study is an ongoing project of the Environmental Resources Management Division of the Watershed Protection Department. We used U.S. Geological Survey flow gauge stations and some stream stations of our own as locations to obtain stormwater samples in local streams. Rainfall data was collected to correspond to these stations through the City FEWs gauge system as well as data downloaded from NexRad weather radar. Storm and base flow was separated using a variety of techniques. Water quality data was obtained from both discrete sampling at first which each aliquot was analyzed and mathematically flow-weighted to arrive at an event mean, and samples flow weighted and manually composited based on flowmeter records before laboratory analysis. A wide variety of conventional and toxic pollutant parameters were analyzed. Watershed characterizations of impervious cover, land use, and groupings based on development condition were also added information.

Analysis included careful processing and quality control resulting in a set of baseflow ratios, event mean concentrations, impervious cover, rainfall, and hydrologic metric statistics for each site over time. Site summary statistics characterized each location. Linear regression with time indicated trends were used as well as linear regression of BFR with IC and rainfall to explore these relationships across the gauge data. Trends of EMCs with time and linear relationships of EMC with peak flowrate and rainfall were evaluated. Annual pollutant loads were looked at with respect to impervious cover and average annual rainfall and multiple regression was used to look at effect of peak flowrate on the change in EMC over time.

Although this monitoring project has been ongoing since the 1980's, each discrete period of reporting has specific questions to be answered from the data analysis due to current regulatory and technology issues related to hydrology and stormwater management. This period sought answers to questions beneficial to low impact development stormwater management and knowing baseflow ratios across Austin stream types. Also relationships between hydrologic metrics and water quality conditions were of importance. These issues were responses to customer needs for guidance on local design parameters for stormwater treatment and green infrastructure technology applications in this area as well as planning needs for potential modifications to the water quality business plan to incorporate these increasingly popular

methods of achieving both hydrological and water quality benefits to stream health in development projects and retrofits.

After comparing results of baseflow ratio (BFR) from different methods, it was concluded that the digital filtering method using UV data and default values of parameters can produce results that are generally consistent with the constant slope method and therefore should be used for City of Austin (COA) modeling purposes. The constant slope method can be used for DV needs.

As expected, the baseflow ratio in undeveloped creeks (70-80%) and in recharge zone (60-70%) are higher than baseflow ratio in suburban creeks (40-50%) and urban area (10-25%). It can be therefore concluded that the higher the impervious cover is for a watershed, the less baseflow the watershed has. It has also been found that the runoff coefficients for large watersheds are usually lower than the runoff coefficients for small watersheds for the same impervious cover.

For relationship between EMC of a pollutant parameter and date, more significant trends can be observed for CD, TOC, TKN, TN, TSS, DP, NH3, TP, and ZN, and more parameters trend in stations 08155300, 08154700, 08155400, 08156800. Similarly more parameters trend in the watershed group of Barton Creek stations and the group of urban area stations.

From linear regression, the EMC of a pollutant parameter are often influenced by peak flowrate. The EMCs of TDS are decreased with increase of peak flowrate and the EMCs of TSS, TP, TDS, TKN, TOC, TN and PB are usually increased with increase of peak flowrate.

Also from the linear relationships the EMCs of a pollutant parameter are often related to rainfall as very similar way as peak flowrate. However, fewer parameter relationships between the EMC and rainfall can be observed than between EMCs and peak flowrate. Peak flow and rainfall depth can be influenced by physical factors of the watershed and channel; therefore, these can be an indirect factor in EMC values.

For all pollutant parameters, the average annual load from storm flow increases as impervious cover increases. The only parameters with significant trends for baseflow loads were Cadmium (CD) and dissolved Phosphorus (DP). Although increasing temporal trends of stormwater loads are consistent with increasing development and impervious cover over time, these data do not allow much decomposition to examine influence of regulatory restrictions on development to slow or halt increasing stormwater pollution.

The peak flowrate has effect on the change of EMC of TSS over time for most stations where the EMC of TSS changes over time. The effect of peak flowrate on change of EMC can also be observed for PB, TOC, TP, and VSS. In most cases the increase of peak flow reduces the decrease of EMC over time for these parameters.

Further diagnostics of some of the statistical relationships are suggested as a post check to the analysis, as well as a check on laboratory detection limits that may have changed over time for some parameters during a long term study such as this. Further data mining is also suggested using a variety of watershed information that may not have been available at the time the last period of investigation was initiated. Using the data to determine the effect of watershed specific regulation over time such as the Edwards aquifer rules from TCEQ or the SOS Ordinance by the City of Austin would be of great benefit. If additional data collection and analysis are necessary, projects that can leverage the existing data to find the best mix of stormwater management strategies applicable to local conditions present throughout Austin can be priorities.

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1 Introduction

The natural stream network in the Austin, Texas area is one of the community's greatest assets; providing both structure to the City's green space and an important part of the City's stormwater conveyance system. Early in the efforts to understand and protect Austin area streams, data gathering on hydrology, hydraulics and water quality began. Monitoring of the stream network started in 1898 when the US Geological Survey (USGS) established a gauging station on the Colorado River below Austin. USGS established gauging stations on Waller Creek in 1955 and on Walnut Creek in 1967. These stations were established to measure flow and only daily flow averages were reported.

In the late 1970s the USGS, in cooperation with the City of Austin (COA), established flow gauges in several area creeks and collected limited water quality data. After the Memorial Day flood in 1981, the Cooperative Monitoring Program (CMP) and Joint Funding Agreement between the City and USGS was expanded to comprehensively collect flow data in Austin area creeks. The water quality component of the CMP was increased in the early 1990s to help evaluate creek health and examine the change in stormwater chemistry as the watersheds developed. The Stormwater Quality Evaluation (SQE) section of the City's Watershed Protection Department (WPD) took over the operations and maintenance of some stations previously operated by USGS, including those on Waller Creek, and established other creek gauging stations to meet COA data needs. In the early 2000s additional gauging stations were added to the CMP at the request of the COA Flood Early Warning System (FEWS) to assist with their efforts; these stations were for flow only.

A large dataset of flow and stormwater quality data has been assembled through the years combining the USGS and COA stations. Currently, the City uses these data in a number of programs in the WPD, Austin Water Utility (AWU), Austin Resource Recover (ARR), Austin Fire Department (AFD), Office of Emergency Management Services (OEMS), Austin Transportation Department (ATD), Parks and Recreation Department (PARD) among others, and makes these data available to citizens, researchers, students, and other government agencies. The primary COA funding contributed to obtain and analyze these data is from WPD through the Water Quality Monitoring activity. The City business plan objective of this activity is to

"evaluate pollution in stormwater runoff and evaluate the effectiveness of controls both individually and collectively across watersheds". The data analyzed in this report addresses impacts to hydrology and water quality at the collective watershed scale. The collection of such data aligns with the mission of WPD to "protect the lives, property, and environment of our community by reducing the impact of flooding, erosion, and water pollution" primarily by contributing to data-driven regulations, projects, and programs directed at this goal.

Periodic update reports have been made on these data over the years, and a particular set of technical questions to be answered have been developed for each based on contemporary needs and previous analyses. Use of these data in calibration/verification of watershed modeling, evaluation of volume controls in distributed green infrastructure (GI) planning and design, and applying controls to meet relevant measureable water quality objectives for WPD masterplan updates are anticipated needs in the near future. This report will address the following questions that will contribute to these three priority needs and others in the WPD business plan:

<u>Runoff Quantity</u>

- Are there changes in baseflow ratio over time at different stations? – Affects how historical hydrological changes and regulations are evaluated and projected in models used in design and planning.
- Do baseflow ratios change based on land use category or recharge? – Affects model calibration and ungagged watershed modeling assumptions as well as special needs of Barton Spring Zone regulations.
- Are baseflow ratios influenced by impervious cover? – Both calibration relationships and projections of volume control GI BMPs effectiveness could be modified based on results.
- Are runoff-rainfall ratios for large watersheds as classified by COA similar to those of small watersheds as classified by COA (2009)? – Affects how interception/abstraction/storage design parameters are used on sites, behavior of GI depending on degree of coverage, and other parameters of volume controls. May also affect calibration relationships in hydrological models.

Runoff Quality

- Are there significant trends in runoff water quality over time? – Further investigation of watershed development pattern or source characterization may be needed. May affect projections on degree of water quality changes with future development under climate change.
- Are there significant relationships with runoff quality and runoff size and or intensity? – May require investigation of placement, type, or concentration of imperviousness in stream network or operations/management sources. Also may affect projections of water quality based on runoff characteristics. May affect calibration coefficients for water quality models and modification of coefficients for future projections under climate change.
- Are there significant relationships between pollutant loads for different pollutants and impervious cover? - More detailed watershed characterizations may need to be performed and this may affect modeling parameters and mapping strategies.
- What are the long-term average annual pollutant loads for the various monitoring stations? – Although required for regulatory purposes for use in overall status and reporting, these data are also necessary for downstream receiving water body water quality models and planning on a regional or basin-wide scale.

In addition to these questions, this report will evaluate various methods for computing baseflow ratios and make recommendations as to which method COA should use for future analyses. This maybe be a useful contribution for standardizing model calibration procedures used in citywide planning evaluations. Such standardization is necessary to optimize expenditures of WPD funds for stormwater controls for water quality protection. It is also necessary to make methods used at the City completely transparent and reproducible. Similarly, methods to compute impervious cover for watershed modeling will also be discussed and recommendations made for future use. Various hydrologic metrics for the monitoring stations will be computed that have been found to be useful in relating aquatic life to hydrology. Recommendations for subsequent data mining and analysis projects will be summarized for implementation.

Figure 1.1 is a map indicating the locations of the monitoring stations and associated creeks. Watershed groupings noted on this figure are for reference in later analysis and discussion and are not strictly regulatory categories currently used in the COA Land Development Code.

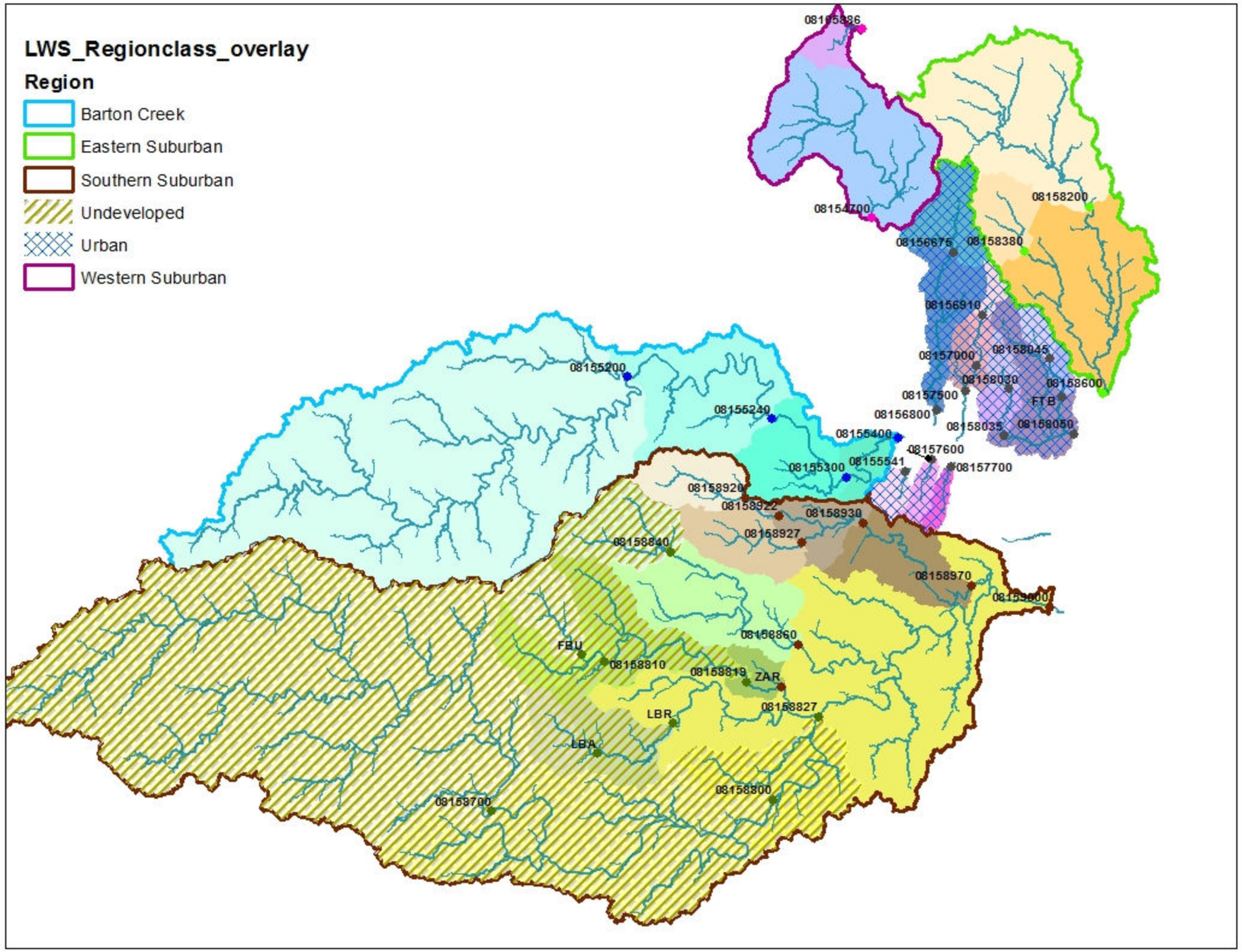

Figure 1.1 City of Austin and US Geological Survey Creek Monitoring Stations in the Austin, Texas area.

2 Data Collection, Processing and Analyses

In a previous project on small watersheds in Austin, flow, rainfall and water quality data were all collected under the same program (COA 2009). In this report on larger watersheds in the Austin area, data were collected under several monitoring programs (USGS, COA-FEWS and COA-SQE) and data from each are managed accordingly. Data preparation methods were designed to fit the large watershed data into the same form appropriate to use the processing and analytical methods developed for the small watershed data. In our vernacular, the difference between a "small" and "large" watershed is linked to hydrological response and characteristics. Simple rainfall/runoff relationships should prevail in a small watershed and baseflow and recharge/return flow groundwater hydrology should be absent. Our smallest large watershed has a drainage area of 715.5 acres and our largest small watershed drains 481.1 ac although most are much smaller (COA 2009). There are some definite distinctions in the behaviors of the hydrographs of small catchment areas as compared to streams and river basins. Also, a boundary or transition area where the mathematics describing each falls apart for the other under certain conditions may exist primarily due to groundwater/surface water interactions. However, our distinction is primarily for utility in studying the streams of the Austin area as a group in this report separate from selected catchment areas of sites within those stream watersheds in the previous report. Each study has its own objectives, design and plan although some methods and analyses are similar.

2.1 Flow Data

Flow data used in this report comes from two primary sources, USGS and SQE. Data acquisition and screening of SQE flow data follows the same process as that outlined in small watershed monitoring (COA 2009). SQE monitoring stations are equipped with automatic stage recorders and data loggers that measure and record stage in 1-minute increments. Stage may be measured using several different methods based on the conditions at the monitoring site; methods include pressure transducers, ultrasonic devices, and bubbler meters. SQE uses bubbler meters in most instances because they have proven to be the most reliable and are similar in operation to those used by USGS.

Regardless of meter type, SQE staff downloads level data from each meter on a regular basis and stores it on a central server. The level data are then loaded into a time-series database for further processing. SQE uses the Hydstra/TS Time-Series Data Management module to store, screen, edit and process flow and level data. Hydstra/TS provides the tools for staff to dynamically verify data loggers were properly operating and recording data, thus reviewing large quantities of data in a short period of time. While screening level data, staff may delete spurious points, adjust levels that are out of calibration, or simply code the data as unreliable. SQE often installs multiple meters at each monitoring site to examine and verify site hydraulics and provide redundancy. If the data from the primary meter are unavailable, the data from the secondary meter may be used to complete the flow record.

Flow data obtained from USGS is downloaded from USGS servers and loaded directly in to the Hydstra/TS Time-Series Data Management module. Two types of data are obtained from USGS, daily-value (DV) data and unit-value (UV) data. UV data are sub-daily flow measurements at the smallest time unit used for that gauge. These units may vary from station to station depending on the rate of change in the flow rate with larger rivers or lakes often using hourly measurements and sub-hourly measurements being used on smaller watersheds. The periodicity of the time-step has also changed with time, as data reporting and recording equipment has improved, the time-step has decreased. Currently USGS uses a 5-minute time-step on all Austin area creeks; a 15-minute time-step was use on most creeks until the late 1990s. To account for the change in periodicity, analyses in this report that rely on the sampling rate used a 15-minute time-step. DV data represent the daily average flow rate which is computed from the UV data.

USGS data are not downloaded until they have been finalized by the USGS. USGS quality codes associated with the data are translated into Hydstra quality codes and applied to the data. Since the data have been screened and approved by USGS, SQE performs minimal screening and editing of the data. At this point the USGS and SQE flow data are in similar forms and are processed in the same manner.

The initial estimated starts and ends of runoff events for creek monitoring stations are identified automatically using a specialized program in Hydstra called COAEVENTS. This

program computes a trace representing the slope of the hydrograph. The potential start of an event is identified by an increasing hydrograph slope. If the increase is maintain for a sufficient period and enough volume has accumulated, parameters specific to individual monitoring stations, the start time is accepted and the program starts to search for a potential end point for the event. The end time of the event is estimated by examining the slope of the recession limb of the hydrograph to find the inflection between quick flow, or runoff, and baseflow. Typically a recession slope greater than 0.8 would indicate quick flow while a recession slope less than 0.1 would indicate baseflow. In between these two values the flow is some combination of both quick flow and baseflow. The most likely recession slope value is site specific and is influenced by watershed size and impervious cover. SQE has determined the recession slope values for the various sites used by COAEVENTS after many years of manually delineating events. Once the starts and ends of the events are computed, they are reviewed by SQE staff and manually adjusted as needed based on experience with manual baseflow separation at the site.

Once the data screening and other quality checks have been completed, Hydstra is used to compute the cumulative volume of runoff for each individual runoff event that has been delineated. These data are stored in a database for further processing and analyses.

2.2 Rainfall Data

Rainfall data used in this report comes primarily from two different sources, SQE rain gauges including those used for monitoring smaller watersheds and from a system of stations operated by the City of Austin WPD Flood Early Warning System (FEWS) http://www.austintexas.gov/department/flood-early-warning-system. Most SQE stations are equipped with 0.01-inch tipping-bucket rain gauges. Data from these gauges are stored in the same data logger used for the stage data as one-minute cumulative rainfall depths. These data are downloaded and stored along with the stage data and screened in Hydstra/TS. Rainfall data are checked for spikes or other extraneous data and for clogged or partially clogged rain gauges by comparing the data to the hydrograph and nearby rain gauges.

FEWS stations are used primarily to predict flooding conditions and are equipped with 1-mm tipping-bucket rain gauges. These stations instantaneously report bucket tips to the FEWS central server via radio communication to be used for flood warnings. SQE downloads these

data quarterly from the FEWS server. These data are first converted to 1-minute total data and then converted from millimeters to inches at 0.01 inch resolution. At this point the FEWS data are in the same form as the SQE data and are loaded into Hydstra and screened in the same manner.

After the data from each individual rain gauge have been screened and problematic data have been marked, SQE substitutes good rainfall data from the nearest operable gauge for missing or bad data. Substituted data are marked as such for future reference; a good quality is assigned if the data are from within 1.5 miles and an acceptable quality is assigned if the data are between 1.5 and 3 miles from the site in question. No substitution is allowed if there are no reliable gauges within three miles.

While one rain gauge may be used to represent the rainfall at a small watershed of several acres, the variability in rainfall over several hundred acres makes relying on a single rain gauge problematic. SQE used area-weighted rainfall for analyses in this report to account for this. Thiessen polygons were constructed using ArcGIS based on the set of operational rain gauges for a given time period. These were intersected with the watershed boundaries to create the area-weights associated with each rain gauge for each watershed. The weights applied to each gauge at every time-step and the values summed to create a 1-minute area-weighted rainfall record which is associated with each flow gauge.

After each site has a complete, screened rainfall record, the start and end of individual rainfall events are delineated. Generally, an event must have a minimum of 0.04 inch (1 mm) of rainfall and should be followed by a 6-hour dry period. Up to 0.02 inches of rain are allowed during a dry period. These data are stored in a database for further processing and analyses.

Future rainfall data needs may be met by the NexRad (Next-Generation Radar) system of 159 high-resolution Doppler weather radars operated by the National Weather Service. Access is available through the Rainvieux rainfall monitoring software used by the FEWs program. FEWs gauge data and NexRad precipitation data overlap and have been used concurrently since the late 2000's by SQE. It has been valuable in completing records in cases of missing data at FEWs stations and constructing area weighted rainfall records for data analyses. Having NexRad data will potentially allow adjustments of screening for storm hydrograph endpoints at multiple

locations in the watershed where FEWs stations are not available. In addition, NexRad distributed rainfall data can be used directly as input into hydrologic and hydraulic models for flood predictions real time and for predictive modeling of water quality to address a number of the WPD objectives discussed earlier.

2.3 Water Quality Data

The time each water quality sample is collected, whether automatic or manual, grab or composite aliquot, is recorded to link water quality results to the flow record regardless of the source of the flow or water quality data. These sample times are stored in a database for further processing. Water quality results are transferred electronically from the analytical laboratory along with laboratory QA/QC results. The results are screened for statistical outliers that may be due to contamination or laboratory error. Laboratory QA/QC data for each samples are compared against control limits; results that fall outside control limits are flagged for further investigation.

Sample times are compared against previously recorded flow event starts and ends. If a sample falls outside a delineated flow event, staff may include the sample by adjusting the event start or end or by excluding the sample from computation if it is not representative of the flow event.

2.4 Final Data Processing

Once the individual components are processed, the final stage of processing reconciles any discrepancies. Rainfall events are compared with flow events to create a single start and end for each event. Sample times are checked to ensure samples fall within events. Other logical checks are performed to ensure events have been correctly screened. These include checking for flow before the start of rain or for rain after the end of flow, verifying that events do not overlap or that one event is not entirely contained within another event. Once these checks have been completed, event data are stored in a common database.

SQE has worked extensively with the developers of Hydstra to customize data reporting unique to COA needs. The customized program queries the database containing the start and end

times for each event. The program then uses these times to query the times series data to report various event statistics that may be needed for further analyses. These statistics include total rainfall (in), total flow (cf), peak flow rate (cfs), peak rainfall intensity (5-min, 15-min, 60-min) (in/hr), preceding dry interval (hr), preceding event rainfall (in), time to peak flow rate (min), time to peak rainfall intensity (5-min, 15-min, 60-min) (min), time to rain centroid (min), time to rain mid-point (min), time to flow centroid (min), time to flow mid-point (min), and event runoff-rainfall ratio.

2.5 Rv Computations

Rv is defined as the ratio of stormwater runoff volume to storm rainfall volume for a given watershed. Individual event runoff ratios are computed; however, they are strongly influenced by factors such as antecedent conditions, rainfall intensity and rainfall volume and are normally only used to help verify site data such as watershed area and flow rating. The site *Rv* is defined as:

$$Rv = \frac{\sum_{i=1}^{n} RO_i}{\sum_{j=1}^{n} RF_j} \qquad [2.1]$$

where RO is the volume of runoff for the event and RF is volume of rainfall for the associated event. Only events that have both valid rainfall and flow are used for this computation.

2.6 EMC Computations

The computation of an EMC is more complex than the computation of an *Rv* for an event. The first step in computing an EMC is dealing with the un-sampled portion of the event at the beginning and end of an event since samples are rarely collected precisely at beginning and end of flow. To account for this, "anchor" samples are placed at the start and end of flow. For larger watersheds that normally have baseflow, the water quality values for the 'anchor' samples are set to be equal to the average baseflow concentrations for that site, assuming the baseflow average is less (or more in some cases) than the first or last sample respectively; the concentrations of some parameters such as TDS or nitrate decrease during runoff events. Since each water quality

sample represents a point in time, the assumption was made that water quality changes linearly between each sample. This assumption allows Hydstra/TS to construct a time-varying concentration record. This record is combined with the hydrograph to create a pollutograph, mass/time plotted against time. Once this is completed, Hydstra/TS computes a total load for the event. This process is repeated for each water quality parameter. Figure 2.1 is an example of combining the flow hydrograph and individual samples to create a pollutograph. Cumulative load and flow can be computed from these data.

Once the loads for the event have been computed, the EMCs for the event are computed in a manner similar to the *Rv*, total load of the event divided by the total volume of the event. The loads and EMCs are stored in an external database for later computations.

SQE evaluated each EMC to determine if the event was sufficiently sampled to be representative of the water quality during the event. Several items are checked during the event scoring including the volume sampled, the load sampled, the peak flow rate relative to the flow rate at the time of sampling and the number of samples relative to the size of the event.

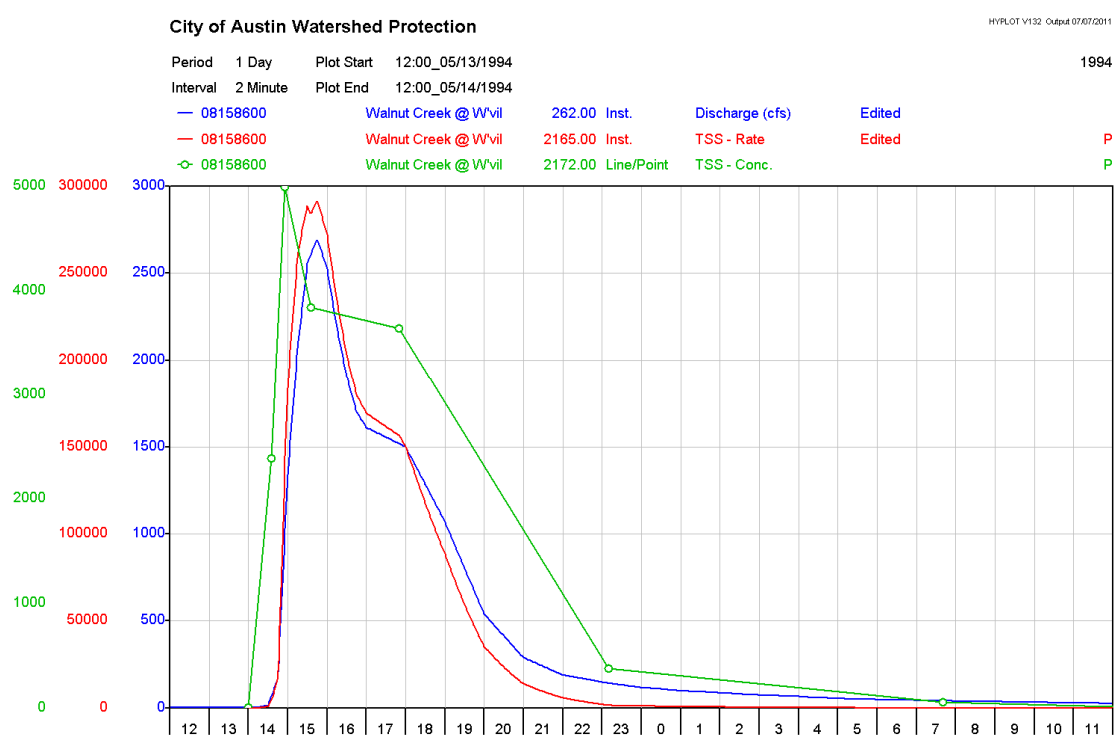

Figure 2.1: Hydrograph, water quality samples and pollutograph used to compute an EMC.

The first evaluation, the volume score, examines un-sampled portions of the event. These analyses are divided into three components: 1) the portion of the event before the first sample, 2) the maximum portion of the event between each sample, and 3) the portion of the event after the last sample. An initial score of 120 is assigned to the event and two points are deducted for every percent of the volume between the start of the event and the first sample. For the volume between samples, an initial score of 120 is assigned and one point is deducted for each percent of the volume represented by the largest gap between adjacent samples. The end of the events is scored similar to the intra-sample scoring; 120 is initially assigned as the score and one point is deducted for each percent of the volume after the last sample. The overall score is the minimum of the three components with the maximum set at 100.

The second evaluation, the load score, was computed by the same methodology as the volume score. However, the load score is not normally used to exclude events but may be used to flag an event for potential problems.

The next evaluation, the flow rate score, examines the flow rate at the time samples are collected relative to the maximum flow rate of the event. This score is important for pollutants that are related to erosion where concentrations may be related to the flow rate. The score is computed by taking the square root of the ratio of the maximum flow rate of the samples to maximum flow rate of the event and multiplying by 100.

The final evaluation determines if an adequate number of samples were analyzed for the size of the given runoff event. This analysis is more difficult than the others, is site specific and changes over time. The initial assumption was that the median-sized sampled runoff event at a site may be adequately characterized by four well-placed water quality samples; this event is arbitrarily assigned a score of 75. If the event size (runoff volume) is doubled, one additional sample is required to maintain a score of 75. One additional sample is required each time the volume of the runoff doubles. If the runoff volume is one-half the size of the median runoff event, only three samples are required to achieve a score of 75. The score is computed using the formula:

$$SampleScore = 75 + \left(10 * \left(EventSamples - \left(\left(\frac{\log\left(\frac{EventVolume}{MedianVolume} \right)}{\log(2)} \right) + 4 \right) \right) \right) \qquad [2.2]$$

An initial score is set as the volume score. One-sample EMCs use the sample score only. For two-sample EMCs, the score is the larger of the volume or sample score if the sample score is at least 50. For three or more sample EMCs the score is the larger of the sample or volume score if the volume score is at least 50. All EMCs are then checked against the flow rate score and it is used if it is lower than the other assigned score. SQE staff review all event scores and may override individual score components or the total score based on professional judgment and experience.

Once the score has been assigned, the level of acceptance is determined. Because environmental data are inherently variable, a sufficient number of samples are required to produce a valid mean of said data. SQE strives for a minimum of 10 EMCs to compute an MC to reduce the potential for error in estimating the mean based on a long history of evaluating these data. As such, the acceptable score for a site is based on a sliding scale. A score as low as 50 is acceptable if there are ten or fewer EMCs. A score of 70 is the minimum if there are thirty or more EMCs. Scores lower than 50 are never acceptable while scores greater than 70 are always acceptable.

2.6.1 Data Substitution

From time to time, some parameters of interest were not reported by the laboratory. In some cases substitutions were made if supported by the lab methods themselves. For metals, dissolved values were substituted for missing total values for baseflow samples (low TSS). In the case of missing dissolved P, ortho-P was used. For nitrogen, if individual components were reported for a parameter but the parameter itself was not reported, the value was computed, e.g. organic N plus NH_3 was used for missing TKN.

2.6.2 Detection Limits and Censored Data

Censored data should always be addressed when working with environmental data. SQE has multiple types of censored data and each is dealt with separately.

If an individual sample result in an event was reported as $<X$, $X/2$ was used to compute a flow-weighted mean if the detection limit is reasonable given the concentrations of the other samples and EMCs at the site. Since concentration data cannot be less than zero, and if all values between zero and the detection limit are equally likely to occur, the mid-point is the expected value. Using the underlying mathematics and air pollution data, Kushner (1976) found the bias of using the mid-point would likely be overshadowed by measurement error and use of a finite sample size. Subsequently, Clarke (1998) looked at 10 censored data reconstitution methods for comparisons among very small samples ($n<10$) with below detection limit observations in dredged sediment testing. Her conclusion was that "For nearly all situations examined, substitution of a constant such as one-half the detection limit equaled or outperformed more complicated methods". In our stormwater data, if the detection limit was not reasonable, the sample was dropped from the computation of the EMC. A reasonable approximation of the concentration for a sample is better than a missing sample when computing an EMC when the cost and effort of storm sampling is high and the remaining samples are adequate.

If all samples in an EMC are reported as non-detect, the EMC was flagged as non-detect and these EMCs may be used in further analyses of that constituent at that site using maximum likelihood estimators (MLE) on the EMCs, depending on the number of non-detects. In practical terms, this applies only to Cd at most sites and Cu at a few sites as most other sites and parameters have relatively few non-detect EMC. The difficulty of MLE analyses is compounded by changing detection limits, in these cases the detection limit reported by the laboratory at the time of analysis was used.

Data are seldom censored on the upper end and in most instances there is little that can be done with the result. This most often happens when the sample was not diluted properly before analyses, primarily with bacteria and BOD. In the cases of BOD, the result is estimated from the result of the COD analyses based on long-term regression relationship between COD and BOD. Bacteria results that are censored high are arbitrarily set at twice the upper limit.

2.7 Baseflow Ratios

The baseflow ratio (BFR) is the fraction of total flow in a stream that is baseflow. Baseflow is typically considered natural return flow coming from groundwater sources, either shallow or deep aquifers, as opposed to surface runoff from a rainfall event. The baseflow ratio is an important hydrologic indicator of the amount of development in a watershed and may have a large impact on stream health. We looked at several different methodologies for estimating BFRs on UV and DV data in order to standardize the methods and parameters used in future analyses.

SQE tested several candidate methods, each with different assumptions, strengths and weaknesses. Methods selected as suitable for UV data include vertical separation, constant slope separation and recursive digital filtering (Figure 2.2).

Vertical and constant slope separation are similar and take advantage of the SQE efforts to delineate the start and end of runoff events. The vertical method assumes that all of the flow between the start and end of an event is direct runoff; all of the baseflow is suppressed during a runoff event. The assumption that all of the baseflow is suppressed may have validity on smaller ephemeral urbanized creeks; however if applied to larger watersheds with substantial baseflow the BFR will be underestimated. The computation of Rvs on these larger watersheds will also be affected. The primary advantages of this method are a) that it is very simple and b) it simplifies assumptions when dealing with water quality since the water quality samples representing any mixed flow that may be present would be considered either baseflow or stormflow.

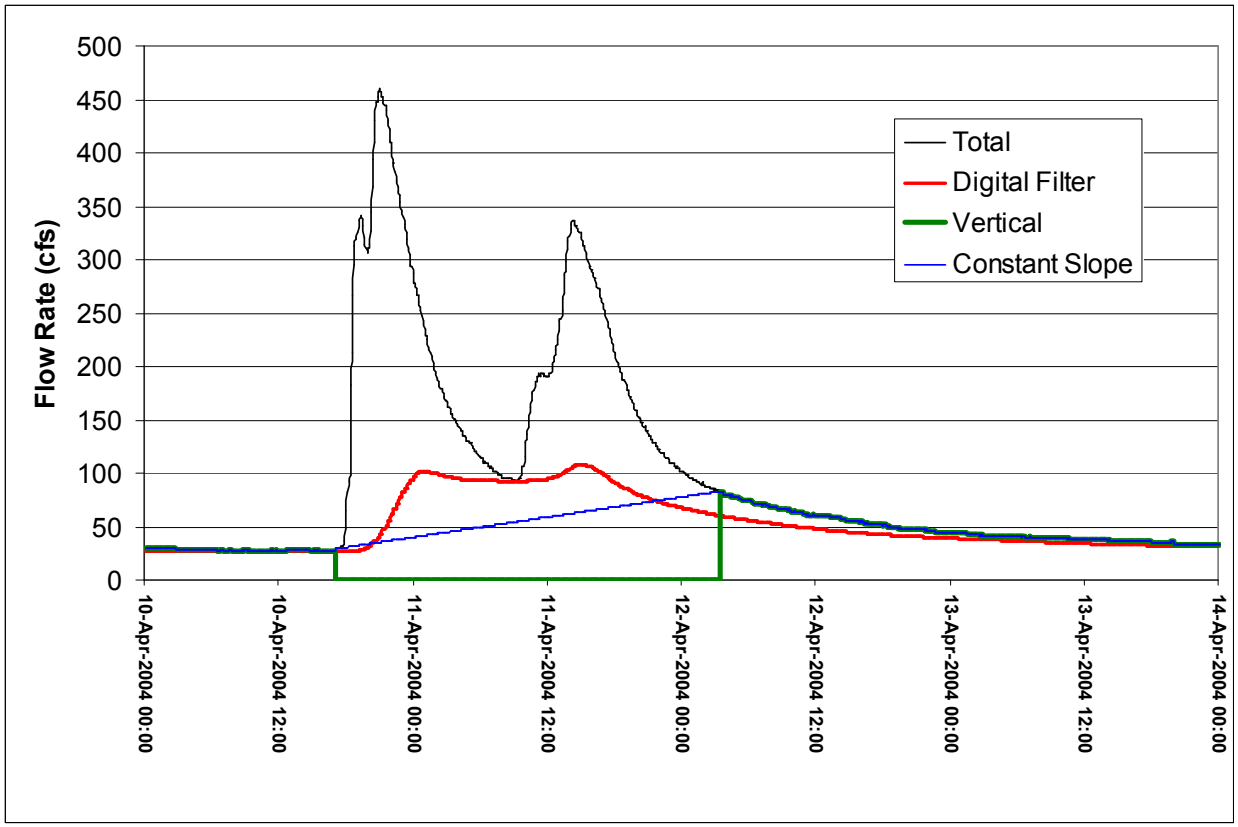

Figure 2.2: Three baseflow separation techniques, constant slope, vertical and digital filter, used to separate storm flow and baseflow on UV data.

The constant slope method assumes that a constant slope line connects the flow rate at the start of the event with the flow rate at the end of the event and all flow below this line is baseflow; the baseflow is not suppressed. This method is more commonly used than vertical separation and is applicable to larger creeks and rivers. Since smaller urbanized creeks usually have very little baseflow, any error introduced by using this method on them should be small. The constant slope method is more complicated since it requires additional manipulation of the flow and water quality data but it may be a better estimate of the BFR for all creeks.

The digital filter method separates the baseflow by applying a digital filtering algorithm developed by Lyne and Hollick (1979) to flow data. Further studies by Nathan and McMahon (1990) and Arnold, et al. (1995) compared this method of baseflow separation with several other more rigorous algorithms and graphical separation techniques, concluded that the digital filter was simpler and produced as good a result as the alternatives. The data are passed through the filtering algorithm which smooths the data creating a baseflow hydrograph. The digital filter

routine incorporated into Hydstra/TS, HYBASE, provides the user with great flexibility, allowing the user to specify the filtering factor and the number of smoothing passes. The digital filter method may also be applied to DV data while the other more rigorous methods were only applicable to UV data. HYBASE produces the same results for BFRs on DV as the BFLOW program developed for use with the SWAT hydrology model (Arnold, et al., 1995) that has also been used by SQE for comparison.

2.8 Other Data

In addition to level, flow, rainfall and water quality data, SQE collects other information associated with the watersheds it monitors, most notably watershed size, impervious cover and land use. These data are generally handled using the geographic information system (GIS) ArcMap, existing COA data sources (planimetric maps, land use maps, DEMs, etc.) and field investigations. Summaries of these data for each site may be found in Table 2.1

2.8.1 Watershed delineation

Initial watershed boundaries were created using 30-ft DEMs using tools in ArcGIS. These boundaries were then adjusted to account for the storm sewer network. In some cases this made a substantial change to the drainage area. The watershed boundaries are based on 2003 data which may create some errors in historical drainage areas but these errors are small.

Table 2.1: Summaries of (DA) drainage area (ac), total impervious cover (TIC) fraction, method of TIC calculation, and land use fraction for USGS and SQE monitoring sites (Figure 1.1).

Watershed	DA	TIC	TIC method	COM	INDU	NU	SFR	TRANS
08154700	14433.5	0.172	plan	0.116	0.012	0.486	0.289	0.097
08155200	57436.8	0.051	plan	0.009	0.003	0.836	0.127	0.025
08155240	68850.1	0.056	plan	0.015	0.003	0.811	0.140	0.031
08155300	74647.2	0.062	plan	0.021	0.003	0.798	0.141	0.037
08155400	76693.6	0.068	plan	0.028	0.003	0.784	0.143	0.042
08155541	1156.4	0.391	plan	0.330	0.009	0.101	0.360	0.200
08156675	3660.3	0.488	plan	0.391	0.037	0.062	0.268	0.241
08156700	4122.6	0.484	plan	0.380	0.033	0.065	0.284	0.238
08156800	7852.7	0.453	plan	0.314	0.019	0.070	0.366	0.231
08156910	715.5	0.471	plan	0.246	0.106	0.080	0.347	0.220
08157000	1420.4	0.438	plan	0.254	0.055	0.080	0.399	0.212
08157500	2690.4	0.458	plan	0.361	0.029	0.065	0.318	0.226
08157600	778.1	0.461	plan	0.353	0.033	0.064	0.297	0.253
08157700	824.1	0.374	plan	0.376	0.064	0.218	0.181	0.161
08158030	1017.1	0.452	plan	0.218	0.011	0.132	0.396	0.243
08158035	2159.5	0.408	plan	0.185	0.013	0.174	0.369	0.259
08158045	947.7	0.476	plan	0.267	0.000	0.024	0.477	0.232
08158050	8342.8	0.367	plan	0.205	0.037	0.233	0.323	0.202
08158200	16771.1	0.301	plan	0.204	0.115	0.274	0.239	0.168
08158380	3382.2	0.523	plan	0.352	0.124	0.036	0.293	0.195
08158600	33114.0	0.287	plan	0.201	0.103	0.327	0.214	0.156
08158700	79167.4	0.066	lu	0.009	0.006	0.902	0.066	0.018
08158800	106416.0	0.063	lu	0.007	0.014	0.889	0.073	0.017
08158810	6972.2	0.091	lu	0.031	0.002	0.735	0.199	0.033
08158819	14984.6	0.074	plan	0.017	0.003	0.752	0.200	0.029
08158827	115610.0	0.070	plan	0.010	0.017	0.870	0.081	0.022
08158840	5613.9	0.072	plan	0.021	0.010	0.593	0.313	0.063
08158860	15147.0	0.103	plan	0.025	0.004	0.626	0.250	0.096
08158920	4011.5	0.147	plan	0.081	0.044	0.470	0.301	0.104
08158922	4288.6	0.152	plan	0.080	0.041	0.465	0.306	0.108
08158927	4455.2	0.270	plan	0.083	0.001	0.304	0.430	0.183
08158930	11953.5	0.236	plan	0.138	0.015	0.350	0.350	0.147
08158970	17527.2	0.273	plan	0.159	0.019	0.295	0.369	0.158
08159000	207310.0	0.094	plan	0.030	0.017	0.757	0.148	0.048
FBU	3529.7	0.082	lu	0.004	0.004	0.737	0.220	0.036
FTB	1669.7	0.393	plan	0.193	0.009	0.123	0.467	0.207
LBA	2639.6	0.061	lu	0.000	0.000	0.948	0.039	0.013
LBR	7020.8	0.047	lu	0.000	0.000	0.911	0.073	0.016

Land use codes: commercial (COM), industrial (INDU), non-urban (NU), single-family residential (SFR) and transportation (TRANS)

Planimetric maps are developed from aerial photographs. COA planimetric maps include buildings, roads, parking lots, driveways longer than 100 feet, and impervious sports courts. The planimetric maps do not include sidewalks or driveways shorter than 100 feet. Individual parcels of different land uses were sampled and the planimetric maps were compared with the aerial photographs. These analyses found that the omission of sidewalks and short driveways had a minimal impact on impervious cover estimates for most land uses; however impervious cover in high- and medium-density single-family residential areas were underestimated by 10.97% and 10.44% respectively. These errors were addressed by adjusting the impervious areas for those land uses resulting in the following formula for the fraction of impervious cover:

$$TIC = \frac{P_{area} + 0.1097 \times SFR_{high} + 0.1044 \times SFR_{med}}{C_{area}} \qquad [2.3]$$

where TIC is the decimal fraction of impervious cover in the catchment, P_{area} is the area of impervious features from the planimetric maps in the catchment, SFR_{high} is the area of high-density single-family residential land use in the catchment, SFR_{med} is the area of medium-density single-family residential land use in the catchment, and C_{area} is the area of the catchment. (Glick, 2009)

Planimetric maps were only available for Travis County. For watersheds or portions of watershed in Travis County the impervious area was computed using Eqn. 2.3. For areas outside of Travis Country the impervious area was determined based on the land use in the watershed using the assumptions in Table 2.1. Figure 2.3 indicates that there is general agreement between the two methods but the land use method typically produced a higher estimate. Consistency and accuracy may be gained if the planimetric mapping is carried out to the extents of the watersheds of interest in the future. This has been budgeted for the next scheduled mapping update.

2.8.2 Impervious Cover

Impervious cover was estimated in the past for some of the study watersheds presented in this report. While those estimates are used in this report to demonstrate temporal trends, in most cases there was little or no documentation as to how those estimates were made. Historical impervious cover estimates are presented in Table 2.2.

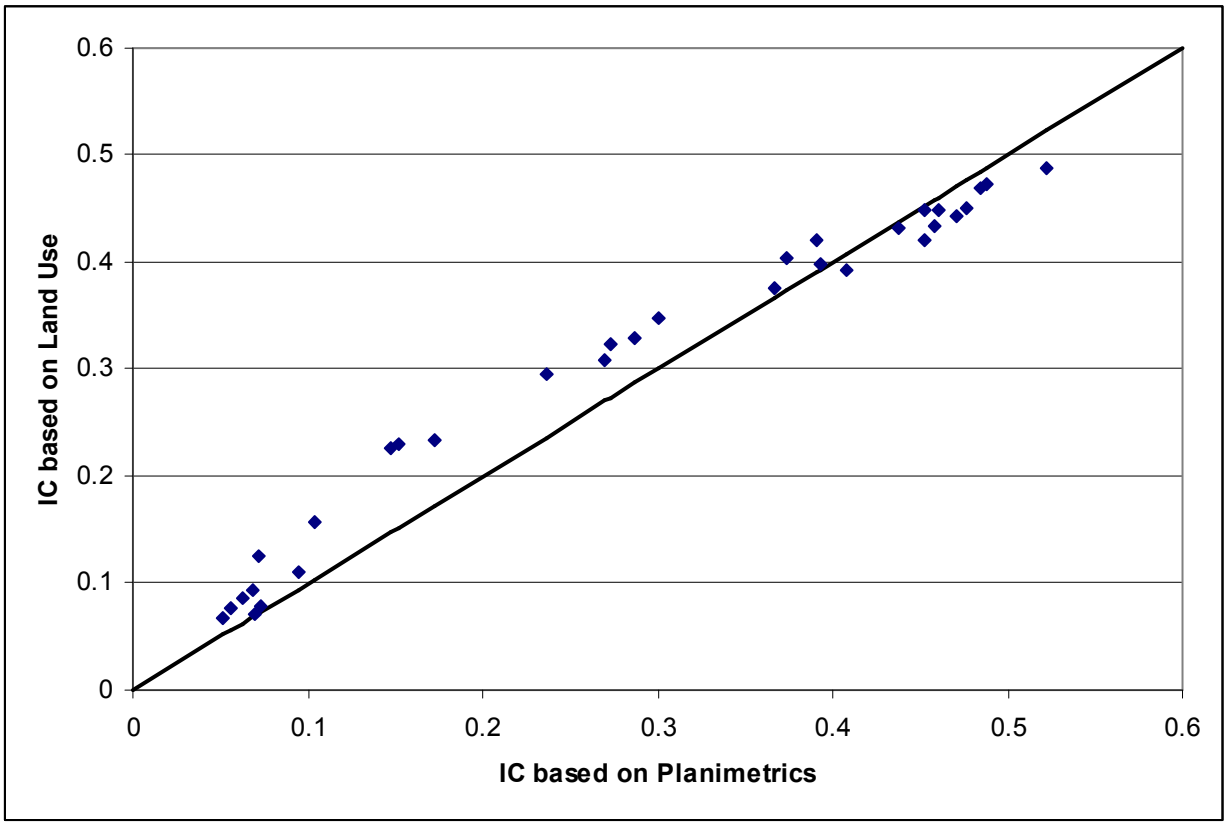

Figure 2.3: Comparing impervious cover estimates based on planimetric maps and land use assumptions.

2.8.3 Land Use

Land use used in this report is derived from the COA land use maps and field verifications. The COA land use maps are parcel based, which may introduce some confusion when comparing these data to other studies. The most notable difference is that residential streets are not incorporated into the residential land use but are part of the transportation land use. The transportation land use includes all roadways, from small rural lanes to major highways with no distinction between different traffic volumes. All land uses presented in Table 2.3 may be considered for analyses however the generalized classes used in this report are commercial (COM), industrial (INDU), non-urban (NU), single-family residential (SFR) and transportation

(TRANS). Multi-family residential is included in COM. In addition to agricultural and undeveloped areas, NU also includes parks and cemeteries.

We developed new impervious cover estimates in Table 2.2 using the 2013 planimetric data. In watershed areas that extended beyond the planimetric data, the 2006 land use was used and assigned impervious cover estimates. The estimates were previously derived from analysis of extensive sampling of coincident impervious cover and land use categories. The planimetric categories were assigned as pervious or impervious in a manner consistent with the methodology used for the drainage fee calculation. However, calculated impervious area will not correspond exactly because no impervious areas were "exempt" as they are for drainage fee calculations, e.g. easements for public use or drainage facilities, are exempt from the drainage fee assessments.

Decreases in impervious cover from 2003 to 2013 in Table 2.2 were examined and are associated with areas that previously fell outside of Travis County and where land use assumptions were used for the 2003 impervious cover estimates; these all now have a larger area which falls within the planimetric extent and the impervious cover found from those categories is lower than the estimated land use impervious area by land use category. Increases were also examined and while there are more categories provided in the planimetrics for 2013 such as decks, tanks, open storage, etc., the majority of increases came from a larger area in both buildings and driveways and sidewalks.

Table 2.2: Change of impervious cover for large watershed stations shown on Figure 1.1 from 1980 to 2013.

Watershed	Impervious Cover							Drainage	Recharge
Name	1980	1990	1995	1997	1999	2003	2013	Area(acre)	Influenced
8154700	3.1%	8.3%	11.7%	13.9%	15.3%	17.2%	20.6%	14433.5	N
8155200	0.8%	1.2%	2.5%	2.9%	3.0%	5.1%	5.6%	57436.8	N
8155240	0.9%	1.4%	2.7%	3.1%	3.2%	5.6%	6.4%	68850.1	N
8155300	1.5%	2.4%	3.5%	3.8%	4.1%	6.2%	7.2%	74647.2	Y
8155400	---	---	---	---	---	6.8%	7.8%	76693.6	Y
8155541	---	---	---	---	---	39.1%	46.1%	1156.38	N
8156675	---	---	---	---	---	48.8%	55.0%	3660.3	N
8156800	44.3%	45.5%	47.0%	47.9%	---	45.3%	51.6%	7852.69	N
8156910	---	---	---	---	---	47.1%	50.9%	715.55	N
8157000	46.7%	46.7%	46.7%	46.7%	---	43.8%	48.7%	1420.35	N
8157500	45.6%	49.2%	49.4%	49.4%	---	45.8%	54.3%	2690.43	N
8157600	---	---	---	---	---	46.1%	54.4%	778.14	N
8157700	---	---	---	---	---	37.4%	45.5%	824.09	N
8158030	---	---	---	---	---	45.2%	52.2%	1017.12	N
8158035	---	---	---	---	---	40.8%	49.4%	2159.54	N
8158045	---	---	---	---	---	47.6%	51.6%	947.69	N
8158050	37.1%	37.6%	38.5%	39.0%	---	36.7%	43.4%	8342.76	N
8158200	---	---	---	---	---	30.1%	37.8%	16771.1	N
8158380	---	---	---	---	---	52.3%	60.2%	3382.16	N
8158600	13.9%	22.2%	26.3%	28.3%	---	28.7%	36.4%	33114	N
8158700	---	---	---	1.6%	1.6%	6.6%	6.7%	79167.4	N
8158800	---	---	---	1.5%	1.5%	6.3%	6.3%	106416	Y
8158810	1.1%	1.6%	2.0%	2.2%	2.2%	9.1%	8.8%	6972.18	N
8158819	---	---	---	---	---	7.4%	6.5%	14984.6	Y
8158827	---	---	---	---	---	7.1%	6.9%	115610	Y
8158840	---	4.1%	5.2%	5.6%	6.0%	7.2%	9.4%	5613.86	N
8158860	---	---	---	---	---	10.3%	15.9%	15147	Y
8158920	---	8.8%	11.3%	12.1%	14.5%	14.7%	20.4%	4011.47	N
8158922	---	---	---	---	---	15.2%	20.7%	4288.64	Y
8158927	---	---	---	---	---	27.0%	32.5%	4455.24	Y
8158930	---	---	---	---	---	23.6%	29.8%	11953.5	Y
8158970	9.9%	14.2%	16.6%	17.7%	20.9%	27.3%	34.2%	17527.2	Y
8159000	---	---	---	---	---	9.4%	11.1%	207310	Y
FBU	---	---	---	---	---	8.2%	19.4%	3529.69	N
FTB	---	---	---	---	---	39.3%	44.0%	1669.73	N
LBA	---	---	---	---	---	6.1%	3.6%	2639.55	N
LBR	---	---	---	---	---	4.7%	2.5%	7020.79	Y

Table 2.3: Land use codes, descriptions and impervious cover assumptions

Land Use Code	Land use Description	Fraction Impervious Cover
100	Unclassified residential	0.1712
113	Mobile Home	0.1087
120	High Density Residential	0.2962
130	Medium Density Residential	0.1255
140	Low Density Residential	0.0616
150	Duplex	0.3123
160	Large Lot Single Family (>10 ac)	0.0298
200	Multi-family	0.5983
300	Commercial	0.6916
400	Office	0.5927
500	Industrial	0.5722
560	Mining	0.0439
570	Landfill/Salvage	0.0946
600	Civic	0.3952
670	Cemetery	0.0904
710	Parks & Recreation	0.0931
720	Golf Course	0.0324
750	Open Space (Protected)	0.0092
800	Transportation & Infrastructure	0.1879
860	Right-of-Way	0.4669
900	Undeveloped	0.0276
910	Agriculture	0.0082

2.9 Site Statistical Summaries

The methodologies to create site statistical summaries are fairly standard and the same as those used for small watersheds in previous reporting (COA 2009). Site summaries of the water quality data based on the site period of record are presented in Table 2.4. The "Mean Used" refers to that selected from the normal, log-normal, or bootstrap mean by the Shapiro-Wilks test using the W statistic. Other values for standard deviation (SD), coefficient of variation (CV), number of samples (n), median, geometric mean, min/max, and volume weighted mean are provided for reference. The site summaries of the water quality data based on different water year periods that are discussed in this report can be found in Appendix A.

Table 2.4 Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
AG	08157000	2.540	8	0.500	8.000	2.500	2.563	2.352	0.92	0.7187	0.0037	1.798	2.540	2.206	0.87	0.9104	0.3571	2.571	1.977	1.880	2.448
AG	08157500	0.345	37	0.001	1.610	0.190	0.344	0.423	1.23	0.7611	0.0001	0.073	1.324	10.464	7.90	0.8565	0.0002	0.345	0.417	0.080	0.324
AG	08157700	0.342	33	0.001	1.000	0.200	0.342	0.377	1.10	0.7929	0.0001	0.059	1.911	19.239	10.07	0.8171	0.0001	0.342	0.371	0.066	0.371
AG	FBU	0.343	23	0.001	2.950	0.190	0.339	0.630	1.86	0.5449	0.0001	0.035	0.947	6.910	7.30	0.8817	0.0108	0.343	0.622	0.041	0.211
AG	FTB	0.168	25	0.001	1.000	0.080	0.166	0.234	1.41	0.7060	0.0001	0.036	0.404	2.044	5.06	0.9030	0.0213	0.168	0.229	0.040	0.181
BOD	08154700	4.473	28	0.650	15.280	2.955	4.468	3.880	0.87	0.8149	0.0002	3.173	4.473	4.224	0.94	0.9719	0.6321	4.504	3.840	3.213	4.822
BOD	08155200	2.817	22	0.090	11.610	2.025	2.584	2.474	0.96	0.7551	0.0001	1.684	2.817	3.411	1.21	0.9413	0.2106	2.582	2.387	1.725	2.455
BOD	08155240	2.326	22	0.190	10.700	1.615	2.302	2.360	1.03	0.7323	0.0001	1.523	2.326	2.479	1.07	0.9896	0.9965	2.301	2.319	1.553	2.542
BOD	08155300	3.138	28	0.270	11.330	2.280	3.023	2.445	0.81	0.8204	0.0002	2.220	3.138	2.978	0.95	0.9581	0.3134	3.001	2.385	2.248	3.289
BOD	08155400	3.285	6	2.170	4.190	3.395	3.280	0.721	0.22	0.9722	0.9070	3.193	3.284	0.776	0.24	0.9411	0.6680	3.285	0.649	3.208	2.750
BOD	08156800	11.966	32	0.820	41.520	8.890	11.973	9.134	0.76	0.7796	0.0001	9.368	12.190	9.820	0.81	0.9232	0.0254	11.966	9.061	9.446	10.127
BOD	08157000	13.170	33	2.000	74.500	10.850	13.320	12.700	0.95	0.6067	0.0001	10.160	13.170	10.520	0.80	0.9441	0.0893	13.270	11.570	10.240	13.310
BOD	08157500	14.803	87	1.000	64.800	14.290	14.814	9.755	0.66	0.8702	0.0001	11.915	15.269	12.089	0.79	0.9675	0.0275	14.803	9.668	11.949	14.560
BOD	08157600	7.583	3	6.340	8.330	7.980	7.550	1.062	0.14	0.8771	0.3160	7.471	7.551	1.106	0.15	0.8646	0.2802	7.583	0.860	7.497	7.608
BOD	08157700	13.410	40	4.200	39.500	10.600	13.476	8.701	0.65	0.8577	0.0001	11.208	13.410	8.660	0.65	0.9704	0.3713	13.441	8.552	11.258	13.157
BOD	08158050	12.008	27	1.640	92.830	8.020	12.985	17.348	1.34	0.5054	0.0001	8.753	12.008	10.752	0.90	0.9552	0.2859	12.856	16.830	8.857	9.272
BOD	08158600	8.107	25	0.600	33.730	7.050	8.141	6.460	0.79	0.7532	0.0001	6.028	8.706	8.537	0.98	0.8934	0.0132	8.107	6.305	6.119	7.079
BOD	08158700	2.467	5	0.370	4.660	2.630	2.416	1.923	0.80	0.8992	0.4057	1.374	2.601	2.896	1.11	0.8541	0.2077	2.467	1.705	1.579	2.827
BOD	08158810	1.065	6	0.040	1.980	1.040	1.065	0.719	0.68	0.9743	0.9198	0.553	1.444	2.059	1.43	0.7698	0.0309	1.071	0.654	0.661	1.563
BOD	08158840	0.902	5	0.120	1.950	0.500	0.910	0.769	0.85	0.8918	0.3662	0.542	0.963	1.021	1.06	0.9206	0.5340	0.902	0.684	0.613	0.820
BOD	08158920	6.596	20	1.020	11.600	6.680	6.596	2.813	0.43	0.9640	0.6265	5.687	6.907	4.596	0.67	0.8165	0.0015	6.582	2.749	5.743	6.143
BOD	08158922	5.314	8	0.930	14.400	4.705	5.360	4.309	0.80	0.8786	0.1828	3.765	5.488	4.995	0.91	0.9756	0.9381	5.314	4.053	3.953	4.494
BOD	FBU	2.364	44	1.000	6.040	2.000	2.359	1.371	0.58	0.8239	0.0001	2.049	2.339	1.274	0.54	0.9437	0.0321	2.364	1.356	2.055	2.452
BOD	FTB	16.513	29	4.500	39.000	13.000	16.426	9.344	0.57	0.9174	0.0262	13.929	16.513	10.286	0.62	0.9751	0.7042	16.528	9.188	14.012	15.390
CD	08154700	0.254	21	0.030	0.860	0.090	0.257	0.264	1.03	0.7986	0.0006	0.137	0.264	0.378	1.43	0.8936	0.0263	0.254	0.258	0.141	0.440
CD	08155200	0.298	27	0.020	0.790	0.220	0.302	0.231	0.76	0.8189	0.0003	0.186	0.344	0.481	1.40	0.8532	0.0013	0.298	0.227	0.191	0.267
CD	08155240	0.283	23	0.020	1.880	0.090	0.290	0.408	1.41	0.6130	0.0001	0.120	0.295	0.540	1.83	0.8603	0.0042	0.283	0.392	0.125	0.263
CD	08155300	0.185	19	0.020	0.500	0.090	0.187	0.201	1.08	0.6994	0.0001	0.098	0.187	0.261	1.40	0.8683	0.0135	0.185	0.195	0.102	0.265
CD	08155400	0.212	20	0.030	0.500	0.090	0.214	0.207	0.97	0.7244	0.0001	0.120	0.220	0.295	1.34	0.8398	0.0036	0.212	0.202	0.124	0.271
CD	08156800	0.323	16	0.050	0.590	0.300	0.321	0.174	0.54	0.9271	0.2190	0.264	0.332	0.242	0.73	0.9101	0.1166	0.323	0.169	0.267	0.329
CD	08157000	0.797	14	0.244	3.647	0.529	0.843	0.910	1.08	0.6570	0.0001	0.584	0.797	0.683	0.86	0.9094	0.1542	0.842	0.809	0.597	1.070
CD	08157500	0.499	92	0.010	1.890	0.500	0.497	0.259	0.52	0.6983	0.0001	0.421	0.548	0.453	0.83	0.6301	0.0001	0.499	0.261	0.422	0.482
CD	08157600	0.432	26	0.010	0.860	0.500	0.436	0.223	0.51	0.8276	0.0005	0.301	0.592	0.883	1.49	0.6398	0.0001	0.432	0.221	0.309	0.438
CD	08157700	0.559	61	0.160	1.690	0.500	0.558	0.251	0.45	0.7432	0.0001	0.513	0.557	0.234	0.42	0.8529	0.0001	0.559	0.250	0.514	0.597
CD	08158050	0.518	6	0.320	0.720	0.520	0.515	0.169	0.33	0.9052	0.4057	0.486	0.516	0.179	0.35	0.8863	0.2994	0.518	0.153	0.491	0.529
CD	08158600	0.416	16	0.080	1.030	0.375	0.411	0.243	0.59	0.8866	0.0492	0.345	0.416	0.269	0.65	0.9618	0.6950	0.410	0.234	0.349	0.425
CD	08158700	0.124	5	0.050	0.230	0.090	0.126	0.079	0.63	0.8790	0.3050	0.102	0.126	0.081	0.64	0.9247	0.5607	0.124	0.071	0.107	0.181
CD	08158810	4.434	9	0.020	39.890	0.080	4.530	13.261	2.93	0.3973	0.0001	0.092	1.012	2.951	2.92	0.7376	0.0039	4.434	12.382	0.126	0.203
CD	08158840	0.054	7	0.020	0.090	0.040	0.054	0.032	0.58	0.8317	0.0831	0.044	0.055	0.037	0.67	0.8440	0.1081	0.054	0.029	0.046	0.062
CD	08158922	0.203	5	0.050	0.500	0.160	0.206	0.178	0.86	0.8731	0.2790	0.141	0.205	0.176	0.86	0.9947	0.9934	0.203	0.160	0.153	0.062
CD	08158930	0.097	9	0.030	0.330	0.090	0.100	0.091	0.91	0.6712	0.0007	0.075	0.097	0.071	0.74	0.8988	0.2449	0.100	0.085	0.078	0.098
CD	FBU	0.715	61	0.010	11.400	0.500	0.710	1.440	2.03	0.2691	0.0001	0.432	0.673	0.774	1.15	0.7989	0.0001	0.715	1.442	0.436	0.504
CD	FTB	0.436	28	0.010	1.150	0.495	0.434	0.269	0.62	0.9037	0.0139	0.325	0.502	0.551	1.10	0.8071	0.0001	0.436	0.265	0.330	0.463

Parameters: AG-total silver mg/L, BOD-biochemical oxygen demand mg/L, CD-total cadmium mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
CL	08154700	37.026	13	12.600	93.000	35.510	37.127	21.215	0.57	0.8508	0.0292	32.192	37.026	20.297	0.55	0.9736	0.9334	36.774	20.051	32.544	18.839
CL	08155300	17.430	5	7.520	26.000	14.930	17.344	7.600	0.44	0.9266	0.5735	15.460	17.466	8.608	0.49	0.9138	0.4907	17.430	6.749	15.848	10.626
CL	08156800	37.626	12	11.020	61.470	39.660	37.545	13.562	0.36	0.9857	0.9974	34.401	38.111	17.676	0.46	0.8829	0.0956	37.626	13.026	34.698	31.750
CL	08157500	16.295	42	3.980	45.400	14.000	16.242	9.216	0.57	0.9094	0.0028	13.911	16.295	9.799	0.60	0.9902	0.9729	16.305	9.184	13.964	12.709
CL	08157700	18.945	39	1.780	63.500	11.700	18.284	15.438	0.84	0.8674	0.0003	12.483	18.945	20.609	1.09	0.9734	0.4734	18.303	15.292	12.619	12.111
CL	08158050	18.572	7	9.360	27.550	19.430	18.753	6.989	0.37	0.9220	0.4851	17.227	18.873	8.132	0.43	0.8675	0.1764	18.572	6.538	17.456	16.180
CL	08158600	41.230	7	22.170	110.000	29.100	40.096	31.136	0.78	0.5867	0.0002	33.437	38.613	20.996	0.54	0.7259	0.0071	41.230	29.952	34.143	28.278
CL	08158700	13.843	3	7.040	17.000	17.000	13.680	5.750	0.42	0.7500	0.0001	12.130	13.790	6.802	0.49	0.7500	0.0001	13.843	4.635	12.671	13.098
CL	08158810	15.682	4	13.870	18.000	15.360	15.648	1.853	0.12	0.9454	0.6877	15.540	15.647	1.827	0.12	0.9521	0.7292	15.682	1.624	15.567	16.373
CL	08158840	59.066	5	42.650	79.900	50.560	58.474	18.284	0.31	0.8071	0.0925	55.740	58.430	17.924	0.31	0.8182	0.1132	59.066	16.476	56.271	49.115
CL	08158920	18.127	5	6.610	40.000	10.550	17.710	14.102	0.80	0.8413	0.1685	13.146	17.407	12.971	0.75	0.9141	0.4925	18.127	12.710	13.935	11.724
CL	FBU	29.046	23	7.120	56.600	30.290	29.060	10.912	0.38	0.9837	0.9588	26.708	29.415	13.378	0.45	0.9249	0.0849	29.046	10.766	26.821	26.316
CL	FTB	9.023	30	1.250	33.090	6.360	9.159	8.203	0.90	0.7603	0.0001	6.656	9.023	7.925	0.88	0.9733	0.6337	9.059	7.977	6.724	5.948
COD	08154700	51.153	21	9.490	184.990	37.340	50.545	41.359	0.82	0.8197	0.0013	37.179	51.153	45.537	0.89	0.9616	0.5480	50.150	40.077	37.756	102.621
COD	08155200	30.562	36	5.000	85.920	19.350	30.441	27.677	0.91	0.8255	0.0001	18.908	31.749	40.002	1.26	0.9010	0.0036	30.562	27.370	19.186	52.928
COD	08155240	23.342	35	5.000	103.660	14.240	23.292	24.745	1.06	0.7557	0.0001	14.237	22.983	27.343	1.19	0.8796	0.0012	23.342	24.472	14.436	53.862
COD	08155300	28.447	31	5.000	104.590	19.840	28.278	25.294	0.89	0.8405	0.0003	18.763	29.105	32.413	1.11	0.9312	0.0472	28.447	24.992	19.034	68.755
COD	08155400	20.812	20	4.900	42.270	19.795	20.812	12.392	0.60	0.9129	0.0725	16.219	21.835	18.584	0.85	0.8384	0.0034	20.812	12.081	16.465	25.353
COD	08156800	80.523	19	16.370	244.090	63.070	80.961	58.736	0.73	0.7664	0.0004	65.505	80.523	55.331	0.69	0.9562	0.5005	81.096	57.230	66.228	71.018
COD	08157000	83.770	39	3.770	199.000	79.000	83.770	50.650	0.60	0.9667	0.2965	62.060	95.850	107.230	1.12	0.8526	0.0001	83.870	49.750	62.770	101.950
COD	08157500	85.727	109	5.000	264.910	71.300	85.523	52.341	0.61	0.8995	0.0001	71.003	87.131	61.494	0.71	0.9722	0.0220	85.727	52.053	71.137	86.482
COD	08157600	87.278	29	28.620	261.060	69.130	88.444	59.849	0.68	0.8035	0.0001	73.508	87.278	54.645	0.63	0.9511	0.1959	88.584	58.776	73.947	89.890
COD	08157700	87.692	62	22.000	473.000	69.070	88.789	68.147	0.77	0.7117	0.0001	72.646	87.692	58.577	0.67	0.9784	0.3450	88.558	66.980	72.868	91.536
COD	08158050	70.334	12	10.370	107.780	71.885	70.334	29.867	0.42	0.9447	0.5607	60.283	74.061	49.880	0.67	0.7828	0.0060	70.377	28.427	61.341	67.413
COD	08158600	70.194	24	5.000	187.410	70.040	70.194	38.124	0.54	0.9192	0.0562	57.935	74.517	57.891	0.78	0.8522	0.0024	69.714	36.959	58.552	75.304
COD	08158700	31.256	5	5.000	96.930	9.130	31.662	39.691	1.25	0.7796	0.0547	12.984	29.960	37.987	1.27	0.8573	0.2187	31.256	35.522	15.636	61.791
COD	08158810	20.056	9	5.000	49.470	17.340	19.874	14.147	0.71	0.8933	0.2157	15.006	20.256	16.464	0.81	0.9285	0.4676	20.056	13.500	15.528	29.800
COD	08158840	22.624	7	5.000	39.540	24.910	22.624	14.041	0.62	0.8929	0.2899	16.434	24.028	21.645	0.90	0.8018	0.0426	22.808	12.902	17.388	34.107
COD	08158922	37.555	12	10.920	64.990	37.690	37.598	15.512	0.41	0.9605	0.7908	33.957	38.063	18.691	0.49	0.9229	0.3113	37.555	14.656	34.284	29.762
COD	08158930	35.337	9	18.200	59.310	38.940	35.260	11.852	0.34	0.9152	0.3542	33.306	35.292	12.133	0.34	0.9433	0.6169	35.337	11.049	33.522	38.990
COD	FBU	23.170	62	1.500	149.990	14.550	23.796	27.154	1.14	0.6587	0.0001	15.516	23.170	24.935	1.08	0.9702	0.1355	23.914	27.173	15.617	23.784
COD	FTB	102.733	30	25.000	329.000	81.195	103.266	66.350	0.64	0.8369	0.0003	86.918	102.733	63.398	0.62	0.9890	0.9849	103.335	65.215	87.406	120.355
CU	08154700	3.763	30	0.710	11.900	3.010	3.783	2.715	0.72	0.8253	0.0002	3.039	3.763	2.673	0.71	0.9850	0.9377	3.812	2.710	3.061	3.989
CU	08155200	3.479	37	0.350	9.640	2.540	3.284	2.739	0.83	0.8557	0.0002	2.208	3.479	4.006	1.15	0.9520	0.1123	3.266	2.696	2.235	5.315
CU	08155240	1.892	37	0.350	9.740	1.550	1.904	1.821	0.96	0.7342	0.0001	1.346	1.892	1.799	0.95	0.9706	0.4251	1.902	1.808	1.358	4.373
CU	08155300	2.700	23	0.500	10.670	1.890	2.723	2.547	0.94	0.7694	0.0001	1.909	2.700	2.540	0.94	0.9719	0.7355	2.737	2.489	1.939	4.782
CU	08155400	2.183	32	0.400	5.260	2.030	2.190	1.300	0.59	0.9513	0.1572	1.759	2.268	1.788	0.79	0.9399	0.0745	2.183	1.282	1.774	2.090
CU	08156800	14.286	36	3.640	32.940	12.080	14.220	7.120	0.50	0.9189	0.0117	12.555	14.286	7.654	0.54	0.9742	0.5513	14.192	7.016	12.600	16.148
CU	08157000	15.770	22	3.400	36.830	13.870	15.780	10.380	0.66	0.8963	0.0251	12.070	16.200	13.780	0.85	0.8900	0.0188	15.770	10.020	12.230	18.300
CU	08157500	28.183	96	3.270	185.000	20.435	28.851	28.573	0.99	0.6731	0.0001	21.103	28.183	24.619	0.87	0.9897	0.6686	28.838	28.259	21.167	25.790
CU	08157600	16.933	27	4.180	37.900	15.250	16.850	8.519	0.51	0.9595	0.3608	14.547	17.131	10.419	0.61	0.9550	0.2833	16.933	8.369	14.635	14.465
CU	08157700	12.171	62	3.000	38.390	11.320	12.141	7.056	0.58	0.9251	0.0010	10.103	12.387	8.673	0.70	0.9490	0.0119	12.171	7.000	10.136	11.942
CU	08158050	14.186	8	8.180	22.700	13.455	14.253	4.871	0.34	0.9648	0.8543	13.434	14.258	4.959	0.35	0.9779	0.9517	14.186	4.506	13.535	14.579

Parameters: CL-chlorides mg/L, COD-chemical oxygen demand mg/L, CU-total copper mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
CU	08158600	13.232	30	0.840	27.120	12.750	13.232	6.684	0.51	0.9593	0.2975	11.081	14.063	10.653	0.76	0.8533	0.0007	13.203	6.585	11.170	15.160
CU	08158700	3.877	16	0.350	18.560	1.585	3.942	5.089	1.29	0.7318	0.0004	1.830	3.877	5.868	1.51	0.9471	0.4449	3.946	4.937	1.921	5.661
CU	08158810	2.487	20	0.400	9.300	1.395	2.557	2.630	1.03	0.7571	0.0002	1.631	2.487	2.623	1.05	0.9438	0.2823	2.577	2.579	1.667	4.992
CU	08158840	2.157	15	0.400	6.950	1.790	2.159	1.681	0.78	0.8078	0.0046	1.671	2.157	1.656	0.77	0.9856	0.9943	2.160	1.632	1.700	3.122
CU	08158860	2.663	10	1.570	3.900	2.675	2.675	0.765	0.29	0.9710	0.9002	2.560	2.679	0.815	0.30	0.9557	0.7363	2.663	0.723	2.572	3.178
CU	08158920	5.475	14	1.600	11.150	5.425	5.463	2.416	0.44	0.9311	0.3160	4.916	5.511	2.718	0.49	0.9411	0.4325	5.475	2.309	4.957	4.697
CU	08158922	4.328	8	2.120	6.880	4.140	4.333	1.738	0.40	0.9399	0.6103	3.957	4.352	1.921	0.44	0.9167	0.4040	4.328	1.602	4.005	3.880
CU	08158930	4.868	9	1.900	14.140	4.370	4.981	3.752	0.75	0.7545	0.0061	4.048	4.868	3.049	0.63	0.9449	0.6348	4.980	3.509	4.133	4.839
CU	FBU	4.426	62	0.490	23.270	3.000	4.413	4.434	1.00	0.6691	0.0001	3.127	4.352	4.115	0.95	0.9502	0.0136	4.426	4.431	3.144	3.803
CU	FTB	13.110	30	2.990	39.400	12.350	12.861	7.751	0.60	0.8779	0.0025	10.685	13.110	9.081	0.69	0.9330	0.0591	12.809	7.554	10.758	15.378
DP	08154700	0.025	35	0.010	0.060	0.020	0.025	0.013	0.52	0.7745	0.0001	0.022	0.025	0.013	0.51	0.8413	0.0001	0.025	0.013	0.022	0.041
DP	08155200	0.017	52	0.005	0.080	0.010	0.017	0.016	0.96	0.6437	0.0001	0.013	0.016	0.013	0.78	0.8935	0.0002	0.017	0.016	0.013	0.013
DP	08155240	0.019	50	0.005	0.090	0.010	0.019	0.018	0.96	0.6006	0.0001	0.014	0.018	0.013	0.74	0.8573	0.0001	0.019	0.018	0.015	0.016
DP	08155300	0.024	34	0.005	0.110	0.015	0.024	0.023	0.99	0.7199	0.0001	0.016	0.023	0.021	0.92	0.9174	0.0137	0.024	0.023	0.017	0.018
DP	08155400	0.027	32	0.005	0.090	0.020	0.027	0.023	0.88	0.7906	0.0001	0.019	0.026	0.024	0.93	0.8984	0.0057	0.027	0.023	0.019	0.015
DP	08156800	0.087	41	0.010	0.460	0.050	0.087	0.096	1.10	0.5922	0.0001	0.062	0.082	0.069	0.84	0.9310	0.0156	0.087	0.095	0.062	0.131
DP	08157000	0.238	31	0.057	0.657	0.217	0.237	0.147	0.62	0.9019	0.0080	0.196	0.238	0.160	0.67	0.9854	0.9378	0.235	0.142	0.198	0.250
DP	08157500	0.159	106	0.004	0.830	0.130	0.159	0.118	0.74	0.7347	0.0001	0.129	0.162	0.123	0.76	0.9168	0.0001	0.159	0.116	0.129	0.145
DP	08157600	0.108	29	0.040	0.370	0.090	0.109	0.068	0.62	0.7587	0.0001	0.095	0.108	0.057	0.52	0.9633	0.3955	0.108	0.066	0.096	0.088
DP	08157700	0.099	62	0.010	0.580	0.080	0.099	0.083	0.84	0.6636	0.0001	0.078	0.099	0.077	0.77	0.9513	0.0154	0.099	0.083	0.078	0.099
DP	08158050	0.087	12	0.040	0.170	0.080	0.088	0.042	0.48	0.9210	0.2943	0.078	0.088	0.042	0.49	0.9611	0.7999	0.087	0.040	0.079	0.078
DP	08158600	0.046	38	0.010	0.250	0.030	0.046	0.050	1.09	0.5746	0.0001	0.034	0.043	0.032	0.76	0.8464	0.0001	0.046	0.049	0.034	0.048
DP	08158700	0.018	21	0.005	0.150	0.010	0.018	0.031	1.76	0.3836	0.0001	0.011	0.015	0.013	0.88	0.7752	0.0003	0.018	0.031	0.011	0.017
DP	08158810	0.019	22	0.005	0.060	0.010	0.019	0.017	0.89	0.6709	0.0001	0.014	0.018	0.014	0.76	0.8277	0.0014	0.019	0.016	0.014	0.021
DP	08158840	0.021	17	0.005	0.090	0.010	0.021	0.022	1.04	0.7117	0.0002	0.014	0.021	0.019	0.94	0.8971	0.0608	0.022	0.022	0.015	0.024
DP	08158860	0.119	12	0.050	0.200	0.105	0.119	0.048	0.40	0.8982	0.1504	0.110	0.119	0.049	0.41	0.9386	0.4796	0.119	0.046	0.111	0.167
DP	08158920	0.075	15	0.020	0.220	0.070	0.075	0.050	0.67	0.7817	0.0022	0.063	0.075	0.045	0.60	0.9550	0.6071	0.075	0.048	0.064	0.060
DP	08158922	0.079	12	0.020	0.200	0.070	0.079	0.048	0.61	0.8845	0.1001	0.066	0.080	0.050	0.63	0.9851	0.9967	0.079	0.046	0.067	0.074
DP	08158930	0.055	9	0.030	0.110	0.040	0.056	0.026	0.47	0.8269	0.0412	0.051	0.055	0.023	0.42	0.8913	0.2055	0.055	0.024	0.051	0.099
DP	FBU	0.027	60	0.001	0.170	0.010	0.027	0.033	1.25	0.6603	0.0001	0.015	0.027	0.038	1.42	0.8965	0.0001	0.027	0.033	0.015	0.021
DP	FTB	0.064	30	0.001	0.150	0.050	0.064	0.043	0.67	0.9323	0.0565	0.045	0.078	0.101	1.31	0.8446	0.0005	0.065	0.043	0.045	0.077
ECOLI	08154700	2971450	4	1800000	4800000	2700000	3000000	1336662	0.45	0.9262	0.5724	2727780	2992934	1277334	0.43	0.9655	0.8133	2971450	1147024	2792683	2596488
ECOLI	08155200	1212006	9	50	3900000	500000	1212006	1367273	1.13	0.8510	0.0764	119520	11482309	54739877	4.77	0.7382	0.0040	1221953	1304892	242171	493492
ECOLI	08155240	304433	6	1600	540000	415000	304433	230456	0.76	0.7994	0.0581	65388	690892	1571422	2.27	0.7372	0.0149	305715	211485	108141	420804
ECOLI	08155300	1719892	7	4400	6800000	270000	1267771	2473446	1.95	0.5841	0.0002	110432	1719892	4690039	2.73	0.9515	0.7434	1229044	2257439	183183	503423
ECOLI	08155400	1751770	7	34000	6000000	1100000	1794143	2225857	1.24	0.8189	0.0626	458707	2389351	4830600	2.02	0.9392	0.6318	1751770	2036051	605059	1591821
ECOLI	08156800	15874936	4	3000000	50999999	7750000	17375000	22603005	1.30	0.7426	0.0329	7896679	15874936	17559729	1.11	0.9404	0.6569	18017375	19913523	9577751	11404387
ECOLI	08157500	28898	36	1898	205384	22318	28811	33464	1.16	0.5436	0.0001	19867	28898	29174	1.01	0.9555	0.1560	28813	33230	20076	28571
ECOLI	08158050	4489670	4	280000	11000000	3500000	4570000	4620202	1.01	0.9259	0.5704	1750210	5346598	7214240	1.35	0.9369	0.6357	4489670	4014594	2426196	4867644
ECOLI	08158600	2007300	3	1500000	2400000	2100000	2000000	458258	0.23	0.9643	0.6369	1943499	2001203	481166	0.24	0.9415	0.5334	2007300	377100	1962640	1928569
ECOLI	08158922	6608075	4	1600000	13000000	6150000	6725000	5398379	0.80	0.9093	0.4785	4310331	6854438	6313020	0.92	0.9209	0.5421	6608075	4690188	4879747	12045800
ECOLI	FBU	8022	22	175	23367	4740	6446	6393	0.99	0.8537	0.0040	3233	8022	14704	1.83	0.9368	0.1700	6412	6275	3375	6834

Parameters: CU-total copper mg/L, DP-dissolved phosphorus mg/K, ECOLI, Escherichia coliform bacteria col/100mL

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
FCOL	08154700	28813	30	72	104393	23699	28485	25299	0.89	0.8775	0.0025	14058	47880	120358	2.51	0.8427	0.0004	28813	25244	14666	38219
FCOL	08155200	11798	32	18	55760	7805	11592	12831	1.11	0.8020	0.0001	4288	27285	108697	3.98	0.8365	0.0002	11798	12838	4557	9723
FCOL	08155240	7324	28	21	34759	3401	7342	8328	1.13	0.7995	0.0001	2679	14542	50162	3.45	0.8768	0.0034	7324	8223	2855	9997
FCOL	08155300	16644	35	63	89243	9963	16681	19895	1.19	0.7521	0.0001	6939	26600	75594	2.84	0.8995	0.0038	16644	19679	7220	16190
FCOL	08155400	90467	13	503	571036	15774	97275	200869	2.06	0.5133	0.0001	12081	90467	277607	3.07	0.9427	0.4927	98224	194191	14388	17720
FCOL	08156800	157439	39	8570	2853672	59237	200564	475042	2.37	0.3945	0.0001	69353	157439	285052	1.81	0.9560	0.1314	198599	465611	70855	108376
FCOL	08157000	86732	24	507	240000	36150	55700	63546	1.14	0.7944	0.0002	21844	86732	232596	2.68	0.9171	0.0504	54971	60215	23204	66129
FCOL	08157500	68256	36	3692	535639	50653	68171	87306	1.28	0.5107	0.0001	44730	68256	74641	1.09	0.9555	0.1560	68192	86727	45264	67413
FCOL	08157600	291496	6	1994	1452830	62806	292201	570404	1.95	0.5711	0.0002	40887	291496	602973	2.07	0.9504	0.7432	289210	516851	61219	89659
FCOL	08157700	87499	6	11218	179846	70955	85861	61883	0.72	0.9511	0.7495	58102	92299	90350	0.98	0.9191	0.4986	87499	57346	63028	48926
FCOL	08158050	140611	30	1555	508426	90169	141579	135477	0.96	0.8263	0.0002	79541	174993	298448	1.71	0.9219	0.0301	140611	133128	81711	169647
FCOL	08158600	34377	27	160	214792	20944	33954	44128	1.30	0.6861	0.0001	13302	57505	168479	2.93	0.8817	0.0052	34377	44047	14080	37426
FCOL	08158700	10700	7	125	34019	11312	10700	12377	1.16	0.8469	0.1150	1307	20454	55836	2.73	0.7747	0.0228	10899	11406	2170	12333
FCOL	08158810	3091	6	220	8594	1878	3131	3285	1.05	0.8681	0.2187	1438	3398	4578	1.35	0.9728	0.9109	3091	2967	1684	4627
FCOL	08158840	23781	7	27	33271	292	11905	15149	1.27	0.7599	0.0161	413	23781	82235	3.46	0.8183	0.0619	12399	14118	946	25881
FCOL	08158920	68320	20	298	208039	21331	48811	56420	1.16	0.8055	0.0010	18824	68320	164623	2.41	0.9453	0.3008	47760	54565	20151	63023
FCOL	08158922	55284	12	1906	142673	24794	48585	48405	1.00	0.8440	0.0310	23755	55284	86245	1.56	0.9416	0.5186	48807	46305	25592	74420
FCOL	FBU	18012	22	293	53186	9763	13930	14506	1.04	0.8382	0.0021	6483	18012	36317	2.02	0.9368	0.1700	13860	14236	6805	14658
FSTR	08154700	34242	26	733	85313	31873	34242	23648	0.69	0.9528	0.2694	21710	44777	70303	1.57	0.8286	0.0006	34525	23176	22339	40425
FSTR	08155200	22157	23	20	76324	15243	22086	22401	1.01	0.8482	0.0025	7159	68091	303139	4.45	0.7970	0.0003	22157	22101	7962	28332
FSTR	08155240	16625	22	20	49126	15532	16655	15617	0.94	0.8806	0.0124	6528	34887	110610	3.17	0.8455	0.0028	16625	15311	7081	30693
FSTR	08155300	23715	28	3215	82964	18665	23065	17669	0.77	0.8642	0.0018	17134	23715	21639	0.91	0.9758	0.7420	22954	17300	17336	31031
FSTR	08155400	40621	6	1067	109042	30708	41183	38011	0.92	0.9035	0.3950	17599	56810	89857	1.58	0.8470	0.1488	40621	34587	21983	38309
FSTR	08156800	126015	35	1200	393190	98132	126023	81404	0.65	0.9093	0.0071	94473	150795	176454	1.17	0.7649	0.0001	126015	80867	95759	103446
FSTR	08157000	83513	24	140	470000	52696	83634	99100	1.18	0.7194	0.0001	31945	162579	513862	3.16	0.8685	0.0049	83513	92292	34327	87455
FSTR	08157500	116167	40	9091	448611	89814	112188	86304	0.77	0.8571	0.0001	82932	116167	109894	0.95	0.9704	0.3716	112651	85956	83640	119733
FSTR	08157600	151629	5	45508	408537	128845	156312	145762	0.93	0.7708	0.0458	108628	151629	122998	0.81	0.9424	0.6830	157673	132754	116466	186326
FSTR	08157700	119171	5	23919	219809	86628	116570	86434	0.74	0.8953	0.3843	80212	120141	107083	0.89	0.9341	0.6247	119171	77947	87341	72762
FSTR	08158050	195189	26	7403	984360	156102	197485	193880	0.98	0.6584	0.0001	131983	220635	270402	1.23	0.8389	0.0009	195189	187843	134666	193498
FSTR	08158600	67113	24	260	161913	62202	67113	49482	0.74	0.9373	0.1419	32091	144426	421600	2.92	0.7286	0.0001	66980	48160	34288	92265
FSTR	08158700	15540	6	203	37171	12718	15540	17119	1.10	0.8025	0.0618	1682	24298	58964	2.43	0.7657	0.0283	15652	15518	3024	22318
FSTR	08158810	10517	6	643	18104	11631	10525	7073	0.67	0.9127	0.4543	6047	12892	16263	1.26	0.8023	0.0616	10517	6405	6938	13446
FSTR	08158840	5853	5	88	43794	453	9298	19300	2.08	0.5842	0.0004	424	5853	12510	2.14	0.9072	0.4509	9247	17245	865	13511
FSTR	08158920	97283	20	544	455593	65225	99015	106415	1.07	0.7646	0.0003	51729	136296	258692	1.90	0.8638	0.0092	97283	102775	54410	124207
FSTR	08158922	104151	8	4400	335892	55399	91210	113331	1.24	0.7901	0.0224	33399	104151	177528	1.70	0.9406	0.6170	87961	104240	39103	89050
FSTR	FBU	48673	21	1363	126406	34563	40229	36922	0.92	0.8837	0.0171	21394	48673	81942	1.68	0.9352	0.1750	40219	36187	22278	49174
NH3	08154700	0.055	57	0.010	0.300	0.040	0.054	0.057	1.06	0.6698	0.0001	0.038	0.053	0.049	0.94	0.9458	0.0127	0.055	0.057	0.038	0.064
NH3	08155200	0.022	53	0.005	0.110	0.010	0.022	0.021	0.96	0.6855	0.0001	0.016	0.021	0.018	0.83	0.8196	0.0001	0.022	0.021	0.016	0.027
NH3	08155240	0.022	52	0.008	0.070	0.020	0.022	0.013	0.58	0.7888	0.0001	0.019	0.022	0.012	0.56	0.8959	0.0003	0.022	0.013	0.019	0.021
NH3	08155300	0.038	46	0.005	0.390	0.020	0.038	0.064	1.69	0.4779	0.0001	0.021	0.033	0.039	1.18	0.9068	0.0014	0.038	0.062	0.021	0.057
NH3	08155400	0.035	32	0.010	0.140	0.020	0.035	0.035	0.99	0.6453	0.0001	0.026	0.033	0.027	0.81	0.8375	0.0002	0.035	0.034	0.026	0.026
NH3	08156800	0.114	62	0.010	0.840	0.075	0.113	0.129	1.15	0.6660	0.0001	0.071	0.114	0.138	1.21	0.9818	0.4847	0.113	0.128	0.072	0.124
NH3	08157000	0.210	31	0.030	0.610	0.170	0.200	0.150	0.73	0.8853	0.0032	0.150	0.210	0.180	0.88	0.9672	0.4459	0.200	0.150	0.150	0.240
NH3	08157500	0.180	68	0.010	0.910	0.160	0.180	0.146	0.81	0.8221	0.0001	0.127	0.194	0.216	1.11	0.9464	0.0055	0.180	0.145	0.128	0.171

Parameters: FCOL-fecal coliform bacteria col/100mL, FSTR-fecal streptococci bacteria col/100mL, NH3-ammonia nitrogen mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
NH3	08157600	0.144	29	0.008	0.410	0.100	0.145	0.111	0.77	0.8909	0.0060	0.100	0.160	0.186	1.16	0.9241	0.0388	0.144	0.109	0.102	0.103
NH3	08157700	0.127	26	0.010	0.380	0.110	0.122	0.086	0.71	0.8844	0.0071	0.093	0.127	0.113	0.89	0.9494	0.2244	0.122	0.085	0.094	0.095
NH3	08158050	0.164	30	0.008	0.660	0.090	0.154	0.154	1.01	0.8065	0.0001	0.092	0.164	0.222	1.35	0.9748	0.6772	0.153	0.153	0.094	0.132
NH3	08158600	0.118	50	0.005	0.630	0.080	0.116	0.137	1.18	0.6712	0.0001	0.069	0.118	0.156	1.32	0.9671	0.1765	0.116	0.136	0.070	0.139
NH3	08158700	0.050	22	0.005	0.440	0.020	0.058	0.098	1.69	0.5376	0.0001	0.027	0.050	0.068	1.36	0.9139	0.0569	0.058	0.095	0.028	0.067
NH3	08158810	0.045	26	0.005	0.310	0.020	0.045	0.062	1.38	0.5147	0.0001	0.029	0.041	0.038	0.93	0.8635	0.0026	0.045	0.061	0.029	0.076
NH3	08158840	0.033	20	0.005	0.210	0.020	0.035	0.048	1.37	0.5746	0.0001	0.021	0.033	0.036	1.10	0.9284	0.1435	0.036	0.048	0.021	0.028
NH3	08158860	0.080	12	0.020	0.170	0.080	0.081	0.049	0.60	0.9436	0.5460	0.064	0.083	0.065	0.78	0.9107	0.2178	0.080	0.046	0.065	0.071
NH3	08158920	0.080	34	0.020	0.430	0.050	0.083	0.083	1.00	0.7012	0.0001	0.059	0.080	0.071	0.89	0.9375	0.0518	0.083	0.082	0.059	0.079
NH3	08158922	0.063	12	0.009	0.340	0.030	0.068	0.098	1.43	0.6614	0.0004	0.031	0.063	0.086	1.37	0.9143	0.2424	0.069	0.095	0.033	0.031
NH3	08158930	0.062	9	0.010	0.140	0.040	0.062	0.057	0.91	0.7517	0.0057	0.039	0.062	0.066	1.05	0.8714	0.1272	0.063	0.054	0.041	0.051
NH3	FBU	0.040	40	0.010	0.150	0.030	0.040	0.033	0.84	0.7560	0.0001	0.030	0.039	0.031	0.80	0.9320	0.0187	0.040	0.033	0.030	0.036
NO23	08154700	0.445	53	0.030	0.870	0.420	0.445	0.186	0.42	0.9766	0.3803	0.393	0.465	0.289	0.62	0.8247	0.0001	0.447	0.185	0.395	0.610
NO23	08155200	0.220	49	0.020	1.130	0.160	0.216	0.216	1.00	0.6833	0.0001	0.149	0.220	0.230	1.05	0.9579	0.0773	0.218	0.217	0.150	0.153
NO23	08155240	0.297	49	0.020	1.810	0.210	0.312	0.378	1.21	0.5826	0.0001	0.206	0.297	0.297	1.00	0.9611	0.1052	0.312	0.373	0.208	0.231
NO23	08155300	0.244	43	0.050	0.520	0.210	0.242	0.117	0.48	0.9400	0.0259	0.213	0.244	0.135	0.55	0.9696	0.3071	0.241	0.116	0.214	0.214
NO23	08155400	0.513	29	0.170	1.340	0.420	0.516	0.276	0.53	0.8398	0.0005	0.458	0.513	0.255	0.50	0.9675	0.4939	0.519	0.273	0.460	0.442
NO23	08156800	0.507	59	0.050	1.370	0.440	0.506	0.228	0.45	0.9143	0.0005	0.453	0.517	0.281	0.54	0.8814	0.0001	0.507	0.228	0.454	0.430
NO23	08157000	0.780	39	0.090	2.780	0.660	0.770	0.530	0.69	0.8244	0.0001	0.620	0.780	0.570	0.73	0.9734	0.4755	0.770	0.510	0.630	0.690
NO23	08157500	0.610	110	0.002	2.490	0.540	0.610	0.321	0.53	0.8575	0.0001	0.523	0.672	0.537	0.80	0.6869	0.0001	0.610	0.318	0.524	0.482
NO23	08157600	0.532	29	0.020	1.380	0.460	0.539	0.324	0.60	0.9272	0.0467	0.426	0.588	0.533	0.91	0.8507	0.0008	0.532	0.315	0.431	0.410
NO23	08157700	0.551	62	0.260	1.480	0.510	0.552	0.228	0.41	0.8734	0.0001	0.514	0.551	0.211	0.38	0.9756	0.2515	0.552	0.225	0.514	0.474
NO23	08158050	0.422	30	0.190	0.820	0.390	0.423	0.161	0.38	0.9348	0.0659	0.393	0.423	0.166	0.39	0.9663	0.4438	0.422	0.159	0.394	0.392
NO23	08158600	0.515	46	0.100	1.970	0.480	0.517	0.318	0.62	0.7481	0.0001	0.448	0.515	0.288	0.56	0.9654	0.1859	0.516	0.313	0.449	0.510
NO23	08158700	0.364	20	0.050	1.180	0.215	0.357	0.306	0.86	0.8326	0.0028	0.245	0.364	0.369	1.01	0.9576	0.4970	0.357	0.301	0.250	0.281
NO23	08158810	0.352	23	0.030	1.510	0.210	0.354	0.413	1.17	0.7362	0.0001	0.194	0.352	0.471	1.34	0.9658	0.5907	0.357	0.405	0.199	0.368
NO23	08158840	0.315	16	0.050	0.910	0.185	0.316	0.278	0.88	0.8208	0.0052	0.214	0.315	0.310	0.99	0.9353	0.2955	0.317	0.268	0.219	0.250
NO23	08158860	0.495	8	0.290	1.080	0.455	0.500	0.252	0.50	0.7604	0.0106	0.454	0.495	0.207	0.42	0.8958	0.2649	0.494	0.232	0.459	0.803
NO23	08158920	0.355	30	0.140	0.870	0.330	0.355	0.159	0.45	0.8963	0.0068	0.325	0.355	0.156	0.44	0.9836	0.9112	0.355	0.156	0.325	0.317
NO23	08158922	0.426	12	0.120	0.670	0.435	0.426	0.162	0.38	0.9553	0.7147	0.387	0.432	0.208	0.48	0.8764	0.0788	0.426	0.154	0.391	0.389
NO23	08158930	0.295	9	0.090	0.390	0.350	0.294	0.115	0.39	0.8023	0.0217	0.260	0.302	0.169	0.56	0.7335	0.0035	0.295	0.108	0.265	0.350
NO23	FBU	0.339	62	0.030	1.370	0.280	0.338	0.261	0.77	0.8576	0.0001	0.249	0.356	0.353	0.99	0.9580	0.0328	0.339	0.261	0.251	0.365
NO23	FTB	0.421	30	0.160	0.980	0.375	0.420	0.193	0.46	0.9090	0.0140	0.380	0.421	0.197	0.47	0.9724	0.6063	0.421	0.189	0.381	0.415
PB	08154700	5.207	34	0.190	37.850	2.895	4.975	6.764	1.36	0.5992	0.0001	2.674	5.207	7.875	1.51	0.9793	0.7492	5.040	6.747	2.728	15.780
PB	08155200	5.593	50	0.170	83.250	2.835	5.592	11.796	2.11	0.3658	0.0001	2.394	5.593	10.675	1.91	0.9676	0.1852	5.568	11.603	2.436	8.136
PB	08155240	3.123	51	0.050	16.110	1.000	2.622	3.567	1.36	0.7296	0.0001	0.916	3.123	8.578	2.75	0.9548	0.0503	2.628	3.538	0.939	7.413
PB	08155300	4.499	32	0.120	17.130	2.170	4.181	4.733	1.13	0.7676	0.0001	2.168	4.499	7.263	1.61	0.9694	0.4836	4.125	4.582	2.220	8.453
PB	08155400	3.694	32	0.100	15.870	1.545	3.273	3.681	1.12	0.8018	0.0001	1.578	3.694	6.753	1.83	0.9668	0.4151	3.260	3.628	1.622	2.737
PB	08156800	27.311	40	3.760	72.210	19.060	26.827	18.619	0.69	0.8736	0.0004	20.918	27.311	22.308	0.82	0.9622	0.1984	26.834	18.355	21.059	34.000
PB	08157000	80.280	22	2.150	788.000	41.000	79.930	162.920	2.04	0.4257	0.0001	30.040	80.280	156.780	1.95	0.9506	0.3242	78.580	134.440	31.470	171.840
PB	08157500	33.053	95	3.700	132.690	25.800	32.961	25.821	0.78	0.8214	0.0001	25.271	33.053	27.529	0.83	0.9866	0.4465	32.983	25.760	25.342	36.781
PB	08157600	29.853	29	3.190	66.230	28.680	29.910	17.103	0.57	0.9404	0.1030	24.594	30.911	22.826	0.74	0.9429	0.1193	29.853	16.858	24.790	35.265
PB	08157700	22.938	62	1.500	77.560	19.250	22.900	15.609	0.68	0.9343	0.0025	16.877	25.016	26.578	1.06	0.9267	0.0012	22.938	15.507	16.985	25.417

Parameters: NH3-ammonia nitrogen mg/L, NO23-nitrate+nitrite nitrogen mg/L, PB-total lead mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
PB	08158050	40.967	8	17.950	94.000	35.195	41.011	26.272	0.64	0.8447	0.0841	33.951	40.699	25.101	0.62	0.8980	0.2772	40.967	24.515	34.743	46.972
PB	08158600	16.975	32	0.380	41.740	14.615	17.115	10.072	0.59	0.9323	0.0453	13.329	19.450	19.647	1.01	0.8013	0.0001	16.975	9.886	13.489	20.966
PB	08158700	8.433	18	0.050	21.850	1.595	5.385	6.975	1.30	0.7790	0.0008	1.289	8.433	27.885	3.31	0.9324	0.2143	5.449	6.833	1.444	8.217
PB	08158810	3.701	18	0.090	15.080	0.685	3.217	4.518	1.40	0.7317	0.0002	0.899	3.701	9.411	2.54	0.9218	0.1393	3.217	4.399	0.978	7.426
PB	08158840	2.730	14	0.110	9.380	1.800	2.411	2.465	1.02	0.8117	0.0070	1.326	2.730	3.941	1.44	0.9580	0.6893	2.429	2.394	1.399	3.615
PB	08158860	1.854	10	0.500	3.190	1.985	1.865	0.824	0.44	0.9616	0.8036	1.628	1.908	1.108	0.58	0.8824	0.1392	1.854	0.782	1.655	2.136
PB	08158920	4.990	14	1.060	17.430	4.395	5.039	3.977	0.79	0.7282	0.0007	4.005	4.990	3.509	0.70	0.9686	0.8570	5.051	3.789	4.070	4.264
PB	08158922	5.989	8	0.500	10.500	6.360	5.989	3.484	0.58	0.9258	0.4783	4.103	6.918	7.534	1.09	0.7820	0.0183	6.012	3.208	4.394	5.985
PB	08158930	8.086	9	1.700	29.140	4.600	8.353	8.602	1.03	0.7428	0.0045	5.448	8.086	7.647	0.95	0.9394	0.5753	8.316	8.057	5.701	9.333
PB	FBU	4.176	62	0.040	37.700	1.980	4.178	6.336	1.52	0.5754	0.0001	1.882	5.088	11.497	2.26	0.9356	0.0029	4.176	6.316	1.912	4.047
PB	FTB	23.202	30	1.500	75.190	18.000	21.786	17.380	0.80	0.8821	0.0032	15.198	23.202	25.162	1.08	0.9697	0.5310	21.657	16.879	15.417	27.369
SO4	08154700	55.340	13	26.290	140.000	46.950	55.920	30.470	0.54	0.7714	0.0032	49.955	55.340	25.708	0.46	0.9237	0.2815	55.308	28.735	50.352	32.896
SO4	08155300	25.284	5	14.950	35.000	25.150	25.092	7.204	0.29	0.9713	0.8833	23.970	25.138	7.751	0.31	0.9410	0.6728	25.284	6.422	24.200	18.285
SO4	08156800	70.005	12	24.980	104.520	69.315	70.005	19.849	0.28	0.9547	0.7057	66.263	70.681	25.794	0.36	0.8220	0.0169	70.113	19.027	66.622	62.595
SO4	08157500	14.879	42	5.680	38.690	12.895	14.932	8.189	0.55	0.8738	0.0003	13.053	14.879	8.045	0.54	0.9695	0.3174	14.988	8.155	13.094	11.792
SO4	08157700	19.848	39	3.260	54.590	14.300	19.401	14.085	0.73	0.8949	0.0016	14.597	19.848	17.690	0.89	0.9682	0.3306	19.435	13.969	14.714	13.534
SO4	08158050	28.848	7	19.020	38.880	29.460	29.053	6.000	0.21	0.9548	0.7730	28.395	29.075	6.341	0.22	0.9308	0.5581	28.848	5.632	28.492	26.404
SO4	08158600	46.220	7	30.880	86.000	42.770	46.496	18.305	0.39	0.7454	0.0113	43.798	46.220	15.241	0.33	0.8578	0.1446	47.123	17.549	44.138	39.998
SO4	08158700	31.589	3	15.220	49.000	28.730	30.983	17.002	0.55	0.9868	0.7803	26.211	31.038	17.439	0.56	0.9975	0.9044	31.589	13.947	27.775	29.083
SO4	08158810	31.205	4	27.860	38.000	29.595	31.263	4.688	0.15	0.8311	0.1708	30.937	31.254	4.458	0.14	0.8489	0.2227	31.205	4.001	31.016	31.461
SO4	08158840	110.636	5	60.250	148.000	112.000	109.682	38.709	0.35	0.9070	0.4497	102.135	110.010	42.344	0.38	0.9052	0.4394	110.636	34.870	103.679	88.135
SO4	08158920	25.702	5	15.490	56.000	16.930	26.194	17.344	0.66	0.7330	0.0206	22.111	25.702	14.061	0.55	0.7987	0.0790	26.632	15.674	22.801	19.566
SO4	FBU	40.965	23	9.800	86.100	43.400	41.075	14.160	0.34	0.8684	0.0060	38.218	41.628	17.742	0.43	0.8091	0.0005	40.965	13.953	38.361	37.013
SO4	FTB	16.087	30	5.440	55.590	11.145	16.235	11.717	0.72	0.7484	0.0001	13.457	15.865	9.705	0.61	0.9208	0.0281	16.087	11.351	13.532	11.396
TDS	08154700	255.341	47	112.910	509.000	250.370	255.254	66.957	0.26	0.9360	0.0126	246.938	255.341	67.011	0.26	0.9747	0.3960	255.067	65.905	247.114	195.319
TDS	08155200	228.600	42	105.720	323.760	235.180	228.600	55.592	0.24	0.9727	0.4047	221.102	229.153	62.217	0.27	0.9360	0.0208	228.351	55.283	221.290	183.868
TDS	08155240	266.280	38	122.210	343.910	268.170	266.280	50.368	0.19	0.9639	0.2543	260.847	266.746	56.936	0.21	0.9056	0.0037	266.279	49.674	261.000	208.836
TDS	08155300	207.848	47	58.630	331.150	216.230	207.848	67.430	0.32	0.9621	0.1299	193.971	210.346	87.687	0.42	0.8764	0.0001	207.948	66.971	194.307	179.169
TDS	08155400	196.717	23	66.070	308.630	196.390	197.500	65.006	0.33	0.9720	0.7372	185.190	198.878	77.042	0.39	0.9289	0.1038	196.717	63.791	185.767	215.967
TDS	08156800	161.866	52	84.300	402.280	150.400	162.167	59.075	0.36	0.8968	0.0003	152.899	161.866	56.024	0.35	0.9789	0.4796	162.183	58.348	153.067	127.137
TDS	08157000	156.050	8	70.000	316.000	124.000	157.380	86.640	0.55	0.7948	0.0252	138.140	156.050	78.340	0.50	0.8878	0.2234	158.600	77.200	140.290	118.410
TDS	08157500	147.814	42	74.000	282.000	142.500	147.929	51.246	0.35	0.9208	0.0064	139.845	147.814	50.372	0.34	0.9785	0.6036	148.287	50.969	140.030	130.863
TDS	08157600	137.732	6	70.120	264.080	95.390	139.113	82.218	0.59	0.7852	0.0431	118.836	137.732	75.311	0.55	0.8356	0.1197	138.947	74.897	121.847	92.069
TDS	08157700	191.323	45	56.000	405.990	168.920	191.233	88.835	0.46	0.9171	0.0034	172.315	191.323	91.524	0.48	0.9788	0.5715	190.989	88.052	172.718	160.363
TDS	08158050	126.391	33	69.070	197.860	128.270	126.688	32.132	0.25	0.9817	0.8367	122.491	126.818	33.884	0.27	0.9746	0.6175	126.391	31.649	122.620	115.464
TDS	08158600	185.604	41	90.480	381.790	168.010	186.019	70.368	0.38	0.8899	0.0008	174.574	185.604	66.660	0.36	0.9759	0.5247	185.616	69.372	174.836	135.726
TDS	08158700	224.287	12	110.780	296.000	231.060	223.584	68.994	0.31	0.8598	0.0486	211.768	224.287	77.078	0.34	0.8670	0.0599	223.618	65.863	212.788	193.938
TDS	08158810	282.021	16	124.020	427.880	288.425	282.610	80.372	0.28	0.9724	0.8758	269.279	283.913	93.843	0.33	0.9172	0.1519	282.021	78.665	270.173	204.142
TDS	08158840	307.384	16	99.550	596.000	299.005	309.043	155.449	0.50	0.9410	0.3616	266.078	313.341	188.081	0.60	0.9242	0.1970	307.384	149.673	268.835	186.671
TDS	08158860	152.627	8	89.490	201.870	165.475	153.193	37.446	0.24	0.9352	0.5646	147.926	153.549	42.158	0.27	0.8920	0.2441	152.627	34.672	148.620	142.581
TDS	08158920	150.465	24	92.760	358.470	140.530	150.684	57.832	0.38	0.7763	0.0001	142.447	149.875	48.677	0.32	0.9168	0.0497	150.465	56.801	142.749	151.184
TDS	08158922	123.225	12	52.840	222.510	93.990	123.375	57.996	0.47	0.8793	0.0859	110.624	123.262	58.836	0.48	0.9292	0.3721	123.225	55.275	111.633	122.898
TDS	08158930	136.840	9	71.020	228.200	109.320	136.991	63.421	0.46	0.8548	0.0841	123.138	136.788	63.839	0.47	0.8868	0.1849	136.840	59.928	124.598	92.965
TDS	FBU	304.565	23	164.000	388.000	320.000	304.565	58.273	0.19	0.9169	0.0571	297.910	305.230	67.838	0.22	0.8488	0.0026	304.036	57.348	298.225	285.350
TDS	FTB	154.794	30	58.000	344.000	136.000	155.033	63.655	0.41	0.9047	0.0109	143.558	154.794	61.881	0.40	0.9761	0.7161	154.565	61.789	143.920	129.807

Parameters: PB-total lead mg/L, SO4-total sulfates mg/L, TDS-total dissolved solids mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TKN	08154700	1.592	57	0.180	9.300	0.990	1.638	1.806	1.10	0.6850	0.0001	1.083	1.592	1.663	1.04	0.9840	0.6500	1.646	1.805	1.091	2.243
TKN	08155200	0.907	53	0.060	3.140	0.530	0.859	0.772	0.90	0.8404	0.0001	0.560	0.907	1.107	1.22	0.9703	0.2085	0.855	0.760	0.565	1.248
TKN	08155240	0.652	52	0.090	4.140	0.370	0.675	0.770	1.14	0.6869	0.0001	0.432	0.652	0.711	1.09	0.9741	0.3120	0.672	0.755	0.436	1.336
TKN	08155300	1.062	45	0.100	6.730	0.680	1.104	1.415	1.28	0.6383	0.0001	0.646	1.062	1.316	1.24	0.9798	0.6103	1.105	1.406	0.653	1.763
TKN	08155400	0.685	31	0.130	1.730	0.550	0.673	0.443	0.66	0.9107	0.0135	0.532	0.685	0.540	0.79	0.9646	0.3839	0.668	0.435	0.536	0.812
TKN	08156800	2.690	64	0.390	9.680	2.145	2.663	1.796	0.67	0.8754	0.0001	2.146	2.690	2.003	0.74	0.9888	0.8308	2.662	1.782	2.154	2.721
TKN	08157000	2.340	39	0.260	5.840	2.420	2.340	1.380	0.59	0.9655	0.2706	1.830	2.490	2.230	0.90	0.9127	0.0052	2.330	1.340	1.840	2.690
TKN	08157500	2.090	109	0.120	6.650	1.620	2.087	1.389	0.67	0.9212	0.0001	1.616	2.173	1.930	0.89	0.9630	0.0040	2.090	1.383	1.621	2.201
TKN	08157600	1.706	29	0.290	5.200	1.420	1.680	1.313	0.78	0.8654	0.0016	1.235	1.706	1.553	0.91	0.9696	0.5477	1.683	1.297	1.249	1.343
TKN	08157700	1.964	62	0.090	5.900	1.765	1.956	1.401	0.72	0.9239	0.0009	1.420	2.099	2.220	1.06	0.9515	0.0157	1.964	1.392	1.429	1.823
TKN	08158050	2.840	33	0.620	10.040	2.260	2.870	2.216	0.77	0.7950	0.0001	2.257	2.840	2.109	0.74	0.9801	0.7892	2.845	2.154	2.273	3.037
TKN	08158600	1.933	52	0.190	6.430	1.715	1.929	1.407	0.73	0.9088	0.0007	1.392	2.083	2.238	1.07	0.9354	0.0073	1.933	1.399	1.403	1.987
TKN	08158700	1.613	22	0.090	6.560	0.480	1.529	2.004	1.31	0.7356	0.0001	0.586	1.613	3.228	2.00	0.9248	0.0954	1.514	1.954	0.615	2.302
TKN	08158810	0.893	26	0.090	4.110	0.470	0.929	1.013	1.09	0.7126	0.0001	0.595	0.893	0.936	1.05	0.9376	0.1179	0.938	1.003	0.604	1.997
TKN	08158840	0.653	20	0.090	1.780	0.590	0.651	0.441	0.68	0.9337	0.1822	0.487	0.687	0.638	0.93	0.9360	0.2010	0.653	0.433	0.496	1.019
TKN	08158860	0.923	12	0.400	1.850	0.955	0.926	0.359	0.39	0.8722	0.0698	0.863	0.926	0.355	0.38	0.9460	0.5794	0.923	0.346	0.868	1.043
TKN	08158920	1.711	35	0.090	4.730	1.370	1.615	1.233	0.76	0.8792	0.0011	1.166	1.711	1.752	1.02	0.9640	0.2994	1.606	1.211	1.179	1.790
TKN	08158922	1.223	12	0.330	1.820	1.440	1.223	0.521	0.43	0.8683	0.0621	1.062	1.258	0.762	0.61	0.7901	0.0072	1.225	0.494	1.077	1.245
TKN	08158930	1.177	9	0.560	2.470	1.030	1.182	0.542	0.46	0.8260	0.0403	1.083	1.177	0.485	0.41	0.9530	0.7229	1.181	0.507	1.093	1.214
TKN	FBU	0.619	62	0.040	4.150	0.390	0.631	0.747	1.18	0.6241	0.0001	0.406	0.619	0.691	1.11	0.9891	0.8589	0.634	0.746	0.409	0.633
TKN	FTB	2.689	30	0.250	9.430	2.030	2.643	2.011	0.76	0.7999	0.0001	2.054	2.689	2.193	0.82	0.9696	0.5289	2.636	1.958	2.072	3.033
TN	08154700	2.091	57	0.210	9.790	1.500	2.115	1.862	0.88	0.7402	0.0001	1.593	2.091	1.744	0.83	0.9878	0.8350	2.124	1.861	1.600	2.862
TN	08155200	1.162	53	0.120	3.370	1.020	1.118	0.829	0.74	0.8917	0.0002	0.826	1.162	1.120	0.96	0.9700	0.2020	1.116	0.818	0.831	1.415
TN	08155240	1.031	51	0.120	4.240	0.660	1.024	0.870	0.85	0.8238	0.0001	0.740	1.031	0.971	0.94	0.9867	0.8323	1.023	0.859	0.745	1.584
TN	08155300	1.323	44	0.230	7.010	1.000	1.363	1.436	1.05	0.6810	0.0001	0.938	1.323	1.273	0.96	0.9691	0.2806	1.362	1.415	0.945	2.008
TN	08155400	1.192	31	0.460	2.600	1.000	1.191	0.545	0.46	0.9237	0.0296	1.074	1.192	0.567	0.48	0.9693	0.5007	1.188	0.535	1.078	1.257
TN	08156800	3.189	60	0.450	10.430	2.630	3.164	1.823	0.58	0.8887	0.0001	2.706	3.189	1.966	0.62	0.9854	0.6891	3.174	1.823	2.713	3.148
TN	08157000	3.100	39	0.560	6.340	2.900	3.110	1.470	0.47	0.9554	0.1246	2.740	3.150	1.750	0.56	0.9601	0.1792	3.100	1.430	2.750	3.380
TN	08157500	2.698	109	0.450	7.210	2.210	2.696	1.437	0.53	0.9437	0.0002	2.311	2.735	1.719	0.63	0.9747	0.0357	2.698	1.430	2.315	2.686
TN	08157600	2.235	29	0.520	5.220	1.830	2.222	1.358	0.61	0.8984	0.0090	1.837	2.235	1.511	0.68	0.9665	0.4695	2.218	1.337	1.849	1.756
TN	08157700	2.546	62	0.560	6.350	2.260	2.511	1.393	0.55	0.9388	0.0040	2.129	2.546	1.651	0.65	0.9744	0.2198	2.519	1.384	2.135	2.300
TN	08158050	3.320	30	1.250	10.240	2.775	3.372	2.271	0.67	0.7921	0.0001	2.826	3.320	2.007	0.60	0.9465	0.1358	3.363	2.217	2.841	3.495
TN	08158600	2.405	50	0.300	6.700	2.180	2.334	1.383	0.59	0.9430	0.0178	1.908	2.405	1.811	0.75	0.9642	0.1334	2.336	1.380	1.917	2.358
TN	08158700	1.738	21	0.180	7.400	1.100	1.707	1.801	1.06	0.7789	0.0003	1.020	1.738	2.146	1.23	0.9681	0.6903	1.700	1.761	1.047	2.287
TN	08158810	1.305	26	0.200	4.500	0.815	1.301	1.145	0.88	0.8373	0.0008	0.891	1.305	1.313	1.01	0.9550	0.3033	1.314	1.132	0.905	2.417
TN	08158840	0.946	20	0.200	2.300	0.845	0.943	0.481	0.51	0.9386	0.2259	0.817	0.959	0.574	0.60	0.9523	0.4037	0.946	0.475	0.823	1.258
TN	08158860	1.412	12	0.910	2.110	1.350	1.414	0.419	0.30	0.8872	0.1083	1.355	1.413	0.413	0.29	0.9193	0.2806	1.412	0.405	1.360	1.821
TN	08158920	2.020	34	0.260	5.130	1.615	1.992	1.283	0.64	0.8797	0.0014	1.620	2.020	1.466	0.73	0.9753	0.6220	1.986	1.270	1.630	2.137
TN	08158922	1.658	12	0.930	2.100	1.850	1.655	0.454	0.27	0.8231	0.0174	1.580	1.662	0.536	0.32	0.7813	0.0058	1.658	0.432	1.586	1.638
TN	08158930	1.401	9	0.850	2.230	1.360	1.400	0.444	0.32	0.9574	0.7712	1.331	1.400	0.449	0.32	0.9695	0.8908	1.401	0.416	1.339	1.540
TN	FBU	0.959	62	0.130	5.280	0.710	0.974	0.902	0.93	0.6899	0.0001	0.731	0.959	0.799	0.83	0.9868	0.7478	0.978	0.902	0.734	1.002
TN	FTB	3.055	30	0.560	9.860	2.475	3.065	2.081	0.68	0.7906	0.0001	2.547	3.055	1.979	0.65	0.9803	0.8335	3.058	2.024	2.562	3.449

Parameters: TKN-total kjeldahl nitrogen mg/L, TN-total nitrogen mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TOC	08154700	22.075	56	3.500	135.870	13.150	23.117	26.271	1.14	0.6821	0.0001	14.953	22.075	23.220	1.05	0.9601	0.0613	23.179	26.108	15.058	35.637
TOC	08155200	12.308	53	1.200	40.540	7.580	11.830	9.575	0.81	0.8792	0.0001	8.270	12.308	13.110	1.07	0.9709	0.2203	11.812	9.476	8.332	18.460
TOC	08155240	9.639	52	1.090	51.670	5.950	9.927	10.480	1.06	0.7123	0.0001	6.649	9.639	9.798	1.02	0.9748	0.3335	9.886	10.302	6.697	19.849
TOC	08155300	15.808	46	2.000	165.560	8.720	17.027	25.738	1.51	0.5157	0.0001	9.796	15.808	19.054	1.21	0.9663	0.2015	16.952	25.371	9.899	28.220
TOC	08155400	8.509	32	2.280	38.030	6.740	8.671	6.778	0.78	0.7117	0.0001	7.054	8.509	5.614	0.66	0.9734	0.5985	8.680	6.757	7.096	9.642
TOC	08156800	28.638	61	4.420	119.520	22.940	28.565	18.573	0.65	0.8167	0.0001	23.979	28.638	18.486	0.65	0.9908	0.9303	28.672	18.567	24.049	32.110
TOC	08157000	11.470	24	3.470	64.600	8.290	11.400	12.040	1.06	0.5121	0.0001	8.890	10.740	7.080	0.66	0.9164	0.0486	11.470	10.630	8.960	9.160
TOC	08157500	10.216	65	3.490	24.300	8.530	10.246	5.178	0.51	0.8894	0.0001	9.116	10.216	5.133	0.50	0.9717	0.1411	10.254	5.136	9.132	7.965
TOC	08157600	14.440	29	4.040	61.460	9.940	14.970	14.214	0.95	0.7257	0.0001	10.842	14.440	12.207	0.85	0.9329	0.0655	14.908	13.842	10.950	10.443
TOC	08157700	12.964	25	4.130	52.870	7.550	13.118	11.642	0.89	0.6969	0.0001	9.969	12.581	9.345	0.74	0.8474	0.0016	12.964	11.275	10.063	9.794
TOC	08158050	30.474	31	9.440	73.760	29.300	30.566	13.684	0.45	0.9322	0.0505	27.615	30.727	14.809	0.48	0.9724	0.5884	30.474	13.369	27.710	32.915
TOC	08158600	22.994	51	2.600	56.320	22.310	22.994	12.679	0.55	0.9589	0.0746	18.989	23.995	18.192	0.76	0.9263	0.0036	22.933	12.522	19.077	25.995
TOC	08158700	18.386	22	1.740	75.850	5.615	18.605	21.786	1.17	0.7758	0.0002	8.753	18.985	30.740	1.62	0.8999	0.0296	18.386	21.232	9.077	28.225
TOC	08158810	10.864	26	1.940	49.950	7.125	11.283	11.603	1.03	0.7219	0.0001	7.684	10.864	10.279	0.95	0.9625	0.4424	11.371	11.517	7.788	23.358
TOC	08158840	9.216	20	2.100	23.610	8.575	9.114	6.021	0.66	0.8930	0.0305	7.261	9.216	6.892	0.75	0.9607	0.5580	9.110	5.857	7.349	15.391
TOC	08158860	9.557	10	6.510	13.420	10.055	9.574	2.074	0.22	0.9532	0.7066	9.347	9.577	2.120	0.22	0.9540	0.7156	9.557	1.983	9.370	11.833
TOC	08158920	17.276	34	4.110	37.250	17.095	17.395	8.341	0.48	0.9722	0.5247	15.214	17.649	10.212	0.58	0.9634	0.3046	17.276	8.156	15.280	18.702
TOC	08158922	13.617	11	5.120	27.000	13.200	13.671	6.329	0.46	0.9514	0.6624	12.098	13.810	7.313	0.53	0.9258	0.3701	13.617	5.928	12.245	12.451
TOC	08158930	14.670	6	10.600	24.140	13.565	14.798	5.012	0.34	0.8392	0.1284	14.091	14.754	4.482	0.30	0.9057	0.4089	14.670	4.528	14.200	14.547
TOC	FBU	5.406	39	1.820	15.560	4.960	5.415	2.668	0.49	0.8686	0.0003	4.874	5.406	2.569	0.48	0.9874	0.9329	5.378	2.598	4.887	5.611
TP	08154700	0.188	54	0.020	1.000	0.125	0.188	0.188	1.00	0.7987	0.0001	0.115	0.199	0.267	1.34	0.9569	0.0498	0.188	0.187	0.116	0.296
TP	08155200	0.115	53	0.005	0.520	0.060	0.115	0.127	1.10	0.8064	0.0001	0.056	0.131	0.249	1.91	0.9456	0.0175	0.115	0.125	0.057	0.156
TP	08155240	0.082	52	0.005	0.490	0.040	0.081	0.102	1.26	0.7181	0.0001	0.041	0.082	0.131	1.60	0.9558	0.0517	0.080	0.100	0.042	0.166
TP	08155300	0.115	46	0.010	0.540	0.065	0.115	0.125	1.08	0.7904	0.0001	0.063	0.122	0.190	1.56	0.9459	0.0327	0.115	0.123	0.063	0.202
TP	08155400	0.105	32	0.010	0.330	0.080	0.105	0.085	0.81	0.9013	0.0067	0.069	0.114	0.140	1.23	0.9293	0.0374	0.105	0.084	0.070	0.104
TP	08156800	0.847	65	0.030	3.180	0.670	0.807	0.653	0.81	0.8396	0.0001	0.584	0.847	0.868	1.02	0.9728	0.1612	0.805	0.646	0.587	0.937
TP	08157000	0.633	39	0.177	1.562	0.541	0.626	0.353	0.56	0.9244	0.0119	0.527	0.633	0.414	0.65	0.9527	0.1013	0.627	0.347	0.529	0.806
TP	08157500	0.561	103	0.150	2.650	0.440	0.564	0.387	0.69	0.8195	0.0001	0.466	0.561	0.372	0.66	0.9800	0.1201	0.565	0.382	0.467	0.614
TP	08157600	0.525	29	0.150	1.480	0.380	0.530	0.339	0.64	0.8331	0.0003	0.446	0.525	0.321	0.61	0.9717	0.6053	0.529	0.333	0.448	0.537
TP	08157700	0.633	57	0.090	3.710	0.480	0.632	0.597	0.94	0.7433	0.0001	0.447	0.633	0.619	0.98	0.9808	0.4963	0.635	0.596	0.449	0.654
TP	08158050	1.093	31	0.250	3.600	0.920	1.086	0.765	0.70	0.8608	0.0009	0.864	1.093	0.822	0.75	0.9780	0.7560	1.082	0.753	0.870	1.177
TP	08158600	0.767	48	0.010	3.460	0.740	0.764	0.583	0.76	0.8326	0.0001	0.521	0.941	1.330	1.41	0.8381	0.0001	0.767	0.580	0.527	0.705
TP	08158700	0.198	22	0.005	0.740	0.040	0.170	0.237	1.39	0.7188	0.0001	0.050	0.198	0.520	2.62	0.9234	0.0895	0.169	0.231	0.053	0.277
TP	08158810	0.117	25	0.005	0.590	0.040	0.116	0.158	1.37	0.7085	0.0001	0.048	0.117	0.217	1.85	0.9527	0.2881	0.116	0.156	0.050	0.273
TP	08158840	0.076	20	0.005	0.380	0.025	0.071	0.092	1.29	0.7253	0.0001	0.030	0.076	0.138	1.82	0.9095	0.0624	0.072	0.091	0.032	0.127
TP	08158860	0.264	12	0.130	0.640	0.240	0.266	0.137	0.51	0.8019	0.0099	0.240	0.264	0.118	0.45	0.9502	0.6402	0.265	0.132	0.242	0.327
TP	08158920	0.355	34	0.020	1.490	0.230	0.334	0.305	0.91	0.8268	0.0001	0.218	0.355	0.428	1.21	0.9790	0.7402	0.332	0.303	0.221	0.332
TP	08158922	0.235	11	0.030	0.420	0.260	0.235	0.134	0.57	0.9153	0.2812	0.171	0.259	0.258	1.00	0.8052	0.0110	0.236	0.128	0.178	0.266
TP	08158930	0.246	9	0.110	0.550	0.180	0.247	0.140	0.57	0.8515	0.0774	0.214	0.245	0.130	0.53	0.9370	0.5511	0.246	0.131	0.217	0.323
TP	FBU	0.156	59	0.003	1.500	0.060	0.169	0.306	1.82	0.5254	0.0001	0.064	0.156	0.313	2.01	0.9704	0.1606	0.170	0.306	0.065	0.152
TP	FTB	0.800	24	0.140	2.770	0.705	0.805	0.610	0.76	0.7892	0.0002	0.639	0.800	0.583	0.73	0.9791	0.8785	0.797	0.591	0.645	0.900

Parameters: TOC: total organic carbon mg/L, TP- total phosphorus mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TSS	08154700	575.004	56	4.690	3527.970	143.390	492.391	778.208	1.58	0.6523	0.0001	150.753	575.004	1764.686	3.07	0.9782	0.4033	492.304	770.754	154.484	952.755
TSS	08155200	232.927	54	0.500	1066.170	135.990	234.276	256.770	1.10	0.8403	0.0001	80.971	439.716	1790.418	4.07	0.9176	0.0012	232.927	253.316	83.626	413.346
TSS	08155240	126.533	52	0.500	1117.870	36.875	127.550	213.687	1.68	0.6277	0.0001	31.061	153.299	574.589	3.75	0.9395	0.0107	126.533	209.551	32.058	403.953
TSS	08155300	340.075	44	3.000	1899.870	115.800	339.548	463.914	1.37	0.7285	0.0001	101.218	516.693	1918.895	3.71	0.9484	0.0480	340.075	460.333	105.173	717.823
TSS	08155400	80.313	32	4.380	302.700	37.945	71.738	84.292	1.18	0.7700	0.0001	32.795	80.313	153.396	1.91	0.9347	0.0530	71.455	82.645	33.750	112.830
TSS	08156800	915.913	62	3.000	3812.950	680.120	915.608	871.853	0.95	0.8574	0.0001	483.061	1315.840	2995.479	2.28	0.8972	0.0001	915.913	865.647	491.055	986.474
TSS	08157000	306.100	34	2.000	1124.000	180.600	308.200	331.100	1.07	0.8418	0.0002	111.200	529.400	1757.400	3.32	0.9184	0.0146	306.100	321.900	116.700	501.300
TSS	08157500	247.265	106	13.270	1030.750	169.315	236.701	204.217	0.86	0.8381	0.0001	163.991	247.265	273.855	1.11	0.9863	0.3535	236.040	202.184	164.630	277.365
TSS	08157600	286.939	29	22.260	1064.330	217.390	279.238	221.299	0.79	0.8351	0.0004	206.581	286.939	263.974	0.92	0.9693	0.5407	279.442	218.416	208.960	283.195
TSS	08157700	352.569	62	27.000	1290.000	269.240	332.720	284.005	0.85	0.8547	0.0001	224.749	352.569	411.517	1.17	0.9718	0.1629	332.113	280.898	226.398	357.190
TSS	08158050	1827.705	31	123.400	4959.890	1271.690	1709.272	1335.012	0.78	0.9029	0.0085	1162.116	1827.705	2078.253	1.14	0.9502	0.1577	1694.280	1307.617	1179.450	1854.749
TSS	08158600	1002.520	52	3.000	4898.440	819.440	1001.250	892.892	0.89	0.8094	0.0001	547.629	1839.773	5000.134	2.72	0.7328	0.0001	1002.520	885.585	560.830	1455.370
TSS	08158700	709.211	22	0.500	1392.990	56.935	320.025	428.206	1.34	0.7699	0.0002	49.446	709.211	3784.309	5.34	0.9216	0.0819	316.420	418.437	56.531	505.819
TSS	08158810	167.407	26	1.000	887.630	31.465	145.224	242.478	1.67	0.6391	0.0001	32.683	167.407	544.050	3.25	0.9534	0.2777	147.163	240.166	34.927	391.898
TSS	08158840	115.284	20	0.500	522.220	38.140	86.609	125.857	1.45	0.6910	0.0001	26.012	115.284	316.461	2.75	0.9510	0.3819	87.577	124.864	28.160	178.732
TSS	08158860	100.234	11	20.640	199.100	90.970	100.426	60.296	0.60	0.9343	0.4565	80.069	103.383	78.051	0.75	0.9407	0.5282	100.234	57.903	81.988	115.037
TSS	08158920	375.468	28	6.200	3069.170	113.295	339.480	593.916	1.75	0.5381	0.0001	119.698	375.468	872.586	2.32	0.9795	0.8395	334.582	576.796	124.877	367.908
TSS	08158922	162.276	12	0.500	513.110	117.245	162.276	148.128	0.91	0.8949	0.1364	64.638	325.880	809.279	2.48	0.8067	0.0112	163.550	141.161	75.081	120.449
TSS	08158930	146.506	9	28.260	440.350	80.890	146.548	138.938	0.95	0.8433	0.0628	89.525	148.013	160.381	1.08	0.9162	0.3619	146.506	130.369	94.903	189.055
TSS	FBU	115.784	60	1.000	2260.000	23.770	113.560	304.268	2.68	0.3352	0.0001	28.989	115.784	373.523	3.23	0.9768	0.3072	113.768	303.961	29.681	155.819
TSS	FTB	1143.471	30	91.400	7579.990	717.000	1176.646	1516.552	1.29	0.6350	0.0001	688.430	1143.471	1403.216	1.23	0.9874	0.9707	1166.481	1467.096	700.359	1054.572
VSS	08154700	126.463	30	2.820	556.710	41.480	114.833	140.230	1.22	0.7702	0.0001	49.645	126.463	248.505	1.97	0.9603	0.3152	114.545	137.031	51.263	193.987
VSS	08155200	48.651	25	0.500	154.560	22.030	33.785	38.505	1.14	0.8091	0.0003	13.361	48.651	123.866	2.55	0.9320	0.0964	34.043	37.955	14.104	31.309
VSS	08155240	29.133	23	1.000	161.060	11.210	26.516	35.757	1.35	0.6879	0.0001	11.561	29.133	54.518	1.87	0.9661	0.5972	26.615	34.986	12.052	42.012
VSS	08155300	58.940	28	4.790	191.410	41.390	54.510	51.926	0.95	0.8541	0.0011	31.070	58.940	85.016	1.44	0.9311	0.0657	54.129	50.830	31.804	73.185
VSS	08155400	14.595	8	2.910	35.690	11.440	14.836	12.464	0.84	0.8809	0.1922	9.318	15.342	16.283	1.06	0.8902	0.2350	14.595	11.555	9.947	11.073
VSS	08156800	223.634	32	2.730	1284.190	115.350	200.222	264.787	1.32	0.6326	0.0001	103.800	223.634	375.836	1.68	0.9580	0.2422	201.869	264.443	106.377	174.201
VSS	08157000	70.570	27	0.610	306.070	20.330	50.740	67.720	1.33	0.7258	0.0001	17.320	70.570	198.320	2.81	0.9569	0.3126	51.170	63.780	18.290	86.980
VSS	08157500	51.144	64	3.600	170.240	28.920	49.216	45.901	0.93	0.8268	0.0001	31.215	51.144	63.886	1.25	0.9707	0.1317	49.072	45.486	31.459	58.711
VSS	08157600	38.599	29	7.820	106.960	32.250	38.002	22.803	0.60	0.9194	0.0294	31.481	38.599	26.660	0.69	0.9736	0.6596	38.086	22.286	31.705	39.706
VSS	08157700	41.190	25	4.790	158.510	32.480	40.618	34.059	0.84	0.8155	0.0004	29.676	41.190	37.598	0.91	0.9925	0.9993	40.401	33.114	30.073	43.510
VSS	08158050	180.401	28	19.490	523.660	160.825	169.147	126.297	0.75	0.9162	0.0279	118.106	180.401	195.057	1.08	0.9331	0.0739	167.496	123.517	119.932	185.695
VSS	08158600	114.020	27	2.760	464.680	66.860	113.645	113.291	1.00	0.8433	0.0008	58.582	145.044	273.633	1.89	0.9114	0.0246	114.020	111.880	60.645	192.797
VSS	08158700	44.183	6	1.380	139.780	14.865	43.132	56.764	1.32	0.7959	0.0540	10.628	47.017	84.157	1.79	0.9466	0.7128	44.183	52.641	14.225	63.598
VSS	08158810	8.719	6	0.500	23.040	5.615	8.660	8.027	0.93	0.8661	0.2112	4.558	10.066	13.000	1.29	0.8856	0.2959	8.719	7.312	5.266	10.476
VSS	08158840	6.241	6	0.500	22.170	3.910	6.062	8.144	1.34	0.7147	0.0088	2.295	6.241	9.094	1.46	0.8988	0.3672	6.128	7.480	2.766	19.319
VSS	08158920	95.051	14	3.090	418.050	57.370	88.751	103.983	1.17	0.6641	0.0002	51.861	95.051	122.253	1.29	0.9188	0.2111	87.661	99.185	54.242	80.858
VSS	08158922	31.640	10	1.650	87.100	21.055	29.213	29.577	1.01	0.7776	0.0077	16.448	31.640	40.635	1.28	0.9468	0.6306	28.875	27.598	17.621	21.314
VSS	FBU	15.300	38	0.470	103.410	7.105	13.863	19.452	1.40	0.6675	0.0001	5.877	15.300	31.636	2.07	0.9643	0.2615	13.778	19.056	6.031	16.079

Parameters: TSS-total suspended solids mg/L, VSS-volatile suspended solids mg/L

Table 2.4(continued) Summary of water quality data information from all sites, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
ZN	08154700	32.733	30	2.000	260.230	16.480	32.147	54.733	1.70	0.4681	0.0001	16.681	29.071	38.027	1.31	0.9290	0.0462	32.733	54.596	16.998	36.486
ZN	08155200	13.488	33	1.000	34.280	11.850	13.605	10.381	0.76	0.9100	0.0098	9.062	14.939	18.250	1.22	0.9333	0.0434	13.488	10.204	9.203	21.845
ZN	08155240	8.413	34	1.000	36.870	5.155	8.337	9.212	1.10	0.7454	0.0001	4.873	8.413	10.966	1.30	0.9512	0.1331	8.307	9.049	4.953	19.653
ZN	08155300	14.563	22	1.000	45.820	9.455	14.030	13.031	0.93	0.8138	0.0008	9.086	14.563	16.640	1.14	0.9755	0.8330	14.058	12.785	9.287	21.478
ZN	08155400	12.925	31	1.000	29.800	9.720	11.994	8.861	0.74	0.9140	0.0164	8.321	12.925	14.422	1.12	0.9425	0.0967	11.949	8.764	8.441	11.514
ZN	08156800	86.915	36	15.750	203.970	68.630	85.772	48.283	0.56	0.9244	0.0169	72.168	86.915	57.186	0.66	0.9605	0.2224	85.227	47.382	72.544	100.416
ZN	08157000	104.970	22	5.000	240.000	95.790	104.970	73.070	0.70	0.9306	0.1265	72.410	118.360	138.940	1.17	0.9075	0.0421	105.600	71.010	74.080	130.890
ZN	08157500	105.514	95	23.900	334.000	93.780	105.435	58.572	0.56	0.8946	0.0001	91.491	105.514	60.262	0.57	0.9928	0.8912	105.383	58.221	91.629	109.456
ZN	08157600	106.294	29	30.540	204.430	102.140	106.452	51.423	0.48	0.9352	0.0751	93.958	107.142	57.757	0.54	0.9692	0.5388	106.294	50.535	94.386	105.859
ZN	08157700	91.400	62	13.900	410.000	79.750	90.630	61.017	0.67	0.7974	0.0001	74.962	91.400	62.950	0.69	0.9792	0.3719	90.567	60.068	75.203	95.331
ZN	08158050	107.697	8	54.190	215.940	92.600	108.021	55.543	0.51	0.8888	0.2281	95.536	107.581	53.269	0.50	0.9420	0.6312	107.697	51.870	96.982	118.251
ZN	08158600	73.151	30	18.150	146.660	68.955	73.257	32.954	0.45	0.9559	0.2422	65.578	73.910	37.872	0.51	0.9678	0.4814	73.151	32.291	65.841	79.989
ZN	08158700	15.354	18	1.000	42.520	6.940	14.056	13.497	0.96	0.8503	0.0086	7.731	15.354	22.181	1.44	0.9428	0.3238	14.132	13.113	8.042	18.790
ZN	08158810	13.055	20	1.000	36.110	10.125	12.962	12.137	0.94	0.8575	0.0071	6.572	14.986	25.103	1.68	0.8891	0.0259	13.055	11.892	6.859	22.190
ZN	08158840	10.235	15	2.000	30.010	9.550	10.047	7.617	0.76	0.8679	0.0314	7.510	10.235	8.782	0.86	0.9632	0.7473	10.040	7.372	7.669	12.766
ZN	08158860	11.196	10	5.770	15.660	11.205	11.255	3.673	0.33	0.9057	0.2527	10.606	11.285	4.025	0.36	0.9085	0.2706	11.196	3.487	10.673	10.714
ZN	08158920	24.794	14	7.300	57.740	24.235	24.749	12.532	0.51	0.9027	0.1234	21.710	24.953	13.674	0.55	0.9511	0.5775	24.794	11.969	21.929	21.194
ZN	08158922	25.137	8	5.000	49.570	22.780	25.061	13.866	0.55	0.9754	0.9368	20.291	26.014	18.938	0.73	0.9123	0.3707	25.137	12.843	20.947	23.739
ZN	08158930	35.240	9	11.550	116.590	23.760	36.431	32.848	0.90	0.7383	0.0040	27.030	35.240	26.793	0.76	0.9416	0.5992	36.331	30.733	27.858	33.454
ZN	FBU	20.178	62	3.000	109.380	13.005	20.114	22.837	1.14	0.6744	0.0001	12.855	19.515	21.593	1.11	0.9605	0.0439	20.178	22.776	12.943	15.584
ZN	FTB	102.195	30	18.800	318.000	89.700	101.442	72.082	0.71	0.8250	0.0002	80.842	102.195	76.654	0.75	0.9732	0.6300	101.479	71.115	81.481	112.449

Parameters: ZN-total zinc mg/L

3 Runoff Quantity

As watersheds change through development, the hydrologic characteristics of the associated stream also change. These changes can have a significant impact on the heath and stability of the stream. These changes can result in increased direct runoff or storm flow, decreased baseflow and an overall more unstable flow regime. The stream ecology responds to these hydrological changes with declining species richness and increase in tolerant species cited as symptoms of degradation (Walsh et al. 2005, Meyer et al. 2005). Understanding the hydrological changes and how to quantify them is critical to developing long-term solutions to the subsequent ecological degradation.

Several areas will be addressed in this section. First, various methods to differentiate between storm flow and baseflow will be examined. Next, relationships between storm flow, baseflow, total flow and impervious cover will be explored. The impacts of rainfall depth on storm flow and baseflow will be taken into consideration. Other hydrologic metrics that may be used to characterize the health of a stream and how they relate to each other and impervious cover will also be addressed.

3.1 Estimation of Baseflow Ratio

Flow data from thirty-seven large watersheds in the Austin area have been collected by USGS and by COA. As noted in Section 2.1, the flow data of a watershed are first compared with rainfall data to determine storm flow events by creating a single start and end for each event. The baseflow as percentage of total flow or baseflow ratio (BFR) is them computed using different methods described in Section 2.7. For analyses, these data were separated by water year and into time periods with corresponding impervious cover estimates (Table 2.2). As an example, the BFRs from different methods are compared for USGS Station 08154700 for different water years and for different periods in Figure 3.1 and 3.2. The BFRs from all four baseflow separation methods for all watersheds can be found in Appendix B.

In the past, SQE has used the vertical separation method to estimate BFR due to its simplicity and because it is analogous to the methodology used for smaller watersheds. However, the vertical method assumes that all of the flow between the start and end of the event

is storm flow and therefore all of the baseflow is suppressed. While this assumption is generally valid for small watersheds and creeks that are normally dry, it will tend to under estimate the portion of baseflow in other cases, as can be seen in Figures 3.1 and 3.2.

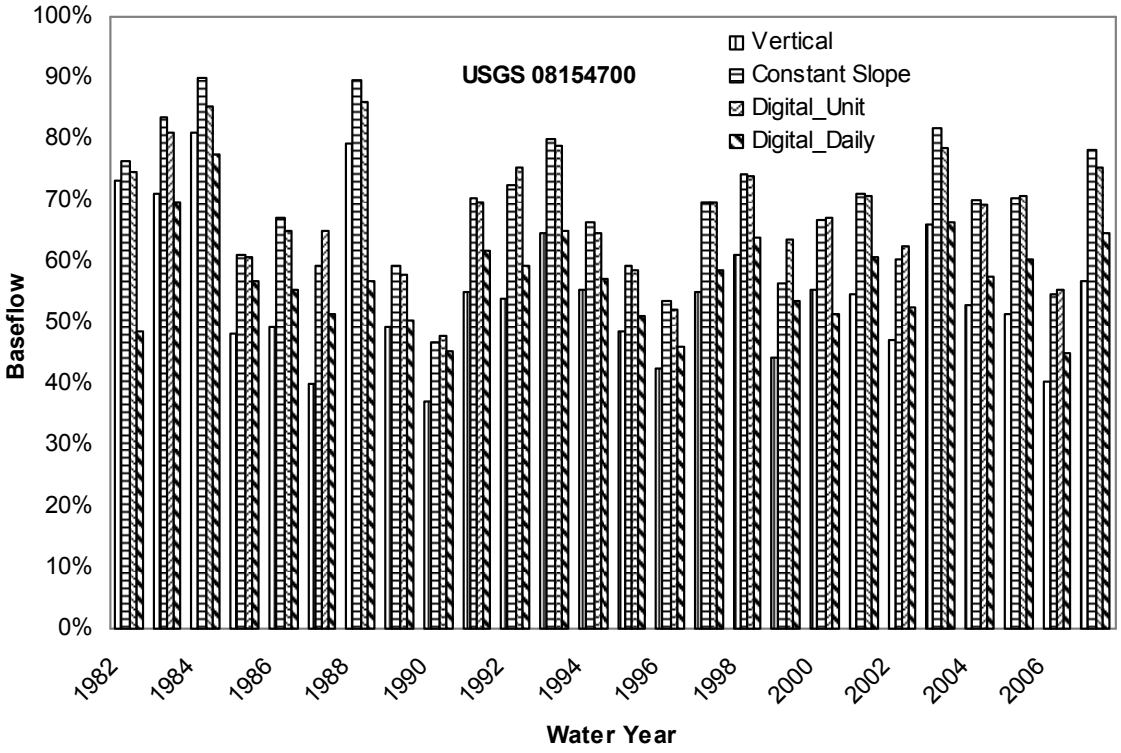

Figure 3.1: Baseflow in different water years for Bull Creek @ Loop 360 (08154700)

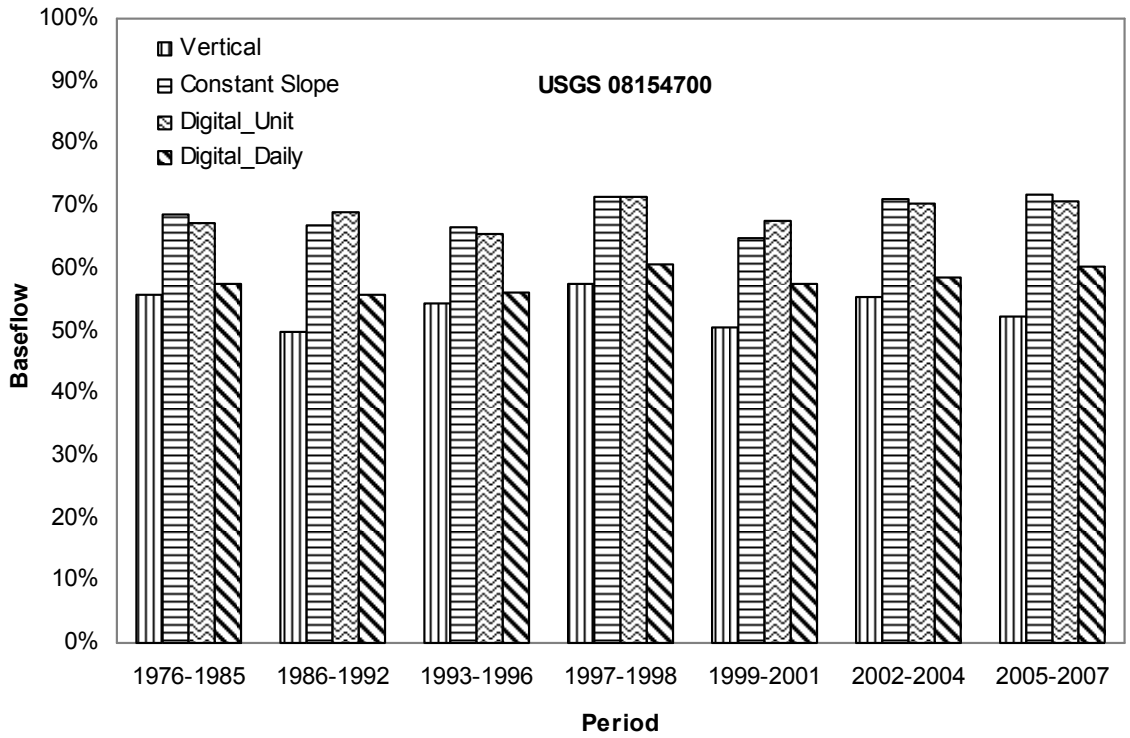

Figure 3.2: Baseflow in different periods for Bull Creek @ Loop 360 (08154700)

Because the vertical separation method overestimates the stormflow, the annual loads of a pollutant parameter will also be overestimated if the results from the vertical separation method are used for water quality computations.

For the digital filtering method using UV data, default values of parameters are used for computing BFR. These parameters are filtering factor (0.925), number of passes (3) and method (two-direction). The default filtering factor value of 0.925 was determined by Nathan and McMahon (1990) and Arnold et al. (1995) to give realistic results when compared to manual separation techniques (Arnold and Allen 1999). The digital filter method produces results that are generally consistent with the constant slope method as shown in Figures 3.1 and 3.2.

When digital filter method is applied to DV data, single-direction version of the method is used because it allows finer control over the number of passes made on the data. In the default digital filter method, a pass consists of two phases, a forward phase and a reverse phase. In the single-direction version of the digital filter method, a pass consists of just one phase, so 3 passes would be a forward phase, a reverse phase and a second forward phase. Therefore, 6 passes in

single-direction version of the digital filter method correspond to 3 passes in original digital filter method. For single-direction version of the digital filtering method using DV data, using the same parameters as used for UV data (except fewer passes), the baseflow appears underestimated, or over-filtered, compared to the UV data although only half passes are used.

This may be due to the fact that DV data are already "filtered" or "smoothed" or by accumulating data over a larger time period compared to UV data. Tests indicate that using only one pass with the single-direction version of the digital filtering method with DV data (less additional filtering) resulted in more reasonable results closer to the constant slope method.

To improve the results from the digital filtering method for DV data, different values of filtering factor were used other than the default value of filtering factor. However, it was found that the best value of filtering factor depends on the value of impervious cover of a watershed. The higher the impervious cover of a watershed is, the higher the value of filtering factor should be. Therefore, if enough data for stormflow events are available, instead of the digital filtering method for DV data, the constant slope method should be recommended for baseflow separation for large watersheds to yield consistent results. The baseflow from the constant slope method was used for calibration since it has some practical validity; therefore, it may be concluded that the default parameter values in the digital filtering method are sufficient for applying the digital filtering method to unit values of the flow data since they match the constant slope method. In the remainder of this study, we use baseflow values from the digital filtering method with UV streamflow data in further discussions. In Table 3.1, the baseflow values from the digital filtering method using unit streamflow data in different time periods for all stations are presented. In Table 3.2, the baseflow values from all four baseflow separation methods for water year period 2005 to 2007 for all stations are presented.

Figures 3.3-3.6 are comparisons of BFR from different methods of calculation at each monitoring station having a variety of watershed characteristics; recharge influenced, urban, suburban, and undeveloped. The same general trends on the different BFR methods can be seen with the different watershed types. At Barton Creek at Loop 360 (Fig. 3.3) the BFR for a station in the recharge zone ranges between 60 % and 70% while at an urban site (Fig. 3.4), Shoal Creek at West 12th Street, BFR is 10-25%. Suburban creeks (Fig. 3.5, Walnut Creek at FM 969)

exhibit BFRs in the 40-50% range while undeveloped creeks may have BFRs of 70-80% (Fig. 3.6, Onion Creek at Driftwood). (Additional BFR values for other USGS and COA large watershed stations are in Appendix C).

Two things are worth noting about these results. First, creeks that are in the recharge zone are typically thought to have less baseflow because they are often dry. It appears that they may have less total flow, however the fraction of flow that would be called baseflow is not very different than that seen at undeveloped stations. Second, there appears to be a relationship between BFR and the amount of development or impervious cover in the watershed.

Table 3.1: Baseflow in different period for all stations using digital filtering on UV data

Station	1976-1985	1986-1992	1993-1996	1997-1978	1999-2001	2002-2004	2005-2007	2008-2014
08105886	---	---	---	---	---	---	---	41.8%
08154700	67.4%	69.0%	65.6%	71.4%	67.7%	70.3%	70.7%	59.9%
08155200	---	74.2%	84.6%	73.7%	84.3%	71.9%	74.1%	75.8%
08155240	---	77.5%	85.3%	77.6%	84.8%	75.9%	77.6%	75.5%
08155300	---	68.5%	73.6%	71.8%	80.2%	73.4%	73.5%	67.6%
08155400	---	---	---	---	87.1%	77.7%	76.3%	72.6%
08155541	---	---	---	---	---	---	---	26.0%
08156675	---	---	---	---	---	---	---	16.5%
08156800	---	23.7%	18.9%	17.4%	16.9%	13.1%	13.4%	16.7%
08156910	---	---	---	---	---	---	---	17.4%
08157000	---	---	29.5%	---	---	---	---	---
08157500	---	---	24.3%	16.1%	25.2%	27.2%	22.3%	21.2%
08157600	---	---	---	25.9%	32.4%	20.6%	25.3%	62.0%
08157700	---	---	---	23.6%	30.7%	53.2%	31.1%	28.1%
08158030	---	---	---	---	---	---	---	20.4%
08158035	---	---	---	---	---	---	---	27.9%
08158045	---	---	---	---	---	---	---	16.6%
08158050	---	---	12.2%	20.3%	17.7%	---	---	---
08158200	---	---	---	---	---	---	---	32.1%
08158380	---	---	---	---	---	---	---	22.0%
08158600	47.0%	49.2%	46.3%	53.8%	47.6%	46.2%	41.8%	35.0%
08158700	---	---	78.6%	77.2%	82.2%	77.9%	78.4%	77.7%
08158810	---	74.7%	84.8%	84.7%	74.8%	69.8%	70.0%	63.7%
08158827	---	---	---	---	---	55.3%	61.1%	44.9%
08158840	70.6%	66.0%	73.8%	72.1%	69.6%	73.0%	66.7%	50.3%
08158860	---	---	---	---	---	21.2%	22.2%	11.1%
08158920	56.9%	49.3%	49.2%	---	---	50.4%	58.0%	39.5%
08158922	---	---	---	38.3%	32.1%	39.8%	---	---
08158927	---	---	---	---	---	---	---	5.1%
08158930	---	---	---	---	18.2%	20.2%	18.3%	11.1%
08158970	---	---	---	---	---	---	---	21.5%
08159000	---	---	51.7%	63.7%	53.6%	53.9%	59.1%	36.4%
FBU	---	---	87.4%	83.7%	88.9%	88.5%	87.1%	88.8%
FTB	---	---	---	---	---	22.5%	37.9%	27.3%
LBA	---	---	---	---	---	---	---	75.5%
LBR	---	---	---	---	---	---	15.8%	7.5%

Table 3.2: Baseflow from different methods in 2005-2007 for all stations

Station	Water Year 2005-2007			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
8154700	52.4%	71.8%	70.7%	60.3%
8155200	48.1%	69.8%	74.1%	62.6%
8155240	52.8%	74.7%	77.6%	65.0%
8155300	49.7%	71.7%	73.5%	57.8%
8155400	48.5%	73.6%	76.3%	57.2%
8156800	5.3%	10.3%	13.4%	14.4%
8157500	17.6%	23.3%	22.3%	25.9%
8157600	25.6%	31.4%	25.3%	30.7%
8157700	26.0%	35.9%	31.1%	30.8%
8158600	25.1%	36.9%	41.8%	37.9%
8158700	56.5%	75.2%	78.4%	67.1%
8158810	56.2%	70.5%	70.0%	62.6%
8158840	51.2%	70.1%	66.7%	51.2%
8158860	4.1%	11.4%	22.2%	12.5%
8158920	41.5%	58.3%	58.0%	47.2%
8158930	5.1%	10.7%	18.3%	14.2%
8159000	29.0%	47.3%	59.1%	44.2%
FBU	72.1%	89.6%	87.1%	76.6%
FTB	30.7%	43.3%	37.9%	37.2%

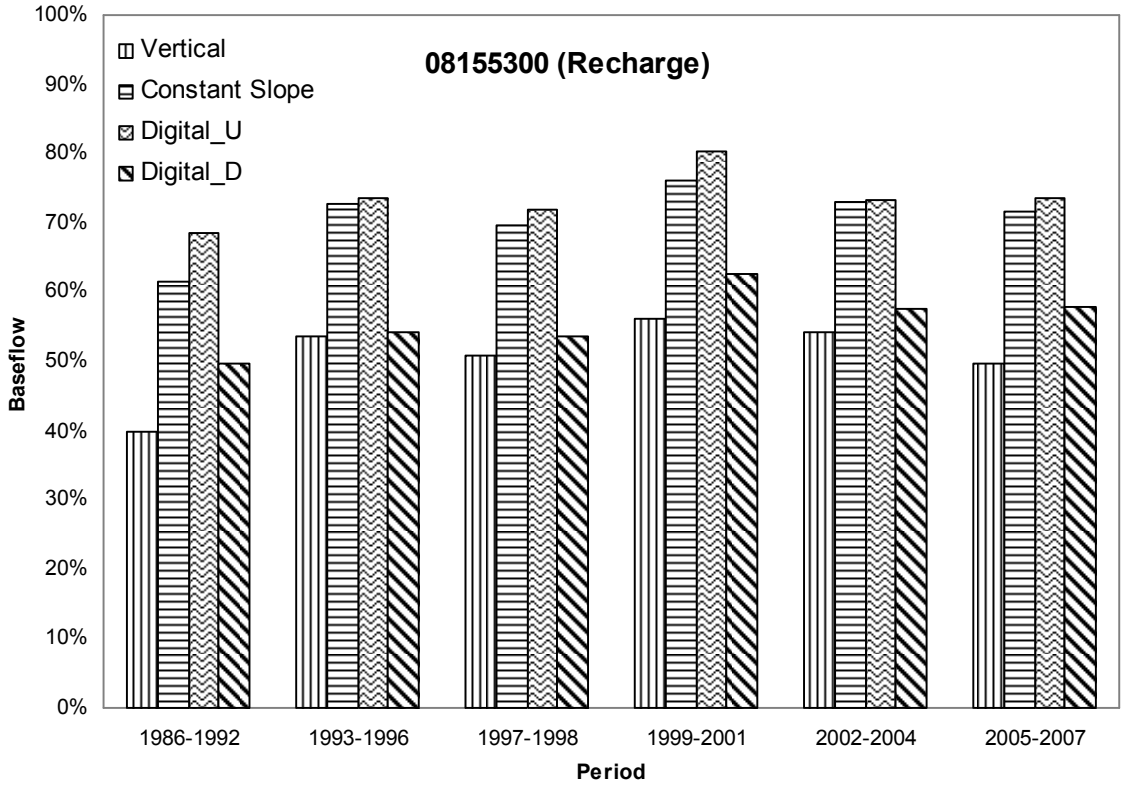

Figure 3.3: Baseflow in different period for Barton Creek @ Loop 360 (08155300)

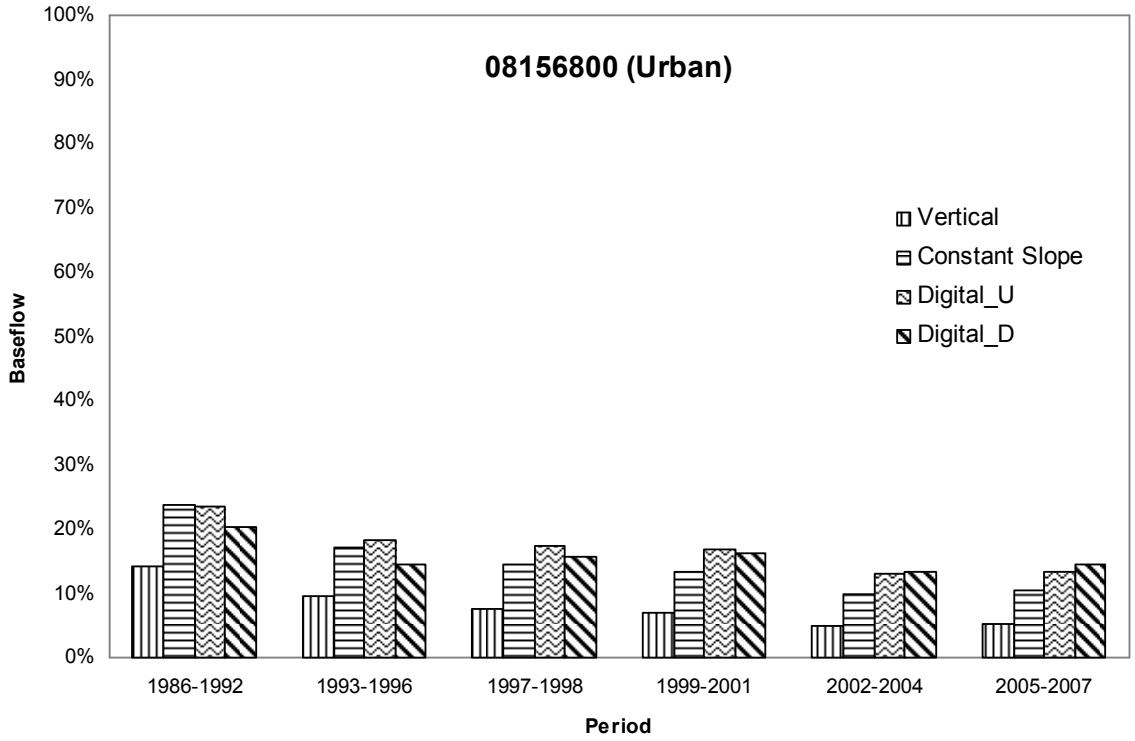

Figure 3.4: Baseflow in different period for Shoal Creek @ West 12th Street (08156800)

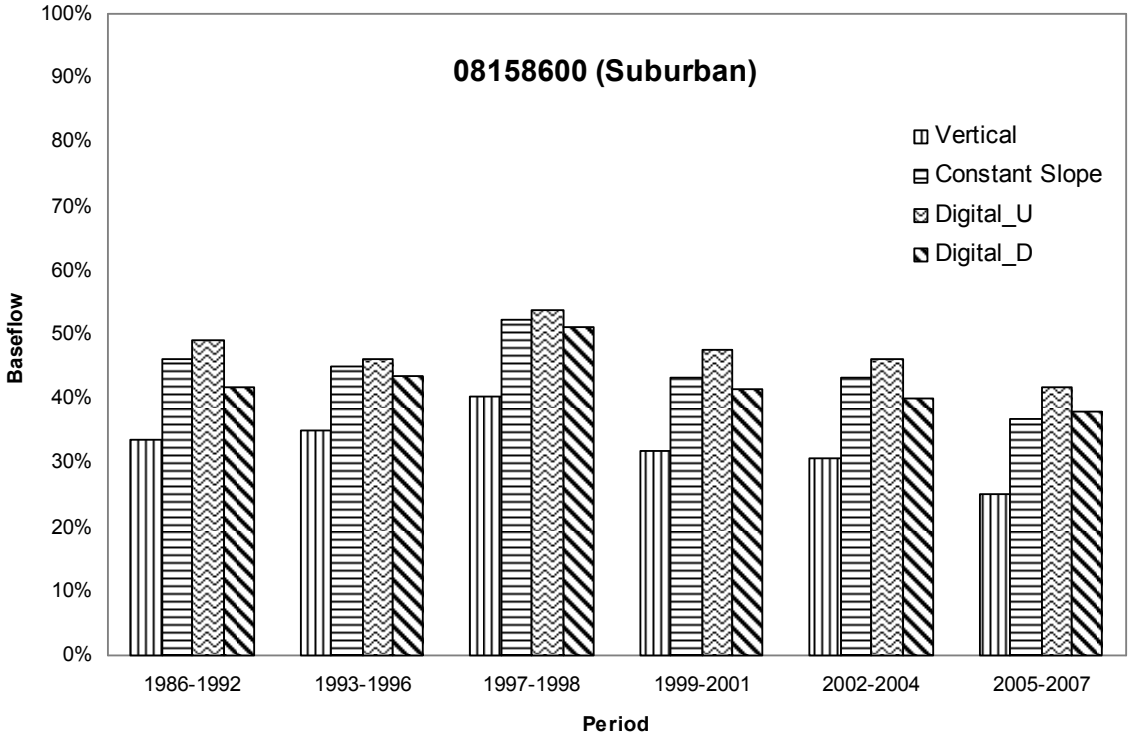

Figure 3.5: Baseflow in different period for Walnut Creek @ FM 969 (08158600)

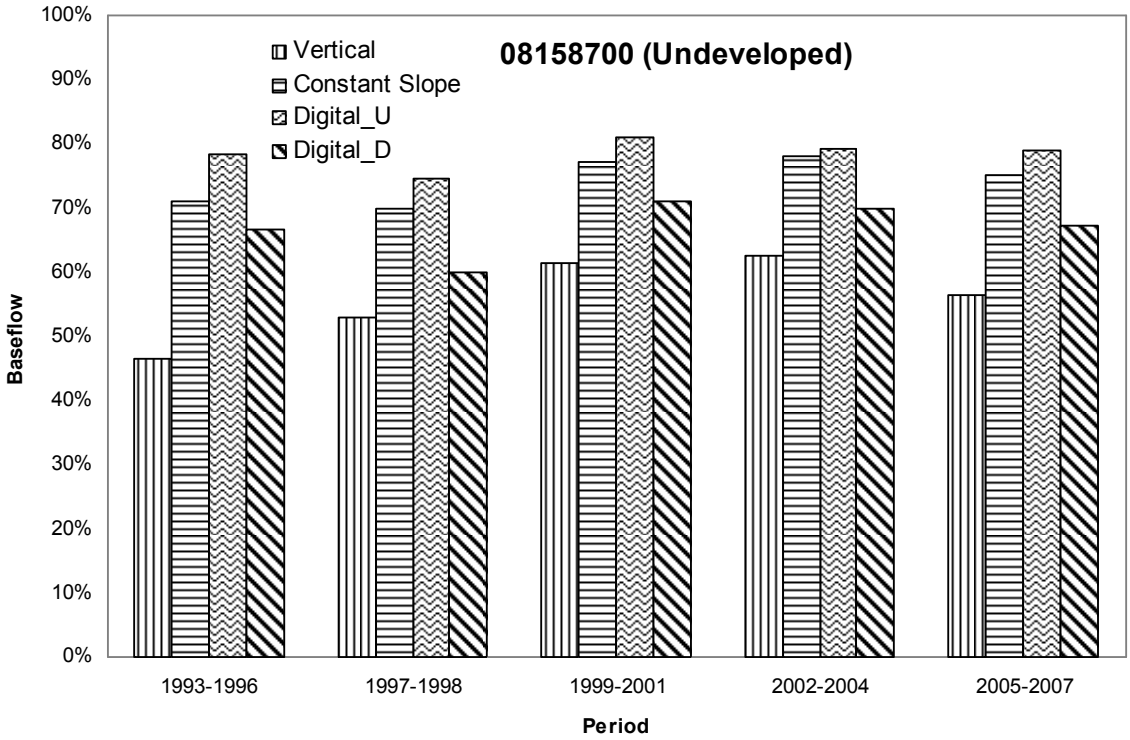

Figure 3.6: Baseflow in different period for Onion Creek near Driftwood (08158700)

3.2 Relationship of BFR with Impervious Cover

Figure 3.7 shows the relationship of baseflow with impervious cover in different watersheds in water year period 2008-2014. It can be seen that the higher the impervious cover is for a watershed, the less baseflow the watershed has. Also, this figure indicates the same relationship for recharge stations at an overall lower level of baseflow than non-baseflow stations over a range of impervious cover. Figure 3.8 shows the relationship of baseflow with impervious cover in all watersheds in non-recharge zone in all water year periods showing this relationship continues to be firm with the entire period of record included.

The total flow in a stream (streamflow) can be divided into two parts, stormflow and baseflow, as we discussed in Section 3.1. Figure 3.9 shows the relationship of baseflow, stormflow, and streamflow with impervious cover for all watersheds in non-recharge zone. Figure 3.10 shows the relationship of runoff coefficient with impervious cover for all non-recharge-zone large watersheds. For comparison, the relationship of runoff coefficient with impervious cover for small watersheds in Austin area is also shown in Figure 3.10. It can be seen that the runoff coefficients for small watersheds are usually higher than these for large watersheds for the same impervious cover as anticipated from the smaller influence of shallow or deep groundwater interaction channel storage or recharge These relationships support use of both in evaluating calibration of models of Austin watersheds over these ranges of impervious covers. This can be important as an accurate water balance that is responsive to development impacts is one of the first steps in reaching a good predictive model.

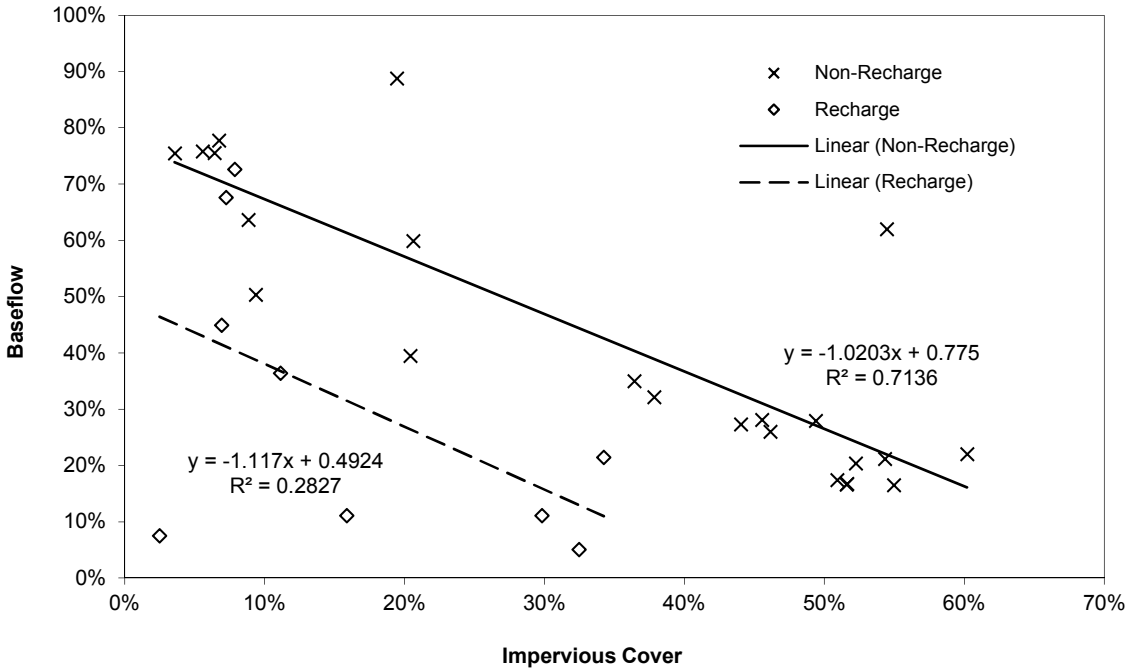

Figure 3.7: Relationship of baseflow with impervious cover in period 2008-2014

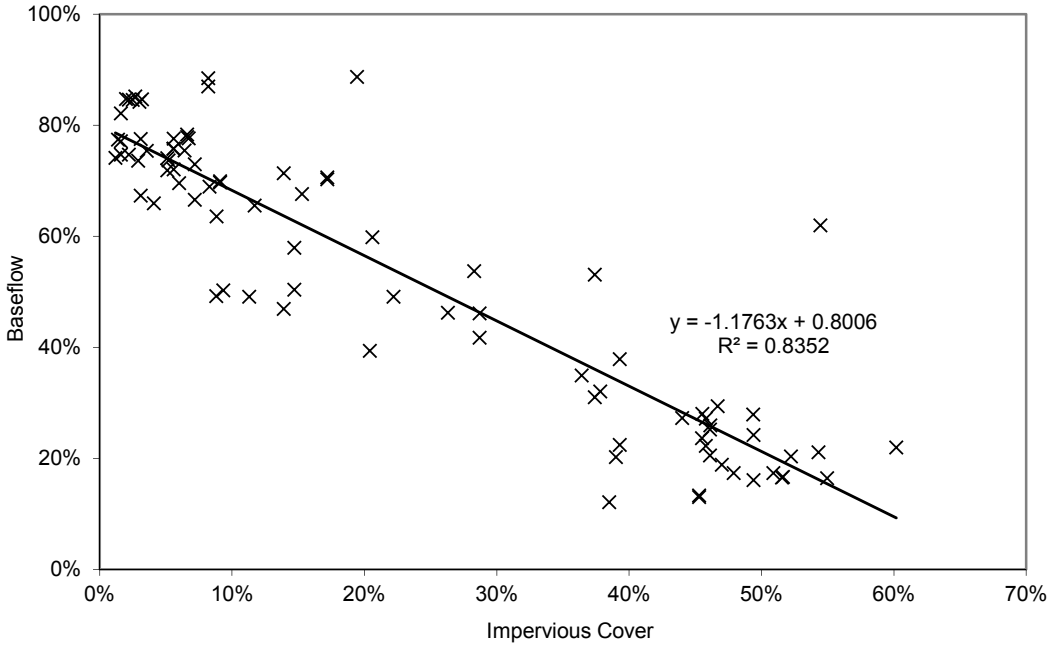

Figure 3.8: Relationship of baseflow with impervious cover in all non-recharge-zone watersheds for all water years

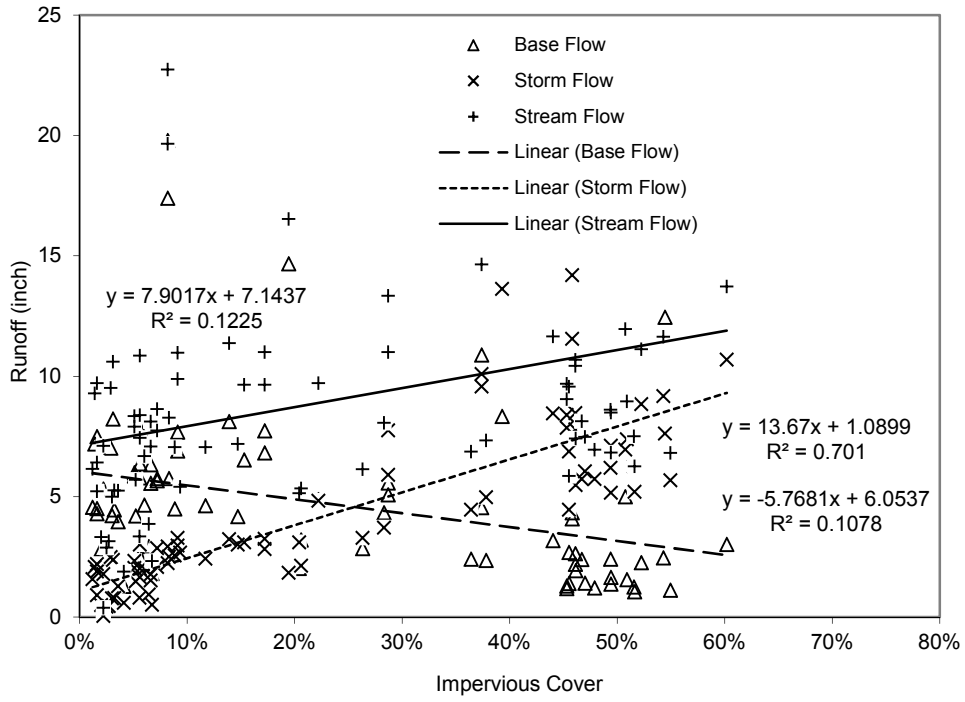

Figure 3.9: Relationship of baseflow, stormflow, and streamflow with impervious cover

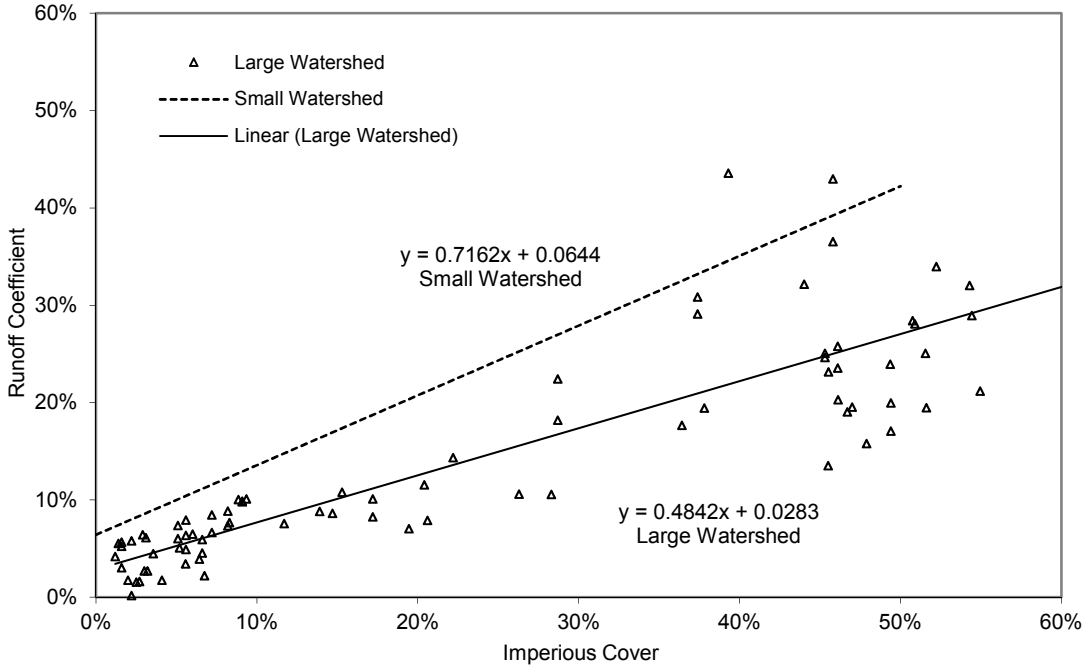

Figure 3.10: Relationship of runoff coefficient with impervious cover

3.3 Relationship of BFR with Rainfall

From Figure 3.11 to Figure 3.14, the relationships of runoff with annual rainfall are compared for different USGS Stations that are in watersheds with different basic characteristics including karst recharge, urban development, suburban development, and undeveloped land cover It can be seen from these figures that for recharge watershed and undeveloped watershed, the baseflow ratios are high; for urban watershed, the baseflow ratios are low; and for suburban watershed, the baseflow ratios are close to the values of stormflow ratios or relatively even. This relationship of BFR to watershed type appears to occur generally regardless of the total amount of rainfall or total amount of runoff. It is also essentially a relationship with IC, so development density can be said to have the same influence on BFR based on these example stations.

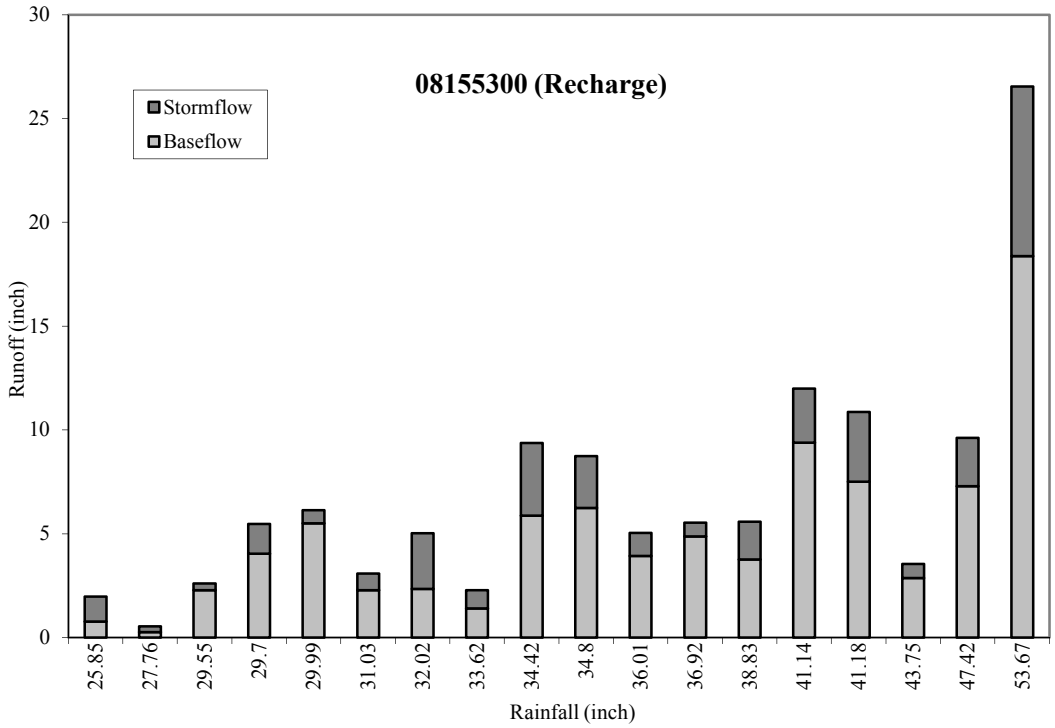

Figure 3.11: Relationship of runoff with rainfall for Barton Creek @ Lp 360 (08155300)

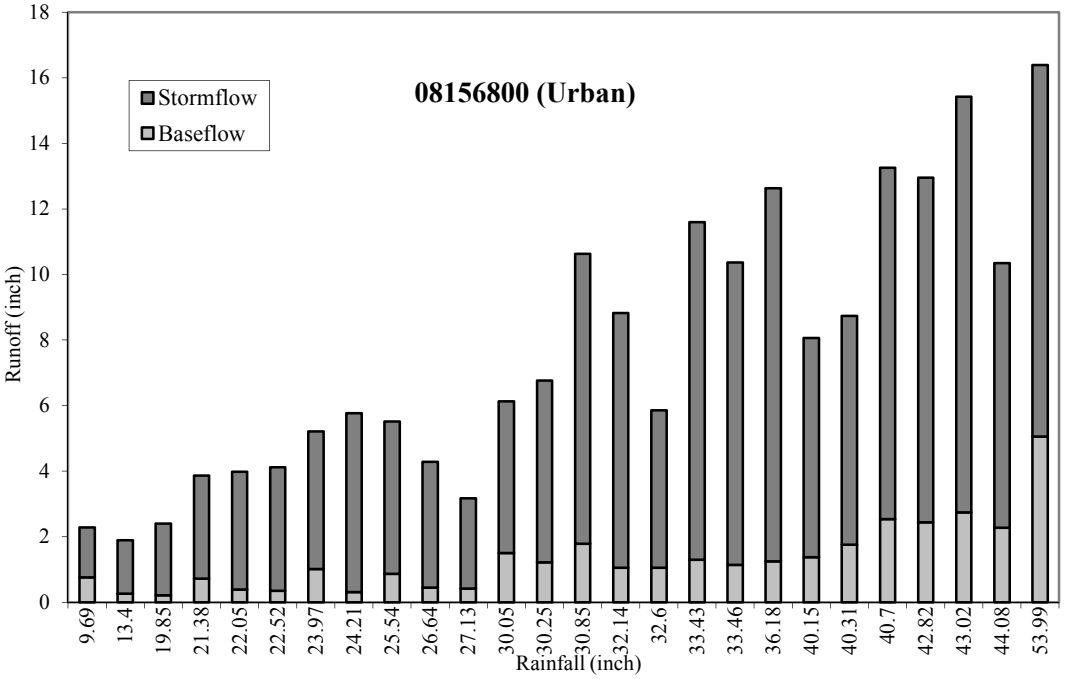

Figure 3.12: Relationship of runoff with rainfall for USGS Shoal Creek @ W 12th (08156800)

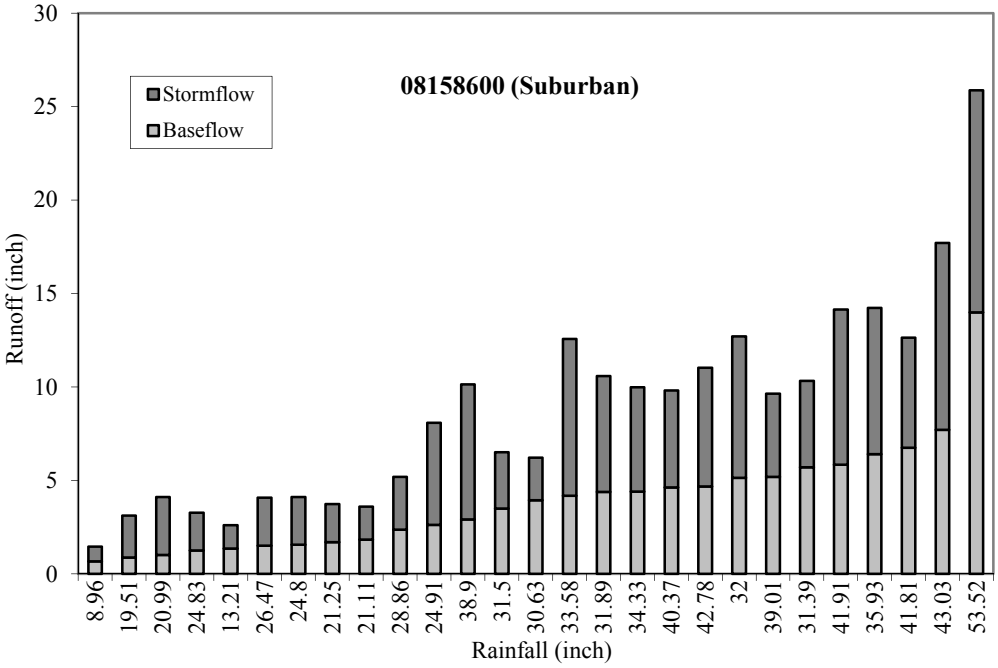

Figure 3.13: Relationship of runoff with rainfall for USGS Walnut Creek @ Webberville (08158600)

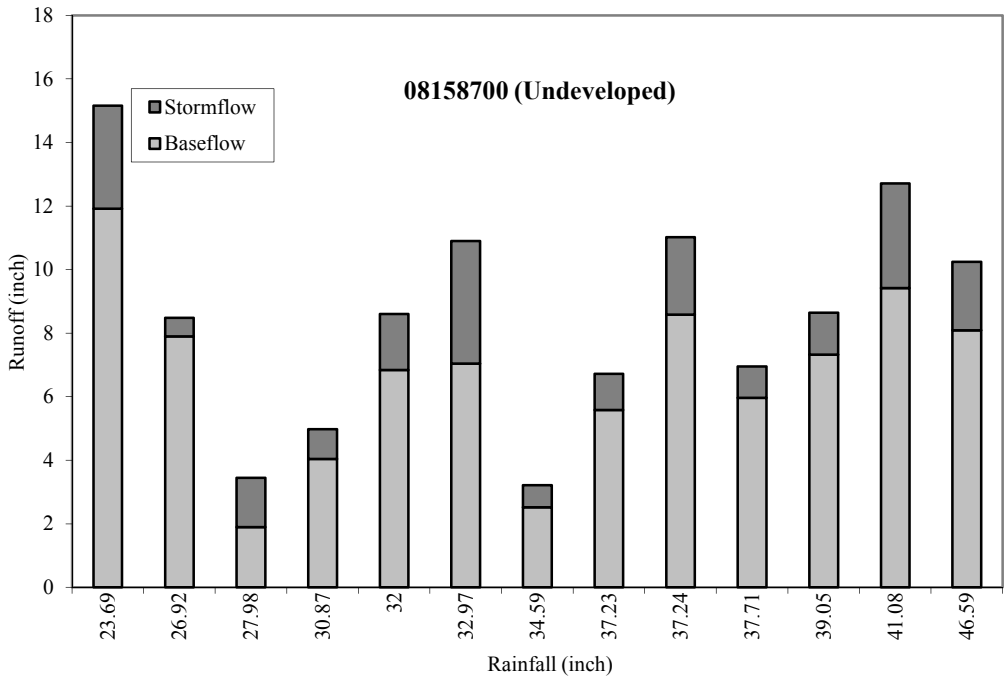

Figure 3.14: Relationship of runoff with rainfall for USGS Onion Creek near Driftwood (08158700)

3.4 Other Hydrologic Metrics Associated with Stream Health

Using the same basic flow, rainfall, and water quality data described in previous sections, many other hydrologic metrics have been investigated to determine their relationships with indicators of stream health in the Austin area. The first of such studies looked at the metrics contained in the Index of Hydrologic Alteration first developed for the Nature Conservancy. Data from three USGS stations in Austin were used to calculate 33 of the metrics in the IHA representing major groups of hydrological variations including magnitude, duration, timing, rate of change, and frequency. These metrics were assessed for their ability to predict Rapid Biological Assessment metrics for benthic macroinvertebrates as indicators of stream health. Results documented the coincident flashy, yet lowered baseflow ratio and lower stream health of developed watersheds. Also, the hydrologic characteristics of undeveloped intermittent western streams on Edwards Plateau versus northeastern streams on Blackland Prairie were documented. The difficulty in separating hydrologic versus non-point source pollution impairment was noted as a problem with the use of such biological metrics (Scoggins 2000).

While changes in BFR with changes in development and impervious cover have been well documented by the City of Austin and other, the City has demonstrated that other hydrologic metrics may affect aquatic health in streams and be related to impervious cover (Glick, et al, 2010). These metrics generally describe the availability of flow in the stream and the variability of the flow. Descriptions of these metrics are presented in Table 3.3. Results for these metrics for thirty-one watersheds for WY2009-2014 are in Appendix D.

Several of the metrics (peak, std dev, and mean) showed a little or no correlation with impervious cover but were reasonably well correlated with the natural log of watershed size. This is not wholly unexpected, since these metrics also increase with watershed size and changes in watershed size appears to have a larger impact. See Figure 3.15-3.17.

The average rise and average fall were not well correlated with either watershed size or impervious cover but the ratio of average rise over average fall was correlated with IC (Figure 3.18). This is a measure of the 'flashiness' of the stream indicating that as impervious cover increases, stream becomes more sensitive to rainfall driven runoff. This is further confirmed by examining high flow events (Figure 3.19), as IC increases, the number of high pulse events increases while the duration of the high pulse event decreases. This increase in flow variability has a negative impact on aquatic habitat and overall stream health.

While increasing impervious cover increases the variability of high pulse events, it also changes the distribution of low pulse events. The fraction of time a creek is dry does not correlate to IC but the number of dry periods in a year increase with IC while duration of these dry events decrease as IC increases (Figure 3.20). This change can have a profound impact on the aquatic community in the creek. Instead of a creek having sustained flow during wet periods and dry during dry periods, the creeks go through wet-dry cycles based on individual rainfall events. These rapid wet-dry cycles interrupt the life cycles of many aquatic species. Given the changes to the hydrologic regime of a creek that has undergone urbanization, even if chemical pollution is not present, recovery of aquatic species will be difficult.

Table 3.3 Description of Hydrologic Metrics Related to Stream Health

Hydrologic Variable	Units	Description
Q_{peak}	cfs	Peak daily flow rate during the period
Q_{mean}	cfs	Mean daily flow rate during the period
SD	--	The standard deviation of the daily flow rates during the period
COV	--	The average flow during the period divided by the standard deviation (Poff and Ward, 1989)
Q_{50}	cfs	The median daily flow rate or the 50th percentile
Q_{10}	cfs	The daily flow rate that is exceeded 90 percent of the time during the period, the 10th percentile.
Q_{90}	cfs	The daily flow rate that is exceeded 10 percent of the time during the period, the 90th percentile.
$+_{mean}$	cfs	The mean of all positive differences between consecutive daily values, rise rate (Richter et al, 1996)
$-_{mean}$	cfs	The mean of all negative differences between consecutive daily values, fall rate (Richter et al, 1996)
T_{3xQ50}	decimal	the fraction of time during the period that the flow exceeds three times median flow (Clausen and Biggs, 1997)
T_{dry}	decimal	The fraction of time during the period that the mean daily flow was less than 0.1 cfs (Ritcher et al., 1996)
F_{Ld}	days	The average length of time the mean daily flow was below 0.1 cfs for one or more days for the period (Ritcher et al., 1996)
F_{Ln}	--	The average number of times the mean daily flow was below 0.1 cfs for one or days per year during the period (Ritcher et al., 1996)
F_{Hd}	days	The mean duration of high pulses during the period with a high pulse defined as flow greater than the 75th percentile. (Ritcher et al., 1996)
F_{Hn}	--	The average number of times the mean daily flow was greater than the 75th percentile flow for one or more days per year during the period. (Ritcher et al., 1996)

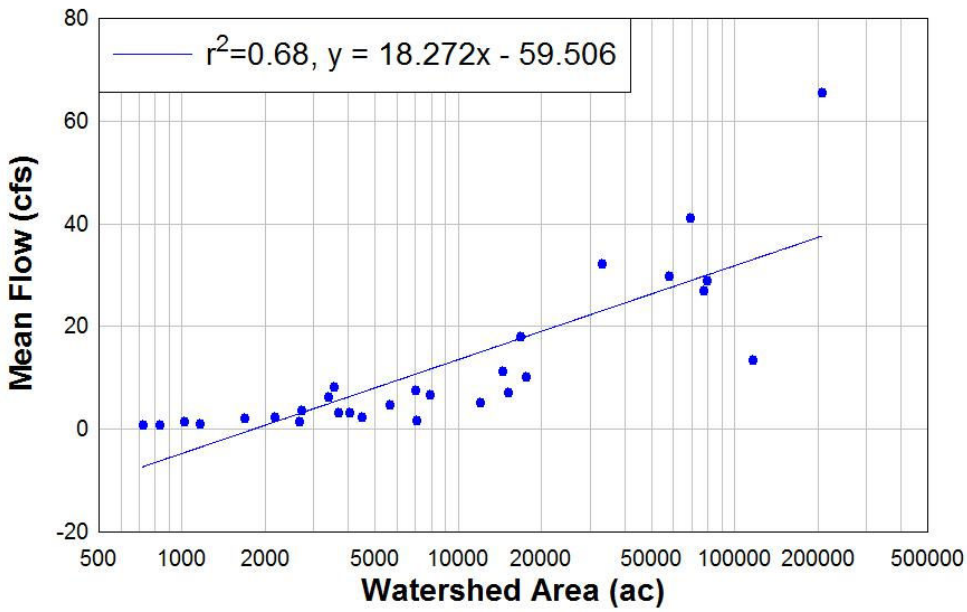

Figure 3.15 Mean flow vs watershed area all stations.

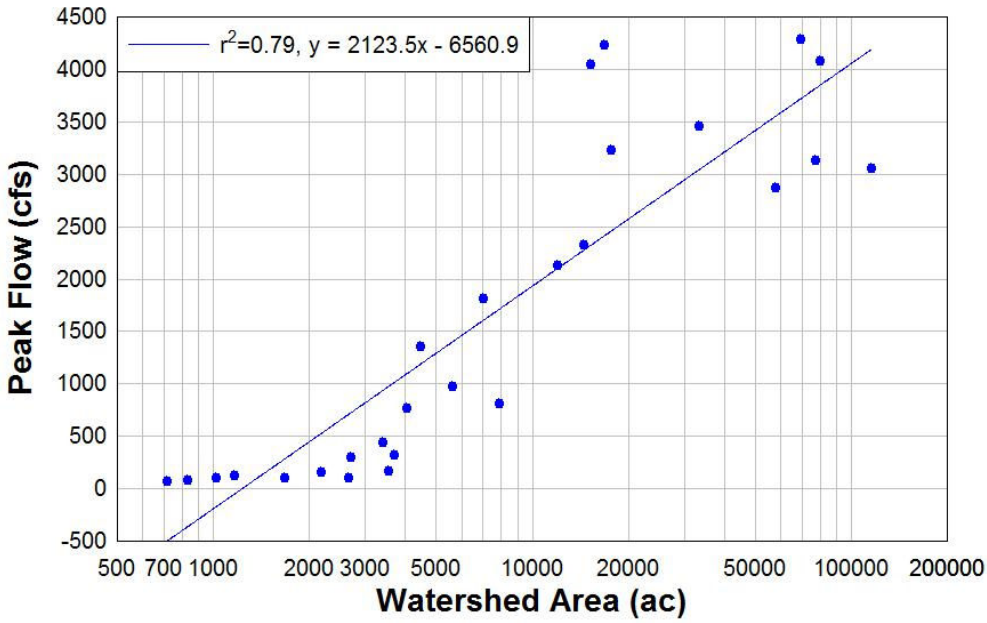

Figure 3.16 Peak flow vs watershed area.

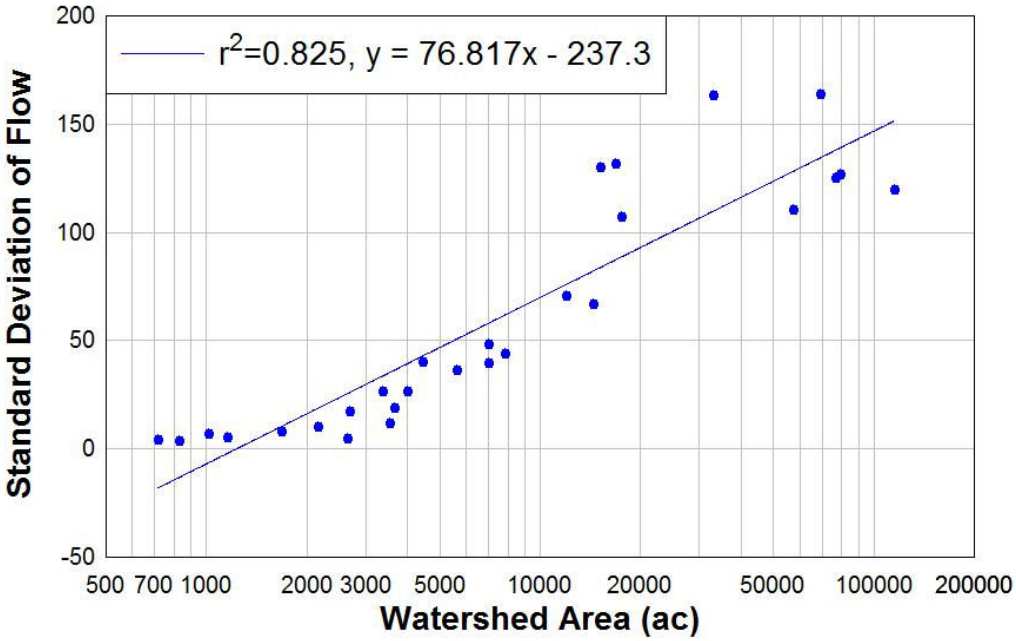

Figure 3.17 Standard deviation of flow vs watershed area

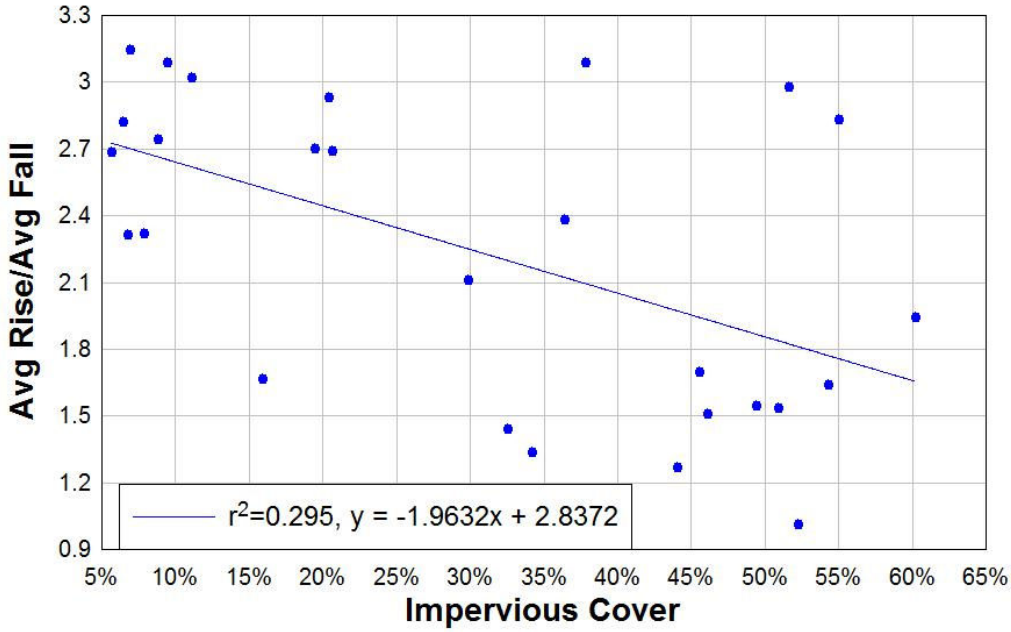

Figure 3.18 Average rise/average/fall vs impervious cover - all stations

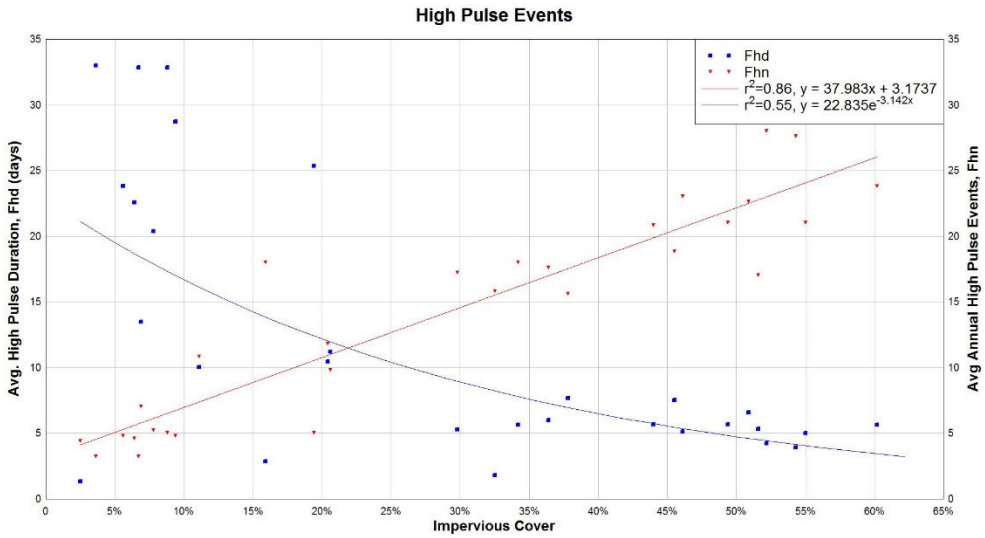

Figure 3.19 High pulse event number and duration vs impervious cover.

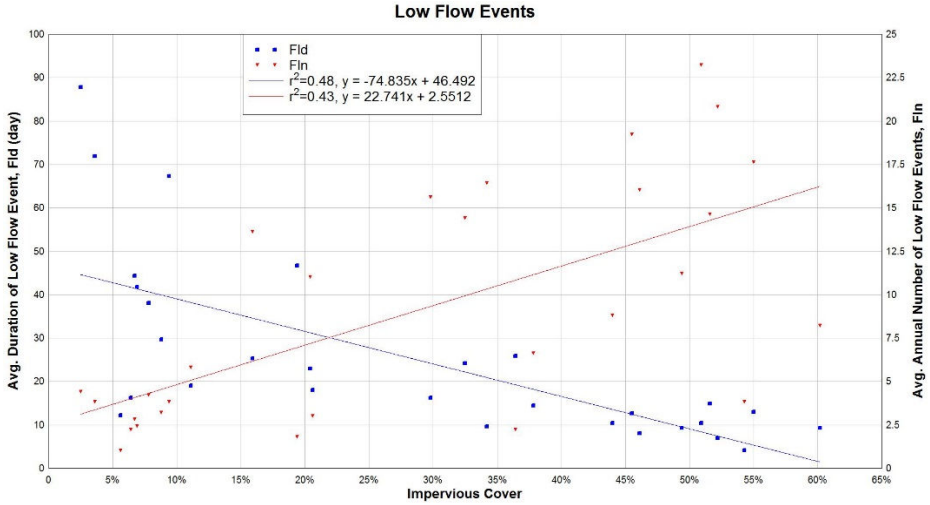

Figure 3.20 Average duration and number of low flow events vs impervious cover – all stations.

4 Runoff Quality

This section will examine various aspects of the runoff quality data collected over the years in Austin area creeks. Runoff quality from small homogenous watersheds has been studied several times by COA (COA 2009). The water quality from these watersheds can often be related to land use and impervious cover and can often be characterized by the build-up, wash-off" relationships commonly used in urban stormwater modeling (Rossman 2015). This relationship has been shown to be less satisfactory in evaluating Austin area stormwater quality data in when compared to simply calculating Event Mean Concentrations (EMCs) (Charbeneau and Barrett 1998). In some cases these values have been compared to ambient stream water quality criteria; however, this is not appropriate as EMCs are episodic storm event concentrations and do not represent the conditions assessed for development of instream regulatory standards.

Stormwater data from larger watersheds, characterized by natural drainage channels, have only been examined sporadically. These watersheds are more complex and difficult to characterize; having multiple land uses; significant groundwater/surface water interactions; and continuous changes in the watershed and in channel processes which may overwhelm any upland water quality effects. In addition, storm event water quality data for most of these watersheds are sparser than data for smaller watersheds under concentrated study.

Given these constraints, this section of the report is not an exhaustive examination of all Austin creeks' water quality but a current look at the data and an outline of needs for further investigation. Three questions are of current interest. First, are there significant temporal trends in water quality that may be related to development or regulatory changes? Second, are there physical factors associated with the runoff event such as peak flow rate or rainfall depth which may be related to the runoff quality? And finally, what are the estimated average annual pollutant loads for these watersheds based on current data?

4.1 Change of EMC over Time

The runoff quality data in large watersheds in Austin area have been collected for many years. The values of event mean concentration (EMC) for different pollutant parameters have been computed for these large watersheds. Because the water quality data for most of these

watersheds are sparse, large watersheds in the Austin area have been grouped to increase the size of EMC data for more characteristic analyses. Large watersheds in the Austin area have been divided into six station groups as indicated in Table 4.1 which include those in (1) the Barton Creek watershed, (2) urban area, (3) eastern suburban area, (4) undeveloped area, (5) southern suburban area, and (6) western suburban area. This a priori subdivision of watersheds is a convenient grouping covering Austin but also has some relationships to general characteristics of age and density of development, soil and geology, and environmental sensitivity. These groupings do not directly align with COA watershed grouping in the Austin Land Development Code.

The relationship between EMCs of pollutant parameters and dates were fitted with a linear model for different stations and different station groups. In Table 4.1, the values of the Pearson correlation coefficient R are provided for these linear fittings with p-value less than 0.05. A positive value of R indicates that the EMC of a pollutant parameter increases over time and a negative value of R indicates the EMC decreases over time. In Table 4.2, the values of average annual percentage change of EMC are provided for these linear fittings with p-values less than a 0.05 significance level.

Table 4.1: The values of Pearson correlation coefficient R for linear fittings between EMC and date with p-value less than 0.05

Group	Site	BOD	CD	COD	CU	DP	NH3	NO23	PB	TDS	TKN	TN	TOC	TP	TSS	VSS	ZN
1	**Combined**	**-0.30**	**-0.72**	**-0.24**	**-0.18**	**-0.18**	**-0.15**	**0.38**	**-0.28**	**0.23**	**-0.23**	**-**	**-0.31**	**-**	**-0.40**	**-0.45**	**-0.41**
1	08155200	-	-0.72	-	-	-	0.28	0.43	-	-	-	-	-	-	-	-	-0.46
1	08155240	-	-0.70	-	-	-0.31	0.28	0.44	0.43	0.32	-	-	-	-	-	-	-0.45
1	08155300	-0.47	-0.81	-0.38	-	-	-0.38	-	-	-	-0.35	-0.35	-0.40	-0.29	-0.55	-0.58	-
1	08155400	x	-0.83	-	-0.39	-	-	-	-0.39	-	-0.42	-	-0.40	-0.39	-0.35	-	-0.56
2	**Combined**	**-**	**-**	**-**	**-**	**-0.33**	**-0.23**	**-0.13**	**-0.31**	**-**	**-0.18**	**-0.21**	**-0.36**	**-0.27**	**-0.43**	**-0.50**	**-**
2	08156800	-	-	-	-	-0.33	-	-	-0.41	-	-0.39	-0.43	-0.28	-0.32	-0.63	-	-0.43
2	08157500	-	-0.27	-	-	-0.40	-0.37	-0.42	-0.27	-0.30	-	-	-0.30	-	-	-	-
2	08157600	x	-0.74	-	-	-	-	-	-	x	-	-	-	-	-	-	-
2	08157700	-	0.41	-	-	-	-	-	-	-	0.26	-	-0.71	-	-	-	-
2	08158050	-	x	-0.64	-	-	-0.41	-	-	-0.54	-	-	-	-	-0.38	-0.38	-
2	FTB	-	-	-	-	-	x	-	-	-	-	-	x	-	-0.35	x	-
3	08158600	-	-0.51	-	-	-0.47	-	-	-	-0.41	-	0.53	-	-	-	-	-
4	**Combined**	**-**	**-0.24**	**-**	**-0.25**	**-0.20**	**-**	**0.24**	**-**	**-**	**-**	**0.20**	**0.25**	**-**	**-**	**-**	**-0.24**
4	08158700	x	x	x	-	-	-	0.44	-	-	-	-	-	-	-	x	-
4	08158810	x	-0.78	-	-	-	-	0.41	-	-	0.39	0.50	0.41	-	-	x	-
4	08158840	x	x	x	-	-	-	-	-	-	-	0.44	0.46	-	-	x	-
4	FBU	-	-	-	-0.29	-0.43	-	-	-	-	-	-	-	-	-	-	-
5	**Combined**	**-**	**-**	**-0.45**	**-**	**-**	**-**	**-**	**-**	**-**	**-0.59**	**-0.53**	**-0.48**	**-0.49**	**-0.50**	**-0.55**	**-**
5	08158860	x	x	x	-	-	-	-	-	-	-	-	-	-0.58	-	x	-0.73
5	08158920	-	x	x	-	-	-	-	-	-	-0.58	-0.52	-0.44	-0.53	-0.50	-0.62	-
6	08154700	-	-0.87	-	-	-0.57	-0.31	-	-0.47	-	-0.38	-0.34	-0.37	-0.30	-0.54	-	0.37

Note: Group number 1-Barton Creek watershed, 2-urban area, 3-eastern suburban area, 4-undeveloped area, 5-southern suburban area, 6-western suburban area, “x” = insufficient data to calculate EMC; and “-” = p>0.05.

Table 4.2: The average annual percentage change of EMC for linear fittings with p-value less than 0.05

Group	Site	BOD	CD	COD	CU	DP	NH3	NO23	PB	TDS	TKN	TN	TOC	TP	TSS	VSS	ZN
1	**Combined**	**-1.2**	**-2.9**	**-1.3**	**-0.7**	**-0.4**	**-0.2**	**0.7**	**-0.4**	**0.7**	**-0.4**	**-**	**-0.4**	**-**	**-0.8**	**-2.0**	**-1.8**
1	08155200	-	-4.9	-	-	-	0.8	1.1	-	-	-	-	-	-	-	-	-2.7
1	08155240	-	-3.7	-	-	-0.8	0.8	1.2	-1.3	0.9	-	-	-	-	-	-	-2.1
1	08155300	-1.6	-12.3	-2.0	-	-	-0.7	-	-	-	-0.9	-0.9	-0.7	-0.8	-1.6	-2.4	-
1	08155400	x	-13.3	-	-1.8	-	-	-	-1.7	-	-2.1	-	-1.4	-1.9	-1.8	-	-3.2
2	**Combined**	**-**	**-**	**-**	**-**	**-0.7**	**-0.4**	**-0.2**	**-0.9**	**-**	**-0.3**	**-0.4**	**-0.6**	**-0.4**	**-0.6**	**-0.7**	**-**
2	08156800	-	-	-	-	-1.0	-	-	-1.7	-	-0.7	-0.8	-0.4	-0.6	-1.3	-	-1.9
2	08157500	-	-0.7	-	-	-0.9	-1.5	-0.9	-0.9	-1.3	-	-	-1.6	-	-	-	-
2	08157600	x	-6.0	-	-	-	-	-	-	x	-	-	-	-	-	-	-
2	08157700	-	1.1	-	-	-	-	-	-	-	1.3	-	-8.5	-	-	-	-
2	08158050	-	x	-7.6	-	-	-1.3	-	-	-1.0	-	-	-	-	-1.2	-1.1	-
2	FTB	-	-	-	-	-	x	-	-	-	-	-	X	-	-2.2	x	-
3	08158600	-	-3.4	-	-	-1.4	-	-	-	-1.0	-	1.3	-	-	-	-	-
4	**Combined**	**-**	**-0.5**	**-**	**-0.8**	**-0.5**	**-**	**0.7**	**-**	**-**	**-**	**0.4**	**0.6**	**-**	**-**	**-**	**-0.7**
4	08158700	x	x	x	-	-	-	1.6	-	-	-	-	-	-	-	x	-
4	08158810	x	-3.1	-	-	-	-	1.2	-	-	1.1	1.4	1.1	-	-	x	-
4	08158840	x	x	x	-	-	-	-	-	-	-	1.2	1.5	-	-	x	-
4	FBU	-	-	-	-1.0	-1.6	-	-	-	-	-	-	-	-	-	-	-
5	**Combined**	**-**	**-**	**-2.2**	**-**	**-**	**-**	**-**	**-**	**-**	**-1.2**	**-1.1**	**-1.0**	**-0.8**	**-0.8**	**-2.1**	**-**
5	08158860	x	x	x	-	-	-	-	-	-	-	-	-	-6.1	-	x	-9.8
5	08158920	-	x	x	-	-	-	-	-	-	-1.3	-1.1	-0.8	-0.9	-0.8	-5.2	-
6	08154700	-	-6.6	-	-	-2.2	-0.6	-	-1.4	-	-0.7	-0.6	-0.7	-0.5	-1.1	-	1.7

Note: Group number 1-Barton Creek watershed, 2-urban area, 3-eastern suburban area, 4-undeveloped area, 5-southern suburban area, 6-western suburban area, “x” = insufficient data to calculate EMC; and “-” = p>0.05.

From Table 4.1 and 4.2 it can be seen that for some pollutant parameters, more stations show significant trends than for other pollutant parameters. There are 10 in 18 stations in which the EMC of CD (total Cadmium) can be observed to have significant trends, mostly decreasing over time. The change of laboratory detection limit of CD may be part of the reason for the observed CD decreasing over time. Otherwise, it may have been expected to be increasing, as it is commonly associated with urban development and roadway runoff. Therefore, in addition to large watershed complexity, there are other factors as work that may hinder determining the source of parameter trends. The other pollutant parameters which are impacted by changes in detection limits are DP and NH3 and the total number of non-detect EMC are less than 50% of total number of EMC.

Additional parameters for which trends were observed for a number of stations included TOC (9 stations with trends, mostly decreasing), TKN (7 stations trending, mostly decreasing), TN (7 trends, more decreasing than increasing), TSS (7 trends, all decreasing), DP (6 trends, all decreasing), NH3 (6 trends, mostly decreasing), TP (6 trends, all decreasing), and ZN (6 trends, mostly decreasing). TSS trends are significant as this is the primary parameter upon which BMP design removals are based and it is used as a surrogate for a number of associated parameters in regulations. Likewise, nutrient parameter trends such as TKN, TN, DP, NH3, and TP are important as they indicate the influence of both urban runoff and wastewater impacts as development of a watershed occurs and are primary drivers of eutrophication in receiving water bodies. Other sources of these parameters may also be related to more rural and suburban land uses; therefore, isotopes and other elucidating water quality parameters may be considered necessary to isolate their sources in future monitoring. There are few significant trends that can be observed for BOD, COD, and CU parameters. BOD and COD values are often widely variable and hard to source in stormwater monitoring and CU may also have been influenced by changing detection limits that obscured trends. Additional analysis of these factors may be warranted to determine whether these parameters should be dropped in future monitoring to reduce costs. Similarly, the degree of change for some parameters is extremely small and may be of no consequence in comparison to its toxicity or impact to aquatic life or human health. For trend slopes so close to zero, many parameters should be examined on a much less frequent basis. This monitoring strategy would continue to provide its protective purpose while minimizing costs. Still, as noted, stormwater monitoring is

highly variable and these factors should be weighed based on the value of higher frequency monitoring when resources are available.

Looking at the tables by station, several stations display more trends than other stations. For station 08155300 a total of 10 in 16 EMCs of pollutant parameters can be observed have significant trends, all decreasing. Other stations with more trends are station 08154700 (10 parameter trends, mostly decreasing), 08155400 (8 parameter trends, all decreasing), and 08156800 (8 parameter trends, all decreasing). For the watershed area groups of stations, more parameter trends can usually be observed than for individual stations. The numbers of EMC parameter trends for different station groups are 14 (mostly decreasing) for group of stations in the Barton Creek watershed, 10 (all decreasing) for the group in the urban area, 7 (more decreasing than increasing) for undeveloped area, and 7 for southern suburban area watersheds (all decreasing). As noted earlier, large watersheds are complicated in their response to watershed stressors and hydrology. While it would be easy to attribute reductions in EMCs of non-point source pollutants over time to the success of water quality controls, the correlation of these trends with implementation of stricter regulations does not mean causation. Among the many complicating factors, the monitoring program's change from analyzing discrete grab samples and mathematically flow-weighting the samples rather than physically compositing aliquots proportional to flowmeter records in the field and analyzing flow weighted composites at the laboratory may have contributed to the decreasing trends. This factor should be investigated further.

The increasing temporal EMC trends are mostly observed in undeveloped area (NO23, TKN, TN, and TOC) and Barton Creek watershed (NH3, NO23, PB, and TDS). This could be due to the intensity of change occurring in these developing watersheds as development and construction occurs, or other factors related to these groups of pollutants such as nutrients in wastewater or fertilizer. Unfortunately, in large watershed monitoring studies, many jurisdictions and land uses are operating in each catchment such that parsing out the influences on EMC temporal trends is difficult. Development restrictions are different in every jurisdiction and their boundaries seldom follow watershed boundaries. Implementation of restrictions on impervious cover that may slow increases in EMCs may occur at different times in different

watersheds for different land uses, in different jurisdictions and may not be observed in these data at all.

Figures 4.1 to 4.16 show the relationships between EMCs of pollutant parameters and date for station 08154700. The figures of relationships between EMCs and date for other stations and station groups are provided in Appendices E and F, respectively. Additional diagnostics and analysis of these data may be warranted based on the results found herein. The Appendices plots indicate outliers to be explored with diagnostic tests for leverage and influence. They show what seems to be changing detection limits whose impact on the linear model should be determined. The ecological or regulatory relevance of the trend and absolute degree of change in EMC these trends indicate may be important to document. In some cases, the plots indicate data absence in specific periods or paucity of data in some ranges of EMCs. This could have an influence on the fit or appropriateness of the linear model. If needed, detailed information on development characteristics of the watersheds could be used to fit the data to a multivariate model rather than univariate. These data are often used in regulatory and fiscal settings and in evaluating programs and projects in the planning phases for watershed protection throughout the City. If the data is to be used in making decisions on these aspects of COA watershed management, it should be examined thoroughly and it is worth the extra effort to follow-up with additional analyses.

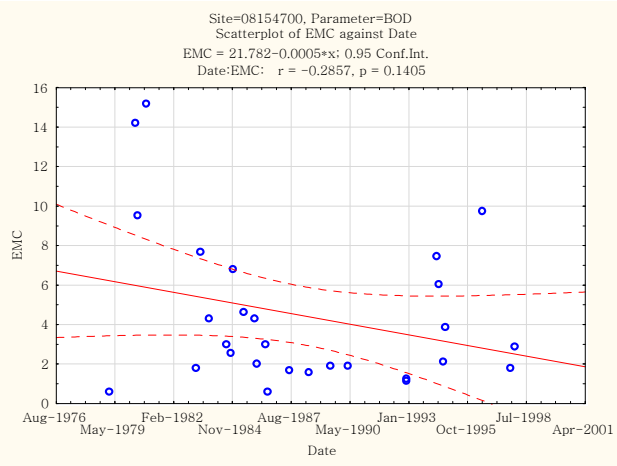

Figure 4.1: EMC of BOD vs. date for Bull Creek @ Lp 360

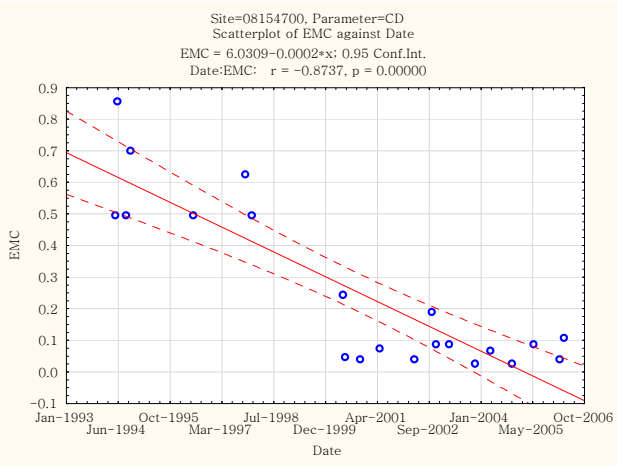

Figure 4.2: EMC of CD vs. date for Bull Creek @ Lp 360

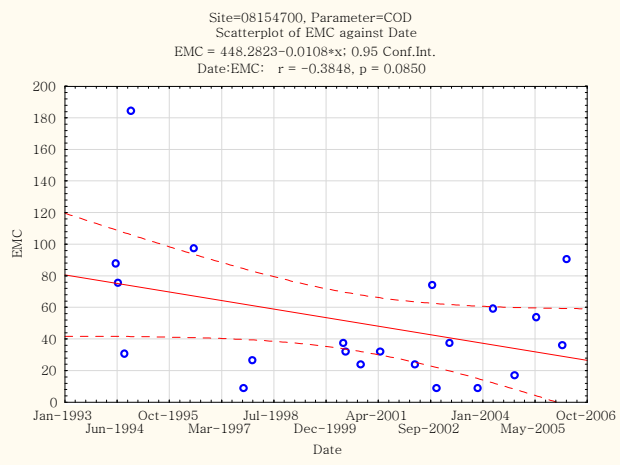

Figure 4.3: EMC of COD vs. date for Bull Creek @ Lp 360

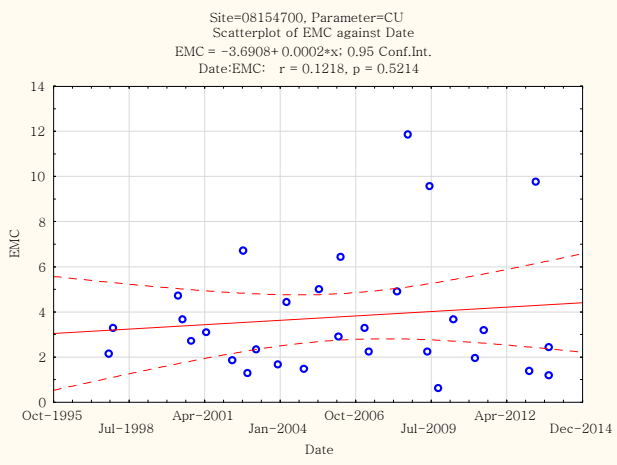

Figure 4.4: EMC of CU vs. date for Bull Creek @ Lp 360

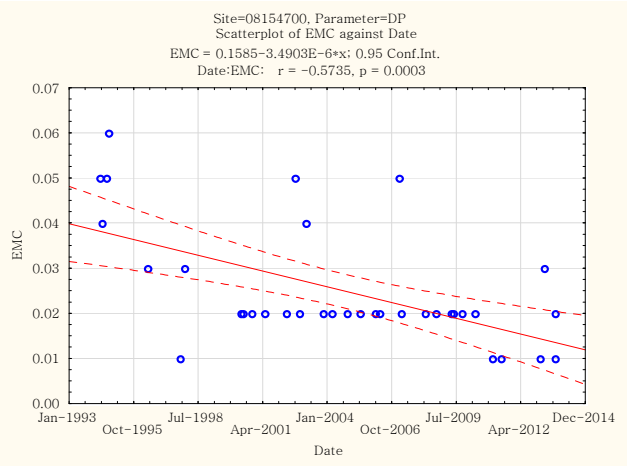

Figure 4.5: EMC of DP vs. date for Bull Creek @ Lp 360

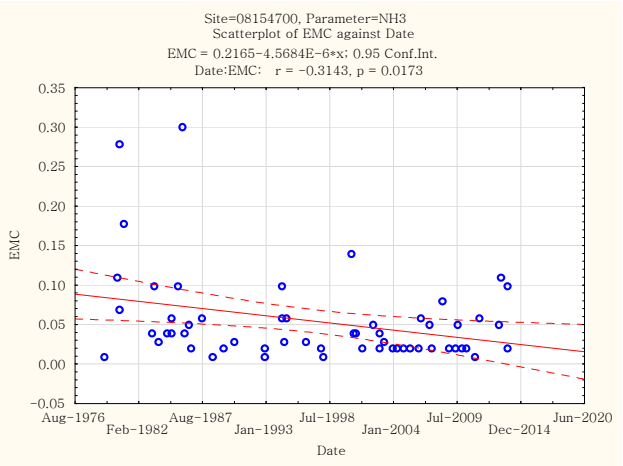

Figure 4.6: EMC of NH3 vs. date for Bull Creek @ Lp 360

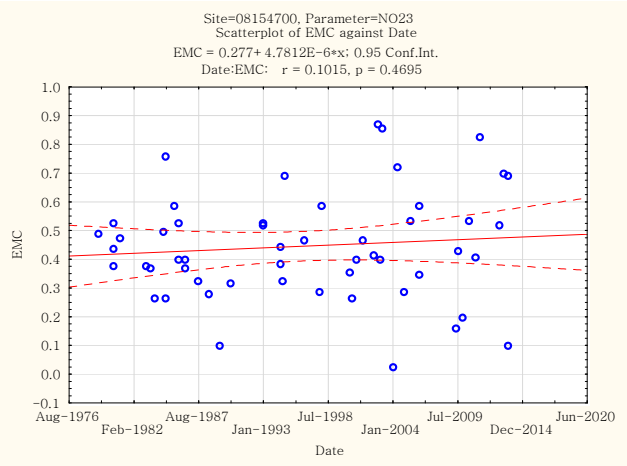

Figure 4.7: EMC of NO23 vs. date for Bull Creek @ Lp 360

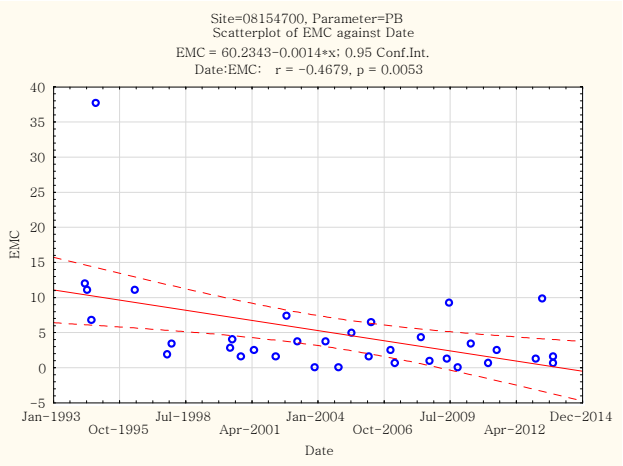

Figure 4.8: EMC of PB vs. date for Bull Creek @ Lp 360

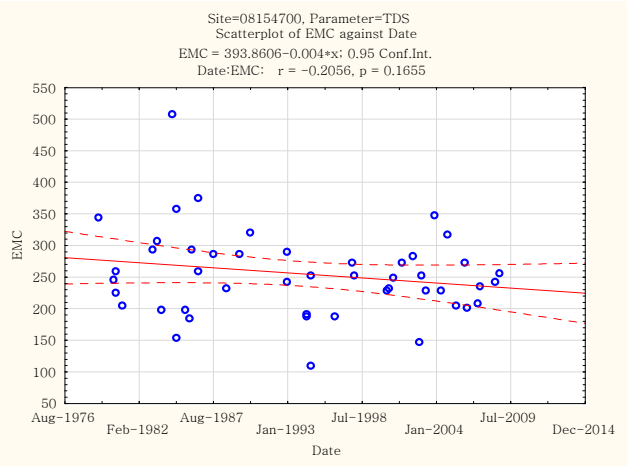

Figure 4.9: EMC of TDS vs. date for Bull Creek @ Lp 360

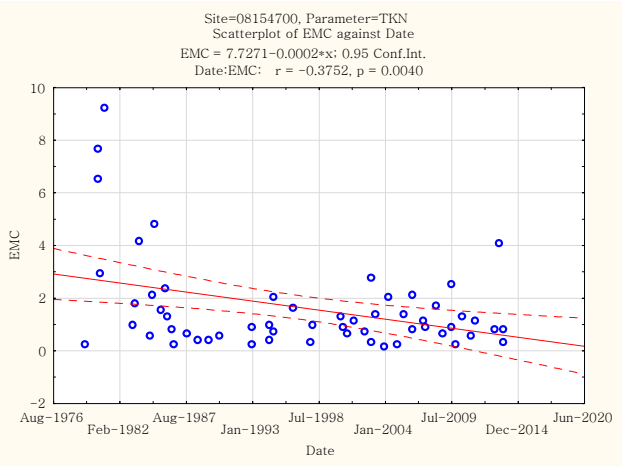

Figure 4.10: EMC of TKN vs. date for Bull Creek @ Lp 360

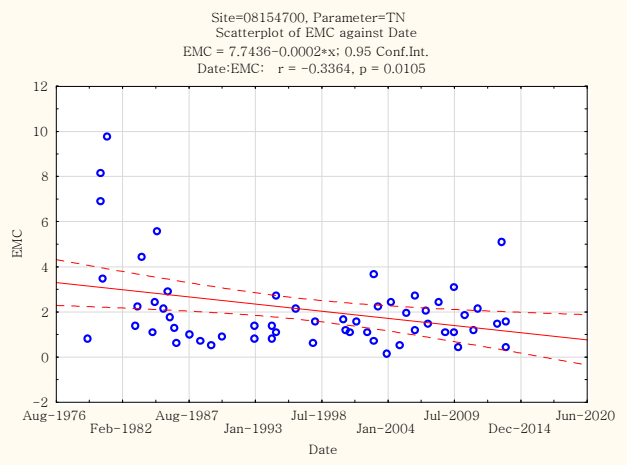

Figure 4.11: EMC of TN vs. date for Bull Creek @ Lp 360

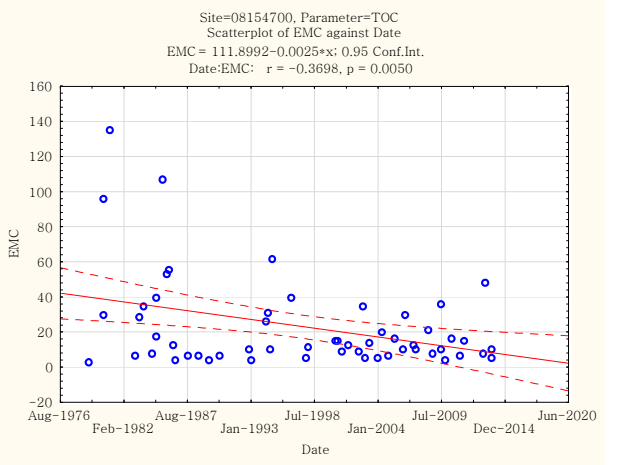

Figure 4.12: EMC of TOC vs. date for Bull Creek @ Lp 360

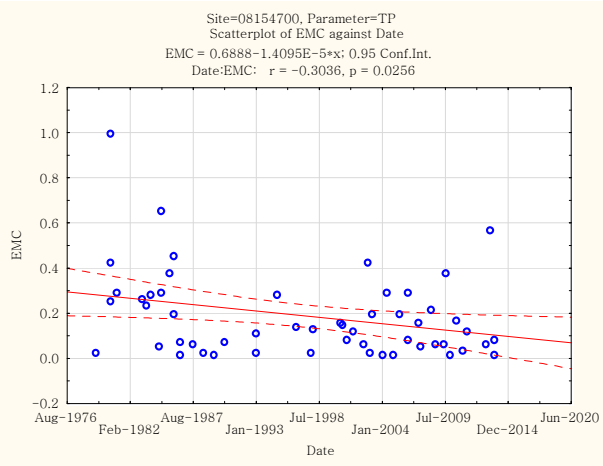

Figure 4.13: EMC of TP vs. date for Bull Creek @ Lp 360

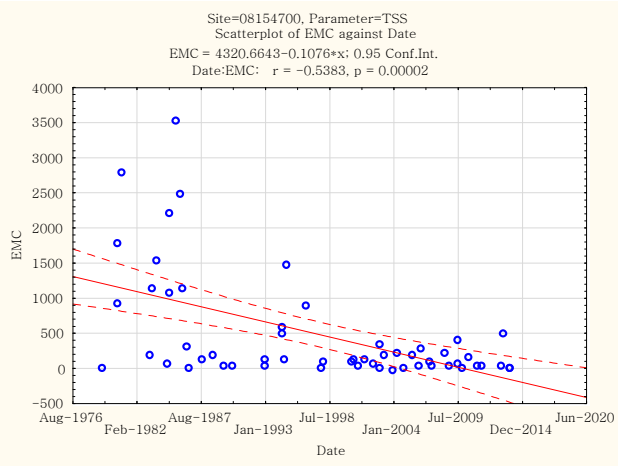

Figure 4.14: EMC of TSS vs. date for Bull Creek @ Lp 360

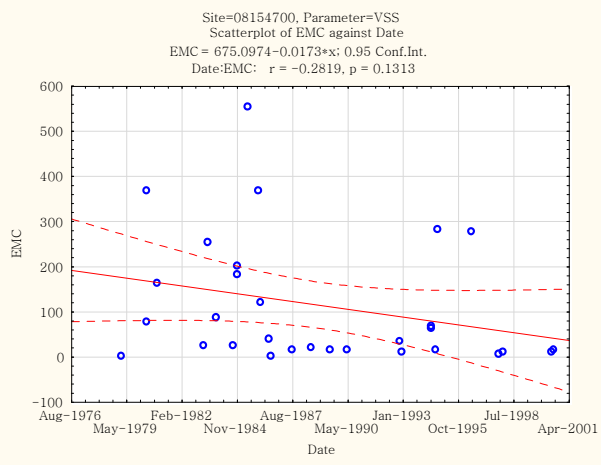

Figure 4.15: EMC of VSS vs. date for Bull Creek @ Lp 360

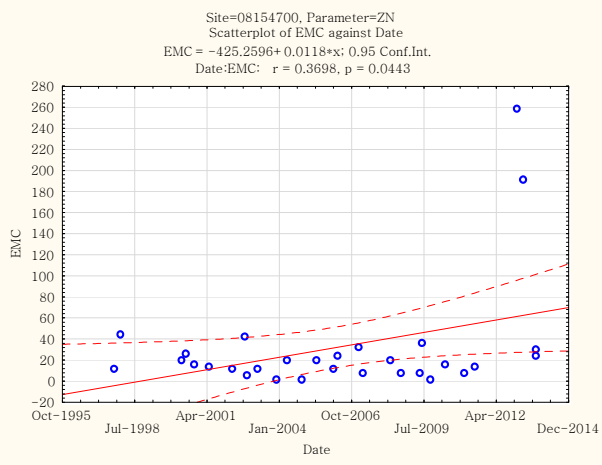

Figure 4.16: EMC of ZN vs. date for Bull Creek @ Lp 360

4.2 EMC and Peak Flowrate

The relationship between the EMC of a pollutant parameter and peak flowrate of the event has been fitted with linear model for all pollutant parameters and for different stations and station groups. In Table 4.3, the values of correlation coefficient R have been summarized for these linear fittings with p-value less than 0.05. A positive value of R indicates that the EMC of a pollutant parameter increases with increase of peak flowrate and a negative value of R indicates the EMC decreases with increase of peak flowrate. Fit of the data to the linear model varied as expected for stormwater data

In Table 4.3, most of the trends are increasing except for TDS and NO23. The decreasing trends for NO23 are only found in the urban stations. These constituents are dissolved pollutants commonly diluted at higher total flows in composited samples. They don't necessarily always follow a build-up, wash-off model of concentration distribution either. In urban watersheds, groundwater would play less of a role and stormflow would be closer to total flow, so a negative correlation with peak flow is understandable. Nitrates are often associated with wastewater or inorganic fertilizer sources, and TDS can also be elevated from these sources too; however, TDS can also be elevated in pool backwash or cooling water blowdown, common dry weather flows discharged to storm sewers. These factors would obscure any dilution correlations in suburban watersheds.

For some pollutant parameters, more stations show significant trends than other parameters. There are 15 in 18 stations in which the EMC of TSS has a significant increasing trend with peak flowrate. Other pollutant parameters having a number of stations with significant trends are TP (14 stations trending, all increasing), TDS (14 stations, all decreasing trends), TKN (13 stations, all increasing trends), TOC (13 stations, mostly increasing trends), TN (11 stations, all increasing trends), and PB (11 stations, all increasing). There are few stations where trends can be observed for BOD, CD, DP, NH3, and NO23.

Conversely, on a station basis, more trends in EMCs with peak flowrates can be observed by parameter at some stations and station groups. For station 08155300 a total of 13 in 16 parameter EMCs have significant trends with peak flowrates. Other stations with a large number

of parameters having significant correlation EMCs with peak flowrates are station 08154700 and 08157700 (12 trends), 08157500 (11 trends), and 08155240 (10 trends). The numbers of EMC trends for different station groups are 13 for group of Barton Creek watershed, 12 for undeveloped areas, 11 for urban area, and only 6 for the southern suburban area of watersheds.

Figures 4.17 to 4.32 show the relationship between EMC of pollutant parameters and peak flowrate for USGS Station 08154700. One factor in the results for this station and others may be the influence of one or two points at the upper range of peak flow and wide confidence intervals in this range. In addition to the R statistic and significance at $p<0.05$, diagnostic tests of leverage and influence may be necessary as measures of outliers in the x direction. The remaining figures for the relationships between EMCs of pollutant parameters and peak flowrates by station and station group can be found in Appendices G and H respectively. As with the relationships of EMC over time, these individual plots show that for some parameters and stations there is a paucity of data in some ranges of peak flows or ranges of EMCs. For many parameters and stations there is a clustering of data in the lower range of peak flows and EMCs and scatter elsewhere. This is just a given for environmental sampling, but it affects the strength of conclusions that can be made concerning the data. The additional diagnostics mentioned previously will also elaborate on how much caution should be used in the interpretation of trend statistics of EMC with peak flows.

Table 4.3: The values of correlation coefficient R for linear fittings between EMC and peak flowrate with p-value less than 0.05

Zone	Site	BOD	CD	COD	CU	DP	NH3	NO23	PB	TDS	TKN	TN	TOC	TP	TSS	VSS	ZN
1	**Combined**	**0.28**	**-**	**0.68**	**0.58**	**-**	**0.25**	**-**	**0.30**	**-0.38**	**0.55**	**0.48**	**0.47**	**0.51**	**0.65**	**0.39**	**0.50**
1	08155200	-	-	0.52	0.46	-	-	-	-	-0.47	0.44	0.37	0.49	0.34	0.52	-	0.46
1	08155240	-	-	0.74	0.86	-	-	-	0.74	-0.64	0.67	0.55	0.67	0.64	0.79	-	0.74
1	08155300	0.43	-	0.86	0.67	-	0.42	-	0.61	-0.39	0.55	0.54	0.43	0.67	0.70	0.52	0.52
1	08155400	x	-	-	-	-	-	-	-	-	0.56	-	-	-	0.64	-	-
2	**Combined**	**-**	**-**	**0.13**	**-**	**-**	**-**	**-0.19**	**0.33**	**-0.36**	**0.26**	**0.23**	**0.41**	**0.39**	**0.39**	**0.44**	**0.20**
2	08156800	-	0.53	-	0.37	-	-	-	0.39	-0.50	-	-	0.28	0.30	-	-	-
2	08157500	-	-	0.31	-	-	-	-0.34	0.55	-0.32	0.38	0.29	-0.27	0.50	0.61	0.56	0.46
2	08157600	x	-	-	-	-	-	-0.37	0.55	x	-	-	-	-	0.52	-	-
2	08157700	-	0.46	0.31	0.33	-	-	-0.40	0.49	-0.53	0.45	0.39	-	0.47	0.55	0.63	0.39
2	08158050	-	x	-	-	-0.70	-	-	0.88	-0.50	-	-	0.52	0.45	0.40	0.45	0.81
2	FTB	-	0.47	0.57	0.70	-	x	-	0.60	-0.49	0.49	0.48	x	0.47	-	x	0.49
3	08158600	-	-	-	0.38	-	-	-	0.53	-0.53	-	-	0.30	-	0.47	0.46	0.38
4	**Combined**	**0.29**	**-**	**0.33**	**0.20**	**-**	**0.20**	**-**	**0.29**	**-0.55**	**0.51**	**0.42**	**0.61**	**0.25**	**0.45**	**0.68**	**-**
4	08158700	x	x	x	-	-	-	-	-	-0.80	0.43	-	0.47	0.46	0.48	x	-
4	08158810	x	-	0.78	0.86	-	-	-	0.89	-0.82	0.89	0.81	0.90	0.87	0.87	x	0.66
4	08158840	x	x	x	0.53	-	-	-	-	-0.52	0.62	0.51	0.72	0.48	0.53	x	-
4	FBU	0.38	-	-	-	-	-	-	-	-0.72	-	-	-	-	0.29	0.32	-
5	**Combined**	**-**	**-**	**-**	**-**	**0.30**	**-**	**-**	**-**	**-**	**0.43**	**0.41**	**0.40**	**0.38**	**0.27**	**-**	**-**
5	08158860	x	x	x	-	0.71	-	0.82	-	-	0.64	0.91	0.77	0.70	-	x	-
5	08158920	-	x	x	-	-	-	-	-	-	0.50	0.45	0.53	0.34	0.53	-	-
6	08154700	-	0.45	0.79	-	0.61	-	0.43	0.90	-0.52	0.26	0.29	0.36	0.37	0.44	0.37	-

Note: Group number 1-Barton Creek watershed, 2-urban area, 3-eastern suburban area, 4-undeveloped area, 5-southern suburban area, 6-western suburban area, “x” = insufficient data to calculate EMC; and “-” = p>0.05.

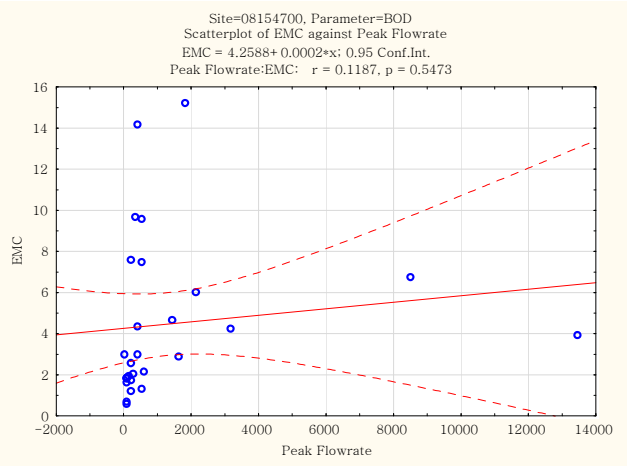

Figure 4.17: EMC of BOD vs. peak flowrate for Bull Creek @ Lp 360

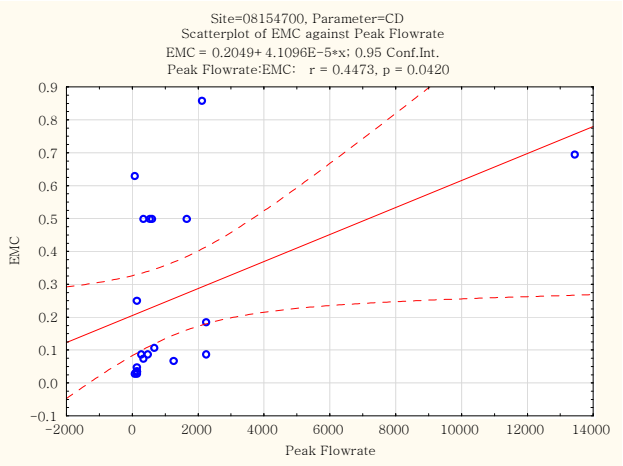

Figure 4.18: EMC of CD vs. peak flowrate for Bull Creek @ Lp 360

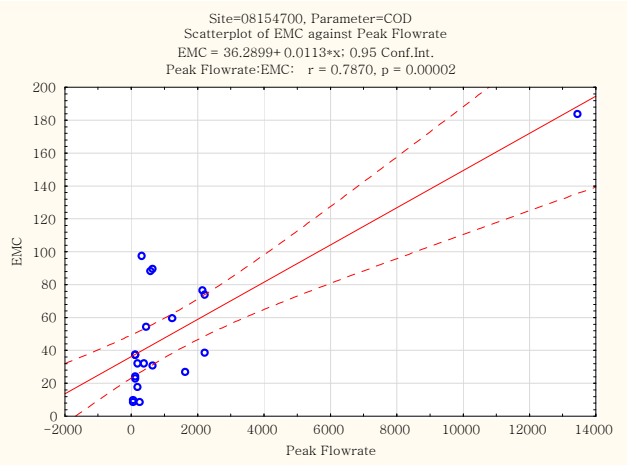

Figure 4.19: EMC of COD vs. peak flowrate for Bull Creek @ Lp 360

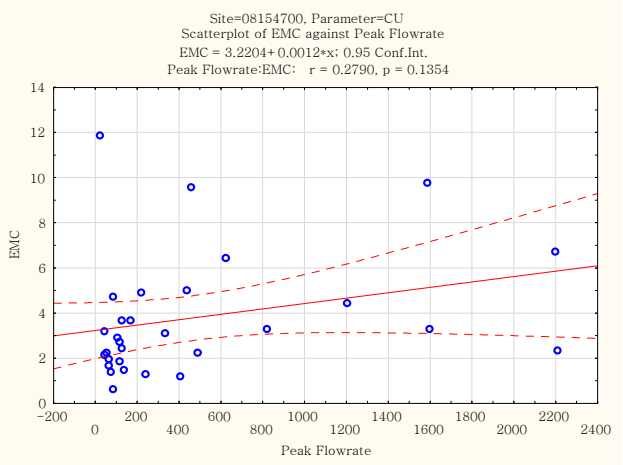

Figure 4.20: EMC of CU vs. peak flowrate for Bull Creek @ Lp 360

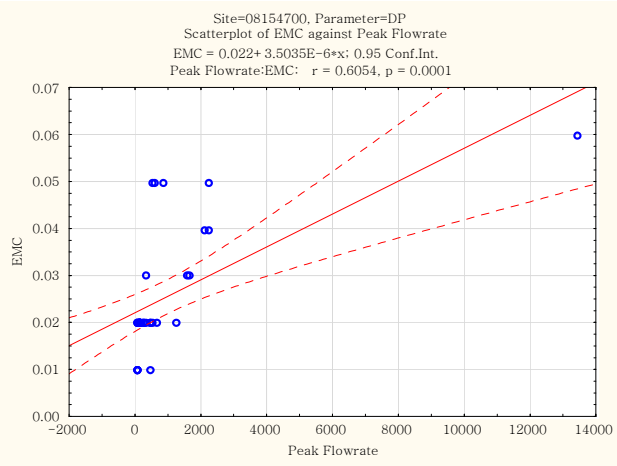

Figure 4.21: EMC of DP vs. peak flowrate for Bull Creek @ Lp 360

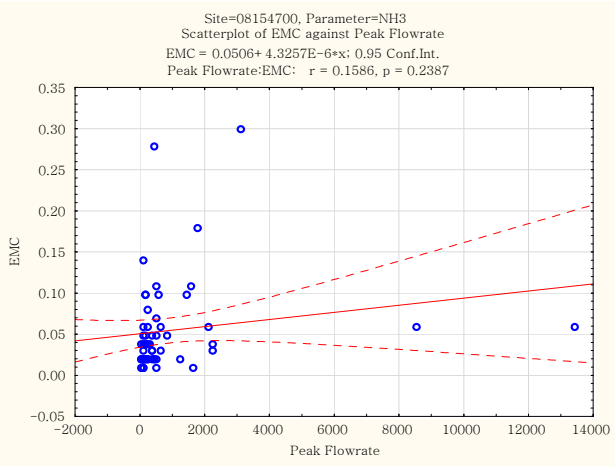

Figure 4.22: EMC of NH3 vs. peak flowrate for Bull Creek @ Lp 360

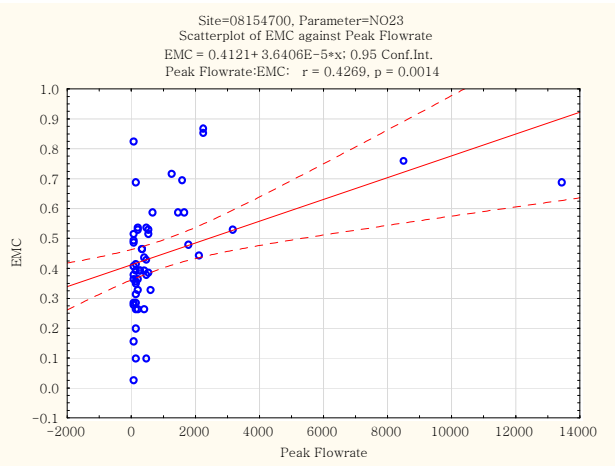

Figure 4.23: EMC of NO23 vs. peak flowrate for Bull Creek @ Lp 360

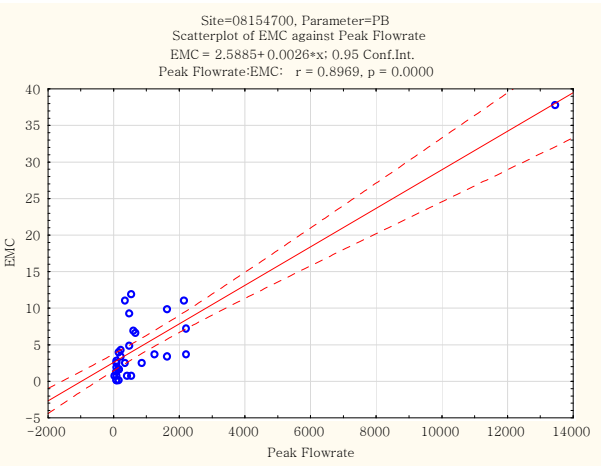

Figure 4.24: EMC of PB vs. peak flowrate for Bull Creek @ Lp 360

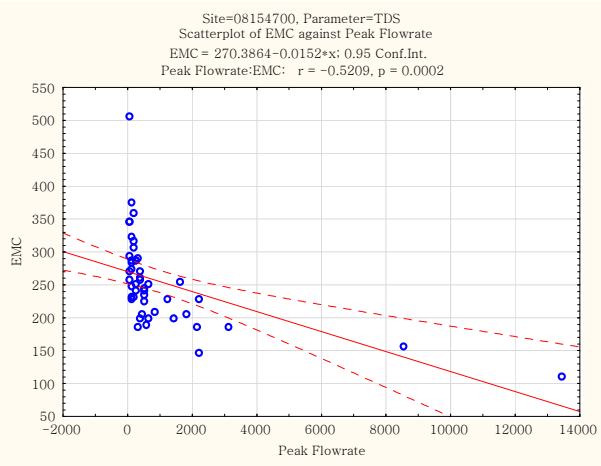

Figure 4.25: EMC of TDS vs. peak flowrate for Bull Creek @ Lp 360

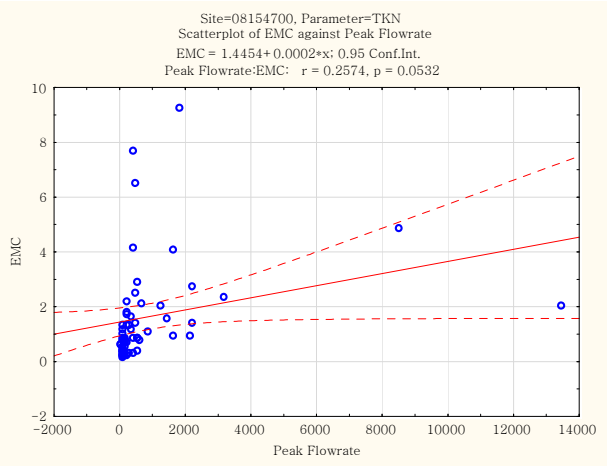

Figure 4.26: EMC of TKN vs. peak flowrate for Bull Creek @ Lp 360

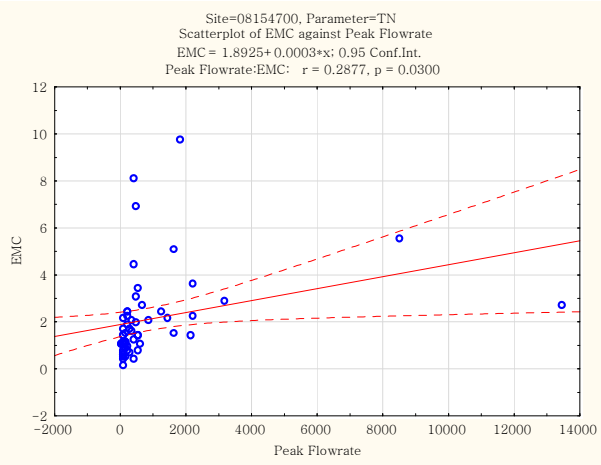

Figure 4.27: EMC of TN vs. peak flowrate for Bull Creek @ Lp 360

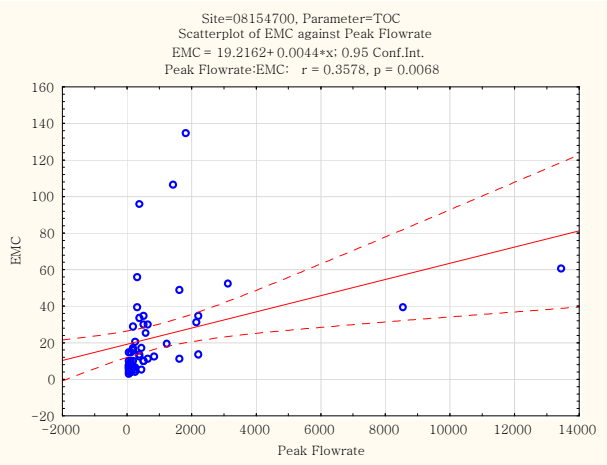

Figure 4.28: EMC of TOC vs. peak flowrate for Bull Creek @ Lp 360

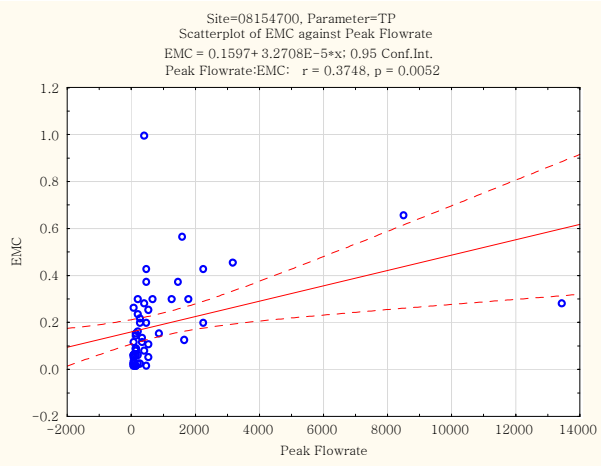

Figure 4.29: EMC of TP vs. peak flowrate for Bull Creek @ Lp 360

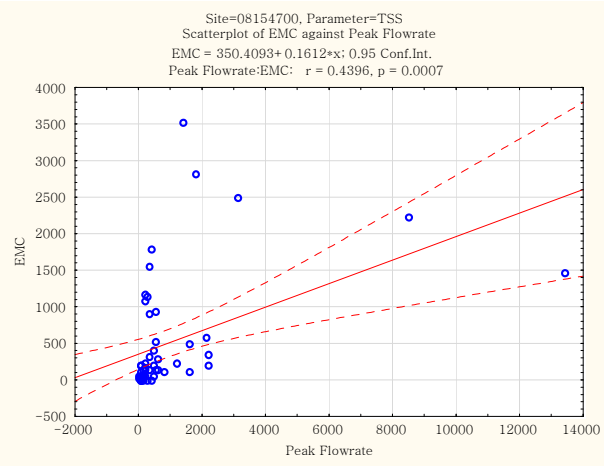

Figure 4.30: EMC of TSS vs. peak flowrate for Bull Creek @ Lp 360

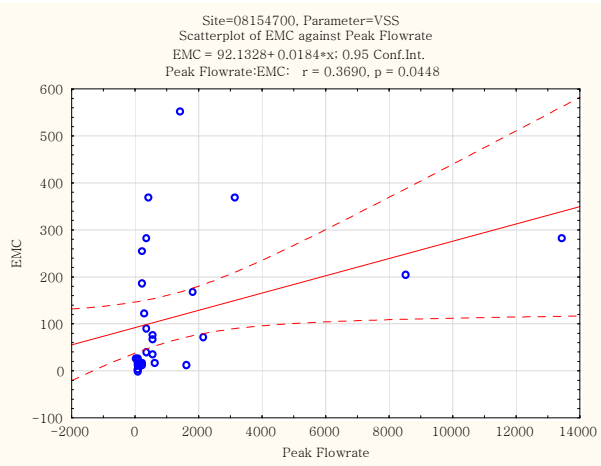

Figure 4.31: EMC of VSS vs. peak flowrate for Bull Creek @ Lp 360

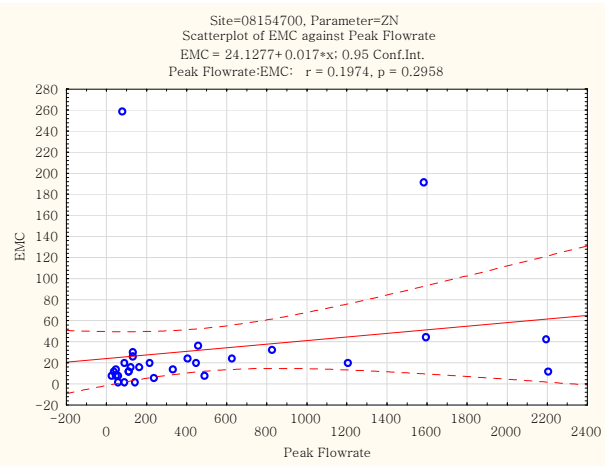

Figure 4.32: EMC of ZN vs. peak flowrate for Bull Creek @ Lp 360

4.3 EMC and Rainfall

The relationship between the EMC of a pollutant parameter and total rainfall of the event was fitted with a linear model for all pollutant parameters and for each large watershed and watershed groups. In Table 4.3, the values of the Pearson correlation coefficient R have been summarized for these linear fittings with p-value less than 0.05. A positive value of R indicates that the EMC of a pollutant parameter increases with increase of rainfall, and a negative value of R indicates the EMC decreases with increase of rainfall.

In Table 4.3, the EMCs for most parameters increase with increasing rainfall except for TDS and NO23. The decreasing trend of NO23 with increasing rainfall can only be observed in urban stations. For some pollutant parameters, there are more stations showing a significant linear relationship with rainfall than other pollutant parameters. There are 13 in 18 stations in which the EMC of TDS can be observed to have a negative linear relationship with rainfall. Other pollutant parameters with many significant linear relationships with rainfall are TOC (12 trends, mostly increasing), TSS (10 trends, all increasing) and PB (9 trends, all increasing).

Some stations show significant linear relationships between more pollutant parameters and rainfall than other stations. For station 08154700 a total of 11 in 16 EMCs of pollutant parameters can be observed to have significant linear relationships with rainfall. Other stations that fit a linear model well are station 08154700 and 08157700 (12 parameters), 08155240 (10 parameters), and 08158840 (10 parameters). The numbers of linear EMC relationships for different station groups are 11 for group of Barton Creek watershed, 8 for the group of undeveloped areas, 7 for the group of urban areas, and only 3 for the group of southern suburban areas.

Figures 4.33 to 4.48 show the relationship between EMC of these pollutant parameters and rainfall for USGS Station 08154700 – Bull Creek at Loop 360. This watershed is in the western suburban group; however, it has a significant area of habitat preserve land. Storms monitored for this site were mostly less than 3 inches total rainfall. The exception was one event above 6.5 inches. For this storm, it appears that the EMC did not pass quality control tests for CU (Copper). The plot for CU shows a slope near zero, small R, and $p >> 0.05$. In contrast, the

remaining plots show what may be an undue influence or leverage of the highest rainfall value. It may be an indication that for other parameters the linear relationship may not hold between the EMC and rainfall without this outlier. Additional monitoring for intermediate rainfall storm event EMCs or statistical tests of influence and leverage may be warranted before making inferences from these results. The figures of other relationships between EMC of pollutant parameters and rainfall can be found in Appendix I and J. Many of these figures have some of the same characteristics as the Bull Creek station results, with either a single large rainfall storm event EMC or a small slope with poor linear relationship. Therefore, many of the same difficulties with leverage and influence are applicable to these stations and parameters.

For both rainfall depth and peak flowrate, several physical factors may contribute to both their variation and water quality. Any physical condition that affects channel degradation or erosion would influence mass wasting of solids and possibly increase of TSS in stormwater. Many adsorbed pollutants would also show up in stormwater samples in higher concentrations as a result. There are a number of physical parameters that influence peak flow and depth. Factors influencing peak flow include cover, roughness, channel geometry, slope, watershed shape, channel sinuosity, time of concentration variables, etc. Factors that might influence depth include depression storage, interception, abstraction, etc.

Table 4.4: The values of Pearson correlation coefficient R for linear fittings between EMC and rainfall with p-value less than 0.05

Zone	Site	BOD	CD	COD	CU	DP	NH3	NO23	PB	TDS	TKN	TN	TOC	TP	TSS	VSS	ZN
1	**Combined**	**-**	**-**	**0.45**	**0.38**	**-**	**-**	**-**	**0.25**	**-0.33**	**0.31**	**0.27**	**0.34**	**0.27**	**0.43**	**0.32**	**0.32**
1	08155200	-	-	0.38	0.46	-	-	-	0.28	-0.51	0.27	-	0.32	-	0.35	-	0.34
1	08155240	-	-	0.46	0.55	-	-	-	0.43	-0.58	0.39	0.36	0.37	0.42	0.49	-	0.65
1	08155300	-	-	0.60	-	-	-	-	-	-	-	-	0.40	-	0.52	-	-
1	08155400	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	**Combined**	**-**	**-**	**-**	**-**	**-**	**-**	**-0.38**	**0.25**	**-0.50**	**0.14**	**-**	**-**	**0.26**	**-**	**0.16**	**0.16**
2	08156800	-	-	-	-	-	-	-	0.37	-0.60	-	-	-	0.36	-	-	0.39
2	08157500	-	-	-	-	-	-	-0.46	-	-0.49	-	-	-0.38	-	0.24	-	-
2	08157600	x	-	-	-	-	-	-0.48	0.37	x	-	-0.40	-0.43	-	-	-	-
2	08157700	-	-	-	-	-	-	-0.38	0.33	-0.52	-	-	-	0.27	0.25	-	-
2	08158050	-0.82	x	-	-	-	-	-0.87	-	-	-	-	-0.66	-	-	-	-
2	FTB	-	-	0.40	0.42	-	x	-	-	-0.44	-	-	x	-	-	x	-
3	08158600	-	-	-	0.39	-	-	-	0.43	-0.62	-	-	0.32	-	0.59	0.49	-
4	**Combined**	**-**	**-**	**0.31**	**-**	**-**	**-**	**-**	**0.27**	**-0.62**	**0.41**	**0.39**	**0.41**	**0.22**	**0.42**	**-**	**-**
4	08158700	x	x	x	-	-	-	-	-	-0.67	0.48	0.44	0.47	0.50	-	x	-
4	08158810	x	-	-	0.50	-	-	-	0.47	-0.69	0.57	0.60	0.57	0.52	0.51	x	-
4	08158840	x	x	x	0.70	0.76	-	-	0.69	-0.84	0.75	0.59	0.73	0.76	0.66	x	0.84
4	FBU	-	-	-	-	-	-	-	-	-0.73	0.29	0.28	-	-	0.42	-	-
5	**Combined**	**-**	**-**	**-**	**-**	**0.43**	**-**	**0.43**	**-**	**-0.34**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
5	08158860	x	x	x	-	0.83	-	-	-	-	-	-	0.71	-	-	x	-
5	08158920	-	x	x	-	-	-	-	-	-0.59	-	-	-	-	-	-	-
6	08154700	-	0.48	0.76	-	0.55	-	0.47	0.77	-0.55	0.30	0.36	0.54	-	0.64	0.62	-

Note: Group number 1-Barton Creek watershed, 2-urban area, 3-eastern suburban area, 4-undeveloped area, 5-southern suburban area, 6-western suburban area, “x” = insufficient data to calculate EMC; and “-” = p>0.05.

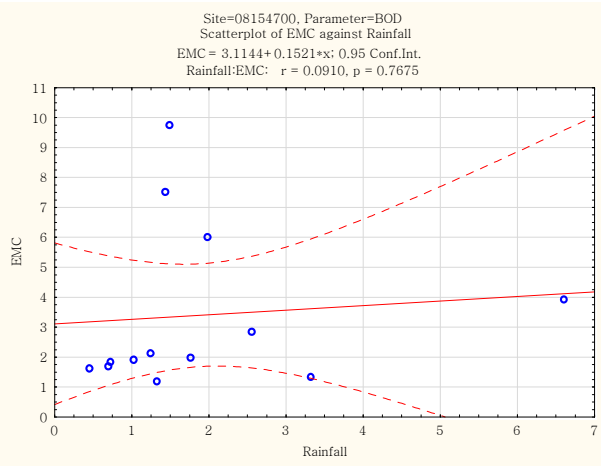

Figure 4.33: EMC of BOD vs. rainfall for Bull Creek @ Lp 360

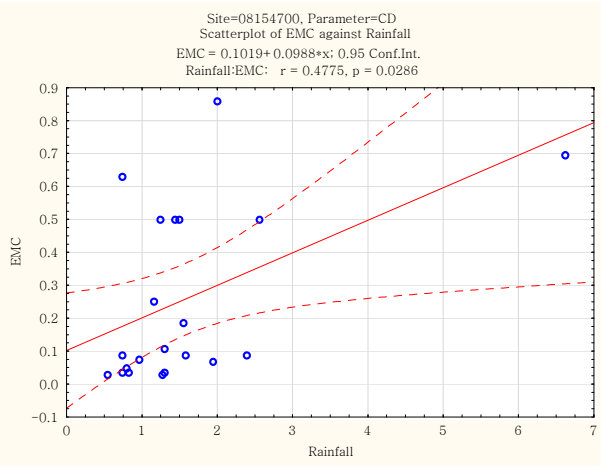

Figure 4.34: EMC of CD vs. rainfall for Bull Creek @ Lp 360

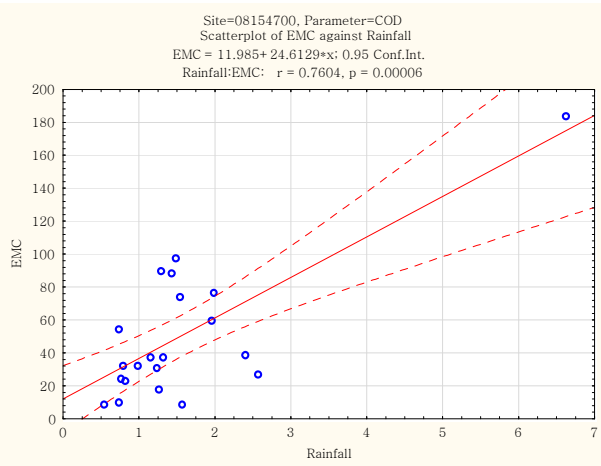

Figure 4.35: EMC of COD vs. rainfall for Bull Creek @ Lp 360

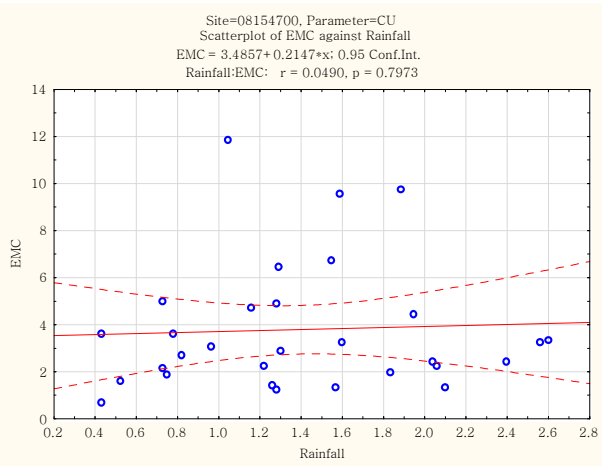

Figure 4.36: EMC of CU vs. rainfall for Bull Creek @ Lp 360

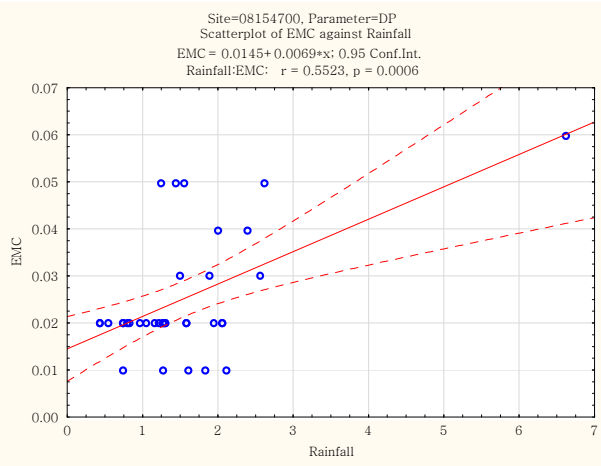

Figure 4.37: EMC of DP vs. rainfall for Bull Creek @ Lp 360

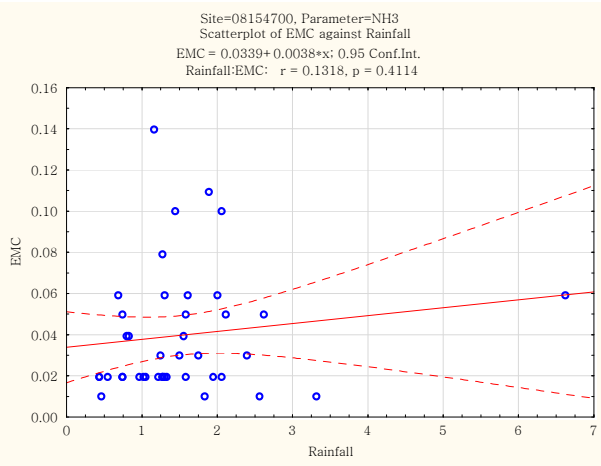

Figure 4.38: EMC of NH3 vs. rainfall for Bull Creek @ Lp 360

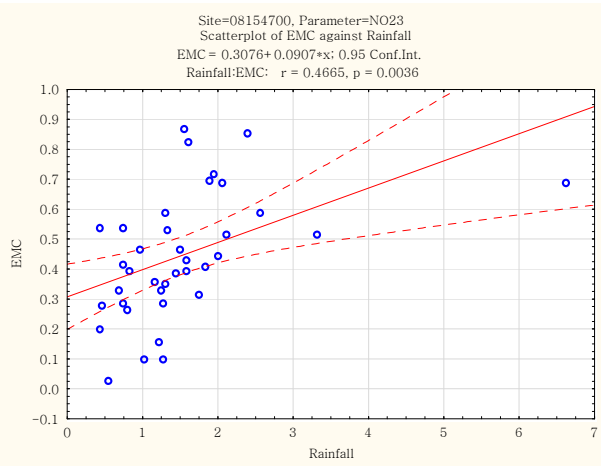

Figure 4.39: EMC of NO23 vs. rainfall for Bull Creek @ Lp 360

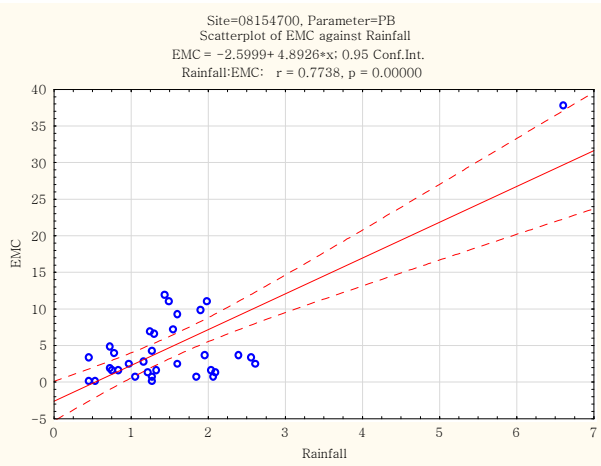

Figure 4.40: EMC of PB vs. rainfall for Bull Creek @ Lp 360

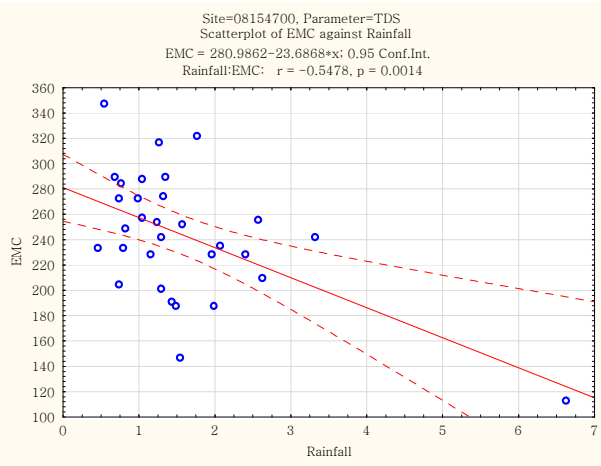

Figure 4.41: EMC of TDS vs. rainfall for Bull Creek @ Lp 360

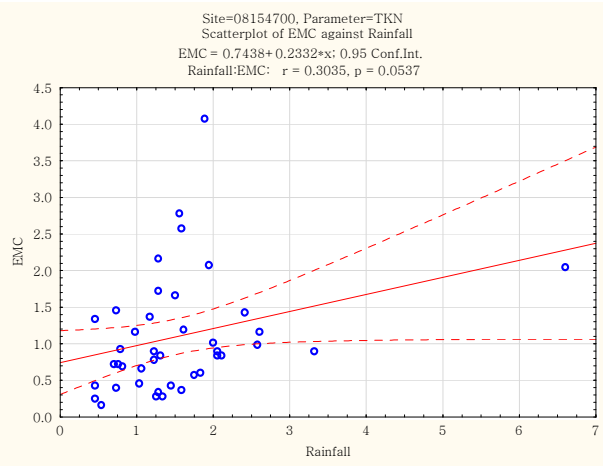

Figure 4.42: EMC of TKN vs. rainfall for Bull Creek @ Lp 360

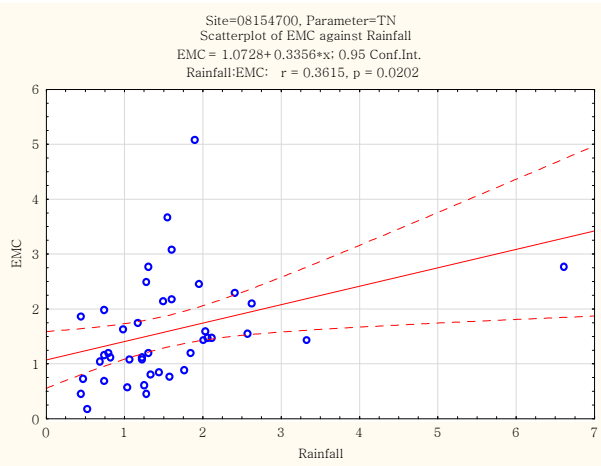

Figure 4.43: EMC of TN vs. rainfall for Bull Creek @ Lp 360

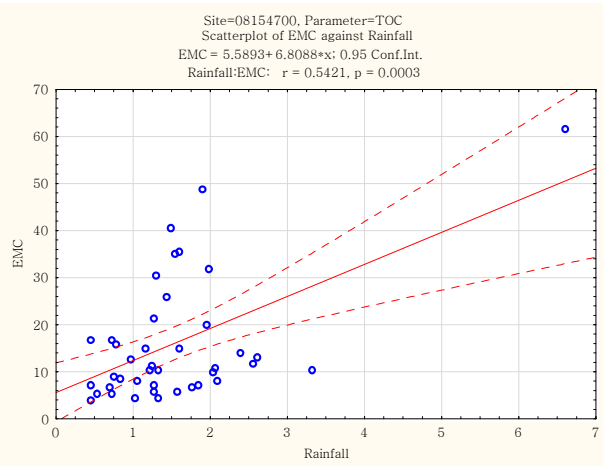

Figure 4.44: EMC of TOC vs. rainfall for Bull Creek @ Lp 360

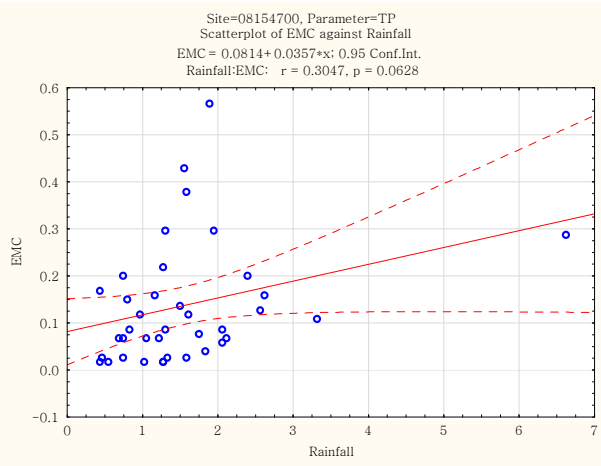

Figure 4.45: EMC of TP vs. rainfall for Bull Creek @ Lp 360

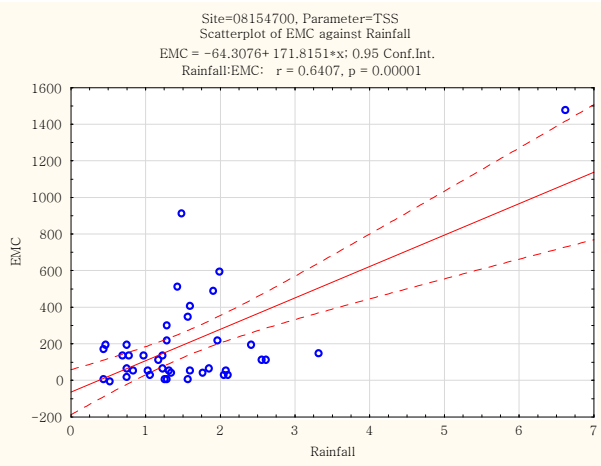

Figure 4.46: EMC of TSS vs. rainfall for Bull Creek @ Lp 360

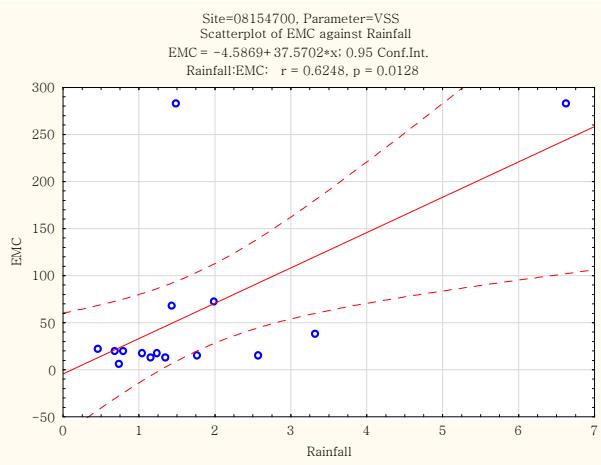

Figure 4.47: EMC of VSS vs. rainfall for Bull Creek @ Lp 360

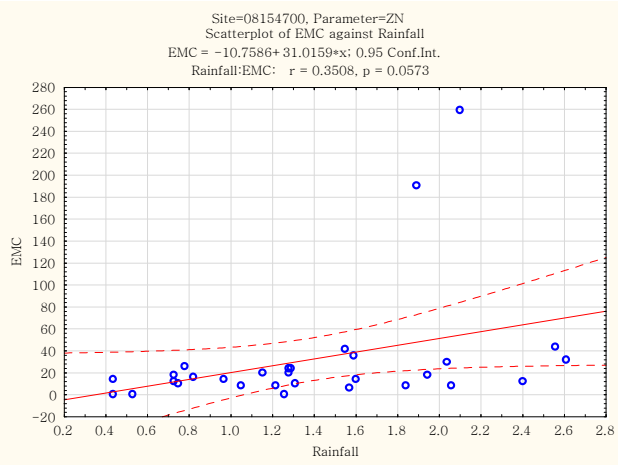

Figure 4.48: EMC of ZN vs. rainfall for Bull Creek @ Lp 360

4.4 Load of Pollutant and Impervious Cover

The values of volume weighted mean concentrations (MC) of pollutant parameters were computed based on EMC of pollutant parameters (Appendix A). The average annual loads from storm flow were computed for all pollutant parameters for each watershed. The unit for average annual load is pounds per inch of runoff per acre. The average annual loads from baseflow were computed using measured baseflow concentrations and volume of annual flow contributed from baseflow.

The relationship between the average annual load and the impervious cover of the watershed was fitted with a linear model for all pollutant parameters and a relationship can be observed between the average annual load from storm flow and impervious cover. However, almost no linear relationship exists between the average annual load from baseflow and impervious cover. For all pollutant parameters, the average annual load from storm flow increases as impervious cover increases. Figures 4.49 to 4.64 show the relationships between the average annual load from storm flow and impervious cover for all pollutant parameters. Since annual pollutant loads increase with impervious cover, and impervious cover increases with development density, it could be concluded from these data that development or regulatory changes that allow increases in impervious would increase temporal trends in water quality degradation. Conversely, regulatory changes that have restricted increases in impervious cover should have slowed the increase in pollutant loads in certain areas. However, in large watershed monitoring, the boundaries of contributing watersheds seldom match homogenous regulatory areas; therefore, it is difficult to make any conclusions about the impact of isolated jurisdictional regulatory changes on the increase of EMCs or annual pollutant loads.

The Figures which show the relationships between the average annual load from baseflow and impervious cover for all pollutant parameters can be found in Appendix K.

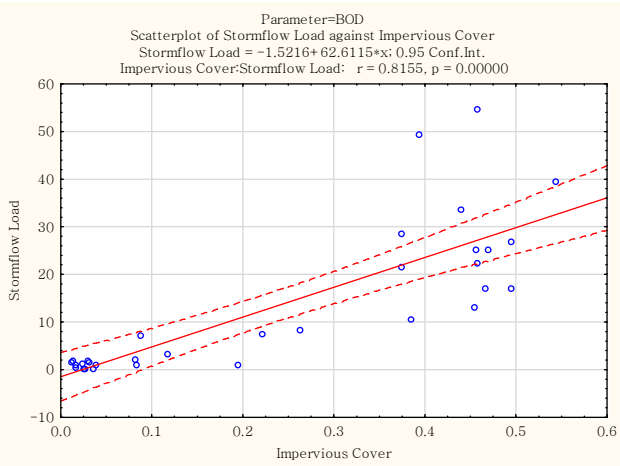

Figure 4.49: Load from storm flow vs. impervious cover for BOD

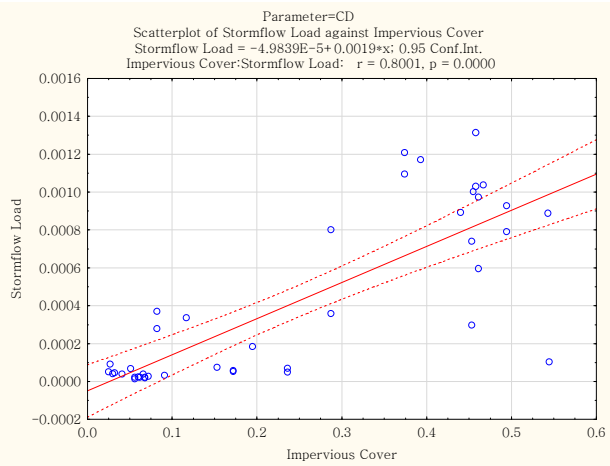

Figure 4.50: Load from storm flow vs. impervious cover for CD

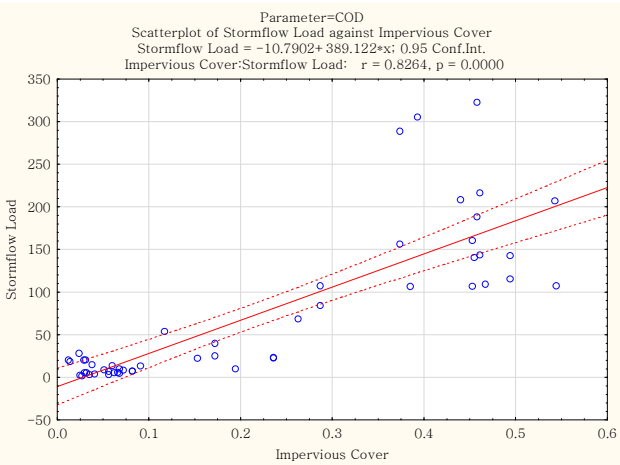

Figure 4.51: Load from storm flow vs. impervious cover for COD

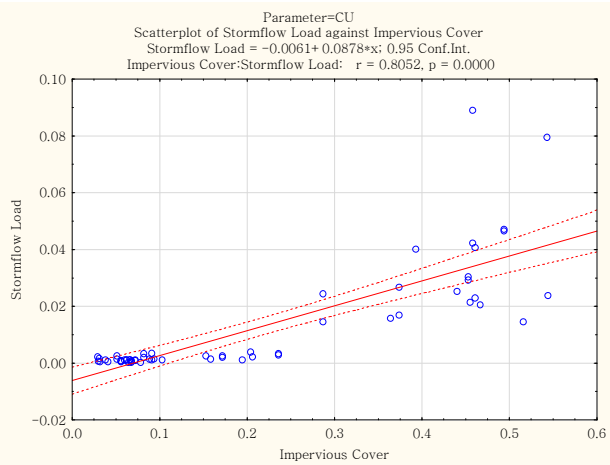

Figure 4.52: Load from storm flow vs. impervious cover for CU

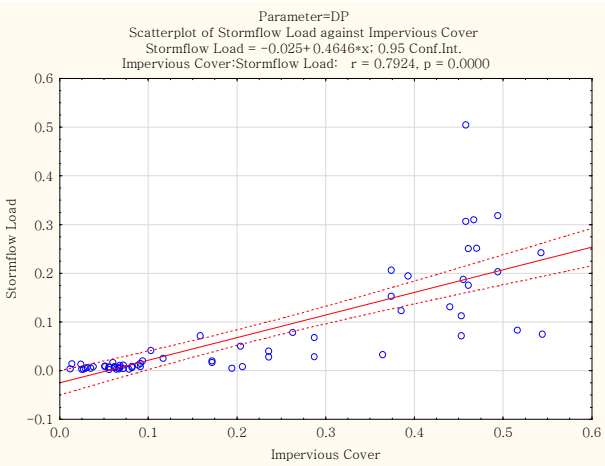

Figure 4.53: Load from storm flow vs. impervious cover for DP

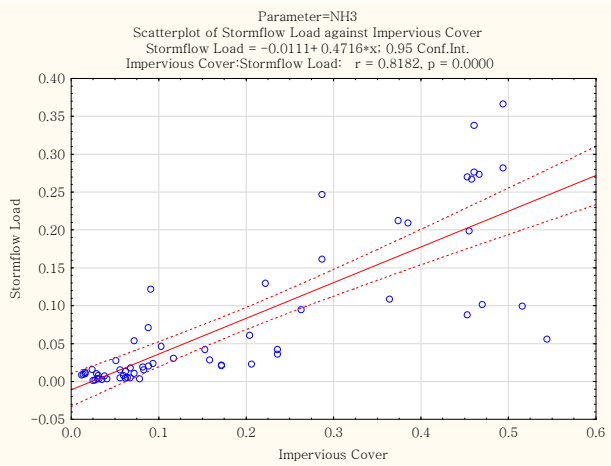

Figure 4.54: Load from storm flow vs. impervious cover for NH3

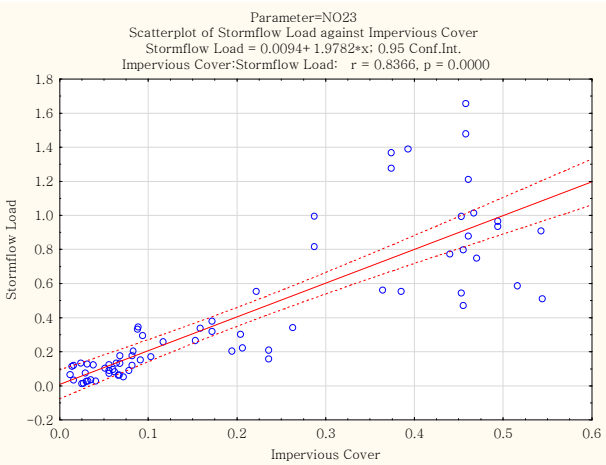

Figure 4.55: Load from storm flow vs. impervious cover for NO23

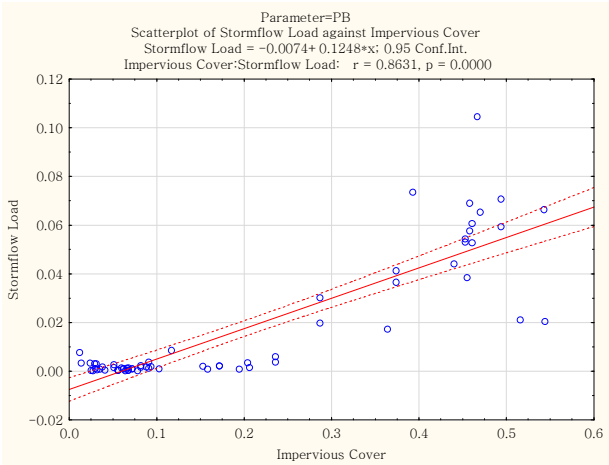

Figure 4.56: Load from storm flow vs. impervious cover for PB

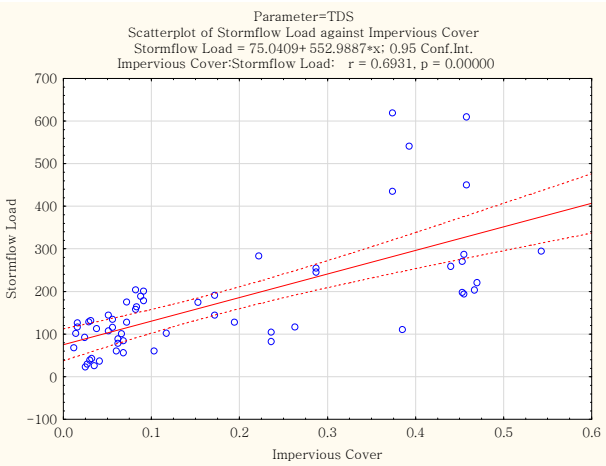

Figure 4.57: Load from storm flow vs. impervious cover for TDS

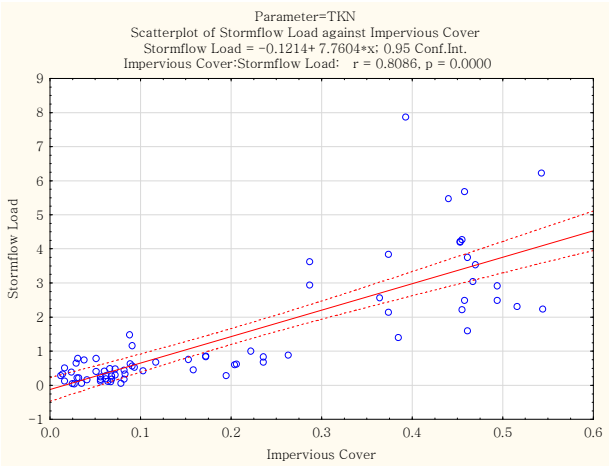

Figure 4.58: Load from storm flow vs. impervious cover for TKN

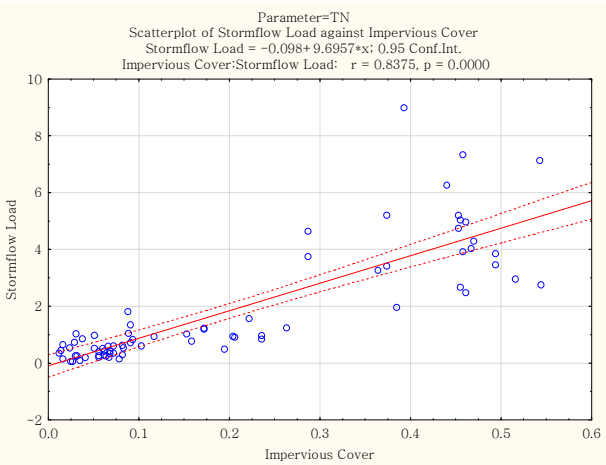

Figure 4.59: Load from storm flow vs. impervious cover for TN

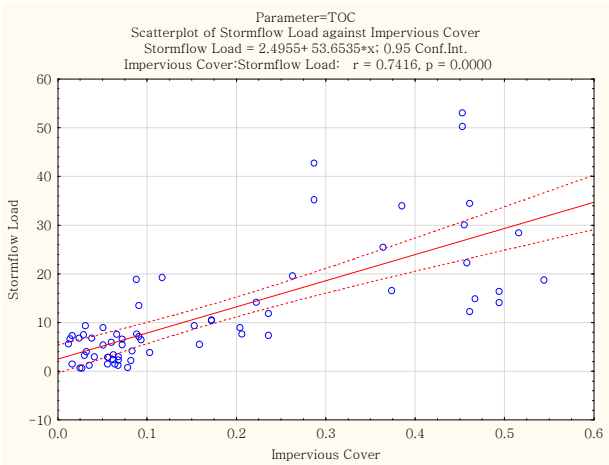

Figure 4.60: Load from storm flow vs. impervious cover for TOC

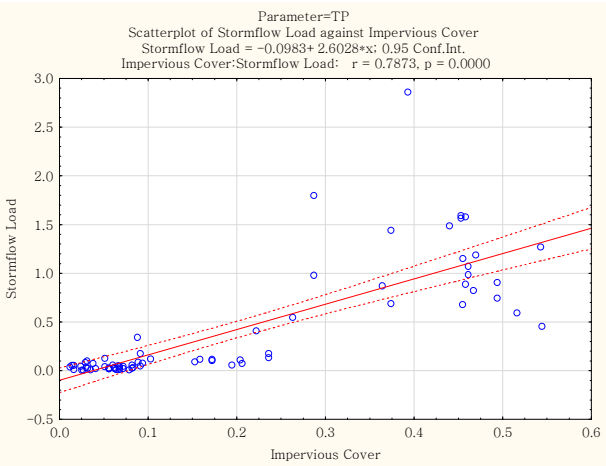

Figure 4.61: Load from storm flow vs. impervious cover for TP

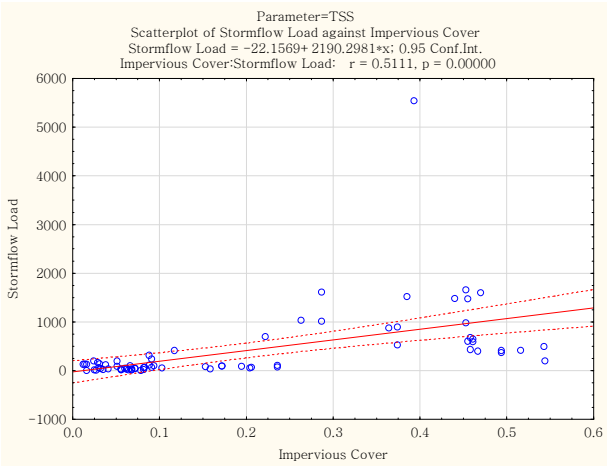

Figure 4.62: Load from storm flow vs. impervious cover for TSS

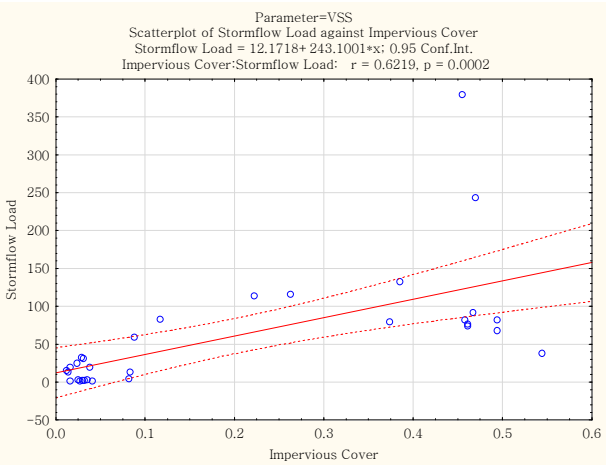

Figure 4.63: Load from storm flow vs. impervious cover for VSS

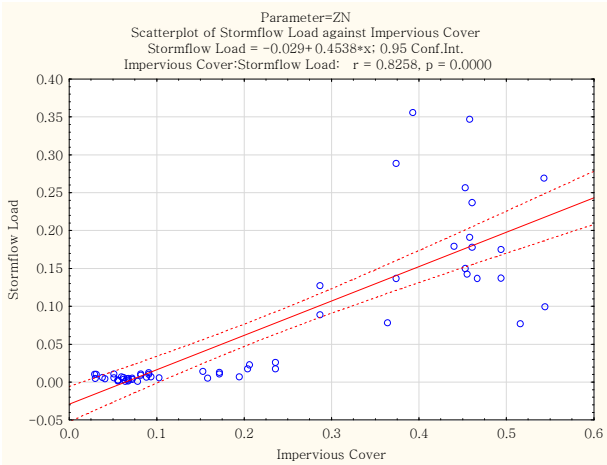

Figure 4.64: Load from storm flow vs. impervious cover for ZN

4.5 Annual Load of Pollutant for Average Annual Rainfall

The average annual rainfall in Austin area is 33 inches. The average annual runoff from this average annual rainfall was computed based on the relationship of runoff coefficient with impervious cover presented in Section 3.2. The annual load of each pollutant was computed based on the average annual runoff and the values of volume weighted mean concentrations of pollutant parameters. Table 4.4 shows the annual load of pollutant for average annual rainfall for all pollutant parameters and for all watersheds. The unit for the annual load is pounds per acre.

4.6 The Effect of Peak Flowrate on Change of EMC over Time

To examine the effect of peak flowrate on change of EMC over time, multiple linear regressions were conducted using both date and peak flowrate as independent variables. The results from the multiple linear regressions are summarized in Table 4.5. The peak flowrate had an effect on the change of the EMC of TSS over time for most stations where the EMC of TSS changes over time. The effect of peak flowrate on change of EMC can also be observed for other pollutant parameters like PB, TOC, TP, and VSS. Almost all of these effects show an effect of increasing peak flow rate decreasing the slope of the trend of EMC over time. Since these temporal EMC trends were both increasing and decreasing originally, the impact may be to either decrease faster or increase slower over time with increasing peak flow.

Table 4.4: Annual Load of Pollutant (pounds per acre) for Average Annual Rainfall

Site	BOD	CD	COD	CU	DP	NH3	NO23	PB	TDS	TKN	TN	TOC	TP	TSS	VSS	ZN
08154700	6.4266	0.0004	73.4350	0.0057	0.0462	0.0831	0.6428	0.0086	366.5564	2.3973	3.0692	33.8234	0.3056	942.5367	181.5061	0.0268
08155200	2.4107	0.0003	26.3810	0.0033	0.0200	0.0228	0.1536	0.0052	197.1078	0.8722	1.0528	11.9087	0.1296	223.7474	41.9541	0.0145
08155240	2.0538	0.0003	20.5688	0.0019	0.0230	0.0206	0.1911	0.0030	235.2419	0.6268	0.8658	9.3819	0.0852	173.9860	25.7258	0.0087
08155300	2.8446	0.0002	25.1329	0.0025	0.0263	0.0360	0.2306	0.0040	190.7255	0.9726	1.2718	14.7968	0.1095	309.0498	48.6020	0.0133
08155400	3.0998	0.0002	19.6235	0.0024	0.0325	0.0389	0.4344	0.0040	186.5104	0.7401	1.2044	9.2761	0.1190	100.2148	14.0123	0.0138
08156800	33.8501	0.0009	222.8075	0.0424	0.2730	0.3429	1.3991	0.0861	452.2212	7.5989	9.2633	79.7882	2.5045	2834.0550	585.9648	0.2686
08157000	35.5138	0.0021	225.9147	0.0425	0.6428	0.5595	2.0980	0.2165	420.8518	6.3048	8.3600	30.9421	1.7071	825.4215	190.3180	0.2831
08157500	37.1810	0.0014	237.6811	0.0697	0.4808	0.5093	1.7855	0.0907	424.0450	5.1977	7.0125	29.0493	1.5378	687.1710	159.7459	0.2745
08157600	21.1423	0.0012	258.7402	0.0482	0.3164	0.4555	1.4980	0.0881	386.3713	5.3312	6.7546	39.9806	1.6667	935.9574	116.7109	0.3174
08157700	29.6875	0.0012	206.9580	0.0287	0.2220	0.3084	1.2987	0.0544	492.9477	4.2981	5.4171	31.4757	1.3553	819.2168	103.6436	0.2145
08158050	28.3568	0.0012	166.0447	0.0337	0.2210	0.3963	1.0461	0.0967	298.0718	6.7155	7.7488	71.6859	2.5872	3596.3337	339.8531	0.2548
08158600	16.2715	0.0008	139.1105	0.0250	0.1075	0.2612	1.0212	0.0360	369.5944	3.4680	4.5969	43.8996	1.3443	1845.9012	221.3289	0.1466
08158700	2.2353	0.0001	28.9378	0.0057	0.0130	0.0668	0.1797	0.0067	209.3353	2.0090	1.6835	23.6577	0.2765	365.5215	40.3679	0.0171
08158810	1.1215	---	20.7835	0.0024	0.0288	0.0507	0.1727	0.0030	296.9435	0.7730	1.0422	9.6799	0.0982	126.9123	9.0215	0.0144
08158819	---	---	---	---	0.0192	0.0135	0.2037	---	189.7796	1.3129	1.5167	---	0.1679	235.2919	---	---
08158827	---	---	---	---	0.0466	0.0181	0.3434	---	181.2244	0.6423	0.9857	---	0.1386	---	---	---
08158840	1.0329	0.0001	21.7653	0.0020	0.0223	0.0327	0.1490	0.0020	289.9906	0.5870	0.7730	8.4764	0.0616	87.6491	6.0079	0.0091
08158860	---	0.0001	27.2225	0.0032	0.1541	0.0897	0.5089	0.0023	167.8331	1.1393	1.7456	11.6281	0.3641	122.6282	---	0.0129
08158920	8.7313	---	114.3802	0.0082	0.1049	0.1046	0.4256	0.0088	199.3882	2.6178	2.9641	24.9231	0.5566	580.4870	108.9937	0.0384
08158922	7.2369	0.0003	50.2219	0.0058	0.1117	0.0895	0.5782	0.0080	164.9838	1.6464	2.2292	18.4201	0.3205	217.5734	42.4154	0.0336
08158930	---	0.0002	61.4436	0.0085	0.1072	0.1188	0.5165	0.0141	240.5528	2.0502	2.4391	25.6537	0.4426	254.6562	---	0.0613
FBU	2.4506	0.0007	23.1366	0.0046	0.0377	0.0500	0.3399	0.0044	313.8278	0.6105	0.9536	5.3312	0.1581	101.1401	17.9191	0.0213
FTB	41.6311	0.0010	248.0024	0.0320	0.1616	---	1.0594	0.0602	406.9352	6.4385	7.3096	---	2.1299	3473.2351	---	0.2580

Table 4.5: The change of EMC over time from multiple linear regressions ("D" indicates decreasing over time, "I" indicates increasing over time, and "*" indicates the peak flowrate has effect on the change of EMC over time)

Group	Site	BOD	CD	COD	CU	DP	NH3	NO23	PB	TDS	TKN	TN	TOC	TP	TSS	VSS	ZN
1	**Combined**	**D**	**D**	**D**	**-**	**D**	**-**	**I**	**D***	**-**	**-**	**-**	**D***	**-**	**D***	**D***	**D***
1	08155200	-	D	-	-	-	I*	I	-	-	-	I*	-	-	-	-	D*
1	08155240	-	D	-	-	D	I	I	D*	-	-	I*	-	-	-	-	D*
1	08155300	D	D	-	-	-	-	-	-	-	-	-	D*	-	D*	D*	-
1	08155400	x	D	-	-	-	-	-	D	-	-	-	-	-	-	-	D
2	**Combined**	**-**	**-**	**-**	**-**	**D**	**D**	**D***	**D***	**-**	**D***	**D***	**D***	**D***	**D***	**D***	**-**
2	08156800	-	-	-	-	D*	-	-	D*	-	D	D	D*	D*	D*	-	D*
2	08157500	-	D	-	-	D	D	D*	D*	-	-	-	D*	D*	D*	D*	-
2	08157600	x	D	-	-	-	-	-	-	x	-	-	-	-	-	-	-
2	08157700	-	D*	-	-	-	-	-	D*	-	-	-	D	-	-	-	-
2	08158050	-	x	D	-	-	D	-	-	D*	-	-	-	-	D*	D*	-
2	FTB	-	-	-	-	-	x	-	-	-	-	-	x	D*	D	x	-
3	08158600	-	-	-	-	D	-	-	-	D*	-	D	-	-	-	-	-
4	**Combined**	**-**	**D**	**-**	**D***	**D**	**-**	**I**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**D**
4	08158700	x	x	x	-	-	-	I	-	-	-	-	-	-	D	x	-
4	08158810	x	D	-	-	-	-	I	-	-	-	I*	-	-	-	x	-
4	08158840	x	x	x	-	-	-	-	-	-	-	-	I*	-	-	x	-
4	FBU	-	-	-	D	D	-	-	-	-	-	-	-	-	-	D*	-
5	**Combined**	**-**	**-**	**D**	**-**	**-**	**-**	**I**	**-**	**-**	**D***	**D***	**D***	**D**	**D**	**D**	**-**
5	08158860	x	x	x	D*	-	-	-	-	-	-	D*	-	D*	-	x	D
5	08158920	-	x	x	-	-	-	-	-	-	D	-	-	D	-	D	-
6	08154700	-	D	-	-	D*	D	-	D*	-	D	D	D*	D*	D*	-	D

5 Conclusions

The following summarizes the conclusions in response to those questions posed in the introduction and in introductory sections on water quality in Section 4.

- After comparing results of baseflow ratio (BFR) from different methods, it can be concluded that the digital filtering method using unit value (sub-daily time step) data and default values of parameters can produce results that are generally consistent with the constant slope method and therefore should be used for COA modeling purposes. The constant slope method can be used for daily value needs.
- As expected, the baseflow ratio in undeveloped creeks (70-80%) and in recharge zone (60-70%) is higher than the baseflow ratio in suburban creeks (40-50%) and urban areas (10-25%). It can be therefore concluded that the higher the impervious cover is for a watershed, the less baseflow the watershed has. It has also been found that the runoff coefficients for large watersheds are about 30% lower than the runoff coefficients for small watersheds for the same impervious cover.
- Trends between the event mean concentration (EMC) of a pollutant parameter and date were observed for Cadmium (CD), Total Organic Carbon (TOC), Total Kjeldahl Nitrogen (TKN), Total Nitrogen (TN), Total Suspended Solids (TSS), Dissolved Phosphorus (DP), Ammonia (NH3), Total Phosphorus (TP), and Zinc (ZN), and more parameters trend in stations 08155300, 08154700, 08155400, 08156800. Similarly more parameters exhibit temporal trends in the watershed group of Barton Creek stations and the group of urban area stations. Changing detection limits over time may confound the temporal trend analysis methods utilized in this report.
- From linear regression, the EMC of a pollutant parameter is often influenced by peak flowrate. The EMCs of Total Dissolved Solids (TDS) are decreased with an increase of peak flowrate and the EMCs of TSS, TP, TDS, TKN, TOC, TN and Lead (PB) are usually increased with an increase of peak flowrate.
- From linear regression, the EMC of a pollutant parameter is often related to rainfall in a similar way as peak flowrate. However, fewer parameter yield linear relationships between the EMC and rainfall than between the EMC and peak flowrate. Peak flow and rainfall depth can be influenced by physical factors of the watershed and channel;

therefore, these can be an indirect factor in EMC values. For all pollutant parameters, the average annual load from storm flow increases as impervious cover increases. The only parameters with significant linear trends for baseflow loads and impervious cover were CD and DP.

- The peak flowrate has effect on the change of EMC of TSS over time for most stations where the EMC of TSS changes over time. The effect of peak flowrate on change of EMC can also be observed for PB, TOC, TP, and Volatile Suspended Solids (VSS). In most cases the increase of peak flow reduces the decrease of EMC over time for these parameters.

6 Recommendations

- Additional diagnostics for the linear regression models are recommended for these analyses including tests for influence and leverage of outliers. This may indicate additional data is needed using the same study design.
- These data may be useful in evaluating the relative trends of creek watersheds subject to the COA SOS ordinance or TCEQ Edwards Aquifer Rules vs other jurisdictions in the Barton Springs Zone and elsewhere.
- Checks should be made for the influence of decreasing laboratory detection limits for several parameters over time on trend analysis results. Likewise, an assessment should be made on the effect of the change from discrete sampling to composite sampling with automatic samplers that may include side-by-side sampling or benchmarking.
- New investigation using data mining that is suggested by these results may include approaching the causes of the trends or regressions with a weight of evidence approach and looking for hypotheses that may be tested as to their origins in the environment. These may include corroborating development conditions, regulatory influences, economic drivers, local employment pressures, etc.
- New investigation that requires additional data collection and analysis design may take more planning. For example, more sophisticated nutrient source identification may indicate that control of stormwater nutrients is futile when the bulk loading of wastewater treatment plants both through land application and discharge overwhelms what can be done to control stormwater. This is important information despite the consequences for receiving waters and may change some water quality strategies from engineering to more legislative or legal in some watersheds. In any case, having science to support the source identification would be the first step, and this would be a modification to the large watershed study.
- Another project may include investigations into the sources of our elevated pollutants in EMC data. Through a variety of techniques, we might be able to narrow the areas within the monitored catchment or the sector of activity that is generating the highest amount of each pollutant. At the minimum, we could learn more about where to control each pollutant first.

- Another suggested investigation would be to look at the EMC trends and determine which are the more important from an ecological standpoint. Which pollutant increases have the most significance for toxicity, habitat degradation, episodic stormwater impacts, and endangered aquatic species? Which ones have the highest concern for future impacts, greatest rate of change to a threshold value, etc.? Should we expend any resources to model pollutants not on this list?

These questions can be used to reduce the cost of further monitoring and modeling as well as focus treatment efforts to those pollutants that will have the highest probability of a long term sustained beneficial impact on stream health in Austin's streams. The same applies to those hydrologic metrics that correlate to stream health conditions. What engineering measures are available either through low impact distributed green infrastructure or concentrated structural restoration projects that may alter the morphology and/or hydrology enough that these metrics will shift long term? Where geographically in the COA are the meeting-places of opportunity and need for such interventions? What kind of monitoring can be used to quantify their benefit in the same terms as degradation is monitored and quantify the cost in the same units as other water quality BMPs for comparison?

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Appendix A Summary of water quality data information from all sites for different water year period.

NOTE: Throughout Appendix A, concentration units are mg/L except metals which are µg/L and bacteria which are cfu/100 mL.

Table A.1 Summary of water quality data information from all sites in water year period 1976-1985, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
BOD	08154700	5.946	13	0.650	15.280	4.350	5.936	4.650	0.78	0.8766	0.0642	4.201	6.170	5.949	0.96	0.9656	0.8367	5.946	4.440	4.330	6.930
BOD	08155300	5.820	6	0.330	11.330	5.325	5.758	3.848	0.67	0.9882	0.9844	3.361	7.157	9.020	1.26	0.7938	0.0517	5.820	3.555	3.856	6.592
BOD	08156800	11.516	11	6.030	24.900	10.430	11.587	5.225	0.45	0.8331	0.0257	10.674	11.516	4.563	0.40	0.9609	0.7825	11.435	4.859	10.749	11.630
BOD	08158050	14.772	18	3.560	92.830	9.335	16.119	20.614	1.28	0.5610	0.0001	10.698	14.772	13.130	0.89	0.9335	0.2234	15.981	19.977	10.895	10.945
BOD	08158600	6.241	5	3.690	9.370	5.750	6.256	2.113	0.34	0.9726	0.8916	5.902	6.259	2.144	0.34	0.9856	0.9622	6.241	1.854	5.972	6.727
BOD	08158920	7.038	8	2.660	11.600	6.495	7.045	2.686	0.38	0.9667	0.8712	6.455	7.107	3.158	0.44	0.9131	0.3763	7.038	2.529	6.534	7.074
CL	08154700	37.685	10	12.600	93.000	31.150	37.296	24.330	0.65	0.8546	0.0659	30.940	37.051	23.031	0.62	0.9781	0.9544	37.685	23.181	31.511	17.695
CL	08156800	38.613	6	11.020	53.500	41.340	38.613	14.476	0.37	0.8212	0.0903	33.882	39.870	22.908	0.57	0.6849	0.0043	38.527	13.176	34.832	32.782
CL	08158050	17.655	6	9.360	27.550	18.765	17.693	7.013	0.40	0.9297	0.5781	16.171	17.766	7.741	0.44	0.8902	0.3191	17.655	6.397	16.429	13.965
CL	08158600	28.048	3	22.170	33.620	28.970	28.253	5.759	0.20	0.9884	0.7938	27.640	28.261	5.930	0.21	0.9736	0.6886	28.048	4.723	27.847	29.268
FCOL	08154700	31713	11	72	54761	29400	31713	21040	0.66	0.8746	0.0888	12156	81683	222061	2.72	0.6835	0.0003	32201	20009	14809	45025
FCOL	08155300	34096	6	189	62365	34323	34096	21921	0.64	0.9799	0.9512	10295	81441	173044	2.12	0.6536	0.0019	34307	20025	15815	38854
FCOL	08156800	294968	11	19833	2853672	74364	398004	836217	2.10	0.5041	0.0001	106075	294968	512894	1.74	0.9208	0.3252	400718	804078	117237	236447
FCOL	08158050	185569	15	47566	508426	182867	184000	147818	0.80	0.8182	0.0063	133053	185569	166088	0.90	0.8978	0.0880	185681	142838	136095	242482
FCOL	08158600	45250	5	11682	86562	39173	44353	32224	0.73	0.9232	0.5509	31513	45183	38072	0.84	0.9277	0.5810	45250	29030	33985	27899
FCOL	08158920	93175	8	19603	208039	84596	92843	58150	0.63	0.9272	0.4911	74050	95003	69266	0.73	0.9510	0.7214	93175	54412	76450	105464
FSTR	08154700	35327	11	1044	75531	27006	35327	24552	0.69	0.9207	0.3245	22550	44440	59282	1.33	0.7990	0.0091	35917	23646	24060	43110
FSTR	08155300	28252	6	3540	46559	31021	28252	14442	0.51	0.9416	0.6722	20764	31551	29326	0.93	0.7330	0.0135	28421	13320	22341	33228
FSTR	08156800	117423	11	78627	224042	105466	117979	46725	0.40	0.8202	0.0174	110402	117423	41798	0.36	0.8741	0.0876	117361	44662	111026	96726
FSTR	08158050	253853	15	9281	984360	162798	234323	240759	1.03	0.6961	0.0002	149564	253853	301767	1.19	0.8946	0.0788	236119	233877	155100	236507
FSTR	08158600	67571	5	22634	109795	70357	67351	31473	0.47	0.9744	0.9028	57835	68660	40091	0.58	0.8871	0.3425	67571	27828	59901	94770
FSTR	08158920	170869	8	70846	455593	124570	174341	130027	0.75	0.8016	0.0298	139290	170869	112201	0.66	0.9283	0.5008	175300	121620	142966	202741
NH3	08154700	0.102	14	0.010	0.300	0.065	0.100	0.091	0.91	0.7962	0.0045	0.067	0.102	0.104	1.02	0.9536	0.6176	0.100	0.088	0.069	0.127
NH3	08155300	0.118	7	0.005	0.390	0.070	0.118	0.139	1.18	0.8258	0.0730	0.044	0.136	0.221	1.63	0.9590	0.8101	0.118	0.129	0.053	0.186
NH3	08156800	0.111	9	0.030	0.270	0.090	0.112	0.078	0.69	0.9019	0.2630	0.088	0.113	0.083	0.74	0.9791	0.9594	0.111	0.072	0.090	0.136
NH3	08158050	0.233	16	0.010	0.660	0.145	0.207	0.184	0.89	0.8869	0.0497	0.123	0.233	0.317	1.36	0.9526	0.5324	0.204	0.177	0.128	0.186
NH3	08158600	0.033	3	0.005	0.060	0.030	0.032	0.028	0.87	0.9973	0.8999	0.015	0.034	0.037	1.08	0.9388	0.5227	0.033	0.023	0.021	0.027
NH3	08158920	0.088	9	0.020	0.430	0.060	0.098	0.128	1.31	0.5949	0.0001	0.060	0.088	0.083	0.94	0.9137	0.3430	0.097	0.120	0.063	0.097
NO23	08154700	0.459	14	0.270	0.760	0.460	0.456	0.129	0.28	0.9447	0.4816	0.439	0.457	0.131	0.29	0.9576	0.6841	0.459	0.126	0.440	0.601
NO23	08155300	0.196	7	0.100	0.280	0.190	0.194	0.055	0.28	0.9553	0.7772	0.185	0.195	0.062	0.32	0.8962	0.3086	0.196	0.052	0.187	0.221
NO23	08156800	0.571	10	0.350	1.370	0.500	0.579	0.301	0.52	0.7115	0.0012	0.527	0.571	0.234	0.41	0.8672	0.0928	0.576	0.285	0.531	0.523
NO23	08158050	0.417	16	0.190	0.820	0.390	0.418	0.186	0.44	0.8635	0.0216	0.381	0.417	0.183	0.44	0.9344	0.2857	0.414	0.180	0.383	0.375
NO23	08158600	0.302	3	0.200	0.400	0.300	0.300	0.100	0.33	1.0000	1.0000	0.283	0.300	0.103	0.34	0.9905	0.8132	0.302	0.083	0.288	0.281
NO23	08158920	0.368	9	0.140	0.600	0.370	0.367	0.132	0.36	0.9892	0.9949	0.339	0.370	0.156	0.42	0.9289	0.4714	0.368	0.123	0.342	0.353
SO4	08154700	57.107	10	26.290	140.000	49.365	57.772	34.854	0.60	0.8123	0.0204	49.909	57.107	30.428	0.53	0.9417	0.5720	58.289	33.199	50.594	31.834
SO4	08156800	69.946	6	24.980	87.690	78.190	69.993	23.137	0.33	0.7664	0.0287	63.758	71.359	34.038	0.48	0.6699	0.0029	69.946	21.107	64.983	61.051
SO4	08158050	29.212	6	19.020	38.880	30.220	29.248	6.548	0.22	0.9589	0.8111	28.460	29.278	6.979	0.24	0.9318	0.5939	29.212	5.964	28.595	26.037
SO4	08158600	38.420	3	30.880	45.610	39.560	38.683	7.404	0.19	0.9895	0.8038	37.947	38.692	7.600	0.20	0.9762	0.7044	38.420	6.071	38.194	39.984

Table A.1 (continued) Summary of water quality data information from all sites in water year period 1976-1985, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TDS	08154700	269.553	14	157.190	509.000	253.690	271.101	91.904	0.34	0.8979	0.1053	257.614	270.529	85.759	0.32	0.9705	0.8831	269.553	88.053	258.519	194.347
TDS	08155300	170.681	8	92.170	264.450	148.055	170.485	62.364	0.37	0.8745	0.1667	159.821	170.342	61.357	0.36	0.9271	0.4897	170.681	58.332	161.108	147.833
TDS	08156800	164.724	14	97.240	268.940	161.260	164.611	47.450	0.29	0.9396	0.4137	158.068	164.602	47.374	0.29	0.9641	0.7901	164.724	45.978	158.527	152.584
TDS	08158050	140.053	18	89.450	197.860	139.410	140.178	29.585	0.21	0.9880	0.9961	136.995	140.238	30.567	0.22	0.9838	0.9808	140.053	28.719	137.173	124.234
TDS	08158600	207.549	5	151.350	273.150	207.720	209.046	46.323	0.22	0.9953	0.9946	203.891	209.075	46.830	0.22	0.9978	0.9986	207.549	41.353	204.921	200.348
TDS	08158920	138.521	9	97.280	192.840	133.390	138.804	32.246	0.23	0.9533	0.7262	135.028	138.841	32.923	0.24	0.9486	0.6747	138.521	30.476	135.448	133.822
TKN	08154700	3.356	14	0.320	9.300	2.290	3.364	2.790	0.83	0.8831	0.0644	2.251	3.536	3.780	1.07	0.9729	0.9123	3.356	2.661	2.327	4.253
TKN	08155300	2.850	7	0.130	6.730	2.130	2.796	2.703	0.97	0.8725	0.1954	1.176	3.405	5.365	1.58	0.9109	0.4018	2.850	2.528	1.392	3.685
TKN	08156800	4.552	12	0.770	9.680	4.525	4.553	2.543	0.56	0.9710	0.9211	3.680	4.749	3.599	0.76	0.9178	0.2679	4.552	2.441	3.761	4.874
TKN	08158050	3.644	18	0.960	10.040	2.735	3.671	2.630	0.72	0.8329	0.0046	2.915	3.644	2.611	0.72	0.9553	0.5148	3.704	2.576	2.952	3.968
TKN	08158600	2.726	5	0.390	6.430	1.160	2.706	2.731	1.01	0.8353	0.1523	1.378	2.728	3.138	1.15	0.9187	0.5217	2.726	2.448	1.600	5.563
TKN	08158920	3.062	10	1.680	4.730	2.820	3.080	1.160	0.38	0.8804	0.1317	2.870	3.079	1.169	0.38	0.9233	0.3854	3.062	1.090	2.891	2.890
TN	08154700	3.820	14	0.820	9.790	2.700	3.826	2.797	0.73	0.8812	0.0605	2.916	3.847	3.082	0.80	0.9754	0.9395	3.820	2.669	2.976	4.857
TN	08155300	3.308	6	0.320	7.010	2.805	3.275	2.878	0.88	0.8873	0.3043	1.578	3.755	5.081	1.35	0.8470	0.1487	3.308	2.641	1.851	4.420
TN	08156800	5.915	8	3.450	10.430	5.310	5.968	2.236	0.37	0.8605	0.1215	5.611	5.949	2.054	0.35	0.9341	0.5539	5.915	2.068	5.652	6.642
TN	08158050	4.188	16	1.540	10.240	3.090	4.224	2.731	0.65	0.8382	0.0092	3.492	4.188	2.664	0.64	0.9235	0.1917	4.256	2.665	3.533	4.519
TN	08158600	1.064	3	0.800	1.360	1.050	1.070	0.281	0.26	0.9962	0.8820	1.033	1.070	0.281	0.26	0.9998	0.9725	1.064	0.232	1.045	1.123
TN	08158920	3.560	9	1.950	5.130	3.500	3.576	1.228	0.34	0.8903	0.2007	3.360	3.580	1.288	0.36	0.9158	0.3587	3.560	1.149	3.384	3.290
TOC	08154700	48.247	13	3.500	135.870	34.740	47.728	41.592	0.87	0.8813	0.0742	29.081	52.388	65.512	1.25	0.9473	0.5586	48.247	39.744	30.481	52.639
TOC	08155300	55.063	7	2.600	165.560	33.290	47.139	55.727	1.18	0.7665	0.0188	18.909	55.063	86.992	1.58	0.8912	0.2812	46.861	50.786	22.413	50.575
TOC	08156800	40.158	11	12.790	119.520	34.870	40.614	30.092	0.74	0.7984	0.0090	32.479	40.158	27.385	0.68	0.9686	0.8722	40.209	28.099	33.122	59.615
TOC	08158050	34.441	17	11.390	73.760	32.250	34.381	15.648	0.46	0.9457	0.3922	30.863	34.590	17.109	0.49	0.9720	0.8517	34.441	15.063	31.072	38.764
TOC	08158600	25.154	5	12.170	53.510	18.750	24.846	16.581	0.67	0.7853	0.0612	20.867	24.411	13.633	0.56	0.9180	0.5174	25.154	15.015	21.547	28.412
TOC	08158920	24.439	9	16.190	37.250	22.630	24.293	7.138	0.29	0.9356	0.5363	23.293	24.282	7.052	0.29	0.9513	0.7039	24.439	6.745	23.402	25.924
TP	08154700	0.351	14	0.030	1.000	0.295	0.349	0.245	0.70	0.8679	0.0392	0.256	0.378	0.370	0.98	0.8714	0.0439	0.351	0.234	0.264	0.505
TP	08155300	0.236	7	0.020	0.470	0.230	0.236	0.173	0.73	0.9099	0.3953	0.123	0.292	0.410	1.40	0.7590	0.0157	0.240	0.162	0.141	0.338
TP	08156800	1.348	13	0.100	3.130	1.440	1.348	0.814	0.60	0.9616	0.7776	1.018	1.488	1.424	0.96	0.8615	0.0404	1.366	0.784	1.049	1.134
TP	08158050	1.336	18	0.250	3.600	1.225	1.331	0.906	0.68	0.9177	0.1176	1.012	1.379	1.197	0.87	0.9360	0.2469	1.336	0.887	1.030	1.554
TP	08158600	1.263	5	0.190	3.460	0.910	1.250	1.275	1.02	0.7802	0.0554	0.750	1.252	1.253	1.00	0.9533	0.7609	1.263	1.162	0.837	1.355
TP	08158920	0.602	10	0.020	1.490	0.565	0.602	0.381	0.63	0.8860	0.1527	0.406	0.765	0.964	1.26	0.6985	0.0008	0.603	0.360	0.434	0.550
TSS	08154700	1468.689	13	26.050	3527.970	1167.950	1468.689	1080.733	0.74	0.9543	0.6647	758.026	2183.689	4048.933	1.85	0.8070	0.0083	1492.415	1037.127	826.893	2152.359
TSS	08155300	1101.987	6	18.600	1899.870	1169.790	1101.987	732.188	0.66	0.9446	0.6968	459.573	1835.811	3166.829	1.73	0.7150	0.0089	1112.972	671.171	601.236	1326.126
TSS	08156800	1828.332	10	653.750	3812.950	1876.845	1825.009	962.705	0.53	0.9310	0.4579	1573.466	1835.243	1048.965	0.57	0.9537	0.7122	1828.332	899.669	1598.177	1914.989
TSS	08158050	2285.804	17	123.400	4959.890	2116.220	2285.804	1443.975	0.63	0.9381	0.2960	1556.932	2689.392	3308.985	1.23	0.8203	0.0039	2282.539	1390.765	1609.268	2605.850
TSS	08158600	1872.038	5	362.750	4898.440	1104.900	1845.258	1871.460	1.01	0.8476	0.1871	1066.426	1821.541	1862.879	1.02	0.9647	0.8402	1872.038	1696.741	1196.062	2629.239
TSS	08158920	1304.353	4	655.280	3069.170	842.635	1352.430	1147.933	0.85	0.6993	0.0114	1027.655	1304.353	879.858	0.67	0.7759	0.0656	1348.208	994.796	1093.106	1033.800
VSS	08154700	194.917	13	2.820	556.710	168.860	190.162	162.691	0.86	0.9138	0.2066	99.873	260.570	450.627	1.73	0.8732	0.0578	194.917	157.398	108.012	243.071
VSS	08155300	122.217	6	4.790	191.410	134.200	122.217	62.590	0.51	0.8440	0.1406	69.035	170.487	235.722	1.38	0.6070	0.0006	122.904	57.642	81.567	144.338
VSS	08156800	231.742	10	25.360	1284.190	147.710	254.419	367.771	1.45	0.5415	0.0001	143.309	231.742	247.993	1.07	0.9229	0.3813	247.599	340.825	150.647	179.424
VSS	08158050	222.701	17	25.470	523.660	221.630	222.701	128.583	0.58	0.9535	0.5135	172.253	240.449	217.271	0.90	0.8605	0.0156	222.399	124.234	175.726	251.517
VSS	08158600	136.310	5	24.860	266.520	130.100	135.500	87.643	0.65	0.9665	0.8522	98.271	143.283	123.463	0.86	0.8911	0.3629	136.310	77.620	106.371	226.840
VSS	08158920	183.098	4	58.980	418.050	128.535	183.525	160.510	0.87	0.8290	0.1652	129.755	179.488	140.079	0.78	0.9706	0.8450	183.098	138.910	141.277	118.999

Table A.2 Summary of water quality data information from all sites in water year period 1986-1992, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
BOD	08154700	1.699	8	0.700	3.020	1.715	1.706	0.680	0.40	0.9506	0.7175	1.566	1.714	0.740	0.43	0.9516	0.7269	1.699	0.637	1.584	1.548
BOD	08155200	4.028	6	0.390	11.610	3.030	4.070	4.072	1.00	0.8433	0.1388	2.235	4.292	5.013	1.17	0.9643	0.8525	4.028	3.700	2.513	2.451
BOD	08155240	3.957	6	1.120	10.700	3.100	3.975	3.550	0.89	0.8026	0.0620	2.800	3.892	3.201	0.82	0.9535	0.7686	3.957	3.202	2.964	2.663
BOD	08155300	2.874	9	1.860	4.820	2.510	2.869	1.100	0.38	0.8410	0.0593	2.681	2.861	1.041	0.36	0.8713	0.1269	2.874	1.043	2.701	2.499
BOD	08156800	12.868	13	0.820	38.000	9.070	13.075	9.940	0.76	0.8862	0.0866	9.195	14.291	14.957	1.05	0.9049	0.1562	12.868	9.409	9.522	14.746
BOD	08158600	6.915	9	0.600	14.550	6.320	6.913	5.449	0.79	0.8881	0.1907	3.940	7.948	10.451	1.31	0.8651	0.1088	6.915	5.110	4.280	8.136
BOD	08158810	0.763	3	0.040	1.670	0.620	0.777	0.826	1.06	0.9730	0.6849	0.162	0.931	1.306	1.40	0.9317	0.4950	0.763	0.680	0.346	0.551
BOD	08158920	6.223	11	1.020	10.770	6.570	6.223	3.105	0.50	0.9508	0.6543	4.996	6.631	5.299	0.80	0.8186	0.0165	6.244	2.981	5.129	5.306
CL	08154700	36.625	3	30.920	42.900	35.870	36.563	6.020	0.16	0.9901	0.8092	36.074	36.562	5.975	0.16	0.9971	0.8975	36.625	4.852	36.236	38.699
CL	08156800	42.252	4	31.440	61.470	38.020	42.238	13.561	0.32	0.8709	0.3011	40.324	42.158	12.517	0.30	0.9127	0.4968	42.252	11.659	40.778	35.417
CL	08158600	59.006	3	29.100	110.000	33.340	57.480	45.533	0.79	0.7892	0.0890	43.295	56.282	38.683	0.69	0.8258	0.1778	59.006	37.657	47.433	32.141
CL	08158810	16.099	3	13.870	18.000	16.210	16.027	2.071	0.13	0.9941	0.8534	15.890	16.027	2.098	0.13	0.9873	0.7845	16.099	1.689	15.936	16.581
CL	08158920	20.488	4	6.610	40.000	16.930	20.118	15.050	0.75	0.9250	0.5652	14.711	20.124	15.449	0.77	0.9682	0.8304	20.488	13.200	15.968	12.562
COD	08155200	55.782	4	25.710	82.950	57.420	55.875	24.233	0.43	0.9942	0.9777	49.652	56.314	27.908	0.50	0.9426	0.6702	55.782	20.826	51.271	52.681
COD	08155240	39.452	5	14.240	61.320	44.670	39.738	19.197	0.48	0.9551	0.7738	33.898	40.374	23.796	0.59	0.9061	0.4445	39.452	17.245	35.133	56.961
COD	08155300	59.545	4	38.690	81.720	58.335	59.270	19.832	0.33	0.9396	0.6521	55.901	59.292	20.229	0.34	0.9418	0.6651	59.545	17.043	56.738	77.410
DP	08155200	0.011	5	0.005	0.030	0.007	0.012	0.010	0.90	0.6946	0.0084	0.009	0.011	0.008	0.69	0.8342	0.1494	0.012	0.009	0.009	0.010
DP	08155240	0.030	5	0.010	0.090	0.020	0.032	0.033	1.05	0.7508	0.0303	0.020	0.030	0.027	0.89	0.8934	0.3743	0.031	0.030	0.022	0.016
DP	08155300	0.027	4	0.005	0.060	0.020	0.026	0.025	0.95	0.9051	0.4567	0.015	0.026	0.027	1.02	0.9684	0.8313	0.027	0.022	0.017	0.015
FCOL	08154700	10116	8	750	23944	6342	10010	9310	0.93	0.8647	0.1337	5097	11217	15423	1.37	0.9237	0.4604	10116	8729	5667	11358
FCOL	08155200	10676	6	18	24944	9040	10676	8216	0.77	0.9207	0.5101	2042	38079	96885	2.54	0.6468	0.0016	10578	7468	3944	8469
FCOL	08155240	10837	6	5019	16554	11022	10806	3741	0.35	0.9522	0.7578	10058	10869	4295	0.40	0.8991	0.3684	10837	3356	10190	9820
FCOL	08155300	11610	9	4832	29465	11300	11759	7100	0.60	0.7264	0.0029	10279	11610	5846	0.50	0.9117	0.3280	11711	6561	10421	9908
FCOL	08156800	74470	13	8570	209354	40155	72172	66385	0.92	0.8557	0.0338	44211	74470	86331	1.16	0.9514	0.6200	71499	63287	46083	68290
FCOL	08158600	8537	8	160	21771	5454	8337	8991	1.08	0.8338	0.0651	2012	13065	30269	2.32	0.8487	0.0925	8537	8497	2651	18450
FCOL	08158810	3657	3	220	8594	2326	3713	4356	1.17	0.9239	0.4662	824	4138	5676	1.37	0.9734	0.6869	3657	3576	1639	2629
FCOL	08158920	23534	11	298	116045	10246	20658	32814	1.59	0.5901	0.0001	7606	23534	43768	1.86	0.9593	0.7633	20603	31356	8502	24921
FSTR	08154700	18824	8	733	40634	13308	18541	16305	0.88	0.8647	0.1337	9229	22507	33222	1.48	0.8981	0.2776	18824	15422	10416	24918
FSTR	08155200	26724	6	66	62693	24977	26724	20537	0.77	0.9173	0.4859	5909	82451	198720	2.41	0.6568	0.0021	26478	18491	10525	25967
FSTR	08155240	23240	6	15050	36143	22841	23258	7723	0.33	0.9280	0.5646	22046	23243	7576	0.33	0.9492	0.7340	23240	7014	22243	32141
FSTR	08155300	26320	9	7152	82964	17569	26907	25071	0.93	0.8073	0.0248	18330	26320	23710	0.90	0.9379	0.5603	26546	23182	19106	32769
FSTR	08156800	120574	13	1200	272654	89365	121123	90962	0.75	0.8590	0.0374	70164	177743	300765	1.69	0.7342	0.0012	120574	87088	75689	133149
FSTR	08158600	46637	8	260	161913	25302	44901	56635	1.26	0.8260	0.0540	5878	91622	272818	2.98	0.8738	0.1641	46637	54157	9062	126052
FSTR	08158810	7726	3	643	18104	4774	7840	9125	1.16	0.9153	0.4360	2222	8345	10796	1.29	0.9867	0.7792	7726	7488	3817	5603
FSTR	08158920	50694	11	544	156597	38555	50694	45475	0.90	0.8565	0.0518	25771	75317	135222	1.80	0.8091	0.0124	51097	43798	28632	53465

Table A.2 (continued) Summary of water quality data information from all sites in water year period 1986-1992, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
NH3	08154700	0.027	8	0.010	0.060	0.020	0.028	0.018	0.67	0.8486	0.0922	0.022	0.027	0.018	0.67	0.9116	0.3653	0.027	0.017	0.023	0.023
NH3	08155200	0.024	6	0.005	0.040	0.025	0.024	0.015	0.62	0.9027	0.3899	0.018	0.025	0.021	0.84	0.8835	0.2856	0.024	0.014	0.019	0.024
NH3	08155240	0.020	6	0.010	0.030	0.020	0.020	0.009	0.45	0.8532	0.1670	0.018	0.020	0.010	0.50	0.8341	0.1165	0.020	0.008	0.018	0.022
NH3	08155300	0.034	9	0.005	0.070	0.030	0.034	0.025	0.73	0.8892	0.1958	0.023	0.035	0.034	0.97	0.9165	0.3642	0.034	0.023	0.025	0.033
NH3	08156800	0.196	13	0.010	0.840	0.120	0.186	0.220	1.18	0.7076	0.0007	0.102	0.196	0.262	1.34	0.9729	0.9263	0.184	0.210	0.107	0.220
NH3	08158600	0.118	9	0.020	0.630	0.090	0.130	0.193	1.49	0.6001	0.0001	0.061	0.118	0.151	1.27	0.8732	0.1331	0.131	0.184	0.066	0.077
NH3	08158810	0.024	3	0.005	0.050	0.020	0.025	0.023	0.92	0.9643	0.6369	0.013	0.026	0.026	1.00	0.9863	0.7760	0.024	0.019	0.017	0.019
NH3	08158920	0.062	10	0.020	0.200	0.045	0.064	0.055	0.85	0.7539	0.0040	0.049	0.062	0.045	0.72	0.9392	0.5447	0.064	0.052	0.050	0.049
NO23	08154700	0.356	8	0.100	0.530	0.350	0.356	0.138	0.39	0.9364	0.5761	0.318	0.365	0.194	0.53	0.8094	0.0360	0.361	0.129	0.324	0.449
NO23	08155200	0.184	6	0.090	0.280	0.175	0.185	0.079	0.43	0.9194	0.5008	0.168	0.186	0.084	0.45	0.9370	0.6348	0.184	0.072	0.170	0.143
NO23	08155240	0.241	6	0.120	0.420	0.225	0.245	0.124	0.50	0.9053	0.4064	0.214	0.246	0.130	0.53	0.9019	0.3850	0.241	0.112	0.219	0.206
NO23	08155300	0.282	9	0.120	0.460	0.240	0.284	0.123	0.43	0.8585	0.0924	0.258	0.285	0.128	0.45	0.9007	0.2561	0.282	0.115	0.261	0.207
NO23	08156800	0.465	13	0.050	0.790	0.490	0.465	0.184	0.40	0.9604	0.7599	0.398	0.501	0.361	0.72	0.6950	0.0005	0.463	0.179	0.405	0.488
NO23	08158600	0.505	9	0.100	1.490	0.430	0.504	0.419	0.83	0.8191	0.0336	0.368	0.505	0.422	0.84	0.9803	0.9656	0.509	0.396	0.382	0.642
NO23	08158810	0.078	3	0.050	0.100	0.080	0.077	0.025	0.33	0.9868	0.7804	0.072	0.077	0.027	0.35	0.9594	0.6127	0.078	0.021	0.074	0.083
NO23	08158920	0.291	10	0.160	0.470	0.280	0.291	0.100	0.35	0.9554	0.7330	0.274	0.291	0.104	0.36	0.9680	0.8720	0.291	0.096	0.275	0.245
PB	08155200	21.567	4	4.350	83.250	7.660	25.730	38.378	1.49	0.6658	0.0043	9.629	21.567	25.392	1.18	0.7955	0.0943	24.996	32.790	12.073	8.928
PB	08155240	7.180	5	2.330	10.950	8.030	7.234	3.470	0.48	0.9563	0.7818	6.105	7.399	4.570	0.62	0.8815	0.3161	7.180	3.121	6.350	8.212
PB	08155300	7.208	3	2.360	10.100	9.050	7.170	4.199	0.59	0.8496	0.2394	5.360	7.381	5.541	0.75	0.8063	0.1296	7.208	3.435	5.997	8.992
SO4	08154700	49.734	3	46.260	56.030	46.950	49.747	5.452	0.11	0.8027	0.1209	49.461	49.743	5.296	0.11	0.8076	0.1327	49.734	4.435	49.555	51.346
SO4	08156800	74.428	4	60.070	104.520	66.885	74.590	20.246	0.27	0.7835	0.0757	72.236	74.469	18.317	0.25	0.8219	0.1476	74.428	17.464	72.791	66.224
SO4	08158600	59.109	3	42.770	86.000	46.120	58.297	24.050	0.41	0.8077	0.1331	54.010	58.103	21.877	0.38	0.8299	0.1881	59.109	19.883	55.357	45.010
SO4	08158810	32.420	3	28.290	38.000	30.900	32.397	5.025	0.16	0.9335	0.5017	32.023	32.392	4.892	0.15	0.9489	0.5646	32.420	4.065	32.146	31.863
SO4	08158920	29.383	4	15.530	56.000	21.975	28.870	18.797	0.65	0.8206	0.1445	24.045	28.492	16.322	0.57	0.8890	0.3787	29.383	16.540	25.115	20.503
TDS	08154700	287.754	8	234.340	376.340	289.660	288.284	45.907	0.16	0.9218	0.4449	284.820	288.219	44.474	0.15	0.9443	0.6537	287.754	43.133	285.243	274.776
TDS	08155200	189.179	6	138.680	259.390	184.655	189.133	39.288	0.21	0.8817	0.2768	185.305	189.066	37.939	0.20	0.9148	0.4684	189.179	35.805	185.928	180.713
TDS	08155240	214.649	5	193.520	227.790	220.280	214.610	14.176	0.07	0.9047	0.4364	214.128	214.615	14.473	0.07	0.8976	0.3965	214.649	12.519	214.225	198.993
TDS	08155300	195.153	10	132.170	267.180	181.190	195.133	39.773	0.20	0.9522	0.6941	191.133	195.142	39.926	0.20	0.9614	0.8023	195.153	37.430	191.531	178.268
TDS	08156800	191.954	12	84.300	402.280	178.925	191.612	84.900	0.44	0.9019	0.1677	175.312	191.257	81.489	0.43	0.9892	0.9996	191.954	82.199	176.596	167.056
TDS	08158600	258.282	8	146.880	381.790	227.395	260.459	96.404	0.37	0.8661	0.1380	242.899	260.480	98.311	0.38	0.9012	0.2963	258.282	90.613	245.044	162.821
TDS	08158810	292.309	3	274.070	310.900	290.670	291.880	18.445	0.06	0.9968	0.8914	291.299	291.879	18.406	0.06	0.9985	0.9259	292.309	15.255	291.493	297.609
TDS	08158920	165.467	10	92.760	358.470	140.530	166.867	82.365	0.49	0.8202	0.0255	151.287	165.467	71.284	0.43	0.9280	0.4285	167.687	78.745	152.659	174.116
TKN	08154700	0.581	8	0.280	0.920	0.530	0.579	0.250	0.43	0.9151	0.3914	0.523	0.580	0.269	0.46	0.9254	0.4754	0.581	0.237	0.530	0.675
TKN	08155200	0.798	6	0.090	1.760	0.685	0.795	0.598	0.75	0.9617	0.8325	0.514	0.866	0.901	1.04	0.9249	0.5410	0.798	0.543	0.564	0.913
TKN	08155240	0.691	6	0.350	1.280	0.475	0.698	0.429	0.61	0.7622	0.0262	0.586	0.691	0.400	0.58	0.8146	0.0791	0.693	0.388	0.603	1.010
TKN	08155300	0.826	9	0.400	1.890	0.680	0.834	0.471	0.56	0.8322	0.0472	0.733	0.826	0.412	0.50	0.9472	0.6589	0.830	0.439	0.743	1.080
TKN	08156800	2.187	13	0.390	5.970	1.400	2.173	1.811	0.83	0.8575	0.0357	1.512	2.187	2.059	0.94	0.9598	0.7502	2.167	1.736	1.557	2.257
TKN	08158600	0.916	9	0.190	2.530	0.800	0.914	0.786	0.86	0.8593	0.0943	0.615	0.929	0.901	0.97	0.9370	0.5506	0.916	0.743	0.645	1.009
TKN	08158810	0.278	3	0.090	0.400	0.360	0.283	0.169	0.60	0.8450	0.2271	0.209	0.292	0.225	0.77	0.8027	0.1209	0.278	0.140	0.235	0.226
TKN	08158920	1.295	10	0.300	2.730	1.325	1.299	0.696	0.54	0.9506	0.6761	1.088	1.331	0.877	0.66	0.9303	0.4504	1.295	0.664	1.111	1.388

Table A.2 (continued) Summary of water quality data information from all sites in water year period 1986-1992, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TN	08154700	0.947	8	0.580	1.450	0.870	0.940	0.309	0.33	0.9353	0.5655	0.892	0.939	0.305	0.32	0.9662	0.8665	0.947	0.292	0.898	1.129
TN	08155200	0.987	6	0.370	1.960	0.860	0.985	0.565	0.57	0.9303	0.5821	0.835	0.986	0.572	0.58	0.9914	0.9923	0.987	0.512	0.859	1.056
TN	08155240	0.938	6	0.470	1.640	0.745	0.947	0.470	0.50	0.8658	0.2098	0.841	0.944	0.456	0.48	0.9198	0.5041	0.938	0.428	0.857	1.218
TN	08155300	1.118	9	0.650	2.350	1.040	1.126	0.540	0.48	0.8286	0.0431	1.023	1.118	0.477	0.43	0.9149	0.3521	1.119	0.504	1.033	1.296
TN	08156800	2.635	13	0.450	6.560	2.050	2.644	1.931	0.73	0.8808	0.0731	1.993	2.680	2.220	0.83	0.9671	0.8573	2.635	1.855	2.040	2.751
TN	08158600	1.430	9	0.300	4.020	1.190	1.423	1.147	0.81	0.8473	0.0696	1.037	1.434	1.216	0.85	0.9628	0.8268	1.430	1.085	1.076	1.658
TN	08158810	0.359	3	0.200	0.480	0.410	0.363	0.146	0.40	0.9231	0.4633	0.328	0.365	0.166	0.45	0.8799	0.3241	0.359	0.121	0.340	0.315
TN	08158920	1.592	10	0.770	3.120	1.600	1.596	0.684	0.43	0.8807	0.1329	1.457	1.598	0.699	0.44	0.9109	0.2872	1.592	0.653	1.471	1.638
TOC	08154700	7.382	8	4.310	13.630	6.925	7.340	3.255	0.44	0.8635	0.1301	6.718	7.312	3.045	0.42	0.9127	0.3733	7.382	3.057	6.790	8.190
TOC	08155200	15.465	6	1.200	28.700	16.610	15.518	10.079	0.65	0.9832	0.9665	9.575	18.328	21.356	1.17	0.8243	0.0960	15.465	9.141	10.758	15.663
TOC	08155240	14.061	6	4.360	21.310	15.430	14.030	6.495	0.46	0.9466	0.7128	11.993	14.349	8.661	0.60	0.8757	0.2500	14.061	5.939	12.365	18.005
TOC	08155300	14.333	9	3.880	26.160	18.010	14.312	8.445	0.59	0.8873	0.1873	11.226	14.733	11.351	0.77	0.8500	0.0745	14.333	7.992	11.579	23.971
TOC	08156800	29.711	12	4.420	72.400	30.020	30.183	19.592	0.65	0.9365	0.4543	23.014	31.505	26.853	0.85	0.9417	0.5201	29.711	18.681	23.638	33.384
TOC	08158600	12.899	9	2.600	25.440	10.140	12.804	9.166	0.72	0.8804	0.1587	9.050	13.322	12.451	0.93	0.8914	0.2064	12.899	8.686	9.461	21.553
TOC	08158810	3.378	3	1.940	5.800	2.450	3.397	2.097	0.62	0.8471	0.2328	2.856	3.365	1.865	0.55	0.9011	0.3891	3.378	1.715	3.021	2.937
TOC	08158920	16.496	11	4.110	31.350	17.960	16.569	7.559	0.46	0.9731	0.9163	14.404	16.974	10.078	0.59	0.8978	0.1736	16.496	7.245	14.623	15.449
TP	08154700	0.056	8	0.020	0.110	0.050	0.055	0.034	0.62	0.8697	0.1497	0.044	0.055	0.039	0.70	0.8651	0.1349	0.056	0.032	0.045	0.074
TP	08155200	0.103	6	0.005	0.180	0.115	0.103	0.069	0.67	0.9434	0.6864	0.055	0.132	0.178	1.35	0.7909	0.0486	0.102	0.062	0.065	0.107
TP	08155240	0.114	6	0.050	0.240	0.095	0.115	0.077	0.67	0.8638	0.2024	0.092	0.115	0.077	0.67	0.8698	0.2254	0.114	0.070	0.095	0.133
TP	08155300	0.095	9	0.020	0.260	0.060	0.096	0.077	0.81	0.8651	0.1090	0.069	0.096	0.081	0.85	0.9839	0.9812	0.095	0.072	0.072	0.142
TP	08156800	0.671	13	0.030	3.180	0.350	0.652	0.825	1.26	0.6650	0.0003	0.352	0.671	0.888	1.32	0.9729	0.9264	0.649	0.783	0.371	0.727
TP	08158600	0.371	9	0.020	1.120	0.240	0.371	0.370	1.00	0.8746	0.1376	0.183	0.422	0.616	1.46	0.9469	0.6563	0.371	0.347	0.202	0.456
TP	08158810	0.027	3	0.005	0.060	0.020	0.028	0.028	1.00	0.9356	0.5098	0.014	0.029	0.031	1.06	0.9956	0.8725	0.027	0.023	0.018	0.022
TP	08158920	0.300	10	0.040	0.790	0.230	0.301	0.235	0.78	0.8881	0.1614	0.214	0.312	0.291	0.93	0.9735	0.9212	0.300	0.224	0.222	0.246
TSS	08154700	124.047	8	12.190	330.820	100.265	123.864	105.063	0.85	0.8949	0.2599	78.209	132.196	144.350	1.09	0.9480	0.6907	124.047	98.185	83.791	123.284
TSS	08155200	355.765	6	0.500	706.650	378.715	355.765	259.656	0.73	0.9820	0.9612	61.363	1345.764	3521.378	2.62	0.6747	0.0033	354.798	236.038	124.197	346.409
TSS	08155240	291.225	6	3.090	512.670	389.135	291.225	216.587	0.74	0.8159	0.0813	83.717	538.608	1083.467	2.01	0.7454	0.0180	293.509	198.429	122.264	408.436
TSS	08155300	432.399	8	58.290	715.280	496.365	432.399	220.051	0.51	0.9543	0.7548	336.129	468.908	399.130	0.85	0.8040	0.0316	433.920	207.079	350.882	654.924
TSS	08156800	1460.366	11	3.000	3497.990	1591.690	1460.366	1139.583	0.78	0.9440	0.5689	544.942	3591.303	9686.245	2.70	0.7422	0.0016	1434.976	1087.694	662.396	1703.810
TSS	08158600	638.760	9	3.000	1821.120	552.240	638.760	657.031	1.03	0.8891	0.1955	84.759	1852.253	6492.551	3.51	0.7899	0.0157	648.358	621.029	130.771	1127.663
TSS	08158810	6.930	3	1.000	14.970	4.720	6.897	7.235	1.05	0.9321	0.4966	2.958	7.093	7.991	1.13	0.9929	0.8384	6.930	5.853	4.134	6.122
TSS	08158920	274.300	9	6.200	622.480	215.120	274.300	214.858	0.78	0.9224	0.4126	146.958	373.431	582.672	1.56	0.8291	0.0436	269.367	202.699	164.389	302.251
VSS	08154700	23.344	8	5.960	43.870	20.185	23.165	12.585	0.54	0.9257	0.4782	19.487	23.563	14.890	0.63	0.9322	0.5360	23.344	11.880	19.964	27.784
VSS	08155200	42.048	6	0.500	107.660	30.735	42.750	41.018	0.96	0.9176	0.4883	13.393	70.399	133.402	1.89	0.8537	0.1686	42.048	37.267	18.647	26.132
VSS	08155240	28.464	6	2.990	49.570	30.440	28.723	21.104	0.73	0.8249	0.0973	17.552	31.819	35.439	1.11	0.8495	0.1560	28.464	19.176	19.518	41.460
VSS	08155300	51.697	8	18.960	110.170	52.150	52.238	30.700	0.59	0.9092	0.3488	43.507	52.447	32.863	0.63	0.9360	0.5719	51.697	28.359	44.554	56.439
VSS	08156800	374.754	11	2.730	923.840	148.000	254.281	262.479	1.03	0.8214	0.0180	111.802	374.754	730.681	1.95	0.8761	0.0927	251.001	250.098	126.035	304.475
VSS	08158600	103.717	9	2.760	211.440	50.630	76.003	80.843	1.06	0.8291	0.0436	24.338	103.717	214.010	2.06	0.8368	0.0532	76.727	76.681	29.179	79.569
VSS	08158810	3.617	3	0.500	5.440	4.710	3.550	2.666	0.75	0.8581	0.2623	1.692	3.960	4.417	1.12	0.7951	0.1029	3.617	2.145	2.340	3.841
VSS	08158920	51.706	9	3.090	142.720	42.320	52.296	39.972	0.76	0.8832	0.1697	34.616	59.930	68.281	1.14	0.8559	0.0865	51.706	37.614	36.901	57.972

Table A.3 Summary of water quality data information from all sites in water year period 1993-1996, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
AG	08157000	2.540	8	0.500	8.000	2.500	2.563	2.352	0.92	0.7187	0.0037	1.798	2.540	2.206	0.87	0.9104	0.3571	2.571	1.977	1.880	2.448
BOD	08154700	5.940	5	2.190	9.750	6.060	5.902	2.968	0.50	0.9880	0.9722	5.037	5.972	3.473	0.58	0.9556	0.7770	5.940	2.663	5.216	4.410
BOD	08155200	1.672	10	0.090	4.070	1.100	1.679	1.367	0.81	0.8503	0.0586	1.069	1.899	2.257	1.19	0.8766	0.1192	1.672	1.288	1.136	1.463
BOD	08155240	1.010	9	0.190	3.140	0.780	1.017	0.894	0.88	0.7883	0.0150	0.732	1.010	0.853	0.84	0.9822	0.9745	1.016	0.838	0.760	1.156
BOD	08155300	1.922	6	0.270	4.420	1.365	1.957	1.619	0.83	0.8991	0.3689	1.252	2.046	2.064	1.01	0.9559	0.7876	1.922	1.461	1.365	2.029
BOD	08156800	18.213	3	4.100	41.520	6.910	17.510	20.841	1.19	0.8060	0.1289	8.117	16.419	17.076	1.04	0.9087	0.4137	18.213	17.230	10.556	5.754
BOD	08157000	13.170	33	2.000	74.500	10.850	13.320	12.700	0.95	0.6067	0.0001	10.160	13.170	10.520	0.80	0.9441	0.0893	13.270	11.570	10.240	13.310
BOD	08157500	14.525	26	6.100	35.080	13.075	14.567	7.674	0.53	0.8859	0.0077	12.832	14.525	7.574	0.52	0.9619	0.4307	14.602	7.563	12.894	13.370
BOD	08158050	8.933	4	6.950	10.020	9.375	8.930	1.355	0.15	0.8173	0.1371	8.815	8.934	1.460	0.16	0.7932	0.0905	8.933	1.164	8.845	9.124
BOD	08158600	11.063	8	4.110	33.730	9.595	11.373	9.394	0.83	0.6513	0.0006	8.972	11.063	7.361	0.67	0.8352	0.0673	11.562	8.866	9.215	6.325
BOD	08158922	7.304	4	1.680	14.400	6.255	7.148	5.330	0.75	0.9490	0.7097	4.992	7.333	6.195	0.84	0.9621	0.7921	7.304	4.662	5.526	5.650
BOD	FBU	2.698	7	1.470	6.000	2.200	2.729	1.627	0.60	0.8004	0.0413	2.353	2.698	1.429	0.53	0.8754	0.2067	2.721	1.509	2.400	2.433
CD	08154700	0.611	5	0.500	0.860	0.500	0.612	0.163	0.27	0.7736	0.0485	0.592	0.611	0.153	0.25	0.7714	0.0464	0.611	0.144	0.596	0.703
CD	08155200	0.505	8	0.500	0.540	0.500	0.505	0.014	0.03	0.4184	0.0001	0.505	0.505	0.014	0.03	0.4184	0.0001	0.505	0.013	0.505	0.503
CD	08155240	0.864	4	0.500	1.880	0.500	0.845	0.690	0.82	0.6298	0.0012	0.659	0.817	0.524	0.64	0.6298	0.0012	0.864	0.608	0.696	0.971
CD	08157000	0.797	14	0.244	3.647	0.529	0.843	0.910	1.08	0.6570	0.0001	0.584	0.797	0.683	0.86	0.9094	0.1542	0.842	0.809	0.597	1.070
CD	08157500	0.675	12	0.150	1.890	0.500	0.683	0.539	0.79	0.8057	0.0109	0.521	0.675	0.518	0.77	0.9600	0.7844	0.674	0.513	0.532	0.684
CD	FBU	1.522	8	0.150	11.400	0.455	1.999	3.854	1.93	0.5495	0.0001	0.564	1.522	2.393	1.57	0.8962	0.2670	1.983	3.607	0.647	1.730
COD	08154700	97.570	5	30.940	184.990	88.470	95.836	56.076	0.59	0.9182	0.5182	79.093	96.856	61.418	0.63	0.9405	0.6698	97.570	50.613	82.454	159.911
COD	08155200	24.202	10	5.000	82.820	17.595	25.100	25.723	1.02	0.7385	0.0026	16.350	24.202	23.048	0.95	0.9381	0.5323	25.061	24.479	17.026	20.814
COD	08155240	16.836	9	5.000	63.690	11.780	17.560	18.385	1.05	0.6884	0.0010	11.844	16.836	14.932	0.89	0.8973	0.2366	17.485	17.214	12.331	20.613
COD	08155300	27.288	6	11.980	66.560	19.065	27.622	21.142	0.77	0.8014	0.0605	21.654	27.028	18.167	0.67	0.9023	0.3880	27.288	19.091	22.491	36.575
COD	08157000	83.770	39	3.770	199.000	79.000	83.770	50.650	0.60	0.9667	0.2965	62.060	95.850	107.230	1.12	0.8526	0.0001	83.870	49.750	62.770	101.950
COD	08157500	98.695	27	34.000	254.630	78.630	98.784	57.113	0.58	0.8939	0.0097	84.091	98.695	59.326	0.60	0.9533	0.2581	98.867	55.912	84.594	117.978
COD	08158050	89.240	4	49.270	107.780	99.955	89.240	27.526	0.31	0.7980	0.0986	83.771	89.726	33.028	0.37	0.7607	0.0484	88.474	24.219	85.237	83.746
COD	08158600	91.215	8	33.390	187.410	81.990	90.264	44.519	0.49	0.8550	0.1070	80.555	90.365	43.995	0.49	0.9352	0.5650	91.215	41.795	81.733	80.170
COD	08158922	49.411	4	23.220	64.990	53.855	48.980	19.236	0.39	0.8948	0.4057	44.182	49.409	23.109	0.47	0.8513	0.2305	49.411	16.550	45.456	42.808
COD	FBU	48.569	9	2.830	149.990	17.340	46.316	52.097	1.12	0.8158	0.0309	21.105	48.569	70.773	1.46	0.9564	0.7601	45.568	48.685	23.310	42.155
CU	08157000	15.770	22	3.400	36.830	13.870	15.780	10.380	0.66	0.8963	0.0251	12.070	16.200	13.780	0.85	0.8900	0.0188	15.770	10.020	12.230	18.300
CU	08157500	39.711	14	8.060	185.000	26.225	41.363	46.488	1.12	0.6911	0.0003	26.573	39.711	39.557	1.00	0.9622	0.7598	41.110	44.311	27.366	25.646
CU	FBU	10.031	8	3.260	23.270	7.770	10.100	7.020	0.70	0.8958	0.2650	7.901	10.094	7.294	0.72	0.9542	0.7533	10.031	6.568	8.152	10.267
DP	08154700	0.046	5	0.030	0.060	0.050	0.046	0.011	0.25	0.9609	0.8140	0.044	0.046	0.012	0.27	0.9352	0.6321	0.046	0.010	0.045	0.056
DP	08155200	0.029	10	0.005	0.080	0.015	0.029	0.031	1.06	0.7496	0.0035	0.016	0.029	0.036	1.24	0.8614	0.0792	0.029	0.030	0.017	0.026
DP	08155240	0.028	9	0.005	0.080	0.020	0.028	0.028	0.99	0.7398	0.0041	0.017	0.028	0.029	1.04	0.8905	0.2020	0.027	0.026	0.018	0.025
DP	08155300	0.038	6	0.005	0.110	0.030	0.039	0.040	1.03	0.8307	0.1090	0.020	0.040	0.047	1.18	0.8966	0.3540	0.038	0.036	0.023	0.032
DP	08156800	0.183	4	0.080	0.460	0.095	0.183	0.186	1.02	0.6859	0.0079	0.123	0.172	0.137	0.80	0.7529	0.0411	0.183	0.160	0.134	0.093
DP	08157000	0.238	31	0.057	0.657	0.217	0.237	0.147	0.62	0.9019	0.0080	0.196	0.238	0.160	0.67	0.9854	0.9378	0.235	0.142	0.198	0.250
DP	08157500	0.272	24	0.070	0.830	0.235	0.271	0.186	0.69	0.8594	0.0033	0.219	0.272	0.193	0.71	0.9788	0.8736	0.271	0.183	0.221	0.249
DP	08158050	0.103	4	0.060	0.150	0.100	0.103	0.040	0.39	0.9627	0.7960	0.094	0.103	0.041	0.40	0.9662	0.8181	0.103	0.035	0.096	0.097
DP	08158600	0.104	8	0.030	0.250	0.070	0.105	0.082	0.78	0.8262	0.0541	0.078	0.105	0.084	0.81	0.9077	0.3383	0.104	0.077	0.081	0.082
DP	08158922	0.121	4	0.050	0.200	0.115	0.120	0.063	0.52	0.9899	0.9571	0.102	0.121	0.068	0.57	0.9805	0.9050	0.121	0.054	0.107	0.115
DP	FBU	0.062	7	0.010	0.170	0.030	0.063	0.063	1.00	0.8504	0.1240	0.034	0.064	0.077	1.19	0.9038	0.3546	0.062	0.058	0.037	0.064

Table A.3 (continued) Summary of water quality data information from all sites in water year period 1993-1996, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
ECOLI	08157500	36108	19	1898	205384	23706	34784	44051	1.27	0.5710	0.0001	20729	36108	45388	1.26	0.9293	0.1679	35428	43798	21360	39244
ECOLI	FBU	6300	4	175	18292	3245	6239	8395	1.35	0.8300	0.1679	1089	6970	11444	1.64	0.9747	0.8703	6300	7232	1979	3623
FCOL	08154700	34319	5	19979	53672	26686	33796	14581	0.43	0.8815	0.3160	30869	33727	14171	0.42	0.9107	0.4718	34319	13136	31427	47393
FCOL	08155200	10032	10	20	27547	7021	10032	9410	0.94	0.8892	0.1660	3209	23230	62192	2.68	0.7875	0.0102	10034	8837	4036	9606
FCOL	08155240	8721	9	21	21570	2078	5319	7217	1.36	0.7717	0.0097	1122	8721	22742	2.61	0.9532	0.7257	5260	6758	1467	6878
FCOL	08155300	13889	6	1727	44747	9347	14265	16184	1.13	0.8125	0.0759	6933	14507	18063	1.25	0.9526	0.7616	13889	14591	7926	10833
FCOL	08156800	47763	4	27473	80847	40102	47131	24218	0.51	0.8841	0.3563	41751	46888	22329	0.48	0.9354	0.6268	47763	21283	43001	48251
FCOL	08157000	86732	24	507	240000	36150	55700	63546	1.14	0.7944	0.0002	21844	86732	232596	2.68	0.9171	0.0504	54971	60215	23204	66129
FCOL	08157500	87297	19	3692	535639	54007	83765	115518	1.38	0.5429	0.0001	46736	87297	118947	1.36	0.9293	0.1679	85444	114909	48345	94524
FCOL	08158050	99137	4	38981	215352	74811	100989	78332	0.78	0.8315	0.1718	77434	99239	68222	0.69	0.9578	0.7651	99137	67244	82580	106513
FCOL	08158600	60217	8	3942	214792	36996	57455	69439	1.21	0.7666	0.0124	26831	60217	83980	1.39	0.9839	0.9797	59014	65660	29918	45799
FCOL	08158922	75173	4	16284	142673	69285	74382	54153	0.73	0.9856	0.9337	50716	77136	67828	0.88	0.9595	0.7760	75173	46514	56695	70037
FCOL	FBU	13778	4	293	41000	6658	13652	18938	1.39	0.8181	0.1388	1940	15521	26540	1.71	0.9747	0.8703	13778	16318	3859	7805
FSTR	08154700	57854	5	39441	85313	57500	58021	17786	0.31	0.9433	0.6893	55468	57976	17227	0.30	0.9755	0.9092	57854	15963	55964	44676
FSTR	08155200	16483	10	20	48477	12179	16483	16107	0.98	0.8670	0.0923	5152	44947	128690	2.86	0.7464	0.0032	16263	15108	6641	11566
FSTR	08155240	9141	9	20	20969	3828	5080	6512	1.28	0.7444	0.0047	1352	9141	22707	2.48	0.8967	0.2337	5048	6099	1732	6988
FSTR	08155300	17500	6	3215	46853	15282	17750	15415	0.87	0.8373	0.1237	12087	17971	16252	0.90	0.9748	0.9231	17500	13851	12953	14194
FSTR	08156800	115500	4	51393	179470	112196	113814	69085	0.61	0.7907	0.0866	91429	114215	74543	0.65	0.7913	0.0874	115500	59888	96840	65049
FSTR	08157000	83513	24	140	470000	52696	83634	99100	1.18	0.7194	0.0001	31945	162579	513862	3.16	0.8685	0.0049	83513	92292	34327	87455
FSTR	08157500	92579	20	9091	211286	78923	91710	60111	0.66	0.9119	0.0691	71059	95651	81392	0.85	0.9426	0.2688	92579	58733	72137	123633
FSTR	08158050	207012	4	145025	368213	161329	208974	106934	0.51	0.7239	0.0213	188179	207012	89564	0.43	0.7688	0.0570	208576	92648	192786	183920
FSTR	08158600	96320	8	26321	158292	95404	94962	50459	0.53	0.9299	0.5151	78340	97255	65800	0.68	0.9018	0.2999	96320	47097	80532	81089
FSTR	08158922	155672	4	38819	335892	122367	154861	133451	0.86	0.9136	0.5015	100516	155180	138668	0.89	0.9781	0.8906	155672	114512	112842	120239
FSTR	FBU	20632	4	1917	38455	20195	20190	15091	0.75	0.9928	0.9712	10419	23565	27887	1.18	0.8459	0.2132	20632	13117	13104	15718
NH3	08154700	0.056	5	0.030	0.100	0.060	0.056	0.029	0.51	0.8707	0.2693	0.049	0.056	0.029	0.51	0.8760	0.2916	0.056	0.026	0.050	0.060
NH3	08155200	0.012	10	0.008	0.030	0.010	0.012	0.007	0.59	0.6584	0.0003	0.011	0.012	0.006	0.46	0.7525	0.0038	0.012	0.007	0.011	0.011
NH3	08155240	0.018	9	0.008	0.040	0.010	0.018	0.012	0.68	0.8213	0.0357	0.014	0.018	0.013	0.70	0.8403	0.0582	0.018	0.012	0.015	0.015
NH3	08155300	0.023	6	0.008	0.090	0.015	0.026	0.032	1.24	0.6458	0.0016	0.015	0.023	0.022	0.94	0.8415	0.1341	0.025	0.029	0.017	0.016
NH3	08156800	0.074	4	0.010	0.130	0.075	0.073	0.049	0.68	0.9730	0.8601	0.044	0.081	0.084	1.04	0.8316	0.1719	0.074	0.043	0.052	0.070
NH3	08157000	0.210	31	0.030	0.610	0.170	0.200	0.150	0.73	0.8853	0.0032	0.150	0.210	0.180	0.88	0.9672	0.4459	0.200	0.150	0.150	0.240
NH3	08157500	0.240	27	0.030	0.910	0.230	0.237	0.187	0.79	0.8167	0.0003	0.180	0.240	0.204	0.85	0.9842	0.9426	0.238	0.184	0.182	0.214
NH3	08158050	0.175	4	0.050	0.320	0.170	0.178	0.115	0.65	0.9918	0.9666	0.133	0.182	0.139	0.76	0.9624	0.7940	0.175	0.101	0.145	0.151
NH3	08158600	0.126	8	0.008	0.350	0.085	0.115	0.107	0.93	0.8153	0.0417	0.069	0.126	0.148	1.17	0.9104	0.3569	0.114	0.101	0.075	0.113
NH3	08158922	0.049	4	0.010	0.170	0.020	0.055	0.077	1.40	0.7170	0.0180	0.021	0.049	0.058	1.19	0.8449	0.2101	0.055	0.067	0.027	0.060
NH3	FBU	0.059	9	0.020	0.150	0.040	0.060	0.051	0.85	0.7991	0.0199	0.042	0.059	0.052	0.88	0.8323	0.0474	0.059	0.048	0.044	0.068
NO23	08154700	0.470	5	0.330	0.690	0.450	0.466	0.137	0.29	0.8948	0.3821	0.448	0.465	0.127	0.27	0.9512	0.7459	0.470	0.124	0.452	0.630
NO23	08155200	0.125	10	0.020	0.540	0.100	0.128	0.154	1.20	0.6744	0.0004	0.074	0.125	0.140	1.12	0.9366	0.5162	0.127	0.145	0.078	0.104
NO23	08155240	0.143	9	0.020	0.400	0.120	0.143	0.111	0.77	0.8550	0.0846	0.105	0.148	0.130	0.88	0.9596	0.7944	0.143	0.104	0.109	0.179
NO23	08155300	0.286	6	0.120	0.520	0.210	0.290	0.170	0.59	0.8133	0.0771	0.245	0.289	0.167	0.58	0.8876	0.3060	0.286	0.154	0.252	0.306
NO23	08156800	0.544	4	0.340	0.820	0.500	0.540	0.207	0.38	0.9503	0.7177	0.503	0.539	0.200	0.37	0.9900	0.9577	0.544	0.182	0.512	0.458
NO23	08157000	0.780	39	0.090	2.780	0.660	0.770	0.530	0.69	0.8244	0.0001	0.620	0.780	0.570	0.73	0.9734	0.4755	0.770	0.510	0.630	0.690
NO23	08157500	0.798	28	0.370	2.490	0.680	0.806	0.425	0.53	0.7656	0.0001	0.729	0.798	0.351	0.44	0.9538	0.2471	0.808	0.422	0.731	0.638

Table A.3 (continued) Summary of water quality data information from all sites in water year period 1993-1996, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
NO23	08158050	0.464	4	0.320	0.660	0.445	0.468	0.161	0.34	0.9036	0.4493	0.440	0.467	0.160	0.34	0.9036	0.4490	0.464	0.139	0.447	0.463
NO23	08158600	0.456	8	0.250	0.630	0.475	0.458	0.119	0.26	0.9630	0.8383	0.440	0.459	0.133	0.29	0.9186	0.4182	0.456	0.113	0.442	0.405
NO23	08158922	0.357	4	0.120	0.570	0.370	0.358	0.193	0.54	0.9903	0.9591	0.291	0.365	0.241	0.66	0.9225	0.5513	0.357	0.166	0.308	0.401
NO23	FBU	0.419	9	0.040	1.130	0.350	0.424	0.334	0.79	0.9148	0.3507	0.267	0.476	0.557	1.17	0.8914	0.2063	0.419	0.315	0.286	0.404
PB	08154700	15.454	5	7.070	37.850	11.280	15.920	12.419	0.78	0.6951	0.0085	12.766	15.454	9.520	0.62	0.8294	0.1376	16.248	11.308	13.276	31.749
PB	08155200	3.292	10	0.500	10.980	1.545	3.485	4.057	1.16	0.6973	0.0008	1.920	3.292	3.768	1.14	0.9061	0.2553	3.457	3.829	2.031	3.123
PB	08155240	2.363	9	0.500	7.150	0.620	2.356	2.685	1.14	0.7260	0.0029	1.167	2.239	2.817	1.26	0.7534	0.0059	2.363	2.529	1.260	3.481
PB	08155300	6.914	6	0.850	17.000	4.485	7.063	7.051	1.00	0.8434	0.1391	3.424	7.408	9.439	1.27	0.9047	0.4027	6.914	6.369	3.940	7.666
PB	08156800	47.426	3	23.700	68.260	49.020	46.993	22.349	0.48	0.9938	0.8499	40.892	47.260	24.688	0.52	0.9554	0.5938	47.426	18.439	42.963	48.983
PB	08157000	80.280	22	2.150	788.000	41.000	79.930	162.920	2.04	0.4257	0.0001	30.040	80.280	156.780	1.95	0.9506	0.3242	78.580	134.440	31.470	171.840
PB	08157500	60.334	13	5.290	132.690	58.690	60.156	42.344	0.70	0.9339	0.3827	40.807	66.011	72.818	1.10	0.9095	0.1806	60.334	40.572	42.394	72.093
PB	FBU	9.734	8	0.500	25.880	6.445	9.550	9.780	1.02	0.8600	0.1200	4.115	11.024	17.258	1.57	0.9287	0.5039	9.734	9.278	4.709	6.990
TDS	08154700	185.944	5	112.910	254.130	188.760	187.330	50.069	0.27	0.8940	0.3778	179.834	187.722	54.965	0.29	0.8565	0.2160	185.944	45.027	181.394	132.385
TDS	08155200	227.840	10	110.760	286.890	240.920	227.840	56.085	0.25	0.9103	0.2830	219.171	228.865	67.914	0.30	0.8395	0.0436	228.882	52.752	220.125	245.966
TDS	08155240	279.518	9	184.350	324.720	290.380	279.518	51.769	0.19	0.8354	0.0513	274.014	279.867	57.749	0.21	0.8079	0.0251	279.350	48.881	274.659	256.763
TDS	08155300	207.426	5	61.890	280.030	244.760	207.426	89.321	0.43	0.8529	0.2040	176.308	214.081	132.901	0.62	0.7550	0.0331	208.934	78.778	183.472	240.535
TDS	08156800	160.115	4	103.840	240.360	149.140	160.620	58.642	0.37	0.9486	0.7077	150.694	160.417	56.375	0.35	0.9895	0.9549	160.115	50.059	153.091	113.578
TDS	08157000	156.050	8	70.000	316.000	124.000	157.380	86.640	0.55	0.7948	0.0252	138.140	156.050	78.340	0.50	0.8878	0.2234	158.600	77.200	140.290	118.410
TDS	08158050	92.683	4	86.550	96.760	93.600	92.628	4.345	0.05	0.9202	0.5379	92.523	92.628	4.412	0.05	0.9119	0.4928	92.683	3.713	92.549	91.636
TDS	08158600	155.864	8	90.480	239.060	156.350	156.140	54.461	0.35	0.9305	0.5207	146.504	156.327	56.818	0.36	0.9289	0.5061	155.864	50.088	147.705	104.852
TDS	08158922	104.778	4	52.840	222.510	74.950	106.313	78.339	0.74	0.7659	0.0538	85.598	103.947	63.556	0.61	0.8705	0.2996	104.778	66.974	89.984	125.130
TKN	08154700	1.225	5	0.450	2.070	1.020	1.206	0.658	0.55	0.9547	0.7708	1.015	1.215	0.727	0.60	0.9654	0.8452	1.225	0.595	1.053	1.821
TKN	08155200	0.461	10	0.090	1.730	0.290	0.472	0.515	1.09	0.7562	0.0042	0.284	0.461	0.496	1.08	0.9352	0.5013	0.474	0.492	0.298	0.442
TKN	08155240	0.370	9	0.090	1.600	0.310	0.392	0.473	1.21	0.6483	0.0004	0.237	0.370	0.374	1.01	0.8920	0.2093	0.390	0.443	0.250	0.504
TKN	08155300	0.457	6	0.100	0.970	0.320	0.463	0.347	0.75	0.8589	0.1855	0.336	0.470	0.390	0.83	0.9303	0.5825	0.457	0.314	0.356	0.544
TKN	08156800	2.574	3	1.440	4.200	1.950	2.530	1.469	0.58	0.8830	0.3333	2.162	2.513	1.337	0.53	0.9410	0.5316	2.574	1.217	2.276	2.027
TKN	08157000	2.340	39	0.260	5.840	2.420	2.340	1.380	0.59	0.9655	0.2706	1.830	2.490	2.230	0.90	0.9127	0.0052	2.330	1.340	1.840	2.690
TKN	08157500	2.482	27	0.560	6.650	2.600	2.479	1.553	0.63	0.9000	0.0134	1.973	2.529	1.958	0.77	0.9106	0.0236	2.482	1.520	1.991	3.136
TKN	08158050	1.167	4	0.620	1.890	1.065	1.160	0.604	0.52	0.8971	0.4166	1.005	1.159	0.610	0.53	0.8958	0.4107	1.167	0.519	1.043	1.164
TKN	08158600	1.185	8	0.190	3.290	0.840	1.153	1.086	0.94	0.8609	0.1225	0.705	1.170	1.252	1.07	0.9587	0.7979	1.185	1.027	0.753	0.833
TKN	08158922	1.353	4	0.490	1.820	1.530	1.343	0.587	0.44	0.8490	0.2230	1.147	1.373	0.809	0.59	0.7667	0.0546	1.353	0.502	1.201	1.172
TKN	FBU	0.959	9	0.070	4.150	0.430	0.974	1.276	1.31	0.7002	0.0014	0.471	0.959	1.270	1.32	0.9877	0.9921	0.958	1.195	0.512	0.761
TN	08154700	1.703	5	0.850	2.770	1.470	1.680	0.780	0.46	0.9497	0.7350	1.503	1.680	0.791	0.47	0.9765	0.9150	1.703	0.705	1.538	2.460
TN	08155200	0.609	10	0.120	1.850	0.440	0.608	0.547	0.90	0.8508	0.0593	0.402	0.614	0.611	1.00	0.9480	0.6452	0.609	0.522	0.420	0.554
TN	08155240	0.520	9	0.120	2.000	0.430	0.542	0.577	1.06	0.6898	0.0011	0.362	0.520	0.470	0.90	0.9485	0.6731	0.540	0.540	0.377	0.690
TN	08155300	0.751	6	0.230	1.470	0.525	0.762	0.512	0.67	0.8248	0.0971	0.600	0.763	0.532	0.70	0.8996	0.3717	0.751	0.463	0.626	0.860
TN	08156800	3.121	3	1.790	5.020	2.400	3.070	1.716	0.56	0.8857	0.3413	2.654	3.052	1.567	0.51	0.9416	0.5340	3.121	1.422	2.783	2.489
TN	08157000	3.100	39	0.560	6.340	2.900	3.110	1.470	0.47	0.9554	0.1246	2.740	3.150	1.750	0.56	0.9601	0.1792	3.100	1.430	2.750	3.380
TN	08157500	3.285	27	1.080	7.210	3.110	3.275	1.607	0.49	0.9217	0.0434	2.898	3.285	1.726	0.53	0.9592	0.3545	3.281	1.574	2.911	3.779
TN	08158050	1.638	4	1.250	2.250	1.520	1.635	0.469	0.29	0.8856	0.3632	1.572	1.634	0.451	0.28	0.8937	0.4006	1.638	0.403	1.587	1.635
TN	08158600	1.646	8	0.680	3.840	1.290	1.615	1.071	0.66	0.8451	0.0850	1.336	1.597	0.976	0.61	0.9466	0.6767	1.646	1.011	1.366	1.239
TN	08158922	1.717	4	0.940	2.030	1.930	1.708	0.514	0.30	0.7204	0.0196	1.605	1.717	0.627	0.37	0.6945	0.0100	1.717	0.439	1.633	1.581
TN	FBU	1.433	9	0.130	5.280	1.010	1.402	1.571	1.12	0.7410	0.0043	0.793	1.433	1.704	1.19	0.9782	0.9545	1.381	1.472	0.850	1.169

Table A.3 (continued) Summary of water quality data information from all sites in water year period 1993-1996, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TOC	08154700	34.880	5	11.260	61.630	32.080	34.308	18.640	0.54	0.9838	0.9537	28.627	34.806	21.679	0.62	0.9597	0.8057	34.880	16.782	29.799	54.223
TOC	08155200	6.970	10	1.200	22.630	4.165	7.204	7.682	1.07	0.7299	0.0020	4.399	6.970	7.273	1.04	0.9386	0.5378	7.176	7.269	4.614	6.574
TOC	08155240	5.648	9	1.090	20.000	5.080	5.793	5.651	0.98	0.7027	0.0015	4.086	5.648	4.786	0.85	0.9513	0.7043	5.789	5.284	4.240	6.907
TOC	08155300	9.798	6	3.000	19.880	8.780	9.922	6.764	0.68	0.8929	0.3336	7.545	10.006	7.606	0.76	0.9040	0.3982	9.798	6.145	7.921	11.893
TOC	08157000	11.470	24	3.470	64.600	8.290	11.400	12.040	1.06	0.5121	0.0001	8.890	10.740	7.080	0.66	0.9164	0.0486	11.470	10.630	8.960	9.160
TOC	08157500	12.041	26	4.710	22.200	11.265	12.024	4.995	0.42	0.9236	0.0545	11.032	12.036	5.188	0.43	0.9681	0.5754	12.041	4.924	11.069	10.153
TOC	08158050	28.427	3	18.320	39.930	28.170	28.807	10.819	0.38	0.9974	0.9026	26.724	28.826	11.042	0.38	0.9964	0.8849	28.427	8.831	27.416	28.451
TOC	08158600	26.160	8	9.730	56.320	22.405	25.879	14.442	0.56	0.8601	0.1205	22.436	25.826	13.962	0.54	0.9533	0.7441	26.160	13.573	22.839	24.308
TOC	08158922	13.857	3	8.760	19.060	13.200	13.673	5.166	0.38	0.9937	0.8483	12.688	13.678	5.222	0.38	0.9990	0.9395	13.857	4.233	13.014	12.391
TOC	FBU	6.417	8	1.820	15.560	5.120	6.419	4.722	0.74	0.8251	0.0528	5.024	6.360	4.503	0.71	0.9523	0.7347	6.417	4.438	5.178	6.285
TP	08155200	0.042	10	0.005	0.190	0.020	0.045	0.060	1.32	0.6885	0.0006	0.022	0.042	0.053	1.26	0.9276	0.4247	0.045	0.057	0.024	0.035
TP	08155240	0.036	9	0.005	0.250	0.010	0.044	0.079	1.79	0.5560	0.0001	0.016	0.036	0.051	1.43	0.8849	0.1766	0.044	0.074	0.017	0.059
TP	08155300	0.071	6	0.010	0.230	0.025	0.075	0.093	1.24	0.7646	0.0276	0.031	0.071	0.096	1.34	0.8655	0.2089	0.073	0.084	0.036	0.073
TP	08156800	0.863	3	0.460	1.100	1.020	0.860	0.349	0.41	0.8421	0.2196	0.771	0.866	0.407	0.47	0.8144	0.1494	0.863	0.285	0.802	1.005
TP	08157000	0.633	39	0.177	1.562	0.541	0.626	0.353	0.56	0.9244	0.0119	0.527	0.633	0.414	0.65	0.9527	0.1013	0.627	0.347	0.529	0.806
TP	08157500	0.773	27	0.190	2.650	0.640	0.779	0.537	0.69	0.8252	0.0004	0.637	0.773	0.517	0.67	0.9623	0.4173	0.781	0.526	0.642	1.003
TP	08158600	0.728	4	0.270	1.050	0.785	0.723	0.379	0.52	0.8769	0.3254	0.600	0.733	0.456	0.62	0.8732	0.3104	0.728	0.329	0.632	0.348
TP	08158922	0.286	3	0.080	0.420	0.360	0.287	0.181	0.63	0.8775	0.3172	0.199	0.298	0.249	0.83	0.8191	0.1609	0.286	0.147	0.230	0.223
TP	FBU	0.537	9	0.010	1.500	0.180	0.438	0.565	1.29	0.7612	0.0073	0.125	0.537	1.110	2.07	0.9372	0.5526	0.430	0.530	0.150	0.329
TSS	08154700	745.818	5	140.990	1478.460	596.610	729.696	500.730	0.69	0.9655	0.8457	524.924	762.341	653.504	0.86	0.9325	0.6135	745.818	451.311	567.701	1268.211
TSS	08155200	181.850	10	0.500	509.320	33.105	129.576	202.052	1.56	0.6363	0.0002	24.805	181.850	489.159	2.69	0.9513	0.6838	128.452	190.472	31.244	110.711
TSS	08155240	73.463	9	0.500	381.780	30.530	64.668	121.246	1.87	0.5614	0.0001	13.065	73.463	170.294	2.32	0.9680	0.8771	64.154	113.373	16.291	93.246
TSS	08155300	182.049	6	13.600	590.940	54.390	186.545	244.169	1.31	0.7644	0.0275	59.194	182.049	281.716	1.55	0.9005	0.3771	181.594	220.712	73.184	261.975
TSS	08156800	1163.800	3	489.320	1619.190	1361.210	1156.573	592.080	0.51	0.9104	0.4194	955.274	1173.503	722.171	0.62	0.8562	0.2571	1163.800	485.723	1025.507	1343.066
TSS	08157000	306.100	34	2.000	1124.000	180.600	308.200	331.100	1.07	0.8418	0.0002	111.200	529.400	1757.400	3.32	0.9184	0.0146	306.100	321.900	116.700	501.300
TSS	08157500	318.245	25	13.270	1030.750	126.830	281.028	289.525	1.03	0.8408	0.0012	135.800	318.245	564.480	1.77	0.9328	0.1007	282.241	281.736	140.655	462.035
TSS	08158050	1278.487	4	417.020	2918.250	943.570	1305.603	1112.967	0.85	0.8511	0.2297	928.968	1282.877	998.780	0.78	0.9829	0.9189	1278.487	955.968	1010.995	1399.317
TSS	08158600	1381.346	8	378.910	3203.350	1190.895	1381.900	961.865	0.70	0.9232	0.4561	1048.094	1404.986	1116.798	0.79	0.9396	0.6069	1381.346	895.067	1088.330	2012.975
TSS	08158922	232.812	4	42.210	513.110	185.125	231.393	209.842	0.91	0.9279	0.5820	134.599	236.528	237.956	1.01	0.9823	0.9153	232.812	180.023	156.841	175.968
TSS	FBU	169.297	7	2.020	714.980	17.210	155.887	261.922	1.68	0.6847	0.0025	18.673	169.297	405.179	2.39	0.9191	0.4622	155.552	242.044	27.532	190.417
VSS	08154700	150.086	5	18.690	284.750	72.670	145.610	128.212	0.88	0.7957	0.0747	82.617	153.109	167.734	1.10	0.8877	0.3457	150.086	115.352	94.421	239.523
VSS	08155200	31.773	10	0.500	74.520	18.150	24.884	26.921	1.08	0.8074	0.0179	10.239	31.773	57.653	1.81	0.9338	0.4859	24.851	25.327	11.585	22.593
VSS	08155240	11.061	9	1.000	71.450	3.010	12.819	22.433	1.75	0.5596	0.0001	4.582	11.061	16.671	1.51	0.9200	0.3919	12.719	20.973	5.092	17.177
VSS	08155300	24.762	6	8.160	75.180	11.715	26.088	27.040	1.04	0.7498	0.0198	16.397	24.762	22.841	0.92	0.8287	0.1048	25.581	24.444	17.622	36.547
VSS	08156800	176.922	3	54.650	347.370	115.020	172.347	154.551	0.90	0.8968	0.3754	111.674	169.973	143.515	0.84	0.9875	0.7856	176.922	128.062	129.733	122.713
VSS	08157000	70.570	27	0.610	306.070	20.330	50.740	67.720	1.33	0.7258	0.0001	17.320	70.570	198.320	2.81	0.9569	0.3126	51.170	63.780	18.290	86.980
VSS	08157500	57.956	25	3.600	170.240	21.460	57.523	56.040	0.97	0.8345	0.0009	30.217	63.979	102.760	1.61	0.9194	0.0498	57.956	54.869	31.163	88.391
VSS	08158050	111.011	4	31.140	228.560	96.635	113.243	83.273	0.74	0.9302	0.5958	82.621	114.637	89.860	0.78	0.9749	0.8715	111.011	71.841	90.033	116.060
VSS	08158600	155.100	8	39.480	464.680	103.410	158.106	145.987	0.92	0.8173	0.0437	107.705	155.100	138.682	0.89	0.9586	0.7967	158.636	137.630	112.910	231.954
VSS	08158922	49.785	4	10.370	87.100	49.180	48.958	39.585	0.81	0.8334	0.1770	29.801	50.415	49.150	0.97	0.8680	0.2899	49.785	34.307	34.343	36.544
VSS	FBU	21.477	7	0.470	103.410	2.950	22.333	37.967	1.70	0.6723	0.0018	3.532	21.477	45.731	2.13	0.9255	0.5132	22.270	35.090	4.801	26.919
ZN	08157000	104.970	22	5.000	240.000	95.790	104.970	73.070	0.70	0.9306	0.1265	72.410	118.360	138.940	1.17	0.9075	0.0421	105.600	71.010	74.080	130.890
ZN	08157500	116.895	13	30.000	274.300	87.550	116.392	75.626	0.65	0.9143	0.2100	92.447	117.579	86.636	0.74	0.9496	0.5923	116.895	72.049	94.201	136.134
ZN	FBU	51.194	8	9.000	109.380	38.745	50.105	40.335	0.81	0.8691	0.1477	32.362	51.959	53.586	1.03	0.8943	0.2567	51.194	38.021	34.428	49.218

Table A.4 Summary of water quality data information from all sites in water year period 1997-1998, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
BOD	08155200	3.070	4	2.240	4.740	2.660	3.075	1.159	0.38	0.8288	0.1646	2.889	3.065	1.047	0.34	0.8693	0.2951	3.070	1.005	2.933	3.165
BOD	08155240	2.854	5	1.630	6.070	2.130	2.904	1.801	0.62	0.7217	0.0159	2.517	2.854	1.428	0.50	0.8319	0.1436	2.902	1.607	2.582	2.851
BOD	08155300	2.008	5	1.520	2.720	1.700	2.002	0.533	0.27	0.8501	0.1947	1.935	2.001	0.515	0.26	0.8627	0.2383	2.008	0.482	1.948	1.952
BOD	08157500	16.674	5	3.250	35.810	16.660	17.056	13.197	0.77	0.9506	0.7415	11.171	17.730	16.874	0.95	0.9455	0.7048	16.674	11.724	12.323	14.576
BOD	08158700	1.874	4	0.370	3.860	1.595	1.855	1.684	0.91	0.8848	0.3595	1.016	1.893	1.990	1.05	0.8851	0.3611	1.874	1.448	1.204	2.702
BOD	08158922	2.429	3	0.930	3.910	2.550	2.463	1.492	0.61	0.9975	0.9039	1.915	2.499	1.730	0.69	0.9482	0.5616	2.429	1.234	2.101	3.774
BOD	FBU	2.460	11	1.000	6.040	2.400	2.465	1.405	0.57	0.8270	0.0213	2.132	2.460	1.357	0.55	0.9220	0.3360	2.471	1.331	2.160	2.677
CD	08157500	0.575	5	0.500	0.890	0.500	0.578	0.174	0.30	0.5522	0.0001	0.557	0.576	0.148	0.26	0.5522	0.0001	0.575	0.154	0.561	0.567
CD	FBU	0.624	12	0.500	1.680	0.500	0.626	0.340	0.54	0.4400	0.0001	0.576	0.614	0.222	0.36	0.4974	0.0001	0.624	0.323	0.579	0.521
COD	08155200	35.494	5	5.000	83.750	28.630	36.222	34.114	0.94	0.9012	0.4164	17.839	38.556	47.017	1.22	0.8822	0.3195	35.494	30.699	21.145	51.633
COD	08155240	38.016	5	5.000	86.920	29.060	37.904	32.165	0.85	0.9421	0.6811	22.810	40.230	42.321	1.05	0.9685	0.8655	38.016	28.840	25.772	48.255
COD	08155300	29.599	5	8.000	52.390	17.820	29.322	20.715	0.71	0.8196	0.1159	21.724	29.623	23.186	0.78	0.8856	0.3353	29.599	18.707	23.173	43.562
COD	08157500	88.387	5	34.680	182.600	80.360	89.802	55.443	0.62	0.8562	0.2151	75.214	89.467	52.536	0.59	0.9547	0.7707	88.387	49.144	77.933	89.948
COD	08158922	25.661	3	10.920	37.270	30.240	26.143	13.644	0.52	0.9324	0.4976	21.458	26.529	16.557	0.62	0.8734	0.3052	25.661	11.236	23.088	30.604
COD	FBU	29.890	11	2.840	78.440	19.780	28.687	23.999	0.84	0.8315	0.0244	19.757	29.890	29.643	0.99	0.9459	0.5918	28.627	22.863	20.539	31.677
CU	08155200	3.805	5	1.060	9.260	2.540	3.846	3.229	0.84	0.8459	0.1818	2.772	3.798	2.996	0.79	0.9855	0.9616	3.805	2.900	2.960	4.035
CU	08155240	2.920	5	1.030	5.610	2.710	2.930	1.668	0.57	0.9024	0.4232	2.462	2.949	1.765	0.60	0.9385	0.6553	2.920	1.499	2.555	3.226
CU	08155300	2.226	4	1.040	3.610	2.115	2.220	1.066	0.48	0.9768	0.8830	1.955	2.228	1.125	0.50	0.9802	0.9033	2.226	0.916	2.021	2.792
CU	08157500	29.197	5	10.240	64.040	19.070	29.392	21.607	0.74	0.8714	0.2722	22.748	29.107	20.339	0.70	0.9666	0.8528	29.197	19.074	23.937	23.563
CU	08158922	2.879	3	2.120	4.330	2.200	2.883	1.253	0.43	0.7771	0.0610	2.650	2.872	1.132	0.39	0.7888	0.0880	2.879	1.021	2.723	4.135
CU	FBU	3.647	12	1.000	6.240	3.800	3.641	1.644	0.45	0.9680	0.8891	3.179	3.713	2.146	0.58	0.9097	0.2116	3.647	1.572	3.221	3.861
DP	08155200	0.009	5	0.005	0.020	0.006	0.009	0.006	0.75	0.6621	0.0037	0.007	0.008	0.005	0.57	0.7506	0.0301	0.009	0.006	0.007	0.007
DP	08155240	0.012	5	0.005	0.020	0.010	0.012	0.007	0.62	0.8103	0.0981	0.010	0.012	0.008	0.67	0.8399	0.1648	0.012	0.007	0.010	0.008
DP	08155300	0.016	5	0.005	0.040	0.010	0.016	0.015	0.92	0.8307	0.1407	0.011	0.016	0.014	0.88	0.9020	0.4211	0.016	0.013	0.011	0.008
DP	08157500	0.126	5	0.090	0.170	0.110	0.126	0.041	0.33	0.7817	0.0571	0.120	0.126	0.040	0.32	0.7991	0.0796	0.126	0.037	0.121	0.120
DP	08158922	0.034	3	0.020	0.040	0.040	0.033	0.012	0.35	0.7500	0.0001	0.031	0.033	0.013	0.39	0.7500	0.0001	0.034	0.009	0.032	0.038
DP	FBU	0.031	11	0.010	0.100	0.020	0.031	0.030	0.96	0.7575	0.0026	0.021	0.030	0.028	0.92	0.8336	0.0260	0.031	0.028	0.021	0.033
ECOLI	FBU	7339	12	603	23367	5426	7407	6380	0.86	0.8688	0.0632	4824	7983	8977	1.12	0.9583	0.7589	7339	6060	5038	7427
FCOL	08155200	16674	5	81	43010	10378	17094	16948	0.99	0.9237	0.5538	2887	38526	81902	2.13	0.8008	0.0823	16674	15081	5821	29249
FCOL	08155240	14359	5	2811	34759	5534	14046	14418	1.03	0.8193	0.1154	7439	13807	15143	1.10	0.8697	0.2653	14359	13038	8505	23651
FCOL	08155300	13133	5	5379	33256	10077	13537	11361	0.84	0.7669	0.0424	10278	13133	9152	0.70	0.9206	0.5340	13885	10314	10812	17695
FCOL	08158700	7308	4	125	16875	5726	7113	8375	1.18	0.8496	0.2250	418	9470	18488	1.95	0.7749	0.0643	7308	7303	1348	11583
FCOL	08158922	10353	3	1906	20222	9447	10525	9205	0.87	0.9897	0.8060	5513	11042	11422	1.03	0.9596	0.6134	10353	7591	7141	19194
FCOL	FBU	17479	12	1092	53186	11276	16011	14614	0.91	0.8517	0.0386	9918	17479	21122	1.21	0.9583	0.7589	15856	13875	10417	15967
FSTR	08155200	34018	5	107	76324	15243	34741	34398	0.99	0.8433	0.1743	4548	87793	197541	2.25	0.7790	0.0541	34018	30716	10458	55926
FSTR	08155240	35065	5	16657	49126	40134	34975	15588	0.45	0.8347	0.1508	30934	35220	17901	0.51	0.8259	0.1296	35065	13903	31761	40460
FSTR	08155300	20794	5	10583	33242	21416	20661	9307	0.45	0.9484	0.7256	18490	20710	9842	0.48	0.9395	0.6622	20794	8388	18920	24386
FSTR	08157500	124310	4	75725	165369	130069	125308	46145	0.37	0.8305	0.1692	116303	125488	48559	0.39	0.8506	0.2280	124310	40153	118560	128208
FSTR	08158700	14260	4	203	30076	12718	13929	15878	1.14	0.8024	0.1065	891	18804	36462	1.94	0.8021	0.1060	14260	13793	2769	22567
FSTR	08158922	34841	3	4903	81836	19095	35278	40940	1.16	0.8828	0.3327	13722	35051	40479	1.15	0.9996	0.9625	34841	33542	19714	76144
FSTR	FBU	57874	12	5683	126406	56707	58246	38484	0.66	0.9536	0.6895	40885	64114	67363	1.05	0.8965	0.1431	57874	36876	42497	60519

Table A.4 (continued) Summary of water quality data information from all sites in water year period 1997-1998, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
NH3	08155200	0.018	5	0.010	0.040	0.010	0.018	0.013	0.72	0.7348	0.0214	0.015	0.018	0.011	0.61	0.7709	0.0460	0.018	0.012	0.015	0.014
NH3	08155240	0.014	5	0.010	0.020	0.010	0.014	0.005	0.39	0.6840	0.0065	0.013	0.014	0.005	0.38	0.6840	0.0065	0.014	0.005	0.013	0.013
NH3	08155300	0.014	5	0.010	0.020	0.010	0.014	0.005	0.39	0.6840	0.0065	0.013	0.014	0.005	0.38	0.6840	0.0065	0.014	0.005	0.013	0.014
NH3	08157500	0.227	5	0.090	0.380	0.230	0.230	0.106	0.46	0.9854	0.9613	0.202	0.232	0.123	0.53	0.9418	0.6789	0.227	0.095	0.208	0.254
NH3	08158700	0.024	4	0.008	0.050	0.019	0.024	0.020	0.86	0.8643	0.2759	0.015	0.024	0.022	0.91	0.8332	0.1764	0.024	0.018	0.017	0.034
NH3	08158922	0.033	3	0.009	0.050	0.040	0.033	0.022	0.66	0.9182	0.4460	0.022	0.034	0.030	0.87	0.8433	0.2228	0.033	0.017	0.026	0.012
NH3	FBU	0.032	11	0.010	0.100	0.030	0.033	0.026	0.81	0.7979	0.0088	0.025	0.032	0.026	0.79	0.9228	0.3430	0.033	0.025	0.025	0.032
NO23	08155200	0.132	5	0.100	0.160	0.120	0.132	0.027	0.20	0.8519	0.2006	0.129	0.132	0.027	0.20	0.8685	0.2602	0.132	0.024	0.130	0.139
NO23	08155240	0.238	5	0.130	0.350	0.240	0.236	0.083	0.35	0.9956	0.9952	0.221	0.237	0.088	0.37	0.9825	0.9477	0.238	0.074	0.224	0.222
NO23	08155300	0.240	5	0.130	0.380	0.230	0.238	0.098	0.41	0.9701	0.8761	0.218	0.238	0.099	0.42	0.9898	0.9790	0.240	0.088	0.222	0.201
NO23	08157500	0.597	5	0.480	0.730	0.570	0.598	0.101	0.17	0.9592	0.8025	0.590	0.598	0.100	0.17	0.9672	0.8568	0.597	0.091	0.591	0.590
NO23	08158700	0.241	4	0.150	0.340	0.240	0.243	0.092	0.38	0.8966	0.4145	0.225	0.243	0.095	0.39	0.8991	0.4267	0.241	0.080	0.229	0.192
NO23	08158922	0.468	3	0.270	0.670	0.450	0.463	0.200	0.43	0.9967	0.8899	0.419	0.464	0.206	0.44	0.9949	0.8634	0.468	0.166	0.433	0.288
NO23	FBU	0.313	11	0.170	0.560	0.300	0.315	0.110	0.35	0.9188	0.3085	0.298	0.315	0.106	0.34	0.9785	0.9569	0.313	0.104	0.300	0.282
PB	08155200	5.528	5	0.500	12.920	6.140	5.632	4.844	0.86	0.9346	0.6283	2.958	6.333	7.679	1.21	0.9198	0.5283	5.528	4.371	3.498	7.152
PB	08155240	5.795	5	1.270	10.200	5.240	5.800	3.333	0.57	0.9857	0.9626	4.457	6.073	4.748	0.78	0.8799	0.3090	5.795	3.010	4.754	7.072
PB	08155300	3.433	5	1.090	6.640	2.360	3.400	2.611	0.77	0.8402	0.1655	2.403	3.409	2.831	0.83	0.8656	0.2491	3.433	2.344	2.585	5.212
PB	08157500	36.761	5	23.230	67.890	32.660	37.148	17.770	0.48	0.7852	0.0610	33.899	36.852	15.039	0.41	0.8835	0.3255	36.761	15.692	34.477	34.893
PB	08158922	2.964	3	0.500	6.830	1.670	3.000	3.368	1.12	0.8830	0.3334	1.312	2.961	3.251	1.10	0.9980	0.9146	2.964	2.759	1.787	6.362
PB	FBU	2.675	12	1.500	4.350	2.645	2.688	0.933	0.35	0.9284	0.3637	2.518	2.694	1.006	0.37	0.9043	0.1804	2.675	0.890	2.532	2.612
TDS	08155200	226.746	5	167.530	319.290	214.360	225.616	58.482	0.26	0.9207	0.5347	218.737	225.401	55.197	0.24	0.9652	0.8435	226.746	53.033	220.059	197.927
TDS	08155240	244.882	5	214.460	272.030	240.050	245.258	22.938	0.09	0.9547	0.7708	244.173	245.263	23.150	0.09	0.9529	0.7578	244.882	20.646	244.391	233.000
TDS	08155300	222.555	5	161.940	279.520	243.580	224.168	47.726	0.21	0.9351	0.6315	218.794	224.289	49.936	0.22	0.9214	0.5391	222.555	42.793	219.886	227.390
TDS	08158700	232.873	4	169.020	296.000	235.850	234.180	67.108	0.29	0.8101	0.1215	224.384	234.232	68.361	0.29	0.8171	0.1366	232.873	58.276	226.822	197.265
TDS	08158922	186.506	3	164.080	200.350	196.990	187.140	20.041	0.11	0.8188	0.1603	186.012	187.156	20.695	0.11	0.8130	0.1460	186.506	16.598	186.393	199.730
TKN	08155200	1.142	5	0.060	2.930	0.960	1.160	1.096	0.94	0.9161	0.5053	0.521	1.404	1.929	1.37	0.9104	0.4702	1.142	0.987	0.652	1.333
TKN	08155240	1.459	5	0.460	2.990	0.960	1.454	1.011	0.70	0.9035	0.4295	1.127	1.455	1.034	0.71	0.9638	0.8342	1.459	0.907	1.188	1.816
TKN	08155300	1.461	4	0.470	2.300	1.500	1.443	0.825	0.57	0.9570	0.7601	1.147	1.472	1.014	0.69	0.9195	0.5343	1.461	0.718	1.224	1.842
TKN	08157500	1.540	5	0.540	2.800	1.280	1.568	0.850	0.54	0.9599	0.8072	1.317	1.586	0.963	0.61	0.9478	0.7213	1.540	0.759	1.368	1.578
TKN	08158700	1.023	4	0.090	2.040	0.980	1.023	1.079	1.06	0.7665	0.0545	0.272	1.125	1.670	1.48	0.7410	0.0317	1.044	0.936	0.419	1.611
TKN	08158922	0.867	3	0.330	1.810	0.480	0.873	0.815	0.93	0.8252	0.1761	0.574	0.847	0.692	0.82	0.9055	0.4031	0.867	0.666	0.659	1.691
TKN	FBU	0.524	11	0.190	0.910	0.480	0.524	0.255	0.49	0.9271	0.3818	0.455	0.529	0.300	0.57	0.9194	0.3137	0.524	0.244	0.462	0.579
TN	08155200	1.280	5	0.190	3.060	1.130	1.298	1.089	0.84	0.9150	0.4983	0.822	1.364	1.357	1.00	0.9623	0.8242	1.280	0.981	0.916	1.480
TN	08155240	1.926	4	1.060	3.190	1.700	1.913	0.982	0.51	0.9081	0.4723	1.677	1.908	0.956	0.50	0.9274	0.5790	1.926	0.845	1.733	2.120
TN	08155300	1.672	4	0.750	2.540	1.660	1.653	0.814	0.49	0.9525	0.7317	1.430	1.662	0.897	0.54	0.9442	0.6801	1.672	0.709	1.486	2.047
TN	08157500	2.140	5	1.030	3.370	2.000	2.168	0.879	0.41	0.9881	0.9727	1.974	2.178	0.964	0.44	0.9658	0.8474	2.140	0.786	2.014	2.169
TN	08158700	1.294	4	0.400	2.200	1.250	1.275	0.989	0.78	0.7734	0.0624	0.844	1.290	1.140	0.88	0.7714	0.0601	1.294	0.858	0.945	1.813
TN	08158922	1.342	3	0.930	2.090	1.010	1.343	0.648	0.48	0.8015	0.1180	1.211	1.336	0.581	0.43	0.8256	0.1771	1.342	0.527	1.252	1.988
TN	FBU	0.843	11	0.470	1.120	0.940	0.845	0.213	0.25	0.9343	0.4562	0.815	0.847	0.238	0.28	0.9022	0.1967	0.843	0.203	0.818	0.866

Table A.4 (continued) Summary of water quality data information from all sites in water year period 1997-1998, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TOC	08155200	13.227	5	2.270	26.290	13.510	13.514	9.447	0.70	0.9839	0.9543	9.175	14.345	13.435	0.94	0.9303	0.5986	13.227	8.465	10.087	20.135
TOC	08155240	17.369	5	5.400	39.060	10.740	17.272	13.939	0.81	0.8700	0.2663	12.496	17.076	13.412	0.79	0.9566	0.7838	17.369	12.465	13.336	21.838
TOC	08155300	13.377	5	5.830	26.910	8.550	13.176	9.107	0.69	0.8495	0.1931	10.481	13.036	8.575	0.66	0.8929	0.3720	13.377	8.251	10.963	18.839
TOC	08157500	10.141	5	5.830	13.840	11.300	10.234	3.833	0.37	0.8426	0.1723	9.437	10.266	4.207	0.41	0.8323	0.1447	10.141	3.416	9.600	9.181
TOC	08158700	14.501	4	2.510	31.240	11.820	14.348	14.074	0.98	0.8659	0.2818	6.691	14.714	17.154	1.17	0.8340	0.1785	14.501	12.110	8.341	21.459
TOC	08158922	7.299	3	5.120	11.680	5.150	7.317	3.779	0.52	0.7534	0.0076	6.502	7.270	3.356	0.46	0.7553	0.0118	7.299	3.080	6.753	11.102
TOC	FBU	5.474	11	2.490	9.390	4.850	5.475	1.975	0.36	0.9593	0.7630	5.121	5.483	2.058	0.38	0.9763	0.9423	5.474	1.876	5.153	5.752
TP	08155200	0.150	5	0.010	0.370	0.150	0.152	0.136	0.90	0.9146	0.4955	0.075	0.178	0.230	1.29	0.9033	0.4282	0.150	0.123	0.091	0.186
TP	08155240	0.179	5	0.060	0.370	0.130	0.178	0.124	0.70	0.9109	0.4730	0.139	0.178	0.124	0.70	0.9850	0.9594	0.179	0.111	0.146	0.219
TP	08155300	0.143	5	0.070	0.230	0.110	0.142	0.077	0.54	0.8223	0.1217	0.122	0.142	0.078	0.55	0.8615	0.2336	0.143	0.070	0.126	0.196
TP	08157500	0.462	5	0.260	0.830	0.450	0.468	0.219	0.47	0.8704	0.2679	0.425	0.466	0.200	0.43	0.9544	0.7684	0.462	0.194	0.433	0.489
TP	08158700	0.108	4	0.005	0.230	0.098	0.108	0.119	1.11	0.8027	0.1072	0.017	0.127	0.215	1.70	0.7506	0.0391	0.110	0.104	0.032	0.173
TP	08158922	0.133	3	0.030	0.330	0.040	0.133	0.170	1.28	0.7750	0.0561	0.054	0.122	0.134	1.10	0.8385	0.2102	0.133	0.139	0.073	0.304
TP	FBU	0.184	11	0.020	0.880	0.070	0.210	0.305	1.45	0.6233	0.0001	0.092	0.184	0.249	1.35	0.8688	0.0748	0.205	0.286	0.098	0.247
TSS	08155200	294.757	6	5.860	788.650	229.155	296.360	278.893	0.94	0.9043	0.4003	114.604	433.591	732.573	1.69	0.8486	0.1533	294.757	254.958	148.147	376.751
TSS	08155240	264.147	5	41.610	611.210	164.690	262.216	238.234	0.91	0.9009	0.4148	153.982	268.880	280.432	1.04	0.9704	0.8780	264.147	213.429	173.576	353.316
TSS	08155300	238.298	5	37.970	515.380	253.170	235.672	191.867	0.81	0.9343	0.6262	143.669	248.368	256.763	1.03	0.9266	0.5733	238.298	174.355	161.578	346.972
TSS	08157500	257.817	5	123.120	542.240	215.030	263.090	172.360	0.66	0.8626	0.2378	216.264	260.591	158.572	0.61	0.9286	0.5870	257.817	153.030	224.689	261.906
TSS	08158700	250.217	4	0.500	620.570	184.345	247.440	299.842	1.21	0.8704	0.2991	2.639	475.591	1052.054	2.21	0.9046	0.4542	250.217	257.928	31.589	396.509
TSS	08158922	22.389	3	0.500	56.620	11.010	22.710	29.833	1.31	0.8846	0.3382	1.671	27.597	43.128	1.56	0.9694	0.6644	22.389	24.444	6.780	52.480
TSS	FBU	126.778	11	6.100	341.680	130.980	125.291	109.583	0.87	0.9180	0.3022	64.525	150.016	229.801	1.53	0.9124	0.2602	126.778	104.189	70.006	150.364
VSS	08155200	56.670	5	3.530	154.560	50.380	57.658	59.483	1.03	0.8856	0.3356	24.746	65.684	89.638	1.36	0.9532	0.7602	56.670	53.553	30.857	72.915
VSS	08155240	57.318	5	10.430	161.060	29.650	57.272	60.314	1.05	0.7849	0.0607	34.396	55.854	54.427	0.97	0.9698	0.8742	57.318	53.901	38.137	67.781
VSS	08155300	39.114	5	9.910	64.820	53.050	39.114	26.366	0.67	0.8076	0.0933	26.867	40.868	37.102	0.91	0.7666	0.0421	39.246	23.700	29.355	54.425
VSS	08157500	50.817	5	20.480	112.010	30.550	51.944	37.955	0.73	0.8441	0.1764	40.576	51.240	34.845	0.68	0.9172	0.5124	50.817	33.643	42.576	47.534
VSS	08158700	38.560	4	3.450	139.780	14.865	43.240	64.963	1.50	0.7363	0.0285	11.368	38.560	53.947	1.40	0.9462	0.6923	43.015	55.895	16.329	65.754
VSS	08158922	7.004	3	1.650	13.710	5.960	7.107	6.111	0.86	0.9736	0.6883	4.200	7.265	6.846	0.94	0.9851	0.7662	7.004	5.032	5.128	12.982
VSS	FBU	18.622	11	1.310	50.170	19.340	18.421	16.223	0.88	0.9043	0.2085	9.884	21.250	30.581	1.44	0.9090	0.2373	18.622	15.410	10.639	21.917
ZN	08155200	18.188	5	6.300	33.540	21.290	18.482	11.281	0.61	0.9236	0.5532	14.575	18.751	13.244	0.71	0.8957	0.3866	18.188	10.187	15.354	23.033
ZN	08155240	19.022	5	7.460	33.690	19.490	19.088	9.612	0.50	0.9530	0.7586	16.548	19.222	10.493	0.55	0.9577	0.7918	19.022	8.639	17.061	20.836
ZN	08155300	12.212	5	4.870	17.920	11.800	12.064	5.369	0.45	0.9519	0.7510	10.630	12.191	6.366	0.52	0.9187	0.5214	12.212	4.784	10.931	15.135
ZN	08157500	108.292	5	64.370	211.350	98.270	109.542	59.844	0.55	0.8010	0.0826	96.888	108.484	51.477	0.47	0.8871	0.3425	108.292	52.829	99.138	97.867
ZN	08158922	16.006	3	5.000	31.410	12.170	16.193	13.657	0.84	0.9349	0.5073	10.724	16.158	13.502	0.84	0.9997	0.9648	16.006	11.218	12.410	29.637
ZN	FBU	13.989	12	3.000	29.070	13.585	14.031	9.751	0.69	0.8904	0.1194	10.114	14.664	13.765	0.94	0.8706	0.0665	13.989	9.302	10.441	12.372

Table A.5 Summary of water quality data information from all sites in water year period 1999-2001, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
BOD	08155400	3.679	4	3.350	4.190	3.605	3.688	0.381	0.10	0.9199	0.5363	3.668	3.687	0.373	0.10	0.9277	0.5807	3.679	0.328	3.673	3.596
BOD	08156800	6.440	3	4.530	7.890	7.050	6.490	1.749	0.27	0.9231	0.4633	6.226	6.499	1.886	0.29	0.8947	0.3688	6.440	1.449	6.316	7.410
BOD	08157500	10.403	17	2.270	26.990	7.490	10.339	8.084	0.78	0.8513	0.0112	7.480	10.403	9.337	0.90	0.9139	0.1162	10.484	7.918	7.629	11.636
BOD	08157700	8.760	5	4.840	16.000	7.660	8.664	4.269	0.49	0.7935	0.0717	7.837	8.602	3.708	0.43	0.8937	0.3762	8.760	3.855	7.986	9.563
BOD	FBU	1.320	6	1.030	1.750	1.255	1.325	0.265	0.20	0.9353	0.6212	1.300	1.325	0.256	0.19	0.9601	0.8202	1.320	0.238	1.304	1.209
CD	08154700	0.105	4	0.040	0.250	0.065	0.105	0.098	0.93	0.7715	0.0601	0.073	0.101	0.079	0.78	0.8949	0.4060	0.105	0.085	0.080	0.079
CD	08155200	0.232	7	0.050	0.500	0.180	0.231	0.190	0.82	0.7998	0.0408	0.162	0.232	0.202	0.87	0.9306	0.5561	0.231	0.176	0.171	0.203
CD	08155240	0.254	5	0.050	0.500	0.190	0.258	0.228	0.88	0.7981	0.0781	0.143	0.268	0.297	1.11	0.8167	0.1100	0.254	0.203	0.164	0.187
CD	08155300	0.239	6	0.050	0.500	0.175	0.242	0.222	0.92	0.7754	0.0349	0.129	0.249	0.293	1.17	0.7465	0.0184	0.239	0.202	0.145	0.273
CD	08155400	0.329	8	0.050	0.500	0.440	0.334	0.205	0.61	0.7686	0.0131	0.225	0.373	0.398	1.07	0.7246	0.0043	0.329	0.194	0.241	0.297
CD	08156800	0.333	9	0.110	0.500	0.300	0.333	0.157	0.47	0.8707	0.1251	0.289	0.338	0.194	0.57	0.8740	0.1358	0.333	0.148	0.294	0.325
CD	08157500	0.517	21	0.500	0.820	0.500	0.518	0.070	0.14	0.2775	0.0001	0.514	0.517	0.056	0.11	0.2876	0.0001	0.517	0.067	0.514	0.504
CD	08157600	0.582	6	0.380	0.860	0.500	0.585	0.186	0.32	0.8515	0.1619	0.557	0.584	0.180	0.31	0.8809	0.2731	0.582	0.168	0.562	0.535
CD	08157700	0.464	10	0.270	0.650	0.500	0.463	0.110	0.24	0.8366	0.0402	0.448	0.464	0.124	0.27	0.8032	0.0158	0.464	0.103	0.450	0.483
CD	08158050	0.518	6	0.320	0.720	0.520	0.515	0.169	0.33	0.9052	0.4057	0.486	0.516	0.179	0.35	0.8863	0.2994	0.518	0.153	0.491	0.529
CD	08158600	0.428	4	0.320	0.540	0.430	0.430	0.106	0.25	0.8954	0.4088	0.417	0.430	0.108	0.25	0.8972	0.4173	0.428	0.092	0.420	0.476
CD	08158840	0.053	3	0.040	0.080	0.040	0.053	0.023	0.43	0.7500	0.0001	0.049	0.053	0.021	0.39	0.7500	0.0001	0.053	0.019	0.050	0.042
CD	08158922	0.203	5	0.050	0.500	0.160	0.206	0.178	0.86	0.8731	0.2790	0.141	0.205	0.176	0.86	0.9947	0.9934	0.203	0.160	0.153	0.062
COD	08154700	31.858	4	24.010	37.890	32.740	31.845	5.779	0.18	0.9452	0.6864	31.276	31.861	6.123	0.19	0.9160	0.5148	31.858	4.979	31.422	31.362
COD	08155200	29.090	7	5.000	85.920	26.900	28.929	28.061	0.97	0.8256	0.0726	17.255	29.648	32.257	1.09	0.9194	0.4646	29.090	26.102	18.726	78.822
COD	08155240	29.825	5	5.000	103.660	13.640	32.128	40.758	1.27	0.7212	0.0158	16.266	29.825	32.400	1.09	0.9581	0.7945	32.765	36.995	18.544	86.261
COD	08155300	23.163	6	5.000	104.590	8.995	26.595	39.160	1.47	0.6558	0.0020	11.324	23.163	28.380	1.23	0.8285	0.1044	26.742	36.060	12.888	89.829
COD	08155400	22.925	8	14.200	36.710	21.625	22.953	7.801	0.34	0.9129	0.3750	21.724	22.928	7.587	0.33	0.9494	0.7057	22.925	7.354	21.872	22.679
COD	08156800	66.650	9	16.370	108.530	69.110	66.650	25.117	0.38	0.9420	0.6026	59.553	68.570	37.275	0.54	0.7720	0.0097	66.367	23.922	60.505	59.618
COD	08157500	59.699	21	16.060	143.790	50.650	59.420	36.671	0.62	0.8983	0.0324	49.016	59.699	40.102	0.67	0.9654	0.6315	59.391	35.991	49.482	52.366
COD	08157600	97.338	6	31.370	227.820	78.205	98.768	67.756	0.69	0.8172	0.0834	80.177	98.227	63.137	0.64	0.9434	0.6870	97.338	61.027	83.005	66.561
COD	08157700	92.741	10	48.120	194.810	77.235	93.247	43.754	0.47	0.8385	0.0423	84.934	92.741	39.567	0.43	0.9299	0.4468	92.780	41.781	85.690	83.853
COD	08158050	61.846	6	39.620	74.550	65.460	62.000	13.548	0.22	0.8890	0.3130	60.305	62.098	15.053	0.24	0.8602	0.1897	61.846	12.386	60.601	61.038
COD	08158600	64.794	4	33.630	112.270	57.500	65.225	34.097	0.52	0.9313	0.6022	57.180	65.024	32.552	0.50	0.9919	0.9671	64.794	29.721	59.084	90.164
COD	08158840	29.623	3	24.910	38.560	25.540	29.670	7.705	0.26	0.7845	0.0781	28.766	29.643	7.220	0.24	0.7927	0.0972	29.623	6.288	29.057	34.635
COD	08158922	35.165	5	25.830	42.960	38.110	35.364	7.542	0.21	0.8941	0.3781	34.509	35.384	7.917	0.22	0.8832	0.3238	35.165	6.758	34.683	26.977
COD	FBU	19.545	7	8.680	35.040	12.670	19.726	11.128	0.56	0.8334	0.0861	16.743	19.686	11.373	0.58	0.8642	0.1651	19.545	10.324	17.141	23.636
CU	08154700	3.584	4	2.780	4.780	3.400	3.590	0.880	0.25	0.9351	0.6250	3.489	3.588	0.845	0.24	0.9619	0.7907	3.584	0.762	3.514	3.192
CU	08155200	3.995	7	0.500	9.130	3.250	3.979	3.456	0.87	0.8671	0.1749	2.397	4.200	4.658	1.11	0.9412	0.6496	3.995	3.189	2.609	8.421
CU	08155240	2.723	5	0.500	9.740	1.200	2.952	3.911	1.32	0.7339	0.0210	1.295	2.723	3.264	1.20	0.8989	0.4036	3.014	3.546	1.525	8.126
CU	08155300	2.626	6	0.500	10.670	1.440	2.907	3.866	1.33	0.6621	0.0024	1.545	2.626	2.757	1.05	0.9410	0.6675	2.942	3.551	1.698	9.156
CU	08155400	2.936	8	1.400	5.260	2.850	2.930	1.282	0.44	0.9463	0.6744	2.648	2.938	1.360	0.46	0.9473	0.6839	2.936	1.195	2.683	2.117
CU	08156800	15.057	9	9.080	29.170	11.790	15.160	7.302	0.48	0.8140	0.0295	13.717	15.057	6.603	0.44	0.8661	0.1117	15.223	6.919	13.861	15.942
CU	08157500	23.556	21	6.100	112.000	20.370	24.187	22.704	0.94	0.6578	0.0001	18.307	23.556	18.225	0.77	0.9605	0.5266	24.552	22.531	18.531	29.244
CU	08157600	20.056	6	10.550	25.880	21.400	20.172	6.268	0.31	0.8819	0.2781	19.027	20.256	7.190	0.35	0.8627	0.1987	20.056	5.745	19.228	18.204
CU	08157700	17.990	10	10.560	38.390	15.635	18.117	8.060	0.44	0.7911	0.0113	16.769	17.990	6.840	0.38	0.9171	0.3333	18.128	7.645	16.888	18.819

Table A.5 (continued) Summary of water quality data information from all sites in water year period 1999-2001, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
CU	08158050	14.705	6	8.180	22.700	13.455	14.705	5.174	0.35	0.9644	0.8530	13.805	14.713	5.269	0.36	0.9805	0.9540	14.705	4.728	13.953	15.277
CU	08158600	13.649	4	8.500	22.890	11.730	13.713	6.431	0.47	0.8727	0.3085	12.440	13.644	5.810	0.43	0.9402	0.6553	13.649	5.594	12.735	18.567
CU	08158840	2.273	3	1.790	2.800	2.260	2.283	0.505	0.22	0.9984	0.9236	2.227	2.283	0.508	0.22	0.9994	0.9534	2.273	0.417	2.246	2.534
CU	08158922	5.150	5	3.720	6.880	5.100	5.202	1.408	0.27	0.9069	0.4494	5.010	5.203	1.428	0.27	0.9059	0.4431	5.150	1.258	5.048	3.788
CU	FBU	3.234	7	2.000	5.510	3.000	3.229	1.076	0.33	0.7063	0.0043	3.082	3.220	0.957	0.30	0.7780	0.0246	3.234	1.003	3.101	3.001
DP	08155400	0.033	8	0.020	0.080	0.025	0.034	0.021	0.63	0.7261	0.0044	0.029	0.033	0.017	0.52	0.7956	0.0257	0.033	0.020	0.030	0.021
DP	08156800	0.085	9	0.030	0.180	0.080	0.084	0.047	0.56	0.9243	0.4286	0.072	0.085	0.049	0.58	0.9836	0.9804	0.085	0.044	0.074	0.071
DP	08157500	0.133	21	0.040	0.270	0.130	0.132	0.062	0.47	0.9371	0.1908	0.117	0.133	0.072	0.54	0.9389	0.2071	0.133	0.060	0.117	0.145
DP	08157600	0.118	6	0.070	0.190	0.110	0.118	0.043	0.36	0.9513	0.7509	0.111	0.118	0.041	0.35	0.9941	0.9967	0.118	0.039	0.112	0.125
DP	08157700	0.122	10	0.070	0.160	0.130	0.122	0.030	0.25	0.9246	0.3967	0.118	0.122	0.034	0.28	0.8977	0.2069	0.122	0.029	0.118	0.112
DP	08158050	0.083	6	0.040	0.170	0.075	0.083	0.046	0.56	0.8532	0.1671	0.073	0.083	0.042	0.50	0.9643	0.8520	0.083	0.042	0.075	0.075
DP	08158600	0.030	4	0.020	0.050	0.025	0.030	0.014	0.47	0.8274	0.1612	0.027	0.030	0.013	0.43	0.8569	0.2493	0.030	0.012	0.028	0.030
DP	08158840	0.036	3	0.020	0.050	0.040	0.037	0.015	0.42	0.9643	0.6369	0.033	0.037	0.017	0.46	0.9194	0.4501	0.036	0.013	0.034	0.042
DP	08158922	0.074	5	0.060	0.090	0.070	0.074	0.011	0.15	0.9609	0.8140	0.073	0.074	0.011	0.15	0.9673	0.8578	0.074	0.010	0.073	0.079
DP	FBU	0.047	7	0.010	0.100	0.040	0.047	0.034	0.71	0.9186	0.4587	0.033	0.050	0.046	0.94	0.8639	0.1639	0.047	0.031	0.035	0.046
ECOLI	08154700	2971450	4	1800000	4800000	2700000	3000000	1336662	0.45	0.9262	0.5724	2727780	2992934	1277334	0.43	0.9655	0.8133	2971450	1147024	2792683	2596488
ECOLI	08155200	1321080	5	240000	2500000	1400000	1348000	980061	0.73	0.9280	0.5829	880484	1423078	1380139	0.97	0.9023	0.4228	1321080	882583	975200	320507
ECOLI	08155240	420217	3	410000	430000	420000	420000	10000	0.02	1.0000	1.0000	419881	420000	10001	0.02	1.0000	0.9869	420217	8263	419921	427066
ECOLI	08155300	2794061	3	4400	6800000	1200000	2668133	3627893	1.36	0.8772	0.3161	-99631	5431427	10142799	1.87	0.9151	0.4353	2794061	2994039	329899	1703019
ECOLI	08155400	2764062	4	75000	6000000	2350000	2693750	2655213	0.99	0.9523	0.7304	676599	3694372	5869854	1.59	0.8964	0.4135	2764062	2321136	1155385	2383797
ECOLI	08156800	15874936	4	3000000	50999999	7750000	17375000	22603005	1.30	0.7426	0.0329	7896679	15874936	17559729	1.11	0.9404	0.6569	18017375	19913523	9577751	11404387
ECOLI	08157500	22409	15	5770	54055	20275	22455	14166	0.63	0.9063	0.1190	18360	22559	15347	0.68	0.9756	0.9307	22409	13534	18617	19892
ECOLI	08158050	4489670	4	280000	11000000	3500000	4570000	4620202	1.01	0.9259	0.5704	1750210	5346598	7214240	1.35	0.9369	0.6357	4489670	4014594	2426196	4867644
ECOLI	08158600	2007300	3	1500000	2400000	2100000	2000000	458258	0.23	0.9643	0.6369	1943499	2001203	481166	0.24	0.9415	0.5334	2007300	377100	1962640	1928569
ECOLI	08158922	6608075	4	1600000	13000000	6150000	6725000	5398379	0.80	0.9093	0.4785	4310331	6854438	6313020	0.92	0.9209	0.5421	6608075	4690188	4879747	12045800
ECOLI	FBU	5402	5	487	15839	4569	5533	6044	1.09	0.8146	0.1060	2683	5836	7144	1.22	0.9667	0.8534	5402	5316	3185	5414
FCOL	08154700	55828	4	13920	104393	54776	56966	44327	0.78	0.8822	0.3479	37107	58178	52826	0.91	0.8969	0.4159	55828	38384	41840	34044
FCOL	08155200	8360	7	1432	23046	7049	8553	7456	0.87	0.8556	0.1381	5792	8646	8010	0.93	0.9823	0.9698	8360	6842	6148	2163
FCOL	08155240	2685	5	849	3320	3066	2661	1021	0.38	0.6720	0.0048	2319	2741	1578	0.58	0.6198	0.0011	2685	897	2400	3205
FCOL	08155300	29836	5	63	89243	6797	21432	38103	1.78	0.6453	0.0023	1526	29836	67254	2.25	0.9641	0.8363	21999	34635	3526	14359
FCOL	08155400	179107	8	1051	571036	24903	152766	244933	1.60	0.6365	0.0004	20808	179107	454105	2.54	0.9318	0.5330	152456	229015	28775	34297
FCOL	08156800	278898	9	11470	750867	89661	248580	299676	1.21	0.7652	0.0081	87737	278898	497578	1.78	0.9158	0.3585	245473	280317	101072	116335
FCOL	08157500	51456	15	12032	129669	45739	51580	34496	0.67	0.8985	0.0903	41125	51876	37747	0.73	0.9756	0.9307	51456	32954	41776	45405
FCOL	08157600	480857	4	1994	1452830	90910	409161	698021	1.71	0.7009	0.0119	19169	480857	947846	1.97	0.9883	0.9484	394513	597194	65135	104019
FCOL	08157700	87499	6	11218	179846	70955	85861	61883	0.72	0.9511	0.7495	58102	92299	90350	0.98	0.9191	0.4986	87499	57346	63028	48926
FCOL	08158050	47641	6	1555	145858	27926	46229	54545	1.18	0.8357	0.1199	16015	54021	87095	1.61	0.9633	0.8450	47641	50820	20193	51186
FCOL	08158600	34017	4	9764	57703	33590	33662	20657	0.61	0.9922	0.9686	25778	34511	25621	0.74	0.9431	0.6731	34017	17738	27817	45389
FCOL	08158922	50834	5	7200	104170	29366	50782	49434	0.97	0.7805	0.0557	24624	52804	64077	1.21	0.8538	0.2069	50834	44393	29132	95020
FCOL	FBU	11540	5	869	35183	9389	11836	13604	1.15	0.7988	0.0792	5269	12587	16271	1.29	0.9667	0.8534	11540	11964	6400	11501

Table A.5 (continued) Summary of water quality data information from all sites in water year period 1999-2001, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
FSTR	08155400	46909	4	1067	109042	37785	46420	47383	1.02	0.9504	0.7184	10555	66141	108149	1.64	0.8965	0.4138	46909	40846	19015	43341
FSTR	08156800	155412	5	21862	393190	147894	156821	143092	0.91	0.8696	0.2650	94126	163273	169300	1.04	0.9615	0.8184	155412	125680	105941	137986
FSTR	08157500	139313	16	16673	448611	115797	134505	115008	0.86	0.8577	0.0177	89659	139313	148538	1.07	0.9412	0.3646	135161	112059	92224	114756
FSTR	08157600	200972	3	45508	408537	128845	194297	190159	0.98	0.9111	0.4219	108244	193202	186186	0.96	0.9991	0.9431	200972	156747	133801	212306
FSTR	08157700	119171	5	23919	219809	86628	116570	86434	0.74	0.8953	0.3843	80212	120141	107083	0.89	0.9341	0.6247	119171	77947	87341	72762
FSTR	FBU	12612	5	1363	42030	7465	13019	16485	1.27	0.7240	0.0168	6186	12612	14810	1.17	0.9689	0.8684	12720	14453	7230	13095
NH3	08154700	0.060	4	0.020	0.140	0.040	0.060	0.054	0.90	0.7729	0.0618	0.042	0.058	0.045	0.77	0.9072	0.4674	0.060	0.047	0.046	0.030
NH3	08155200	0.022	7	0.010	0.060	0.020	0.023	0.018	0.79	0.7680	0.0195	0.018	0.022	0.015	0.69	0.8656	0.1698	0.023	0.017	0.018	0.055
NH3	08155240	0.018	5	0.010	0.020	0.020	0.018	0.004	0.25	0.5522	0.0001	0.017	0.018	0.006	0.31	0.5522	0.0001	0.018	0.004	0.017	0.020
NH3	08155300	0.020	6	0.010	0.040	0.020	0.020	0.011	0.55	0.8137	0.0778	0.017	0.020	0.010	0.52	0.8663	0.2117	0.020	0.010	0.018	0.019
NH3	08155400	0.046	8	0.010	0.130	0.020	0.048	0.051	1.07	0.7517	0.0085	0.026	0.046	0.053	1.15	0.8309	0.0606	0.047	0.047	0.028	0.015
NH3	08156800	0.106	9	0.020	0.360	0.070	0.107	0.107	1.00	0.7770	0.0111	0.069	0.106	0.105	0.99	0.9575	0.7721	0.108	0.101	0.072	0.120
NH3	08157500	0.152	20	0.020	0.330	0.165	0.152	0.099	0.65	0.9219	0.1078	0.109	0.163	0.168	1.03	0.8811	0.0185	0.153	0.097	0.111	0.189
NH3	08157600	0.095	6	0.050	0.210	0.080	0.097	0.057	0.59	0.7206	0.0101	0.085	0.095	0.046	0.48	0.8611	0.1930	0.096	0.052	0.087	0.092
NH3	08157700	0.168	9	0.050	0.380	0.150	0.168	0.108	0.65	0.9139	0.3444	0.134	0.169	0.120	0.71	0.9542	0.7362	0.168	0.102	0.138	0.153
NH3	08158050	0.059	6	0.020	0.090	0.060	0.058	0.023	0.40	0.9550	0.7806	0.052	0.059	0.031	0.52	0.8399	0.1301	0.059	0.022	0.053	0.060
NH3	08158600	0.088	4	0.020	0.180	0.075	0.088	0.067	0.77	0.9247	0.5636	0.060	0.090	0.077	0.86	0.9499	0.7158	0.088	0.058	0.067	0.138
NH3	08158840	0.017	3	0.010	0.020	0.020	0.017	0.006	0.35	0.7500	0.0001	0.015	0.017	0.007	0.39	0.7500	0.0001	0.017	0.005	0.016	0.013
NH3	08158922	0.092	5	0.010	0.340	0.030	0.100	0.139	1.39	0.7396	0.0238	0.038	0.092	0.121	1.31	0.9559	0.7791	0.097	0.122	0.046	0.032
NH3	FBU	0.029	7	0.010	0.040	0.030	0.029	0.009	0.31	0.7194	0.0060	0.026	0.029	0.013	0.45	0.6240	0.0005	0.029	0.008	0.027	0.030
NO23	08154700	0.377	4	0.270	0.470	0.380	0.375	0.083	0.22	0.9936	0.9752	0.365	0.375	0.087	0.23	0.9731	0.8607	0.377	0.072	0.368	0.434
NO23	08155200	0.150	7	0.020	0.300	0.140	0.150	0.089	0.59	0.9868	0.9856	0.112	0.162	0.144	0.89	0.8616	0.1564	0.150	0.082	0.118	0.094
NO23	08155240	0.151	5	0.060	0.390	0.100	0.156	0.133	0.85	0.7238	0.0167	0.119	0.151	0.103	0.68	0.8836	0.3259	0.154	0.117	0.125	0.136
NO23	08155300	0.163	6	0.050	0.330	0.160	0.163	0.097	0.59	0.9385	0.6468	0.134	0.165	0.108	0.65	0.9675	0.8749	0.163	0.088	0.139	0.185
NO23	08155400	0.484	8	0.280	0.810	0.365	0.489	0.228	0.47	0.7809	0.0178	0.440	0.487	0.222	0.46	0.8101	0.0367	0.484	0.212	0.446	0.369
NO23	08156800	0.618	9	0.390	0.860	0.620	0.621	0.186	0.30	0.8965	0.2324	0.592	0.622	0.199	0.32	0.8781	0.1498	0.618	0.176	0.595	0.476
NO23	08157500	0.649	21	0.210	1.130	0.570	0.654	0.287	0.44	0.9271	0.1205	0.589	0.657	0.318	0.48	0.9550	0.4210	0.649	0.278	0.592	0.511
NO23	08157600	0.465	6	0.020	0.970	0.390	0.465	0.328	0.71	0.9652	0.8587	0.251	0.609	0.833	1.37	0.7759	0.0353	0.473	0.302	0.295	0.445
NO23	08157700	0.541	10	0.380	0.770	0.535	0.543	0.127	0.23	0.9520	0.6927	0.529	0.543	0.125	0.23	0.9720	0.9091	0.541	0.120	0.530	0.512
NO23	08158050	0.461	6	0.310	0.610	0.480	0.462	0.118	0.25	0.9389	0.6505	0.446	0.462	0.123	0.27	0.9284	0.5679	0.461	0.107	0.449	0.436
NO23	08158600	0.396	4	0.300	0.490	0.400	0.398	0.092	0.23	0.8966	0.4145	0.387	0.398	0.093	0.23	0.8990	0.4260	0.396	0.080	0.389	0.422
NO23	08158840	0.208	3	0.090	0.360	0.180	0.210	0.137	0.65	0.9643	0.6369	0.166	0.210	0.138	0.66	1.0000	1.0000	0.208	0.113	0.180	0.287
NO23	08158922	0.455	5	0.320	0.670	0.430	0.458	0.129	0.28	0.8926	0.3702	0.442	0.457	0.122	0.27	0.9443	0.6962	0.455	0.115	0.445	0.423
NO23	FBU	0.414	7	0.250	0.770	0.310	0.413	0.194	0.47	0.8276	0.0760	0.376	0.410	0.174	0.42	0.8832	0.2411	0.414	0.179	0.380	0.517

Table A.5 (continued) Summary of water quality data information from all sites in water year period 1999-2001, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
PB	08154700	2.924	4	1.900	4.220	2.815	2.938	0.968	0.33	0.9711	0.8486	2.782	2.937	0.961	0.33	0.9930	0.9723	2.924	0.827	2.821	2.713
PB	08155200	6.278	6	0.500	13.380	5.050	6.232	4.882	0.78	0.9353	0.6214	3.665	7.097	8.346	1.18	0.8959	0.3505	6.278	4.442	4.127	12.333
PB	08155240	3.500	5	0.500	16.110	1.000	4.196	6.731	1.60	0.6612	0.0036	1.305	3.500	4.800	1.37	0.8665	0.2526	4.306	6.110	1.631	13.172
PB	08155300	2.954	6	0.500	17.130	1.225	3.760	6.589	1.75	0.5816	0.0003	1.205	2.954	4.066	1.38	0.7976	0.0559	3.823	6.055	1.422	14.408
PB	08155400	6.406	8	0.500	15.870	5.940	6.348	5.005	0.79	0.9439	0.6494	3.771	7.292	9.050	1.24	0.8949	0.2600	6.406	4.655	4.117	3.649
PB	08156800	27.272	9	10.550	58.260	20.600	27.061	17.235	0.64	0.8355	0.0515	22.536	26.808	16.255	0.61	0.9320	0.5005	27.272	16.278	22.982	32.114
PB	08157500	34.495	21	11.050	87.500	20.820	34.650	23.840	0.69	0.8555	0.0053	27.602	34.495	24.852	0.72	0.9268	0.1187	35.018	23.349	27.900	39.751
PB	08157600	38.511	6	19.140	66.230	31.730	38.608	17.348	0.45	0.8990	0.3683	34.995	38.561	17.063	0.44	0.9426	0.6803	38.511	15.793	35.572	37.065
PB	08157700	37.140	10	14.220	77.560	36.175	37.157	19.883	0.54	0.9282	0.4308	32.118	37.241	20.852	0.56	0.9654	0.8456	37.140	18.762	32.602	38.144
PB	08158050	35.658	6	17.950	57.680	35.195	35.432	17.067	0.48	0.8572	0.1797	31.192	35.505	18.173	0.51	0.8546	0.1714	35.658	15.569	31.883	38.352
PB	08158600	22.947	4	13.280	41.020	18.960	23.055	12.856	0.56	0.8579	0.2529	20.006	22.898	11.741	0.51	0.8991	0.4268	22.947	11.157	20.707	32.777
PB	08158840	2.846	3	1.790	3.870	2.950	2.870	1.042	0.36	0.9956	0.8730	2.665	2.875	1.104	0.38	0.9716	0.6769	2.846	0.862	2.734	3.332
PB	08158922	7.703	5	5.780	10.500	7.000	7.782	2.203	0.28	0.8514	0.1991	7.481	7.778	2.168	0.28	0.8595	0.2266	7.703	1.962	7.540	5.850
PB	FBU	2.450	7	1.500	4.040	2.070	2.459	1.131	0.46	0.8043	0.0451	2.223	2.450	1.090	0.45	0.8306	0.0811	2.447	1.048	2.255	1.938
TDS	08154700	247.116	4	229.260	272.990	242.120	246.623	19.777	0.08	0.9168	0.5192	245.850	246.616	19.447	0.08	0.9236	0.5575	247.116	17.351	246.041	263.667
TDS	08155200	215.844	7	105.720	293.030	219.440	215.709	62.660	0.29	0.9545	0.7704	204.499	216.856	74.704	0.34	0.8829	0.2396	215.844	58.032	206.231	117.462
TDS	08155240	234.901	5	122.210	271.840	261.270	235.856	63.838	0.27	0.6445	0.0023	223.749	237.434	81.729	0.34	0.6172	0.0011	234.901	58.026	226.443	150.901
TDS	08155300	216.072	6	114.530	325.460	216.040	217.220	74.034	0.34	0.9692	0.8874	203.737	217.775	79.741	0.37	0.9536	0.7696	216.072	67.622	206.031	130.147
TDS	08155400	181.978	8	100.500	285.360	182.025	180.526	61.814	0.34	0.9592	0.8025	169.761	180.753	64.580	0.36	0.9603	0.8127	181.978	58.345	171.106	208.885
TDS	08156800	159.604	9	88.800	224.340	171.440	160.890	51.898	0.32	0.8899	0.1991	151.992	161.192	55.818	0.35	0.8880	0.1901	159.604	49.084	152.993	123.675
TDS	08157600	117.938	4	70.120	222.290	92.345	119.275	69.588	0.58	0.7767	0.0666	103.917	117.829	58.333	0.50	0.8613	0.2650	117.938	59.483	107.297	86.705
TDS	08157700	150.456	8	56.000	282.030	151.960	151.964	66.115	0.44	0.9398	0.6091	136.942	153.038	73.237	0.48	0.9431	0.6417	150.456	62.460	138.878	144.310
TDS	08158050	114.333	6	69.070	152.430	115.965	114.823	28.148	0.25	0.9787	0.9451	110.926	115.049	31.137	0.27	0.9281	0.5655	114.333	26.230	111.605	111.205
TDS	08158600	139.691	4	96.550	190.470	137.700	140.605	43.404	0.31	0.9357	0.6285	133.885	140.619	43.839	0.31	0.9385	0.6452	139.691	37.358	135.550	118.988
TDS	08158840	131.777	3	99.550	182.750	108.360	130.220	45.705	0.35	0.8284	0.1844	123.136	129.952	42.186	0.32	0.8524	0.2468	131.777	37.769	125.388	125.219
TDS	08158922	98.688	5	84.780	131.430	92.830	98.766	18.669	0.19	0.7500	0.0297	97.236	98.688	16.990	0.17	0.7872	0.0634	98.446	16.367	97.525	94.974
TKN	08154700	1.062	4	0.720	1.390	1.060	1.058	0.293	0.28	0.9824	0.9159	1.015	1.058	0.303	0.29	0.9754	0.8746	1.062	0.253	1.026	1.104
TKN	08155200	1.235	7	0.280	3.140	1.200	1.229	1.034	0.84	0.8849	0.2493	0.811	1.253	1.213	0.97	0.9116	0.4067	1.235	0.958	0.865	2.898
TKN	08155240	1.196	5	0.190	4.140	0.810	1.272	1.638	1.29	0.7276	0.0182	0.594	1.196	1.392	1.16	0.9370	0.6446	1.304	1.483	0.692	3.431
TKN	08155300	0.956	6	0.190	3.990	0.605	1.062	1.453	1.37	0.6440	0.0015	0.540	0.956	1.042	1.09	0.9021	0.3865	1.071	1.337	0.598	3.404
TKN	08155400	0.848	8	0.500	1.380	0.765	0.850	0.346	0.41	0.8777	0.1790	0.782	0.850	0.350	0.41	0.8845	0.2078	0.848	0.324	0.790	0.707
TKN	08156800	2.370	9	1.610	4.340	2.240	2.380	0.814	0.34	0.7921	0.0166	2.272	2.370	0.697	0.29	0.9002	0.2531	2.375	0.762	2.282	2.396
TKN	08157500	2.196	21	0.600	4.300	1.620	2.182	1.124	0.52	0.8820	0.0159	1.891	2.196	1.262	0.57	0.9223	0.0966	2.203	1.099	1.905	2.444
TKN	08157600	2.948	6	1.180	5.200	2.775	2.978	1.503	0.50	0.9522	0.7577	2.582	2.994	1.640	0.55	0.9584	0.8077	2.948	1.363	2.648	2.403
TKN	08157700	2.536	10	0.830	4.520	2.570	2.551	1.178	0.46	0.9157	0.3226	2.264	2.574	1.336	0.52	0.9339	0.4876	2.536	1.114	2.294	2.108
TKN	08158050	2.467	6	1.370	3.560	2.250	2.467	0.875	0.35	0.9145	0.4667	2.309	2.469	0.908	0.37	0.9327	0.6007	2.467	0.797	2.335	2.499
TKN	08158600	2.480	4	1.820	3.370	2.385	2.490	0.664	0.27	0.9665	0.8200	2.406	2.489	0.647	0.26	0.9913	0.9639	2.480	0.579	2.426	2.959
TKN	08158840	0.894	3	0.670	1.060	0.970	0.900	0.204	0.23	0.9119	0.4244	0.874	0.901	0.218	0.24	0.8886	0.3502	0.894	0.169	0.883	0.964
TKN	08158922	1.334	5	1.060	1.500	1.420	1.336	0.184	0.14	0.8863	0.3387	1.322	1.336	0.193	0.14	0.8712	0.2715	1.334	0.167	1.325	1.100
TKN	FBU	0.737	7	0.300	1.260	0.700	0.743	0.408	0.55	0.8736	0.1994	0.624	0.747	0.457	0.61	0.8761	0.2096	0.737	0.379	0.641	0.878

Table A.5 (continued) Summary of water quality data information from all sites in water year period 1999-2001, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TN	08154700	1.446	4	1.130	1.760	1.435	1.440	0.316	0.22	0.8602	0.2609	1.405	1.440	0.319	0.22	0.8607	0.2626	1.446	0.273	1.414	1.541
TN	08155200	1.389	7	0.310	3.240	1.400	1.383	1.062	0.77	0.9133	0.4192	0.970	1.411	1.261	0.89	0.9411	0.6484	1.389	0.983	1.026	3.001
TN	08155240	1.379	5	0.300	4.240	0.940	1.434	1.630	1.14	0.7736	0.0485	0.781	1.379	1.451	1.05	0.9232	0.5510	1.464	1.476	0.883	3.570
TN	08155300	1.151	6	0.280	4.160	0.780	1.228	1.471	1.20	0.6901	0.0048	0.711	1.151	1.149	1.00	0.9030	0.3921	1.238	1.353	0.774	3.590
TN	08155400	1.338	8	0.840	2.130	1.260	1.344	0.512	0.38	0.8755	0.1705	1.251	1.343	0.511	0.38	0.8831	0.2017	1.338	0.477	1.262	1.079
TN	08156800	2.999	9	2.010	4.740	2.830	3.007	0.796	0.26	0.9039	0.2756	2.913	3.003	0.746	0.25	0.9640	0.8391	2.999	0.747	2.923	2.879
TN	08157500	2.855	21	1.020	4.700	2.440	2.840	1.052	0.37	0.9279	0.1248	2.635	2.851	1.162	0.41	0.9307	0.1425	2.855	1.028	2.645	2.958
TN	08157600	3.425	6	1.510	5.220	3.435	3.447	1.403	0.41	0.9750	0.9239	3.122	3.470	1.602	0.46	0.9487	0.7298	3.425	1.273	3.178	2.850
TN	08157700	3.082	10	1.380	5.120	3.080	3.100	1.213	0.39	0.8940	0.1881	2.863	3.107	1.278	0.41	0.9272	0.4211	3.082	1.146	2.887	2.626
TN	08158050	2.932	6	1.900	4.180	2.730	2.932	0.888	0.30	0.9405	0.6631	2.800	2.931	0.888	0.30	0.9607	0.8253	2.932	0.808	2.822	2.938
TN	08158600	2.881	4	2.120	3.840	2.805	2.893	0.716	0.25	0.9694	0.8377	2.807	2.892	0.705	0.24	0.9882	0.9482	2.881	0.626	2.828	3.388
TN	08158840	1.102	3	0.760	1.420	1.150	1.110	0.332	0.30	0.9891	0.8002	1.057	1.111	0.349	0.31	0.9659	0.6455	1.102	0.275	1.075	1.251
TN	08158922	1.795	5	1.490	2.100	1.790	1.800	0.241	0.13	0.9867	0.9670	1.784	1.800	0.243	0.14	0.9843	0.9563	1.795	0.215	1.787	1.524
TN	FBU	1.157	7	0.590	1.950	1.000	1.161	0.487	0.42	0.9454	0.6875	1.061	1.162	0.502	0.43	0.9637	0.8500	1.157	0.447	1.075	1.401
TOC	08154700	13.218	4	8.880	16.080	13.990	13.235	3.167	0.24	0.9236	0.5573	12.801	13.256	3.489	0.26	0.8852	0.3613	13.218	2.716	12.914	12.827
TOC	08155200	18.402	7	3.200	40.540	15.550	18.327	13.910	0.76	0.9137	0.4224	12.639	19.043	17.858	0.94	0.9452	0.6861	18.402	12.905	13.435	37.953
TOC	08155240	21.783	5	2.700	51.670	11.930	21.454	20.964	0.98	0.8821	0.3191	11.148	22.184	25.619	1.15	0.9601	0.8088	21.783	18.896	12.955	43.687
TOC	08155300	17.559	6	2.100	48.720	9.070	17.392	18.808	1.08	0.8292	0.1059	8.616	17.524	21.384	1.22	0.9533	0.7673	17.559	17.228	9.795	42.276
TOC	08155400	12.410	8	5.520	38.030	10.115	12.859	10.566	0.82	0.6717	0.0011	10.321	12.410	7.720	0.62	0.8806	0.1910	12.837	9.859	10.566	9.028
TOC	08156800	22.241	9	15.480	31.140	21.070	22.174	5.719	0.26	0.9195	0.3877	21.463	22.168	5.667	0.26	0.9378	0.5592	22.241	5.422	21.540	23.398
TOC	08157500	9.191	18	3.490	24.300	6.955	9.212	6.142	0.67	0.7364	0.0002	7.805	9.022	5.087	0.56	0.8831	0.0295	9.191	5.912	7.869	7.081
TOC	08157600	26.152	6	5.400	53.570	25.065	26.517	16.955	0.64	0.9815	0.9590	20.090	27.528	22.127	0.80	0.9507	0.7456	26.152	15.490	21.214	20.789
TOC	08157700	24.586	8	6.990	52.870	24.635	24.863	14.438	0.58	0.9026	0.3049	20.206	25.446	17.807	0.70	0.8753	0.1699	24.586	13.691	20.810	24.165
TOC	08158050	25.741	6	14.790	35.720	28.320	25.733	7.888	0.31	0.9170	0.4839	24.371	25.807	8.757	0.34	0.8851	0.2933	25.741	7.195	24.606	25.163
TOC	08158600	30.112	4	20.090	43.060	28.960	30.268	9.866	0.33	0.9750	0.8723	28.709	30.258	9.756	0.32	0.9958	0.9850	30.112	8.615	29.092	37.120
TOC	08158840	12.882	3	11.520	13.740	13.510	12.923	1.221	0.09	0.8268	0.1802	12.863	12.924	1.255	0.10	0.8211	0.1660	12.882	1.009	12.883	13.059
TOC	08158922	17.413	5	12.510	27.000	16.280	17.482	5.586	0.32	0.8281	0.1346	16.734	17.438	5.001	0.29	0.8987	0.4027	17.413	5.021	16.873	12.944
TOC	FBU	6.099	7	3.130	8.160	6.960	6.169	1.840	0.30	0.9189	0.4609	5.839	6.197	2.152	0.35	0.8770	0.2135	6.099	1.730	5.889	6.800
TP	08154700	0.130	4	0.090	0.160	0.135	0.130	0.032	0.24	0.9398	0.6532	0.126	0.130	0.034	0.26	0.9223	0.5496	0.130	0.027	0.127	0.121
TP	08155200	0.195	7	0.020	0.480	0.190	0.194	0.187	0.96	0.8544	0.1347	0.095	0.210	0.281	1.34	0.8854	0.2517	0.195	0.172	0.108	0.379
TP	08155240	0.140	5	0.020	0.490	0.070	0.148	0.197	1.33	0.7475	0.0282	0.059	0.140	0.180	1.28	0.9102	0.4686	0.151	0.179	0.072	0.408
TP	08155300	0.123	6	0.020	0.540	0.030	0.122	0.207	1.70	0.5923	0.0004	0.043	0.096	0.125	1.30	0.7897	0.0474	0.123	0.190	0.050	0.457
TP	08155400	0.155	8	0.050	0.330	0.160	0.155	0.092	0.59	0.9221	0.4470	0.127	0.157	0.104	0.66	0.9392	0.6033	0.155	0.086	0.131	0.100
TP	08156800	0.655	9	0.400	1.210	0.620	0.654	0.268	0.41	0.8763	0.1435	0.607	0.652	0.252	0.39	0.9222	0.4106	0.655	0.250	0.612	0.708
TP	08157500	0.534	21	0.160	1.130	0.440	0.530	0.303	0.57	0.9115	0.0589	0.444	0.534	0.344	0.64	0.9425	0.2437	0.534	0.296	0.448	0.575
TP	08157600	0.639	6	0.300	0.950	0.645	0.645	0.298	0.46	0.8402	0.1308	0.571	0.648	0.328	0.51	0.8604	0.1907	0.639	0.272	0.583	0.565
TP	08157700	1.007	10	0.270	3.710	0.710	1.048	1.010	0.96	0.6996	0.0009	0.764	1.007	0.788	0.78	0.9534	0.7087	1.049	0.961	0.786	1.022
TP	08158050	0.829	6	0.400	1.130	0.830	0.828	0.286	0.34	0.9308	0.5859	0.771	0.833	0.328	0.39	0.9022	0.3873	0.829	0.261	0.781	0.837
TP	08158600	0.731	4	0.280	0.990	0.825	0.730	0.324	0.44	0.8802	0.3394	0.628	0.744	0.425	0.57	0.8123	0.1262	0.731	0.280	0.656	0.513
TP	08158840	0.125	3	0.070	0.160	0.150	0.127	0.049	0.39	0.8322	0.1939	0.115	0.127	0.057	0.45	0.8082	0.1342	0.125	0.041	0.119	0.138
TP	08158922	0.263	5	0.180	0.330	0.260	0.264	0.057	0.22	0.9668	0.8544	0.257	0.264	0.061	0.23	0.9334	0.6194	0.263	0.050	0.259	0.259
TP	FBU	0.103	7	0.030	0.140	0.130	0.103	0.044	0.43	0.8393	0.0979	0.089	0.106	0.062	0.59	0.7925	0.0345	0.103	0.040	0.091	0.124

Table A.5 (continued) Summary of water quality data information from all sites in water year period 1999-2001, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TSS	08154700	114.969	4	55.160	143.390	130.005	114.640	41.613	0.36	0.8156	0.1332	104.501	115.716	51.724	0.45	0.7727	0.0616	114.969	35.918	107.240	129.413
TSS	08155200	338.641	7	7.100	1066.170	185.980	338.416	398.417	1.18	0.8409	0.1013	103.752	429.366	796.481	1.86	0.9605	0.8227	338.641	369.758	131.028	971.821
TSS	08155240	248.682	5	7.600	1117.870	65.200	271.252	477.246	1.76	0.6579	0.0033	35.682	248.682	465.811	1.87	0.9102	0.4688	279.504	433.055	58.241	907.096
TSS	08155300	211.447	6	3.000	1137.130	50.910	231.218	447.328	1.93	0.5995	0.0005	22.469	211.447	468.503	2.22	0.9316	0.5925	235.915	410.938	36.065	950.884
TSS	08155400	95.966	8	7.740	247.830	89.530	94.989	80.393	0.85	0.9200	0.4296	55.700	105.148	127.793	1.22	0.9374	0.5853	95.966	74.671	60.599	63.570
TSS	08156800	471.606	10	4.980	1310.940	263.465	473.077	471.569	1.00	0.8704	0.1010	160.956	736.197	1631.128	2.22	0.8936	0.1863	471.606	447.646	190.879	551.211
TSS	08157500	279.465	20	36.760	687.750	224.525	266.840	205.770	0.77	0.8833	0.0203	186.901	279.465	286.269	1.02	0.9421	0.2628	269.856	201.076	190.768	299.794
TSS	08157600	258.996	6	108.020	499.500	235.165	258.030	136.242	0.53	0.9218	0.5187	225.438	257.840	134.421	0.52	0.9926	0.9945	258.996	123.992	230.623	270.682
TSS	08157700	443.167	10	91.050	1277.480	295.800	443.672	350.867	0.79	0.8316	0.0350	334.096	443.167	351.372	0.79	0.9791	0.9600	443.779	333.276	343.892	477.946
TSS	08158050	715.312	6	306.330	1094.550	722.775	712.713	289.134	0.41	0.9777	0.9397	645.252	717.882	333.162	0.46	0.9436	0.6881	715.312	265.311	656.973	751.623
TSS	08158600	1254.253	4	500.270	3079.370	818.685	1304.253	1193.285	0.91	0.7459	0.0353	932.438	1254.253	938.227	0.75	0.8736	0.3119	1304.561	1031.374	1007.505	2232.111
TSS	08158840	110.281	3	78.820	161.280	92.050	110.717	44.286	0.40	0.8668	0.2863	102.900	110.420	40.872	0.37	0.9033	0.3962	110.281	36.257	105.377	138.104
TSS	08158922	188.644	5	97.000	285.720	186.080	190.722	80.454	0.42	0.9407	0.6711	172.633	191.297	86.521	0.45	0.9407	0.6709	188.644	71.363	176.264	134.205
TSS	FBU	57.257	7	4.150	96.650	72.020	57.257	40.735	0.71	0.8461	0.1133	30.478	70.296	96.880	1.38	0.7782	0.0248	56.969	37.496	34.708	74.988
VSS	08155200	13.153	4	1.000	30.900	9.550	12.750	14.165	1.11	0.8834	0.3535	3.946	13.617	19.159	1.41	0.8999	0.4304	13.153	12.378	5.702	17.241
VSS	08155240	12.313	3	3.870	24.370	7.560	11.933	10.927	0.92	0.8799	0.3240	7.688	11.709	9.894	0.84	0.9759	0.7023	12.313	9.017	8.934	18.477
VSS	08155300	7.760	3	5.930	11.070	5.990	7.663	2.950	0.39	0.7588	0.0194	7.171	7.642	2.689	0.35	0.7621	0.0269	7.760	2.442	7.326	9.836
VSS	08155400	15.764	6	2.910	35.690	14.270	15.968	14.314	0.90	0.8335	0.1150	8.622	16.658	19.553	1.17	0.8061	0.0667	15.764	13.102	9.705	5.548
VSS	08156800	58.157	6	11.520	149.850	37.435	58.312	53.324	0.91	0.8620	0.1960	37.508	58.139	55.343	0.95	0.9780	0.9413	58.157	48.528	40.504	100.167
VSS	08157500	53.154	18	7.980	130.170	42.305	51.565	39.579	0.77	0.8870	0.0343	36.623	53.154	51.543	0.97	0.9548	0.5043	52.592	38.989	37.403	58.441
VSS	08157600	37.875	6	7.820	75.330	34.850	37.742	23.137	0.61	0.9722	0.9069	29.222	39.186	30.378	0.78	0.9266	0.5542	37.875	21.008	30.738	38.080
VSS	08157700	51.704	7	19.570	158.510	39.960	53.796	48.665	0.90	0.7273	0.0073	40.132	51.704	37.653	0.73	0.9185	0.4579	55.728	46.556	41.652	61.536
VSS	08158050	62.194	4	19.490	140.760	43.785	61.955	53.885	0.87	0.8251	0.1553	43.875	60.699	47.380	0.78	0.9645	0.8073	62.194	46.442	47.773	85.198
VSS	08158600	129.603	3	28.440	320.170	43.260	130.623	164.319	1.26	0.7880	0.0862	54.236	120.281	130.981	1.09	0.8754	0.3109	129.603	134.102	73.305	243.612
VSS	08158922	25.100	3	22.570	28.410	24.000	24.993	3.044	0.12	0.9201	0.4528	24.815	24.991	2.973	0.12	0.9325	0.4980	25.100	2.508	24.874	24.526
VSS	FBU	8.443	7	1.010	15.820	11.050	8.443	6.016	0.71	0.8842	0.2459	5.026	9.593	11.487	1.20	0.8059	0.0468	8.399	5.557	5.548	10.493
ZN	08154700	19.740	4	14.640	27.310	18.775	19.875	5.612	0.28	0.9408	0.6592	19.130	19.861	5.422	0.27	0.9649	0.8097	19.740	4.839	19.311	16.527
ZN	08155200	27.882	3	18.190	33.480	31.210	27.627	8.251	0.30	0.8585	0.2636	26.194	27.688	9.116	0.33	0.8350	0.2012	27.882	6.671	26.687	33.291
ZN	08155300	25.312	4	2.000	44.660	26.355	24.843	18.873	0.76	0.9700	0.8414	11.786	29.709	37.072	1.25	0.8431	0.2045	25.312	16.340	15.339	40.910
ZN	08155400	23.139	7	14.960	29.800	23.340	23.216	6.149	0.26	0.8986	0.3228	22.350	23.241	6.524	0.28	0.8970	0.3131	23.139	5.758	22.476	20.366
ZN	08156800	85.140	9	44.170	151.920	60.090	84.802	40.150	0.47	0.8605	0.0971	75.821	84.671	40.528	0.48	0.8742	0.1364	85.140	37.667	76.766	95.734
ZN	08157500	106.384	21	39.260	216.130	84.930	106.369	51.611	0.49	0.9019	0.0380	94.845	106.384	53.026	0.50	0.9571	0.4606	107.242	50.585	95.367	115.936
ZN	08157600	131.778	6	47.580	204.350	132.500	133.013	56.213	0.42	0.9834	0.9671	117.970	134.959	70.425	0.52	0.9072	0.4181	131.778	51.337	120.689	107.318
ZN	08157700	115.485	10	50.760	209.230	99.945	115.711	51.031	0.44	0.8909	0.1737	105.339	115.627	50.837	0.44	0.9466	0.6283	115.485	48.168	106.333	113.671
ZN	08158050	98.178	6	54.190	144.790	92.600	98.007	37.574	0.38	0.9180	0.4909	90.683	98.109	39.066	0.40	0.9352	0.6208	98.178	34.215	91.892	101.623
ZN	08158600	87.793	4	58.670	127.660	82.640	87.903	29.332	0.33	0.9552	0.7485	83.315	87.825	28.369	0.32	0.9914	0.9644	87.793	25.363	84.429	109.850
ZN	08158840	15.443	3	9.690	21.280	15.750	15.573	5.797	0.37	0.9993	0.9496	14.423	15.597	6.073	0.39	0.9819	0.7425	15.443	4.792	14.809	18.261
ZN	08158922	30.022	5	21.230	49.570	23.560	30.382	12.201	0.40	0.8207	0.1183	28.287	30.268	11.122	0.37	0.8470	0.1853	30.022	10.810	28.676	21.629
ZN	FBU	9.064	7	4.030	20.610	5.060	9.240	6.779	0.73	0.7732	0.0220	7.284	9.064	6.114	0.67	0.8309	0.0816	9.260	6.299	7.520	5.991

Table A.6 Summary of water quality data information from all sites in water year period 2002-2004, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
BOD	08157500	8.522	5	1.000	16.000	7.200	8.720	5.887	0.68	0.9645	0.8392	5.535	9.779	10.303	1.05	0.8451	0.1794	8.522	5.266	6.256	8.250
BOD	08157700	9.960	5	4.500	18.000	8.000	10.140	5.670	0.56	0.9164	0.5067	8.625	10.131	5.732	0.57	0.9553	0.7746	9.960	5.040	8.913	10.183
CD	08154700	0.077	7	0.030	0.190	0.070	0.077	0.056	0.73	0.8240	0.0701	0.061	0.076	0.053	0.69	0.9142	0.4260	0.077	0.052	0.063	0.103
CD	08155200	0.127	8	0.020	0.790	0.090	0.154	0.259	1.68	0.5226	0.0001	0.068	0.127	0.152	1.20	0.8395	0.0744	0.152	0.242	0.074	0.196
CD	08155240	0.048	8	0.020	0.090	0.040	0.049	0.027	0.56	0.8300	0.0594	0.041	0.049	0.028	0.58	0.8829	0.2006	0.048	0.026	0.042	0.037
CD	08155300	0.059	8	0.020	0.090	0.065	0.060	0.033	0.55	0.7615	0.0109	0.049	0.061	0.042	0.69	0.7836	0.0191	0.059	0.031	0.050	0.075
CD	08155400	0.060	7	0.030	0.090	0.050	0.060	0.029	0.48	0.7844	0.0286	0.053	0.060	0.031	0.51	0.8162	0.0590	0.060	0.027	0.054	0.065
CD	08156800	0.415	4	0.190	0.590	0.435	0.413	0.199	0.48	0.8633	0.2723	0.358	0.415	0.222	0.53	0.8785	0.3324	0.415	0.172	0.372	0.365
CD	08157500	0.501	21	0.500	0.530	0.500	0.501	0.007	0.01	0.2284	0.0001	0.501	0.501	0.006	0.01	0.2284	0.0001	0.501	0.006	0.501	0.502
CD	08157600	0.506	11	0.500	0.570	0.500	0.506	0.021	0.04	0.3450	0.0001	0.506	0.506	0.020	0.04	0.3450	0.0001	0.506	0.019	0.506	0.527
CD	08157700	0.504	20	0.500	0.570	0.500	0.504	0.016	0.03	0.2359	0.0001	0.503	0.503	0.015	0.03	0.2359	0.0001	0.504	0.015	0.503	0.509
CD	08158600	0.267	7	0.080	0.390	0.270	0.271	0.124	0.46	0.8635	0.1628	0.235	0.277	0.163	0.59	0.8379	0.0949	0.267	0.116	0.240	0.278
CD	08158700	0.100	4	0.050	0.190	0.080	0.100	0.062	0.62	0.8542	0.2401	0.084	0.099	0.055	0.55	0.9538	0.7397	0.100	0.054	0.088	0.128
CD	08158810	0.049	6	0.020	0.090	0.040	0.048	0.030	0.62	0.8533	0.1673	0.039	0.048	0.031	0.65	0.8773	0.2568	0.049	0.027	0.041	0.060
CD	08158840	0.056	4	0.020	0.090	0.055	0.055	0.040	0.73	0.7286	0.0239	0.039	0.055	0.046	0.82	0.7286	0.0239	0.056	0.035	0.042	0.074
CD	08158930	0.108	6	0.030	0.330	0.090	0.112	0.110	0.99	0.7033	0.0067	0.077	0.108	0.090	0.83	0.8969	0.3561	0.115	0.103	0.081	0.097
CD	FBU	0.546	16	0.500	1.280	0.500	0.549	0.195	0.36	0.2727	0.0001	0.529	0.544	0.129	0.24	0.2727	0.0001	0.546	0.184	0.530	0.507
CL	08157500	29.090	5	11.100	45.400	31.290	29.518	13.008	0.44	0.9901	0.9800	25.870	29.948	16.160	0.54	0.9124	0.4824	29.090	11.639	26.653	23.616
CL	08157700	29.602	5	10.790	49.090	33.800	29.854	14.696	0.49	0.9719	0.8874	25.514	30.273	17.649	0.58	0.9286	0.5871	29.602	13.149	26.422	31.698
CL	FBU	19.133	3	18.400	20.200	18.790	19.130	0.947	0.05	0.9033	0.3961	19.107	19.130	0.936	0.05	0.9082	0.4122	19.133	0.767	19.115	18.906
COD	08154700	33.996	7	9.490	74.670	24.560	33.509	25.442	0.76	0.8888	0.2685	24.202	33.783	28.411	0.84	0.9226	0.4899	33.996	23.628	25.426	48.220
COD	08155200	16.457	8	5.000	45.930	7.160	16.720	16.794	1.00	0.7449	0.0072	10.299	16.107	16.097	1.00	0.7905	0.0226	16.457	15.617	10.918	28.562
COD	08155240	6.694	8	5.000	18.650	5.000	6.706	4.826	0.72	0.4184	0.0001	5.815	6.474	3.043	0.47	0.4184	0.0001	6.694	4.501	5.894	8.803
COD	08155300	15.130	8	5.000	38.020	11.250	15.130	12.374	0.82	0.8287	0.0576	10.475	15.134	13.597	0.90	0.7971	0.0267	15.045	11.545	10.986	22.443
COD	08155400	12.450	7	4.900	28.440	4.960	12.469	9.853	0.79	0.7708	0.0208	8.957	12.346	10.174	0.82	0.7374	0.0094	12.450	9.123	9.392	14.939
COD	08156800	89.961	4	28.720	219.760	56.675	90.458	87.223	0.96	0.7640	0.0518	61.124	86.987	70.607	0.81	0.9109	0.4872	89.961	75.146	67.074	75.634
COD	08157500	71.895	21	22.500	264.910	61.280	73.103	50.089	0.69	0.6849	0.0001	62.748	71.895	39.297	0.55	0.9526	0.3814	73.277	48.820	63.158	72.900
COD	08157600	74.746	11	36.370	182.380	62.570	75.593	39.552	0.52	0.7428	0.0017	68.427	74.746	32.032	0.43	0.9060	0.2184	74.589	36.651	68.982	112.713
COD	08157700	71.925	20	23.450	220.970	64.520	72.214	48.419	0.67	0.8455	0.0045	59.246	71.925	47.792	0.66	0.9607	0.5575	73.182	47.687	59.828	72.914
COD	08158600	62.840	7	5.000	96.930	86.660	62.840	36.739	0.58	0.8478	0.1172	42.040	73.336	80.984	1.10	0.7563	0.0148	61.427	34.496	45.734	58.020
COD	08158700	14.137	4	5.000	42.250	7.065	15.345	18.042	1.18	0.7076	0.0142	8.699	14.137	13.294	0.94	0.8062	0.1138	15.375	15.581	9.910	23.621
COD	08158810	19.699	6	5.000	49.470	13.375	19.283	17.413	0.90	0.8579	0.1820	12.551	19.181	17.954	0.94	0.9234	0.5302	19.699	16.211	13.518	33.074
COD	08158840	17.772	4	5.000	39.540	12.410	17.340	16.366	0.94	0.8545	0.2410	10.313	17.175	16.517	0.96	0.8495	0.2247	17.772	14.354	11.831	33.805
COD	08158930	35.486	6	18.200	59.310	34.295	35.120	14.349	0.41	0.9442	0.6929	32.323	35.122	14.369	0.41	0.9828	0.9646	35.486	13.301	32.778	39.014
COD	FBU	14.159	16	6.300	26.910	12.045	14.137	6.766	0.48	0.9008	0.0826	12.525	14.171	7.305	0.52	0.9092	0.1130	14.159	6.548	12.623	16.272

Table A.6 (continued) Summary of water quality data information from all sites in water year period 2002-2004, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
CU	08154700	2.809	7	1.340	6.740	1.900	2.866	2.015	0.70	0.7862	0.0298	2.344	2.809	1.717	0.61	0.8792	0.2230	2.898	1.869	2.407	3.771
CU	08155200	2.498	8	0.500	6.170	2.375	2.504	1.724	0.69	0.8724	0.1592	1.944	2.555	1.957	0.77	0.9526	0.7370	2.498	1.610	2.013	3.304
CU	08155240	1.455	8	0.500	3.640	1.090	1.454	1.070	0.74	0.8471	0.0891	1.136	1.441	1.025	0.71	0.9444	0.6549	1.455	0.997	1.171	1.730
CU	08155300	2.807	8	0.500	8.540	1.565	2.793	2.737	0.98	0.8187	0.0452	1.705	2.807	2.979	1.06	0.9320	0.5349	2.793	2.552	1.820	2.064
CU	08155400	1.651	7	0.500	3.460	1.200	1.641	1.123	0.68	0.9070	0.3756	1.252	1.663	1.285	0.77	0.9121	0.4108	1.651	1.035	1.305	1.799
CU	08156800	17.015	4	9.920	28.850	14.630	17.008	8.406	0.49	0.8933	0.3987	15.222	16.925	7.714	0.46	0.9594	0.7754	17.015	7.230	15.637	15.334
CU	08157500	16.098	21	3.270	49.640	14.490	16.145	12.097	0.75	0.8138	0.0011	12.670	16.098	12.087	0.75	0.9759	0.8560	16.155	11.802	12.817	13.557
CU	08157600	11.895	11	4.180	19.070	13.810	11.895	5.355	0.45	0.9007	0.1886	10.371	12.111	6.976	0.58	0.8463	0.0382	11.778	5.160	10.520	12.429
CU	08157700	7.764	20	3.000	28.290	5.580	7.896	6.090	0.77	0.7679	0.0003	6.267	7.764	5.458	0.70	0.9140	0.0761	7.962	5.983	6.335	8.666
CU	08158600	10.837	7	3.550	14.440	12.510	10.837	3.926	0.36	0.8546	0.1353	9.761	11.060	5.594	0.51	0.7625	0.0171	10.698	3.723	9.939	11.429
CU	08158700	3.096	4	0.500	6.900	2.445	3.073	2.739	0.89	0.9225	0.5510	1.809	3.193	3.223	1.01	0.9741	0.8666	3.096	2.355	2.111	4.263
CU	08158810	1.698	6	0.720	3.650	1.125	1.663	1.153	0.69	0.8258	0.0990	1.346	1.638	1.036	0.63	0.9054	0.4065	1.698	1.069	1.392	2.577
CU	08158840	2.029	4	0.690	4.540	1.350	1.983	1.743	0.88	0.8130	0.1276	1.415	1.929	1.474	0.76	0.9543	0.7433	2.029	1.536	1.534	3.729
CU	08158930	5.079	6	1.900	14.140	3.680	5.255	4.514	0.86	0.7365	0.0146	4.007	5.079	3.532	0.70	0.9210	0.5124	5.379	4.225	4.173	4.751
CU	FBU	3.911	16	3.000	9.270	3.180	3.908	1.679	0.43	0.6035	0.0001	3.674	3.868	1.258	0.33	0.6976	0.0002	3.911	1.620	3.686	3.658
DP	08154700	0.027	7	0.020	0.050	0.020	0.027	0.013	0.46	0.6499	0.0010	0.025	0.027	0.011	0.40	0.6420	0.0008	0.027	0.012	0.025	0.034
DP	08155200	0.015	8	0.005	0.040	0.010	0.016	0.011	0.71	0.7808	0.0178	0.013	0.015	0.010	0.65	0.9056	0.3241	0.015	0.010	0.013	0.023
DP	08155240	0.014	8	0.005	0.020	0.015	0.014	0.006	0.43	0.7792	0.0171	0.013	0.015	0.008	0.52	0.7976	0.0270	0.014	0.006	0.013	0.014
DP	08155300	0.022	8	0.010	0.080	0.010	0.023	0.024	1.08	0.6128	0.0002	0.016	0.021	0.016	0.79	0.7208	0.0039	0.022	0.022	0.016	0.046
DP	08155400	0.019	7	0.005	0.060	0.010	0.019	0.019	0.97	0.7064	0.0044	0.014	0.019	0.015	0.80	0.9140	0.4244	0.019	0.018	0.014	0.014
DP	08156800	0.040	4	0.020	0.050	0.045	0.040	0.014	0.35	0.8274	0.1612	0.037	0.040	0.017	0.43	0.7873	0.0814	0.040	0.012	0.038	0.041
DP	08157500	0.117	21	0.050	0.190	0.120	0.117	0.031	0.26	0.9708	0.7505	0.113	0.117	0.034	0.29	0.9340	0.1655	0.117	0.030	0.113	0.114
DP	08157600	0.091	11	0.060	0.110	0.090	0.091	0.016	0.17	0.9216	0.3320	0.089	0.091	0.017	0.19	0.8903	0.1402	0.091	0.015	0.090	0.084
DP	08157700	0.070	20	0.040	0.110	0.070	0.071	0.021	0.30	0.9417	0.2582	0.067	0.071	0.021	0.30	0.9567	0.4809	0.070	0.020	0.068	0.070
DP	08158600	0.021	7	0.020	0.030	0.020	0.021	0.004	0.18	0.4530	0.0001	0.021	0.021	0.003	0.15	0.4530	0.0001	0.021	0.004	0.021	0.024
DP	08158700	0.011	4	0.005	0.020	0.010	0.011	0.006	0.56	0.8949	0.4064	0.010	0.011	0.006	0.55	0.9447	0.6830	0.011	0.005	0.010	0.014
DP	08158810	0.012	6	0.005	0.020	0.010	0.013	0.006	0.49	0.8269	0.1012	0.011	0.013	0.007	0.52	0.8663	0.2117	0.012	0.006	0.011	0.015
DP	08158840	0.009	4	0.005	0.010	0.010	0.009	0.003	0.29	0.6298	0.0012	0.008	0.009	0.003	0.34	0.6298	0.0012	0.009	0.002	0.008	0.010
DP	08158930	0.061	6	0.030	0.110	0.055	0.062	0.031	0.50	0.9109	0.4421	0.054	0.062	0.031	0.50	0.9331	0.6045	0.061	0.028	0.056	0.103
DP	FBU	0.017	16	0.010	0.090	0.010	0.018	0.020	1.13	0.4177	0.0001	0.013	0.016	0.010	0.62	0.5871	0.0001	0.017	0.019	0.014	0.011
ECOLI	08155200	3847928	4	50	3900000	134000	1042012	1906598	1.83	0.6647	0.0041	-8618	3847928	10282671	2.67	0.8952	0.4077	1005232	1629145	42453	816280
ECOLI	08155240	180517	3	1600	540000	25000	188867	304315	1.61	0.7825	0.0734	392	183180	310450	1.69	0.9990	0.9387	180517	245136	27849	388427
ECOLI	08155300	215547	4	10000	420000	220000	217500	172313	0.79	0.9997	0.9993	80231	290140	414268	1.43	0.8214	0.1465	215547	147477	117833	224831
ECOLI	08155400	585863	3	34000	1400000	350000	594667	715112	1.20	0.9122	0.4255	125846	656793	906798	1.38	0.9789	0.7216	585863	586708	255402	819855
FCOL	08155200	12255	4	364	55760	2549	15305	26994	1.76	0.6699	0.0049	1791	12255	20380	1.66	0.9527	0.7329	14785	23065	3342	12139
FCOL	08155240	2647	3	22	9068	229	3106	5164	1.66	0.7671	0.0382	-13	2647	4558	1.72	0.9838	0.7559	2962	4161	357	6479
FCOL	08155300	3265	4	165	9963	1435	3250	4556	1.40	0.7827	0.0746	831	3246	4741	1.46	0.9985	0.9953	3265	3932	1254	3520
FCOL	08155400	6066	3	503	15774	2124	6134	8388	1.37	0.8286	0.1848	1436	5837	7686	1.32	0.9911	0.8197	6066	6856	2564	8277

Table A.6 (continued) Summary of water quality data information from all sites in water year period 2002-2004, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
NH3	08154700	0.028	7	0.020	0.050	0.020	0.029	0.012	0.43	0.7729	0.0219	0.026	0.028	0.011	0.39	0.7768	0.0240	0.028	0.011	0.027	0.029
NH3	08155300	0.011	8	0.010	0.020	0.010	0.011	0.004	0.31	0.4184	0.0001	0.011	0.011	0.003	0.25	0.4184	0.0001	0.011	0.003	0.011	0.010
NH3	08156800	0.049	4	0.020	0.100	0.040	0.050	0.038	0.77	0.8634	0.2725	0.036	0.050	0.038	0.77	0.8459	0.2130	0.049	0.033	0.039	0.044
NH3	08157500	0.102	16	0.010	0.210	0.080	0.102	0.067	0.66	0.9291	0.2358	0.071	0.114	0.128	1.12	0.8596	0.0189	0.102	0.065	0.073	0.105
NH3	08157600	0.144	11	0.010	0.390	0.110	0.144	0.102	0.71	0.8644	0.0656	0.104	0.158	0.158	1.00	0.8355	0.0275	0.143	0.097	0.108	0.113
NH3	08157700	0.098	17	0.010	0.250	0.080	0.098	0.063	0.64	0.9222	0.1611	0.075	0.103	0.089	0.86	0.9297	0.2150	0.098	0.061	0.077	0.077
NH3	08158600	0.120	7	0.020	0.500	0.080	0.127	0.171	1.35	0.6833	0.0024	0.058	0.120	0.153	1.27	0.8651	0.1682	0.124	0.157	0.065	0.095
NH3	08158840	0.022	4	0.020	0.030	0.020	0.023	0.005	0.22	0.6298	0.0012	0.022	0.022	0.005	0.20	0.6298	0.0012	0.022	0.004	0.022	0.020
NH3	08158930	0.064	6	0.020	0.140	0.040	0.065	0.055	0.85	0.7704	0.0313	0.045	0.064	0.055	0.86	0.8445	0.1420	0.064	0.050	0.048	0.046
NH3	FBU	0.037	13	0.010	0.110	0.030	0.038	0.029	0.77	0.8093	0.0088	0.029	0.037	0.028	0.75	0.9399	0.4560	0.038	0.028	0.030	0.040
NO23	08154700	0.513	7	0.030	0.870	0.420	0.513	0.315	0.61	0.9233	0.4957	0.326	0.626	0.754	1.20	0.7618	0.0168	0.515	0.290	0.360	0.745
NO23	08155200	0.196	8	0.050	0.450	0.160	0.198	0.133	0.68	0.9209	0.4371	0.155	0.199	0.145	0.73	0.9907	0.9961	0.196	0.126	0.160	0.188
NO23	08155240	0.199	8	0.090	0.310	0.215	0.199	0.073	0.37	0.9635	0.8428	0.183	0.200	0.084	0.42	0.9293	0.5093	0.199	0.069	0.185	0.245
NO23	08155300	0.223	8	0.070	0.340	0.230	0.223	0.101	0.45	0.9407	0.6176	0.194	0.226	0.128	0.56	0.9047	0.3182	0.223	0.095	0.198	0.234
NO23	08155400	0.353	7	0.250	0.470	0.340	0.354	0.090	0.25	0.9095	0.3925	0.343	0.354	0.092	0.26	0.9122	0.4116	0.353	0.083	0.344	0.282
NO23	08156800	0.306	4	0.210	0.360	0.325	0.305	0.069	0.22	0.8802	0.3397	0.296	0.305	0.075	0.25	0.8520	0.2328	0.306	0.060	0.298	0.288
NO23	08157500	0.563	21	0.250	0.950	0.520	0.562	0.243	0.43	0.8972	0.0309	0.510	0.563	0.259	0.46	0.9236	0.1024	0.566	0.238	0.513	0.439
NO23	08157600	0.457	11	0.230	0.960	0.420	0.457	0.231	0.50	0.8708	0.0794	0.409	0.455	0.215	0.47	0.9472	0.6082	0.457	0.220	0.413	0.353
NO23	08157700	0.587	20	0.260	1.480	0.540	0.591	0.299	0.51	0.8687	0.0112	0.529	0.587	0.278	0.47	0.9696	0.7475	0.591	0.292	0.532	0.471
NO23	08158600	0.608	7	0.240	0.880	0.680	0.609	0.206	0.34	0.9500	0.7295	0.562	0.616	0.265	0.43	0.8491	0.1205	0.608	0.191	0.570	0.499
NO23	08158700	0.154	4	0.050	0.300	0.135	0.155	0.114	0.73	0.9291	0.5893	0.113	0.156	0.121	0.78	0.9556	0.7511	0.154	0.099	0.123	0.201
NO23	08158810	0.224	6	0.030	0.630	0.170	0.225	0.210	0.93	0.8027	0.0622	0.144	0.231	0.229	0.99	0.9480	0.7239	0.224	0.192	0.157	0.352
NO23	08158840	0.111	4	0.050	0.170	0.110	0.110	0.049	0.45	0.9447	0.6830	0.097	0.111	0.055	0.50	0.9069	0.4662	0.111	0.043	0.101	0.152
NO23	08158930	0.316	6	0.090	0.390	0.370	0.317	0.118	0.37	0.7269	0.0117	0.278	0.327	0.189	0.58	0.6435	0.0015	0.316	0.108	0.286	0.352
NO23	FBU	0.237	16	0.070	0.450	0.190	0.238	0.119	0.50	0.9145	0.1376	0.208	0.240	0.135	0.56	0.9450	0.4151	0.237	0.115	0.210	0.274
PB	08154700	2.897	6	0.190	7.490	2.830	2.925	2.771	0.95	0.9041	0.3987	1.238	3.486	5.169	1.48	0.8795	0.2669	2.897	2.501	1.503	4.458
PB	08155200	2.813	8	0.500	7.380	1.820	2.864	2.588	0.90	0.8610	0.1229	1.762	2.936	3.158	1.08	0.9266	0.4861	2.813	2.419	1.884	4.578
PB	08155240	0.978	8	0.200	5.660	0.500	1.164	1.834	1.58	0.5431	0.0001	0.589	0.978	1.046	1.07	0.8610	0.1229	1.153	1.713	0.630	1.863
PB	08155300	2.255	7	0.120	5.730	0.750	2.290	2.369	1.03	0.8206	0.0651	0.962	2.542	3.807	1.50	0.9039	0.3554	2.255	2.191	1.121	3.068
PB	08155400	1.272	7	0.360	3.860	0.690	1.327	1.313	0.99	0.7697	0.0203	0.873	1.272	1.142	0.90	0.8982	0.3201	1.329	1.218	0.923	1.853
PB	08156800	30.426	4	17.180	51.290	26.365	30.300	16.159	0.53	0.8778	0.3294	26.298	30.208	15.688	0.52	0.8792	0.3350	30.426	13.885	27.245	27.122
PB	08157500	21.955	21	3.700	85.260	17.000	22.121	16.704	0.76	0.6928	0.0001	18.106	21.955	14.560	0.66	0.9366	0.1864	21.961	16.188	18.275	27.569
PB	08157600	31.575	11	14.340	52.090	29.370	31.850	13.275	0.42	0.9324	0.4360	28.989	31.961	14.425	0.45	0.9448	0.5786	31.575	12.481	29.250	41.885
PB	08157700	16.760	20	1.500	41.590	13.595	16.760	12.787	0.76	0.9148	0.0789	10.791	18.888	24.003	1.27	0.9008	0.0427	16.888	12.507	11.105	22.337
PB	08158600	14.723	7	2.850	22.260	17.700	14.723	6.651	0.45	0.9180	0.4538	12.163	15.537	11.114	0.72	0.7687	0.0198	14.455	6.270	12.607	15.028
PB	08158700	3.030	4	0.090	8.590	1.665	3.003	3.916	1.30	0.8437	0.2063	0.583	3.410	5.499	1.61	0.9767	0.8826	3.030	3.374	1.023	4.851
PB	08158810	1.774	4	0.090	3.970	1.550	1.790	1.968	1.10	0.8424	0.2026	0.376	2.037	3.230	1.59	0.8339	0.1782	1.774	1.704	0.640	3.284
PB	08158840	2.097	3	0.110	5.020	0.920	2.017	2.632	1.31	0.8698	0.2950	0.380	2.114	2.949	1.39	0.9959	0.8769	2.097	2.181	0.798	4.047
PB	08158930	9.183	6	2.850	29.140	5.925	9.605	10.157	1.06	0.7450	0.0178	5.988	9.183	8.631	0.94	0.8545	0.1709	9.897	9.484	6.454	9.312
PB	FBU	4.649	16	1.500	9.960	4.045	4.685	3.214	0.69	0.8466	0.0122	3.534	4.760	4.007	0.84	0.8281	0.0066	4.649	3.114	3.602	5.094
SO4	08157500	25.748	5	9.200	38.690	32.800	26.178	12.571	0.48	0.8852	0.3338	22.225	26.654	16.014	0.60	0.8517	0.2000	25.748	11.293	23.068	20.945
SO4	08157700	31.969	5	14.790	44.000	38.400	32.094	12.882	0.40	0.8695	0.2645	28.942	32.353	15.241	0.47	0.8497	0.1934	31.969	11.598	29.604	33.423
SO4	FBU	36.379	3	32.800	42.090	34.400	36.430	4.967	0.14	0.8747	0.3090	36.108	36.425	4.812	0.13	0.8871	0.3454	36.379	4.068	36.213	34.625

Table A.6 (continued) Summary of water quality data information from all sites in water year period 2002-2004, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TDS	08154700	258.651	7	147.890	348.080	253.750	258.951	66.079	0.26	0.9694	0.8938	249.484	259.519	73.163	0.28	0.9243	0.5034	258.651	60.970	250.899	220.252
TDS	08155200	272.285	8	168.040	323.760	275.040	272.285	50.486	0.19	0.8714	0.1556	266.715	272.738	57.813	0.21	0.8126	0.0390	273.018	47.376	267.462	249.244
TDS	08155240	292.978	8	203.230	343.070	307.810	293.299	46.771	0.16	0.9058	0.3252	289.122	293.514	51.073	0.17	0.8702	0.1514	292.978	43.572	289.669	280.246
TDS	08155300	237.224	8	58.630	331.150	264.245	237.224	85.774	0.36	0.8817	0.1955	210.465	245.346	138.671	0.57	0.7205	0.0038	237.257	80.532	214.599	249.991
TDS	08155400	225.288	7	130.590	308.630	199.550	225.209	69.410	0.31	0.8954	0.3041	214.086	225.468	72.933	0.32	0.9069	0.3746	225.288	64.407	215.685	238.766
TDS	08156800	110.956	4	90.290	140.100	107.615	111.405	22.422	0.20	0.9395	0.6514	109.230	111.380	21.946	0.20	0.9507	0.7208	110.956	19.488	109.765	108.820
TDS	08157500	232.607	5	140.000	282.000	270.000	234.400	60.867	0.26	0.8283	0.1351	224.908	235.085	69.884	0.30	0.8028	0.0853	232.607	54.896	226.919	205.179
TDS	08157700	284.885	5	188.000	396.000	308.000	284.600	93.171	0.33	0.8837	0.3265	268.521	284.952	98.107	0.34	0.8524	0.2023	284.885	83.823	271.755	280.397
TDS	08158600	183.009	7	117.210	280.440	154.960	181.183	58.195	0.32	0.9131	0.4175	172.567	180.962	56.035	0.31	0.9449	0.6831	183.009	54.838	173.748	159.065
TDS	08158700	247.120	4	145.400	295.880	273.600	247.120	69.197	0.28	0.7977	0.0982	234.847	248.126	81.846	0.33	0.7581	0.0458	246.808	59.661	238.125	215.499
TDS	08158810	263.692	6	124.020	364.150	283.275	265.053	99.327	0.37	0.9059	0.4099	243.089	266.761	115.485	0.43	0.8866	0.3008	263.692	91.047	246.925	177.574
TDS	08158840	268.754	4	134.250	391.780	280.685	271.850	106.207	0.39	0.9734	0.8627	247.084	273.633	122.381	0.45	0.9146	0.5070	268.754	92.612	253.569	170.444
TDS	08158930	125.186	6	80.910	228.200	99.895	125.060	57.549	0.46	0.8151	0.0800	114.378	124.249	50.746	0.41	0.8710	0.2301	125.186	52.820	115.983	92.543
TDS	FBU	309.462	3	286.000	322.000	320.000	309.333	20.232	0.07	0.7915	0.0944	308.651	309.339	20.629	0.07	0.7893	0.0892	309.462	16.514	308.881	315.995
TKN	08154700	1.152	7	0.180	2.800	0.740	1.136	1.008	0.89	0.8843	0.2461	0.693	1.164	1.238	1.06	0.9442	0.6767	1.152	0.936	0.750	1.746
TKN	08155200	0.763	8	0.230	2.010	0.485	0.771	0.656	0.85	0.8286	0.0574	0.545	0.759	0.644	0.85	0.9111	0.3621	0.763	0.612	0.569	1.224
TKN	08155240	0.360	8	0.130	1.460	0.250	0.391	0.438	1.12	0.5846	0.0001	0.276	0.360	0.272	0.76	0.8405	0.0762	0.391	0.409	0.286	0.587
TKN	08155300	0.499	8	0.110	1.610	0.245	0.515	0.513	1.00	0.7781	0.0166	0.333	0.499	0.471	0.95	0.9189	0.4209	0.511	0.479	0.351	0.785
TKN	08155400	0.489	7	0.140	1.600	0.270	0.514	0.523	1.02	0.7366	0.0092	0.346	0.489	0.418	0.85	0.9154	0.4348	0.516	0.484	0.365	0.775
TKN	08156800	2.353	4	1.340	4.230	1.915	2.350	1.333	0.57	0.8547	0.2419	2.033	2.332	1.204	0.52	0.9061	0.4618	2.353	1.145	2.106	2.096
TKN	08157500	0.950	21	0.120	2.900	0.780	0.924	0.676	0.73	0.8677	0.0087	0.705	0.950	0.813	0.86	0.9727	0.7916	0.923	0.660	0.715	0.955
TKN	08157600	0.826	11	0.290	2.220	0.590	0.840	0.630	0.75	0.8186	0.0165	0.657	0.826	0.588	0.71	0.9173	0.2970	0.826	0.596	0.671	0.752
TKN	08157700	0.984	20	0.090	3.170	0.600	0.979	0.904	0.92	0.7798	0.0004	0.666	0.984	0.989	1.01	0.9577	0.4986	0.983	0.889	0.679	0.865
TKN	08158600	2.193	7	1.020	3.990	2.220	2.227	1.044	0.47	0.9538	0.7645	1.981	2.234	1.108	0.50	0.9581	0.8023	2.193	0.967	2.016	2.021
TKN	08158700	1.202	4	0.220	3.930	0.560	1.318	1.766	1.34	0.7502	0.0388	0.525	1.202	1.431	1.19	0.8921	0.3931	1.324	1.524	0.663	2.134
TKN	08158810	0.832	6	0.270	1.780	0.595	0.818	0.618	0.76	0.8641	0.2035	0.609	0.815	0.629	0.77	0.9231	0.5283	0.832	0.573	0.640	1.347
TKN	08158840	0.637	4	0.270	1.380	0.420	0.623	0.521	0.84	0.7984	0.0994	0.459	0.607	0.441	0.73	0.8785	0.3324	0.637	0.458	0.494	1.151
TKN	08158930	1.266	6	0.560	2.470	1.100	1.247	0.648	0.52	0.8397	0.1296	1.107	1.241	0.596	0.48	0.9440	0.6916	1.266	0.603	1.129	1.209
TKN	FBU	0.357	16	0.110	1.780	0.170	0.362	0.449	1.24	0.6047	0.0001	0.232	0.329	0.303	0.92	0.8404	0.0099	0.357	0.427	0.237	0.300
TN	08154700	1.617	7	0.210	3.680	1.170	1.604	1.247	0.78	0.9254	0.5125	1.061	1.695	1.707	1.01	0.9504	0.7335	1.617	1.152	1.138	2.413
TN	08155200	0.989	8	0.340	2.250	0.835	0.998	0.693	0.69	0.8856	0.2127	0.774	0.998	0.736	0.74	0.9127	0.3733	0.989	0.647	0.799	1.416
TN	08155240	0.571	8	0.230	1.770	0.485	0.593	0.486	0.82	0.6137	0.0002	0.482	0.571	0.338	0.59	0.8282	0.0568	0.592	0.453	0.493	0.836
TN	08155300	0.739	8	0.270	1.900	0.545	0.741	0.566	0.76	0.8387	0.0731	0.566	0.733	0.544	0.74	0.9129	0.3750	0.739	0.529	0.585	1.026
TN	08155400	0.875	7	0.460	1.900	0.720	0.874	0.523	0.60	0.8257	0.0728	0.752	0.865	0.463	0.54	0.9003	0.3330	0.875	0.485	0.767	1.059
TN	08156800	2.659	4	1.550	4.580	2.245	2.655	1.380	0.52	0.8784	0.3320	2.346	2.640	1.268	0.48	0.9289	0.5882	2.659	1.186	2.418	2.384
TN	08157500	1.494	21	0.450	3.850	1.400	1.492	0.813	0.54	0.9136	0.0648	1.288	1.501	0.877	0.58	0.9750	0.8394	1.494	0.795	1.297	1.398
TN	08157600	1.292	11	0.520	2.760	0.940	1.301	0.719	0.55	0.8462	0.0380	1.136	1.292	0.673	0.52	0.9352	0.4656	1.287	0.683	1.150	1.108
TN	08157700	1.566	20	0.560	3.740	1.390	1.574	0.958	0.61	0.8558	0.0067	1.331	1.566	0.945	0.60	0.9535	0.4230	1.579	0.941	1.342	1.341
TN	08158600	2.792	7	1.390	4.870	2.690	2.829	1.184	0.42	0.9584	0.8046	2.581	2.834	1.238	0.44	0.9665	0.8723	2.792	1.095	2.616	2.518
TN	08158700	1.455	4	0.220	4.230	0.675	1.450	1.878	1.30	0.7643	0.0521	0.625	1.344	1.548	1.15	0.9592	0.7736	1.455	1.621	0.774	2.326
TN	08158810	1.059	6	0.330	2.000	0.815	1.047	0.733	0.70	0.8426	0.1369	0.797	1.050	0.789	0.75	0.9086	0.4273	1.059	0.676	0.836	1.704
TN	08158840	0.743	4	0.320	1.550	0.520	0.728	0.568	0.78	0.8219	0.1477	0.557	0.713	0.488	0.69	0.9141	0.5045	0.743	0.500	0.594	1.303
TN	08158930	1.458	6	0.850	2.230	1.440	1.447	0.488	0.34	0.9722	0.9067	1.365	1.447	0.495	0.34	0.9866	0.9794	1.458	0.452	1.379	1.534
TN	FBU	0.585	16	0.230	1.960	0.460	0.604	0.466	0.77	0.6847	0.0001	0.497	0.585	0.352	0.60	0.8994	0.0786	0.598	0.445	0.502	0.575

Table A.6 (continued) Summary of water quality data information from all sites in water year period 2002-2004, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TOC	08154700	14.048	7	5.330	35.100	9.140	13.919	10.698	0.77	0.8216	0.0665	10.831	13.653	9.486	0.69	0.9350	0.5946	14.048	9.890	11.205	19.316
TOC	08155200	10.103	8	3.800	22.160	7.565	10.233	6.806	0.67	0.8395	0.0745	8.284	10.180	6.715	0.66	0.9148	0.3892	10.103	6.353	8.505	14.781
TOC	08155240	6.305	8	1.200	18.220	4.850	6.275	5.295	0.84	0.7899	0.0223	4.540	6.305	5.329	0.85	0.9489	0.7006	6.291	4.929	4.736	8.600
TOC	08155300	6.412	8	2.000	18.080	4.475	6.545	5.275	0.81	0.8044	0.0319	5.018	6.412	4.634	0.72	0.9611	0.8204	6.483	4.937	5.178	9.590
TOC	08155400	6.172	7	2.280	12.800	4.480	6.164	3.833	0.62	0.8909	0.2796	5.114	6.140	3.775	0.61	0.9691	0.8918	6.172	3.554	5.252	7.618
TOC	08156800	29.747	4	18.280	49.950	25.325	29.720	14.373	0.48	0.8739	0.3131	26.750	29.572	13.113	0.44	0.9280	0.5826	29.747	12.356	27.440	26.923
TOC	08157500	8.488	16	3.790	18.750	7.460	8.525	4.025	0.47	0.8818	0.0414	7.733	8.488	3.767	0.44	0.9758	0.9215	8.572	3.940	7.778	6.357
TOC	08157600	6.389	11	4.040	11.980	4.940	6.422	2.616	0.41	0.8045	0.0108	5.985	6.389	2.343	0.37	0.8579	0.0541	6.367	2.475	6.020	6.790
TOC	08157700	7.595	17	4.130	19.110	6.990	7.591	3.268	0.43	0.6721	0.0001	7.126	7.528	2.535	0.34	0.8740	0.0255	7.595	3.174	7.149	6.661
TOC	08158600	26.225	6	9.160	41.870	28.605	26.567	12.095	0.46	0.9729	0.9112	23.075	27.006	15.252	0.56	0.9100	0.4362	26.225	11.151	23.700	26.229
TOC	08158700	18.577	4	2.740	40.870	14.815	18.310	17.906	0.98	0.8995	0.4285	8.829	18.860	21.632	1.15	0.9205	0.5400	18.577	15.415	10.909	26.297
TOC	08158810	10.520	6	4.840	18.980	7.955	10.395	5.643	0.54	0.8506	0.1591	9.039	10.346	5.408	0.52	0.9124	0.4522	10.520	5.233	9.248	15.306
TOC	08158840	11.529	4	4.460	23.610	8.535	11.285	8.673	0.77	0.8658	0.2815	8.554	11.124	7.857	0.71	0.9576	0.7637	11.529	7.617	9.159	20.104
TOC	08158930	18.015	3	14.270	24.140	16.020	18.143	5.266	0.29	0.8781	0.3188	17.447	18.124	4.960	0.27	0.9054	0.4029	18.015	4.235	17.672	14.724
TOC	FBU	4.347	13	2.310	6.600	4.090	4.342	1.527	0.35	0.9266	0.3077	4.057	4.355	1.671	0.38	0.9111	0.1900	4.347	1.478	4.079	4.994
TP	08154700	0.155	7	0.020	0.430	0.070	0.153	0.162	1.06	0.8403	0.1000	0.071	0.158	0.212	1.34	0.8791	0.2224	0.155	0.151	0.080	0.250
TP	08155200	0.076	8	0.010	0.310	0.035	0.083	0.107	1.30	0.7113	0.0030	0.039	0.076	0.096	1.25	0.9016	0.2986	0.081	0.100	0.043	0.147
TP	08155240	0.046	8	0.020	0.190	0.020	0.046	0.059	1.27	0.5250	0.0001	0.030	0.041	0.033	0.81	0.6627	0.0008	0.046	0.055	0.032	0.069
TP	08155300	0.059	8	0.010	0.200	0.020	0.061	0.072	1.17	0.7721	0.0143	0.028	0.059	0.078	1.32	0.8312	0.0611	0.061	0.067	0.031	0.088
TP	08155400	0.068	7	0.020	0.170	0.050	0.069	0.062	0.90	0.8019	0.0428	0.045	0.068	0.064	0.94	0.8475	0.1167	0.069	0.057	0.048	0.082
TP	08156800	0.878	4	0.470	1.550	0.745	0.878	0.478	0.54	0.8973	0.4180	0.766	0.872	0.440	0.50	0.9700	0.8415	0.878	0.411	0.792	0.782
TP	08157500	0.338	20	0.150	1.290	0.265	0.336	0.247	0.74	0.5979	0.0001	0.290	0.325	0.163	0.50	0.8763	0.0152	0.338	0.244	0.291	0.411
TP	08157600	0.557	11	0.200	1.450	0.590	0.559	0.340	0.61	0.8009	0.0097	0.478	0.557	0.318	0.57	0.9429	0.5549	0.561	0.324	0.485	0.605
TP	08157700	0.317	19	0.120	1.020	0.240	0.322	0.242	0.75	0.8107	0.0016	0.253	0.317	0.230	0.73	0.9033	0.0559	0.324	0.238	0.256	0.381
TP	08158600	0.730	7	0.190	1.010	0.860	0.730	0.297	0.41	0.8362	0.0916	0.632	0.755	0.459	0.61	0.7439	0.0110	0.720	0.281	0.648	0.836
TP	08158700	0.123	4	0.010	0.380	0.050	0.123	0.174	1.42	0.7651	0.0530	0.035	0.114	0.157	1.38	0.9603	0.7810	0.123	0.151	0.050	0.204
TP	08158810	0.071	6	0.010	0.170	0.055	0.070	0.067	0.96	0.8664	0.2123	0.034	0.074	0.094	1.28	0.8494	0.1555	0.071	0.062	0.039	0.122
TP	08158840	0.042	4	0.010	0.160	0.015	0.050	0.073	1.47	0.6774	0.0061	0.019	0.042	0.050	1.18	0.7907	0.0865	0.052	0.065	0.024	0.123
TP	08158930	0.269	6	0.110	0.550	0.225	0.265	0.164	0.62	0.8855	0.2951	0.221	0.264	0.158	0.60	0.9504	0.7433	0.269	0.152	0.228	0.326
TP	FBU	0.050	15	0.010	0.170	0.040	0.049	0.045	0.90	0.8310	0.0095	0.033	0.050	0.052	1.04	0.9190	0.1857	0.049	0.043	0.034	0.060

Table A.6 (continued) Summary of water quality data information from all sites in water year period 2002-2004, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TSS	08154700	126.903	7	4.690	350.940	73.190	125.320	135.662	1.08	0.8615	0.1562	38.630	154.210	281.906	1.83	0.8837	0.2433	126.903	125.548	48.461	212.453
TSS	08155200	166.672	8	15.300	523.760	75.760	165.386	205.285	1.24	0.7441	0.0070	65.825	166.672	252.028	1.51	0.8933	0.2511	162.371	190.733	74.701	295.811
TSS	08155240	40.679	8	3.860	398.940	11.255	62.831	136.779	2.18	0.5020	0.0001	13.233	40.679	68.815	1.69	0.8397	0.0747	62.677	127.530	15.459	120.427
TSS	08155300	71.261	8	4.840	372.350	11.705	81.120	132.457	1.63	0.6735	0.0011	18.384	71.261	135.027	1.89	0.8447	0.0841	79.831	123.613	22.260	166.572
TSS	08155400	46.630	7	4.380	264.830	4.780	46.571	96.640	2.08	0.5205	0.0001	10.602	30.877	48.784	1.58	0.7627	0.0172	46.630	89.510	12.567	109.003
TSS	08156800	928.138	5	478.700	1661.550	806.400	929.784	472.385	0.51	0.9224	0.5452	822.139	926.801	452.726	0.49	0.9777	0.9219	928.138	416.260	842.403	835.258
TSS	08157500	165.746	21	24.350	986.370	119.880	174.565	204.288	1.17	0.5891	0.0001	120.106	165.746	148.394	0.90	0.9733	0.8051	174.977	198.720	121.988	217.440
TSS	08157600	307.497	11	65.600	504.110	261.150	307.242	168.771	0.55	0.8908	0.1424	246.834	319.214	241.829	0.76	0.8697	0.0768	307.497	160.726	252.787	322.198
TSS	08157700	240.931	20	27.000	776.000	139.840	234.283	232.108	0.99	0.8183	0.0016	137.677	240.931	306.086	1.27	0.9467	0.3200	238.449	228.044	141.682	260.051
TSS	08158600	755.663	7	145.600	1198.170	829.480	755.663	348.518	0.46	0.9585	0.8058	623.375	796.806	570.793	0.72	0.7914	0.0337	742.506	328.319	646.216	790.261
TSS	08158700	259.730	4	4.200	616.280	199.880	255.060	297.197	1.17	0.8726	0.3080	27.760	332.089	603.183	1.82	0.8964	0.4136	259.730	256.123	65.733	387.906
TSS	08158810	104.123	6	4.650	276.430	81.025	101.950	108.129	1.06	0.8868	0.3018	30.409	129.785	229.380	1.77	0.8573	0.1799	104.123	100.359	40.373	183.255
TSS	08158840	90.604	4	4.690	267.520	38.140	87.123	122.412	1.41	0.7809	0.0721	22.643	86.114	124.835	1.45	0.9969	0.9895	90.604	107.759	33.848	210.945
TSS	08158930	162.820	6	29.170	440.350	123.160	158.625	156.731	0.99	0.8397	0.1295	91.472	159.391	171.348	1.08	0.9240	0.5345	162.820	145.865	100.956	187.016
TSS	FBU	47.145	16	2.300	202.360	22.270	46.550	65.683	1.41	0.6621	0.0001	17.751	47.145	86.298	1.83	0.9311	0.2538	47.249	64.309	18.929	92.238
VSS	08157500	31.264	16	6.820	156.860	25.315	32.743	35.372	1.08	0.6026	0.0001	23.476	31.264	25.736	0.82	0.9516	0.5159	33.083	35.013	23.907	39.333
VSS	08157600	38.466	11	11.670	106.960	38.150	38.732	27.564	0.71	0.8387	0.0303	31.048	38.466	26.364	0.69	0.9746	0.9289	38.250	26.002	31.669	42.530
VSS	08157700	36.511	17	4.790	99.740	32.480	36.405	27.028	0.74	0.9087	0.0953	26.363	37.757	35.673	0.94	0.9660	0.7452	36.511	26.372	26.936	40.204
VSS	FBU	8.587	13	0.790	34.650	5.420	8.365	9.889	1.18	0.7620	0.0025	4.162	8.587	12.276	1.43	0.9511	0.6153	8.270	9.366	4.412	13.700
ZN	08154700	14.249	7	2.000	42.980	11.760	14.126	14.207	1.01	0.8289	0.0781	7.944	14.738	17.224	1.17	0.9198	0.4679	14.249	13.131	8.727	20.316
ZN	08155200	10.202	8	3.000	20.980	8.340	10.345	7.121	0.69	0.8798	0.1874	7.853	10.449	8.192	0.78	0.9051	0.3208	10.202	6.683	8.147	14.074
ZN	08155240	5.540	8	2.000	19.410	4.425	5.844	5.611	0.96	0.6253	0.0003	4.427	5.540	3.820	0.69	0.8718	0.1569	5.840	5.227	4.555	8.462
ZN	08155300	9.362	8	1.000	24.990	6.515	9.430	8.381	0.89	0.8611	0.1232	5.934	9.855	10.558	1.07	0.9539	0.7508	9.362	7.889	6.342	9.963
ZN	08155400	6.667	7	2.000	12.410	6.700	6.659	3.666	0.55	0.9616	0.8324	5.548	6.752	4.309	0.64	0.9523	0.7502	6.667	3.389	5.709	6.612
ZN	08156800	143.677	4	98.160	203.970	137.320	144.193	45.219	0.31	0.9692	0.8363	137.413	144.118	44.274	0.31	0.9954	0.9834	143.677	39.454	139.071	153.248
ZN	08157500	72.948	21	34.430	200.960	70.440	73.491	37.679	0.51	0.8106	0.0010	66.223	72.948	33.169	0.45	0.9478	0.3090	73.514	36.486	66.530	81.809
ZN	08157600	92.507	11	39.070	144.420	95.290	93.232	33.155	0.36	0.9745	0.9277	86.679	93.727	37.705	0.40	0.9511	0.6575	92.507	31.321	87.301	115.855
ZN	08157700	62.933	20	13.900	170.000	52.045	62.602	42.312	0.68	0.8681	0.0109	50.381	62.933	45.209	0.72	0.9815	0.9525	63.214	41.560	50.950	70.604
ZN	08158600	66.330	7	18.150	105.270	82.570	67.594	33.271	0.49	0.9110	0.4026	56.682	69.407	45.000	0.65	0.8667	0.1736	66.330	31.128	58.383	63.458
ZN	08158700	10.946	4	3.000	36.960	4.665	12.323	16.500	1.34	0.6990	0.0113	5.647	10.946	11.827	1.08	0.8130	0.1276	12.344	14.252	6.774	19.870
ZN	08158810	15.161	6	1.000	29.580	17.230	15.337	12.034	0.78	0.9046	0.4015	7.214	18.857	26.909	1.43	0.8242	0.0960	15.161	10.918	8.622	18.784
ZN	08158840	6.841	4	2.000	11.900	6.485	6.718	4.230	0.63	0.9929	0.9717	5.149	6.858	5.048	0.74	0.9621	0.7923	6.841	3.682	5.548	10.177
ZN	08158930	39.425	6	12.730	116.590	26.035	41.030	39.054	0.95	0.7613	0.0256	28.824	39.425	31.598	0.80	0.9439	0.6909	42.113	36.516	30.428	32.909
ZN	FBU	17.401	16	3.000	50.690	14.560	17.321	12.909	0.75	0.8931	0.0625	12.845	17.743	15.671	0.88	0.9635	0.7258	17.401	12.316	13.111	16.179

Table A.7 Summary of water quality data information from all sites in water year period 2005-2007, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
AG	08157500	0.707	7	0.002	1.610	0.080	0.408	0.639	1.57	0.7012	0.0038	0.031	0.707	2.088	2.95	0.8828	0.2392	0.402	0.587	0.056	0.342
AG	08157700	0.040	4	0.002	0.130	0.016	0.041	0.061	1.50	0.7757	0.0654	0.005	0.041	0.072	1.74	0.8484	0.2210	0.040	0.053	0.010	0.032
AG	FBU	0.068	4	0.002	0.500	0.004	0.127	0.249	1.95	0.6363	0.0016	0.003	0.068	0.135	1.98	0.7848	0.0776	0.127	0.215	0.009	0.077
AG	FTB	0.231	8	0.002	1.000	0.045	0.173	0.340	1.96	0.5685	0.0001	0.016	0.231	0.670	2.90	0.8708	0.1535	0.174	0.317	0.025	0.221
BOD	08157500	16.944	10	7.100	29.400	15.145	16.839	7.600	0.45	0.9058	0.2533	15.202	16.850	7.800	0.46	0.9576	0.7581	16.944	7.243	15.361	15.659
BOD	08157700	12.430	6	4.200	27.200	11.245	12.332	8.454	0.69	0.8995	0.3710	9.703	12.340	8.644	0.70	0.9601	0.8207	12.430	7.729	10.111	13.343
BOD	FBU	3.193	4	1.860	5.900	2.550	3.215	1.856	0.58	0.8286	0.1641	2.788	3.183	1.619	0.51	0.9011	0.4364	3.193	1.604	2.884	3.461
BOD	FTB	15.971	12	4.500	33.000	13.300	15.991	8.442	0.53	0.9345	0.4305	13.812	16.101	9.248	0.57	0.9709	0.9199	15.971	8.065	13.992	15.207
CD	08154700	0.081	3	0.040	0.110	0.090	0.080	0.036	0.45	0.9423	0.5367	0.070	0.081	0.042	0.52	0.8918	0.3599	0.081	0.029	0.073	0.091
CD	08155240	0.036	3	0.030	0.040	0.040	0.037	0.006	0.16	0.7500	0.0001	0.036	0.037	0.006	0.17	0.7500	0.0001	0.036	0.005	0.036	0.036
CD	08155400	0.062	3	0.030	0.090	0.070	0.063	0.031	0.48	0.9643	0.6369	0.054	0.064	0.035	0.55	0.9107	0.4203	0.062	0.025	0.057	0.034
CD	08156800	0.156	3	0.050	0.270	0.160	0.160	0.110	0.69	1.0000	1.0000	0.114	0.163	0.130	0.79	0.9542	0.5881	0.156	0.090	0.129	0.165
CD	08157500	0.320	9	0.010	0.500	0.290	0.320	0.162	0.50	0.8828	0.1682	0.213	0.429	0.565	1.32	0.6174	0.0002	0.317	0.153	0.231	0.332
CD	08157600	0.337	6	0.010	0.750	0.340	0.345	0.282	0.82	0.9291	0.5731	0.151	0.474	0.741	1.56	0.8371	0.1234	0.337	0.257	0.188	0.355
CD	08157700	0.528	7	0.300	1.030	0.500	0.531	0.232	0.44	0.7293	0.0077	0.493	0.528	0.196	0.37	0.8450	0.1105	0.540	0.222	0.498	0.535
CD	08158600	0.455	3	0.230	0.840	0.320	0.463	0.329	0.71	0.8579	0.2618	0.366	0.457	0.292	0.64	0.9259	0.4734	0.455	0.265	0.395	0.409
CD	08158930	0.076	3	0.040	0.110	0.080	0.077	0.035	0.46	0.9932	0.8428	0.067	0.077	0.039	0.50	0.9563	0.5976	0.076	0.029	0.071	0.101
CD	FBU	0.555	4	0.050	1.470	0.365	0.563	0.633	1.12	0.8679	0.2896	0.232	0.592	0.742	1.25	0.9916	0.9656	0.555	0.548	0.303	0.588
CD	FTB	0.379	11	0.010	0.610	0.500	0.384	0.205	0.53	0.8414	0.0330	0.244	0.521	0.744	1.43	0.6780	0.0002	0.379	0.198	0.262	0.390
CL	08157500	16.757	11	9.620	25.290	16.090	16.652	5.226	0.31	0.9322	0.4337	15.856	16.652	5.269	0.32	0.9612	0.7867	16.757	4.971	15.927	15.907
CL	08157700	14.211	8	5.810	24.500	13.850	14.300	6.920	0.48	0.9316	0.5309	12.554	14.370	7.606	0.53	0.9443	0.6534	14.211	6.491	12.770	13.596
CL	FBU	23.813	5	20.900	27.290	23.790	23.834	2.752	0.12	0.9292	0.5912	23.676	23.834	2.749	0.12	0.9279	0.5821	23.813	2.492	23.707	23.757
CL	FTB	12.228	13	4.120	33.090	8.160	12.528	9.510	0.76	0.7524	0.0020	9.996	12.228	8.171	0.67	0.9029	0.1466	12.591	9.151	10.154	10.769
COD	08154700	61.805	3	37.340	90.700	54.470	60.837	27.244	0.45	0.9590	0.6108	55.060	60.753	26.413	0.43	0.9926	0.8360	61.805	22.402	56.926	69.199
COD	08155240	18.110	3	5.000	29.730	19.960	18.230	12.455	0.68	0.9855	0.7697	12.348	18.879	16.013	0.85	0.9075	0.4098	18.110	10.044	14.370	11.642
COD	08155400	32.341	3	19.850	39.290	38.990	32.710	11.138	0.34	0.7616	0.0257	30.418	32.832	12.630	0.38	0.7584	0.0187	32.341	9.216	31.213	21.531
COD	08156800	56.173	3	29.660	102.950	39.580	57.397	39.761	0.69	0.8494	0.2389	46.007	56.685	35.114	0.62	0.9125	0.4265	56.173	32.135	49.441	48.673
COD	08157500	100.142	11	47.000	215.000	81.000	100.809	49.750	0.49	0.8283	0.0222	91.021	100.142	44.691	0.45	0.9305	0.4156	100.488	46.888	91.820	94.774
COD	08157600	122.317	7	28.620	261.060	124.930	123.159	86.336	0.70	0.9331	0.5775	87.803	127.838	114.474	0.90	0.8952	0.3027	122.317	80.040	92.843	93.480
COD	08157700	126.116	8	24.000	473.000	91.200	130.863	146.127	1.12	0.7088	0.0028	80.522	126.116	126.270	1.00	0.9543	0.7544	132.214	136.247	85.374	151.308
COD	08158600	60.944	3	39.920	96.450	48.730	61.700	30.415	0.49	0.8636	0.2776	55.225	61.406	27.678	0.45	0.9090	0.4149	60.944	24.465	57.248	56.714
COD	08158930	35.314	3	27.630	39.520	39.470	35.540	6.850	0.19	0.7532	0.0070	34.813	35.560	7.296	0.21	0.7527	0.0059	35.314	5.669	35.061	38.673
COD	FBU	11.121	5	2.500	24.000	9.000	11.020	8.322	0.76	0.9386	0.6557	7.883	11.221	9.360	0.83	0.9904	0.9812	11.121	7.570	8.488	12.216
COD	FTB	98.726	13	25.000	256.000	76.390	99.914	66.186	0.66	0.8801	0.0716	81.107	100.052	68.368	0.68	0.9837	0.9927	98.726	62.682	82.446	96.746

Table A.7 (continued) Summary of water quality data information from all sites in water year period 2005-2007, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
CU	08154700	3.980	5	2.280	6.480	3.360	4.012	1.712	0.43	0.9279	0.5821	3.670	4.006	1.674	0.42	0.9636	0.8326	3.980	1.520	3.736	3.878
CU	08155200	5.462	4	3.340	8.820	4.935	5.508	2.368	0.43	0.9189	0.5306	5.055	5.492	2.219	0.40	0.9789	0.8957	5.462	2.027	5.162	5.185
CU	08155240	2.125	5	1.550	2.850	1.790	2.106	0.598	0.28	0.8387	0.1614	2.025	2.105	0.583	0.28	0.8551	0.2112	2.125	0.539	2.041	2.264
CU	08155300	3.237	4	1.890	5.400	2.800	3.223	1.554	0.48	0.9014	0.4382	2.897	3.209	1.436	0.45	0.9643	0.8058	3.237	1.337	2.973	2.851
CU	08155400	3.189	5	2.080	4.500	2.750	3.210	1.171	0.36	0.8229	0.1228	3.003	3.208	1.162	0.36	0.8526	0.2028	3.189	1.044	3.043	2.527
CU	08156800	15.392	5	5.450	21.930	20.440	15.240	8.003	0.53	0.7788	0.0538	12.543	15.518	10.083	0.65	0.7839	0.0595	15.392	7.127	13.104	19.220
CU	08157500	27.649	11	10.000	54.000	28.590	27.743	12.149	0.44	0.9547	0.7047	25.027	27.901	13.323	0.48	0.9696	0.8824	27.649	11.478	25.278	28.876
CU	08157600	22.980	7	7.220	37.900	25.460	23.189	10.764	0.46	0.9654	0.8633	20.047	23.618	13.730	0.58	0.9111	0.4036	22.980	10.095	20.531	25.744
CU	08157700	11.659	8	3.000	26.900	11.200	11.468	7.126	0.62	0.8546	0.1061	9.474	11.562	7.492	0.65	0.9445	0.6563	11.659	6.846	9.717	10.503
CU	08158600	13.841	5	8.480	21.480	13.830	13.872	5.015	0.36	0.9521	0.7521	13.011	13.863	4.932	0.36	0.9830	0.9498	13.841	4.410	13.179	13.562
CU	08158810	4.594	3	1.510	8.420	3.560	4.497	3.549	0.79	0.9478	0.5596	3.139	4.496	3.552	0.79	1.0000	0.9979	4.594	2.940	3.564	6.208
CU	08158840	1.865	4	1.070	2.900	1.765	1.875	0.764	0.41	0.9601	0.7795	1.725	1.875	0.760	0.41	0.9885	0.9498	1.865	0.652	1.761	2.172
CU	08158860	3.183	5	2.630	3.900	3.090	3.174	0.539	0.17	0.9293	0.5919	3.129	3.174	0.533	0.17	0.9336	0.6214	3.183	0.487	3.138	3.653
CU	08158930	4.388	3	2.300	6.630	4.370	4.433	2.166	0.49	0.9994	0.9516	3.864	4.448	2.292	0.52	0.9852	0.7668	4.388	1.789	4.054	5.998
CU	FBU	4.985	5	1.320	16.900	3.000	5.422	6.474	1.19	0.6816	0.0061	3.218	4.985	4.622	0.93	0.8982	0.4001	5.286	5.684	3.530	4.470
CU	FTB	12.960	13	2.990	28.790	14.700	13.025	7.998	0.61	0.9372	0.4223	10.019	13.627	11.540	0.85	0.8700	0.0523	12.960	7.594	10.264	14.262
DP	08154700	0.026	5	0.020	0.050	0.020	0.026	0.013	0.52	0.5522	0.0001	0.024	0.026	0.010	0.41	0.5522	0.0001	0.026	0.012	0.024	0.034
DP	08155200	0.020	4	0.010	0.040	0.015	0.020	0.014	0.71	0.8274	0.1612	0.016	0.020	0.013	0.64	0.8634	0.2725	0.020	0.012	0.017	0.022
DP	08155240	0.020	5	0.010	0.060	0.010	0.020	0.022	1.12	0.5522	0.0001	0.013	0.018	0.014	0.78	0.5522	0.0001	0.020	0.020	0.014	0.011
DP	08155300	0.017	4	0.010	0.040	0.010	0.018	0.015	0.86	0.6298	0.0012	0.013	0.017	0.011	0.67	0.6298	0.0012	0.017	0.013	0.014	0.010
DP	08155400	0.035	5	0.010	0.090	0.010	0.036	0.037	1.03	0.7710	0.0461	0.020	0.035	0.037	1.06	0.7378	0.0229	0.035	0.033	0.022	0.011
DP	08156800	0.059	5	0.030	0.110	0.050	0.058	0.033	0.58	0.8810	0.3140	0.049	0.058	0.032	0.55	0.9092	0.4630	0.059	0.030	0.051	0.091
DP	08157500	0.157	11	0.050	0.310	0.150	0.155	0.081	0.52	0.9605	0.7776	0.132	0.158	0.097	0.61	0.9347	0.4599	0.157	0.077	0.135	0.147
DP	08157600	0.142	7	0.060	0.370	0.120	0.144	0.108	0.75	0.7917	0.0339	0.115	0.142	0.093	0.66	0.9227	0.4906	0.143	0.101	0.118	0.109
DP	08157700	0.090	8	0.030	0.270	0.080	0.093	0.075	0.81	0.6908	0.0018	0.074	0.090	0.059	0.65	0.9082	0.3413	0.093	0.071	0.075	0.099
DP	08158600	0.038	5	0.020	0.050	0.040	0.038	0.013	0.34	0.9020	0.4211	0.035	0.038	0.015	0.39	0.8854	0.3346	0.038	0.012	0.036	0.041
DP	08158810	0.020	3	0.010	0.030	0.020	0.020	0.010	0.50	1.0000	1.0000	0.017	0.020	0.011	0.54	0.9777	0.7134	0.020	0.008	0.018	0.024
DP	08158840	0.017	4	0.010	0.040	0.010	0.018	0.015	0.86	0.6298	0.0012	0.013	0.017	0.011	0.67	0.6298	0.0012	0.017	0.013	0.014	0.012
DP	08158860	0.108	6	0.050	0.160	0.100	0.107	0.042	0.40	0.9504	0.7434	0.098	0.107	0.046	0.43	0.9488	0.7308	0.108	0.039	0.099	0.144
DP	08158930	0.044	3	0.040	0.050	0.040	0.043	0.006	0.13	0.7500	0.0001	0.043	0.043	0.006	0.13	0.7500	0.0001	0.044	0.005	0.043	0.041
DP	FBU	0.010	5	0.001	0.020	0.010	0.010	0.007	0.72	0.9423	0.6822	0.006	0.011	0.012	1.09	0.8400	0.1649	0.010	0.006	0.007	0.008
DP	FTB	0.063	13	0.010	0.130	0.050	0.063	0.040	0.64	0.9118	0.1939	0.047	0.067	0.063	0.94	0.8751	0.0613	0.063	0.039	0.048	0.069
NH3	08154700	0.034	5	0.020	0.060	0.020	0.034	0.019	0.57	0.7528	0.0316	0.029	0.034	0.019	0.55	0.7331	0.0206	0.034	0.017	0.030	0.041
NH3	08155200	0.060	4	0.030	0.080	0.065	0.060	0.022	0.36	0.9271	0.5774	0.055	0.060	0.026	0.43	0.8572	0.2503	0.060	0.019	0.056	0.064
NH3	08155240	0.040	5	0.020	0.060	0.040	0.040	0.016	0.40	0.9868	0.9672	0.037	0.040	0.017	0.43	0.9679	0.8614	0.040	0.014	0.037	0.035
NH3	08155300	0.035	4	0.010	0.060	0.035	0.035	0.021	0.59	0.9984	0.9951	0.027	0.036	0.027	0.74	0.9263	0.5729	0.035	0.018	0.029	0.029
NH3	08155400	0.059	5	0.020	0.140	0.050	0.060	0.047	0.79	0.8410	0.1676	0.045	0.059	0.043	0.73	0.9766	0.9155	0.059	0.042	0.048	0.039
NH3	08156800	0.142	5	0.020	0.260	0.090	0.138	0.106	0.77	0.8747	0.2859	0.088	0.147	0.147	1.00	0.8966	0.3912	0.142	0.095	0.098	0.227
NH3	08157600	0.191	7	0.020	0.350	0.180	0.194	0.119	0.61	0.9667	0.8740	0.135	0.218	0.222	1.02	0.8424	0.1046	0.191	0.111	0.145	0.179
NH3	08158600	0.140	5	0.020	0.510	0.070	0.152	0.202	1.33	0.6878	0.0071	0.073	0.140	0.157	1.12	0.9436	0.6914	0.156	0.183	0.084	0.251
NH3	08158810	0.163	3	0.020	0.310	0.150	0.160	0.145	0.91	0.9964	0.8861	0.067	0.175	0.203	1.16	0.9313	0.4936	0.163	0.120	0.098	0.235
NH3	08158840	0.082	4	0.040	0.210	0.040	0.083	0.085	1.03	0.6298	0.0012	0.055	0.077	0.061	0.79	0.6298	0.0012	0.082	0.073	0.061	0.073
NH3	08158860	0.121	6	0.080	0.170	0.120	0.120	0.031	0.26	0.9649	0.8563	0.116	0.120	0.031	0.26	0.9810	0.9566	0.121	0.029	0.117	0.141
NH3	08158930	0.056	3	0.010	0.140	0.020	0.057	0.072	1.28	0.8073	0.1321	0.022	0.052	0.059	1.13	0.9301	0.4891	0.056	0.059	0.030	0.113

Table A.7 (continued) Summary of water quality data information from all sites in water year period 2005-2007, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
NO23	08154700	0.497	3	0.350	0.590	0.540	0.493	0.127	0.26	0.8981	0.3796	0.475	0.494	0.137	0.28	0.8729	0.3039	0.497	0.103	0.481	0.531
NO23	08155240	0.327	3	0.210	0.460	0.300	0.323	0.127	0.39	0.9745	0.6939	0.299	0.323	0.124	0.39	0.9973	0.9006	0.327	0.105	0.307	0.309
NO23	08155400	0.587	3	0.420	0.800	0.550	0.590	0.193	0.33	0.9678	0.6556	0.560	0.590	0.188	0.32	0.9912	0.8208	0.587	0.159	0.570	0.444
NO23	08156800	0.522	3	0.440	0.700	0.440	0.527	0.150	0.29	0.7500	0.0001	0.508	0.526	0.140	0.27	0.7500	0.0001	0.522	0.121	0.514	0.482
NO23	08157500	0.514	11	0.230	1.050	0.520	0.511	0.236	0.46	0.9041	0.2072	0.461	0.511	0.238	0.47	0.9515	0.6636	0.514	0.223	0.465	0.463
NO23	08157600	0.685	7	0.350	1.310	0.680	0.681	0.317	0.47	0.8681	0.1788	0.617	0.680	0.301	0.44	0.9406	0.6441	0.685	0.292	0.626	0.504
NO23	08157700	0.597	8	0.330	1.050	0.625	0.595	0.229	0.38	0.8877	0.2226	0.554	0.595	0.225	0.38	0.9288	0.5054	0.597	0.213	0.559	0.530
NO23	08158600	0.565	3	0.320	0.700	0.660	0.560	0.209	0.37	0.8280	0.1832	0.512	0.563	0.240	0.43	0.8060	0.1290	0.565	0.168	0.529	0.596
NO23	08158860	0.448	3	0.340	0.560	0.450	0.450	0.110	0.24	1.0000	1.0000	0.436	0.450	0.112	0.25	0.9949	0.8641	0.448	0.091	0.441	0.507
NO23	08158930	0.247	3	0.120	0.350	0.280	0.250	0.118	0.47	0.9514	0.5756	0.215	0.252	0.137	0.54	0.8982	0.3798	0.247	0.098	0.227	0.324
NO23	FBU	0.267	5	0.160	0.500	0.220	0.264	0.136	0.52	0.7801	0.0552	0.238	0.261	0.114	0.43	0.8849	0.3321	0.267	0.124	0.242	0.287
NO23	FTB	0.449	13	0.160	0.980	0.360	0.452	0.256	0.57	0.8759	0.0628	0.387	0.451	0.259	0.58	0.9495	0.5909	0.449	0.243	0.391	0.403
PB	08154700	3.355	5	0.850	6.670	2.800	3.394	2.397	0.71	0.9460	0.7083	2.479	3.459	2.804	0.81	0.9670	0.8554	3.355	2.128	2.658	3.309
PB	08155200	5.653	4	2.190	11.810	4.475	5.738	4.242	0.74	0.8776	0.3285	4.439	5.674	3.882	0.68	0.9856	0.9341	5.653	3.631	4.731	5.024
PB	08155240	0.880	5	0.110	1.320	1.030	0.880	0.462	0.53	0.8704	0.2679	0.605	0.999	0.990	0.99	0.6971	0.0089	0.884	0.414	0.673	0.896
PB	08155300	3.209	4	1.340	6.240	2.570	3.180	2.326	0.73	0.8695	0.2959	2.392	3.162	2.300	0.73	0.8659	0.2820	3.209	2.003	2.572	2.879
PB	08155400	4.656	5	1.040	9.590	3.440	4.714	3.520	0.75	0.9322	0.6113	3.312	4.819	4.141	0.86	0.9660	0.8491	4.656	3.156	3.584	2.774
PB	08156800	27.886	5	3.760	59.700	25.000	27.288	22.161	0.81	0.9594	0.8035	16.581	29.102	30.488	1.05	0.9552	0.7744	27.886	19.928	18.713	37.970
PB	08157500	21.440	11	6.680	33.590	25.200	21.440	9.245	0.43	0.9086	0.2350	18.851	21.844	12.245	0.56	0.8551	0.0497	21.555	8.802	19.108	21.932
PB	08157600	29.881	7	3.190	64.460	25.780	30.240	23.047	0.76	0.9411	0.6489	19.275	32.943	35.654	1.08	0.9350	0.5938	29.881	21.419	20.900	45.404
PB	08157700	18.004	8	8.840	56.800	12.650	18.779	15.958	0.85	0.6523	0.0006	14.970	18.004	11.207	0.62	0.8364	0.0691	19.296	15.415	15.325	17.702
PB	08158600	17.127	5	9.890	31.760	14.960	17.296	8.563	0.50	0.8457	0.1813	15.600	17.176	7.524	0.44	0.9457	0.7064	17.127	7.534	15.907	17.019
PB	08158810	5.106	3	0.410	10.850	3.620	4.960	5.347	1.08	0.9529	0.5822	1.484	5.467	7.040	1.29	0.9650	0.6406	5.106	4.430	2.525	7.555
PB	08158840	1.608	4	0.920	2.620	1.455	1.613	0.774	0.48	0.9213	0.5444	1.438	1.609	0.754	0.47	0.9450	0.6852	1.608	0.662	1.480	2.017
PB	08158860	2.409	5	1.780	3.190	2.160	2.404	0.588	0.24	0.9203	0.5319	2.335	2.403	0.578	0.24	0.9370	0.6445	2.409	0.529	2.348	2.662
PB	08158930	5.777	3	1.700	11.250	4.600	5.850	4.896	0.84	0.9511	0.5742	3.809	5.874	5.025	0.86	0.9990	0.9410	5.777	4.026	4.448	9.607
PB	FBU	2.375	5	0.140	5.000	1.790	2.436	1.928	0.79	0.9577	0.7920	1.203	3.007	3.982	1.32	0.8494	0.1927	2.375	1.714	1.478	2.488
PB	FTB	23.755	13	1.500	75.190	17.700	21.845	20.171	0.92	0.8373	0.0196	13.179	23.755	29.724	1.25	0.9547	0.6708	21.849	19.100	13.814	21.549
SO4	08157500	15.613	11	7.020	26.200	14.500	15.464	6.143	0.40	0.9574	0.7388	14.226	15.502	6.546	0.42	0.9696	0.8827	15.613	5.816	14.338	14.401
SO4	08157700	16.668	8	8.150	30.400	15.500	16.731	7.687	0.46	0.9210	0.4380	15.096	16.710	7.636	0.46	0.9641	0.8484	16.668	7.217	15.290	15.754
SO4	FBU	39.584	5	29.700	48.500	39.190	39.496	8.039	0.20	0.9370	0.6445	38.659	39.504	8.210	0.21	0.9383	0.6540	39.584	7.203	38.827	37.335
SO4	FTB	20.816	13	9.510	55.590	13.500	21.197	14.531	0.69	0.7745	0.0034	17.586	20.816	12.617	0.61	0.8884	0.0927	21.195	13.959	17.819	17.660

Table A.7 (continued) Summary of water quality data information from all sites in water year period 2005-2007, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TDS	08154700	225.210	5	202.060	274.350	210.000	225.566	30.263	0.13	0.8323	0.1448	223.678	225.517	28.860	0.13	0.8480	0.1884	225.210	26.607	224.045	216.811
TDS	08155200	232.270	4	175.560	295.310	226.005	230.720	55.651	0.24	0.9290	0.5884	224.061	230.706	55.612	0.24	0.9311	0.6010	232.270	48.419	225.711	257.559
TDS	08155240	306.066	5	284.160	343.910	296.470	305.854	23.238	0.08	0.8795	0.3069	305.009	305.841	22.575	0.07	0.8946	0.3810	306.066	20.647	305.175	313.233
TDS	08155300	210.668	4	79.650	282.790	240.115	210.668	89.899	0.43	0.8367	0.1861	181.768	215.053	122.658	0.57	0.7596	0.0473	210.840	77.767	189.774	253.326
TDS	08155400	186.248	5	66.070	265.080	196.390	183.706	83.329	0.45	0.9283	0.5850	158.935	186.828	105.923	0.57	0.8757	0.2904	186.248	74.320	164.273	238.778
TDS	08156800	142.179	5	86.100	198.870	123.640	143.992	50.596	0.35	0.8671	0.2549	135.039	144.055	51.736	0.36	0.8965	0.3910	142.179	45.129	136.811	101.624
TDS	08157500	139.753	11	74.000	197.000	164.000	138.636	44.489	0.32	0.8734	0.0856	130.823	139.020	49.122	0.35	0.8675	0.0719	139.753	42.320	131.551	128.751
TDS	08157700	189.918	8	103.000	360.000	155.500	190.000	87.160	0.46	0.8638	0.1309	173.361	188.992	79.452	0.42	0.9409	0.6200	189.918	81.439	175.258	187.832
TDS	08158600	144.813	5	122.630	175.120	134.350	144.442	21.875	0.15	0.9070	0.4501	142.849	144.420	21.358	0.15	0.9187	0.5213	144.813	19.478	143.162	139.316
TDS	08158810	268.932	3	173.600	427.880	209.090	270.190	137.712	0.51	0.8524	0.2468	240.154	268.725	124.517	0.46	0.8968	0.3753	268.932	112.675	249.499	195.481
TDS	08158840	268.082	4	133.650	370.150	283.690	267.795	99.639	0.37	0.9615	0.7881	244.788	269.693	117.584	0.44	0.8924	0.3942	268.082	86.114	250.878	285.609
TDS	08158860	158.112	6	89.490	201.870	168.475	158.380	39.258	0.25	0.9192	0.4998	152.408	158.916	46.043	0.29	0.8499	0.1572	158.112	35.767	153.480	150.052
TDS	08158930	161.983	3	71.020	227.570	183.970	160.853	80.795	0.50	0.9386	0.5218	134.727	162.827	96.457	0.59	0.8816	0.3291	161.983	66.380	143.796	98.536
TDS	FBU	306.051	5	225.000	372.000	284.000	305.000	61.135	0.20	0.9083	0.4573	298.692	305.082	62.750	0.21	0.9098	0.4664	306.051	54.381	299.963	289.161
TDS	FTB	175.160	13	58.000	344.000	160.000	174.923	78.262	0.45	0.9576	0.7170	157.311	175.892	85.531	0.49	0.9754	0.9493	175.160	74.344	158.677	157.112
TKN	08154700	1.307	5	0.840	2.180	1.180	1.314	0.542	0.41	0.8897	0.3556	1.217	1.310	0.503	0.38	0.9405	0.6697	1.307	0.478	1.235	1.317
TKN	08155200	1.677	4	0.750	3.130	1.445	1.693	1.013	0.60	0.8780	0.3300	1.425	1.686	0.961	0.57	0.9520	0.7286	1.677	0.866	1.488	1.656
TKN	08155240	0.648	5	0.120	1.070	0.650	0.646	0.346	0.54	0.9570	0.7867	0.487	0.693	0.577	0.83	0.7930	0.0710	0.648	0.311	0.524	0.649
TKN	08155300	0.761	4	0.500	1.160	0.675	0.753	0.302	0.40	0.8979	0.4208	0.698	0.751	0.286	0.38	0.9258	0.5700	0.761	0.264	0.711	0.930
TKN	08155400	0.894	5	0.560	1.270	0.970	0.898	0.302	0.34	0.9241	0.5565	0.845	0.899	0.318	0.35	0.9045	0.4351	0.894	0.269	0.855	0.845
TKN	08156800	2.217	5	0.890	3.280	2.720	2.198	1.081	0.49	0.8583	0.2223	1.873	2.225	1.301	0.58	0.8371	0.1572	2.217	0.963	1.940	2.637
TKN	08157500	1.762	11	0.630	3.180	1.800	1.745	0.867	0.50	0.9369	0.4843	1.508	1.764	1.021	0.58	0.9235	0.3490	1.762	0.829	1.530	1.573
TKN	08157600	2.122	7	0.570	4.490	1.650	2.126	1.461	0.69	0.9123	0.4118	1.611	2.153	1.682	0.78	0.9451	0.6848	2.122	1.360	1.681	2.416
TKN	08157700	1.676	8	0.400	3.760	1.320	1.639	1.228	0.75	0.9053	0.3220	1.176	1.666	1.454	0.87	0.9322	0.5360	1.676	1.166	1.230	1.465
TKN	08158600	2.057	5	1.490	3.180	2.020	2.064	0.677	0.33	0.8484	0.1895	1.968	2.059	0.620	0.30	0.8981	0.3995	2.057	0.593	1.986	1.961
TKN	08158810	1.554	3	0.440	2.900	1.220	1.520	1.257	0.83	0.9573	0.6024	0.993	1.530	1.307	0.85	0.9978	0.9100	1.554	1.041	1.159	2.133
TKN	08158840	0.743	4	0.550	0.930	0.750	0.745	0.155	0.21	0.9649	0.8095	0.728	0.745	0.161	0.22	0.9501	0.7166	0.743	0.133	0.732	0.826
TKN	08158860	1.101	6	0.780	1.850	1.005	1.105	0.378	0.34	0.7435	0.0172	1.055	1.101	0.322	0.29	0.8305	0.1085	1.107	0.345	1.062	1.228
TKN	08158930	1.048	3	0.790	1.380	0.990	1.053	0.300	0.28	0.9666	0.6489	1.012	1.053	0.293	0.28	0.9880	0.7904	1.048	0.247	1.026	1.282
TKN	FBU	0.667	5	0.040	1.220	0.780	0.658	0.488	0.74	0.9487	0.7283	0.327	0.813	1.074	1.32	0.8367	0.1559	0.667	0.438	0.401	0.810
TKN	FTB	2.544	13	0.250	8.170	1.790	2.454	2.115	0.86	0.8395	0.0209	1.691	2.544	2.542	1.00	0.9838	0.9929	2.430	2.002	1.747	2.235

Table A.7 (continued) Summary of water quality data information from all sites in water year period 2005-2007, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TN	08154700	1.914	5	1.200	2.780	2.000	1.916	0.607	0.32	0.9693	0.8707	1.820	1.917	0.618	0.32	0.9759	0.9117	1.914	0.534	1.839	2.042
TN	08155200	2.103	4	1.100	3.370	2.000	2.118	0.940	0.44	0.9574	0.7627	1.910	2.120	0.959	0.45	0.9761	0.8787	2.103	0.805	1.961	2.108
TN	08155240	1.092	5	0.340	1.500	1.120	1.092	0.455	0.42	0.8594	0.2261	0.940	1.124	0.671	0.60	0.7475	0.0282	1.099	0.409	0.975	1.102
TN	08155300	1.157	4	0.950	1.500	1.075	1.150	0.248	0.22	0.8777	0.3287	1.126	1.149	0.234	0.20	0.9053	0.4577	1.157	0.218	1.131	1.310
TN	08155400	1.400	5	1.000	1.820	1.400	1.406	0.388	0.28	0.8630	0.2391	1.351	1.406	0.398	0.28	0.8613	0.2331	1.400	0.346	1.362	1.231
TN	08156800	2.732	5	1.330	3.800	3.200	2.714	1.152	0.42	0.8462	0.1829	2.428	2.732	1.322	0.48	0.8311	0.1418	2.732	1.024	2.487	3.126
TN	08157500	2.280	11	1.070	3.820	2.030	2.260	1.017	0.45	0.9065	0.2215	2.026	2.267	1.101	0.49	0.9092	0.2388	2.280	0.971	2.047	2.040
TN	08157600	2.810	7	1.150	4.880	2.350	2.810	1.526	0.54	0.8936	0.2938	2.384	2.822	1.665	0.59	0.9113	0.4049	2.810	1.415	2.443	2.922
TN	08157700	2.277	8	0.800	4.400	2.190	2.238	1.267	0.57	0.9351	0.5633	1.865	2.256	1.428	0.63	0.9321	0.5353	2.277	1.202	1.911	1.998
TN	08158600	2.640	5	2.200	3.500	2.600	2.644	0.528	0.20	0.8614	0.2332	2.596	2.643	0.498	0.19	0.8877	0.3458	2.640	0.463	2.605	2.553
TN	08158810	1.800	3	0.490	3.300	1.500	1.763	1.423	0.81	0.9743	0.6927	1.146	1.788	1.546	0.86	0.9901	0.8096	1.800	1.179	1.344	2.474
TN	08158840	0.920	4	0.840	1.100	0.875	0.923	0.123	0.13	0.8001	0.1025	0.915	0.922	0.117	0.13	0.8127	0.1271	0.920	0.105	0.917	0.982
TN	08158860	1.578	6	1.280	2.110	1.420	1.572	0.347	0.22	0.8253	0.0981	1.536	1.571	0.329	0.21	0.8428	0.1376	1.578	0.318	1.542	1.842
TN	08158930	1.299	3	0.910	1.740	1.270	1.307	0.416	0.32	0.9942	0.8541	1.240	1.307	0.418	0.32	0.9997	0.9686	1.299	0.343	1.262	1.613
TN	FBU	0.940	5	0.270	1.720	0.970	0.928	0.588	0.63	0.9605	0.8113	0.715	0.946	0.704	0.74	0.9422	0.6815	0.940	0.529	0.757	1.103
TN	FTB	2.905	13	0.560	9.150	2.210	2.908	2.254	0.77	0.8152	0.0104	2.252	2.905	2.210	0.76	0.9905	0.9998	2.883	2.130	2.298	2.641
TOC	08154700	16.424	5	10.550	30.860	13.280	16.566	8.402	0.51	0.7938	0.0720	14.925	16.419	7.161	0.44	0.8719	0.2742	16.424	7.400	15.216	16.220
TOC	08155200	19.286	4	9.890	36.200	15.910	19.478	11.504	0.59	0.8274	0.1611	16.727	19.304	10.190	0.53	0.9175	0.5232	19.286	9.827	17.350	18.455
TOC	08155240	7.666	5	3.500	9.840	8.300	7.666	2.448	0.32	0.8341	0.1492	7.111	7.745	3.195	0.41	0.7487	0.0290	7.644	2.174	7.235	7.065
TOC	08155300	9.281	4	6.640	14.100	7.990	9.180	3.421	0.37	0.8387	0.1915	8.638	9.151	3.091	0.34	0.8850	0.3604	9.281	3.005	8.765	11.469
TOC	08155400	9.958	5	7.150	13.070	9.090	9.986	2.569	0.26	0.9057	0.4420	9.660	9.985	2.566	0.26	0.9227	0.5473	9.958	2.301	9.725	10.124
TOC	08156800	26.418	5	9.110	47.040	30.950	26.098	15.730	0.60	0.9118	0.4784	20.719	26.462	18.422	0.70	0.8851	0.3330	26.418	14.098	21.792	31.846
TOC	08157600	19.476	7	7.730	61.460	12.310	20.450	19.031	0.93	0.6935	0.0031	15.236	19.476	13.953	0.72	0.8719	0.1927	20.287	17.627	15.795	12.000
TOC	08158600	24.270	5	16.590	39.640	24.020	24.348	9.400	0.39	0.8459	0.1819	22.774	24.278	8.672	0.36	0.8858	0.3364	24.270	8.238	23.070	23.181
TOC	08158810	18.078	3	8.440	32.060	12.590	17.697	12.611	0.71	0.8770	0.3157	13.893	17.493	11.338	0.65	0.9492	0.5658	18.078	10.449	15.047	23.313
TOC	08158840	10.018	4	8.340	13.440	9.210	10.050	2.320	0.23	0.8197	0.1425	9.814	10.040	2.141	0.21	0.8538	0.2388	10.018	1.979	9.870	11.210
TOC	08158860	10.122	5	8.390	10.990	10.600	10.096	1.041	0.10	0.8522	0.2015	10.038	10.098	1.096	0.11	0.8329	0.1464	10.122	0.919	10.050	10.492
TOC	08158930	11.442	3	10.600	12.860	10.900	11.453	1.227	0.11	0.8476	0.2340	11.390	11.453	1.195	0.10	0.8557	0.2559	11.442	1.004	11.411	12.414
TP	08154700	0.161	5	0.060	0.300	0.160	0.162	0.095	0.59	0.9595	0.8046	0.133	0.163	0.103	0.63	0.9725	0.8911	0.161	0.084	0.139	0.167
TP	08155200	0.275	4	0.100	0.520	0.245	0.278	0.176	0.63	0.9114	0.4899	0.223	0.279	0.182	0.65	0.9519	0.7277	0.275	0.150	0.236	0.279
TP	08155240	0.073	5	0.020	0.140	0.060	0.074	0.044	0.60	0.9556	0.7773	0.059	0.076	0.054	0.71	0.9285	0.5860	0.073	0.039	0.062	0.061
TP	08155300	0.091	4	0.040	0.140	0.090	0.090	0.058	0.64	0.7286	0.0239	0.070	0.090	0.063	0.70	0.7286	0.0239	0.091	0.050	0.075	0.104
TP	08155400	0.138	5	0.050	0.240	0.130	0.140	0.084	0.60	0.9151	0.4989	0.113	0.141	0.095	0.67	0.9216	0.5402	0.138	0.074	0.118	0.099
TP	08156800	0.836	5	0.160	1.580	0.750	0.818	0.624	0.76	0.9153	0.5000	0.532	0.851	0.818	0.96	0.9139	0.4913	0.836	0.561	0.588	1.221
TP	08157500	0.491	6	0.240	0.730	0.470	0.487	0.168	0.35	0.9894	0.9877	0.454	0.489	0.187	0.38	0.9524	0.7595	0.491	0.153	0.460	0.468
TP	08157600	0.559	7	0.150	1.480	0.340	0.560	0.449	0.80	0.8104	0.0518	0.425	0.552	0.409	0.74	0.9600	0.8185	0.559	0.418	0.442	0.720
TP	08157700	0.629	4	0.150	1.270	0.535	0.623	0.551	0.88	0.8663	0.2835	0.359	0.631	0.635	1.01	0.8431	0.2044	0.629	0.474	0.418	0.644
TP	08158600	1.021	5	0.560	1.710	0.830	1.026	0.445	0.43	0.9199	0.5295	0.937	1.024	0.431	0.42	0.9646	0.8396	1.021	0.392	0.954	1.043
TP	08158810	0.235	3	0.030	0.450	0.210	0.230	0.211	0.92	0.9932	0.8428	0.099	0.250	0.287	1.15	0.9401	0.5279	0.235	0.174	0.142	0.339
TP	08158840	0.070	4	0.030	0.110	0.070	0.070	0.033	0.47	0.9447	0.6830	0.061	0.071	0.038	0.53	0.9029	0.4455	0.070	0.028	0.063	0.082
TP	08158860	0.317	6	0.180	0.640	0.260	0.320	0.165	0.52	0.7834	0.0415	0.288	0.317	0.138	0.44	0.9030	0.3920	0.321	0.151	0.293	0.392
TP	08158930	0.209	3	0.140	0.310	0.180	0.210	0.089	0.42	0.9146	0.4335	0.193	0.209	0.083	0.40	0.9569	0.6005	0.209	0.073	0.198	0.279
TP	FBU	0.085	3	0.010	0.130	0.120	0.087	0.067	0.77	0.8120	0.1436	0.036	0.099	0.117	1.18	0.7734	0.0524	0.085	0.055	0.054	0.096
TP	FTB	0.925	7	0.290	2.770	0.790	0.951	0.834	0.88	0.7001	0.0037	0.716	0.925	0.678	0.73	0.8988	0.3240	0.956	0.771	0.743	0.811

Table A.7 (continued) Summary of water quality data information from all sites in water year period 2005-2007, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TSS	08154700	146.092	5	55.410	304.780	118.500	147.662	105.058	0.71	0.8965	0.3910	113.004	147.333	106.755	0.72	0.9235	0.5525	146.092	92.862	119.385	145.433
TSS	08155200	413.253	4	157.930	819.580	346.890	417.823	282.303	0.68	0.8723	0.3068	333.601	416.321	271.128	0.65	0.9527	0.7331	413.253	241.264	353.247	400.714
TSS	08155240	61.230	5	4.290	106.860	66.820	60.458	39.123	0.65	0.9844	0.9566	33.910	74.265	91.304	1.23	0.7825	0.0580	61.230	35.219	40.322	66.812
TSS	08155300	123.982	4	40.540	282.760	79.825	120.738	109.756	0.91	0.7896	0.0848	84.781	117.000	91.001	0.78	0.9362	0.6315	123.982	96.553	92.250	201.092
TSS	08155400	114.145	5	55.480	242.720	98.070	113.100	76.741	0.68	0.8089	0.0956	93.086	111.494	66.752	0.60	0.8970	0.3934	114.145	69.648	96.591	151.421
TSS	08156800	516.933	5	82.790	986.260	536.480	506.840	354.570	0.70	0.9804	0.9367	340.885	540.057	513.005	0.95	0.9224	0.5458	516.933	318.871	375.861	806.996
TSS	08157500	210.969	11	102.000	408.000	206.000	212.636	88.798	0.42	0.8888	0.1345	196.553	212.095	84.142	0.40	0.9658	0.8416	210.969	83.601	197.926	222.615
TSS	08157600	368.835	7	22.260	1064.330	229.130	373.159	360.452	0.97	0.8768	0.2125	199.249	418.782	540.984	1.29	0.9532	0.7591	368.835	335.134	223.420	580.902
TSS	08157700	389.281	8	85.000	1044.000	349.000	384.125	319.271	0.83	0.8473	0.0895	266.196	387.670	352.392	0.91	0.9340	0.5534	389.281	297.092	279.480	433.685
TSS	08158600	918.624	5	563.990	1364.700	896.320	924.668	334.916	0.36	0.9470	0.7154	863.825	925.037	341.888	0.37	0.9503	0.7393	918.624	299.297	875.844	997.092
TSS	08158810	319.864	3	28.710	666.940	237.810	311.153	325.375	1.05	0.9619	0.6248	101.976	341.305	429.117	1.26	0.9620	0.6252	319.864	269.503	165.749	470.851
TSS	08158840	80.652	4	9.030	155.790	79.550	80.980	62.279	0.77	0.9979	0.9932	43.740	91.358	103.431	1.13	0.8885	0.3763	80.652	53.429	53.672	113.894
TSS	08158860	151.108	5	90.970	199.100	139.220	150.204	46.977	0.31	0.9015	0.4180	142.479	150.391	49.399	0.33	0.9137	0.4899	151.108	42.000	144.038	182.342
TSS	08158930	120.921	3	28.260	258.030	80.890	122.393	120.376	0.98	0.9108	0.4209	67.612	121.727	118.000	0.97	0.9992	0.9460	120.921	98.755	83.865	215.946
TSS	FBU	93.180	5	1.900	198.000	80.000	93.180	94.941	1.02	0.8423	0.1713	13.621	148.353	304.433	2.05	0.7717	0.0467	90.588	84.205	25.637	105.525
TSS	FTB	1791.390	13	108.000	7579.990	902.000	1760.768	2125.298	1.21	0.7437	0.0016	899.035	1791.390	2479.401	1.38	0.9783	0.9703	1719.937	2009.262	950.259	1564.037
VSS	08157600	43.331	7	8.250	70.030	46.460	43.911	22.631	0.52	0.9409	0.6472	35.118	46.248	35.173	0.76	0.8435	0.1070	43.331	21.284	36.569	58.512
ZN	08154700	20.014	5	8.940	32.630	20.170	19.936	9.656	0.48	0.9644	0.8383	17.434	20.033	10.533	0.53	0.9559	0.7794	20.014	8.746	17.935	24.396
ZN	08155200	23.325	4	13.780	34.280	23.075	23.553	9.050	0.38	0.9745	0.8690	21.765	23.578	9.356	0.40	0.9758	0.8767	23.325	7.844	22.210	18.008
ZN	08155240	5.364	5	1.000	6.960	5.990	5.360	2.485	0.46	0.7124	0.0129	4.130	5.792	4.731	0.82	0.6293	0.0015	5.364	2.220	4.433	4.856
ZN	08155300	15.980	4	5.920	45.820	8.435	17.153	19.256	1.12	0.7174	0.0182	10.229	15.980	14.457	0.90	0.8148	0.1315	17.192	16.626	11.522	9.171
ZN	08155400	15.645	5	5.920	23.590	19.520	15.752	7.460	0.47	0.8965	0.3911	13.519	15.984	9.221	0.58	0.8652	0.2475	15.645	6.694	13.990	14.284
ZN	08156800	78.778	5	27.710	120.690	92.150	78.054	38.278	0.49	0.9357	0.6359	66.174	79.352	47.659	0.60	0.8919	0.3667	78.778	34.085	68.682	92.477
ZN	08157500	107.675	11	58.500	186.000	104.000	108.016	31.305	0.29	0.8562	0.0515	103.840	107.997	30.525	0.28	0.9102	0.2453	107.675	29.358	104.212	108.236
ZN	08157600	133.898	7	30.540	204.430	164.160	135.304	65.341	0.48	0.9104	0.3990	111.873	140.748	97.384	0.69	0.8323	0.0842	133.898	61.444	115.697	164.942
ZN	08157700	126.103	8	45.300	410.000	85.395	131.660	121.257	0.92	0.7123	0.0031	97.951	126.103	92.616	0.73	0.9088	0.3458	133.083	113.283	101.172	146.356
ZN	08158600	72.213	5	45.880	125.040	64.190	72.636	31.100	0.43	0.8483	0.1891	67.206	72.275	27.526	0.38	0.9345	0.6276	72.213	27.281	68.200	69.963
ZN	08158810	16.509	3	4.000	31.090	13.350	16.147	13.760	0.85	0.9690	0.6621	9.836	16.419	15.057	0.92	0.9898	0.8072	16.509	11.395	11.841	22.964
ZN	08158840	7.817	4	4.400	10.740	8.130	7.850	2.854	0.36	0.9542	0.7427	7.270	7.875	3.124	0.40	0.9337	0.6165	7.817	2.450	7.418	8.446
ZN	08158860	14.268	5	11.060	15.660	14.930	14.268	1.865	0.13	0.7906	0.0677	14.131	14.274	2.029	0.14	0.7633	0.0393	14.246	1.695	14.159	15.127
ZN	08158930	26.941	3	11.550	46.390	23.760	27.233	17.678	0.65	0.9710	0.6734	21.506	27.268	17.914	0.66	0.9995	0.9586	26.941	14.554	23.350	40.641
ZN	FBU	16.183	5	5.630	25.790	17.590	16.162	7.480	0.46	0.9850	0.9595	13.936	16.448	9.441	0.57	0.9039	0.4318	16.183	6.820	14.416	16.069
ZN	FTB	115.006	13	22.090	318.000	123.000	115.982	85.744	0.74	0.8862	0.0866	85.400	118.988	105.257	0.88	0.9376	0.4265	115.006	81.366	87.655	118.854

Table A.8 Summary of water quality data information from all sites in water year period 2008-2014, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
AG	08157500	0.131	22	0.001	0.500	0.145	0.131	0.127	0.97	0.8424	0.0025	0.033	0.436	2.223	5.10	0.7869	0.0003	0.131	0.125	0.038	0.134
AG	08157700	0.195	21	0.001	0.780	0.190	0.196	0.232	1.18	0.7865	0.0004	0.030	0.896	6.348	7.09	0.8005	0.0007	0.195	0.227	0.036	0.212
AG	FBU	0.134	14	0.001	0.500	0.008	0.131	0.179	1.37	0.7209	0.0006	0.017	0.239	0.972	4.06	0.8596	0.0300	0.134	0.176	0.022	0.185
AG	FTB	0.144	16	0.001	0.500	0.080	0.142	0.162	1.14	0.7863	0.0018	0.037	0.335	1.237	3.69	0.8632	0.0214	0.144	0.158	0.043	0.169
BOD	08157500	19.045	22	5.000	64.800	15.995	19.193	12.313	0.64	0.7622	0.0001	16.460	19.045	10.825	0.57	0.9784	0.8898	19.286	12.136	16.570	18.798
BOD	08157700	16.125	22	5.030	39.500	13.050	16.136	9.724	0.60	0.8790	0.0115	13.595	16.125	9.999	0.62	0.9649	0.5937	16.173	9.557	13.701	15.965
BOD	FBU	2.436	13	1.000	5.400	2.000	2.431	1.360	0.56	0.8755	0.0620	2.092	2.424	1.367	0.56	0.9241	0.2851	2.436	1.304	2.116	2.760
BOD	FTB	17.516	16	6.100	39.000	14.500	17.458	10.045	0.58	0.9093	0.1135	14.778	17.489	10.670	0.61	0.9604	0.6686	17.516	9.788	14.936	15.556
CD	08157500	0.427	22	0.010	1.000	0.500	0.427	0.280	0.66	0.9174	0.0670	0.301	0.506	0.615	1.22	0.8164	0.0009	0.430	0.273	0.309	0.372
CD	08157600	0.060	3	0.010	0.100	0.070	0.060	0.046	0.76	0.9643	0.6369	0.031	0.065	0.069	1.06	0.8630	0.2758	0.060	0.037	0.041	0.076
CD	08157700	0.642	22	0.160	1.690	0.540	0.638	0.366	0.57	0.9148	0.0593	0.539	0.645	0.412	0.64	0.9660	0.6186	0.642	0.359	0.544	0.781
CD	FBU	0.437	13	0.010	1.180	0.200	0.368	0.364	0.99	0.8094	0.0088	0.199	0.437	0.661	1.51	0.9076	0.1699	0.374	0.354	0.212	0.393
CD	FTB	0.465	16	0.110	1.150	0.410	0.464	0.314	0.68	0.8515	0.0143	0.372	0.465	0.332	0.71	0.9457	0.4248	0.467	0.304	0.377	0.484
CL	08157500	14.412	22	3.980	34.300	12.050	14.374	7.959	0.55	0.9217	0.0824	12.279	14.443	8.709	0.60	0.9716	0.7480	14.412	7.733	12.371	11.106
CL	08157700	18.562	22	1.780	63.500	10.470	18.001	17.582	0.98	0.8295	0.0015	10.838	18.562	23.164	1.25	0.9615	0.5193	17.810	17.091	11.112	9.770
CL	FBU	32.786	14	7.120	56.600	32.950	32.786	12.237	0.37	0.9400	0.4188	29.417	33.747	18.357	0.54	0.7881	0.0036	32.586	12.047	29.709	27.891
CL	FTB	5.466	16	1.250	21.500	4.435	5.594	4.760	0.85	0.6894	0.0001	4.402	5.466	3.834	0.70	0.9688	0.8187	5.518	4.524	4.462	4.120
COD	08157500	99.364	22	5.000	233.000	94.500	99.364	55.976	0.56	0.9691	0.6906	78.605	108.985	98.670	0.91	0.8475	0.0031	99.851	54.720	79.797	98.716
COD	08157600	62.085	3	46.870	76.900	61.490	61.753	15.017	0.24	0.9998	0.9710	59.898	61.763	15.198	0.25	0.9969	0.8935	62.085	12.411	60.517	58.974
COD	08157700	90.050	22	22.000	215.000	71.500	89.870	48.529	0.54	0.8920	0.0206	78.321	90.050	49.949	0.55	0.9731	0.7822	89.908	47.694	78.823	100.780
COD	FBU	23.839	13	1.500	87.900	14.200	23.746	26.565	1.12	0.6946	0.0005	14.119	23.839	27.715	1.16	0.9201	0.2518	24.207	25.989	14.719	32.112
COD	FTB	108.477	16	55.200	329.000	92.450	110.175	68.170	0.62	0.7298	0.0004	96.094	108.477	55.371	0.51	0.8975	0.0733	109.787	65.496	96.830	129.343
CU	08154700	4.474	12	0.710	11.900	2.885	4.453	3.826	0.86	0.8244	0.0180	3.055	4.474	4.265	0.95	0.9595	0.7773	4.458	3.679	3.156	5.413
CU	08155200	2.529	13	0.350	9.640	1.600	2.488	2.603	1.05	0.7814	0.0041	1.457	2.529	3.037	1.20	0.9381	0.4328	2.485	2.535	1.522	2.285
CU	08155240	1.325	14	0.350	5.160	0.965	1.349	1.264	0.94	0.7363	0.0009	0.955	1.325	1.168	0.88	0.9268	0.2752	1.353	1.223	0.978	1.909
CU	08155400	1.366	10	0.400	3.410	1.195	1.377	0.920	0.67	0.8930	0.1831	1.097	1.388	0.998	0.72	0.9520	0.6918	1.366	0.865	1.123	1.260
CU	08156800	12.286	16	3.640	32.940	10.570	12.289	7.011	0.57	0.8379	0.0091	10.668	12.286	6.810	0.55	0.9595	0.6528	12.232	6.729	10.763	14.982
CU	08157500	38.180	22	9.210	153.000	24.945	39.235	33.817	0.86	0.7357	0.0001	30.113	38.180	28.571	0.75	0.9609	0.5082	39.557	33.249	30.443	36.214
CU	08157600	13.745	3	9.350	19.720	11.690	13.587	5.439	0.40	0.9088	0.4141	12.604	13.557	5.100	0.38	0.9490	0.5651	13.745	4.507	12.917	11.673
CU	08157700	13.745	22	3.880	25.090	14.150	13.778	5.293	0.38	0.9714	0.7436	12.567	13.950	6.612	0.47	0.9207	0.0786	13.745	5.166	12.627	13.937
CU	08158600	15.538	12	0.840	27.120	16.130	15.538	8.217	0.53	0.9459	0.5786	11.690	18.025	18.515	1.03	0.7466	0.0025	15.352	7.909	12.133	15.861
CU	08158700	1.957	9	0.350	11.530	0.980	2.319	3.628	1.56	0.5897	0.0001	1.080	1.957	2.335	1.19	0.8725	0.1307	2.315	3.395	1.158	3.417
CU	08158810	2.394	11	0.400	9.300	1.050	2.515	2.890	1.15	0.7446	0.0018	1.423	2.394	2.716	1.13	0.9241	0.3546	2.600	2.826	1.495	5.820
CU	08158840	2.490	4	0.400	6.950	1.380	2.528	3.007	1.19	0.7976	0.0980	1.221	2.422	2.657	1.10	0.9862	0.9372	2.490	2.602	1.475	3.233
CU	08158860	2.173	5	1.570	3.180	2.170	2.176	0.636	0.29	0.9037	0.4305	2.091	2.174	0.605	0.28	0.9386	0.6563	2.173	0.558	2.107	2.943
CU	08158920	5.460	12	1.600	11.150	5.285	5.453	2.624	0.48	0.9449	0.5641	4.815	5.502	2.935	0.53	0.9649	0.8509	5.460	2.512	4.869	4.029
CU	FBU	2.839	13	0.490	18.400	1.000	2.762	4.793	1.74	0.4777	0.0001	1.426	2.267	2.446	1.08	0.8653	0.0453	2.839	4.721	1.479	4.095
CU	FTB	13.127	16	6.300	39.400	12.350	13.325	7.659	0.57	0.6772	0.0001	11.962	13.127	5.821	0.44	0.9055	0.0985	13.293	7.348	12.032	15.889

Table A.8 (continued) Summary of water quality data information from all sites in water year period 2008-2014, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
DP	08154700	0.018	12	0.010	0.030	0.020	0.018	0.006	0.36	0.7801	0.0056	0.016	0.018	0.007	0.39	0.7535	0.0029	0.018	0.006	0.016	0.019
DP	08155200	0.012	13	0.010	0.030	0.010	0.012	0.006	0.48	0.3110	0.0001	0.011	0.011	0.003	0.31	0.3110	0.0001	0.012	0.005	0.011	0.012
DP	08155240	0.012	13	0.010	0.030	0.010	0.012	0.006	0.49	0.4578	0.0001	0.011	0.012	0.004	0.35	0.4659	0.0001	0.012	0.006	0.011	0.013
DP	08155400	0.022	10	0.010	0.070	0.010	0.022	0.021	0.95	0.6497	0.0002	0.016	0.021	0.017	0.81	0.6468	0.0002	0.022	0.020	0.016	0.018
DP	08156800	0.070	16	0.010	0.360	0.045	0.069	0.081	1.17	0.5279	0.0001	0.050	0.065	0.052	0.80	0.8861	0.0483	0.070	0.080	0.051	0.229
DP	08157500	0.116	22	0.004	0.250	0.105	0.116	0.063	0.54	0.9734	0.7891	0.089	0.134	0.138	1.03	0.7885	0.0003	0.116	0.061	0.091	0.118
DP	08157600	0.043	3	0.040	0.050	0.040	0.043	0.006	0.13	0.7500	0.0001	0.043	0.043	0.006	0.13	0.7500	0.0001	0.043	0.005	0.043	0.047
DP	08157700	0.120	22	0.010	0.580	0.085	0.116	0.127	1.09	0.7154	0.0001	0.072	0.120	0.145	1.20	0.9723	0.7628	0.117	0.124	0.074	0.129
DP	08158600	0.032	12	0.010	0.110	0.030	0.033	0.026	0.79	0.6075	0.0001	0.027	0.032	0.018	0.59	0.8583	0.0465	0.032	0.024	0.027	0.036
DP	08158700	0.029	9	0.010	0.150	0.010	0.029	0.046	1.59	0.4890	0.0001	0.016	0.024	0.023	0.97	0.6437	0.0003	0.029	0.043	0.016	0.023
DP	08158810	0.019	11	0.010	0.060	0.010	0.019	0.018	0.95	0.5756	0.0001	0.014	0.018	0.013	0.72	0.6029	0.0001	0.019	0.017	0.015	0.025
DP	08158840	0.033	4	0.010	0.090	0.020	0.035	0.037	1.06	0.7373	0.0292	0.022	0.033	0.029	0.87	0.8844	0.3579	0.035	0.032	0.024	0.043
DP	08158860	0.117	5	0.090	0.200	0.100	0.118	0.047	0.39	0.6998	0.0095	0.111	0.117	0.039	0.33	0.7538	0.0322	0.117	0.041	0.112	0.176
DP	08158920	0.072	12	0.020	0.220	0.065	0.073	0.051	0.70	0.7259	0.0015	0.061	0.072	0.043	0.60	0.9447	0.5612	0.073	0.049	0.061	0.056
DP	FBU	0.012	13	0.001	0.040	0.009	0.012	0.013	1.12	0.6747	0.0003	0.007	0.012	0.015	1.28	0.8993	0.1308	0.012	0.013	0.007	0.011
DP	FTB	0.068	16	0.001	0.150	0.055	0.068	0.047	0.68	0.9312	0.2543	0.043	0.091	0.137	1.50	0.7849	0.0017	0.068	0.045	0.046	0.080
NH3	08154700	0.047	12	0.010	0.110	0.035	0.047	0.034	0.74	0.8512	0.0379	0.035	0.047	0.039	0.83	0.8936	0.1311	0.047	0.033	0.036	0.061
NH3	08155200	0.026	13	0.010	0.110	0.010	0.026	0.029	1.10	0.6416	0.0002	0.017	0.024	0.022	0.89	0.7358	0.0013	0.026	0.028	0.018	0.022
NH3	08155240	0.024	14	0.010	0.070	0.020	0.024	0.016	0.64	0.7385	0.0010	0.021	0.024	0.013	0.56	0.8792	0.0566	0.024	0.015	0.021	0.024
NH3	08155400	0.025	10	0.010	0.080	0.020	0.025	0.020	0.81	0.5985	0.0001	0.020	0.024	0.014	0.60	0.7973	0.0134	0.025	0.019	0.021	0.028
NH3	08156800	0.084	16	0.010	0.380	0.060	0.086	0.089	1.04	0.6880	0.0001	0.059	0.084	0.079	0.94	0.9629	0.7150	0.086	0.085	0.060	0.099
NH3	08157600	0.032	3	0.008	0.050	0.040	0.033	0.022	0.66	0.9171	0.4424	0.022	0.034	0.030	0.88	0.8415	0.2179	0.032	0.018	0.025	0.040
NH3	08158600	0.107	12	0.030	0.460	0.090	0.113	0.118	1.05	0.6546	0.0003	0.079	0.107	0.089	0.83	0.9311	0.3921	0.112	0.113	0.081	0.136
NH3	08158700	0.042	9	0.010	0.220	0.020	0.042	0.067	1.59	0.4918	0.0001	0.023	0.035	0.034	0.97	0.7497	0.0054	0.042	0.063	0.024	0.025
NH3	08158810	0.035	11	0.010	0.090	0.030	0.035	0.023	0.64	0.8444	0.0361	0.030	0.035	0.022	0.62	0.9640	0.8206	0.036	0.022	0.030	0.057
NH3	08158840	0.039	4	0.010	0.120	0.020	0.043	0.052	1.22	0.7078	0.0142	0.023	0.039	0.038	0.99	0.8606	0.2622	0.042	0.045	0.026	0.031
NH3	08158860	0.047	5	0.020	0.080	0.050	0.046	0.023	0.50	0.9427	0.6853	0.040	0.046	0.024	0.53	0.9588	0.7998	0.047	0.021	0.041	0.034
NH3	08158920	0.086	12	0.020	0.200	0.055	0.086	0.065	0.76	0.8463	0.0331	0.063	0.086	0.072	0.84	0.9264	0.3438	0.086	0.062	0.065	0.080
NO23	08154700	0.457	10	0.100	0.830	0.475	0.458	0.247	0.54	0.9488	0.6547	0.371	0.475	0.350	0.74	0.8898	0.1688	0.457	0.234	0.380	0.487
NO23	08155200	0.399	11	0.040	1.130	0.280	0.390	0.362	0.93	0.7648	0.0032	0.258	0.399	0.407	1.02	0.9506	0.6518	0.387	0.342	0.269	0.450
NO23	08155240	0.623	13	0.070	1.810	0.320	0.615	0.632	1.03	0.7794	0.0039	0.351	0.623	0.765	1.23	0.9459	0.5374	0.609	0.602	0.368	0.669
NO23	08155400	0.648	9	0.360	1.340	0.460	0.654	0.370	0.57	0.7443	0.0047	0.575	0.646	0.318	0.49	0.8196	0.0341	0.648	0.345	0.582	0.733
NO23	08156800	0.497	14	0.220	1.120	0.410	0.500	0.245	0.49	0.8357	0.0143	0.453	0.497	0.220	0.44	0.9460	0.5010	0.502	0.239	0.456	0.413
NO23	08157500	0.436	22	0.002	0.900	0.440	0.436	0.207	0.47	0.9775	0.8734	0.320	0.653	0.996	1.53	0.5418	0.0001	0.437	0.201	0.330	0.385
NO23	08157600	0.295	3	0.140	0.540	0.220	0.300	0.212	0.71	0.8929	0.3631	0.236	0.297	0.193	0.65	0.9649	0.6401	0.295	0.170	0.255	0.420
NO23	08157700	0.511	22	0.300	1.050	0.480	0.513	0.195	0.38	0.8345	0.0018	0.483	0.511	0.177	0.35	0.9353	0.1581	0.513	0.191	0.484	0.465
NO23	08158600	0.554	10	0.220	1.970	0.465	0.579	0.504	0.87	0.6077	0.0001	0.465	0.554	0.339	0.61	0.8716	0.1042	0.567	0.469	0.474	0.575
NO23	08158700	0.540	9	0.050	1.180	0.680	0.546	0.374	0.69	0.9259	0.4430	0.356	0.615	0.698	1.14	0.8644	0.1071	0.540	0.351	0.379	0.353
NO23	08158810	0.594	10	0.070	1.510	0.410	0.601	0.513	0.85	0.8785	0.1254	0.379	0.631	0.697	1.11	0.9566	0.7468	0.594	0.483	0.400	0.415
NO23	08158840	0.484	4	0.210	0.730	0.495	0.483	0.221	0.46	0.9939	0.9764	0.422	0.487	0.257	0.53	0.9431	0.6731	0.484	0.190	0.438	0.437
NO23	08158860	0.550	4	0.290	1.080	0.410	0.548	0.367	0.67	0.8126	0.1268	0.452	0.539	0.315	0.58	0.8881	0.3742	0.550	0.316	0.473	0.931
NO23	08158920	0.426	10	0.250	0.870	0.350	0.429	0.203	0.47	0.8232	0.0277	0.391	0.426	0.179	0.42	0.9096	0.2780	0.426	0.190	0.395	0.399
NO23	FBU	0.481	13	0.030	1.370	0.260	0.422	0.429	1.02	0.8505	0.0290	0.188	0.481	0.821	1.71	0.8748	0.0606	0.420	0.414	0.203	0.576
NO23	FTB	0.403	16	0.160	0.700	0.410	0.404	0.131	0.33	0.9682	0.8079	0.379	0.406	0.154	0.38	0.9147	0.1387	0.403	0.126	0.381	0.421

Table A.8 (continued) Summary of water quality data information from all sites in water year period 2008-2014, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
PB	08154700	3.139	12	0.280	10.110	1.505	3.137	3.360	1.07	0.7564	0.0031	1.818	3.139	3.709	1.18	0.9621	0.8134	3.145	3.238	1.905	5.091
PB	08155200	2.625	13	0.170	6.810	0.770	2.341	2.443	1.04	0.8151	0.0103	1.034	2.625	4.449	1.70	0.8876	0.0904	2.323	2.358	1.115	2.043
PB	08155240	0.915	14	0.050	6.190	0.125	0.904	1.682	1.86	0.5689	0.0001	0.234	0.717	1.410	1.97	0.8065	0.0060	0.915	1.627	0.255	1.959
PB	08155400	1.413	10	0.100	4.970	0.605	1.385	1.657	1.20	0.7760	0.0074	0.637	1.413	2.048	1.45	0.9653	0.8441	1.378	1.553	0.694	0.983
PB	08156800	17.808	16	4.430	50.560	15.865	17.770	11.523	0.65	0.8340	0.0080	14.744	17.808	11.572	0.65	0.9618	0.6945	17.713	11.072	14.920	26.480
PB	08157500	31.888	22	3.990	75.100	26.350	31.678	19.365	0.61	0.9185	0.0709	25.567	32.722	25.047	0.77	0.9512	0.3341	31.888	18.817	25.858	33.127
PB	08157600	11.771	3	9.950	13.060	12.320	11.777	1.625	0.14	0.9161	0.4388	11.658	11.778	1.682	0.14	0.9020	0.3917	11.771	1.315	11.698	12.246
PB	08157700	24.599	22	2.760	46.090	26.350	24.599	12.103	0.49	0.9558	0.4099	20.136	26.189	20.805	0.79	0.8484	0.0032	24.579	11.835	20.380	28.864
PB	08158600	17.077	12	0.380	41.740	15.085	17.077	11.585	0.68	0.9414	0.5161	11.052	22.245	30.687	1.38	0.7587	0.0033	16.944	11.124	11.749	17.709
PB	08158700	3.117	9	0.050	21.850	0.830	3.588	7.188	2.00	0.5696	0.0001	0.511	3.117	7.454	2.39	0.9444	0.6285	3.581	6.727	0.645	5.850
PB	08158810	3.118	11	0.100	15.080	0.480	3.261	5.108	1.57	0.6853	0.0003	0.765	3.118	6.758	2.17	0.9139	0.2712	3.413	4.992	0.881	9.190
PB	08158840	3.109	4	0.240	9.380	1.515	3.163	4.291	1.36	0.8034	0.1085	0.818	3.091	4.473	1.45	0.9177	0.5239	3.109	3.712	1.220	4.271
PB	08158860	1.331	5	0.500	2.060	1.330	1.326	0.676	0.51	0.9269	0.5751	1.125	1.341	0.793	0.59	0.9185	0.5201	1.331	0.598	1.166	1.876
PB	08158920	4.877	12	1.060	17.430	3.830	4.970	4.298	0.86	0.7177	0.0013	3.807	4.877	3.640	0.75	0.9734	0.9427	4.980	4.120	3.887	3.529
PB	FBU	2.015	13	0.040	37.700	0.470	3.501	10.307	2.94	0.3680	0.0001	0.378	2.015	5.299	2.63	0.9145	0.2112	3.675	10.158	0.436	6.272
PB	FTB	22.955	16	5.730	61.500	18.300	22.906	15.293	0.67	0.8974	0.0729	18.366	23.063	16.644	0.72	0.9782	0.9475	22.955	14.810	18.632	29.623
SO4	08157500	13.299	22	5.720	32.600	12.050	13.302	6.406	0.48	0.8898	0.0187	11.925	13.299	6.452	0.49	0.9557	0.4073	13.304	6.202	11.985	10.497
SO4	08157700	18.486	22	3.260	54.590	11.800	18.213	15.533	0.85	0.8490	0.0033	12.514	18.486	18.688	1.01	0.9522	0.3495	18.049	15.118	12.741	10.591
SO4	FBU	42.322	14	9.800	86.100	44.395	42.683	17.518	0.41	0.8648	0.0355	38.154	43.690	23.596	0.54	0.7980	0.0047	42.322	17.000	38.528	37.034
SO4	FTB	11.170	16	5.440	28.200	9.635	11.312	5.977	0.53	0.7360	0.0004	10.227	11.170	4.816	0.43	0.8986	0.0764	11.230	5.696	10.284	9.045
TDS	08157500	141.554	22	91.000	236.000	139.500	141.500	32.925	0.23	0.9400	0.1980	137.925	141.442	32.020	0.23	0.9809	0.9289	141.554	31.902	138.084	129.311
TDS	08157700	183.868	22	87.000	405.990	161.905	184.490	85.455	0.46	0.8934	0.0220	167.429	183.868	82.230	0.45	0.9604	0.4981	183.668	83.112	168.146	143.748
TDS	FBU	303.442	14	164.000	388.000	324.000	304.857	67.050	0.22	0.8648	0.0355	295.690	305.892	80.419	0.26	0.7974	0.0046	303.442	65.759	296.409	280.846
TDS	FTB	134.871	16	90.000	260.000	121.500	135.313	44.270	0.33	0.8458	0.0118	129.432	134.871	39.180	0.29	0.9341	0.2825	134.787	42.353	129.766	119.572
TKN	08154700	1.282	12	0.260	4.090	0.880	1.292	1.089	0.84	0.8082	0.0116	0.954	1.282	1.057	0.82	0.9840	0.9949	1.301	1.064	0.978	1.966
TKN	08155200	0.669	13	0.150	1.840	0.470	0.670	0.520	0.78	0.8551	0.0333	0.503	0.669	0.543	0.81	0.9675	0.8624	0.669	0.504	0.514	0.703
TKN	08155240	0.530	14	0.150	2.370	0.290	0.529	0.584	1.10	0.6108	0.0001	0.375	0.491	0.389	0.79	0.8578	0.0284	0.530	0.565	0.382	0.853
TKN	08155400	0.421	10	0.130	1.060	0.345	0.425	0.267	0.63	0.8500	0.0581	0.356	0.424	0.259	0.61	0.9726	0.9135	0.421	0.250	0.362	0.363
TKN	08156800	1.952	16	0.650	4.210	1.645	1.959	0.973	0.50	0.9113	0.1221	1.731	1.968	1.035	0.53	0.9533	0.5429	1.952	0.934	1.745	2.283
TKN	08157500	2.988	22	0.660	5.510	3.025	2.965	1.501	0.51	0.9368	0.1697	2.531	3.020	1.909	0.63	0.9296	0.1206	2.988	1.460	2.551	2.944
TKN	08157600	1.290	3	0.860	1.560	1.440	1.287	0.374	0.29	0.8742	0.3074	1.224	1.289	0.411	0.32	0.8487	0.2371	1.290	0.307	1.245	1.306
TKN	08157700	2.739	22	0.630	5.900	2.030	2.723	1.454	0.53	0.9075	0.0421	2.357	2.739	1.582	0.58	0.9649	0.5930	2.721	1.422	2.373	3.113
TKN	08158600	2.531	12	0.320	5.970	2.495	2.548	1.478	0.58	0.9427	0.5334	2.043	2.686	2.117	0.79	0.8938	0.1319	2.531	1.417	2.091	2.482
TKN	08158700	0.908	9	0.110	6.230	0.370	1.129	1.984	1.76	0.5670	0.0001	0.422	0.908	1.258	1.39	0.8996	0.2497	1.126	1.856	0.462	1.604
TKN	08158810	1.083	11	0.270	4.110	0.540	1.153	1.291	1.12	0.7238	0.0009	0.694	1.083	1.119	1.03	0.8800	0.1039	1.191	1.261	0.724	2.602
TKN	08158840	0.862	4	0.220	1.780	0.750	0.875	0.675	0.77	0.9537	0.7391	0.607	0.889	0.748	0.84	0.9907	0.9613	0.862	0.587	0.671	1.063
TKN	08158860	0.746	5	0.400	1.080	0.660	0.746	0.283	0.38	0.9333	0.6191	0.690	0.748	0.299	0.40	0.9405	0.6696	0.746	0.256	0.701	0.973
TKN	08158920	0.855	12	0.270	2.090	0.725	0.852	0.523	0.61	0.8788	0.0847	0.716	0.849	0.516	0.61	0.9736	0.9445	0.855	0.498	0.726	0.655
TKN	FBU	0.676	13	0.170	4.010	0.450	0.757	1.029	1.36	0.5641	0.0001	0.470	0.676	0.629	0.93	0.9058	0.1607	0.774	1.013	0.484	1.076
TKN	FTB	2.846	16	1.200	9.430	2.270	2.904	1.986	0.68	0.7172	0.0003	2.482	2.846	1.549	0.54	0.9388	0.3349	2.904	1.907	2.504	3.329

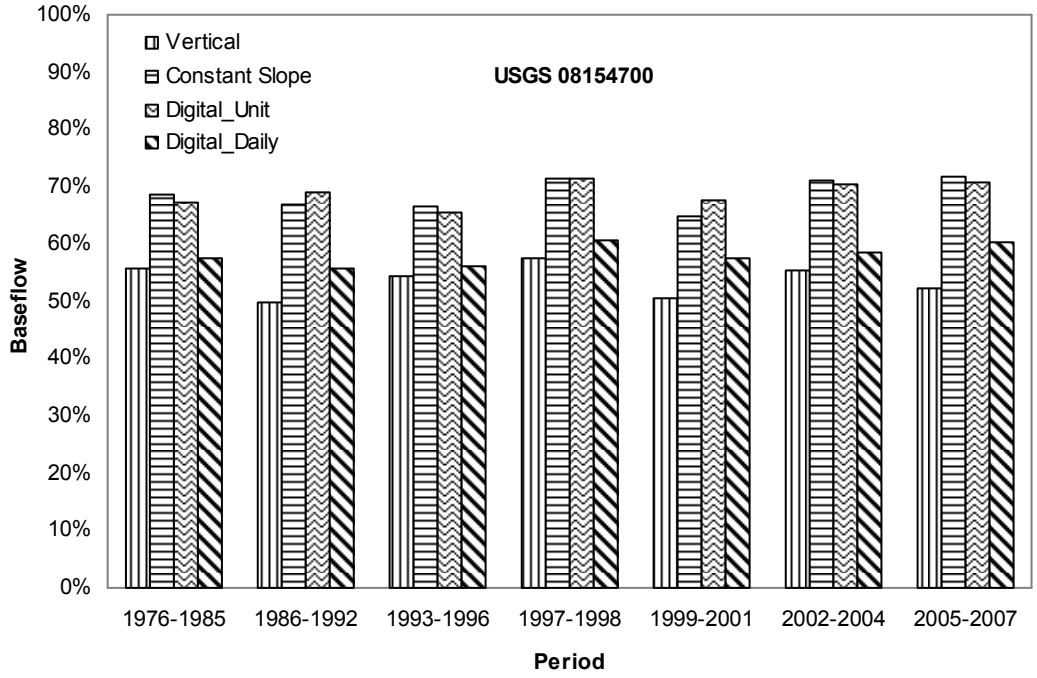
Table A.8 (continued) Summary of water quality data information from all sites in water year period 2008-2014, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TN	08154700	1.863	12	0.460	5.100	1.550	1.853	1.288	0.70	0.8708	0.0669	1.464	1.871	1.388	0.74	0.9585	0.7623	1.863	1.258	1.495	2.605
TN	08155200	1.130	13	0.310	3.000	1.100	1.127	0.735	0.65	0.8776	0.0662	0.922	1.128	0.755	0.67	0.9737	0.9339	1.130	0.713	0.937	1.202
TN	08155240	1.186	14	0.320	3.200	0.825	1.188	0.880	0.74	0.8705	0.0426	0.906	1.186	0.936	0.79	0.9521	0.5934	1.179	0.848	0.924	1.554
TN	08155400	1.097	10	0.640	2.600	0.955	1.111	0.590	0.53	0.7407	0.0027	1.003	1.097	0.470	0.43	0.8810	0.1340	1.101	0.550	1.012	1.130
TN	08156800	2.497	16	0.930	4.900	2.250	2.502	1.031	0.41	0.8923	0.0607	2.308	2.503	1.032	0.41	0.9467	0.4396	2.497	0.989	2.320	2.672
TN	08157500	3.426	22	0.660	6.190	3.365	3.401	1.555	0.46	0.9610	0.5088	2.977	3.473	2.035	0.59	0.9230	0.0878	3.426	1.513	2.998	3.329
TN	08157600	1.589	3	1.000	1.980	1.790	1.590	0.520	0.33	0.8889	0.3511	1.490	1.595	0.578	0.36	0.8580	0.2621	1.589	0.421	1.525	1.726
TN	08157700	3.227	22	1.680	6.350	2.765	3.236	1.424	0.44	0.8882	0.0174	2.960	3.227	1.383	0.43	0.9436	0.2349	3.234	1.392	2.971	3.579
TN	08158600	3.220	12	0.540	6.700	3.050	3.245	1.760	0.54	0.9589	0.7687	2.684	3.362	2.379	0.71	0.9173	0.2640	3.220	1.686	2.735	3.197
TN	08158700	1.777	9	0.180	7.400	1.300	1.804	2.193	1.22	0.6696	0.0006	1.027	1.777	2.023	1.14	0.9719	0.9101	1.795	2.051	1.095	2.048
TN	08158810	1.799	11	0.310	4.500	1.600	1.771	1.347	0.76	0.9221	0.3364	1.237	1.842	1.786	0.97	0.9455	0.5867	1.799	1.312	1.284	3.128
TN	08158840	1.361	4	0.690	2.300	1.250	1.373	0.674	0.49	0.9268	0.5756	1.217	1.372	0.664	0.48	0.9709	0.8472	1.361	0.586	1.254	1.506
TN	08158860	1.260	5	0.910	2.100	0.980	1.266	0.507	0.40	0.7911	0.0684	1.182	1.260	0.450	0.36	0.8268	0.1316	1.260	0.446	1.198	1.911
TN	08158920	1.330	12	0.580	3.000	1.100	1.327	0.698	0.53	0.8633	0.0538	1.179	1.318	0.638	0.48	0.9727	0.9372	1.330	0.665	1.190	1.083
TN	FBU	1.160	13	0.220	4.620	0.890	1.185	1.240	1.05	0.7524	0.0020	0.757	1.160	1.192	1.03	0.9599	0.7515	1.200	1.216	0.783	1.658
TN	FTB	3.261	16	1.360	9.860	2.840	3.308	2.000	0.60	0.7360	0.0004	2.912	3.261	1.605	0.49	0.9506	0.4995	3.307	1.920	2.933	3.750
TOC	08154700	15.738	12	4.200	49.170	10.255	16.114	13.551	0.84	0.7853	0.0064	12.135	15.738	12.059	0.77	0.9577	0.7502	16.198	13.182	12.406	24.416
TOC	08155200	8.006	13	3.000	23.430	5.570	8.170	6.157	0.75	0.7990	0.0066	6.498	8.006	5.451	0.68	0.9319	0.3610	8.164	5.968	6.605	8.602
TOC	08155240	7.001	14	2.500	35.400	3.600	6.980	8.490	1.22	0.5170	0.0001	4.971	6.333	4.703	0.74	0.8093	0.0065	7.001	8.227	5.059	12.285
TOC	08155400	5.370	10	2.960	11.970	4.545	5.416	2.707	0.50	0.8237	0.0281	4.901	5.370	2.338	0.44	0.9406	0.5597	5.385	2.527	4.946	4.703
TOC	08156800	24.030	16	6.860	63.900	21.530	23.959	14.130	0.59	0.8651	0.0229	20.432	24.030	14.359	0.60	0.9657	0.7651	23.848	13.563	20.642	27.777
TOC	08157600	10.804	3	5.320	18.660	7.690	10.557	7.117	0.67	0.8783	0.3195	8.517	10.452	6.417	0.61	0.9463	0.5532	10.804	5.873	9.139	6.827
TOC	08158600	25.098	12	4.760	49.930	25.135	25.256	12.557	0.50	0.9927	1.0000	21.322	26.120	17.457	0.67	0.9164	0.2578	25.098	12.052	21.691	25.680
TOC	08158700	10.570	9	1.800	64.040	3.890	12.788	20.431	1.60	0.5901	0.0001	5.629	10.570	13.045	1.23	0.8453	0.0661	12.791	19.125	6.061	20.618
TOC	08158810	13.072	11	3.020	49.950	6.440	13.863	15.372	1.11	0.7291	0.0011	8.468	13.072	13.328	1.02	0.8983	0.1764	14.322	15.032	8.820	30.976
TOC	08158840	10.547	4	4.360	21.650	8.340	10.673	7.852	0.74	0.8795	0.3365	8.220	10.556	7.286	0.69	0.9516	0.7262	10.547	6.808	8.771	12.847
TOC	08158860	9.032	5	6.510	13.420	7.690	9.052	2.813	0.31	0.8834	0.3250	8.661	9.037	2.633	0.29	0.9197	0.5282	9.032	2.475	8.736	12.497
TOC	08158920	12.618	11	5.550	25.040	9.720	12.684	6.918	0.55	0.8543	0.0485	11.057	12.618	6.675	0.53	0.9364	0.4788	12.629	6.510	11.192	10.262
TP	08154700	0.153	12	0.020	0.570	0.080	0.153	0.166	1.08	0.7709	0.0045	0.090	0.153	0.178	1.16	0.9605	0.7907	0.155	0.162	0.094	0.256
TP	08155200	0.094	13	0.010	0.300	0.060	0.089	0.094	1.05	0.8280	0.0150	0.045	0.094	0.136	1.44	0.9108	0.1882	0.089	0.091	0.048	0.083
TP	08155240	0.054	14	0.010	0.310	0.020	0.054	0.083	1.55	0.5785	0.0001	0.026	0.046	0.056	1.22	0.8113	0.0069	0.054	0.080	0.027	0.099
TP	08155400	0.060	10	0.010	0.210	0.025	0.061	0.066	1.09	0.7865	0.0099	0.034	0.060	0.070	1.17	0.9148	0.3157	0.060	0.062	0.036	0.045
TP	08156800	0.501	16	0.130	1.430	0.385	0.504	0.335	0.67	0.8454	0.0117	0.416	0.501	0.324	0.65	0.9815	0.9744	0.503	0.323	0.421	0.836
TP	08157500	0.610	22	0.150	1.280	0.590	0.605	0.301	0.50	0.9570	0.4320	0.527	0.612	0.354	0.58	0.9693	0.6953	0.610	0.294	0.530	0.605
TP	08157600	0.263	3	0.220	0.300	0.270	0.263	0.040	0.15	0.9796	0.7262	0.260	0.263	0.041	0.16	0.9669	0.6505	0.263	0.033	0.261	0.278
TP	08157700	0.738	22	0.090	1.840	0.565	0.738	0.480	0.65	0.9166	0.0646	0.580	0.760	0.613	0.81	0.9603	0.4948	0.738	0.469	0.588	0.888
TP	08158600	0.858	12	0.010	1.670	0.730	0.858	0.516	0.60	0.9536	0.6899	0.532	1.289	2.074	1.61	0.6684	0.0004	0.852	0.497	0.576	0.888
TP	08158700	0.098	9	0.010	0.740	0.030	0.129	0.241	1.87	0.5660	0.0001	0.037	0.098	0.157	1.60	0.8534	0.0813	0.129	0.226	0.041	0.210
TP	08158810	0.150	11	0.010	0.590	0.050	0.149	0.197	1.32	0.7487	0.0020	0.056	0.150	0.256	1.70	0.9272	0.3832	0.155	0.192	0.061	0.376
TP	08158840	0.128	4	0.010	0.380	0.065	0.130	0.175	1.34	0.8129	0.1275	0.029	0.130	0.197	1.52	0.8457	0.2126	0.128	0.151	0.046	0.177
TP	08158860	0.191	5	0.130	0.320	0.170	0.192	0.075	0.39	0.8220	0.1210	0.180	0.191	0.066	0.34	0.9043	0.4339	0.191	0.066	0.182	0.288
TP	08158920	0.158	12	0.040	0.390	0.135	0.158	0.109	0.69	0.8685	0.0626	0.124	0.158	0.116	0.74	0.9700	0.9109	0.158	0.104	0.127	0.105
TP	FBU	0.139	13	0.003	1.050	0.030	0.149	0.281	1.89	0.5237	0.0001	0.046	0.139	0.269	1.93	0.9575	0.7151	0.154	0.276	0.050	0.226
TP	FTB	0.774	16	0.310	2.180	0.665	0.783	0.503	0.64	0.8270	0.0064	0.660	0.774	0.458	0.59	0.9524	0.5282	0.784	0.486	0.667	0.924

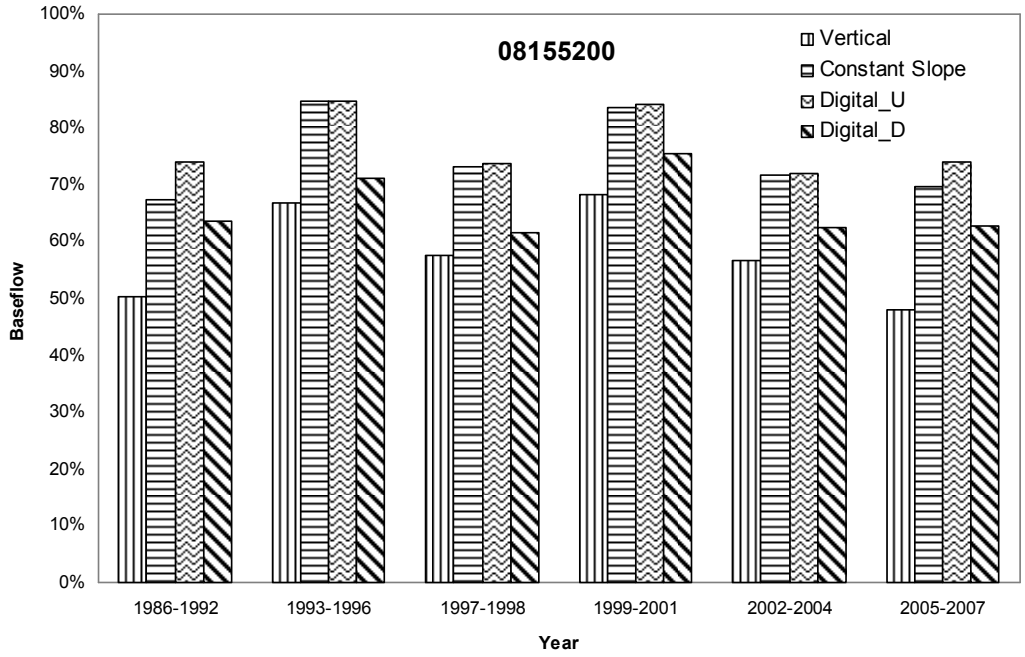
Table A.8 (continued) Summary of water quality data information from all sites in water year period 2008-2014, including means and distribution tests

Pollutant	Site	Mean Used	n	Min	Max	Normal						Log-normal						Bootstrap		Geometric Mean	Volume Mean
						Med	Mean	SD	CV	W	Prob. W	Med	Mean	SD	CV	W	Prob. W	Mean	SD		
TSS	08154700	146.289	12	7.220	500.130	62.000	135.911	164.162	1.21	0.7563	0.0031	60.389	146.289	235.390	1.61	0.9371	0.4610	136.345	158.915	65.305	233.330
TSS	08155200	199.899	13	6.710	447.300	43.830	159.930	176.212	1.10	0.7943	0.0058	55.406	199.899	427.090	2.14	0.8756	0.0622	158.517	169.783	61.655	132.119
TSS	08155240	59.906	14	6.300	455.550	7.030	59.353	120.916	2.04	0.5099	0.0001	15.979	43.607	79.188	1.82	0.7041	0.0004	59.906	117.063	17.242	138.029
TSS	08155400	30.214	10	6.470	78.040	21.795	30.138	26.803	0.89	0.8478	0.0547	18.692	30.746	33.577	1.09	0.8590	0.0743	30.214	25.235	19.685	22.384
TSS	08156800	354.675	16	72.400	1018.350	238.840	351.751	273.608	0.78	0.8629	0.0212	260.599	354.675	304.717	0.86	0.9675	0.7959	351.334	264.082	265.754	634.593
TSS	08157500	236.484	22	54.000	581.000	245.000	232.591	128.382	0.55	0.8953	0.0240	197.533	236.484	151.075	0.64	0.9368	0.1703	233.647	124.763	199.168	253.285
TSS	08157600	117.296	3	107.820	127.140	115.890	116.950	9.704	0.08	0.9911	0.8191	116.551	116.949	9.655	0.08	0.9949	0.8633	117.296	7.955	116.683	111.140
TSS	08157700	388.560	22	37.000	1290.000	343.500	373.215	276.038	0.74	0.8525	0.0038	280.513	388.560	351.167	0.90	0.9577	0.4445	372.251	267.868	284.755	435.245
TSS	08158600	864.805	12	7.340	1778.810	642.255	864.805	542.342	0.63	0.9333	0.4163	511.946	1389.487	2427.150	1.75	0.6552	0.0003	858.728	522.477	559.575	882.172
TSS	08158700	170.060	9	6.600	1392.990	31.130	226.178	462.141	2.04	0.5647	0.0001	30.084	170.060	395.038	2.32	0.8470	0.0690	225.969	432.583	37.540	387.650
TSS	08158810	198.578	11	4.680	887.630	19.480	189.344	315.364	1.67	0.6563	0.0001	30.342	178.678	459.778	2.57	0.8472	0.0392	198.578	307.738	36.407	541.189
TSS	08158840	171.106	4	7.220	522.220	83.805	174.263	241.758	1.39	0.8126	0.1268	29.465	180.062	292.952	1.63	0.9135	0.5011	171.106	209.168	52.560	238.037
TSS	08158860	54.556	5	20.640	100.370	44.300	54.650	32.644	0.60	0.9393	0.6608	44.988	54.809	34.314	0.63	0.9744	0.9028	54.556	28.751	46.849	87.647
TSS	08158920	76.448	12	7.110	415.010	52.285	80.219	110.878	1.38	0.6060	0.0001	43.139	76.448	92.939	1.22	0.9715	0.9263	80.640	106.273	45.332	56.183
TSS	FBU	210.863	13	1.000	2260.000	19.800	200.592	619.878	3.09	0.3514	0.0001	19.942	90.041	217.805	2.42	0.8660	0.0462	210.863	611.000	22.646	366.768
TSS	FTB	771.968	16	202.000	1900.000	656.000	769.875	531.322	0.69	0.8609	0.0198	611.677	771.968	564.031	0.73	0.9689	0.8207	772.186	516.337	620.755	890.086
VSS	08157600	21.829	3	21.660	22.060	21.750	21.823	0.210	0.01	0.9084	0.4128	21.822	21.823	0.209	0.01	0.9094	0.4160	21.829	0.174	21.823	21.749
ZN	08154700	46.128	12	2.500	260.230	19.005	52.398	83.178	1.59	0.5976	0.0001	20.715	46.128	69.455	1.51	0.9273	0.3523	54.185	81.100	22.226	91.659
ZN	08155200	7.691	13	1.000	21.580	5.050	7.438	6.576	0.88	0.8660	0.0463	4.670	7.691	8.675	1.13	0.9350	0.3955	7.383	6.373	4.859	6.518
ZN	08155240	4.721	14	1.000	24.990	2.350	5.053	6.484	1.28	0.6632	0.0002	2.833	4.721	5.446	1.15	0.8955	0.0972	5.075	6.278	2.942	8.411
ZN	08155400	5.665	10	1.000	16.050	3.340	5.693	4.876	0.86	0.8571	0.0705	3.863	5.740	5.496	0.96	0.9588	0.7719	5.665	4.560	4.024	4.446
ZN	08156800	64.900	16	15.750	168.600	51.630	64.871	40.657	0.63	0.8398	0.0097	54.432	64.900	40.550	0.62	0.9612	0.6841	64.533	39.023	55.039	78.436
ZN	08157500	129.397	22	23.900	334.000	117.500	128.399	72.730	0.57	0.9129	0.0543	109.051	129.996	81.928	0.63	0.9750	0.8218	129.397	71.148	109.932	127.465
ZN	08157600	57.430	3	51.170	62.360	58.870	57.467	5.725	0.10	0.9549	0.5915	57.173	57.469	5.838	0.10	0.9451	0.5482	57.430	4.626	57.271	59.373
ZN	08157700	91.498	22	21.700	162.000	86.150	91.548	37.911	0.41	0.9771	0.8653	82.223	93.057	48.348	0.52	0.9253	0.0981	91.498	37.062	82.689	100.534
ZN	08158600	76.943	12	36.840	146.660	71.770	77.194	36.545	0.47	0.8806	0.0892	69.304	77.062	36.413	0.47	0.9299	0.3786	76.943	34.870	69.924	75.237
ZN	08158700	10.147	9	1.000	33.280	5.580	9.728	10.594	1.09	0.8173	0.0321	4.944	10.147	13.535	1.33	0.9391	0.5721	9.657	9.926	5.383	12.779
ZN	08158810	11.182	11	1.000	36.110	4.000	10.798	12.571	1.16	0.7832	0.0057	4.807	11.182	17.136	1.53	0.9099	0.2429	11.144	12.219	5.216	23.704
ZN	08158840	11.246	4	2.100	30.010	6.800	11.428	12.962	1.13	0.8294	0.1662	5.517	11.086	12.258	1.11	0.9331	0.6128	11.246	11.223	6.691	14.859
ZN	08158860	8.282	5	5.770	11.350	8.040	8.242	2.046	0.25	0.9655	0.8459	7.996	8.241	2.023	0.25	0.9864	0.9655	8.282	1.836	8.045	8.529
ZN	08158920	24.679	12	7.300	57.740	24.235	24.681	13.610	0.55	0.9141	0.2410	21.148	24.866	14.705	0.59	0.9712	0.9232	24.679	13.046	21.439	18.405
ZN	FBU	16.213	13	3.360	92.300	10.400	18.265	25.264	1.38	0.6054	0.0001	10.290	16.213	17.282	1.07	0.8933	0.1083	18.514	24.695	10.668	24.207
ZN	FTB	93.341	16	33.600	297.000	87.650	94.793	58.973	0.62	0.6654	0.0001	83.573	93.341	45.359	0.49	0.9156	0.1431	94.543	56.587	84.156	111.246

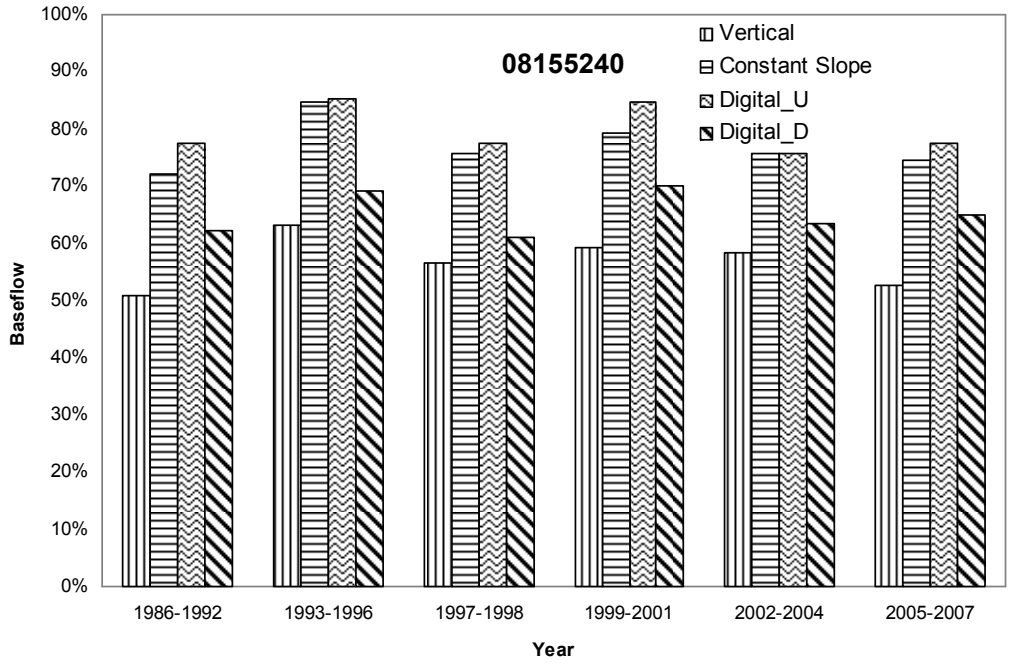
Appendix B Figures for Baseflow Ratio (BFR)



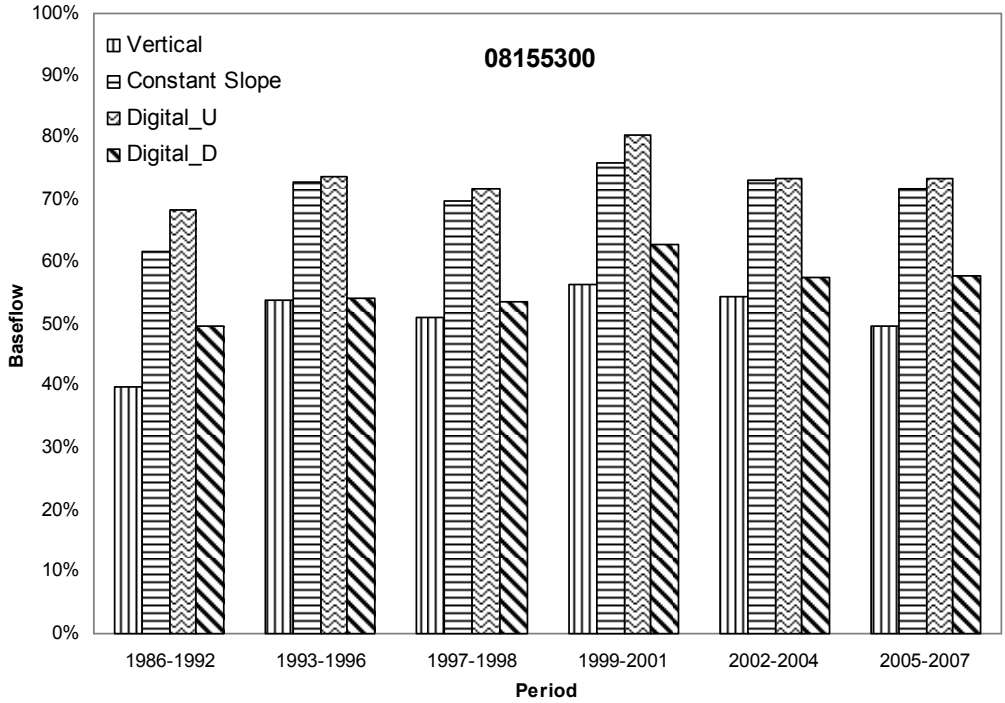
Figures B.1: Baseflow in different period for Bull Creek @ Lp 360 (08154700)



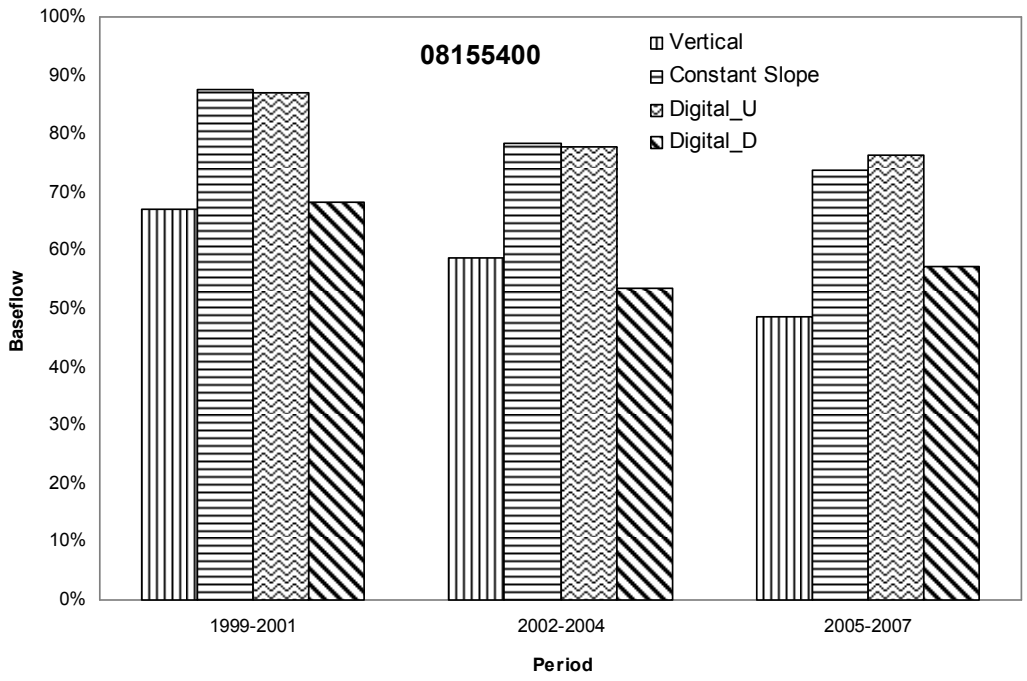
Figures B.2: Baseflow in different period for Barton Creek @ SH 71 (08155200)



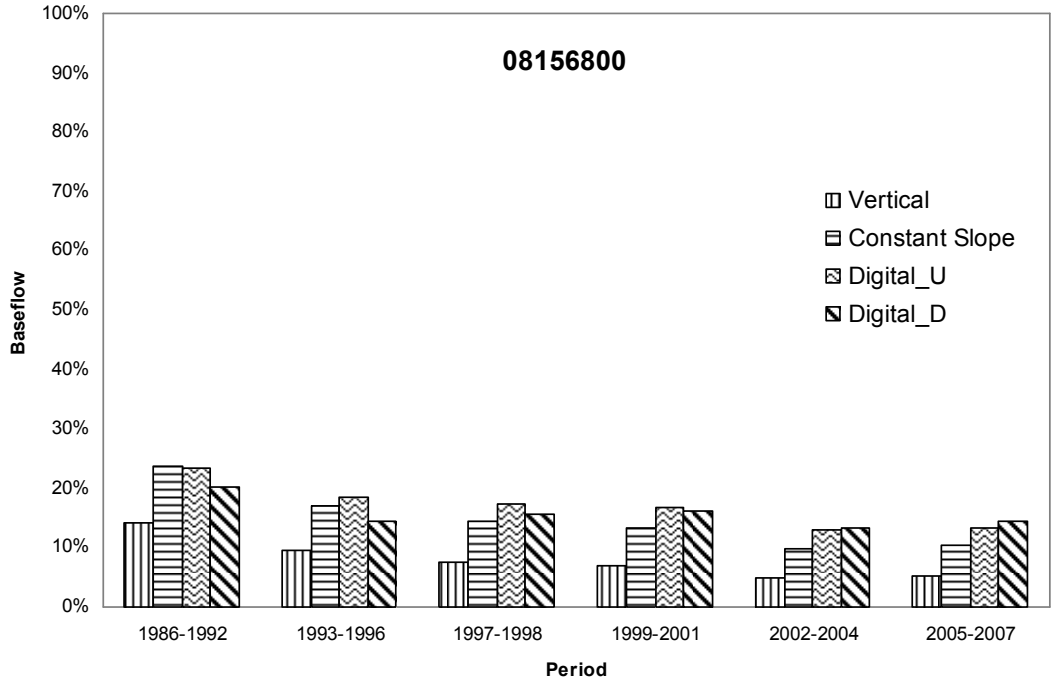
Figures B.3: Baseflow in different period for Barton Creek @ LC Blvd (08155240)



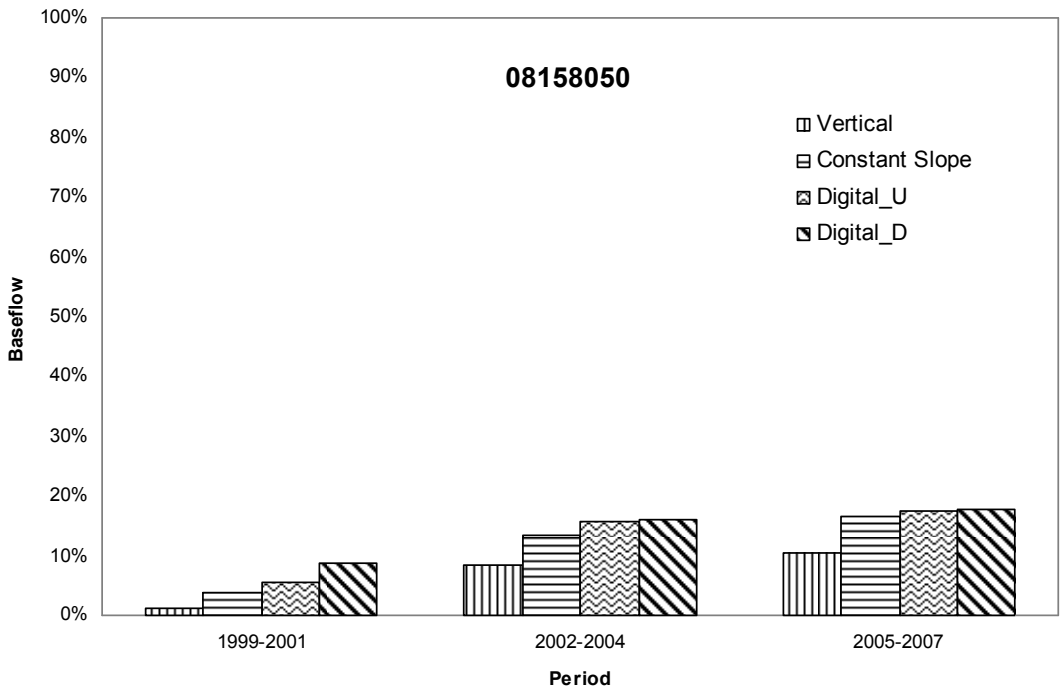
Figures B.4: Baseflow in different period for Barton Creek @ Lp 360 (08155300)



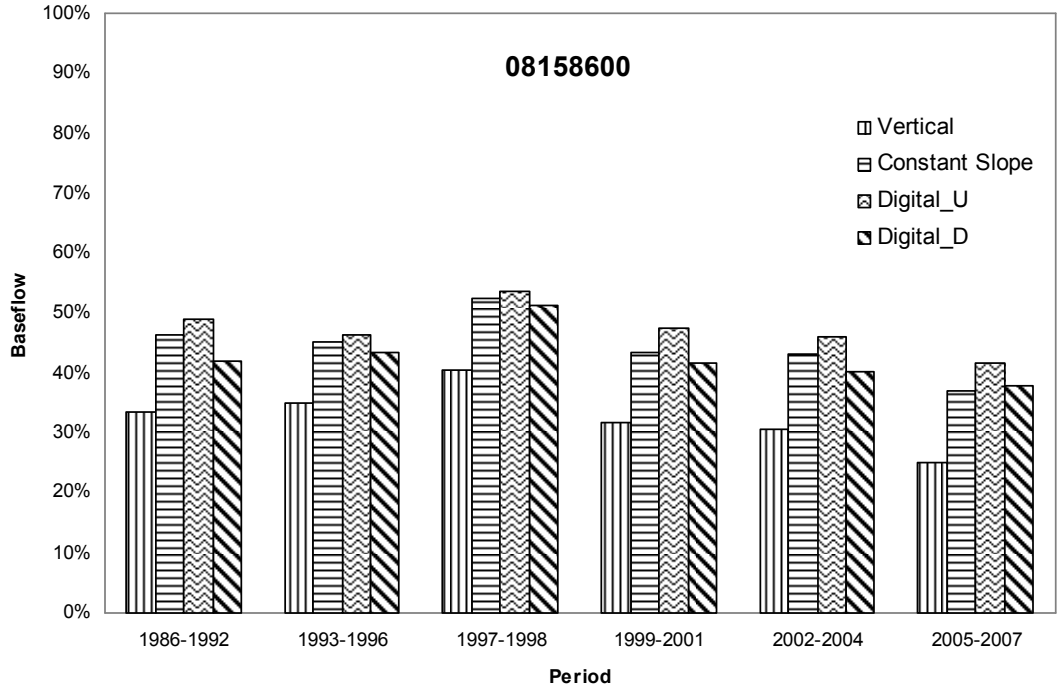
Figures B.5: Baseflow in different period for Barton Creek above Springs (08155400)



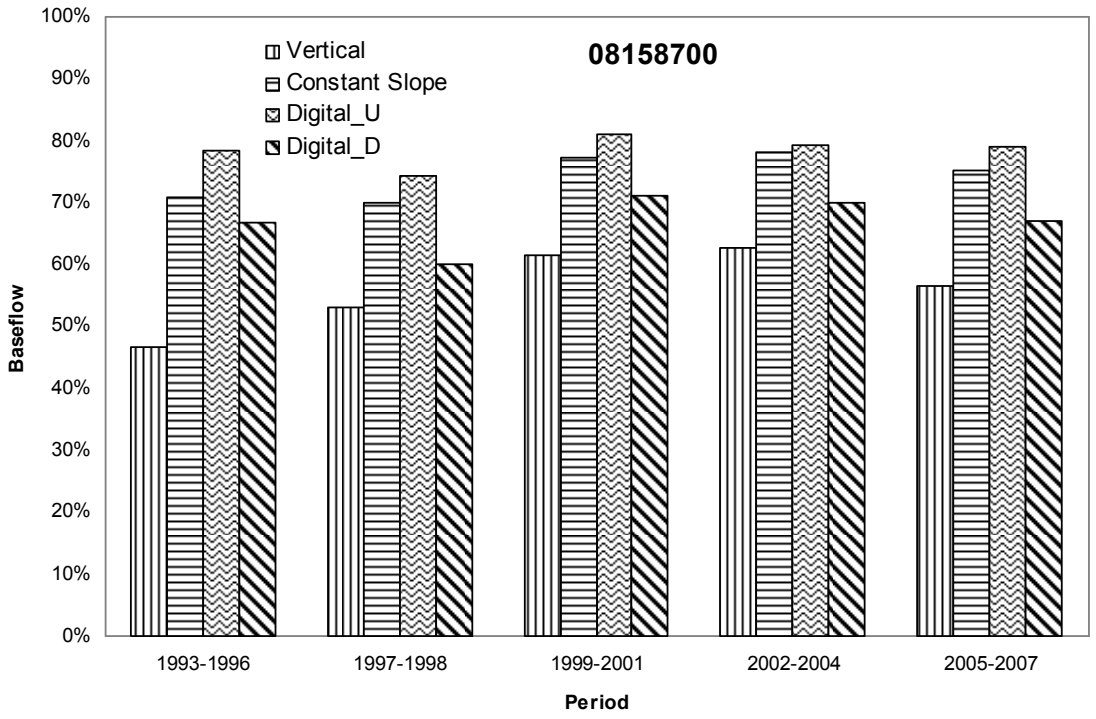
Figures B.6: Baseflow in different period for Shoal Creek @ W 12th (08156800)



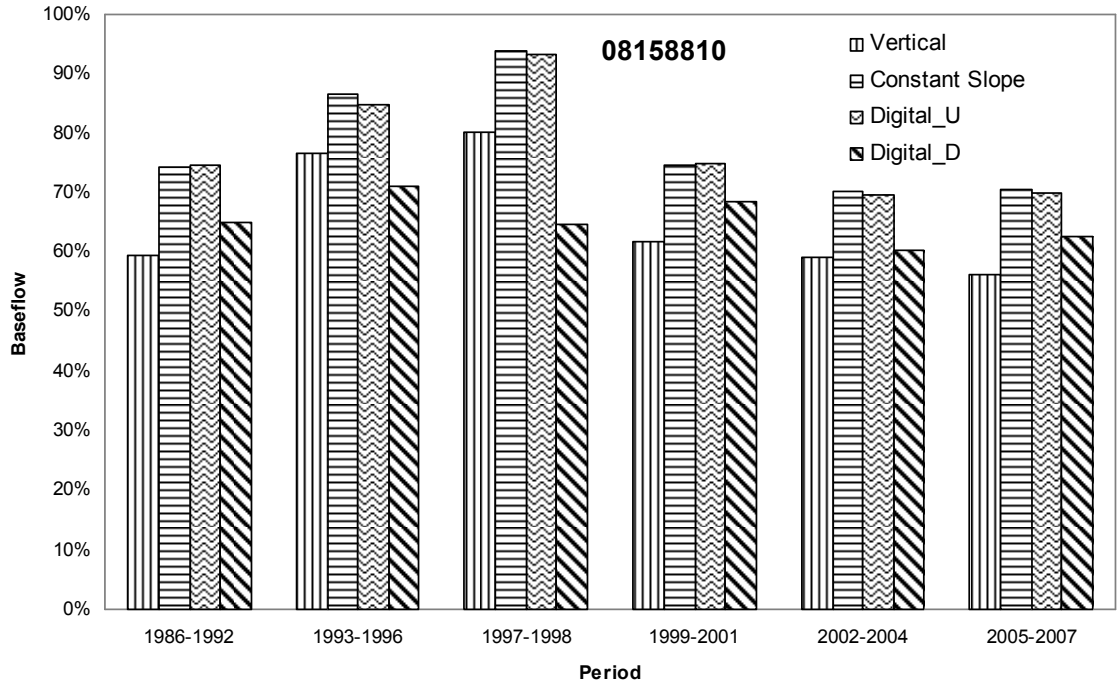
Figures B.7: Baseflow in different period for Boggy Creek @ US 183 (08158050)



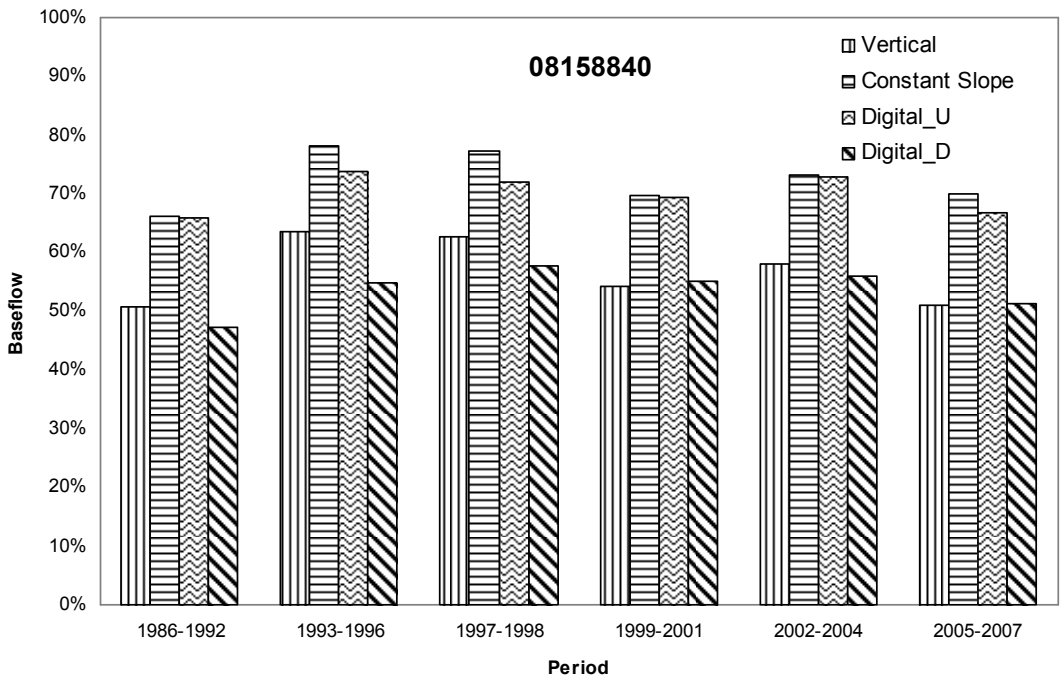
Figures B.8: Baseflow in different period for Walnut Creek @ Webberville (08158600)



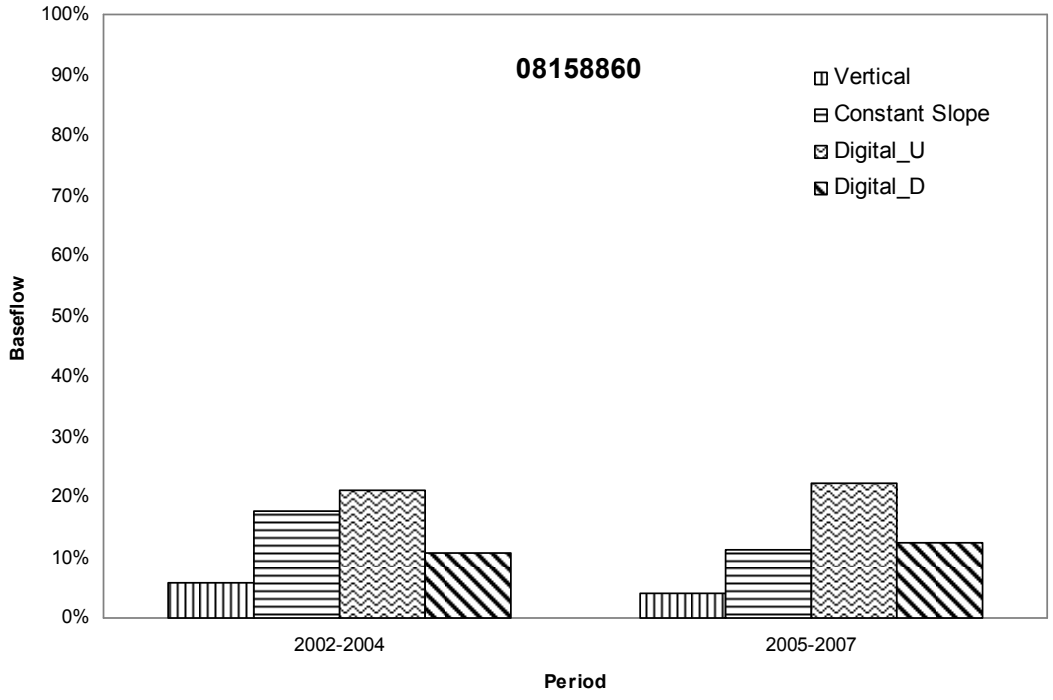
Figures B.9: Baseflow in different period for Onion Creek near Driftwood (08158700)



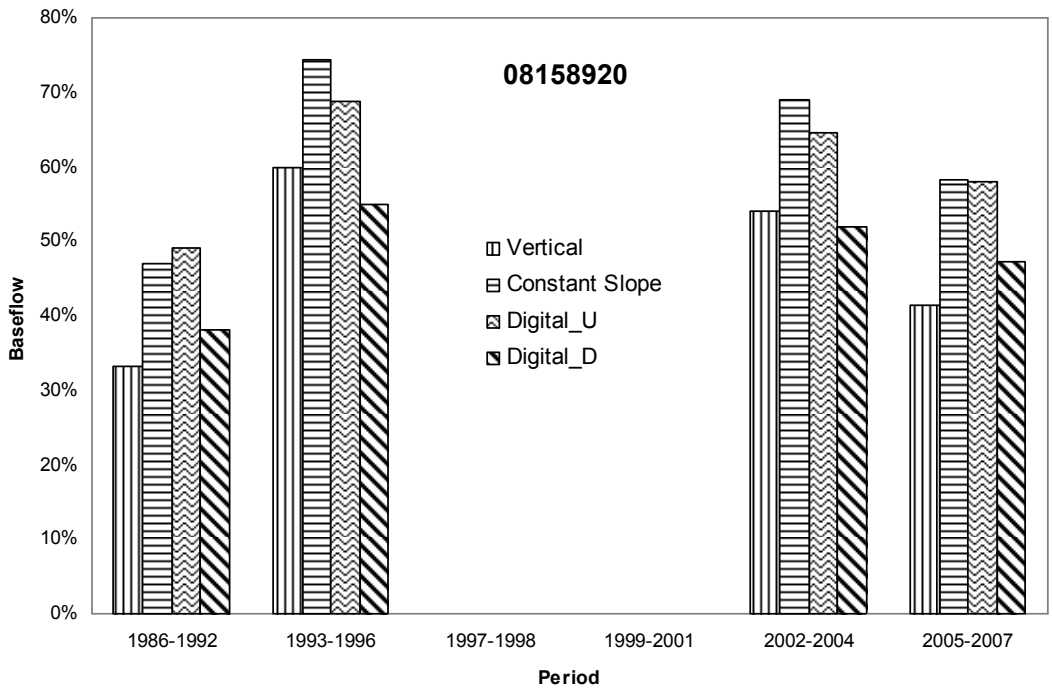
Figures B.10: Baseflow in different period for Bear Creek below FM1826 (08158810)



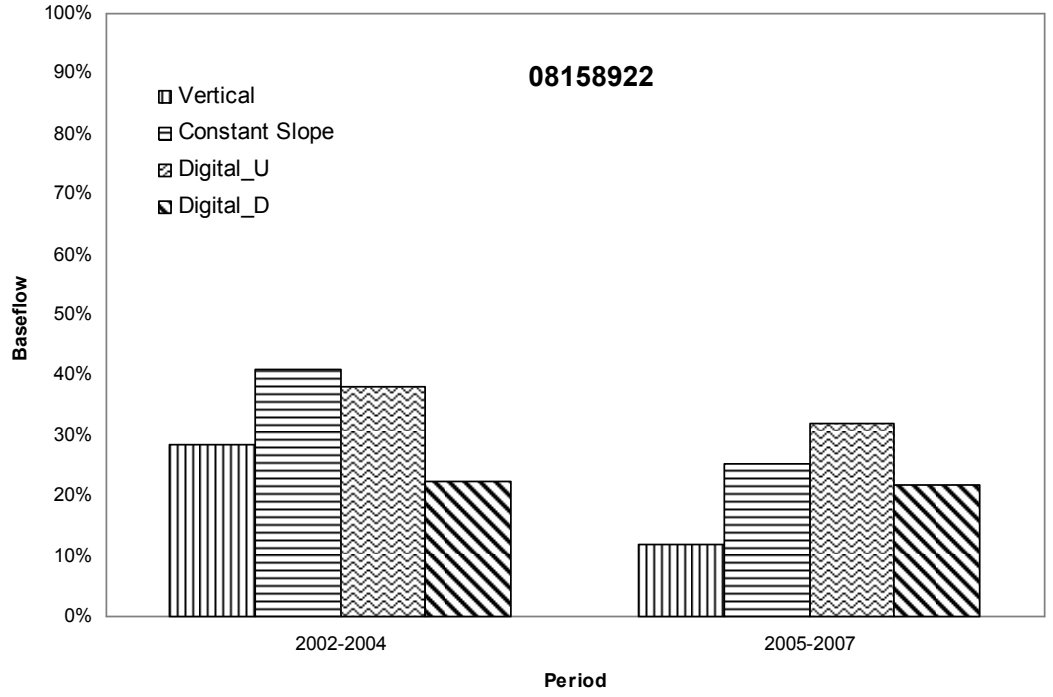
Figures B.11: Baseflow in different period for Slaughter Creek @ FM1826 (08158840)



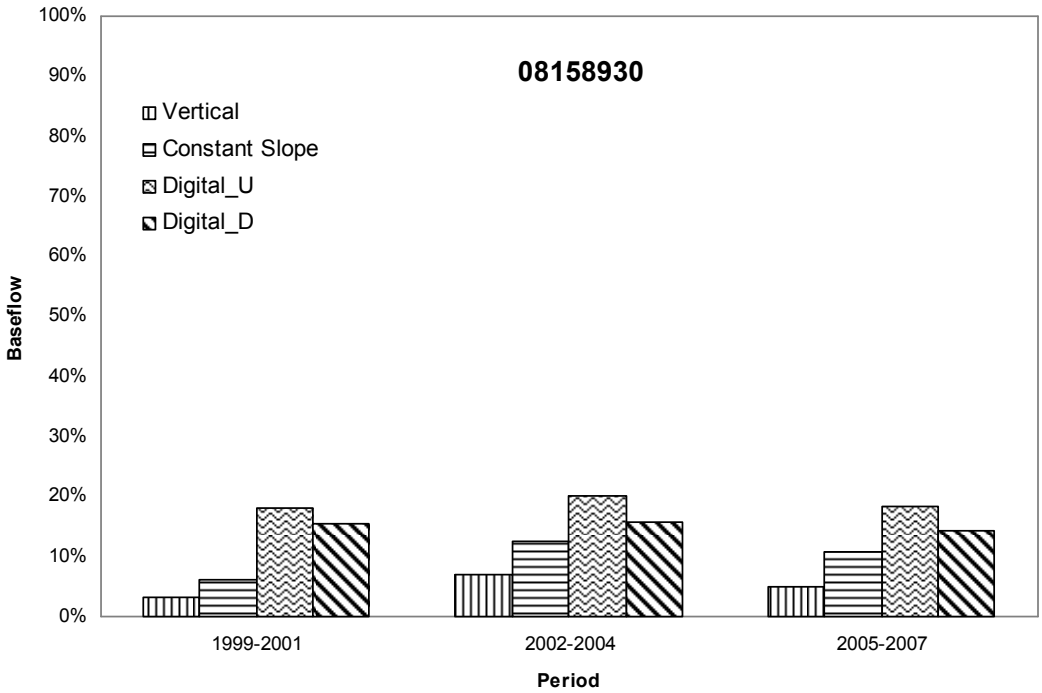
Figures B.12: Baseflow in different period for Slaughter Creek @ FM2304 (08158860)



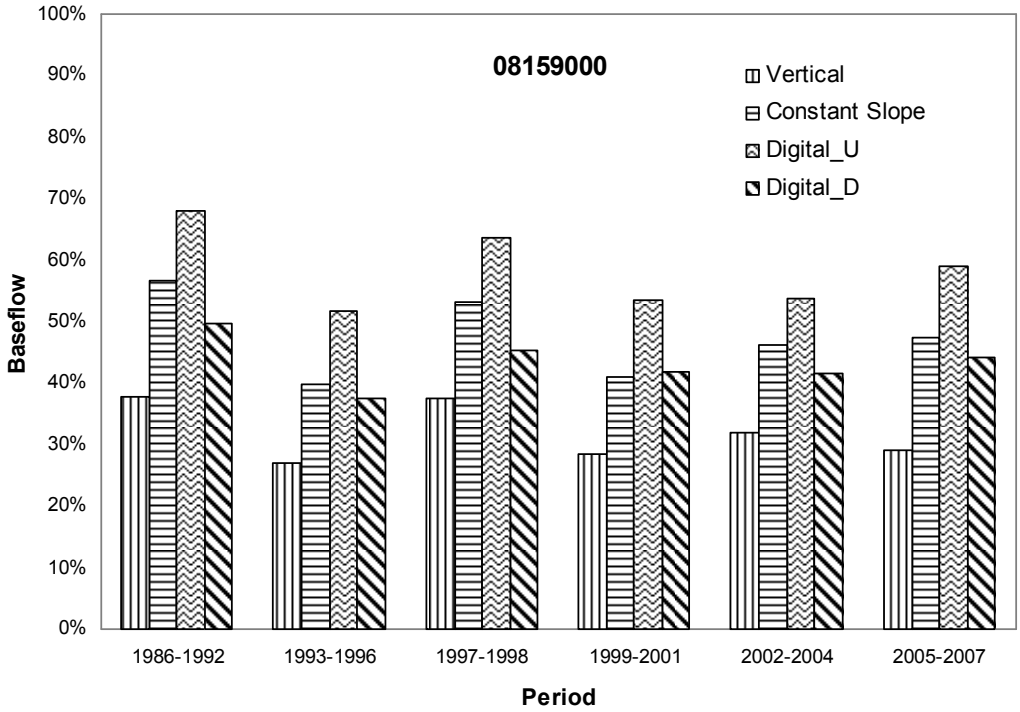
Figures B.13: Baseflow in different period for Williamson Creek @ Oak Hill (08158920)



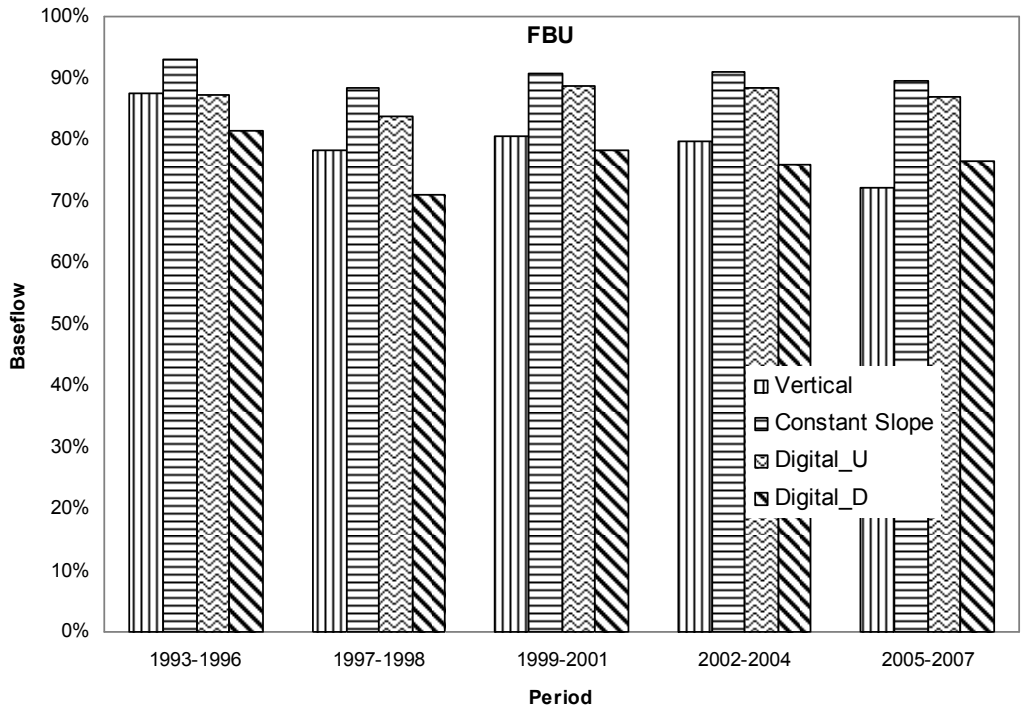
Figures B.14: Baseflow in different period for Williamson @ Brush Country (08158922)



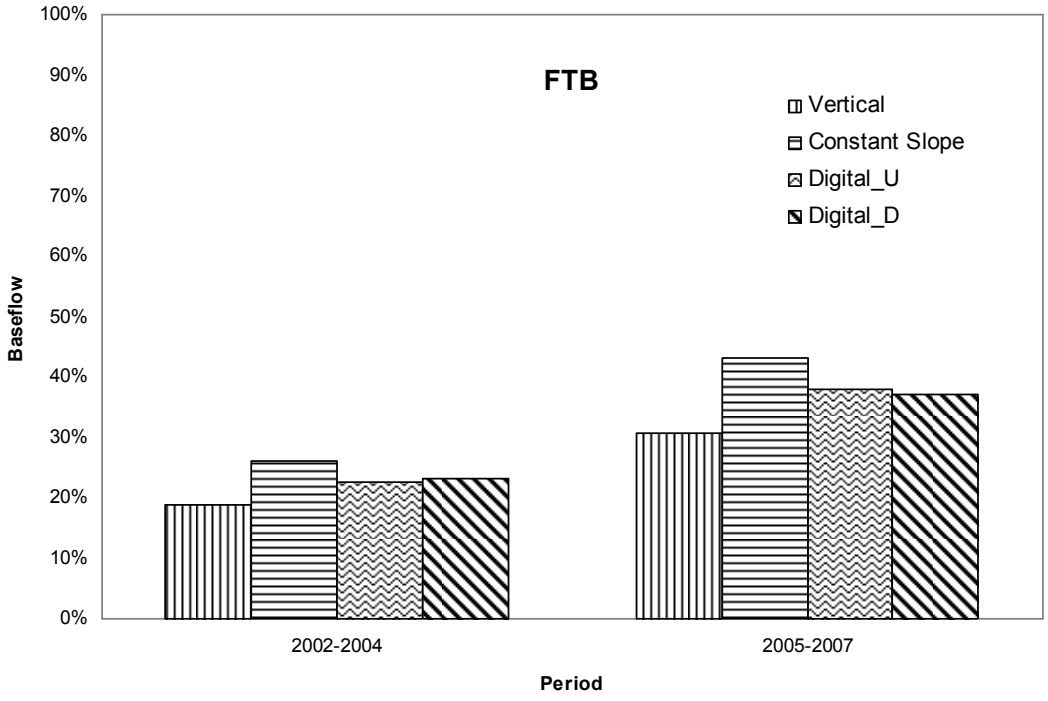
Figures B.15: Baseflow in different period for Williamson @ Manchaca Rd (08158930)



Figures B.16: Baseflow in different period for Onion Creek @ US 183 (08159000)



Figures B.17: Baseflow in different period for Bear Creek Undeveloped (FBU)



Figures B.18: Baseflow in different period for Fort Branch Creek (FTB)

Appendix C Tables for Baseflow Ratio (BFR)

Table C.1: Baseflow from different methods in 1976-1985.

Station	Water Year 1976-1985			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	55.9%	68.5%	67.4%	57.4%
08155300	35.1%	53.2%	59.2%	53.2%
08158600	35.1%	47.7%	47.0%	42.3%
08158810	83.2%	92.0%	89.7%	60.4%
08158840	58.6%	72.4%	70.6%	48.9%
08158920	47.4%	61.4%	56.9%	42.6%

Table C.2: Baseflow from different methods in 1986-1992

Station	Water Year 1986-1992			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	49.7%	66.8%	68.9%	55.6%
08155200	50.3%	67.3%	74.0%	63.6%
08155240	50.9%	72.3%	77.5%	62.2%
08155300	39.9%	61.6%	68.5%	49.7%
08156800	14.3%	23.7%	23.5%	20.3%
08158600	33.6%	46.2%	49.1%	41.9%
08158810	59.6%	74.4%	74.7%	65.1%
08158840	50.6%	66.2%	65.9%	47.3%
08158920	33.3%	47.0%	49.2%	38.0%
08159000	37.9%	56.8%	67.9%	49.8%

Table C.3: Baseflow from different methods in 1993-1996

Station	Water Year 1993-1996			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	54.2%	66.7%	65.6%	56.1%
08155200	66.8%	84.7%	84.7%	71.1%
08155240	63.2%	84.6%	85.2%	69.3%
08155300	53.7%	72.7%	73.6%	54.2%
08156800	9.5%	17.1%	18.4%	14.4%
08157500	18.6%	22.8%	23.0%	26.8%
08158600	35.0%	45.2%	46.2%	43.5%
08158700	46.6%	70.9%	78.3%	66.7%
08158810	76.7%	86.7%	84.8%	71.1%
08158840	63.4%	78.0%	73.8%	54.8%
08158920	60.0%	74.4%	68.8%	55.0%
08159000	27.1%	39.8%	51.7%	37.6%
FBU	87.5%	92.9%	87.3%	81.6%

Table C.4: Baseflow from different methods in 1997-1998

Station	Water Year 1997-1998			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	57.4%	71.5%	71.4%	60.7%
08155200	57.4%	73.1%	73.7%	61.5%
08155240	56.7%	75.7%	77.6%	61.1%
08155300	50.9%	69.7%	71.8%	53.5%
08156800	7.5%	14.5%	17.4%	15.5%
08157500	11.0%	19.0%	16.6%	42.2%
08158600	40.5%	52.5%	53.7%	51.3%
08158700	53.0%	70.0%	74.4%	59.9%
08158810	80.2%	93.9%	93.3%	64.7%
08158840	62.7%	77.4%	72.1%	57.6%
08159000	37.4%	53.3%	63.7%	45.4%
FBU	78.2%	88.5%	83.7%	71.1%

Table C.5: Baseflow from different methods in 1999-2001

Station	Water Year 1999-2001			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	50.4%	65.0%	67.7%	57.5%
08155200	68.2%	83.5%	84.2%	75.6%
08155240	59.3%	79.3%	84.8%	70.1%
08155300	56.3%	76.0%	80.3%	62.7%
08155400	67.0%	87.5%	87.1%	68.2%
08156800	7.0%	13.2%	16.9%	16.2%
08157500	25.6%	35.9%	27.7%	33.4%
08158050	1.1%	3.8%	5.4%	8.9%
08158600	31.9%	43.3%	47.6%	41.6%
08158700	61.4%	77.1%	81.0%	71.1%
08158810	61.8%	74.5%	74.8%	68.5%
08158840	54.2%	69.6%	69.5%	55.1%
08158930	3.3%	6.0%	18.2%	15.6%
08159000	28.5%	41.1%	53.6%	42.0%
FBU	80.6%	90.7%	88.8%	78.2%

Table C.6: Baseflow from different methods in 2002-2004

Station	Water Year 2002-2004			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	55.5%	70.9%	70.3%	58.6%
08155200	56.7%	71.7%	71.9%	62.5%
08155240	58.3%	75.7%	75.9%	63.4%
08155300	54.3%	73.1%	73.4%	57.5%
08155400	58.6%	78.3%	77.7%	53.5%
08156800	4.8%	9.9%	13.1%	13.2%
08157500	22.2%	28.0%	27.4%	28.9%
08157600	19.2%	23.8%	20.8%	22.9%
08157700	47.0%	61.4%	53.3%	52.4%
08158050	8.4%	13.4%	15.8%	16.1%
08158600	30.6%	43.2%	46.2%	40.1%
08158700	62.7%	78.1%	79.4%	69.9%
08158810	59.2%	70.3%	69.8%	60.5%
08158840	57.9%	73.3%	73.0%	55.9%
08158860	5.9%	17.8%	21.2%	10.6%
08158920	54.1%	69.0%	64.5%	52.0%
08158922	28.4%	41.0%	38.0%	22.3%
08158930	6.9%	12.4%	20.2%	15.6%
08159000	32.0%	46.1%	53.9%	41.7%
FBU	79.7%	91.1%	88.5%	76.0%
FTB	18.8%	26.2%	22.7%	23.2%

Table C.7: Baseflow from different methods in 2005-2007

Station	Water Year 2005-2007			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	52.4%	71.8%	70.7%	60.3%
08155200	48.1%	69.8%	74.1%	62.6%
08155240	52.8%	74.7%	77.6%	65.0%
08155300	49.7%	71.7%	73.5%	57.8%
08155400	48.5%	73.6%	76.3%	57.2%
08156800	5.3%	10.3%	13.4%	14.4%
08157500	17.6%	23.3%	22.3%	25.9%
08157600	25.6%	31.4%	28.2%	30.7%
08157700	26.0%	35.9%	31.1%	30.8%
08158050	10.5%	16.6%	17.4%	17.7%
08158600	25.1%	36.9%	41.8%	37.9%
08158700	56.5%	75.2%	78.9%	67.1%
08158810	56.2%	70.5%	70.0%	62.6%
08158840	51.2%	70.1%	66.7%	51.2%
08158860	4.1%	11.4%	22.2%	12.5%
08158920	41.5%	58.3%	58.0%	47.2%
08158922	11.9%	25.2%	32.1%	21.8%
08158930	5.1%	10.7%	18.3%	14.2%
08159000	29.0%	47.3%	59.1%	44.2%
FBU	72.1%	89.6%	87.0%	76.6%
FTB	30.7%	43.3%	38.0%	37.2%

Table C.8: Baseflow from different methods in 1983

Station	Water Year 1983			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	71.0%	83.7%	81.2%	69.5%
08155300	62.1%	81.0%	78.6%	41.7%
08158600	40.4%	49.6%	49.6%	46.5%
08158810	84.4%	93.6%	90.9%	78.9%
08158840	65.5%	75.7%	73.6%	56.8%
08158920	51.1%	56.2%	55.8%	48.2%

Table C.9: Baseflow from different methods in 1984

Station	Water Year 1984			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	81.1%	89.8%	85.5%	77.4%
08155300	24.7%	28.1%	41.7%	30.4%
08158600	47.1%	59.1%	56.8%	58.5%
08158810	93.8%	97.1%	94.0%	89.3%
08158840	85.4%	90.0%	86.7%	76.4%
08158920	57.2%	62.2%	56.3%	52.7%

Table C.10: Baseflow from different methods in 1985

Station	Water Year 1985			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	48.2%	61.2%	60.8%	56.9%
08155300	56.5%	69.6%	69.7%	59.6%
08158600	32.3%	45.2%	45.6%	45.8%
08158810	80.9%	90.1%	88.2%	68.1%
08158840	54.6%	70.1%	68.4%	54.3%
08158920	44.1%	63.5%	57.5%	50.9%

Table C.11: Baseflow from different methods in 1986

Station	Water Year 1986			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	49.4%	67.1%	65.0%	55.2%
08155300	55.7%	72.7%	69.6%	56.0%
08158600	28.9%	38.6%	40.4%	38.8%
08158810	82.7%	90.0%	88.4%	79.2%
08158840	53.4%	66.6%	65.1%	51.2%
08158920	35.7%	44.8%	39.2%	36.1%

Table C.12: Baseflow from different methods in 1987

	Water Year 1987			
Station	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	40.1%	59.4%	64.9%	51.3%
08155300	36.8%	61.7%	68.7%	48.2%
08156800	21.4%	29.1%	27.5%	22.3%
08158600	33.7%	46.7%	49.4%	41.3%
08158810	62.6%	79.0%	77.8%	63.5%
08158840	51.2%	65.2%	65.3%	40.8%
08158920	33.8%	51.1%	55.2%	36.9%

Table C.13: Baseflow from different methods in 1988

	Water Year 1988			
Station	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	79.3%	89.6%	86.0%	56.9%
08155300	23.3%	34.2%	49.6%	22.4%
08156800	4.1%	8.2%	8.8%	12.5%
08158600	39.8%	49.8%	51.1%	47.7%
08158810	83.9%	91.5%	88.3%	78.7%
08158840	73.8%	76.1%	74.1%	66.4%
08158920	19.0%	21.7%	20.3%	20.5%

Table C.14: Baseflow from different methods in 1989

	Water Year 1989			
Station	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	49.2%	59.2%	57.8%	50.4%
08155200	37.9%	50.4%	52.2%	44.3%
08155240	43.4%	59.0%	65.1%	52.8%
08155300	20.4%	34.2%	38.2%	39.6%
08156800	10.3%	17.3%	15.7%	15.6%
08158600	27.8%	36.4%	37.9%	36.2%
08158810	66.5%	75.3%	72.6%	64.5%
08158840	37.0%	51.5%	53.2%	39.0%
08158920	33.6%	44.3%	42.2%	34.9%

Table C.15: Baseflow from different methods in 1990

Station	Water Year 1990			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	37.0%	46.8%	48.0%	45.5%
08155200	56.4%	67.7%	69.7%	58.6%
08155240	57.5%	80.9%	73.2%	59.7%
08155300	31.8%	57.3%	46.7%	32.8%
08156800	5.4%	12.5%	10.4%	8.9%
08158600	34.5%	44.2%	45.8%	42.0%
08158810	74.9%	82.1%	80.4%	67.0%
08158840	50.2%	58.3%	62.1%	49.1%
08158920	24.8%	35.6%	33.0%	24.8%

Table C.16: Baseflow from different methods in 1991

Station	Water Year 1991			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	55.2%	70.5%	69.7%	61.6%
08155200	65.7%	84.4%	83.3%	73.8%
08155240	64.7%	84.6%	86.1%	72.1%
08155300	60.4%	78.7%	80.8%	60.5%
08158600	35.1%	44.9%	47.1%	43.3%
08158920	41.0%	49.9%	51.2%	45.4%

Table C.17: Baseflow from different methods in 1992

Station	Water Year 1992			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	54.1%	72.5%	75.3%	59.3%
08155200	47.7%	65.1%	74.6%	63.3%
08155240	48.2%	70.6%	77.0%	61.1%
08155300	37.9%	59.4%	69.2%	49.5%
08156800	16.8%	30.3%	31.3%	25.8%
08158600	33.9%	49.9%	53.9%	42.8%
08158810	50.6%	66.9%	69.3%	59.8%
08158840	46.4%	70.1%	70.4%	46.8%
08158920	30.8%	47.1%	52.5%	40.3%
08159000	37.9%	56.8%	67.9%	51.4%

Table C.18: Baseflow from different methods in 1993

Station	Water Year 1993			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	64.5%	80.1%	78.9%	65.1%
08155200	70.3%	91.2%	90.9%	77.6%
08155240	69.3%	92.8%	91.5%	77.9%
08155300	67.4%	89.6%	87.8%	68.9%
08156800	15.3%	23.9%	24.5%	16.8%
08158600	50.4%	64.2%	63.5%	58.3%
08158810	85.4%	96.3%	93.4%	79.9%
08158840	75.7%	92.8%	90.0%	71.8%
08158920	60.0%	74.4%	68.8%	55.0%
08159000	47.2%	67.2%	71.8%	54.6%

Table C.19: Baseflow from different methods in 1994

Station	Water Year 1994			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	55.3%	66.3%	64.6%	57.1%
08155200	62.5%	86.0%	88.9%	63.2%
08155240	80.0%	94.8%	92.3%	79.4%
08155300	37.0%	54.8%	38.2%	11.2%
08156800	8.6%	17.2%	16.2%	14.2%
08157500	21.5%	26.6%	25.5%	30.1%
08158600	26.2%	36.4%	38.4%	35.8%
08158810	74.5%	77.8%	67.0%	58.1%
08158840	16.3%	16.8%	10.1%	10.4%
08159000	11.4%	19.0%	41.6%	25.3%
FBU	94.4%	96.3%	71.6%	81.7%

Table C.20: Baseflow from different methods in 1995

Station	Water Year 1995			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	48.6%	59.2%	58.4%	51.0%
08155200	64.6%	80.2%	80.4%	67.0%
08155240	58.7%	79.3%	81.2%	63.2%
08155300	47.6%	65.2%	67.4%	47.8%
08156800	8.2%	15.5%	17.8%	13.8%
08157500	15.8%	19.7%	20.7%	24.3%
08158600	32.4%	40.8%	42.3%	40.4%
08158810	73.0%	82.6%	81.5%	68.0%
08158840	60.9%	75.0%	70.4%	51.3%
08159000	23.2%	35.0%	48.0%	34.4%
FBU	87.1%	92.9%	88.7%	81.9%

Table C.21: Baseflow from different methods in 1996

Station	Water Year 1996			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	42.4%	53.5%	52.2%	46.2%
08155200	72.0%	73.0%	73.0%	63.0%
08155240	74.8%	83.1%	81.2%	71.2%
08156800	6.3%	11.4%	12.7%	13.1%
08157500	33.6%	37.3%	36.0%	37.0%
08158600	25.6%	34.8%	36.9%	35.4%
08158810	76.1%	87.0%	84.3%	55.5%
08159000	26.1%	30.2%	41.4%	28.0%

Table C.22: Baseflow from different methods in 1997

Station	Water Year 1997			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	54.9%	69.6%	69.6%	58.6%
08155200	53.3%	70.4%	71.5%	58.4%
08155240	52.1%	72.8%	74.8%	57.1%
08155300	45.9%	65.6%	69.0%	50.1%
08156800	6.6%	12.4%	17.1%	15.0%
08157500	12.6%	21.1%	16.6%	29.0%
08158600	40.1%	52.6%	53.7%	51.9%
08158700	90.5%	99.2%	92.4%	83.6%
08158810	80.2%	93.9%	93.3%	66.4%
08158840	55.6%	70.7%	64.5%	50.7%
08159000	33.2%	47.9%	60.7%	43.0%
FBU	75.0%	86.7%	81.7%	67.7%

Table C.23: Baseflow from different methods in 1998

Station	Water Year 1998			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	61.2%	74.3%	74.1%	63.8%
08155200	65.4%	78.3%	77.8%	67.4%
08155240	66.1%	81.7%	83.3%	69.2%
08155300	61.6%	78.3%	77.8%	60.8%
08156800	8.7%	17.3%	17.9%	16.2%
08157500	6.8%	13.7%	16.8%	77.2%
08158600	41.1%	52.3%	53.7%	50.2%
08158700	52.3%	69.5%	74.1%	59.5%
08158840	73.1%	87.2%	83.1%	68.3%
08159000	51.9%	72.2%	74.2%	53.9%
FBU	82.7%	90.9%	86.3%	75.7%

Table C.24: Baseflow from different methods in 1999

Station	Water Year 1999			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	44.3%	56.4%	63.6%	53.4%
08155200	59.0%	73.0%	76.0%	67.2%
08155240	50.4%	68.1%	79.7%	63.9%
08155300	47.9%	64.9%	73.7%	57.1%
08155400	69.8%	89.8%	88.8%	70.5%
08156800	5.7%	11.5%	16.8%	15.6%
08157500	23.5%	31.0%	27.0%	37.5%
08158600	27.8%	35.9%	41.4%	36.9%
08158700	71.0%	85.0%	83.0%	71.8%
08158810	54.4%	66.1%	67.0%	61.9%
08158840	29.7%	37.9%	46.4%	44.0%
08159000	28.9%	40.9%	53.8%	43.4%
FBU	79.6%	89.8%	89.9%	79.4%

Table C.25: Baseflow from different methods in 2000

Station	Water Year 2000			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	55.4%	66.7%	67.3%	51.3%
08155200	62.1%	76.2%	73.4%	53.7%
08155240	53.3%	66.1%	72.5%	54.0%
08155300	19.2%	35.1%	50.0%	21.1%
08156800	2.1%	5.2%	9.6%	8.0%
08157500	26.8%	38.9%	25.9%	27.8%
08158600	29.9%	42.0%	45.5%	35.4%
08158700	54.0%	71.0%	79.5%	70.8%
08158810	51.0%	63.6%	62.6%	55.1%
08158840	28.3%	49.7%	48.0%	32.6%
08158930	4.6%	6.8%	17.1%	13.5%
08159000	13.6%	18.7%	33.7%	23.9%
FBU	89.4%	87.9%	81.1%	70.1%

Table C.26: Baseflow from different methods in 2001

Station	Water Year 2001			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	54.5%	71.0%	70.7%	60.9%
08155200	75.4%	91.9%	90.9%	82.7%
08155240	67.1%	89.5%	89.8%	76.4%
08155300	66.1%	88.6%	88.0%	69.9%
08155400	65.1%	86.6%	86.3%	66.6%
08156800	9.5%	17.1%	19.1%	19.1%
08157500	26.5%	37.5%	29.2%	33.4%
08157600	30.0%	38.0%	36.5%	37.4%
08157700	28.8%	38.5%	36.0%	36.5%
08158050	1.1%	3.8%	5.4%	8.9%
08158600	36.0%	50.1%	53.6%	47.0%
08158700	54.6%	73.7%	76.9%	54.1%
08158810	70.0%	83.8%	83.5%	76.0%
08158840	67.9%	85.6%	82.0%	63.1%
08158930	3.0%	5.8%	18.5%	16.0%
08159000	29.4%	44.4%	55.6%	40.9%
FBU	80.6%	91.9%	88.6%	77.9%

Table C.27: Baseflow from different methods in 2002

Station	Water Year 2002			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	47.0%	60.5%	62.5%	52.3%
08155200	46.1%	60.2%	60.8%	55.1%
08155240	48.8%	64.1%	64.4%	55.5%
08155300	41.8%	60.3%	62.6%	50.5%
08155400	52.1%	70.3%	69.6%	48.6%
08156800	4.5%	9.6%	11.2%	12.2%
08157500	19.4%	24.6%	22.9%	25.9%
08157600	18.4%	22.9%	16.6%	22.6%
08157700	38.8%	48.7%	45.0%	44.6%
08158050	7.9%	11.0%	15.0%	16.4%
08158600	27.3%	38.2%	40.4%	36.4%
08158700	69.3%	85.1%	85.7%	75.6%
08158810	47.6%	58.3%	59.6%	54.1%
08158840	52.1%	68.4%	68.7%	52.1%
08158930	8.1%	13.4%	21.5%	17.0%
08159000	25.3%	38.0%	46.3%	36.1%
FBU	77.2%	88.5%	85.8%	73.3%

Table C.28: Baseflow from different methods in 2003

Station	Water Year 2003			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	66.1%	81.6%	78.7%	66.5%
08155200	74.9%	89.6%	88.2%	76.7%
08155240	72.5%	90.1%	90.5%	75.6%
08155300	73.1%	91.9%	89.7%	71.9%
08155400	71.8%	90.8%	88.7%	62.4%
08156800	7.7%	13.9%	18.0%	16.6%
08157500	26.1%	32.7%	33.9%	34.8%
08157600	21.7%	25.5%	22.1%	23.7%
08157700	52.4%	69.4%	60.0%	59.1%
08158050	7.4%	10.4%	11.1%	14.9%
08158600	38.9%	52.6%	55.3%	47.6%
08158700	46.3%	61.4%	64.7%	58.1%
08158810	79.3%	90.0%	87.4%	74.5%
08158840	74.2%	88.5%	86.3%	67.0%
08158920	74.9%	69.9%	70.2%	76.5%
08158922	31.1%	47.7%	39.8%	24.4%
08158930	7.5%	16.4%	22.7%	14.6%
08159000	53.1%	68.0%	70.7%	58.2%
FBU	83.8%	94.2%	92.4%	80.1%
FTB	25.5%	34.1%	30.4%	30.4%

Table C.29: Baseflow from different methods in 2004

Station	Water Year 2004			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	52.9%	70.1%	69.1%	57.4%
08155200	56.1%	74.2%	76.9%	59.4%
08155240	60.2%	83.1%	82.2%	64.1%
08155300	55.0%	74.6%	73.9%	50.4%
08155400	44.1%	71.8%	76.1%	46.0%
08156800	2.9%	7.3%	11.9%	12.0%
08157500	22.1%	28.1%	27.2%	27.4%
08157600	18.1%	23.3%	23.2%	22.6%
08157700	45.3%	59.4%	49.4%	47.8%
08158050	9.1%	16.1%	17.4%	16.7%
08158600	26.1%	39.8%	44.1%	37.1%
08158700	78.3%	93.7%	93.0%	80.4%
08158810	54.3%	67.3%	65.4%	52.1%
08158840	43.8%	58.9%	60.7%	46.0%
08158860	5.9%	17.8%	21.2%	10.6%
08158920	51.6%	69.0%	63.8%	49.0%
08158922	25.8%	33.9%	36.7%	20.2%
08158930	2.7%	5.9%	13.6%	12.0%
08159000	21.2%	39.2%	53.3%	33.4%
FBU	76.0%	89.5%	85.8%	72.4%
FTB	14.1%	21.2%	17.2%	18.2%

Table C.30: Baseflow from different methods in 2005

Station	Water Year 2005			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	51.5%	70.5%	70.7%	60.5%
08155200	44.7%	64.5%	70.1%	59.2%
08155240	48.4%	69.0%	74.0%	63.1%
08155300	46.4%	67.5%	71.4%	56.2%
08155400	46.0%	71.5%	75.0%	54.5%
08156800	2.6%	6.4%	11.0%	10.2%
08157500	20.3%	25.9%	25.0%	28.2%
08157700	23.7%	33.7%	27.9%	26.7%
08158050	16.7%	25.8%	24.6%	22.5%
08158600	27.4%	39.2%	45.0%	39.1%
08158700	62.0%	80.7%	81.2%	66.5%
08158810	50.5%	62.9%	64.2%	57.5%
08158840	48.0%	66.3%	62.7%	50.4%
08158860	4.0%	13.2%	25.8%	13.5%
08158920	39.0%	53.2%	55.3%	46.7%
08158922	13.4%	29.6%	34.3%	22.4%
08158930	3.9%	9.8%	18.8%	12.6%
08159000	28.8%	45.3%	59.3%	44.1%
FBU	74.6%	88.4%	87.6%	77.5%
FTB	35.6%	48.0%	38.1%	33.7%

Table C.31: Baseflow from different methods in 2006

Station	Water Year 2006			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	40.4%	54.5%	55.4%	45.1%
08155200	60.4%	74.5%	72.5%	63.8%
08155240	57.5%	77.8%	79.5%	63.4%
08156800	1.2%	2.3%	5.4%	10.0%
08157500	21.2%	25.8%	21.2%	24.9%
08157700	13.0%	17.2%	14.4%	17.5%
08158050	5.6%	8.6%	11.9%	14.7%
08158600	19.3%	27.9%	32.4%	29.3%
08158700	54.0%	72.7%	77.9%	67.4%
08158810	93.7%	71.5%	66.6%	51.9%
08158860	6.9%	15.9%	14.5%	11.3%
08158920	16.0%	28.9%	27.3%	16.9%
08158930	2.5%	4.3%	9.6%	11.6%
08159000	10.5%	17.1%	39.2%	25.1%
FBU	69.0%	83.6%	67.8%	55.1%
FTB	16.9%	19.0%	15.7%	18.9%

Table C.32: Baseflow from different methods in 2007

Station	Water Year 2007			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	56.8%	78.1%	75.3%	64.7%
08155200	50.7%	74.2%	77.6%	65.5%
08155240	56.3%	79.3%	80.6%	66.7%
08155300	53.2%	75.9%	75.8%	59.6%
08155400	52.3%	77.2%	78.6%	61.2%
08156800	9.3%	17.1%	18.8%	19.7%
08157500	13.7%	20.1%	20.4%	24.3%
08157600	34.2%	42.0%	37.7%	39.4%
08157700	30.3%	41.2%	36.6%	36.2%
08158050	12.5%	21.7%	19.2%	16.1%
08158600	25.9%	39.3%	43.5%	40.8%
08158700	94.3%	97.6%	85.3%	69.1%
08158810	60.4%	77.0%	75.0%	67.3%
08158840	54.7%	74.4%	71.1%	52.2%
08158860	4.0%	8.4%	16.8%	11.1%
08158920	45.1%	64.1%	62.3%	49.7%
08158922	11.2%	20.6%	31.3%	22.7%
08158930	6.8%	12.8%	19.3%	16.4%
08159000	29.8%	50.8%	59.6%	45.1%
FBU	70.8%	90.6%	87.7%	77.1%
FTB	30.2%	44.7%	41.7%	42.2%

Table C.33: Baseflow from different methods in 2008

Station	Water Year 2008			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	74.8%	85.3%	80.7%	76.2%
08155200	70.1%	80.3%	78.1%	74.8%
08155240	77.4%	89.1%	85.4%	78.1%
08155300	49.8%	58.8%	60.4%	47.9%
08155400	78.4%	83.4%	80.1%	75.1%
08156800	3.7%	7.1%	13.9%	10.4%
08157500	35.2%	40.2%	35.6%	35.2%
08157600	56.7%	63.9%	52.4%	49.4%
08157700	47.2%	57.8%	44.3%	43.2%
08158050	15.7%	29.2%	21.0%	23.3%
08158600	35.9%	46.7%	51.9%	46.2%
08158700	59.5%	79.8%	79.0%	67.6%
08158810	83.4%	90.0%	86.8%	85.5%
08158860	1.5%	3.7%	15.0%	10.8%
08158920	34.8%	41.6%	43.6%	40.8%
08158922	21.3%	45.4%	37.6%	21.2%
08158930	5.2%	6.8%	10.2%	9.6%
08159000	38.6%	50.2%	64.1%	49.0%
FBU	88.3%	95.6%	90.3%	81.6%
FTB	44.2%	51.3%	44.8%	43.5%

Table C.34: Baseflow from different methods in 2009

Station	Water Year 2009			
	Vertical	Cons. Slope	Digital Unit	Digital Daily
08154700	43.6%	63.1%	60.7%	53.4%
08155200	69.4%	80.6%	51.5%	41.9%
08155240	61.5%	86.6%	80.2%	51.1%
08156800	14.3%	23.1%	20.8%	13.9%
08157500	25.0%	28.4%	26.2%	25.6%
08157600	37.1%	45.7%	42.0%	46.2%
08158600	12.6%	22.4%	28.0%	23.1%
08158700	70.4%	97.0%	94.1%	91.5%
08158810	26.7%	35.9%	33.6%	25.8%
08158860	2.9%	6.7%	15.1%	8.1%
08158922	30.1%	52.8%	46.6%	24.6%
08158930	4.3%	6.5%	10.7%	9.4%
FBU	57.9%	57.6%	61.7%	33.5%
FTB	27.4%	31.5%	28.3%	29.0%

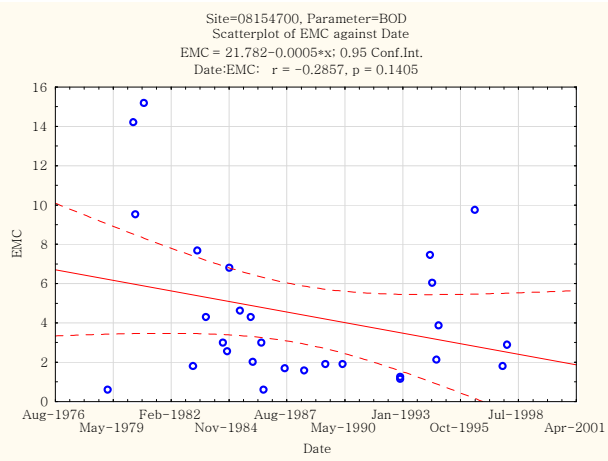
Appendix D Hydrologic Metrics Related to Stream Health

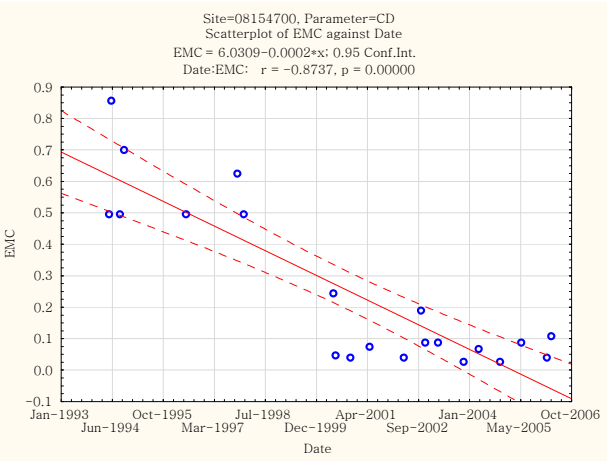
Watershed	Impervious Cover	Area (acre)	Recharge Influenced	Qpeak	Qmean	SD	COV
08154700	20.60%	14433.5	N	2330.4	11.3	67.2	5.9
08155200	5.60%	57436.8	N	2880.3	29.9	110.6	3.7
08155240	6.40%	68850.1	N	4294.1	41.2	164.3	4.0
08155400	7.80%	76693.6	Y	3140.0	27.2	125.1	4.6
08155541	46.10%	1156.38	N	135.6	1.2	5.8	5.0
08156675	55.00%	3660.3	N	330.9	3.4	19.1	5.6
08156800	51.60%	7852.69	N	817.0	6.9	44.4	6.4
08156910	50.90%	715.55	N	74.3	0.9	4.3	4.9
08157500	54.30%	2690.43	N	308.5	3.7	17.5	4.7
08157700	45.50%	824.09	N	90.1	1.0	4.2	4.3
08158030	52.20%	1017.12	N	110.9	1.5	7.0	4.6
08158035	49.40%	2159.54	N	164.1	2.5	10.5	4.2
08158200	37.80%	16771.1	N	4233.1	18.2	132.1	7.3
08158380	60.20%	3382.16	N	442.9	6.4	26.9	4.2
08158600	36.40%	33114	N	3464.2	32.3	163.7	5.1
08158700	6.70%	79167.4	N	4085.5	29.0	127.3	4.4
08158810	8.80%	6972.18	N	1825.6	7.7	48.6	6.3
08158827	6.90%	115610	Y	3057.5	13.6	119.9	8.8
08158840	9.40%	5613.86	N	981.6	4.9	36.3	7.4
08158860	15.90%	15147	Y	4049.6	7.3	130.5	17.9
08158920	20.40%	4011.47	N	776.9	3.2	26.9	8.3
08158927	32.50%	4455.24	Y	1361.6	2.4	40.5	16.9
08158930	29.80%	11953.5	Y	2133.0	5.4	70.9	13.2
08158970	34.20%	17527.2	Y	3235.5	10.4	107.5	10.3
08159000	11.10%	207310	Y	37000.9	65.6	931.9	14.2
FBU	19.40%	3529.69	N	178.4	8.4	12.1	1.4
FTB	44.00%	1669.73	N	106.7	2.2	8.5	3.9
LBA	3.60%	2639.55	N	107.4	1.5	4.9	3.4
LBR	2.50%	7020.79	Y	1586.1	1.8	39.9	21.6

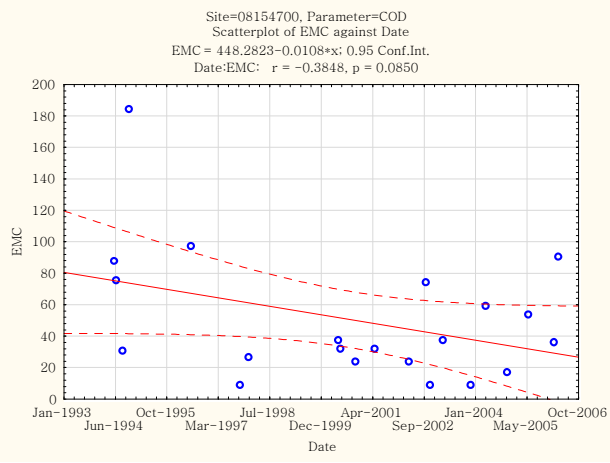
Watershed	Q50	Q10	Q90	+mean	-mean	+mean/-mean	T3xQ50
08154700	3.32	0	20.82	17.70	6.57	2.69	0.2251
08155200	3.74	0.27	82.96	28.54	10.61	2.69	0.3379
08155240	6.99	0.15	102.97	42.80	15.16	2.82	0.3023
08155400	0.98	0	68.97	42.49	18.30	2.32	0.3702
08155541	0.17	0.03	1.6	2.55	1.68	1.51	0.2267
08156675	0.03	0	3.25	18.84	6.65	2.83	0.4014
08156800	0.01	0	6.21	40.54	13.61	2.98	0.4589
08156910	0.07	0	0.75	2.59	1.68	1.54	0.2634
08157500	0.54	0.18	2.72	7.40	4.51	1.64	0.1396
08157700	0.02	0	1.36	3.22	1.90	1.70	0.3987
08158030	0.18	0	1.59	2.77	2.74	1.01	0.2382
08158035	0.4	0	3.05	5.65	3.64	1.55	0.1720
08158200	1.56	0	19.62	54.66	17.68	3.09	0.2897
08158380	0.68	0.05	8.36	15.02	7.72	1.95	0.2169
08158600	3.01	0.07	41.05	78.01	32.69	2.39	0.2985
08158700	5.365	0	73.11	29.59	12.77	2.32	0.2881
08158810	1.06	0	16.14	12.59	4.59	2.74	0.3116
08158827	0.76	0	4.89	45.07	14.31	3.15	0.2191
08158840	0.04	0	8.44	18.53	6.00	3.09	0.4633
08158860	0	0	0.09	92.23	55.21	1.67	0.1402
08158920	0	0	4.42	17.43	5.94	2.93	0.3905
08158927	0	0	0	39.93	27.61	1.45	0.0904
08158930	0.03	0	0.69	25.88	12.24	2.12	0.3395
08158970	0.3	0	5.4	26.36	19.67	1.34	0.3943
08159000	2.97	0	56.93	233.07	77.07	3.02	0.2979
FBU	5.02	0	21.15	4.37	1.62	2.71	0.1742
FTB	0.47	0	2.36	4.30	3.38	1.27	0.1544
LBA	0	0	3.93	5.62	1.37	4.11	0.2640
LBR	0	0	0	114.90	103.56	1.11	0.0208

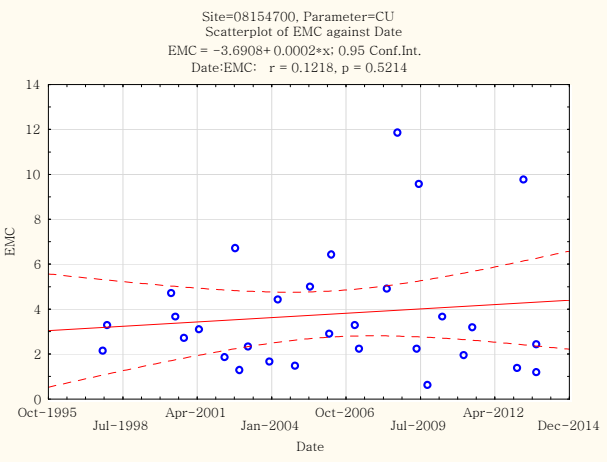
Watershed	Tdry	Fld	Fln	Fhd	Fhn
08154700	0.1369	18.1	3.0	11.2	9.8
08155200	0.0296	12.3	1.0	23.8	4.8
08155240	0.0860	16.2	2.2	22.6	4.6
08155400	0.3905	38.1	4.2	20.4	5.2
08155541	0.3280	8.0	16.0	5.1	23.0
08156675	0.5986	13.0	17.6	5.0	21.0
08156800	0.6051	14.8	14.6	5.3	17.0
08156910	0.6106	10.5	23.2	6.6	22.6
08157500	0.0465	4.1	3.8	3.9	27.6
08157700	0.6418	12.7	19.2	7.5	18.8
08158030	0.3286	7.0	20.8	4.2	28.0
08158035	0.2744	9.3	11.2	5.7	21.0
08158200	0.2240	14.5	6.6	7.7	15.6
08158380	0.1648	9.3	8.2	5.6	23.8
08158600	0.1051	25.9	2.2	6.0	17.6
08158700	0.2262	44.3	2.8	32.8	3.2
08158810	0.2366	29.7	3.2	32.8	5.0
08158827	0.2579	41.7	2.4	13.5	7.0
08158840	0.5263	67.3	3.8	28.7	4.8
08158860	0.9014	25.3	13.6	2.9	18.0
08158920	0.6336	23.0	11.0	10.5	11.8
08158927	0.9321	24.2	14.4	1.8	15.8
08158930	0.6605	16.3	15.6	5.3	17.2
08158970	0.3954	9.6	16.4	5.6	18.0
08159000	0.2667	19.1	5.8	10.0	10.8
FBU	0.1605	46.7	1.8	25.4	5.0
FTB	0.2536	10.4	8.8	5.7	20.8
LBA	0.7404	71.9	3.8	33.0	3.2
LBR	0.9797	87.8	4.4	1.3	4.4

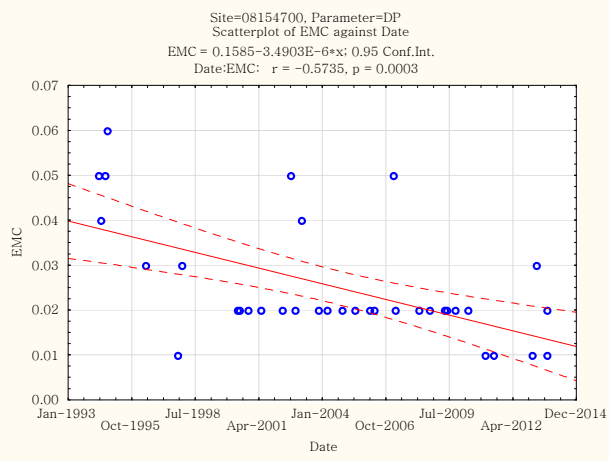
Appendix E Figures of Relationships between EMCs and Date for All Stations

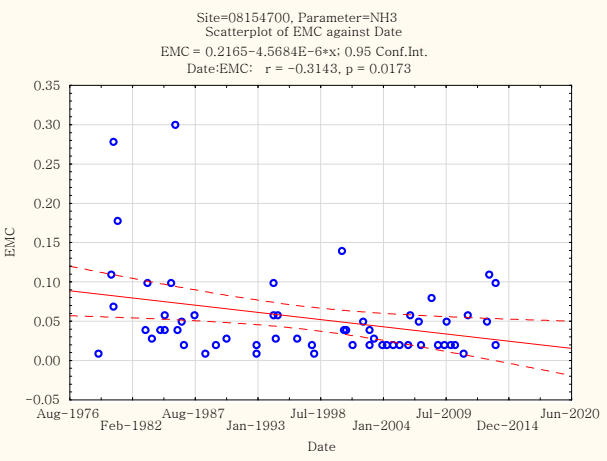


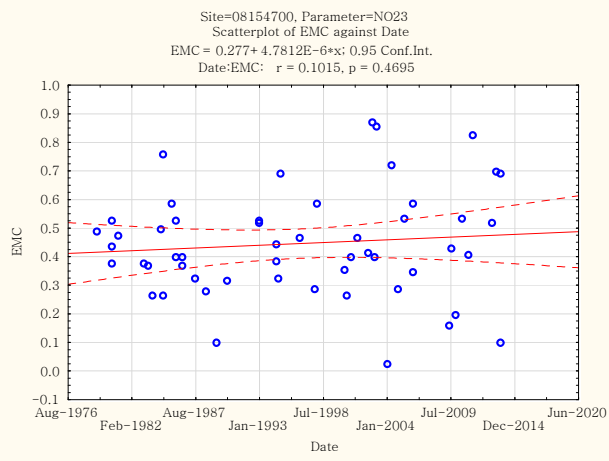


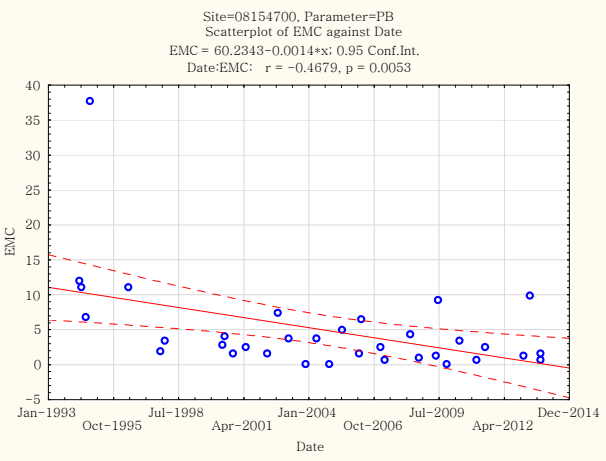


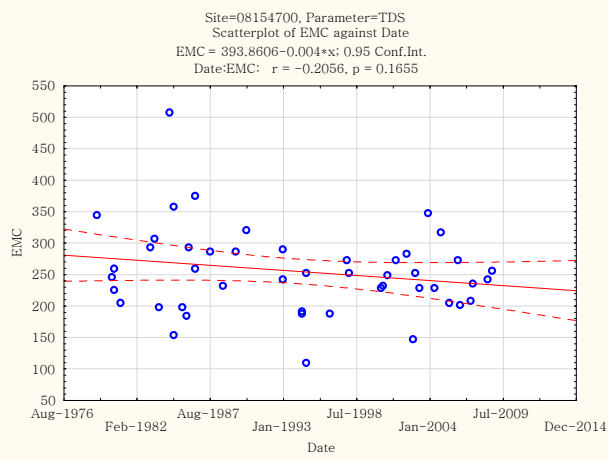







Site=08154700, Parameter=NO23
Scatterplot of EMC against Date
EMC = 0.277+ 4.7812E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.1015, p = 0.4695
EMC
Date


Site=08154700, Parameter=PB
Scatterplot of EMC against Date
EMC = 60.2343-0.0014*x; 0.95 Conf.Int.
Date:EMC: r = -0.4679, p = 0.0053
EMC
Date


Site=08154700, Parameter=TDS
Scatterplot of EMC against Date
EMC = 393.8606-0.004*x; 0.95 Conf.Int.
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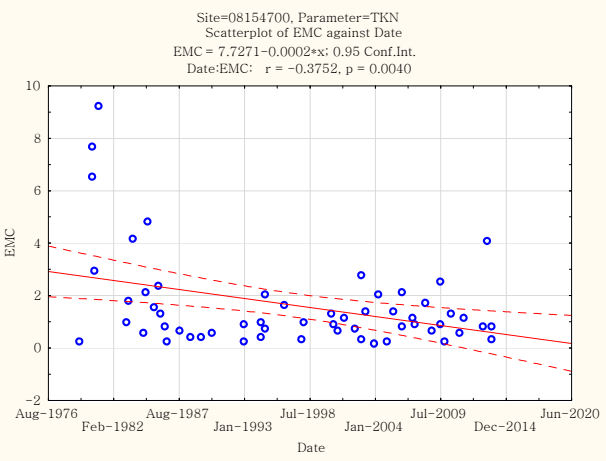
EMC
Date


Site=08154700, Parameter=TKN
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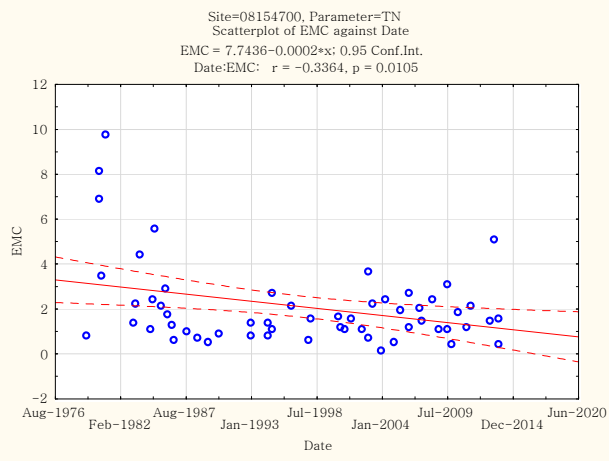
EMC = 7.7271-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.3752, p = 0.0040
EMC
Date


Site=08154700, Parameter=TN
Scatterplot of EMC against Date
EMC = 7.7436-0.0002*x; 0.95 Conf.Int.
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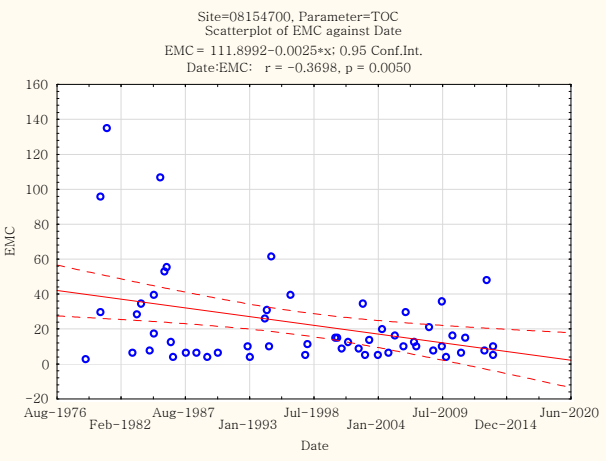
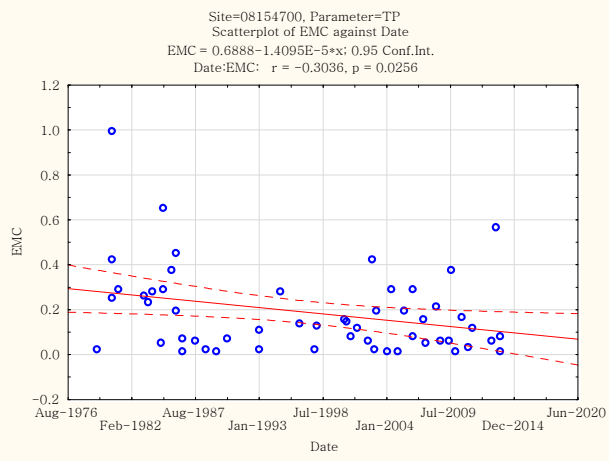
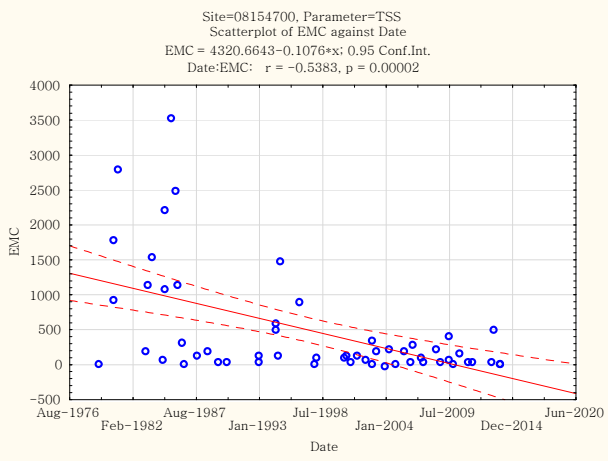
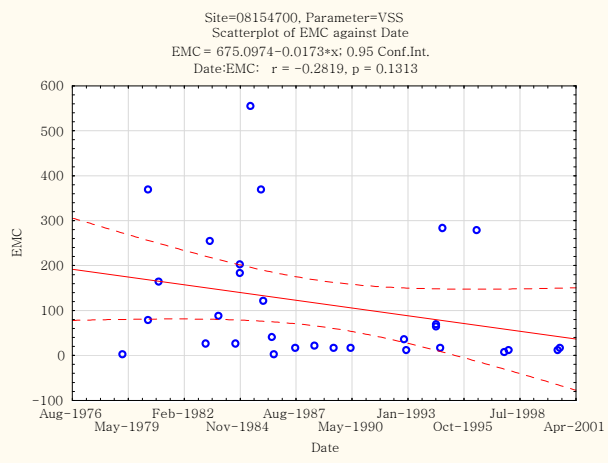
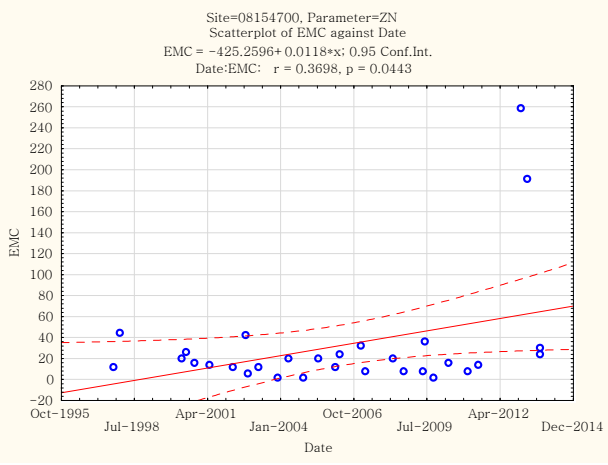
EMC
Date

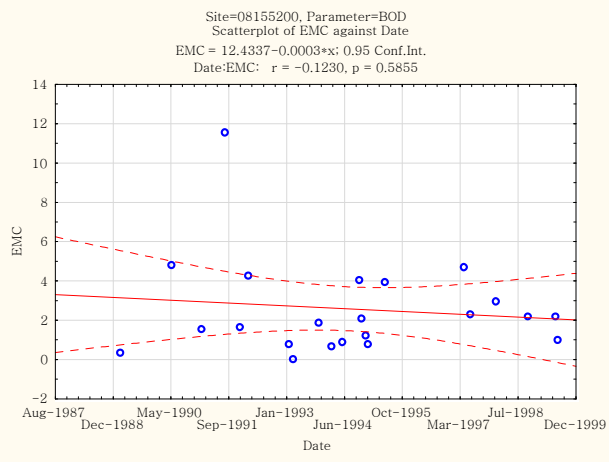

Site=08154700, Parameter=TOC
Scatterplot of EMC against Date
EMC = 111.8992-0.0025*x; 0.95 Conf.Int.
Date:EMC: r = -0.3698, p = 0.0050
EMC
Date

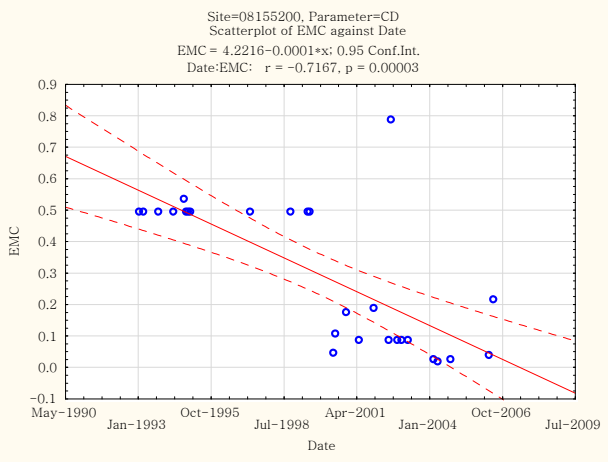

Site=08154700, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.6888-1.4095E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3036, p = 0.0256
EMC
Date

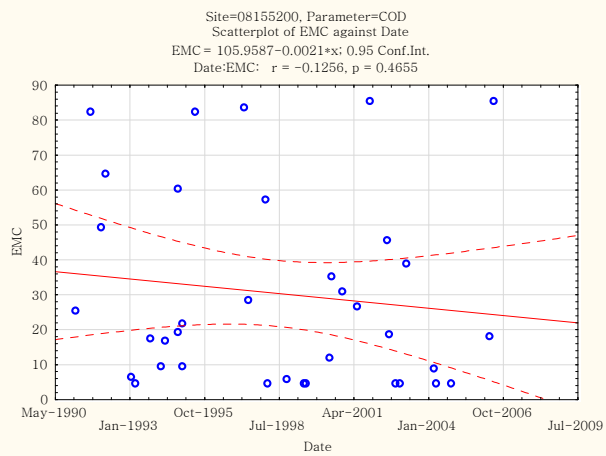

Site=08154700, Parameter=TSS
Scatterplot of EMC against Date
EMC = 4320.6643-0.1076*x; 0.95 Conf.Int.
Date:EMC: r = -0.5383, p = 0.00002
EMC
Date

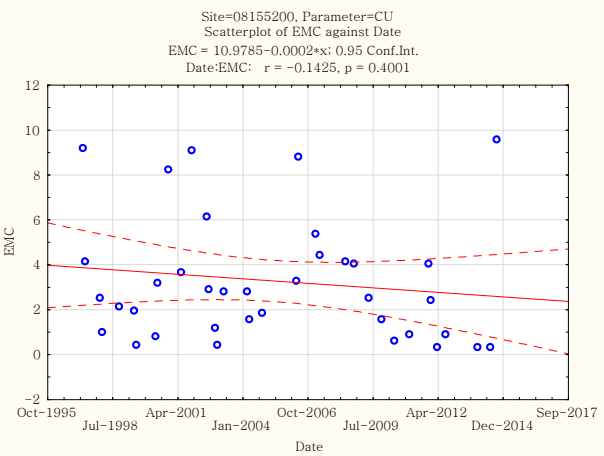

Site=08154700, Parameter=VSS
Scatterplot of EMC against Date
EMC = 675.0974-0.0173*x; 0.95 Conf.Int.
Date:EMC: r = -0.2819, p = 0.1313
EMC
Date

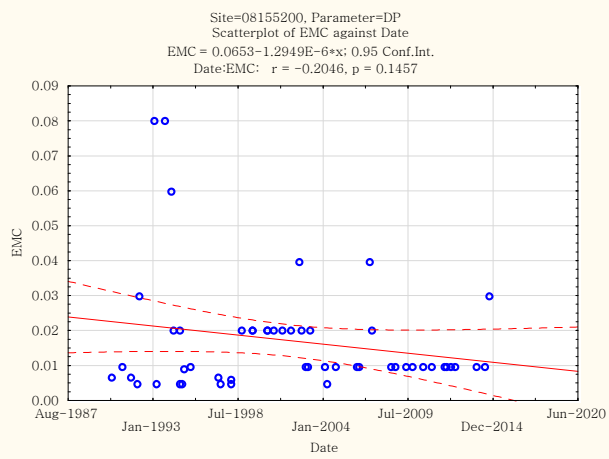

Site=08154700, Parameter=ZN
Scatterplot of EMC against Date
EMC = -425.2596+0.0118*x; 0.95 Conf.Int.
Date:EMC: r = 0.3698, p = 0.0443
EMC
Date

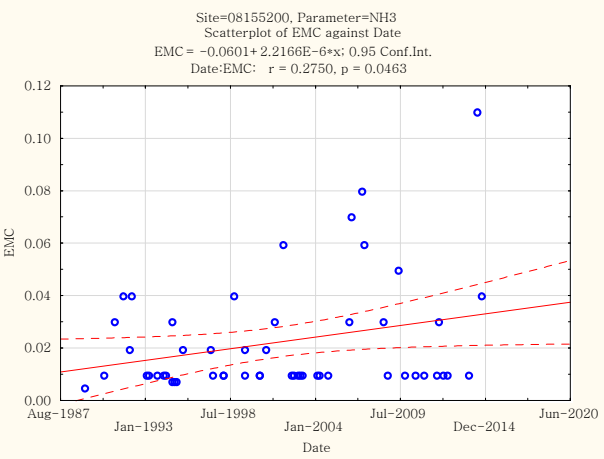

Site=08155200, Parameter=BOD
Scatterplot of EMC against Date
EMC = 12.4337-0.0003*x; 0.95 Conf.Int.
Date:EMC: r = -0.1230, p = 0.5855
EMC
Date

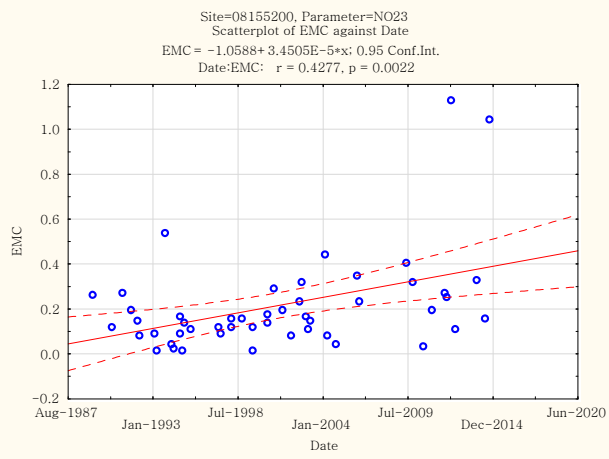

Site=08155200, Parameter=CD
Scatterplot of EMC against Date
EMC = 4.2216-0.0001*x; 0.95 Conf.Int.
Date:EMC: r = -0.7167, p = 0.00003
EMC
Date

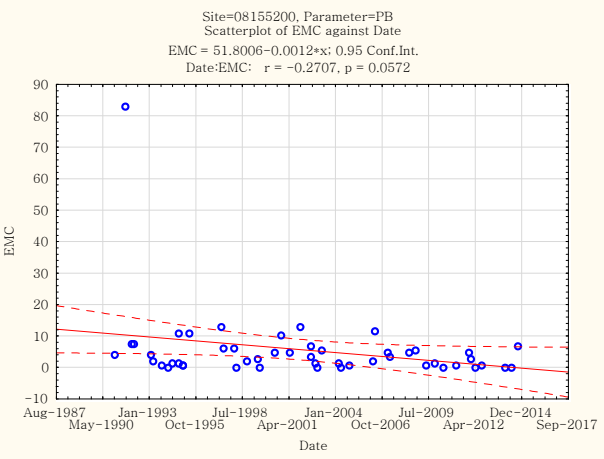

Site=08155200, Parameter=COD
Scatterplot of EMC against Date
EMC = 105.9587-0.0021*x; 0.95 Conf.Int.
Date:EMC: r = -0.1256, p = 0.4655
EMC
Date

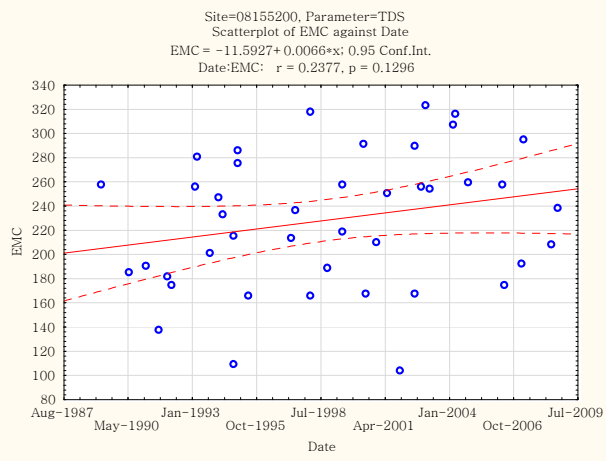

Site=08155200, Parameter=CU
Scatterplot of EMC against Date
EMC = 10.9785-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.1425, p = 0.4001
EMC
Date

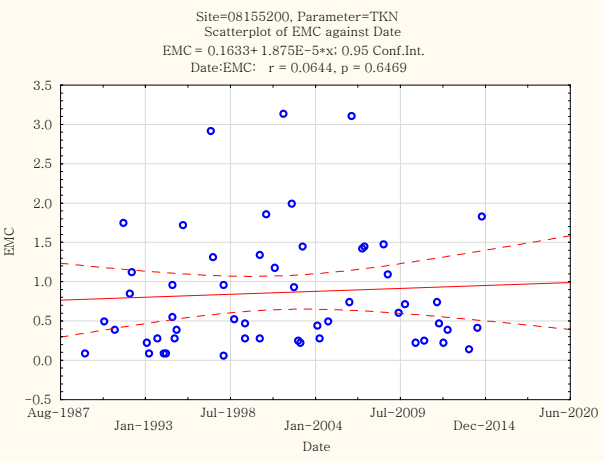

Site=08155200, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.0653-1.2949E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.2046, p = 0.1457
EMC
Date

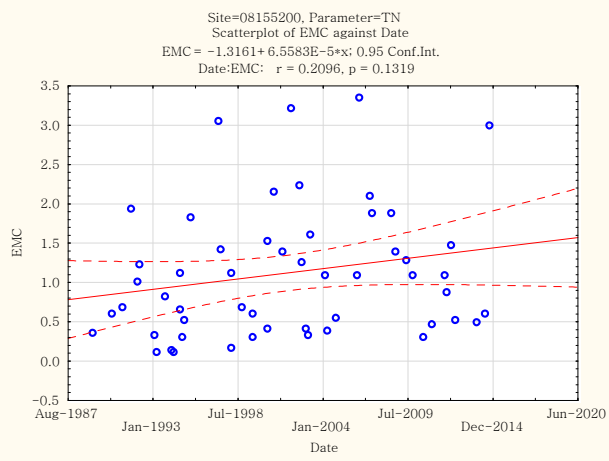

Site=08155200, Parameter=NH3
Scatterplot of EMC against Date
EMC = -0.0601+2.2166E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.2750, p = 0.0463
EMC
Date

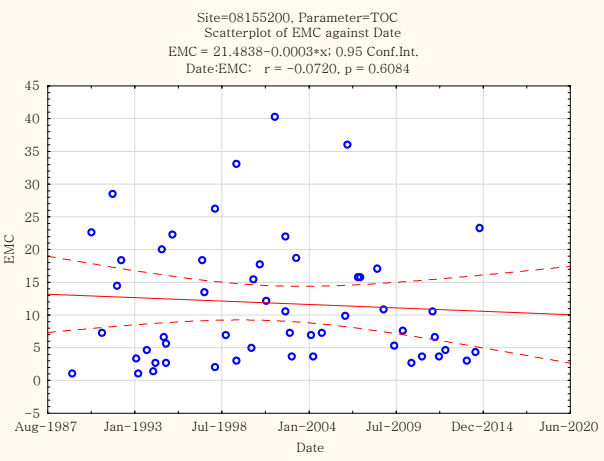

Site=08155200, Parameter=NO23
Scatterplot of EMC against Date
EMC = -1.0588+3.4505E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.4277, p = 0.0022
EMC
Date

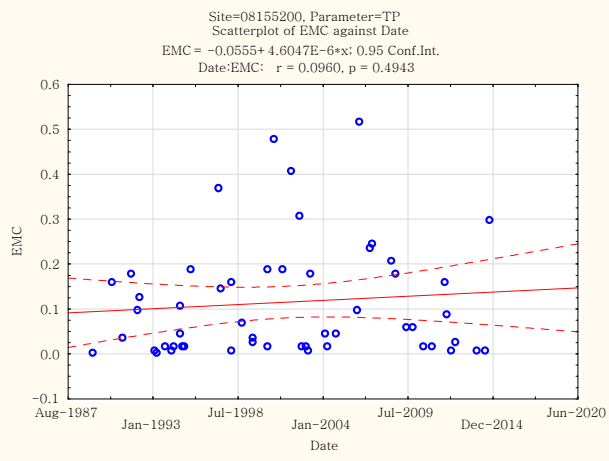

Site=08155200, Parameter=PB
Scatterplot of EMC against Date
EMC = 51.8006-0.0012*x; 0.95 Conf.Int.
Date:EMC: r = -0.2707, p = 0.0572
EMC
Date

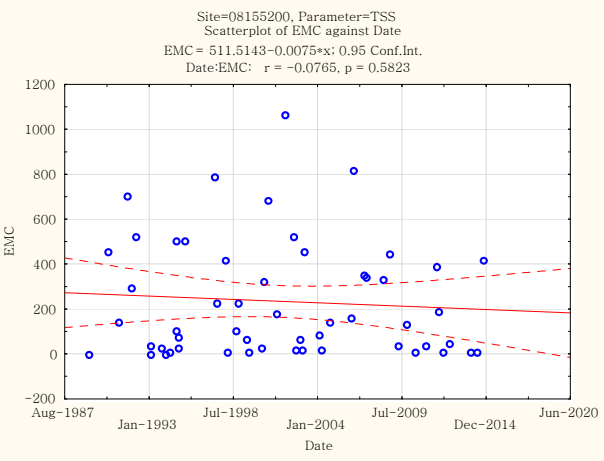

Site=08155200, Parameter=TDS
Scatterplot of EMC against Date
EMC = −11.5927+ 0.0066*x; 0.95 Conf.Int.
Date:EMC: r = 0.2377, p = 0.1296
EMC
Date
Aug−1987
May−1990
Jan−1993
Oct−1995
Jul−1998
Apr−2001
Jan−2004
Oct−2006
Jul−2009

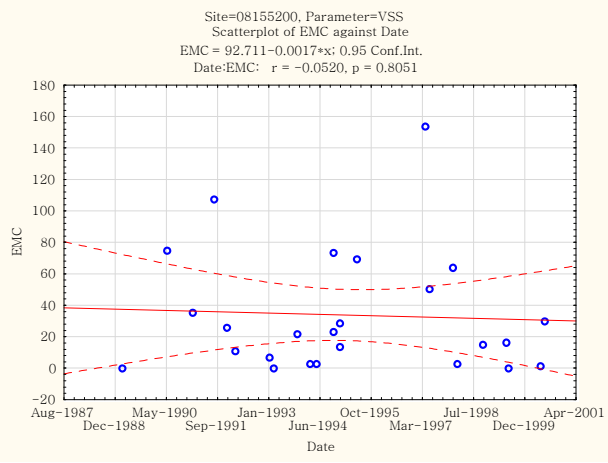

Site=08155200, Parameter=TKN
Scatterplot of EMC against Date
EMC = 0.1633+ 1.875E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.0644, p = 0.6469
EMC
Date
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

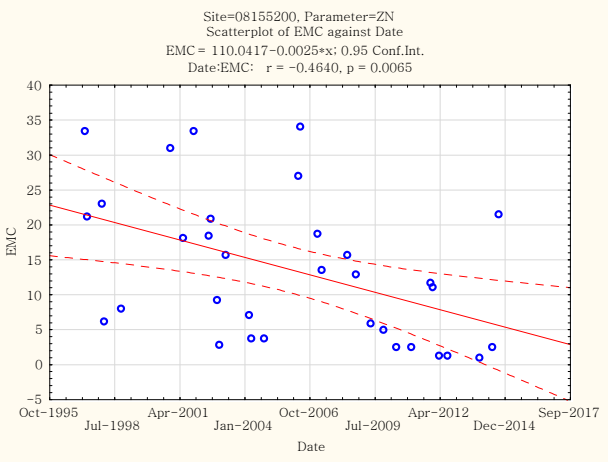

Site=08155200, Parameter=TN
Scatterplot of EMC against Date
EMC = −1.3161+ 6.5583E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.2096, p = 0.1319
EMC
Date
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

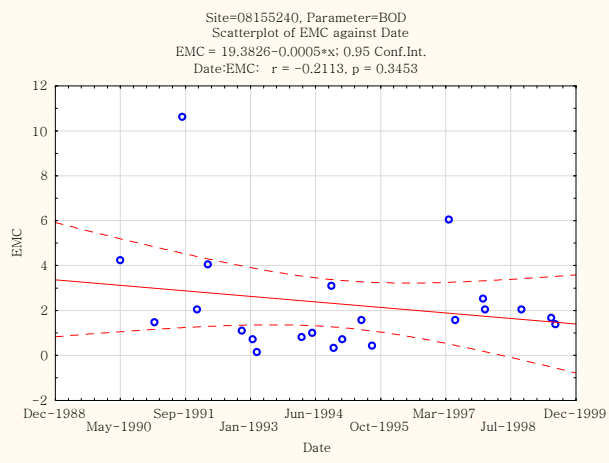

Site=08155200, Parameter=TOC
Scatterplot of EMC against Date
EMC = 21.4838−0.0003*x; 0.95 Conf.Int.
Date:EMC: r = −0.0720, p = 0.6084
EMC
Date
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

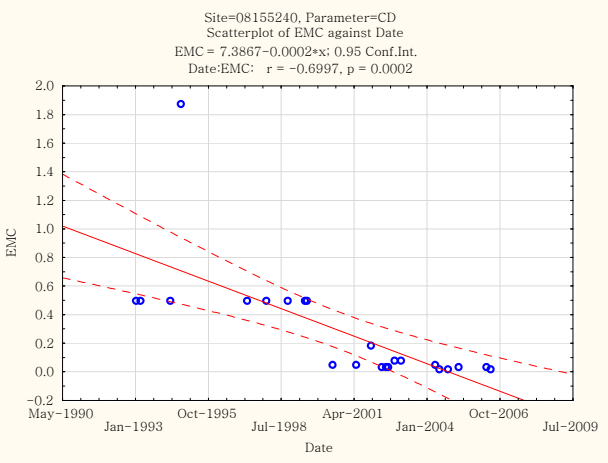

Site=08155200, Parameter=TP
Scatterplot of EMC against Date
EMC = −0.0555+ 4.6047E−6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0960, p = 0.4943
EMC
Date
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

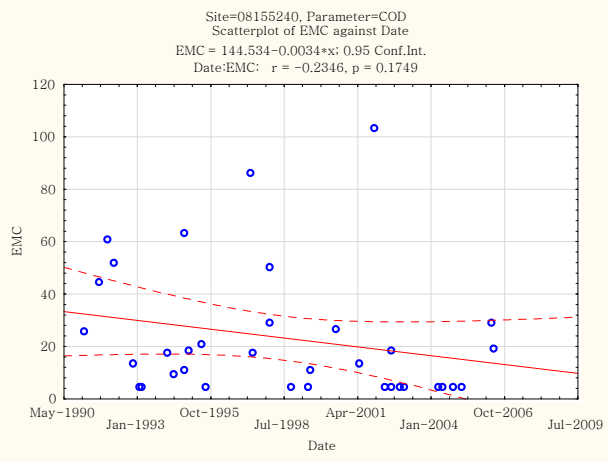

Site=08155200, Parameter=TSS
Scatterplot of EMC against Date
EMC = 511.5143−0.0075*x; 0.95 Conf.Int.
Date:EMC: r = −0.0765, p = 0.5823
EMC
Date
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

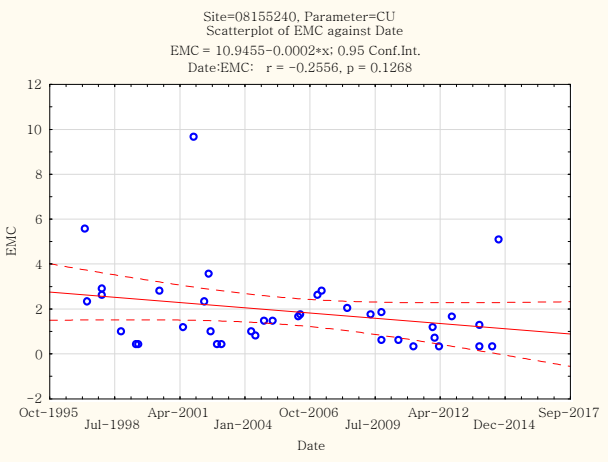

Site=08155200, Parameter=VSS
Scatterplot of EMC against Date
EMC = 92.711-0.0017*x; 0.95 Conf.Int.
Date:EMC: r = -0.0520, p = 0.8051
EMC
Date

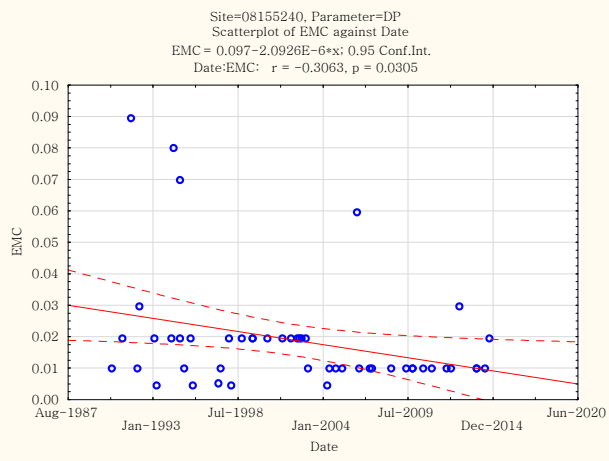

Site=08155200, Parameter=ZN
Scatterplot of EMC against Date
EMC = 110.0417-0.0025*x; 0.95 Conf.Int.
Date:EMC: r = -0.4640, p = 0.0065
EMC
Date

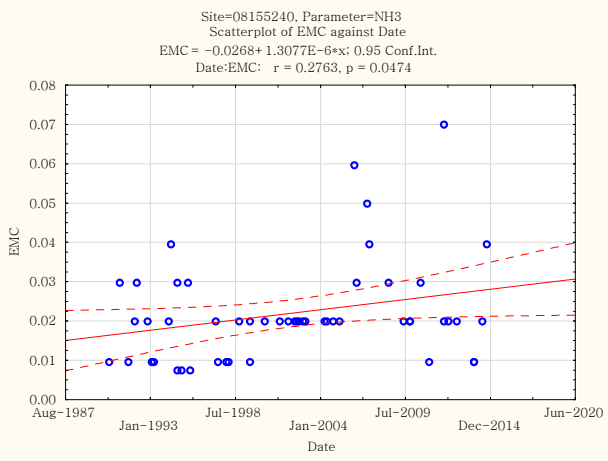

Site=08155240, Parameter=BOD
Scatterplot of EMC against Date
EMC = 19.3826-0.0005*x; 0.95 Conf.Int.
Date:EMC: r = -0.2113, p = 0.3453
EMC
Date

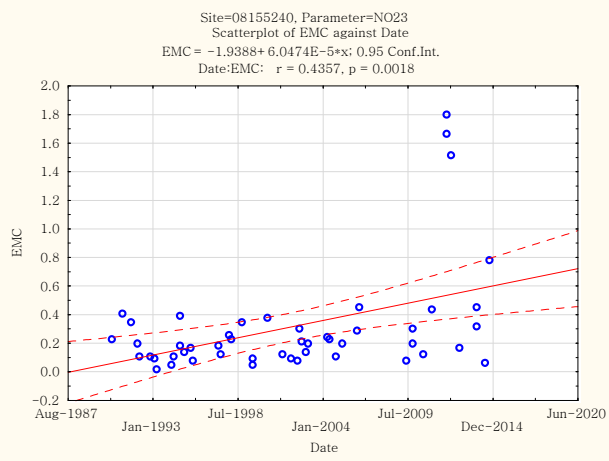

Site=08155240, Parameter=CD
Scatterplot of EMC against Date
EMC = 7.3867-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.6997, p = 0.0002
EMC
Date

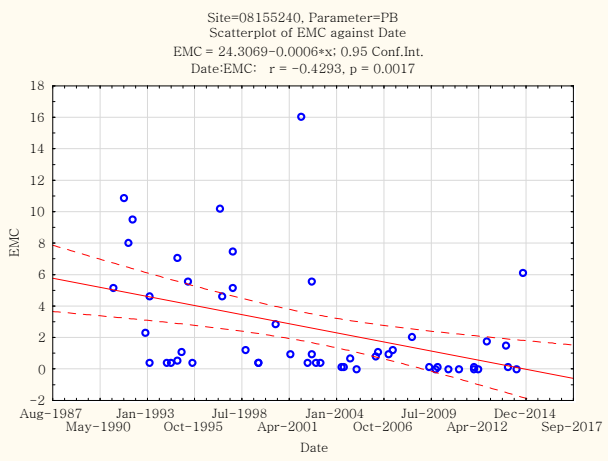

Site=08155240, Parameter=COD
Scatterplot of EMC against Date
EMC = 144.534-0.0034*x; 0.95 Conf.Int.
Date:EMC: r = -0.2346, p = 0.1749
EMC
Date

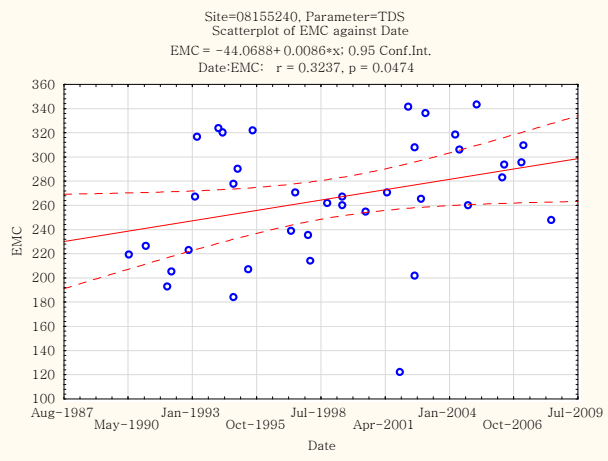

Site=08155240, Parameter=CU
Scatterplot of EMC against Date
EMC = 10.9455-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.2556, p = 0.1268
EMC
Date

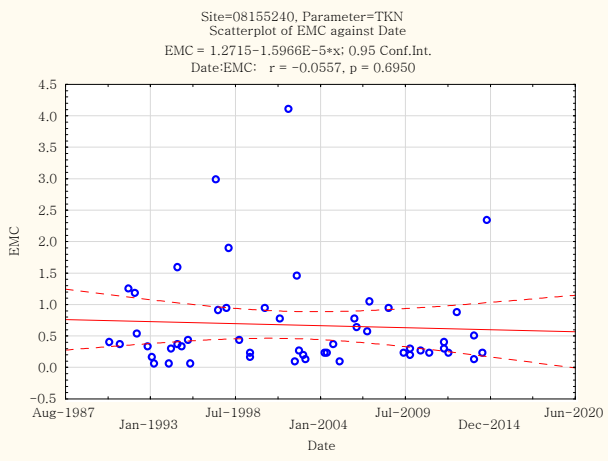

Site=08155240, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.097-2.0926E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.3063, p = 0.0305
EMC
Date

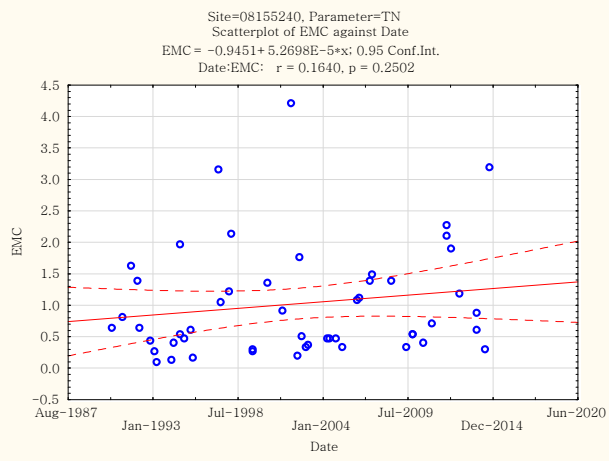

Site=08155240, Parameter=NH3
Scatterplot of EMC against Date
EMC = -0.0268+1.3077E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.2763, p = 0.0474
EMC
Date

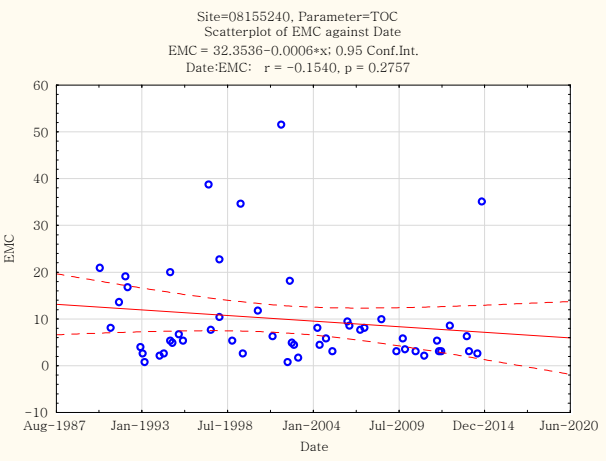

Site=08155240, Parameter=NO23
Scatterplot of EMC against Date
EMC = -1.9388+6.0474E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.4357, p = 0.0018
EMC
Date

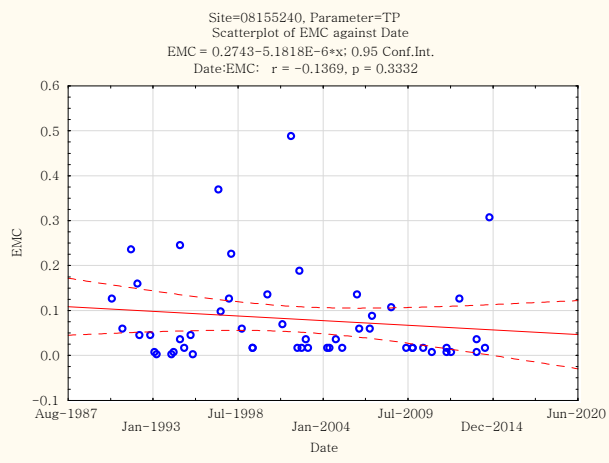

Site=08155240, Parameter=PB
Scatterplot of EMC against Date
EMC = 24.3069-0.0006*x; 0.95 Conf.Int.
Date:EMC: r = -0.4293, p = 0.0017
EMC
Date

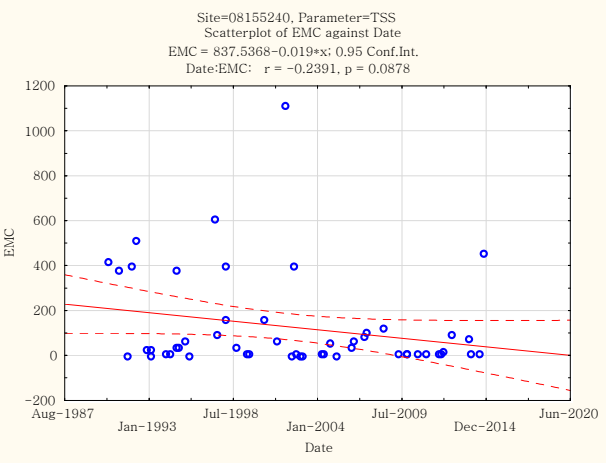

Site=08155240, Parameter=TDS
Scatterplot of EMC against Date
EMC = -44.0688+0.0086*x; 0.95 Conf.Int.
Date:EMC: r = 0.3237, p = 0.0474
EMC
Date

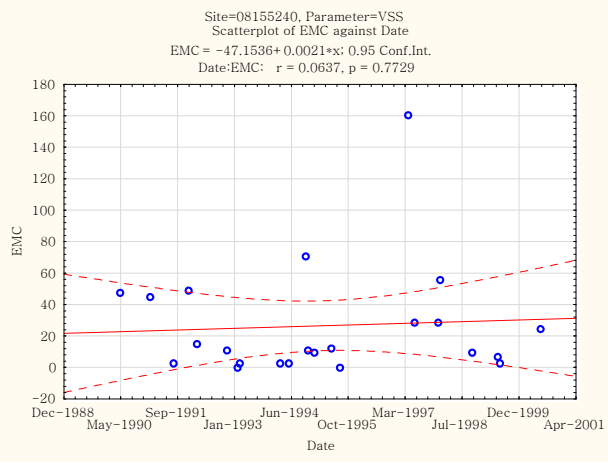

Site=08155240, Parameter=TKN
Scatterplot of EMC against Date
EMC = 1.2715-1.5966E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.0557, p = 0.6950
EMC
Date

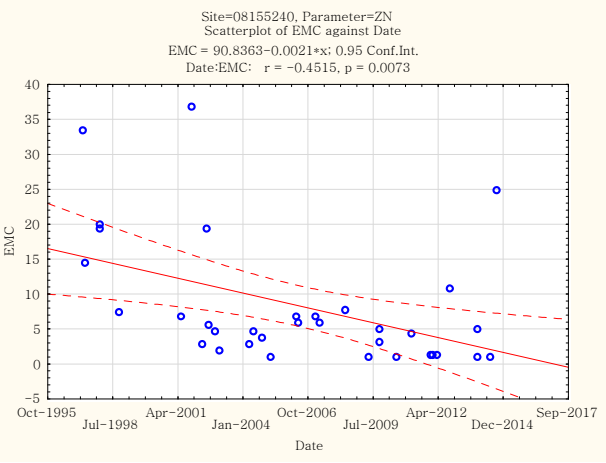

Site=08155240, Parameter=TN
Scatterplot of EMC against Date
EMC = −0.9451+ 5.2698E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1640, p = 0.2502
EMC
Date

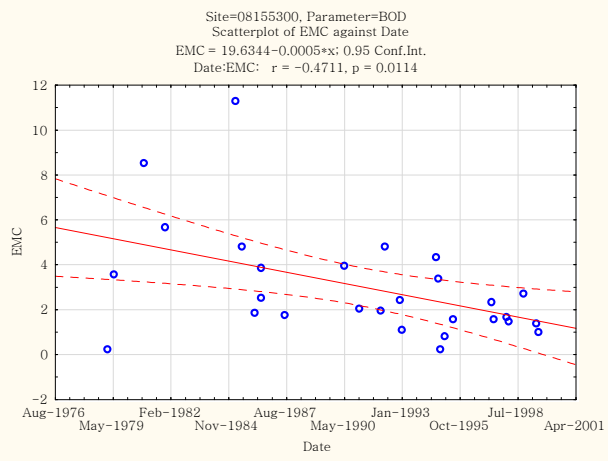

Site=08155240, Parameter=TOC
Scatterplot of EMC against Date
EMC = 32.3536−0.0006*x; 0.95 Conf.Int.
Date:EMC: r = −0.1540, p = 0.2757
EMC
Date

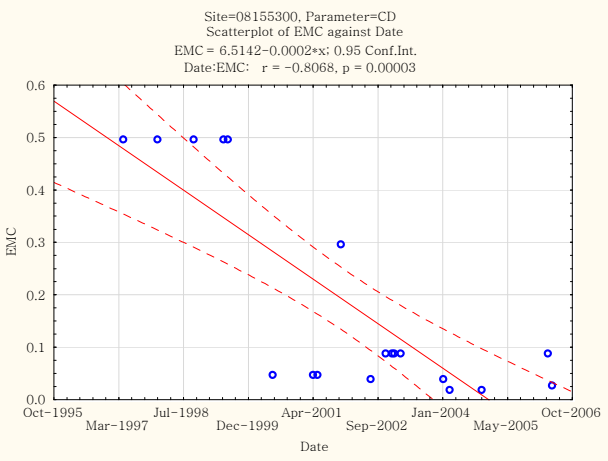

Site=08155240, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.2743−5.1818E−6*x; 0.95 Conf.Int.
Date:EMC: r = −0.1369, p = 0.3332
EMC
Date

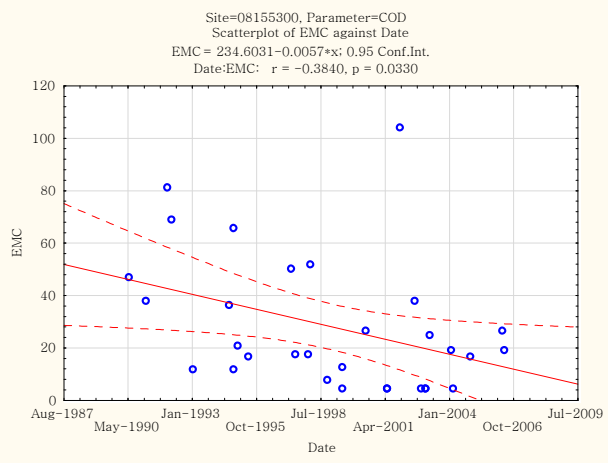

Site=08155240, Parameter=TSS
Scatterplot of EMC against Date
EMC = 837.5368−0.019*x; 0.95 Conf.Int.
Date:EMC: r = −0.2391, p = 0.0878
EMC
Date

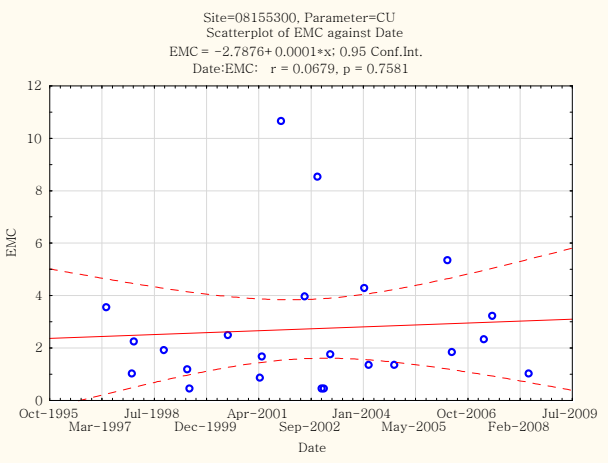

Site=08155240, Parameter=VSS
Scatterplot of EMC against Date
EMC = −47.1536+ 0.0021*x; 0.95 Conf.Int.
Date:EMC: r = 0.0637, p = 0.7729
EMC
Date

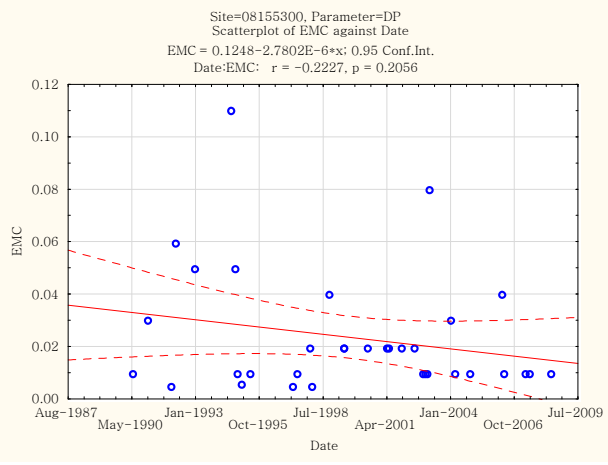

Site=08155240, Parameter=ZN
Scatterplot of EMC against Date
EMC = 90.8363−0.0021*x; 0.95 Conf.Int.
Date:EMC: r = −0.4515, p = 0.0073
EMC
Date

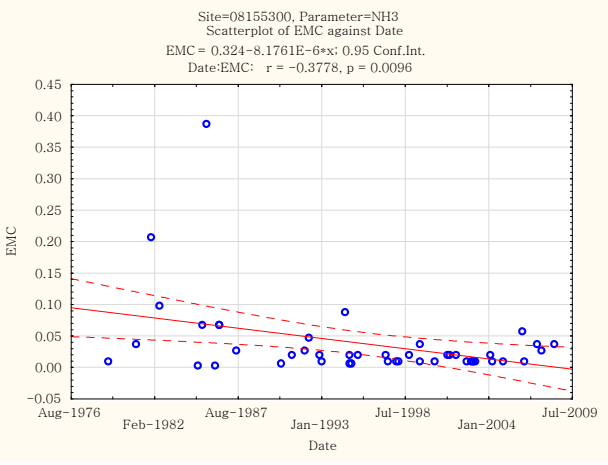

Site=08155300, Parameter=BOD
Scatterplot of EMC against Date
EMC = 19.6344-0.0005*x; 0.95 Conf.Int.
Date:EMC: r = -0.4711, p = 0.0114
EMC
Date

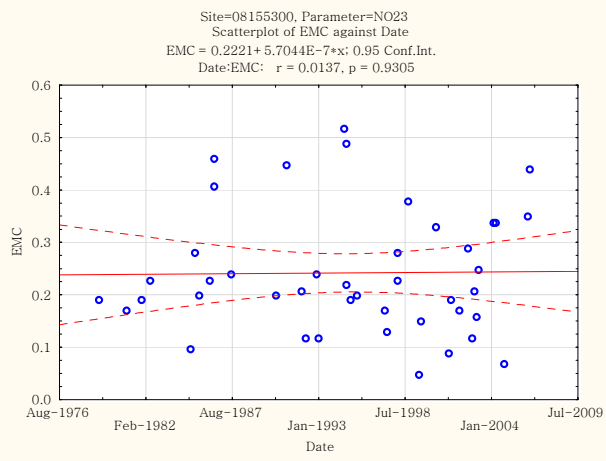

Site=08155300, Parameter=CD
Scatterplot of EMC against Date
EMC = 6.5142-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.8068, p = 0.00003
EMC
Date

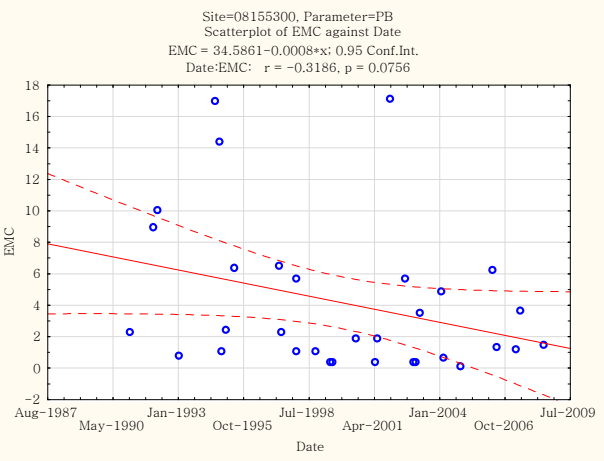

Site=08155300, Parameter=COD
Scatterplot of EMC against Date
EMC = 234.6031-0.0057*x; 0.95 Conf.Int.
Date:EMC: r = -0.3840, p = 0.0330
EMC
Date

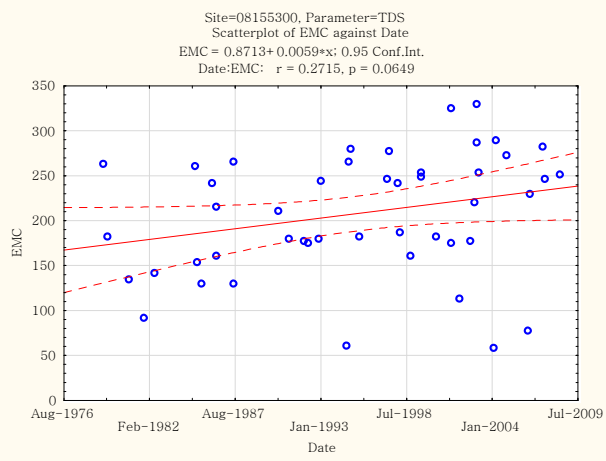

Site=08155300, Parameter=CU
Scatterplot of EMC against Date
EMC = -2.7876+0.0001*x; 0.95 Conf.Int.
Date:EMC: r = 0.0679, p = 0.7581
EMC
Date

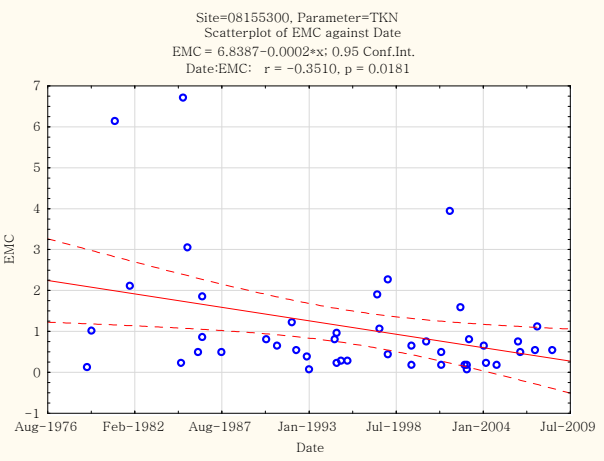

Site=08155300, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.1248-2.7802E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.2227, p = 0.2056
EMC
Date

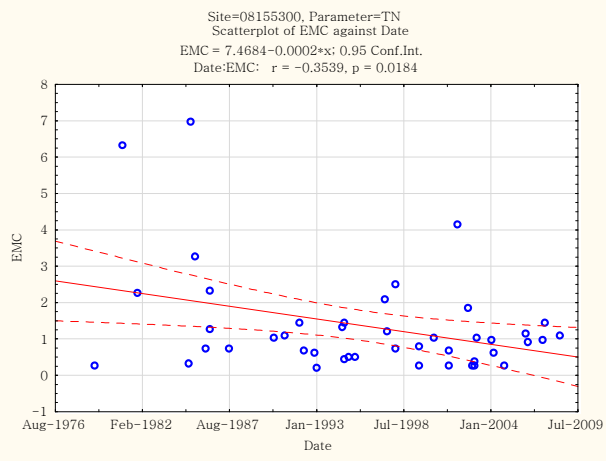

Site=08155300, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.324-8.1761E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.3778, p = 0.0096
EMC
Date

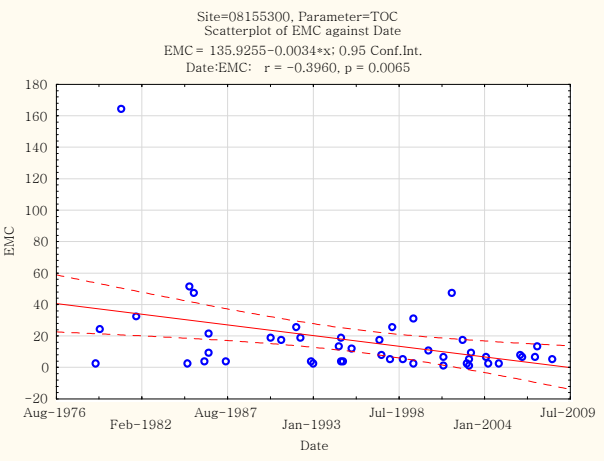

Site=08155300, Parameter=NO23
Scatterplot of EMC against Date
EMC = 0.2221+ 5.7044E-7*x; 0.95 Conf.Int.
Date:EMC: r = 0.0137, p = 0.9305
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009

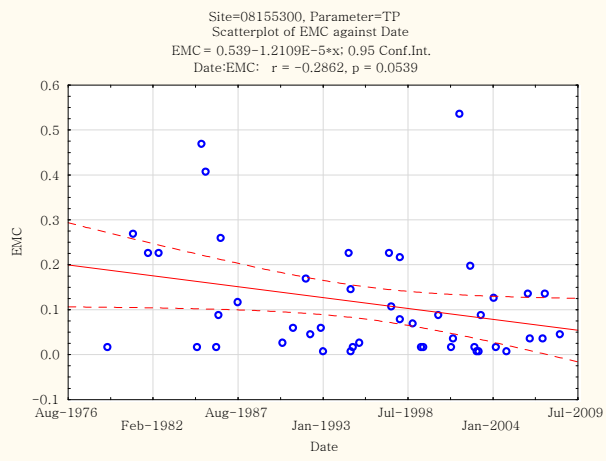

Site=08155300, Parameter=PB
Scatterplot of EMC against Date
EMC = 34.5861-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.3186, p = 0.0756
EMC
Date
Aug-1987
May-1990
Jan-1993
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009

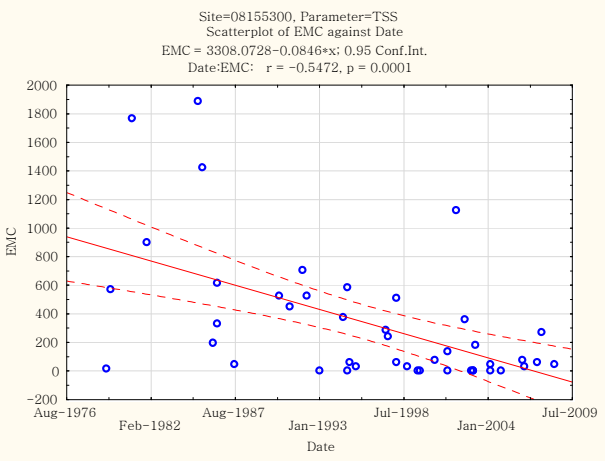

Site=08155300, Parameter=TDS
Scatterplot of EMC against Date
EMC = 0.8713+ 0.0059*x; 0.95 Conf.Int.
Date:EMC: r = 0.2715, p = 0.0649
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009

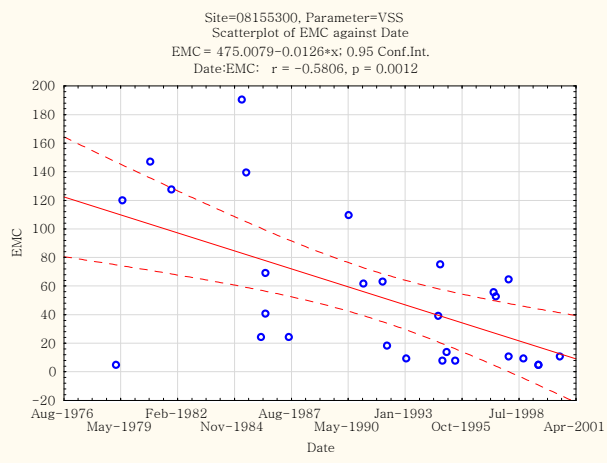

Site=08155300, Parameter=TKN
Scatterplot of EMC against Date
EMC = 6.8387-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.3510, p = 0.0181
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009

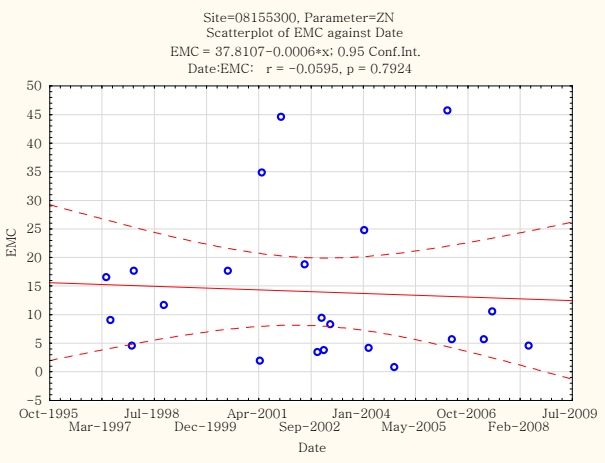

Site=08155300, Parameter=TN
Scatterplot of EMC against Date
EMC = 7.4684-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.3539, p = 0.0184
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009

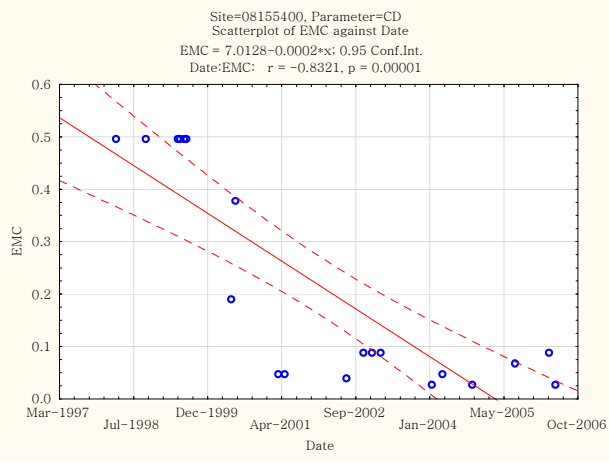

Site=08155300, Parameter=TOC
Scatterplot of EMC against Date
EMC = 135.9255-0.0034*x; 0.95 Conf.Int.
Date:EMC: r = -0.3960, p = 0.0065
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009

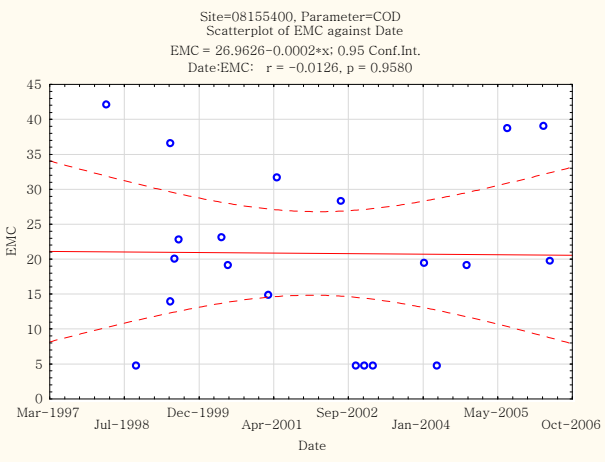

Site=08155300, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.539-1.2109E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2862, p = 0.0539
EMC
Date

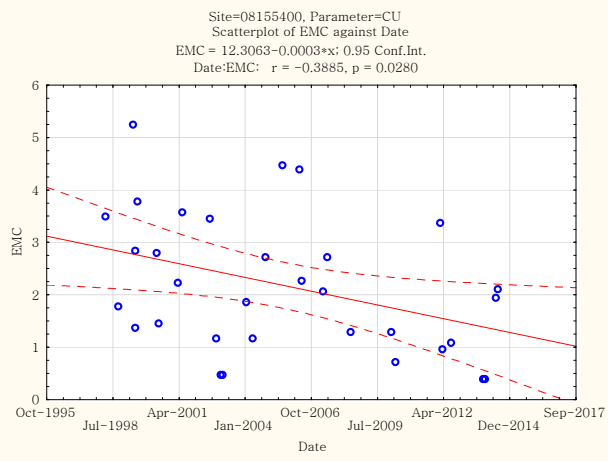

Site=08155300, Parameter=TSS
Scatterplot of EMC against Date
EMC = 3308.0728-0.0846*x; 0.95 Conf.Int.
Date:EMC: r = -0.5472, p = 0.0001
EMC
Date

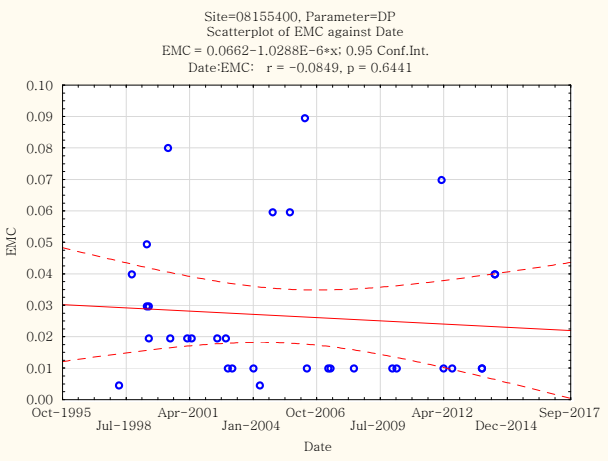

Site=08155300, Parameter=VSS
Scatterplot of EMC against Date
EMC = 475.0079-0.0126*x; 0.95 Conf.Int.
Date:EMC: r = -0.5806, p = 0.0012
EMC
Date

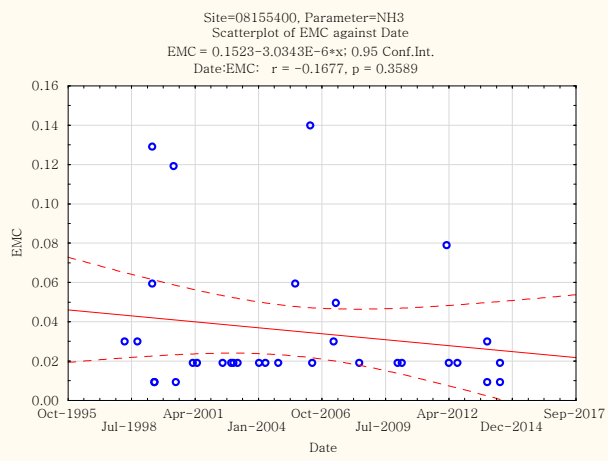

Site=08155300, Parameter=ZN
Scatterplot of EMC against Date
EMC = 37.8107-0.0006*x; 0.95 Conf.Int.
Date:EMC: r = -0.0595, p = 0.7924
EMC
Date

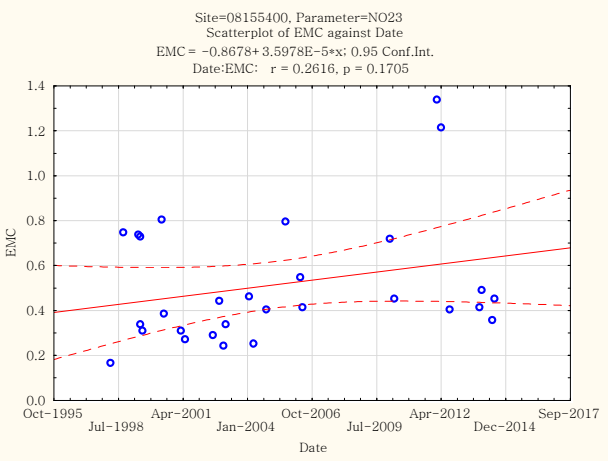

Site=08155400, Parameter=CD
Scatterplot of EMC against Date
EMC = 7.0128-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.8321, p = 0.00001
EMC
Date

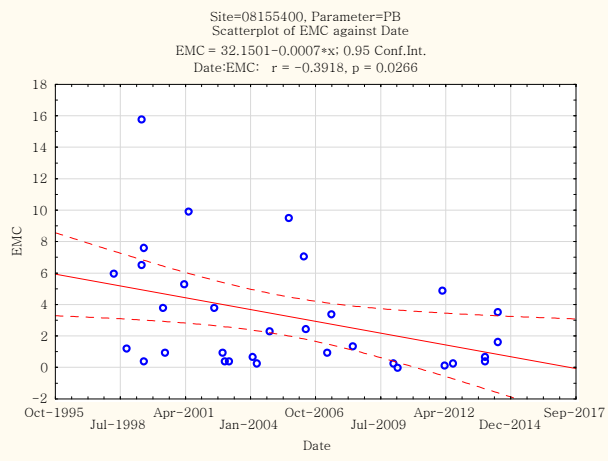

Site=08155400, Parameter=COD
Scatterplot of EMC against Date
EMC = 26.9626-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.0126, p = 0.9580
EMC
Date

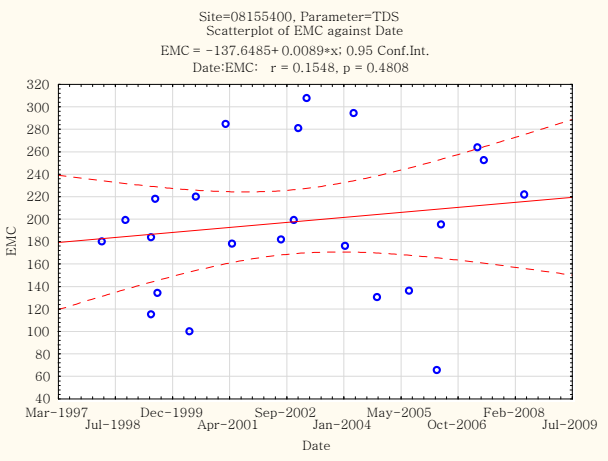

Site=08155400, Parameter=CU
Scatterplot of EMC against Date
EMC = 12.3063-0.0003*x; 0.95 Conf.Int.
Date:EMC: r = -0.3885, p = 0.0280
EMC
Date

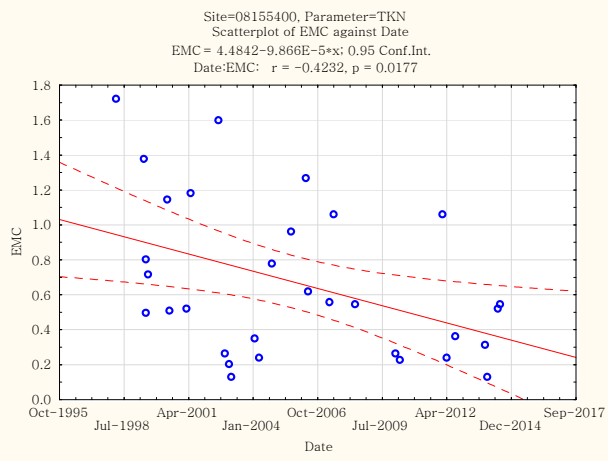

Site=08155400, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.0662-1.0288E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0849, p = 0.6441
EMC
Date

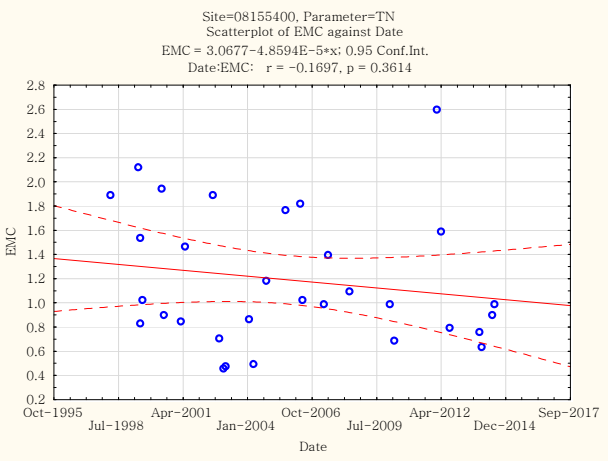

Site=08155400, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.1523-3.0343E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.1677, p = 0.3589
EMC
Date

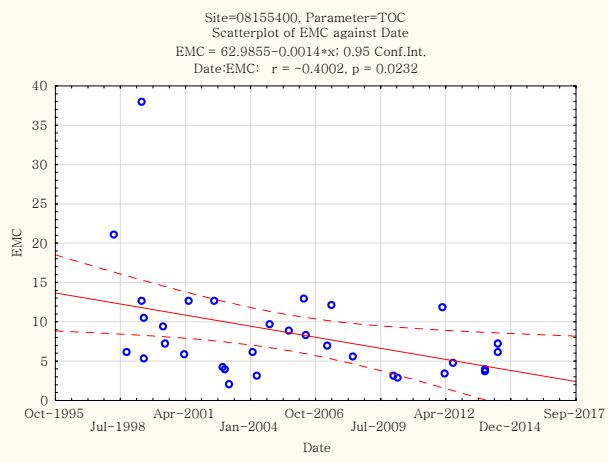

Site=08155400, Parameter=NO23
Scatterplot of EMC against Date
EMC = -0.8678+3.5978E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.2616, p = 0.1705
EMC
Date

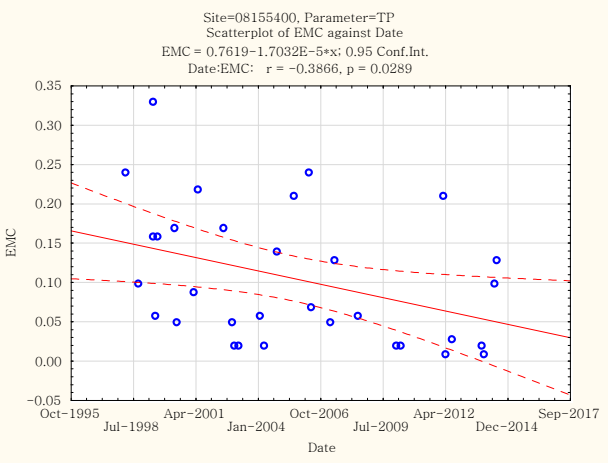

Site=08155400, Parameter=PB
Scatterplot of EMC against Date
EMC = 32.1501-0.0007*x; 0.95 Conf.Int.
Date:EMC: r = -0.3918, p = 0.0266
EMC
Date

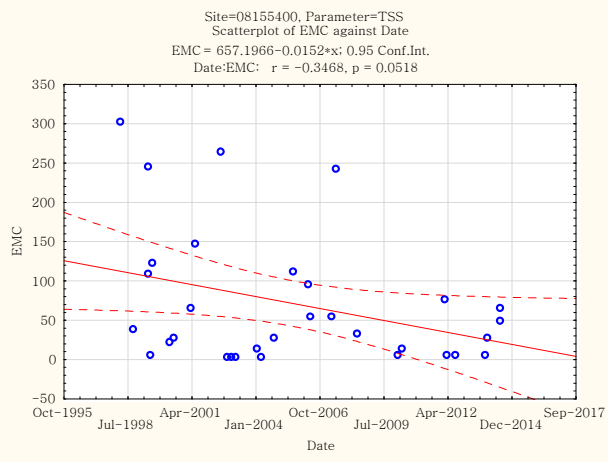

Site=08155400, Parameter=TDS
Scatterplot of EMC against Date
EMC = -137.6485+0.0089*x; 0.95 Conf.Int.
Date:EMC: r = 0.1548, p = 0.4808
EMC
Date

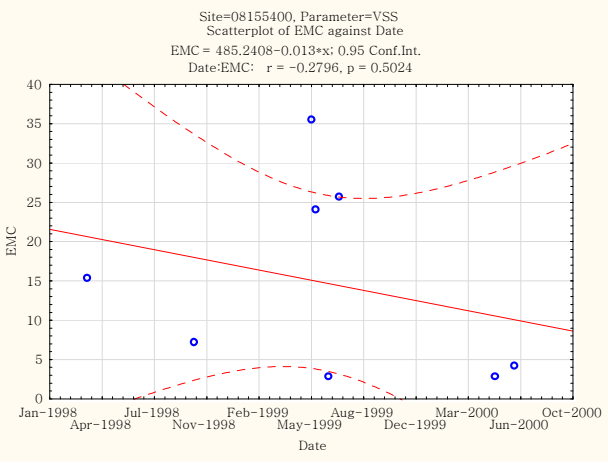

Site=08155400, Parameter=TKN
Scatterplot of EMC against Date
EMC = 4.4842-9.866E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.4232, p = 0.0177
EMC
Date

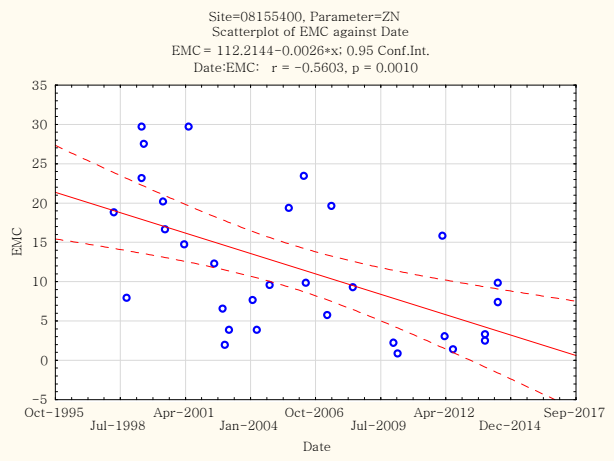

Site=08155400, Parameter=TN
Scatterplot of EMC against Date
EMC = 3.0677-4.8594E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1697, p = 0.3614
EMC
Date

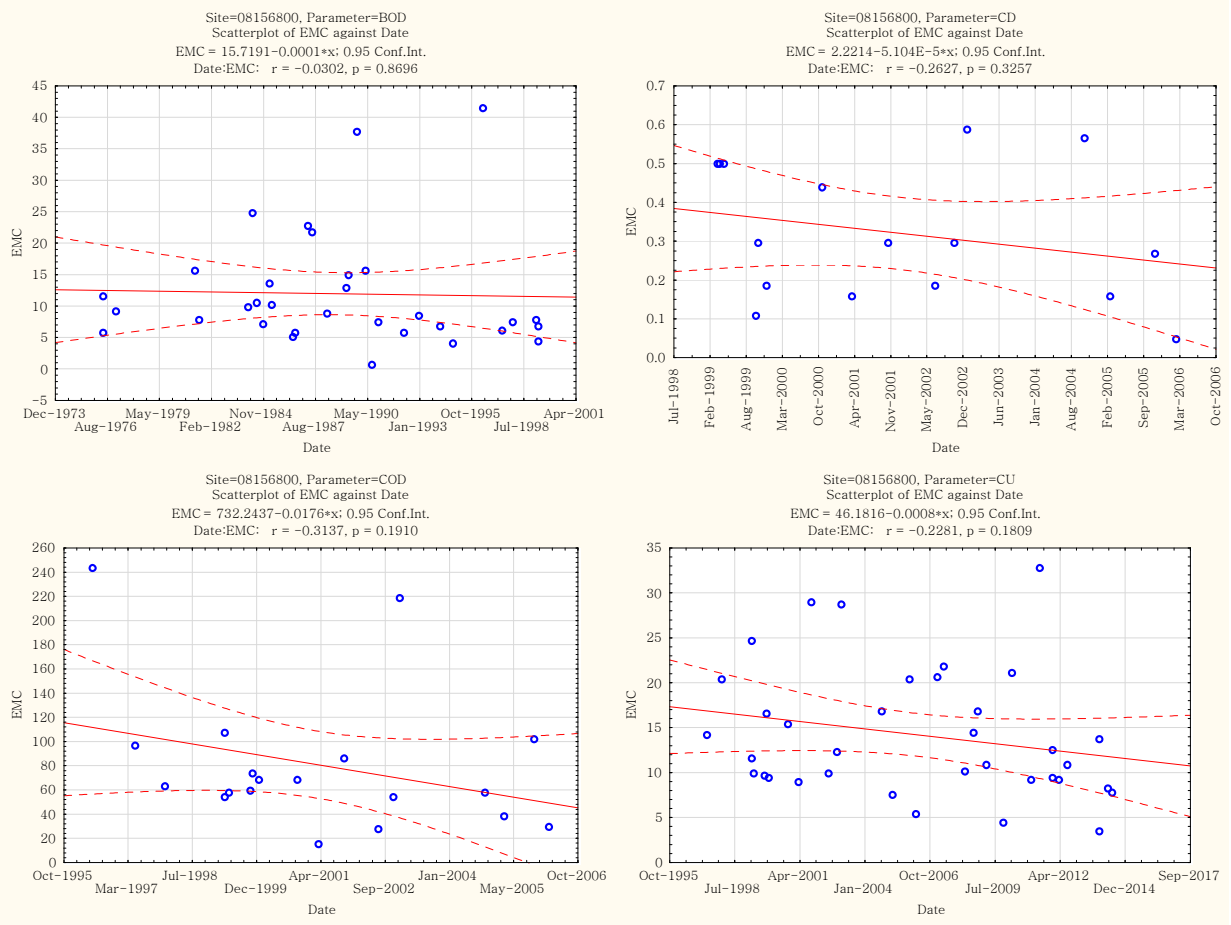

Site=08155400, Parameter=TOC
Scatterplot of EMC against Date
EMC = 62.9855-0.0014*x; 0.95 Conf.Int.
Date:EMC: r = -0.4002, p = 0.0232
EMC
Date

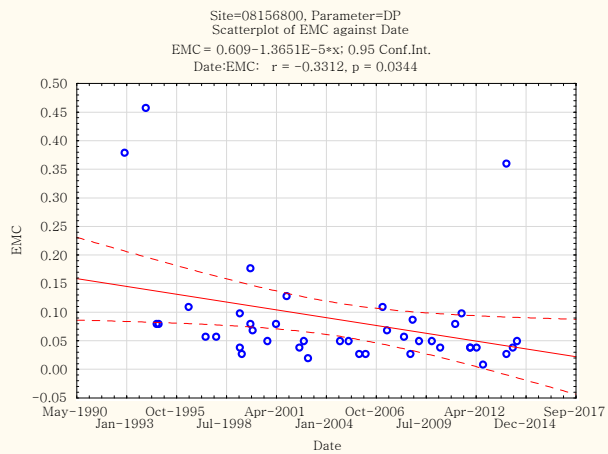

Site=08155400, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.7619-1.7032E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3866, p = 0.0289
EMC
Date

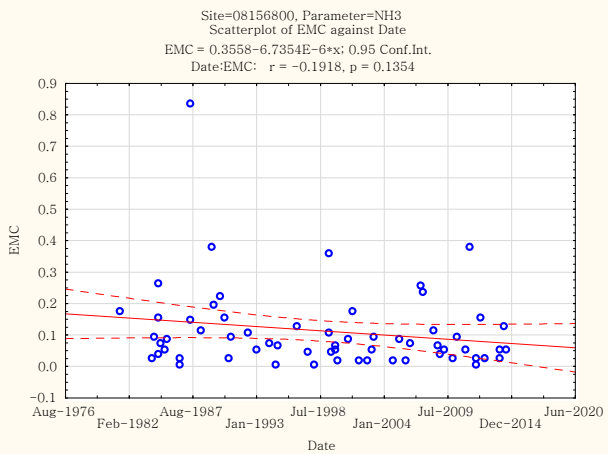

Site=08155400, Parameter=TSS
Scatterplot of EMC against Date
EMC = 657.1966-0.0152*x; 0.95 Conf.Int.
Date:EMC: r = -0.3468, p = 0.0518
EMC
Date

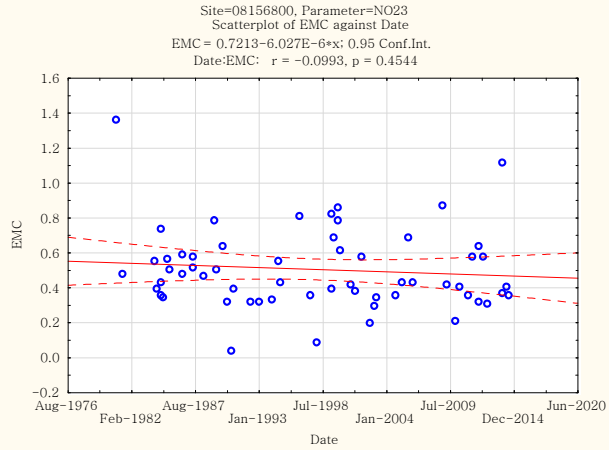

Site=08155400, Parameter=VSS
Scatterplot of EMC against Date
EMC = 485.2408-0.013*x; 0.95 Conf.Int.
Date:EMC: r = -0.2796, p = 0.5024
EMC
Date

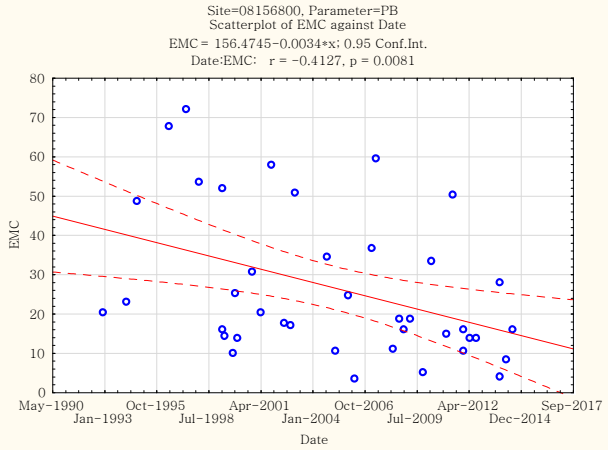

Site=08155400, Parameter=ZN
Scatterplot of EMC against Date
EMC = 112.2144-0.0026*x; 0.95 Conf.Int.
Date:EMC: r = -0.5603, p = 0.0010
EMC
Date

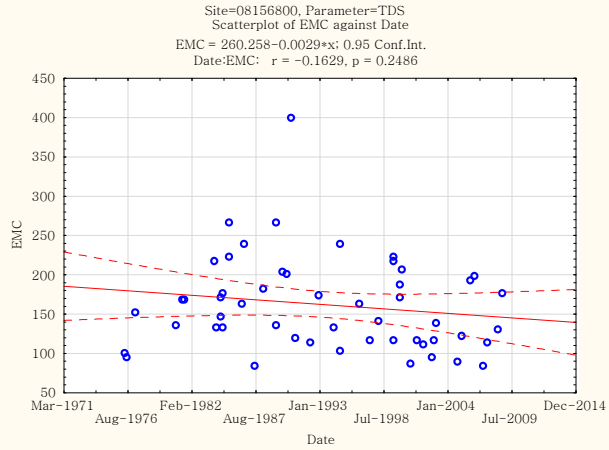

Site=08156800, Parameter=BOD
Scatterplot of EMC against Date
EMC = 15.7191-0.0001*x; 0.95 Conf.Int.
Date:EMC: r = -0.0302, p = 0.8696
Site=08156800, Parameter=CD
Scatterplot of EMC against Date
EMC = 2.2214-5.104E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2627, p = 0.3257
Site=08156800, Parameter=COD
Scatterplot of EMC against Date
EMC = 732.2437-0.0176*x; 0.95 Conf.Int.
Date:EMC: r = -0.3137, p = 0.1910
Site=08156800, Parameter=CU
Scatterplot of EMC against Date
EMC = 46.1816-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.2281, p = 0.1809
EMC
Date

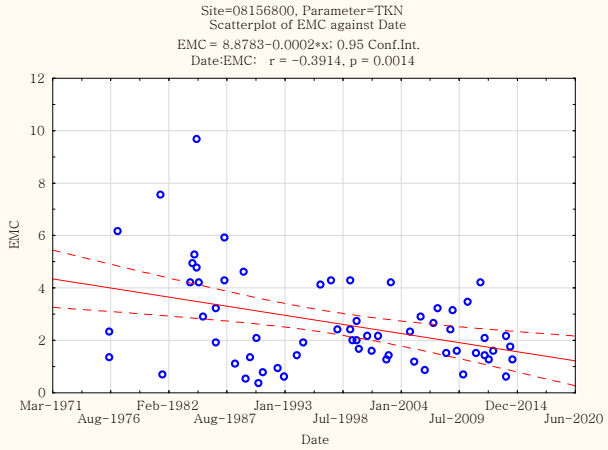

Site=08156800, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.609-1.3651E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3312, p = 0.0344
EMC
Date

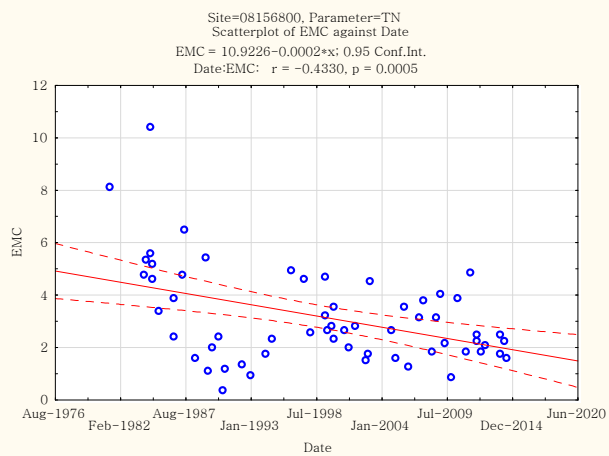

Site=08156800, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.3558-6.7354E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.1918, p = 0.1354
EMC
Date

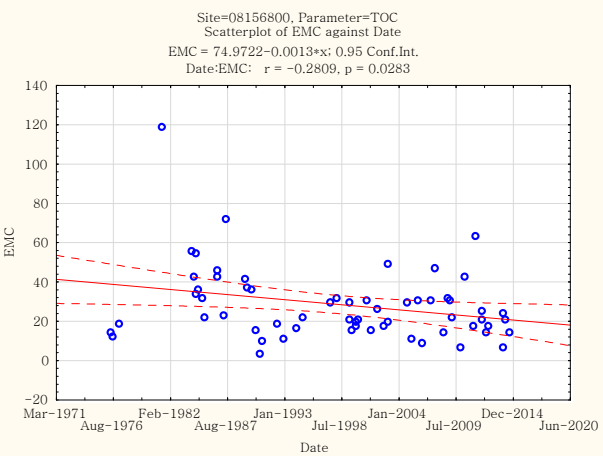

Site=08156800, Parameter=NO23
Scatterplot of EMC against Date
EMC = 0.7213-6.027E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0993, p = 0.4544
EMC
Date

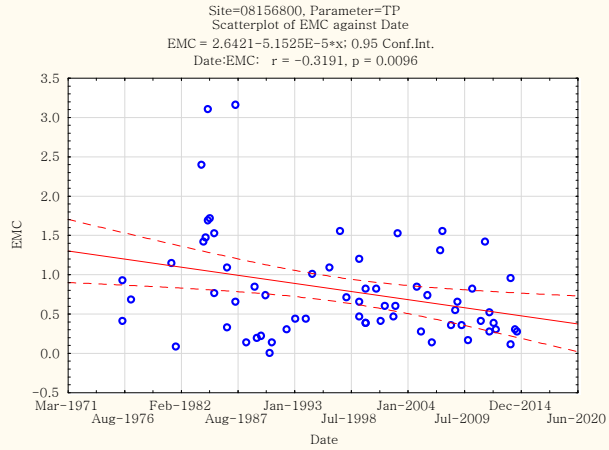

Site=08156800, Parameter=PB
Scatterplot of EMC against Date
EMC = 156.4745-0.0034*x; 0.95 Conf.Int.
Date:EMC: r = -0.4127, p = 0.0081
EMC
Date

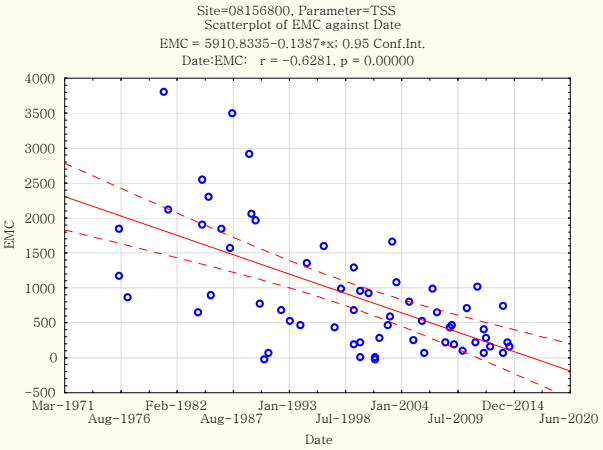

Site=08156800, Parameter=TDS
Scatterplot of EMC against Date
EMC = 260.258-0.0029*x; 0.95 Conf.Int.
Date:EMC: r = -0.1629, p = 0.2486
EMC
Date

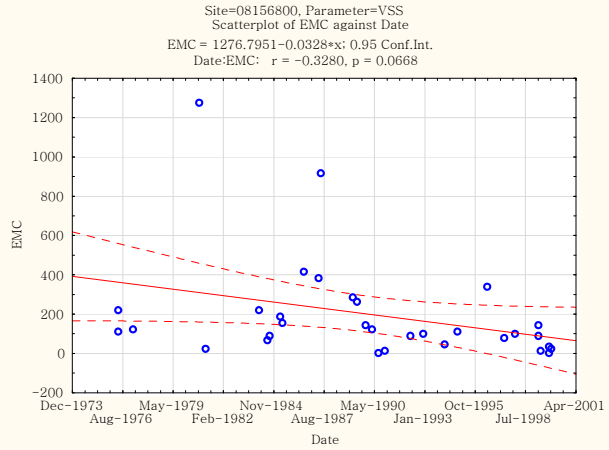

Site=08156800, Parameter=TKN
Scatterplot of EMC against Date
EMC = 8.8783-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.3914, p = 0.0014
EMC
Date

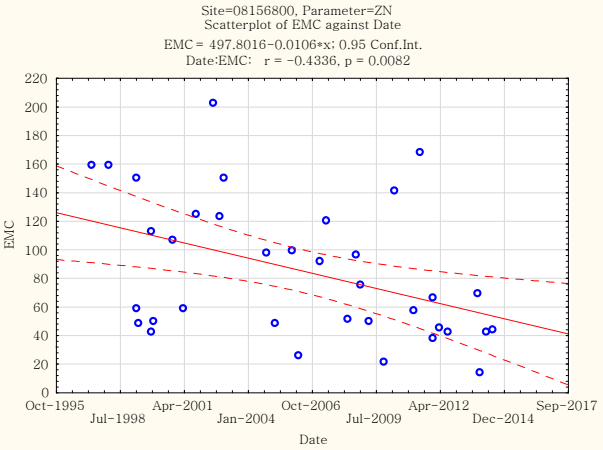

Site=08156800, Parameter=TN
Scatterplot of EMC against Date
EMC = 10.9226-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.4330, p = 0.0005
EMC
Date

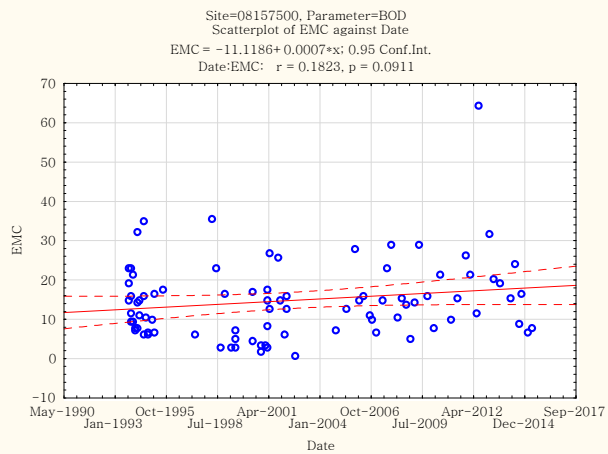

Site=08156800, Parameter=TOC
Scatterplot of EMC against Date
EMC = 74.9722-0.0013*x; 0.95 Conf.Int.
Date:EMC: r = -0.2809, p = 0.0283
EMC
Date

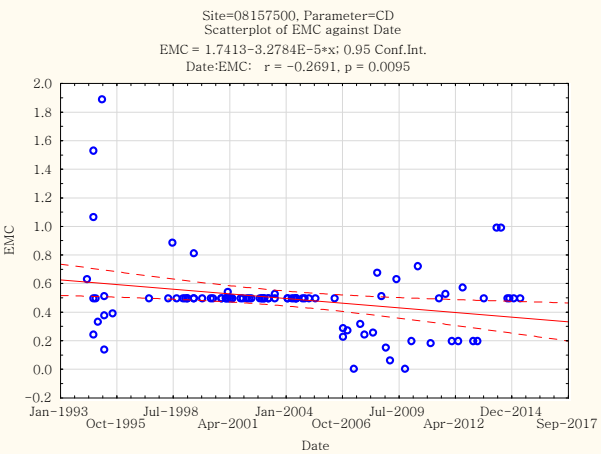

Site=08156800, Parameter=TP
Scatterplot of EMC against Date
EMC = 2.6421-5.1525E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3191, p = 0.0096
EMC
Date

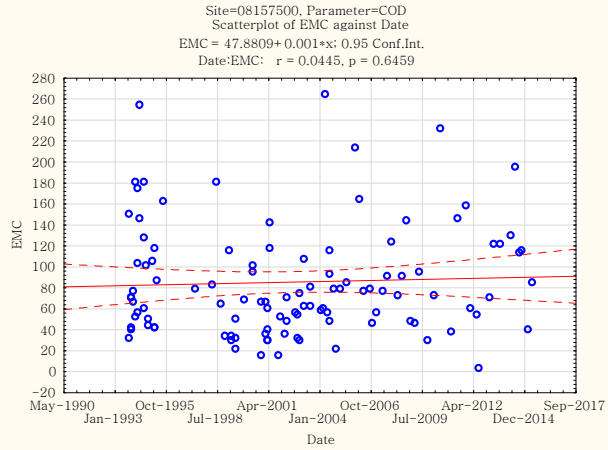

Site=08156800, Parameter=TSS
Scatterplot of EMC against Date
EMC = 5910.8335-0.1387*x; 0.95 Conf.Int.
Date:EMC: r = -0.6281, p = 0.00000
EMC
Date

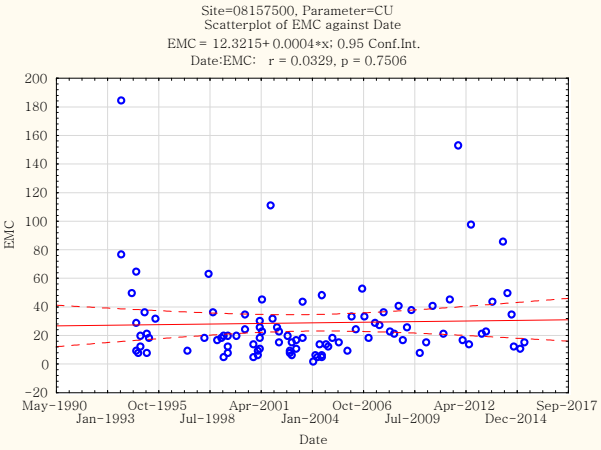

Site=08156800, Parameter=VSS
Scatterplot of EMC against Date
EMC = 1276.7951-0.0328*x; 0.95 Conf.Int.
Date:EMC: r = -0.3280, p = 0.0668
EMC
Date

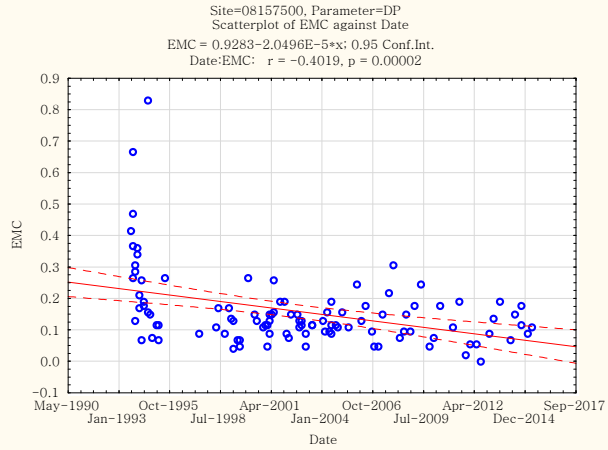

Site=08156800, Parameter=ZN
Scatterplot of EMC against Date
EMC = 497.8016-0.0106*x; 0.95 Conf.Int.
Date:EMC: r = -0.4336, p = 0.0082
EMC
Date

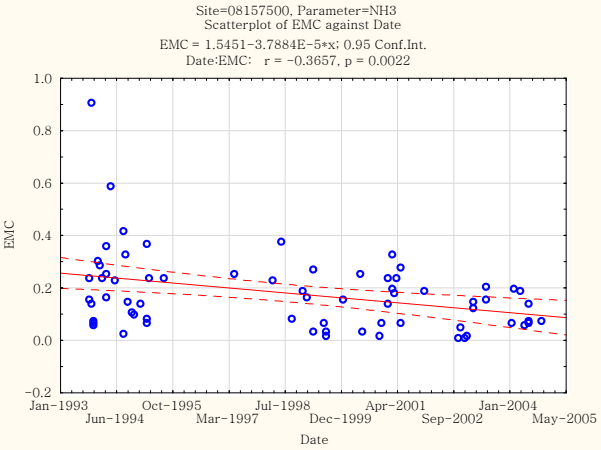

Site=08157500, Parameter=BOD
Scatterplot of EMC against Date
EMC = -11.1186+ 0.0007*x; 0.95 Conf.Int.
Date:EMC: r = 0.1823, p = 0.0911
EMC
Date

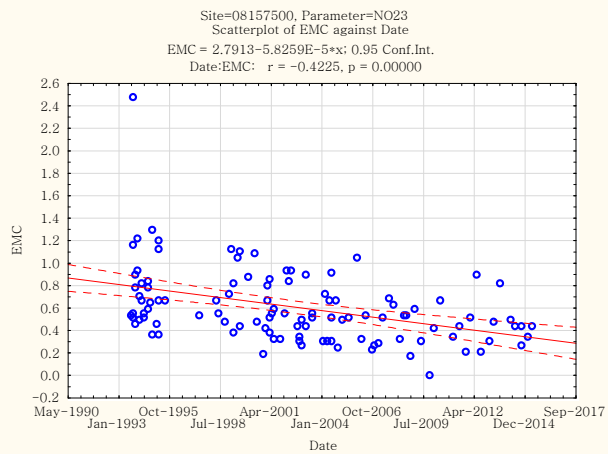

Site=08157500, Parameter=CD
Scatterplot of EMC against Date
EMC = 1.7413-3.2784E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2691, p = 0.0095
EMC
Date

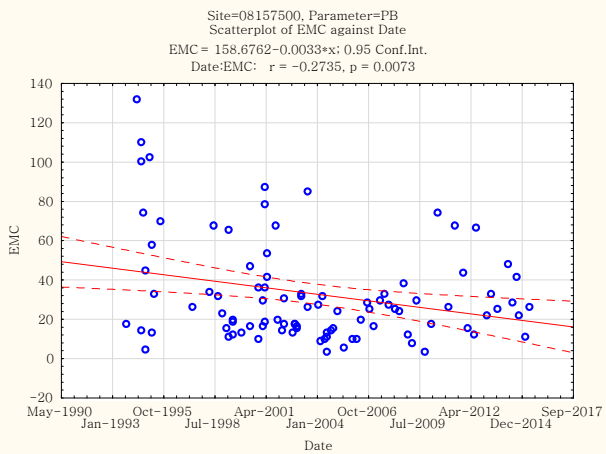

Site=08157500, Parameter=COD
Scatterplot of EMC against Date
EMC = 47.8809+ 0.001*x; 0.95 Conf.Int.
Date:EMC: r = 0.0445, p = 0.6459
EMC
Date

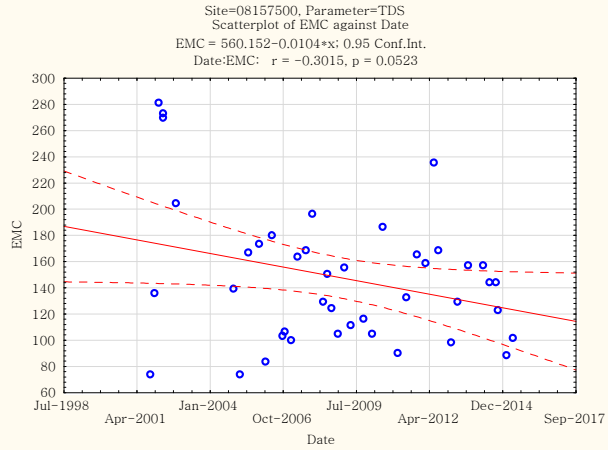

Site=08157500, Parameter=CU
Scatterplot of EMC against Date
EMC = 12.3215+ 0.0004*x; 0.95 Conf.Int.
Date:EMC: r = 0.0329, p = 0.7506
EMC
Date

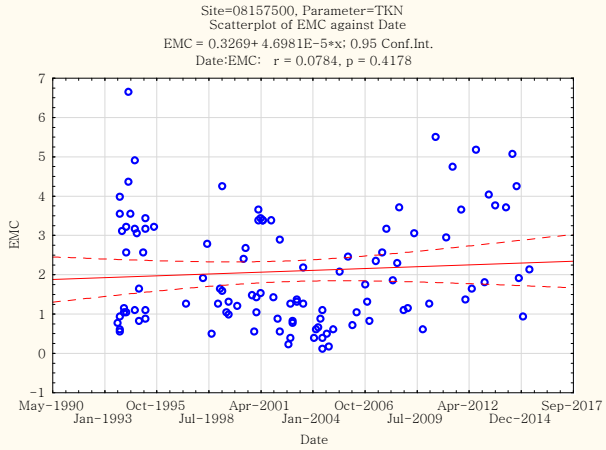

Site=08157500, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.9283-2.0496E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.4019, p = 0.00002
EMC
Date

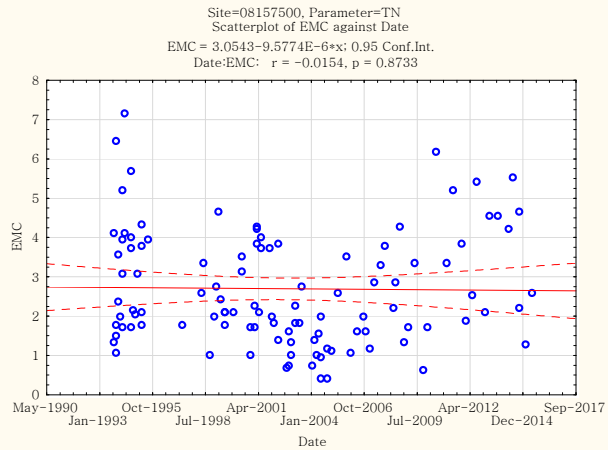

Site=08157500, Parameter=NH3
Scatterplot of EMC against Date
EMC = 1.5451-3.7884E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3657, p = 0.0022
EMC
Date

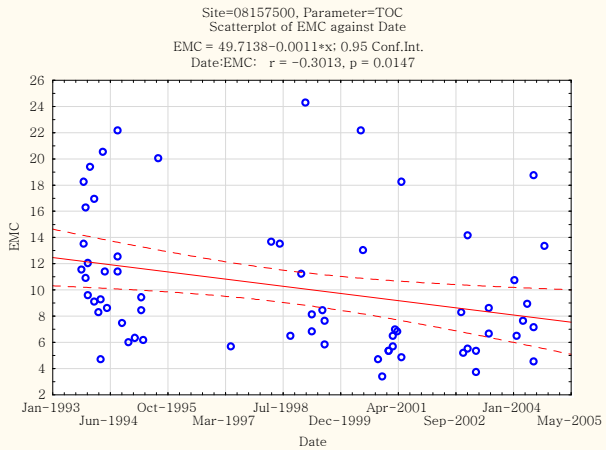

Site=08157500, Parameter=NO23
Scatterplot of EMC against Date
EMC = 2.7913-5.8259E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.4225, p = 0.00000
EMC
Date

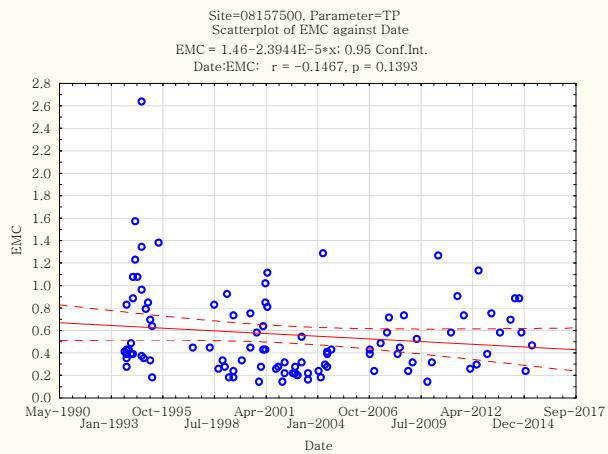

Site=08157500, Parameter=PB
Scatterplot of EMC against Date
EMC = 158.6762-0.0033*x; 0.95 Conf.Int.
Date:EMC: r = -0.2735, p = 0.0073
EMC
Date

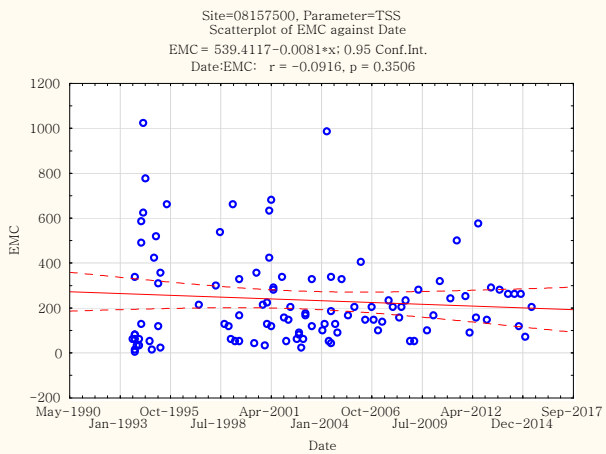

Site=08157500, Parameter=TDS
Scatterplot of EMC against Date
EMC = 560.152-0.0104*x; 0.95 Conf.Int.
Date:EMC: r = -0.3015, p = 0.0523
EMC
Date

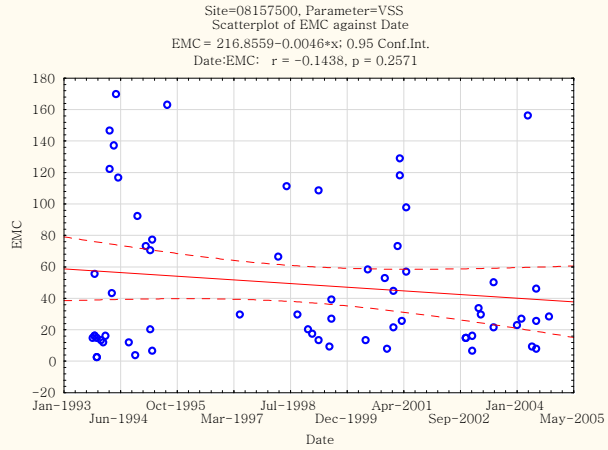

Site=08157500, Parameter=TKN
Scatterplot of EMC against Date
EMC = 0.3269+ 4.6981E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.0784, p = 0.4178
EMC
Date

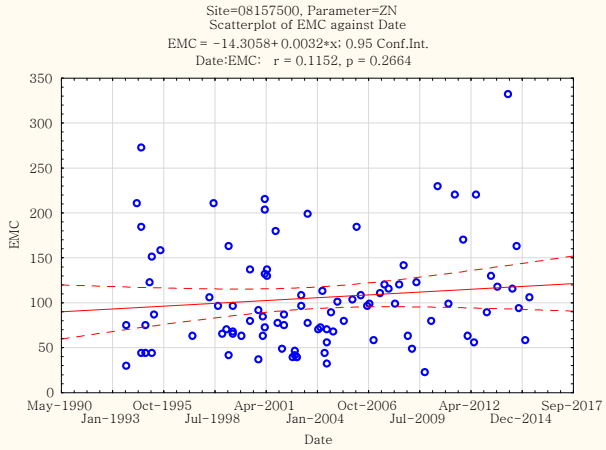

Site=08157500, Parameter=TN
Scatterplot of EMC against Date
EMC = 3.0543-9.5774E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0154, p = 0.8733
EMC
Date

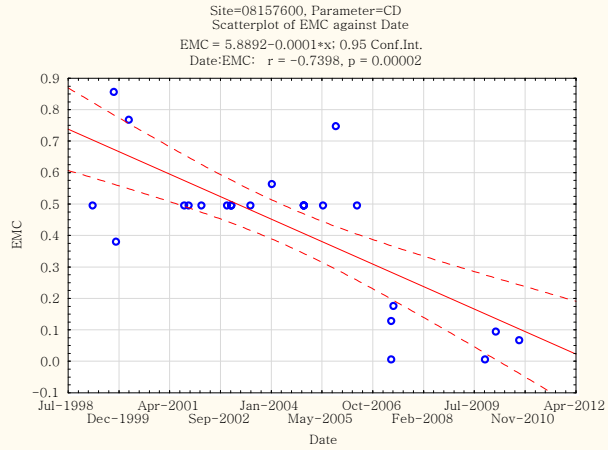

Site=08157500, Parameter=TOC
Scatterplot of EMC against Date
EMC = 49.7138-0.0011*x; 0.95 Conf.Int.
Date:EMC: r = -0.3013, p = 0.0147
EMC
Date

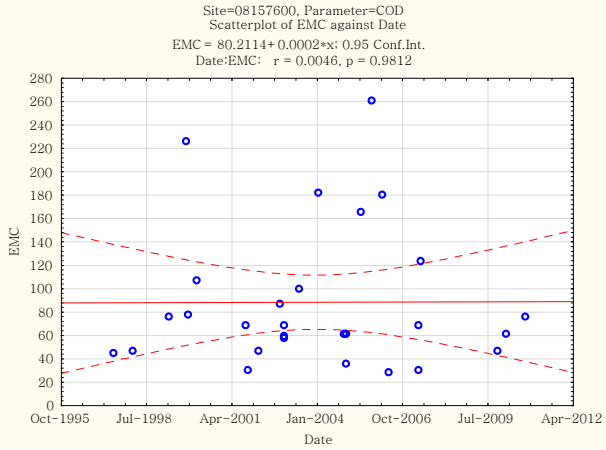

Site=08157500, Parameter=TP
Scatterplot of EMC against Date
EMC = 1.46-2.3944E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1467, p = 0.1393
EMC
Date

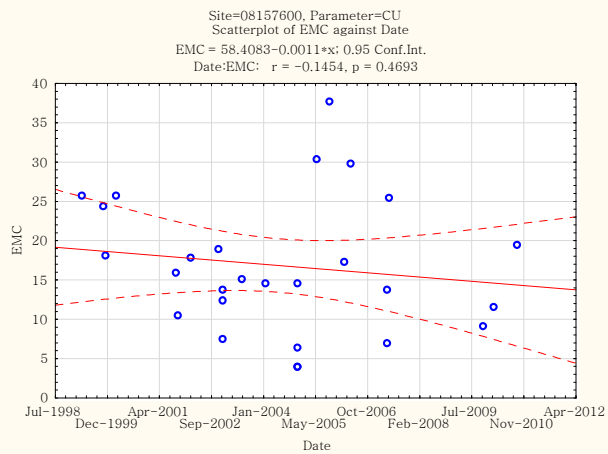

Site=08157500, Parameter=TSS
Scatterplot of EMC against Date
EMC = 539.4117-0.0081*x; 0.95 Conf.Int.
Date:EMC: r = -0.0916, p = 0.3506
EMC
Date

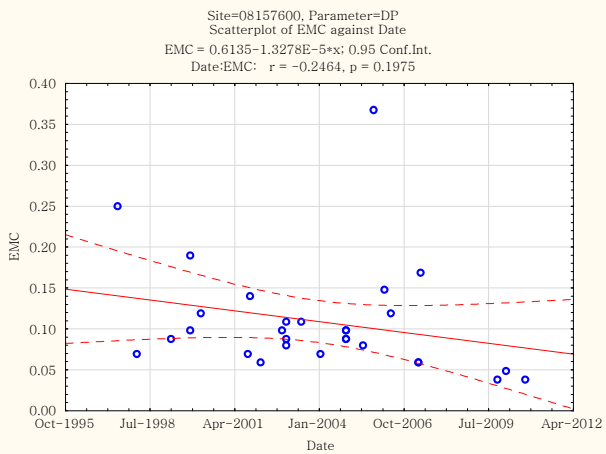

Site=08157500, Parameter=VSS
Scatterplot of EMC against Date
EMC = 216.8559-0.0046*x; 0.95 Conf.Int.
Date:EMC: r = -0.1438, p = 0.2571
EMC
Date

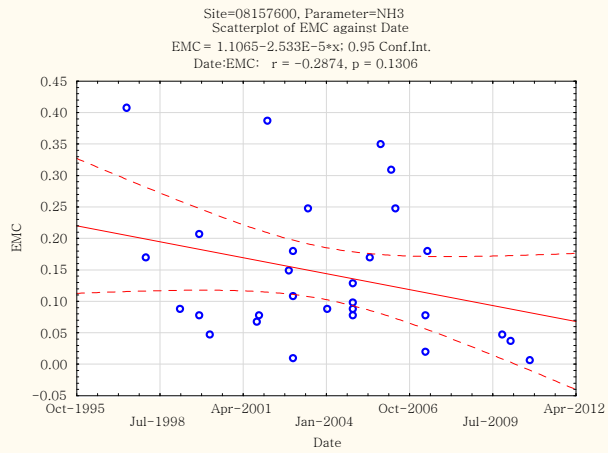

Site=08157500, Parameter=ZN
Scatterplot of EMC against Date
EMC = -14.3058+0.0032*x; 0.95 Conf.Int.
Date:EMC: r = 0.1152, p = 0.2664
EMC
Date

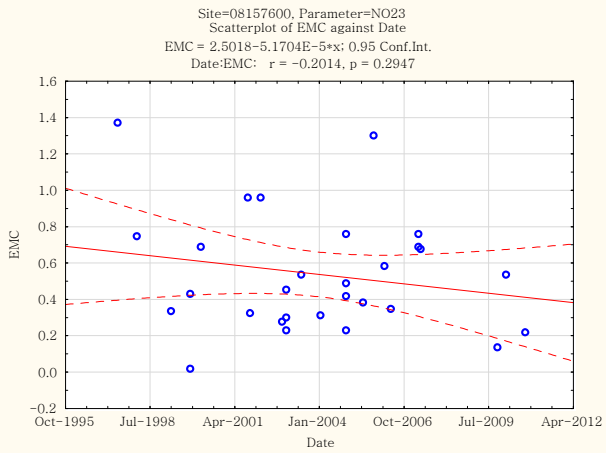

Site=08157600, Parameter=CD
Scatterplot of EMC against Date
EMC = 5.8892-0.0001*x; 0.95 Conf.Int.
Date:EMC: r = -0.7398, p = 0.00002
EMC
Date

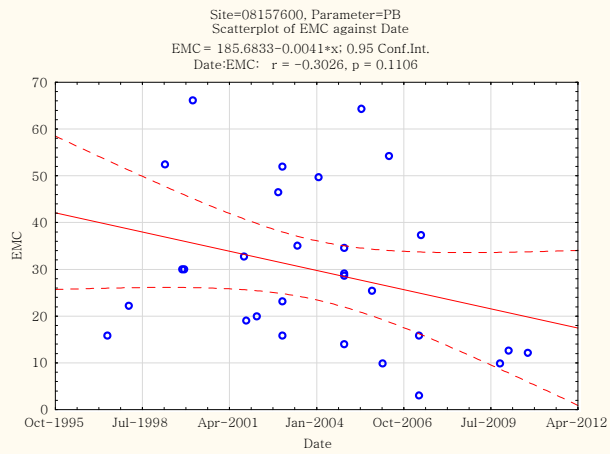

Site=08157600, Parameter=COD
Scatterplot of EMC against Date
EMC = 80.2114+0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.0046, p = 0.9812
EMC
Date

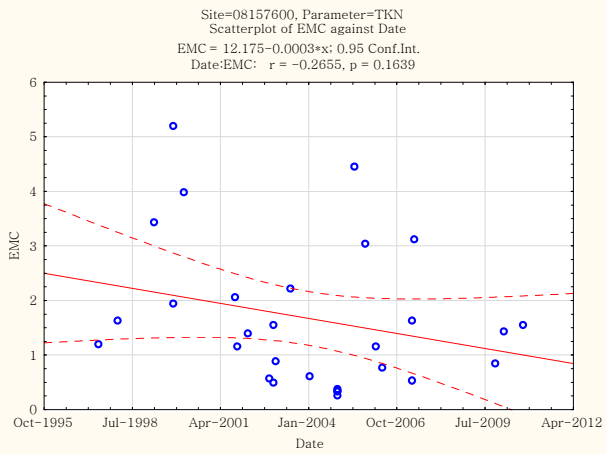

Site=08157600, Parameter=CU
Scatterplot of EMC against Date
EMC = 58.4083-0.0011*x; 0.95 Conf.Int.
Date:EMC: r = -0.1454, p = 0.4693
EMC
Date
Jul-1998
Dec-1999
Apr-2001
Sep-2002
Jan-2004
May-2005
Oct-2006
Feb-2008
Jul-2009
Nov-2010
Apr-2012

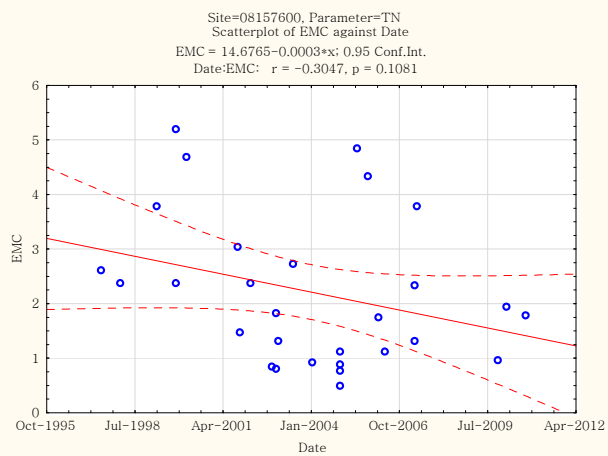

Site=08157600, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.6135-1.3278E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2464, p = 0.1975
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

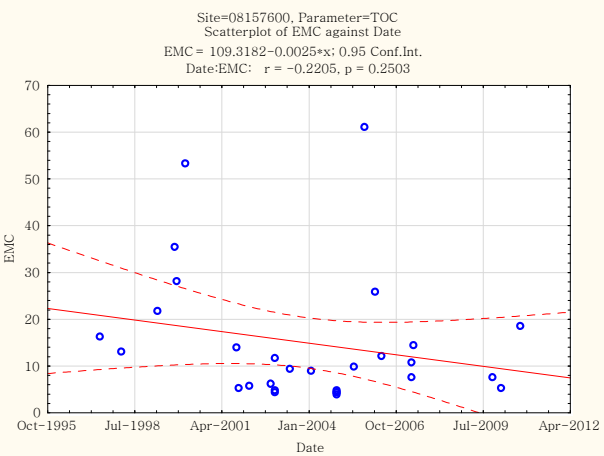

Site=08157600, Parameter=NH3
Scatterplot of EMC against Date
EMC = 1.1065-2.533E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2874, p = 0.1306
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

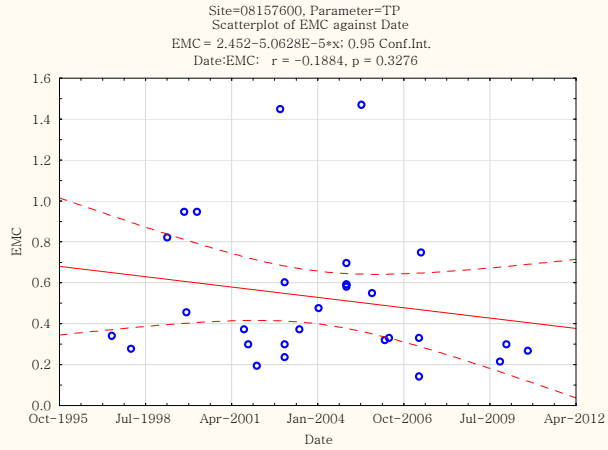

Site=08157600, Parameter=NO23
Scatterplot of EMC against Date
EMC = 2.5018-5.1704E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2014, p = 0.2947
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

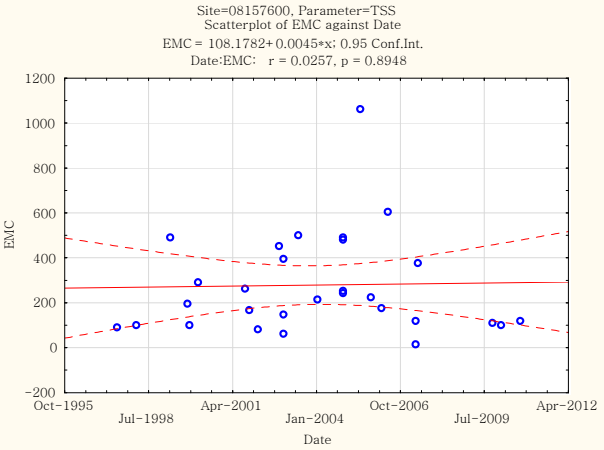

Site=08157600, Parameter=PB
Scatterplot of EMC against Date
EMC = 185.6833-0.0041*x; 0.95 Conf.Int.
Date:EMC: r = -0.3026, p = 0.1106
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

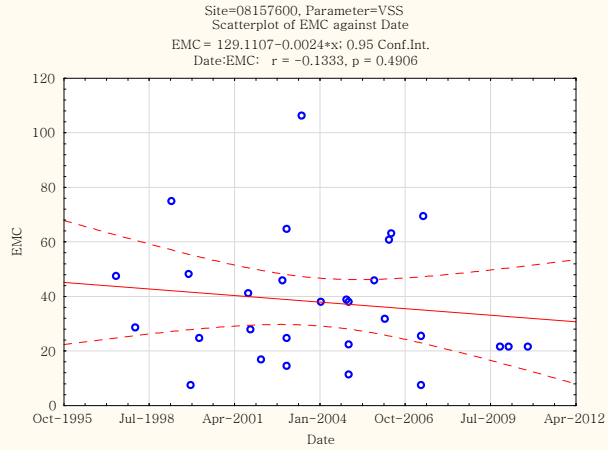

Site=08157600, Parameter=TKN
Scatterplot of EMC against Date
EMC = 12.175-0.0003*x; 0.95 Conf.Int.
Date:EMC: r = -0.2655, p = 0.1639
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

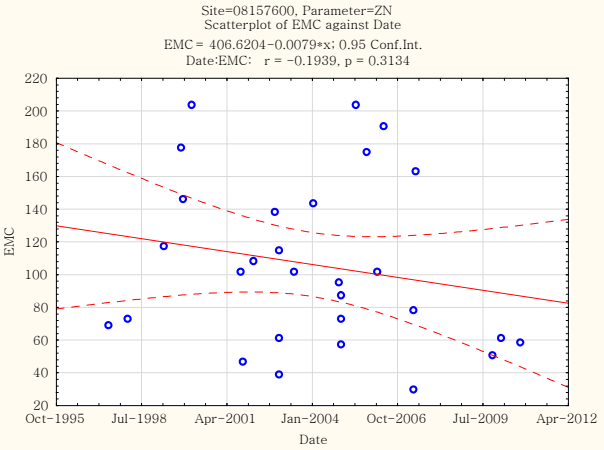

Site=08157600, Parameter=TN
Scatterplot of EMC against Date
EMC = 14.6765-0.0003*x; 0.95 Conf.Int.
Date:EMC: r = -0.3047, p = 0.1081
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

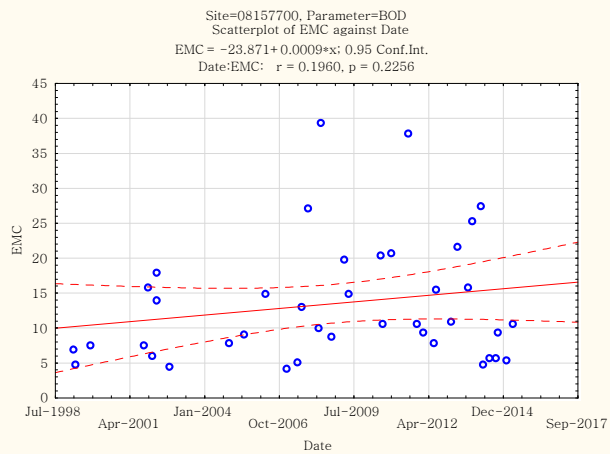

Site=08157600, Parameter=TOC
Scatterplot of EMC against Date
EMC = 109.3182-0.0025*x; 0.95 Conf.Int.
Date:EMC: r = -0.2205, p = 0.2503
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

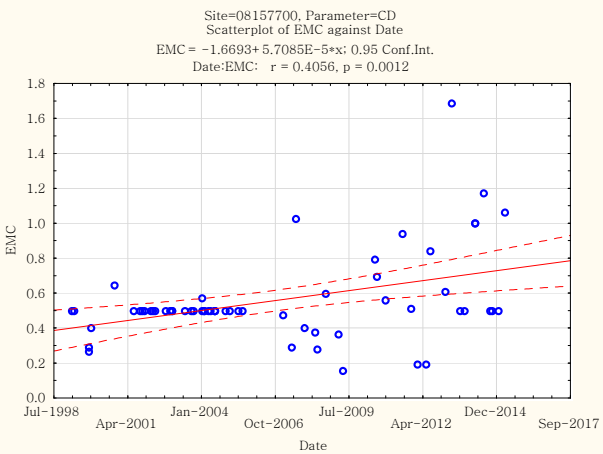

Site=08157600, Parameter=TP
Scatterplot of EMC against Date
EMC = 2.452-5.0628E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1884, p = 0.3276
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

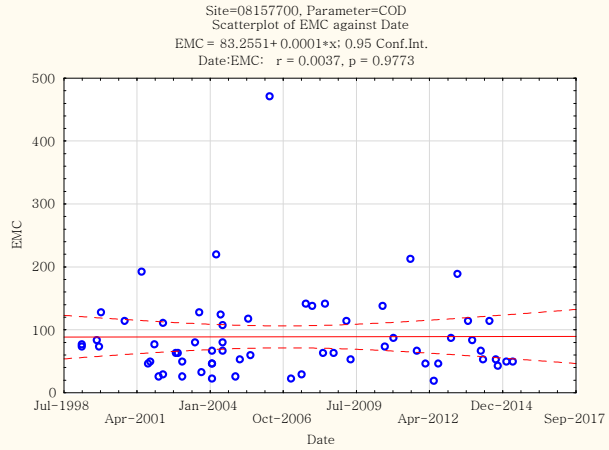

Site=08157600, Parameter=TSS
Scatterplot of EMC against Date
EMC = 108.1782+0.0045*x; 0.95 Conf.Int.
Date:EMC: r = 0.0257, p = 0.8948
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

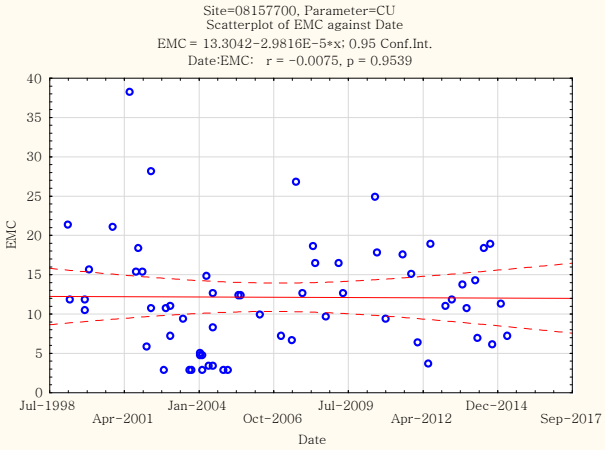

Site=08157600, Parameter=VSS
Scatterplot of EMC against Date
EMC = 129.1107-0.0024*x; 0.95 Conf.Int.
Date:EMC: r = -0.1333, p = 0.4906
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

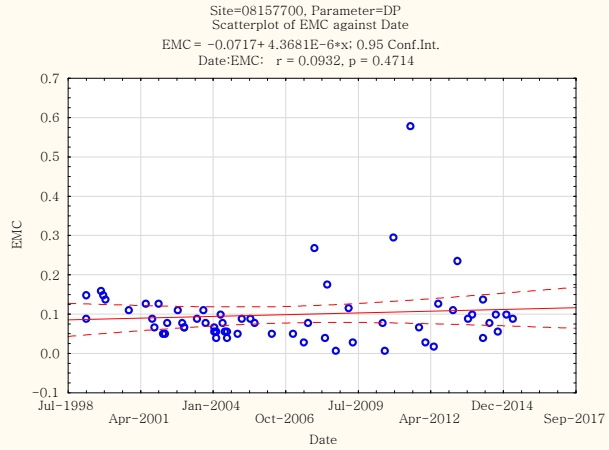

Site=08157600, Parameter=ZN
Scatterplot of EMC against Date
EMC = 406.6204-0.0079*x; 0.95 Conf.Int.
Date:EMC: r = -0.1939, p = 0.3134
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012

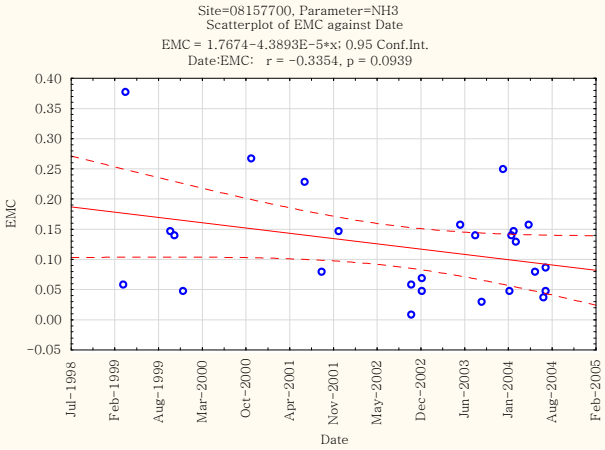

Site=08157700, Parameter=BOD
Scatterplot of EMC against Date
EMC = −23.871+0.0009*x; 0.95 Conf.Int.
Date:EMC: r = 0.1960, p = 0.2256
EMC
Date
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014
Sep-2017

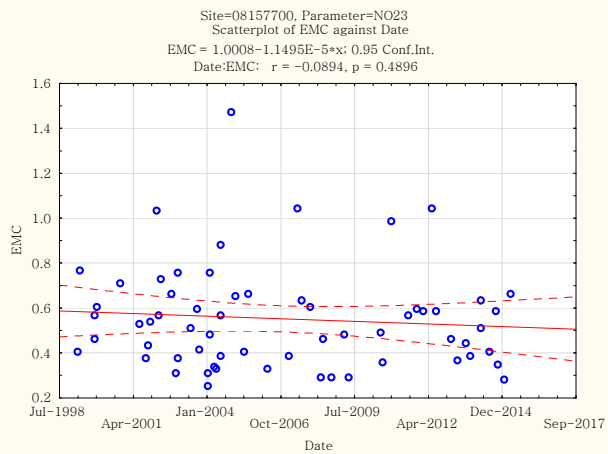

Site=08157700, Parameter=CD
Scatterplot of EMC against Date
EMC = −1.6693+5.7085E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.4056, p = 0.0012
EMC
Date
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014
Sep-2017

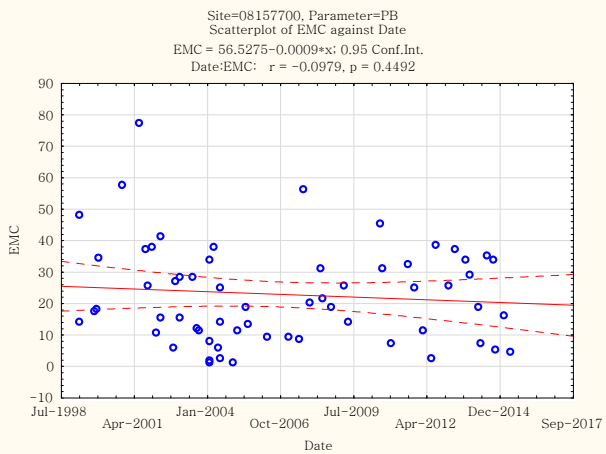

Site=08157700, Parameter=COD
Scatterplot of EMC against Date
EMC = 83.2551+0.0001*x; 0.95 Conf.Int.
Date:EMC: r = 0.0037, p = 0.9773
EMC
Date
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014
Sep-2017

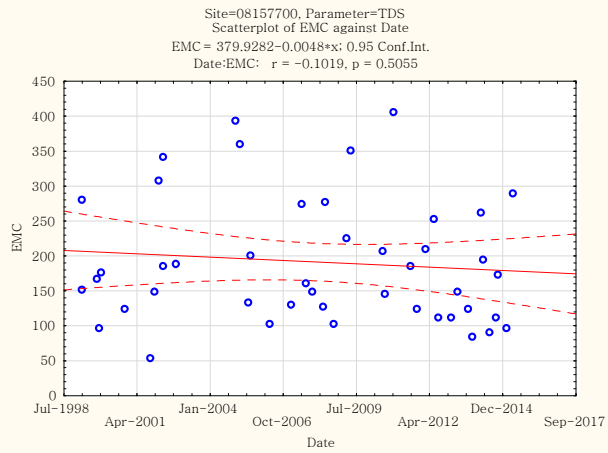

Site=08157700, Parameter=CU
Scatterplot of EMC against Date
EMC = 13.3042−2.9816E−5*x; 0.95 Conf.Int.
Date:EMC: r = −0.0075, p = 0.9539
EMC
Date
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014
Sep-2017

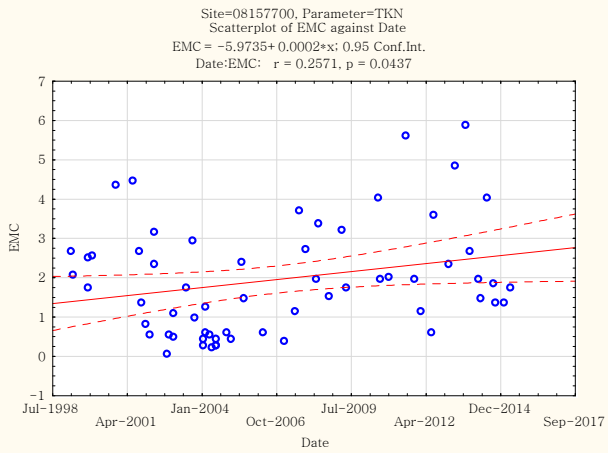

Site=08157700, Parameter=DP
Scatterplot of EMC against Date
EMC = −0.0717+4.3681E−6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0932, p = 0.4714
EMC
Date
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014
Sep-2017

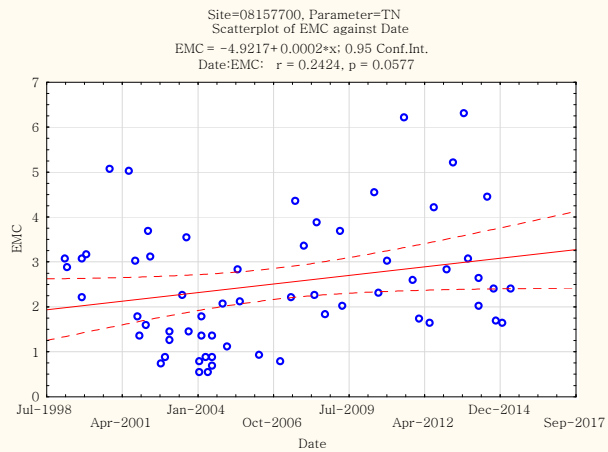

Site=08157700, Parameter=NH3
Scatterplot of EMC against Date
EMC = 1.7674−4.3893E−5*x; 0.95 Conf.Int.
Date:EMC: r = −0.3354, p = 0.0939
EMC
Date
Jul-1998
Feb-1999
Aug-1999
Mar-2000
Oct-2000
Apr-2001
Nov-2001
May-2002
Dec-2002
Jun-2003
Jan-2004
Aug-2004
Feb-2005

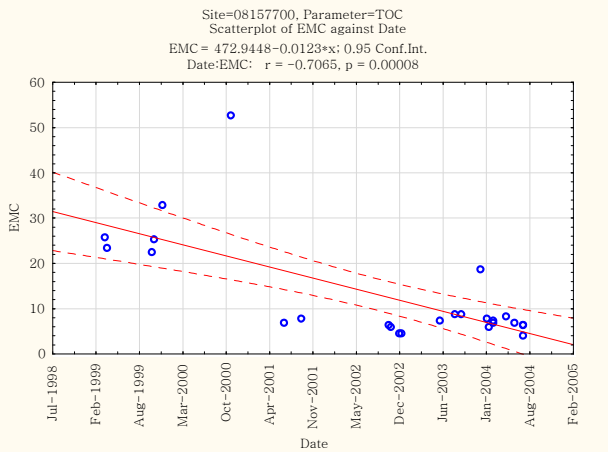

Site=08157700, Parameter=NO23
Scatterplot of EMC against Date
EMC = 1.0008-1.1495E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.0894, p = 0.4896
EMC
Date

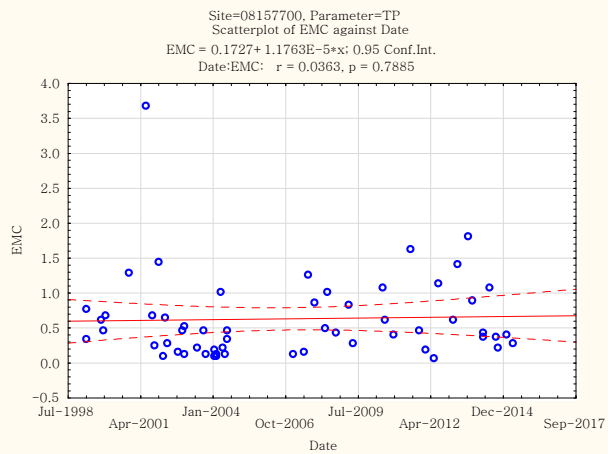

Site=08157700, Parameter=PB
Scatterplot of EMC against Date
EMC = 56.5275-0.0009*x; 0.95 Conf.Int.
Date:EMC: r = -0.0979, p = 0.4492
EMC
Date

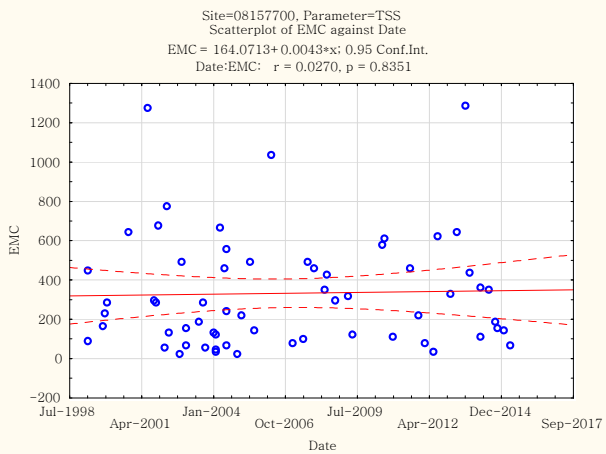

Site=08157700, Parameter=TDS
Scatterplot of EMC against Date
EMC = 379.9282-0.0048*x; 0.95 Conf.Int.
Date:EMC: r = -0.1019, p = 0.5055
EMC
Date

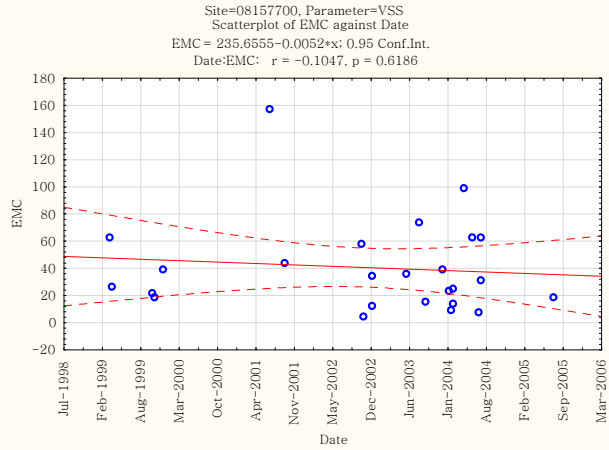

Site=08157700, Parameter=TKN
Scatterplot of EMC against Date
EMC = -5.9735+0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.2571, p = 0.0437
EMC
Date

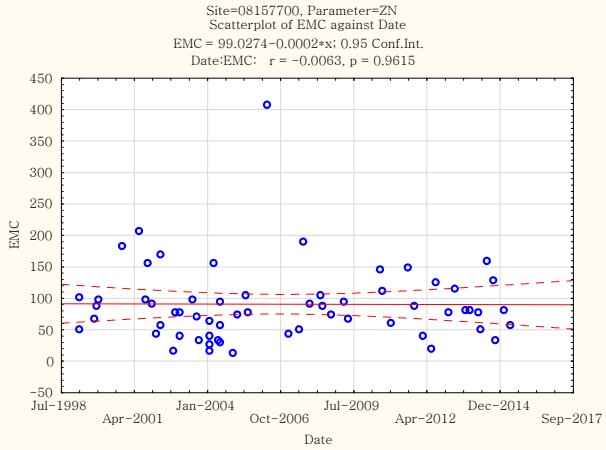

Site=08157700, Parameter=TN
Scatterplot of EMC against Date
EMC = -4.9217+0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.2424, p = 0.0577
EMC
Date

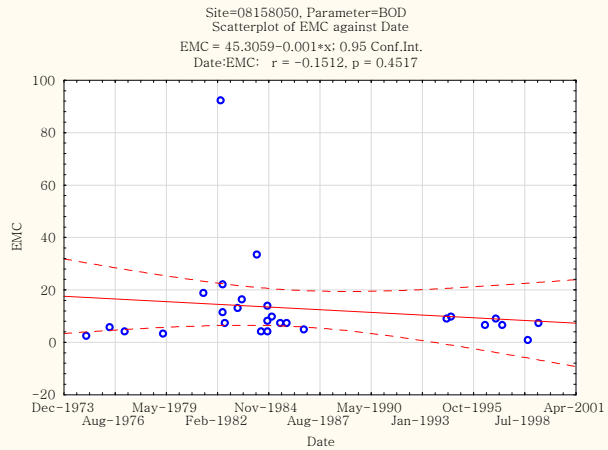

Site=08157700, Parameter=TOC
Scatterplot of EMC against Date
EMC = 472.9448-0.0123*x; 0.95 Conf.Int.
Date:EMC: r = -0.7065, p = 0.00008
EMC
Date

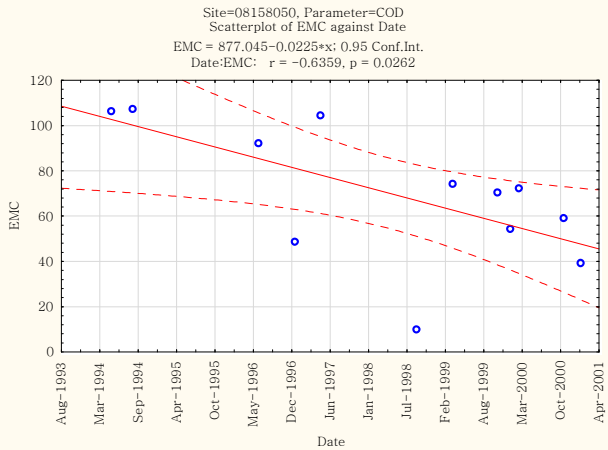

Site=08157700, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.1727+ 1.1763E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.0363, p = 0.7885
EMC
Date

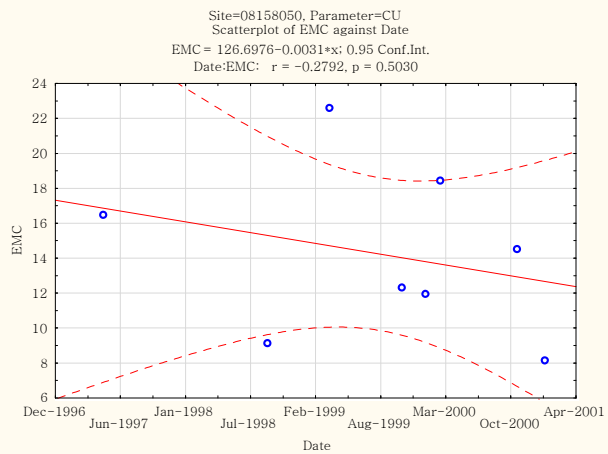

Site=08157700, Parameter=TSS
Scatterplot of EMC against Date
EMC = 164.0713+0.0043*x; 0.95 Conf.Int.
Date:EMC: r = 0.0270, p = 0.8351
EMC
Date

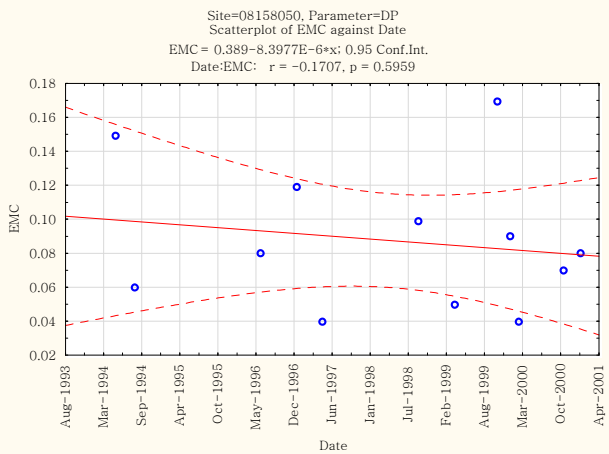

Site=08157700, Parameter=VSS
Scatterplot of EMC against Date
EMC = 235.6555-0.0052*x; 0.95 Conf.Int.
Date:EMC: r = -0.1047, p = 0.6186
EMC
Date

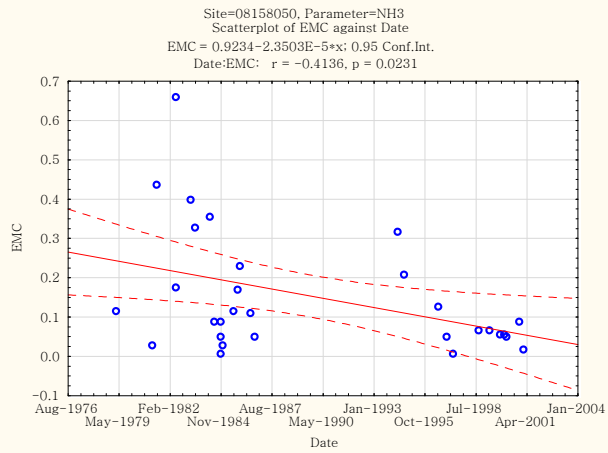

Site=08157700, Parameter=ZN
Scatterplot of EMC against Date
EMC = 99.0274-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.0063, p = 0.9615
EMC
Date

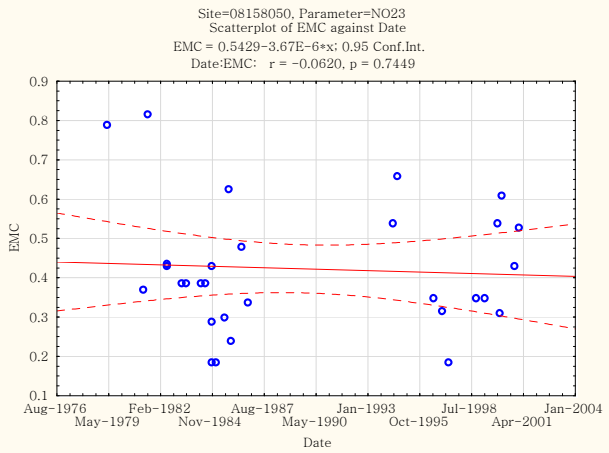

Site=08158050, Parameter=BOD
Scatterplot of EMC against Date
EMC = 45.3059-0.001*x; 0.95 Conf.Int.
Date:EMC: r = -0.1512, p = 0.4517
EMC
Date

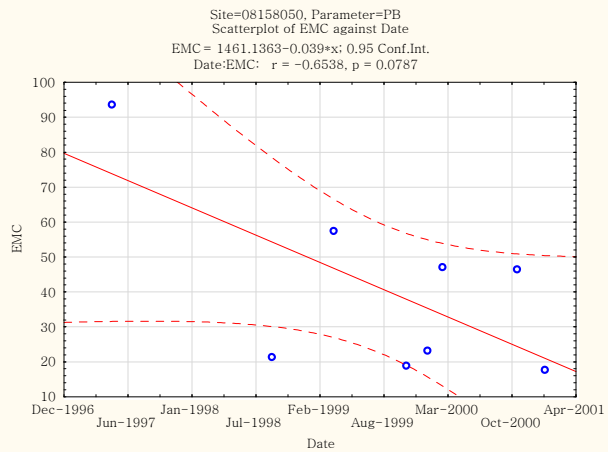

Site=08158050, Parameter=COD
Scatterplot of EMC against Date
EMC = 877.045-0.0225*x; 0.95 Conf.Int.
Date:EMC: r = -0.6359, p = 0.0262
EMC
Date

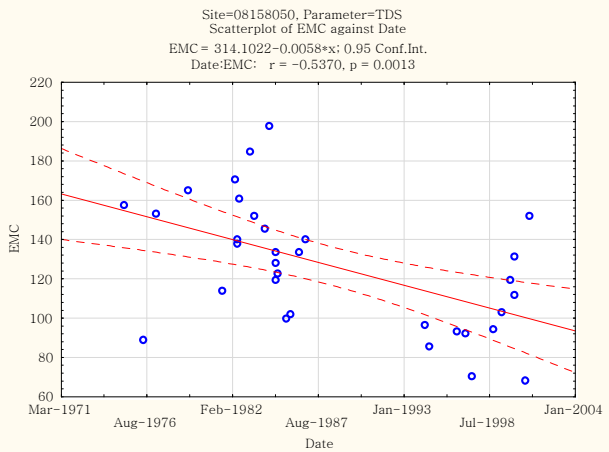

Site=08158050, Parameter=CU
Scatterplot of EMC against Date
EMC = 126.6976-0.0031*x; 0.95 Conf.Int.
Date:EMC: r = -0.2792, p = 0.5030
EMC
Date

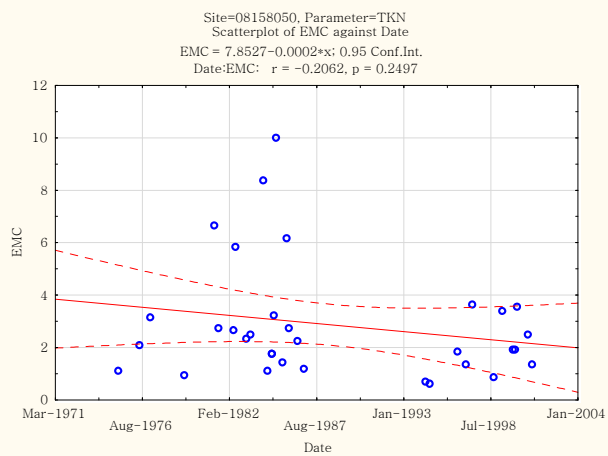

Site=08158050, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.389-8.3977E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.1707, p = 0.5959
EMC
Date

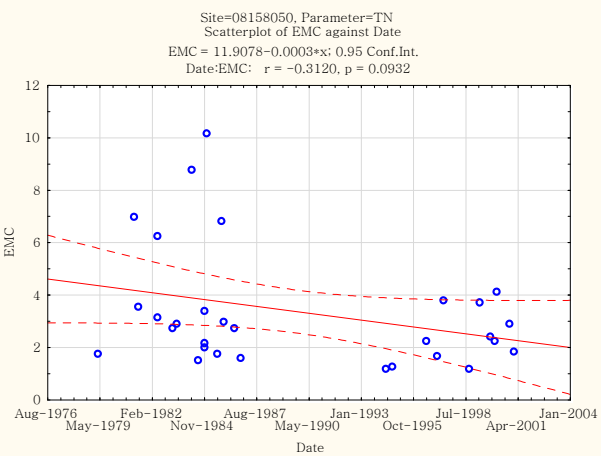

Site=08158050, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.9234-2.3503E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.4136, p = 0.0231
EMC
Date

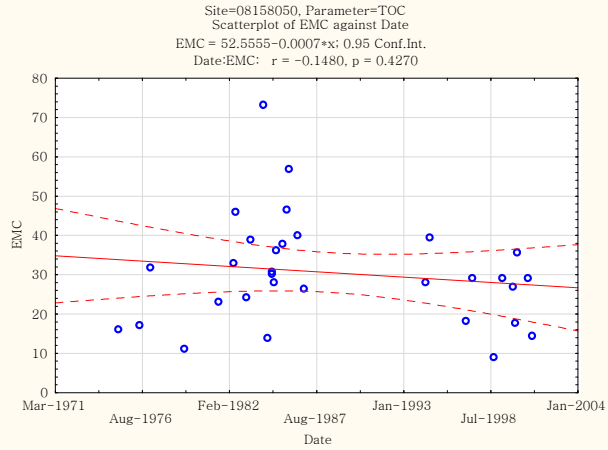

Site=08158050, Parameter=NO23
Scatterplot of EMC against Date
EMC = 0.5429-3.67E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0620, p = 0.7449
EMC
Date

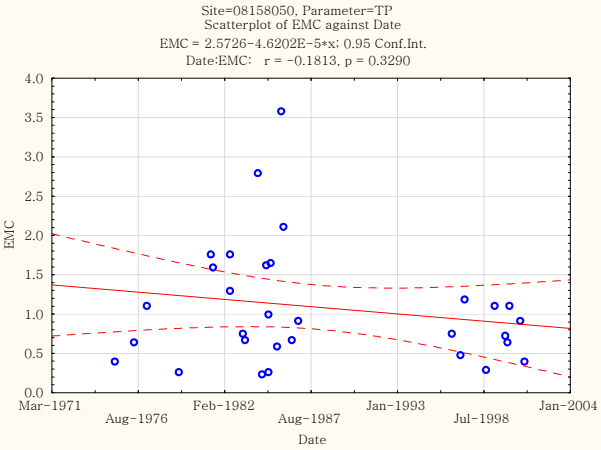

Site=08158050, Parameter=PB
Scatterplot of EMC against Date
EMC = 1461.1363-0.039*x; 0.95 Conf.Int.
Date:EMC: r = -0.6538, p = 0.0787
EMC
Date

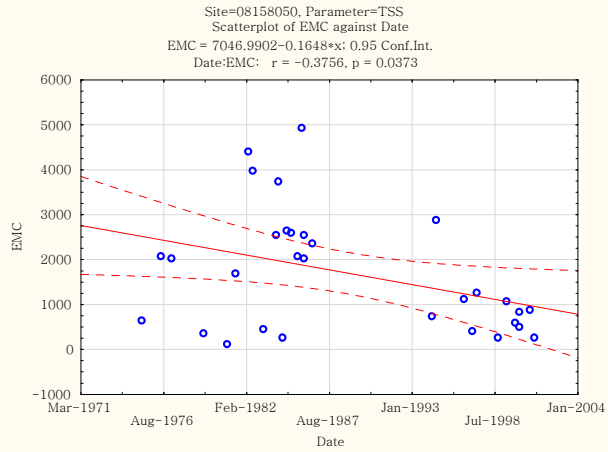

Site=08158050, Parameter=TDS
Scatterplot of EMC against Date
EMC = 314.1022-0.0058*x; 0.95 Conf.Int.
Date:EMC: r = -0.5370, p = 0.0013
EMC
Date

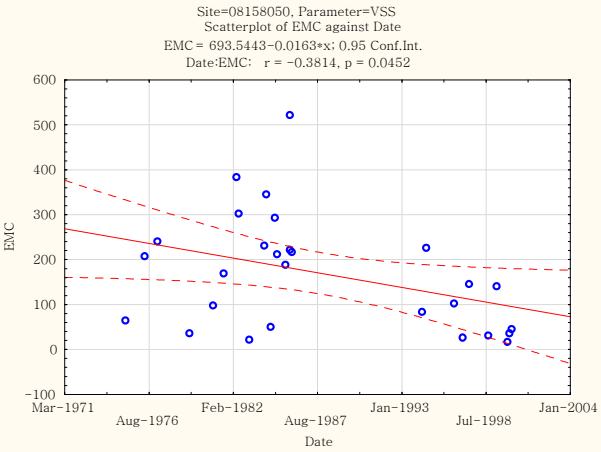

Site=08158050, Parameter=TKN
Scatterplot of EMC against Date
EMC = 7.8527-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.2062, p = 0.2497
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004

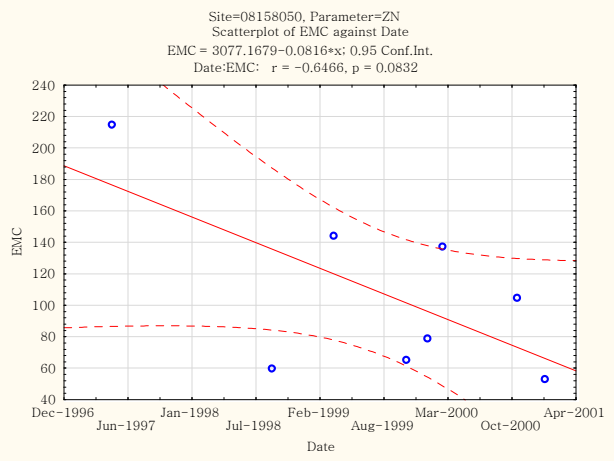

Site=08158050, Parameter=TN
Scatterplot of EMC against Date
EMC = 11.9078-0.0003*x; 0.95 Conf.Int.
Date:EMC: r = -0.3120, p = 0.0932
EMC
Date
Aug-1976
May-1979
Feb-1982
Nov-1984
Aug-1987
May-1990
Jan-1993
Oct-1995
Jul-1998
Apr-2001
Jan-2004

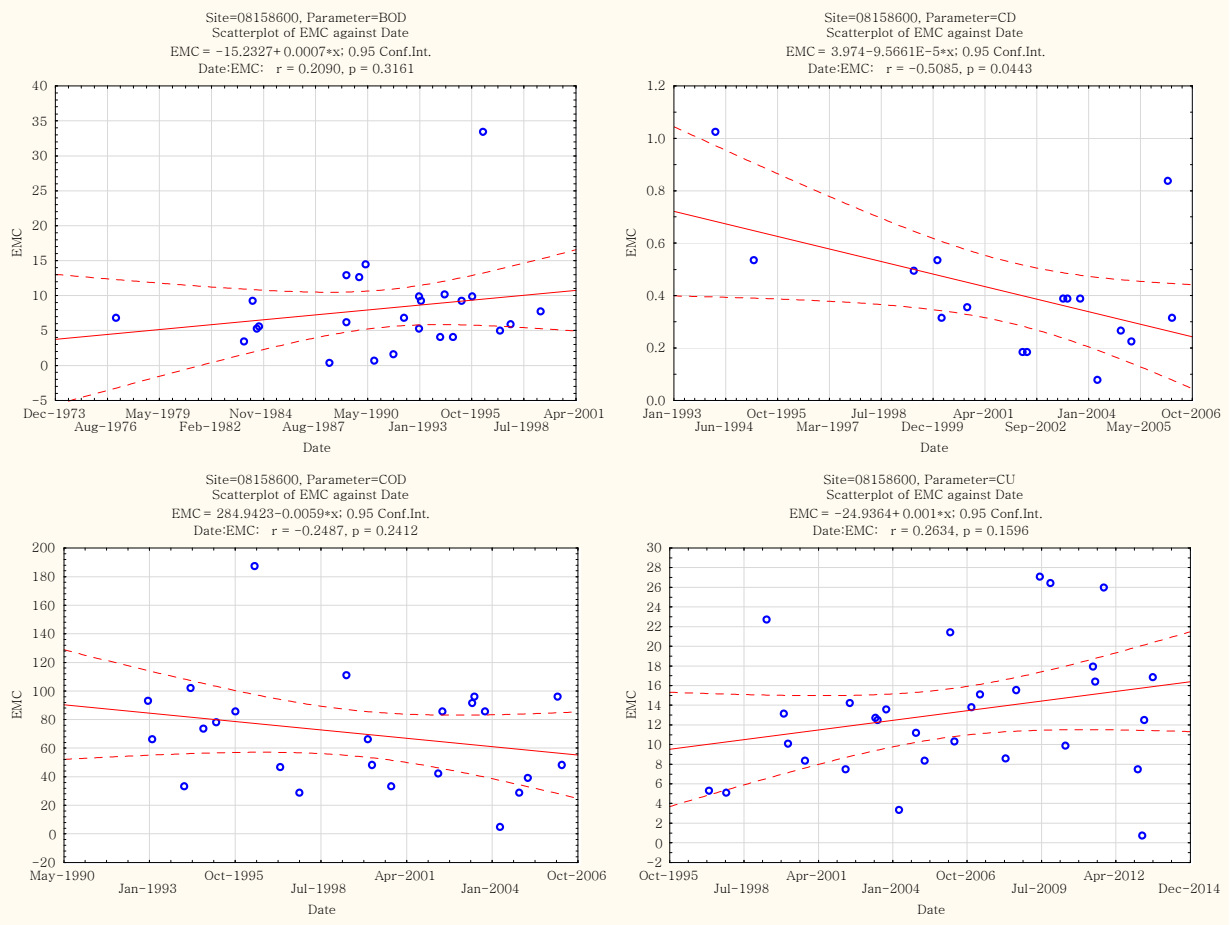

Site=08158050, Parameter=TOC
Scatterplot of EMC against Date
EMC = 52.5555-0.0007*x; 0.95 Conf.Int.
Date:EMC: r = -0.1480, p = 0.4270
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004


Site=08158050, Parameter=TP
Scatterplot of EMC against Date
EMC = 2.5726-4.6202E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1813, p = 0.3290
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004

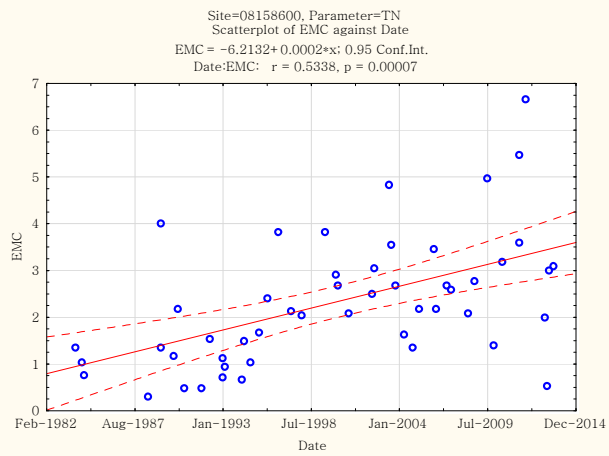

Site=08158050, Parameter=TSS
Scatterplot of EMC against Date
EMC = 7046.9902-0.1648*x; 0.95 Conf.Int.
Date:EMC: r = -0.3756, p = 0.0373
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004

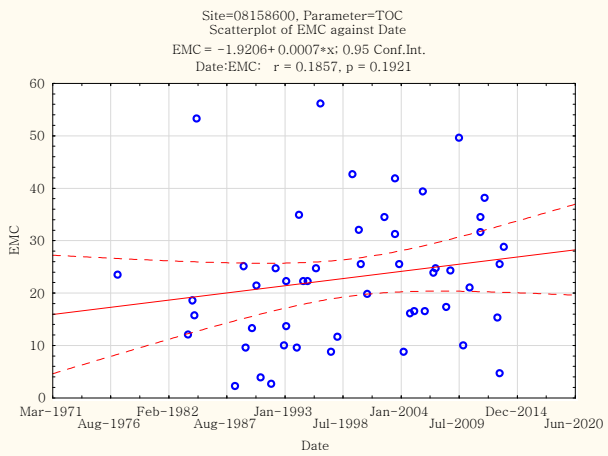

Site=08158050, Parameter=VSS
Scatterplot of EMC against Date
EMC = 693.5443-0.0163*x; 0.95 Conf.Int.
Date:EMC: r = -0.3814, p = 0.0452
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004

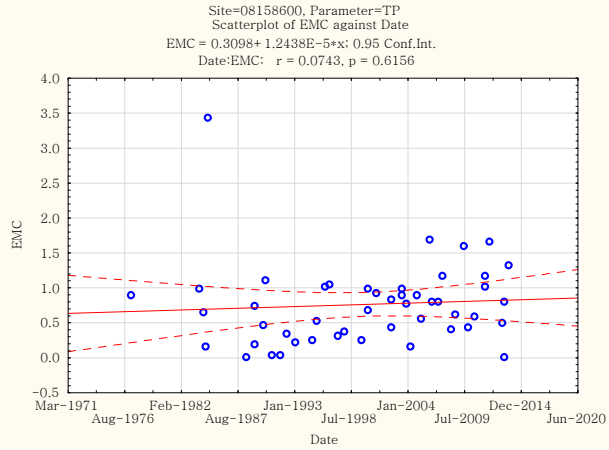

Site=08158050, Parameter=ZN
Scatterplot of EMC against Date
EMC = 3077.1679-0.0816*x; 0.95 Conf.Int.
Date:EMC: r = -0.6466, p = 0.0832
EMC
Date

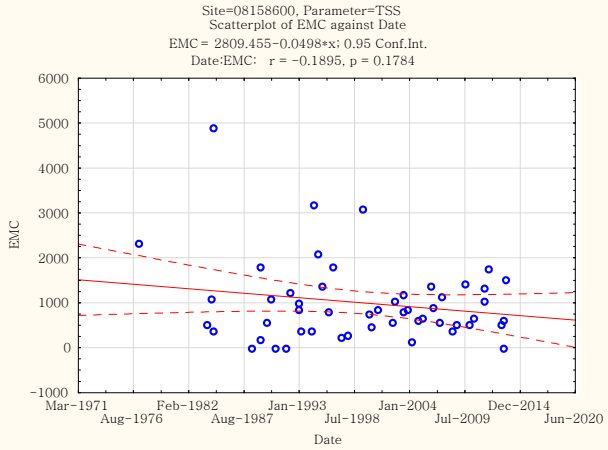

Site=08158600, Parameter=BOD
Scatterplot of EMC against Date
EMC = -15.2327+0.0007*x; 0.95 Conf.Int.
Date:EMC: r = 0.2090, p = 0.3161
Site=08158600, Parameter=CD
Scatterplot of EMC against Date
EMC = 3.974-9.5661E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.5085, p = 0.0443
Site=08158600, Parameter=COD
Scatterplot of EMC against Date
EMC = 284.9423-0.0059*x; 0.95 Conf.Int.
Date:EMC: r = -0.2487, p = 0.2412
Site=08158600, Parameter=CU
Scatterplot of EMC against Date
EMC = -24.9364+0.001*x; 0.95 Conf.Int.
Date:EMC: r = 0.2634, p = 0.1596
EMC
Date

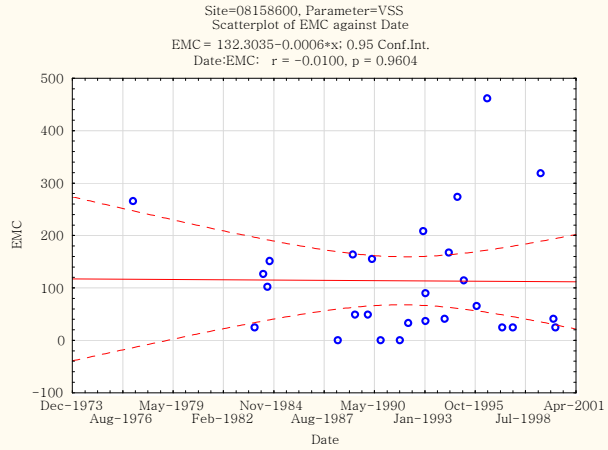
Site=08158600, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.4195-9.8635E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.4674, p = 0.0031
EMC
Date
Site=08158600, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.0507+ 1.7958E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0414, p = 0.7755
EMC
Date
Site=08158600, Parameter=NO23
Scatterplot of EMC against Date
EMC = -0.0782+ 1.6361E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1637, p = 0.2771
EMC
Date
Site=08158600, Parameter=PB
Scatterplot of EMC against Date
EMC = 30.9809-0.0004*x; 0.95 Conf.Int.
Date:EMC: r = -0.0720, p = 0.6952
EMC
Date
Site=08158600, Parameter=TDS
Scatterplot of EMC against Date
EMC = 540.8031-0.01*x; 0.95 Conf.Int.
Date:EMC: r = -0.4109, p = 0.0076
EMC
Date
Site=08158600, Parameter=TKN
Scatterplot of EMC against Date
EMC = -0.9196+ 7.8435E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1895, p = 0.1784
EMC
Date

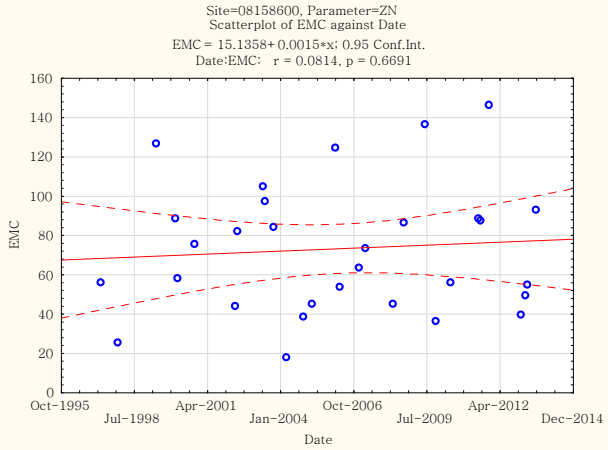

Site=08158600, Parameter=TN
Scatterplot of EMC against Date
EMC = −6.2132+ 0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.5338, p = 0.00007
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

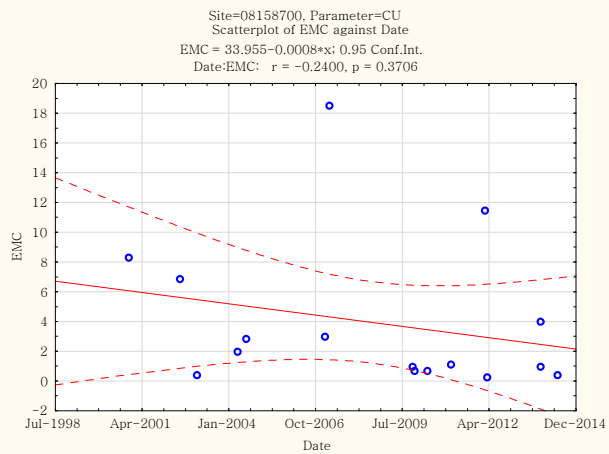

Site=08158600, Parameter=TOC
Scatterplot of EMC against Date
EMC = −1.9206+ 0.0007*x; 0.95 Conf.Int.
Date:EMC: r = 0.1857, p = 0.1921
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

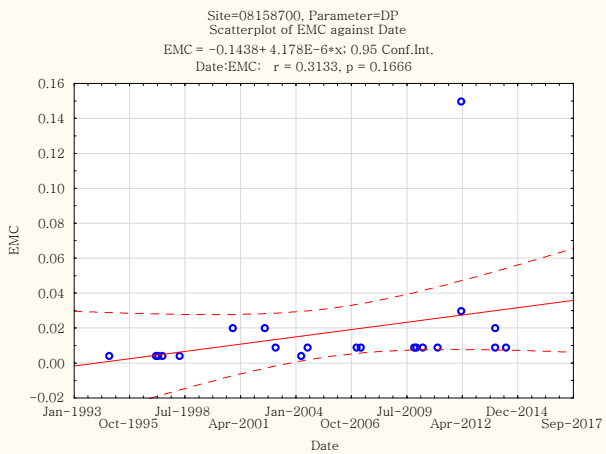

Site=08158600, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.3098+ 1.2438E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.0743, p = 0.6156
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

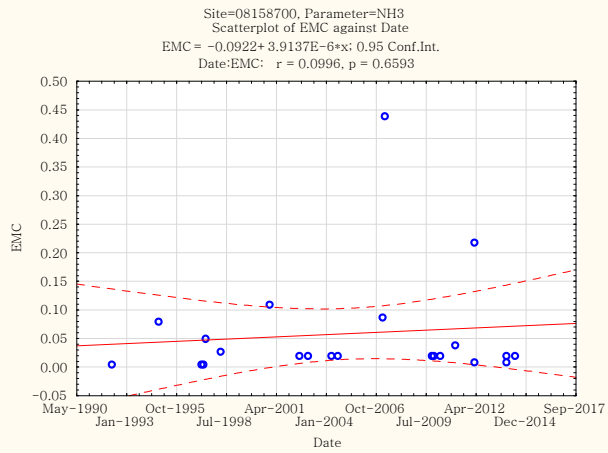

Site=08158600, Parameter=TSS
Scatterplot of EMC against Date
EMC = 2809.455-0.0498*x; 0.95 Conf.Int.
Date:EMC: r = −0.1895, p = 0.1784
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

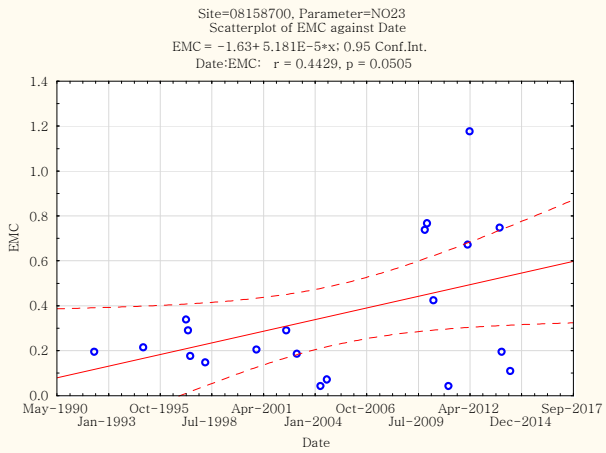

Site=08158600, Parameter=VSS
Scatterplot of EMC against Date
EMC = 132.3035-0.0006*x; 0.95 Conf.Int.
Date:EMC: r = −0.0100, p = 0.9604
EMC
Date
Dec-1973
Aug-1976
May-1979
Feb-1982
Nov-1984
Aug-1987
May-1990
Jan-1993
Oct-1995
Jul-1998
Apr-2001

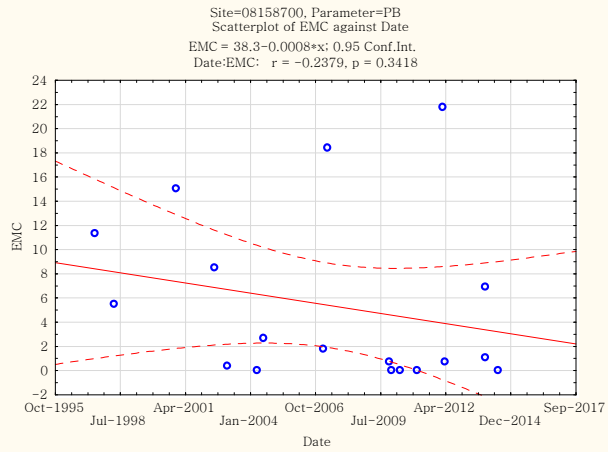

Site=08158600, Parameter=ZN
Scatterplot of EMC against Date
EMC = 15.1358+ 0.0015*x; 0.95 Conf.Int.
Date:EMC: r = 0.0814, p = 0.6691
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014

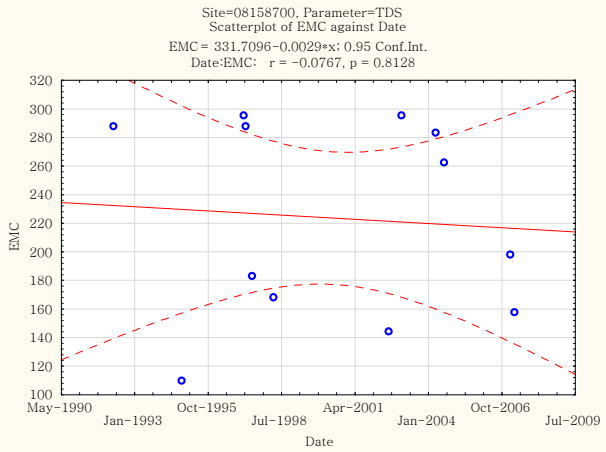

Site=08158700, Parameter=CU
Scatterplot of EMC against Date
EMC = 33.955-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.2400, p = 0.3706
EMC
Date

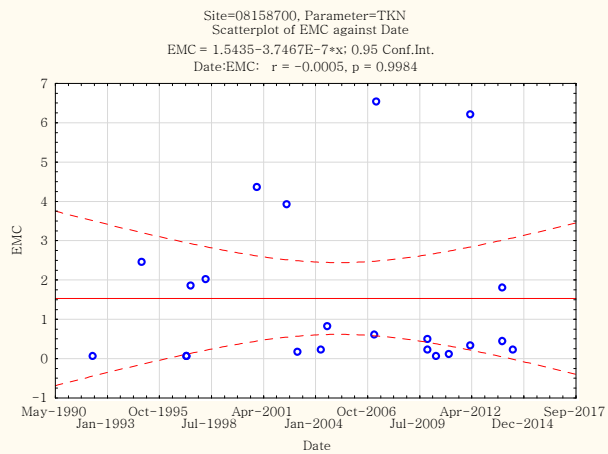

Site=08158700, Parameter=DP
Scatterplot of EMC against Date
EMC = -0.1438+ 4.178E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.3133, p = 0.1666
EMC
Date

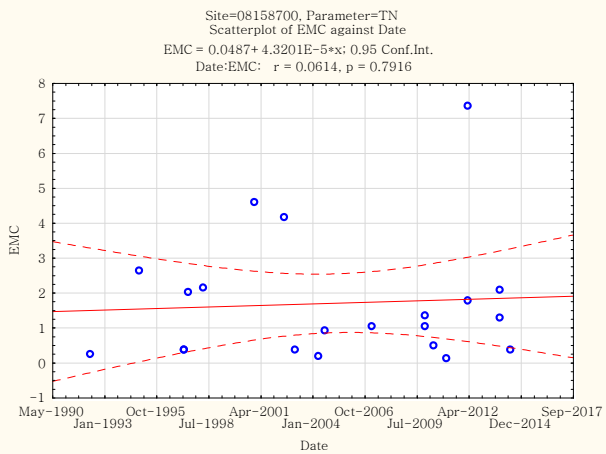

Site=08158700, Parameter=NH3
Scatterplot of EMC against Date
EMC = -0.0922+ 3.9137E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0996, p = 0.6593
EMC
Date

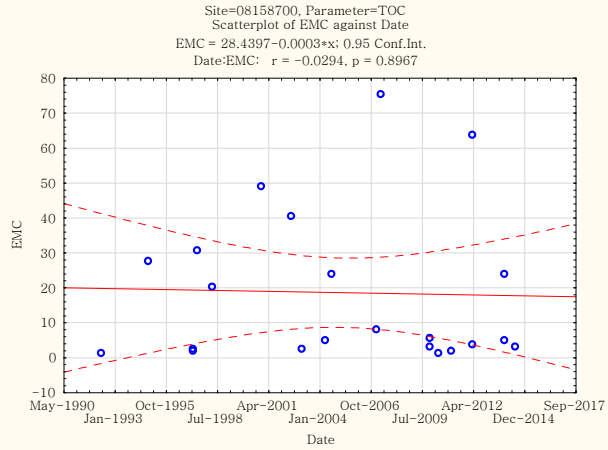

Site=08158700, Parameter=NO23
Scatterplot of EMC against Date
EMC = -1.63+ 5.181E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.4429, p = 0.0505
EMC
Date

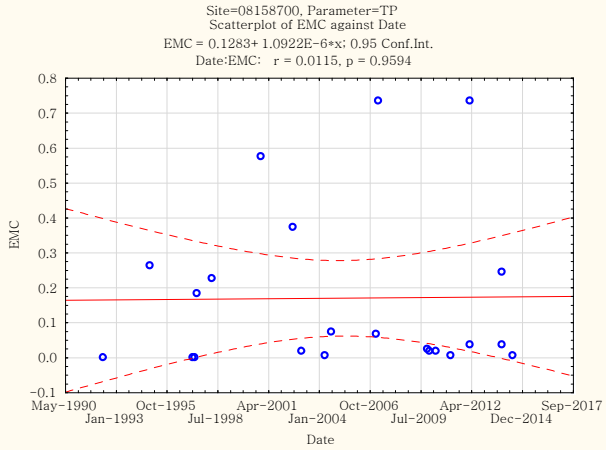

Site=08158700, Parameter=PB
Scatterplot of EMC against Date
EMC = 38.3-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.2379, p = 0.3418
EMC
Date

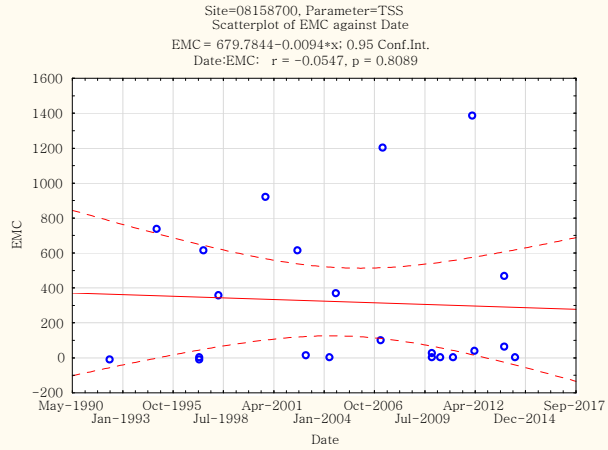

Site=08158700, Parameter=TDS
Scatterplot of EMC against Date
EMC = 331.7096-0.0029*x; 0.95 Conf.Int.
Date:EMC: r = -0.0767, p = 0.8128
EMC
Date

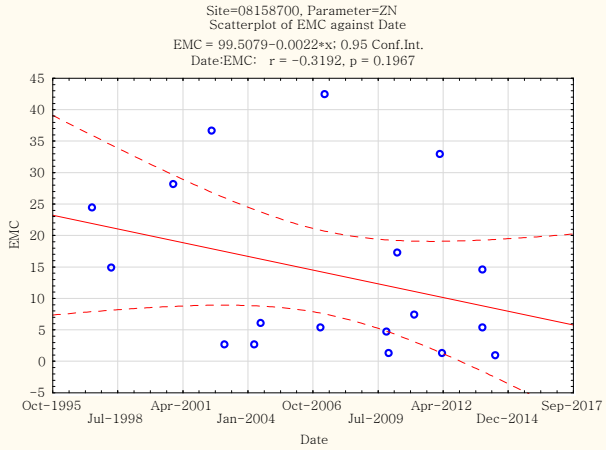

Site=08158700, Parameter=TKN
Scatterplot of EMC against Date
EMC = 1.5435-3.7467E-7*x; 0.95 Conf.Int.
Date:EMC: r = -0.0005, p = 0.9984
EMC
Date

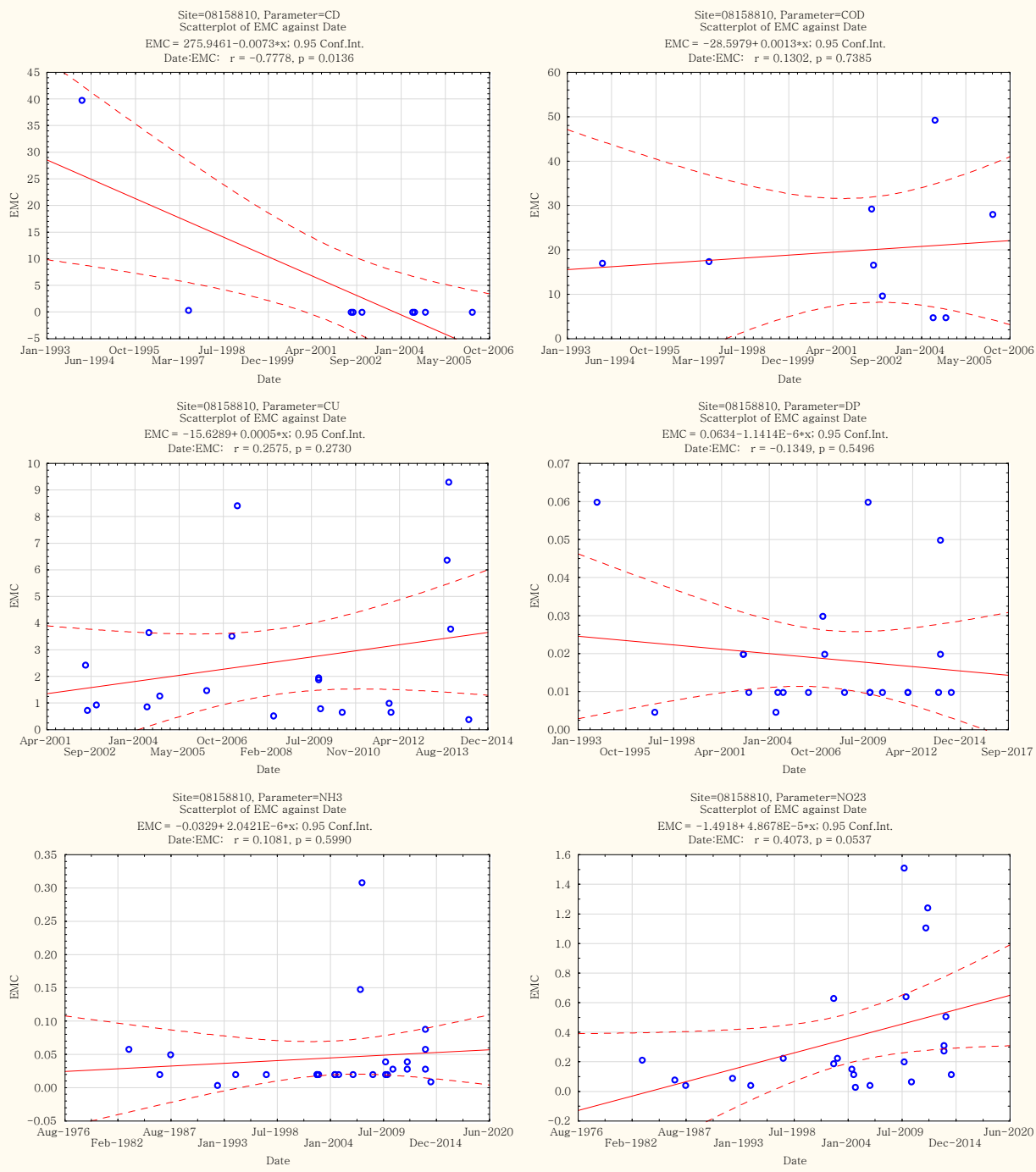

Site=08158700, Parameter=TN
Scatterplot of EMC against Date
EMC = 0.0487+ 4.3201E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.0614, p = 0.7916
EMC
Date

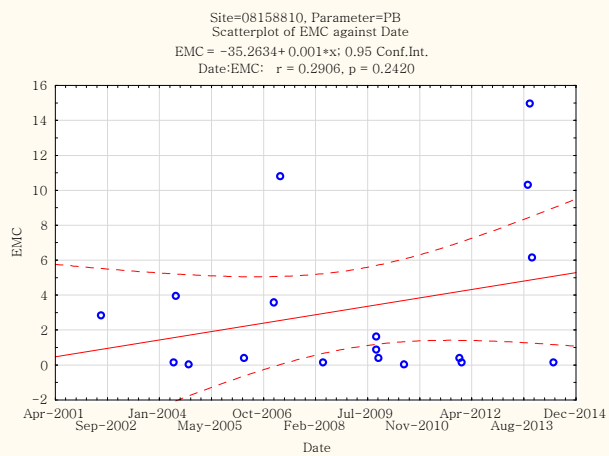

Site=08158700, Parameter=TOC
Scatterplot of EMC against Date
EMC = 28.4397-0.0003*x; 0.95 Conf.Int.
Date:EMC: r = -0.0294, p = 0.8967
EMC
Date

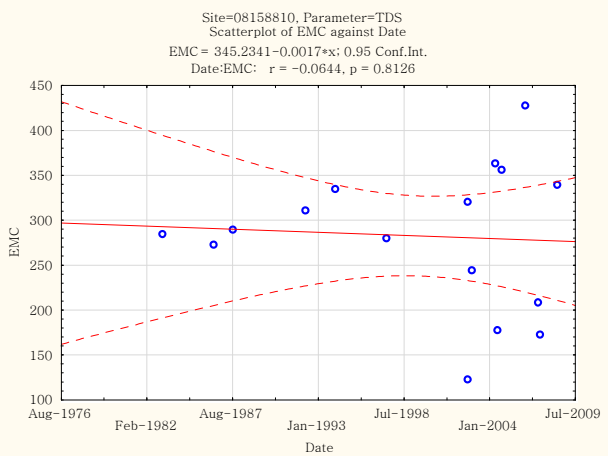

Site=08158700, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.1283+ 1.0922E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0115, p = 0.9594
EMC
Date

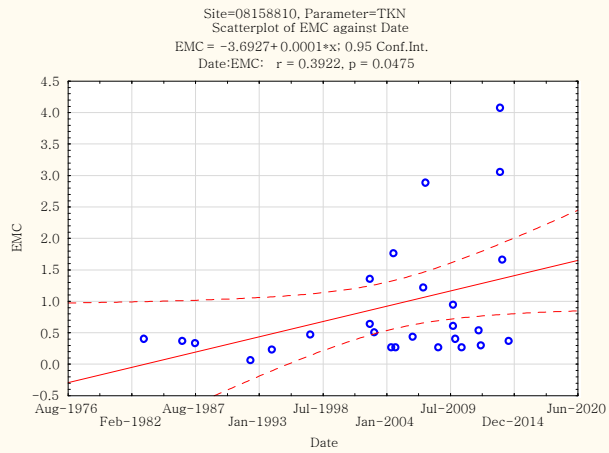

Site=08158700, Parameter=TSS
Scatterplot of EMC against Date
EMC = 679.7844-0.0094*x; 0.95 Conf.Int.
Date:EMC: r = -0.0547, p = 0.8089
EMC
Date

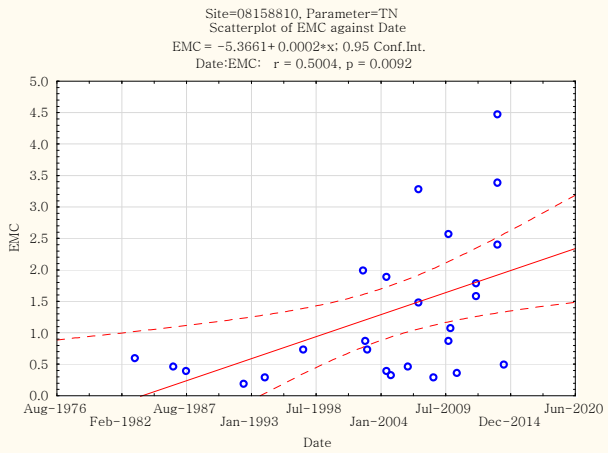

Site=08158700, Parameter=ZN
Scatterplot of EMC against Date
EMC = 99.5079-0.0022*x; 0.95 Conf.Int.
Date:EMC: r = -0.3192, p = 0.1967
EMC
Date

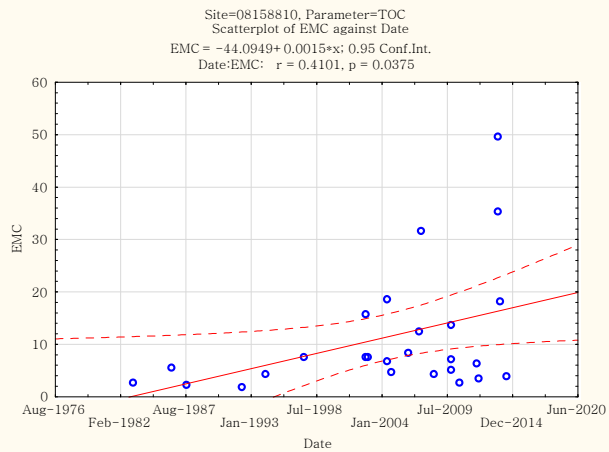

Site=08158810, Parameter=CD
Scatterplot of EMC against Date
EMC = 275.9461-0.0073*x; 0.95 Conf.Int.
Date:EMC: r = -0.7778, p = 0.0136
EMC
Date
Site=08158810, Parameter=COD
Scatterplot of EMC against Date
EMC = -28.5979+0.0013*x; 0.95 Conf.Int.
Date:EMC: r = 0.1302, p = 0.7385
EMC
Date
Site=08158810, Parameter=CU
Scatterplot of EMC against Date
EMC = -15.6289+0.0005*x; 0.95 Conf.Int.
Date:EMC: r = 0.2575, p = 0.2730
EMC
Date
Site=08158810, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.0634-1.1414E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.1349, p = 0.5496
EMC
Date
Site=08158810, Parameter=NH3
Scatterplot of EMC against Date
EMC = -0.0329+2.0421E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.1081, p = 0.5990
EMC
Date
Site=08158810, Parameter=NO23
Scatterplot of EMC against Date
EMC = -1.4918+4.8678E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.4073, p = 0.0537
EMC
Date

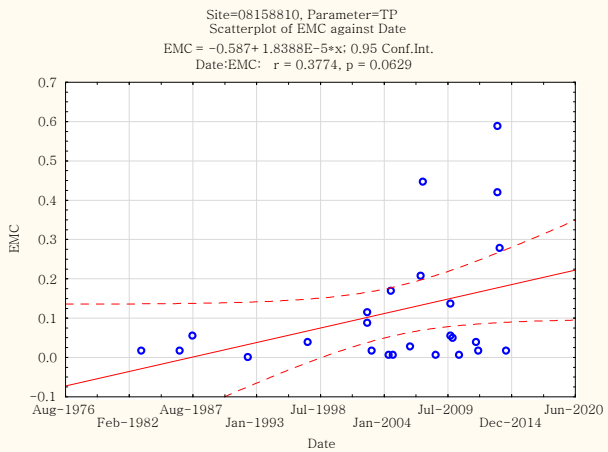

Site=08158810, Parameter=PB
Scatterplot of EMC against Date
EMC = −35.2634+ 0.001*x; 0.95 Conf.Int.
Date:EMC: r = 0.2906, p = 0.2420
EMC
Date
Apr−2001
Sep−2002
Jan−2004
May−2005
Oct−2006
Feb−2008
Jul−2009
Nov−2010
Apr−2012
Aug−2013
Dec−2014

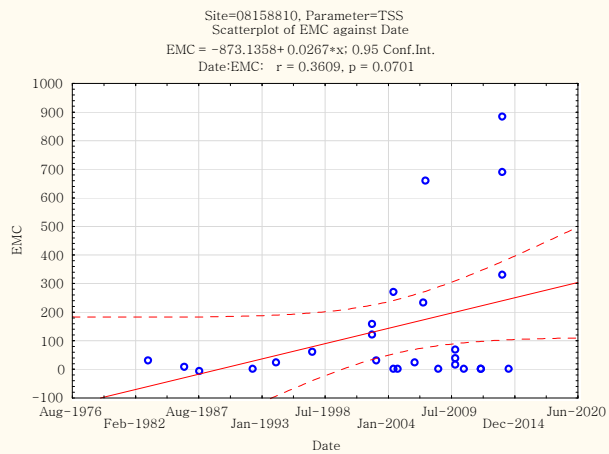

Site=08158810, Parameter=TDS
Scatterplot of EMC against Date
EMC = 345.2341−0.0017*x; 0.95 Conf.Int.
Date:EMC: r = −0.0644, p = 0.8126
EMC
Date
Aug−1976
Feb−1982
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009

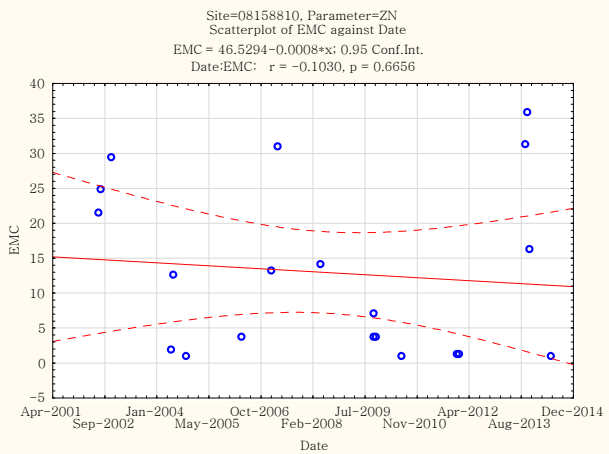

Site=08158810, Parameter=TKN
Scatterplot of EMC against Date
EMC = −3.6927+ 0.0001*x; 0.95 Conf.Int.
Date:EMC: r = 0.3922, p = 0.0475
EMC
Date
Aug−1976
Feb−1982
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

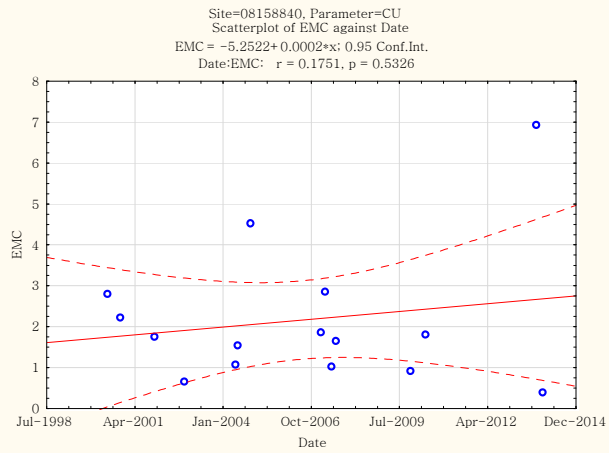

Site=08158810, Parameter=TN
Scatterplot of EMC against Date
EMC = −5.3661+ 0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.5004, p = 0.0092
EMC
Date
Aug−1976
Feb−1982
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

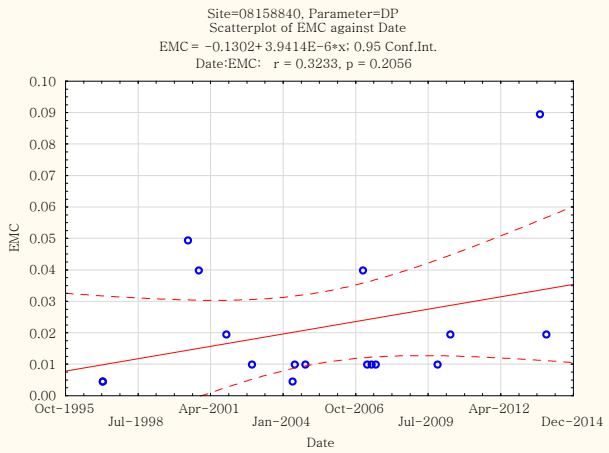

Site=08158810, Parameter=TOC
Scatterplot of EMC against Date
EMC = −44.0949+ 0.0015*x; 0.95 Conf.Int.
Date:EMC: r = 0.4101, p = 0.0375
EMC
Date
Aug−1976
Feb−1982
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

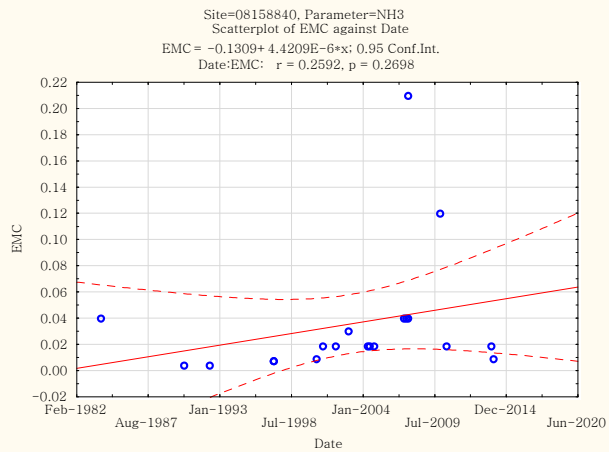

Site=08158810, Parameter=TP
Scatterplot of EMC against Date
EMC = −0.587+ 1.8388E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.3774, p = 0.0629
EMC
Date
Aug−1976
Feb−1982
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

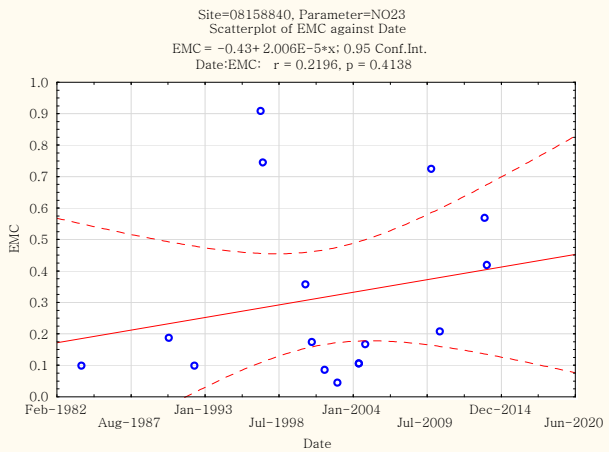

Site=08158810, Parameter=TSS
Scatterplot of EMC against Date
EMC = -873.1358+ 0.0267*x; 0.95 Conf.Int.
Date:EMC: r = 0.3609, p = 0.0701
EMC
Date

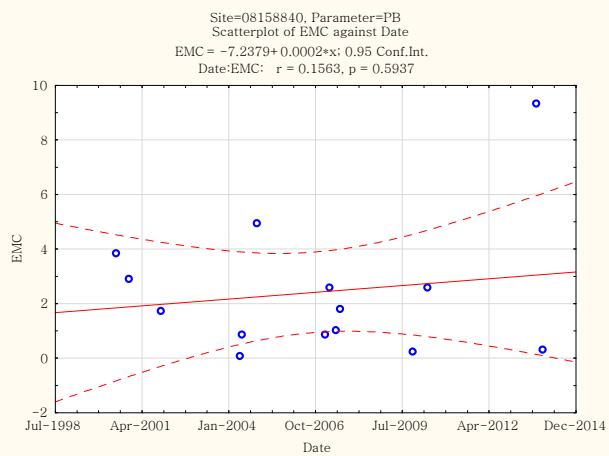

Site=08158810, Parameter=ZN
Scatterplot of EMC against Date
EMC = 46.5294-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.1030, p = 0.6656
EMC
Date

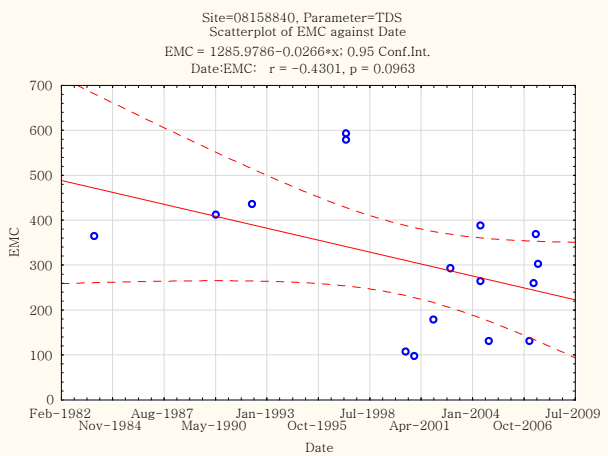

Site=08158840, Parameter=CU
Scatterplot of EMC against Date
EMC = -5.2522+ 0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.1751, p = 0.5326
EMC
Date

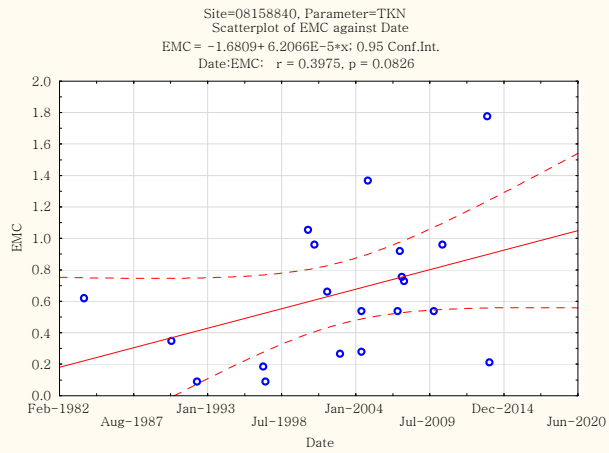

Site=08158840, Parameter=DP
Scatterplot of EMC against Date
EMC = -0.1302+ 3.9414E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.3233, p = 0.2056
EMC
Date

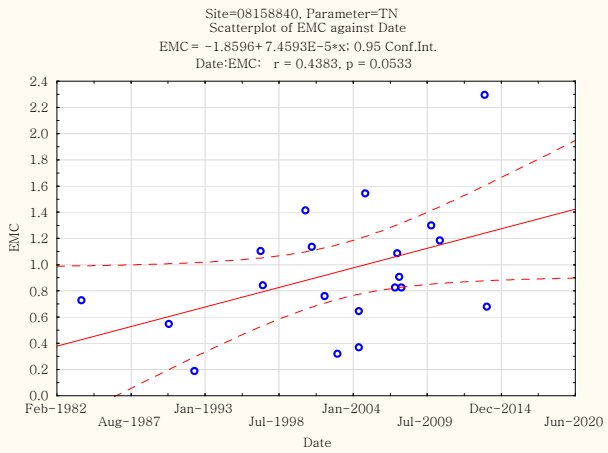

Site=08158840, Parameter=NH3
Scatterplot of EMC against Date
EMC = -0.1309+ 4.4209E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.2592, p = 0.2698
EMC
Date

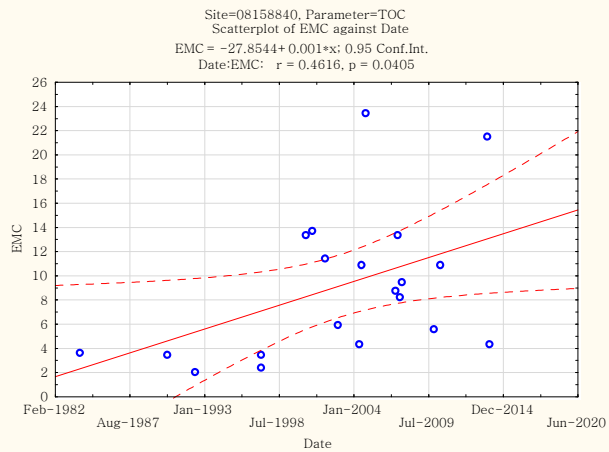

Site=08158840, Parameter=NO23
Scatterplot of EMC against Date
EMC = -0.43+ 2.006E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.2196, p = 0.4138
EMC
Date

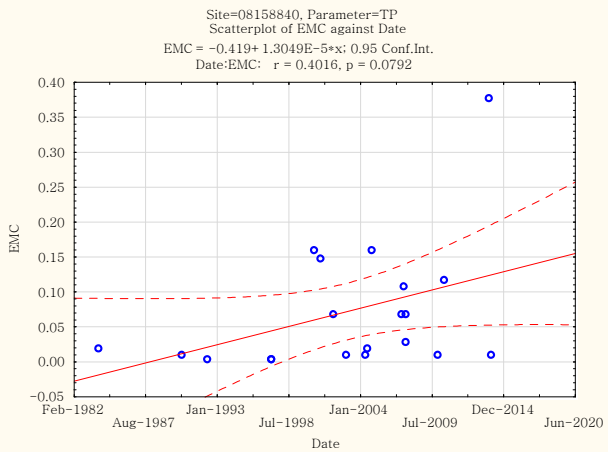

Site=08158840, Parameter=PB
Scatterplot of EMC against Date
EMC = −7.2379+ 0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.1563, p = 0.5937
EMC
Date
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014

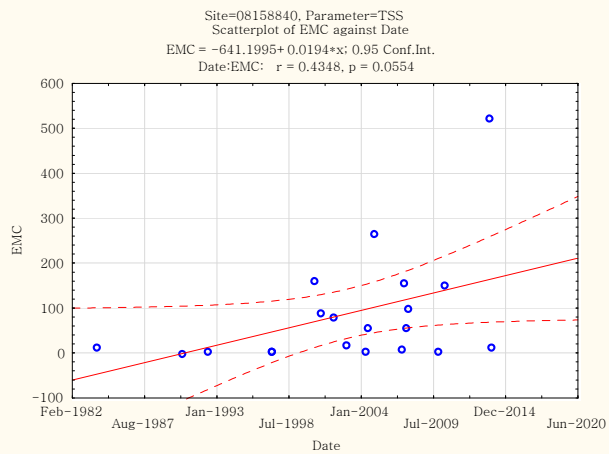

Site=08158840, Parameter=TDS
Scatterplot of EMC against Date
EMC = 1285.9786−0.0266*x; 0.95 Conf.Int.
Date:EMC: r = −0.4301, p = 0.0963
EMC
Date
Feb-1982
Nov-1984
Aug-1987
May-1990
Jan-1993
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009

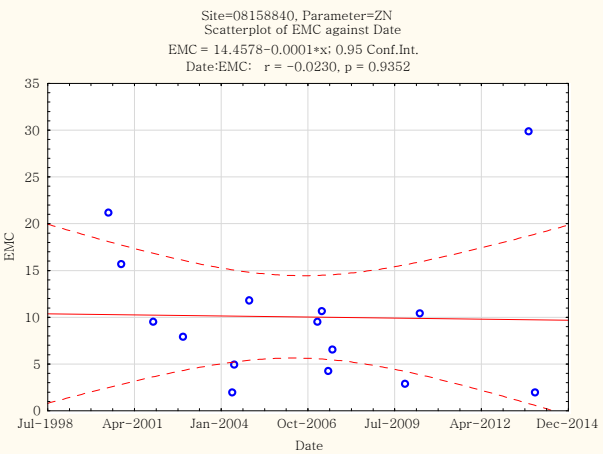

Site=08158840, Parameter=TKN
Scatterplot of EMC against Date
EMC = −1.6809+ 6.2066E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.3975, p = 0.0826
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

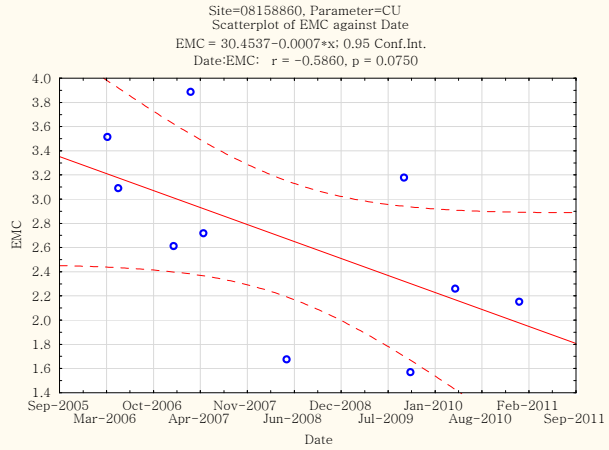

Site=08158840, Parameter=TN
Scatterplot of EMC against Date
EMC = −1.8596+ 7.4593E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.4383, p = 0.0533
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

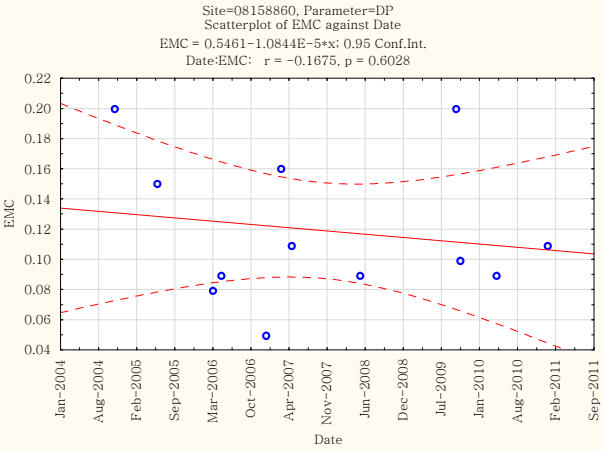

Site=08158840, Parameter=TOC
Scatterplot of EMC against Date
EMC = −27.8544+ 0.001*x; 0.95 Conf.Int.
Date:EMC: r = 0.4616, p = 0.0405
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

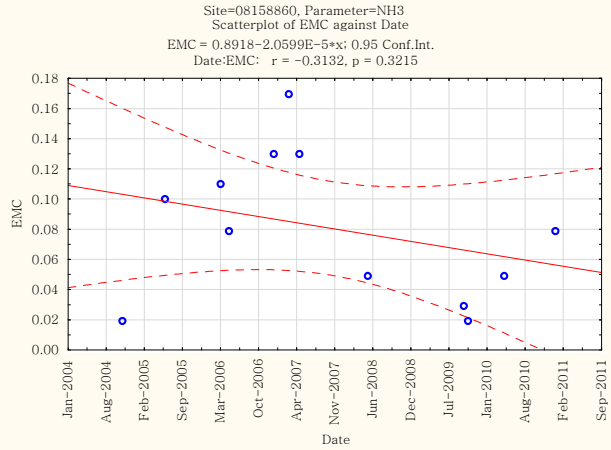

Site=08158840, Parameter=TP
Scatterplot of EMC against Date
EMC = −0.419+ 1.3049E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.4016, p = 0.0792
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

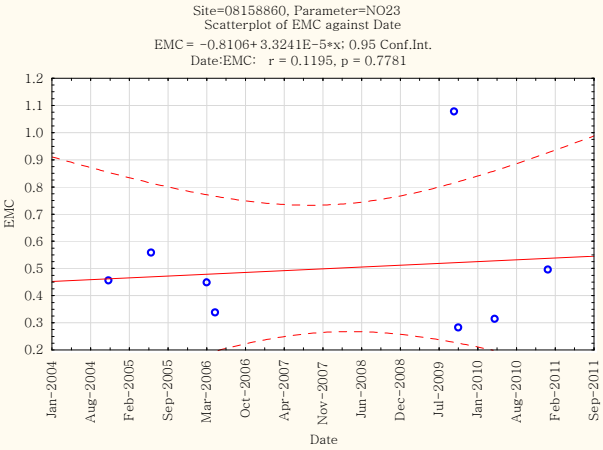

Site=08158840, Parameter=TSS
Scatterplot of EMC against Date
EMC = -641.1995+ 0.0194*x; 0.95 Conf.Int.
Date:EMC: r = 0.4348, p = 0.0554
EMC
Date

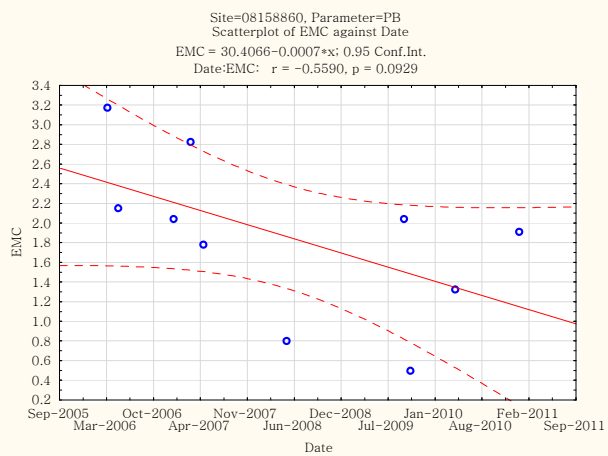

Site=08158840, Parameter=ZN
Scatterplot of EMC against Date
EMC = 14.4578-0.0001*x; 0.95 Conf.Int.
Date:EMC: r = -0.0230, p = 0.9352
EMC
Date

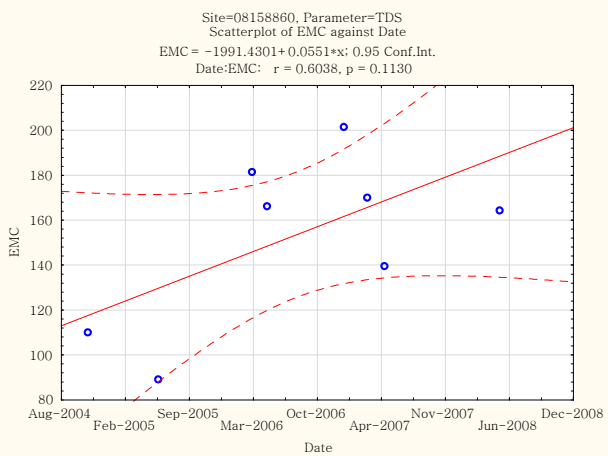

Site=08158860, Parameter=CU
Scatterplot of EMC against Date
EMC = 30.4537-0.0007*x; 0.95 Conf.Int.
Date:EMC: r = -0.5860, p = 0.0750
EMC
Date

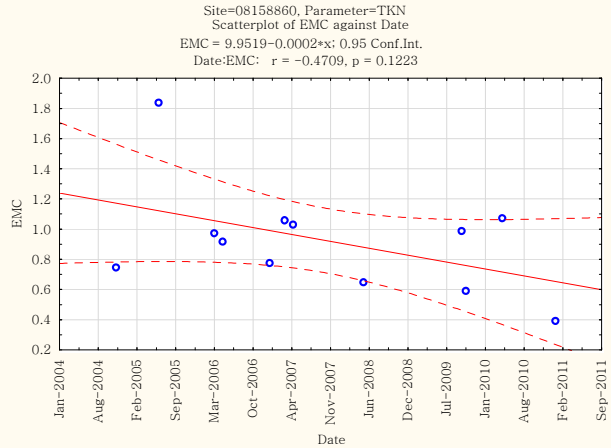

Site=08158860, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.5461-1.0844E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1675, p = 0.6028
EMC
Date

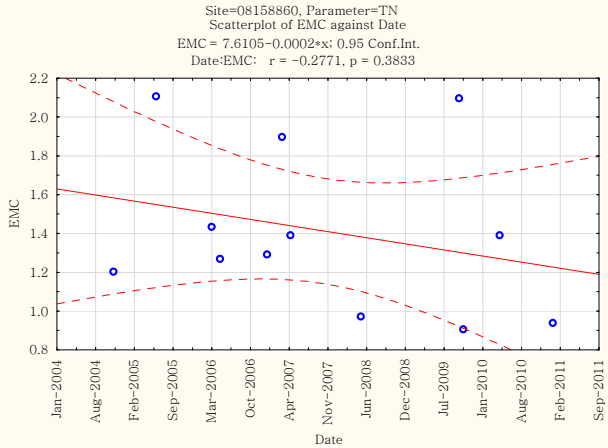

Site=08158860, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.8918-2.0599E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3132, p = 0.3215
EMC
Date

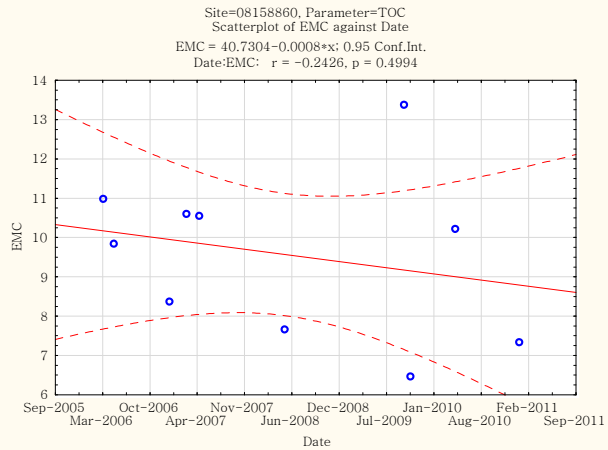

Site=08158860, Parameter=NO23
Scatterplot of EMC against Date
EMC = -0.8106+ 3.3241E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1195, p = 0.7781
EMC
Date

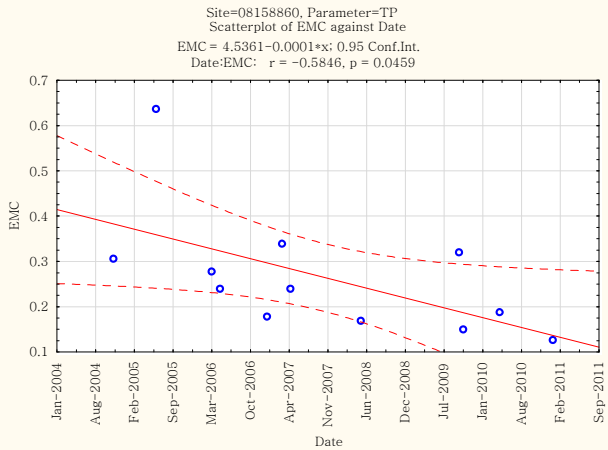

Site=08158860, Parameter=PB
Scatterplot of EMC against Date
EMC = 30.4066-0.0007*x; 0.95 Conf.Int.
Date:EMC: r = -0.5590, p = 0.0929
EMC
Date

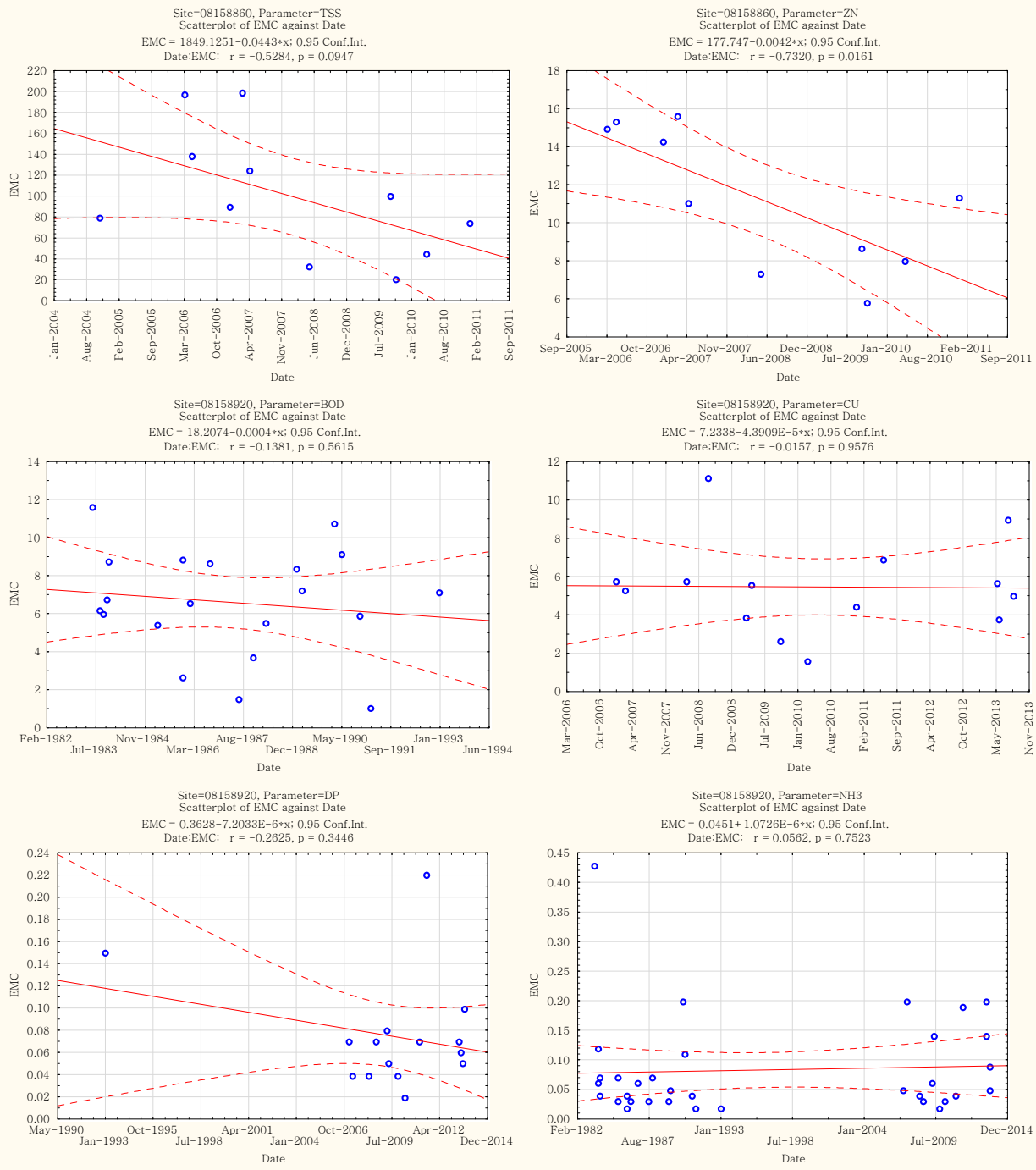

Site=08158860, Parameter=TDS
Scatterplot of EMC against Date
EMC = -1991.4301+0.0551*x; 0.95 Conf.Int.
Date:EMC: r = 0.6038, p = 0.1130
EMC
Date

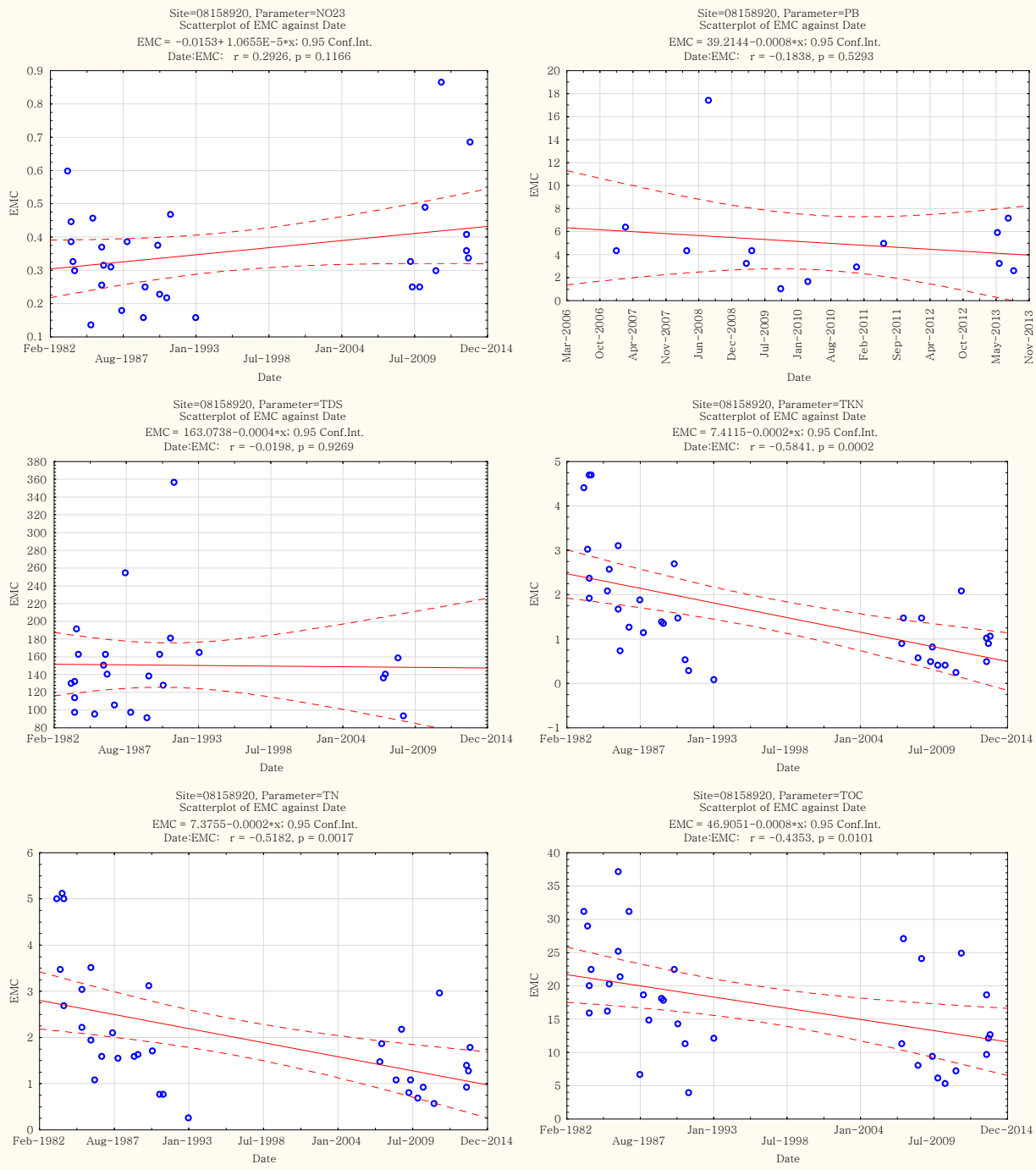

Site=08158860, Parameter=TKN
Scatterplot of EMC against Date
EMC = 9.9519-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.4709, p = 0.1223
EMC
Date

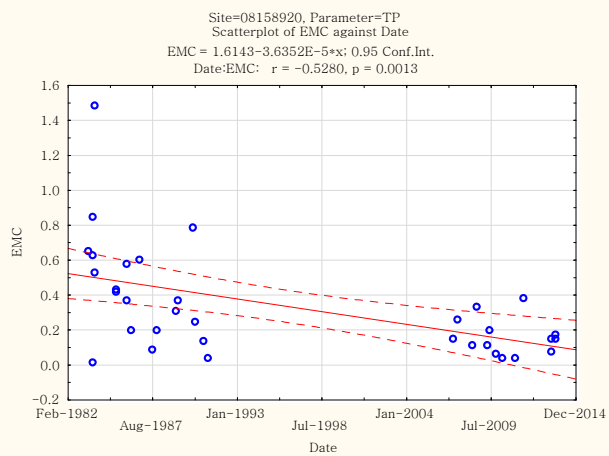

Site=08158860, Parameter=TN
Scatterplot of EMC against Date
EMC = 7.6105-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.2771, p = 0.3833
EMC
Date

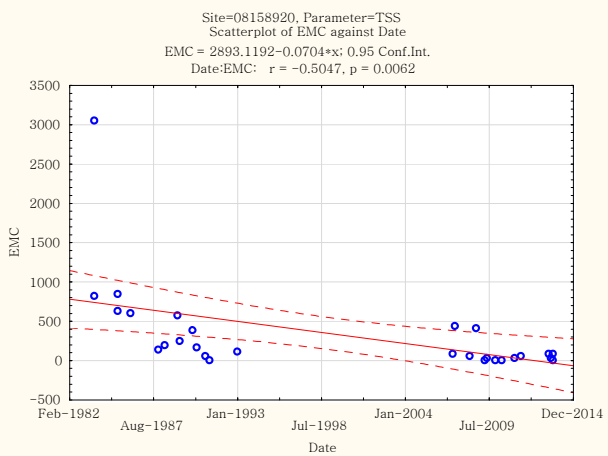

Site=08158860, Parameter=TOC
Scatterplot of EMC against Date
EMC = 40.7304-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.2426, p = 0.4994
EMC
Date

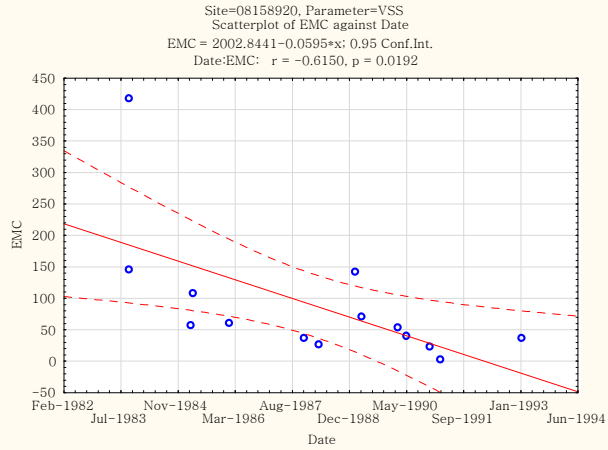

Site=08158860, Parameter=TP
Scatterplot of EMC against Date
EMC = 4.5361-0.0001*x; 0.95 Conf.Int.
Date:EMC: r = -0.5846, p = 0.0459
EMC
Date

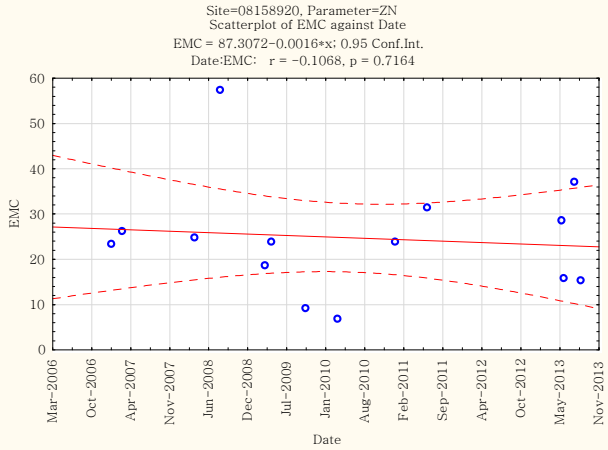

Site=08158860, Parameter=TSS
Scatterplot of EMC against Date
EMC = 1849.1251-0.0443*x; 0.95 Conf.Int.
Date:EMC: r = -0.5284, p = 0.0947
EMC
Date
Site=08158860, Parameter=ZN
Scatterplot of EMC against Date
EMC = 177.747-0.0042*x; 0.95 Conf.Int.
Date:EMC: r = -0.7320, p = 0.0161
EMC
Date
Site=08158920, Parameter=BOD
Scatterplot of EMC against Date
EMC = 18.2074-0.0004*x; 0.95 Conf.Int.
Date:EMC: r = -0.1381, p = 0.5615
EMC
Date
Site=08158920, Parameter=CU
Scatterplot of EMC against Date
EMC = 7.2338-4.3909E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.0157, p = 0.9576
EMC
Date
Site=08158920, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.3628-7.2033E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.2625, p = 0.3446
EMC
Date
Site=08158920, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.0451+ 1.0726E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0562, p = 0.7523
EMC
Date

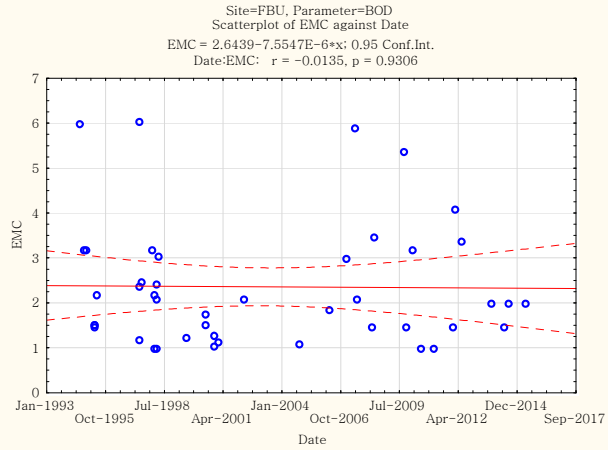

Site=08158920, Parameter=NO23
Scatterplot of EMC against Date
EMC = -0.0153+ 1.0655E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.2926, p = 0.1166
EMC
Date
Site=08158920, Parameter=PB
Scatterplot of EMC against Date
EMC = 39.2144-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.1838, p = 0.5293
EMC
Date
Site=08158920, Parameter=TDS
Scatterplot of EMC against Date
EMC = 163.0738-0.0004*x; 0.95 Conf.Int.
Date:EMC: r = -0.0198, p = 0.9269
EMC
Date
Site=08158920, Parameter=TKN
Scatterplot of EMC against Date
EMC = 7.4115-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.5841, p = 0.0002
EMC
Date
Site=08158920, Parameter=TN
Scatterplot of EMC against Date
EMC = 7.3755-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.5182, p = 0.0017
EMC
Date
Site=08158920, Parameter=TOC
Scatterplot of EMC against Date
EMC = 46.9051-0.0008*x; 0.95 Conf.Int.
Date:EMC: r = -0.4353, p = 0.0101
EMC
Date

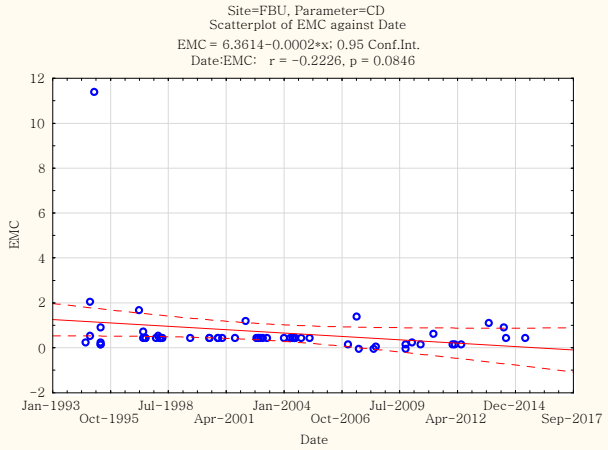

Site=08158920, Parameter=TP
Scatterplot of EMC against Date
EMC = 1.6143-3.6352E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.5280, p = 0.0013
EMC
Date

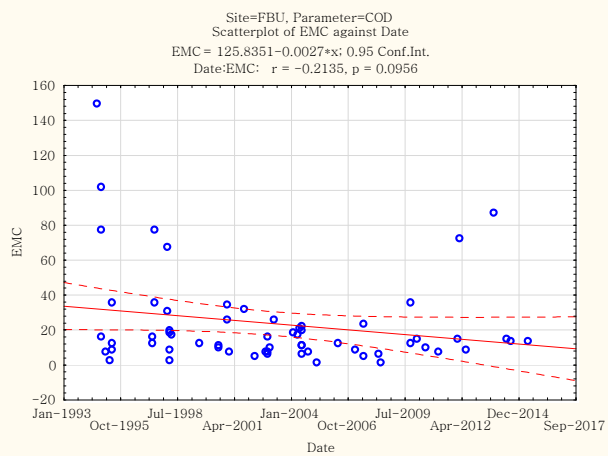

Site=08158920, Parameter=TSS
Scatterplot of EMC against Date
EMC = 2893.1192-0.0704*x; 0.95 Conf.Int.
Date:EMC: r = -0.5047, p = 0.0062
EMC
Date

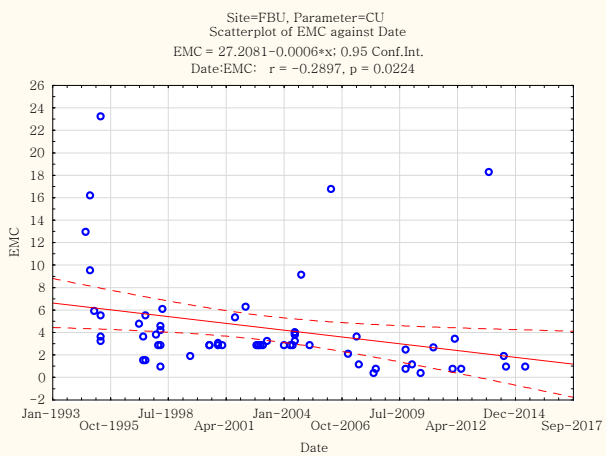

Site=08158920, Parameter=VSS
Scatterplot of EMC against Date
EMC = 2002.8441-0.0595*x; 0.95 Conf.Int.
Date:EMC: r = -0.6150, p = 0.0192
EMC
Date

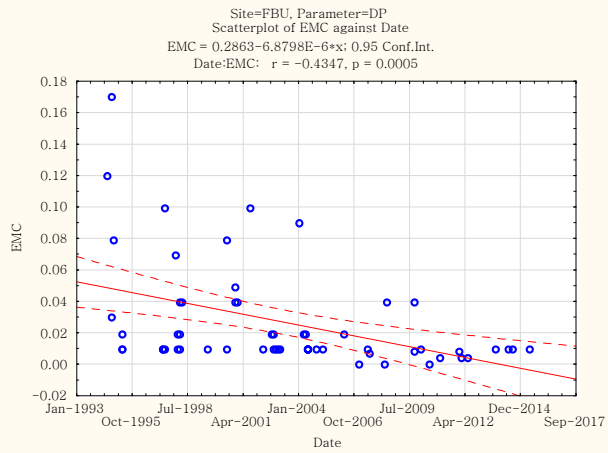

Site=08158920, Parameter=ZN
Scatterplot of EMC against Date
EMC = 87.3072-0.0016*x; 0.95 Conf.Int.
Date:EMC: r = -0.1068, p = 0.7164
EMC
Date

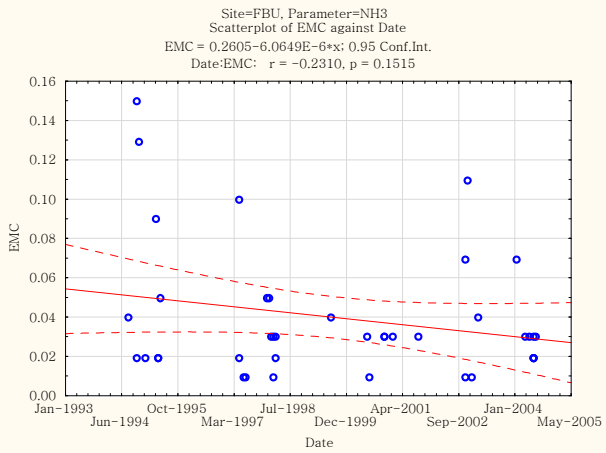

Site=FBU, Parameter=BOD
Scatterplot of EMC against Date
EMC = 2.6439-7.5547E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0135, p = 0.9306
EMC
Date

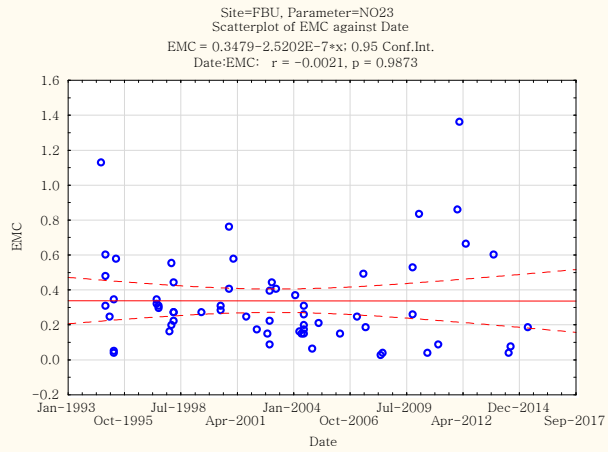

Site=FBU, Parameter=CD
Scatterplot of EMC against Date
EMC = 6.3614-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.2226, p = 0.0846
EMC
Date

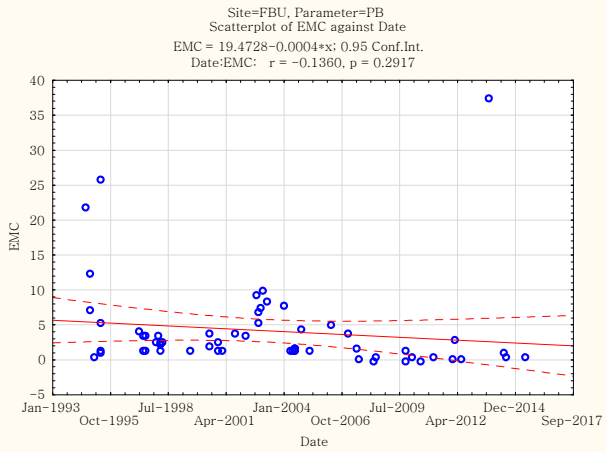

Site=FBU, Parameter=COD
Scatterplot of EMC against Date
EMC = 125.8351-0.0027*x; 0.95 Conf.Int.
Date:EMC: r = -0.2135, p = 0.0956
EMC
Date

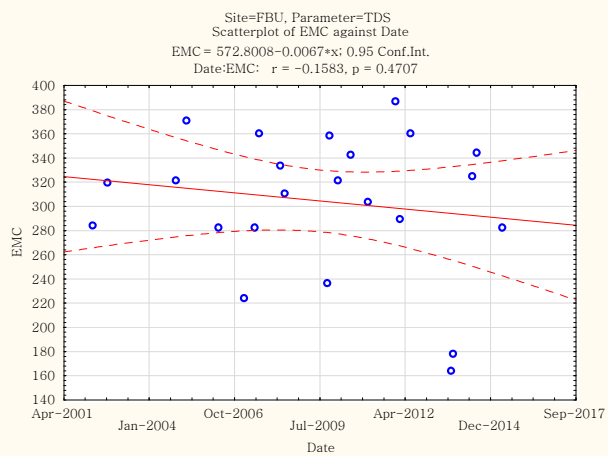

Site=FBU, Parameter=CU
Scatterplot of EMC against Date
EMC = 27.2081-0.0006*x; 0.95 Conf.Int.
Date:EMC: r = -0.2897, p = 0.0224
EMC
Date

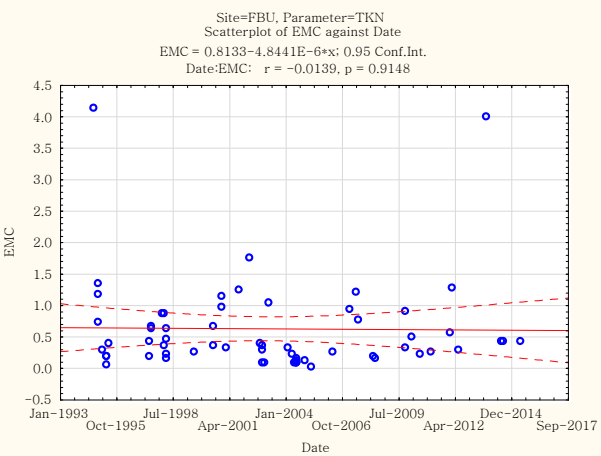

Site=FBU, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.2863-6.8798E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.4347, p = 0.0005
EMC
Date

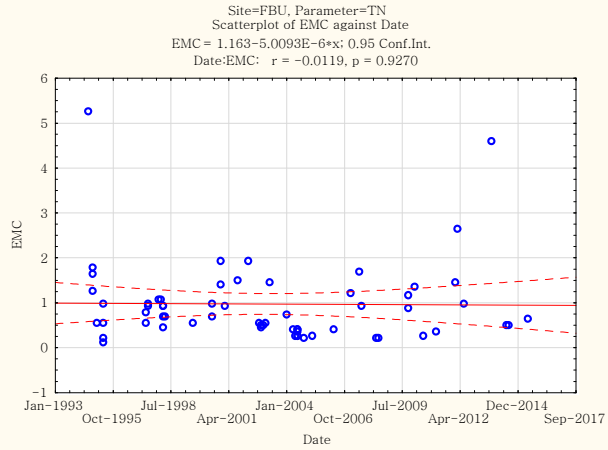

Site=FBU, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.2605-6.0649E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.2310, p = 0.1515
EMC
Date

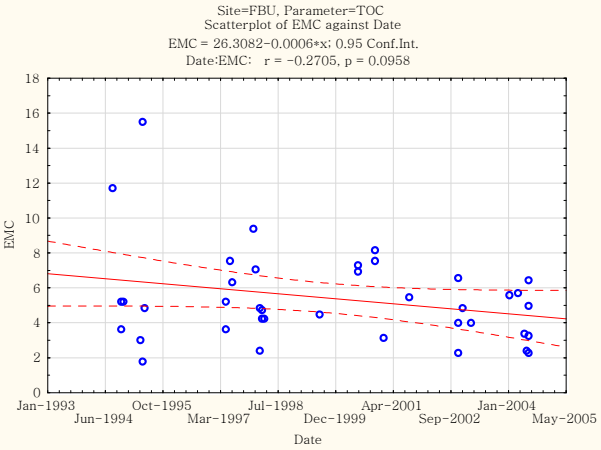

Site=FBU, Parameter=NO23
Scatterplot of EMC against Date
EMC = 0.3479-2.5202E-7*x; 0.95 Conf.Int.
Date:EMC: r = -0.0021, p = 0.9873
EMC
Date

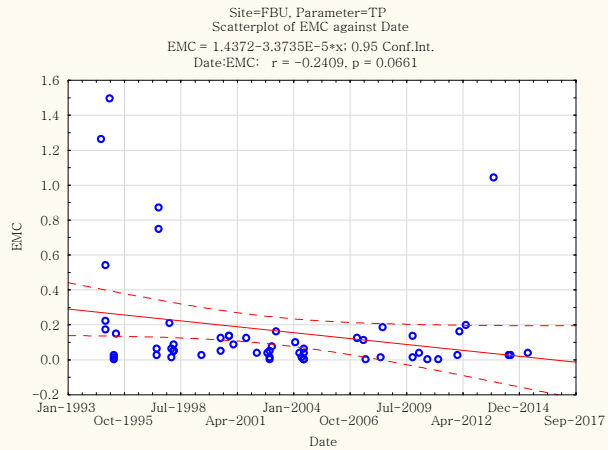

Site=FBU, Parameter=PB
Scatterplot of EMC against Date
EMC = 19.4728-0.0004*x; 0.95 Conf.Int.
Date:EMC: r = -0.1360, p = 0.2917
EMC
Date

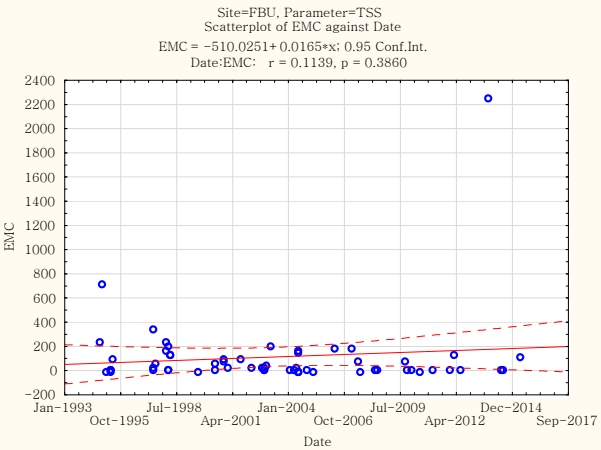

Site=FBU, Parameter=TDS
Scatterplot of EMC against Date
EMC = 572.8008-0.0067*x; 0.95 Conf.Int.
Date:EMC: r = -0.1583, p = 0.4707
EMC
Date

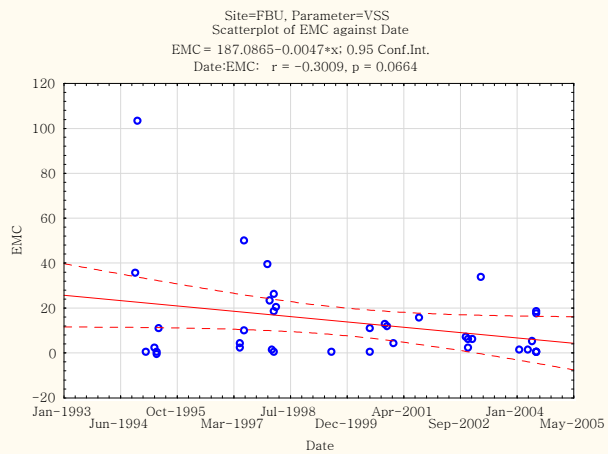

Site=FBU, Parameter=TKN
Scatterplot of EMC against Date
EMC = 0.8133-4.8441E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0139, p = 0.9148
EMC
Date

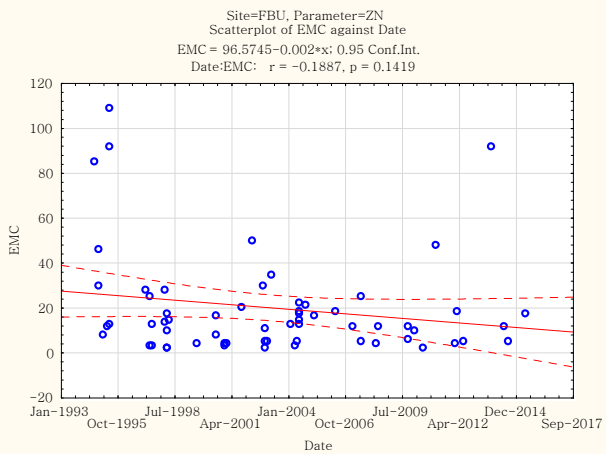

Site=FBU, Parameter=TN
Scatterplot of EMC against Date
EMC = 1.163-5.0093E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0119, p = 0.9270
EMC
Date

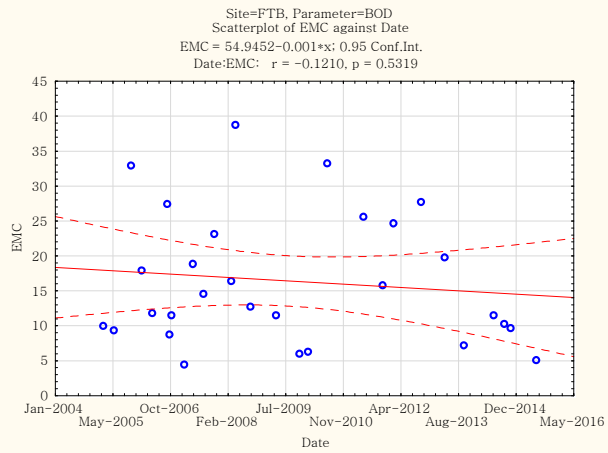

Site=FBU, Parameter=TOC
Scatterplot of EMC against Date
EMC = 26.3082-0.0006*x; 0.95 Conf.Int.
Date:EMC: r = -0.2705, p = 0.0958
EMC
Date

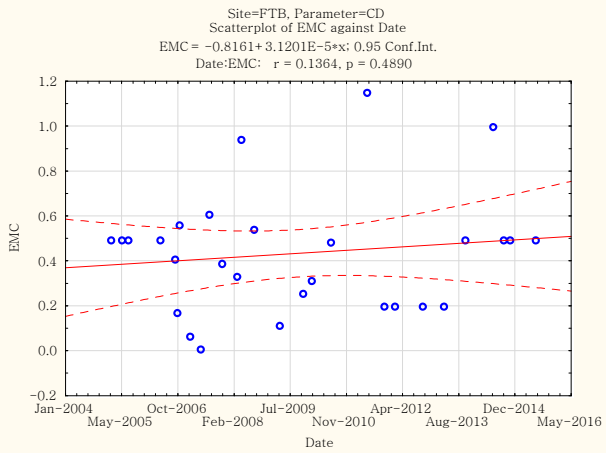

Site=FBU, Parameter=TP
Scatterplot of EMC against Date
EMC = 1.4372-3.3735E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2409, p = 0.0661
EMC
Date

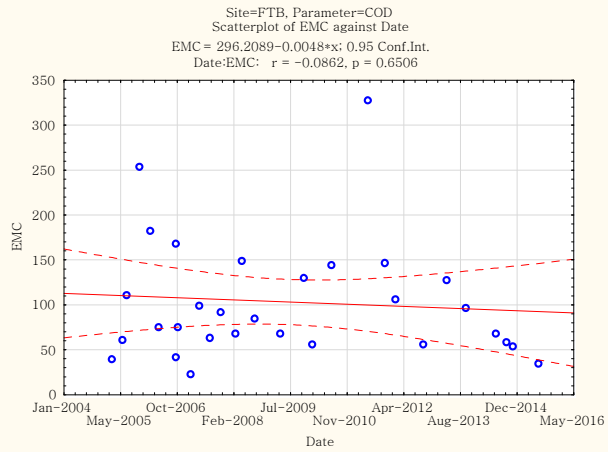

Site=FBU, Parameter=TSS
Scatterplot of EMC against Date
EMC = -510.0251+0.0165*x; 0.95 Conf.Int.
Date:EMC: r = 0.1139, p = 0.3860
EMC
Date

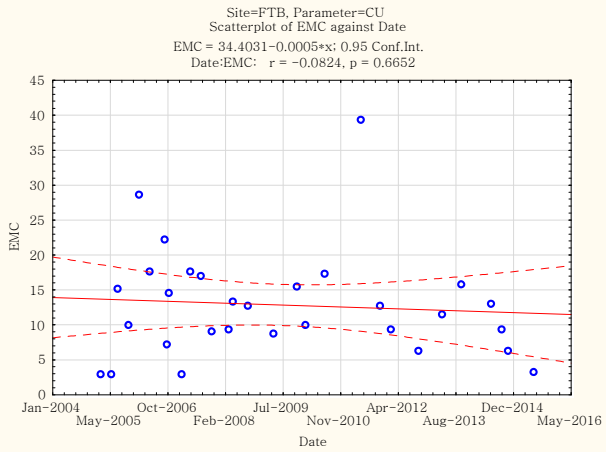

Site=FBU, Parameter=VSS
Scatterplot of EMC against Date
EMC = 187.0865-0.0047*x; 0.95 Conf.Int.
Date:EMC: r = -0.3009, p = 0.0664
EMC
Date


Site=FBU, Parameter=ZN
Scatterplot of EMC against Date
EMC = 96.5745-0.002*x; 0.95 Conf.Int.
Date:EMC: r = -0.1887, p = 0.1419
EMC
Date

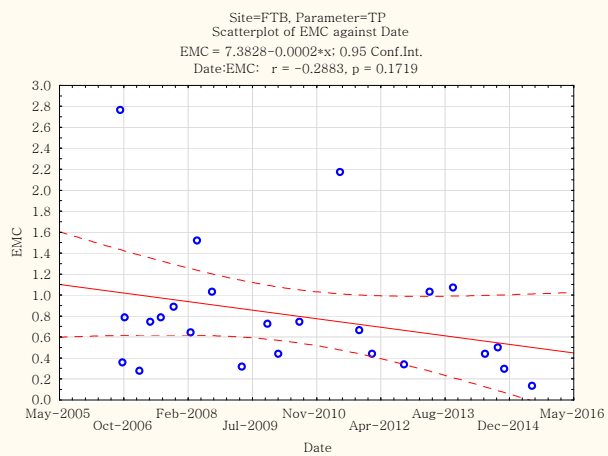

Site=FTB, Parameter=BOD
Scatterplot of EMC against Date
EMC = 54.9452-0.001*x; 0.95 Conf.Int.
Date:EMC: r = -0.1210, p = 0.5319
EMC
Date

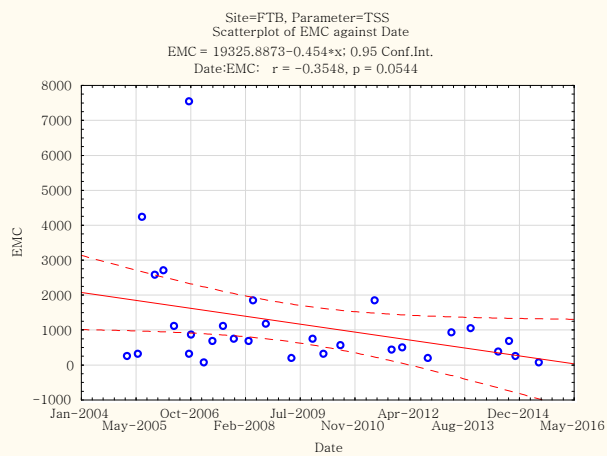

Site=FTB, Parameter=CD
Scatterplot of EMC against Date
EMC = -0.8161+3.1201E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1364, p = 0.4890
EMC
Date

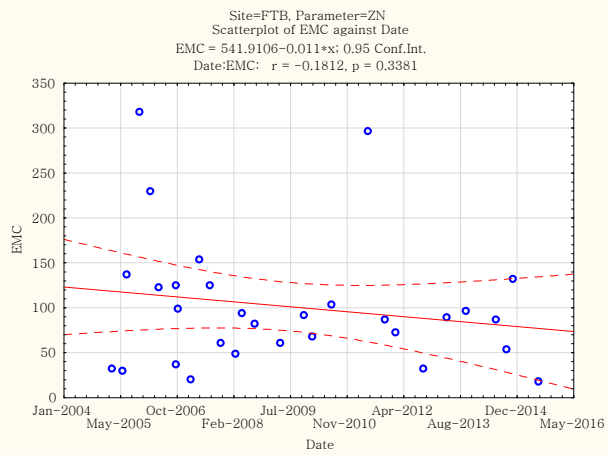

Site=FTB, Parameter=COD
Scatterplot of EMC against Date
EMC = 296.2089-0.0048*x; 0.95 Conf.Int.
Date:EMC: r = -0.0862, p = 0.6506
EMC
Date


Site=FTB, Parameter=CU
Scatterplot of EMC against Date
EMC = 34.4031-0.0005*x; 0.95 Conf.Int.
Date:EMC: r = -0.0824, p = 0.6652
EMC
Date

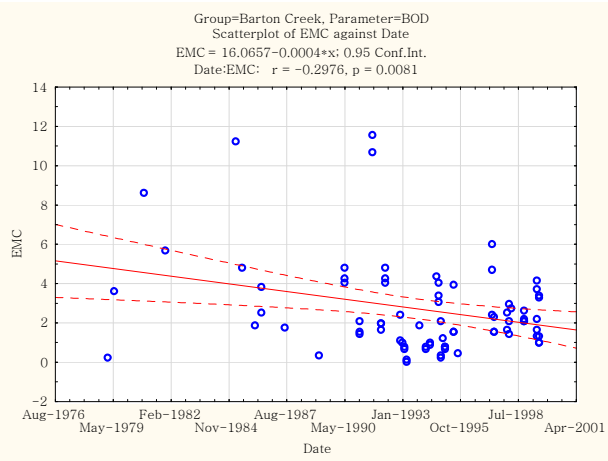
Site=FTB, Parameter=DP
Scatterplot of EMC against Date
EMC = -0.0315+ 2.3978E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0656, p = 0.7305
Site=FTB, Parameter=NO23
Scatterplot of EMC against Date
EMC = 1.439-2.5484E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1562, p = 0.4098
Site=FTB, Parameter=PB
Scatterplot of EMC against Date
EMC = 58.9802-0.0009*x; 0.95 Conf.Int.
Date:EMC: r = -0.0634, p = 0.7391
Site=FTB, Parameter=TDS
Scatterplot of EMC against Date
EMC = 750.2654-0.0149*x; 0.95 Conf.Int.
Date:EMC: r = -0.2772, p = 0.1381
Site=FTB, Parameter=TKN
Scatterplot of EMC against Date
EMC = 2.5222+ 3.0294E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0018, p = 0.9925
Site=FTB, Parameter=TN
Scatterplot of EMC against Date
EMC = 3.9917-2.3174E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.0132, p = 0.9448
EMC
Date
Jan-2004
May-2005
Oct-2006
Feb-2008
Jul-2009
Nov-2010
Apr-2012
Aug-2013
Dec-2014
May-2016

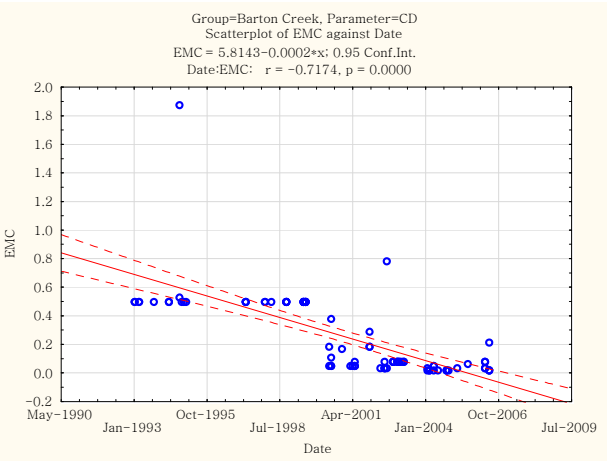

Site=FTB, Parameter=TP
Scatterplot of EMC against Date
EMC = 7.3828-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.2883, p = 0.1719
EMC
Date

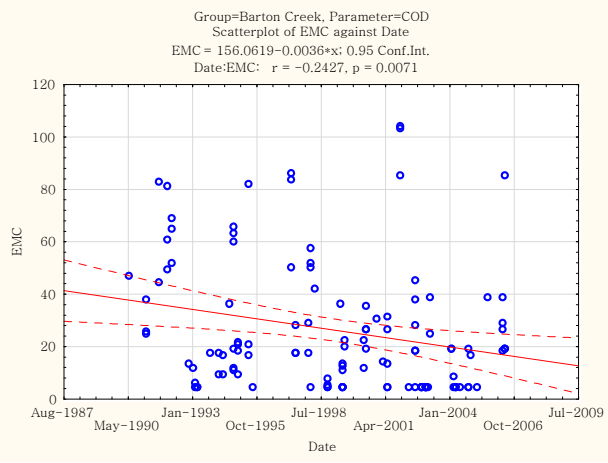

Site=FTB, Parameter=TSS
Scatterplot of EMC against Date
EMC = 19325.8873-0.454*x; 0.95 Conf.Int.
Date:EMC: r = -0.3548, p = 0.0544
EMC
Date

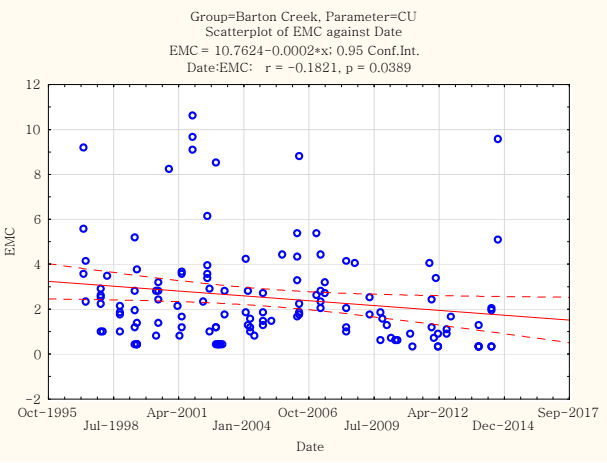

Site=FTB, Parameter=ZN
Scatterplot of EMC against Date
EMC = 541.9106-0.011*x; 0.95 Conf.Int.
Date:EMC: r = -0.1812, p = 0.3381
EMC
Date

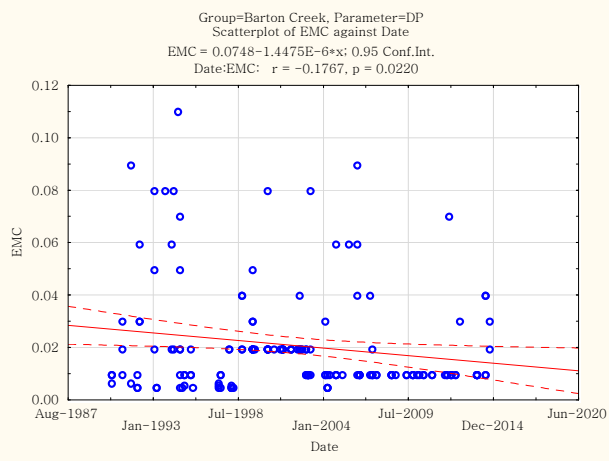
Appendix F Figures of Relationships between EMCs and Date for All Station Groups

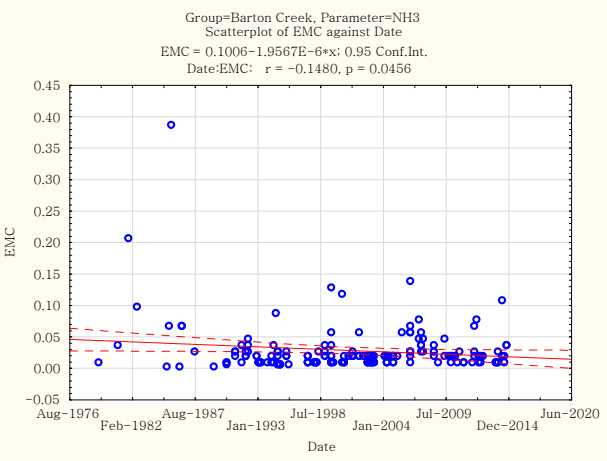


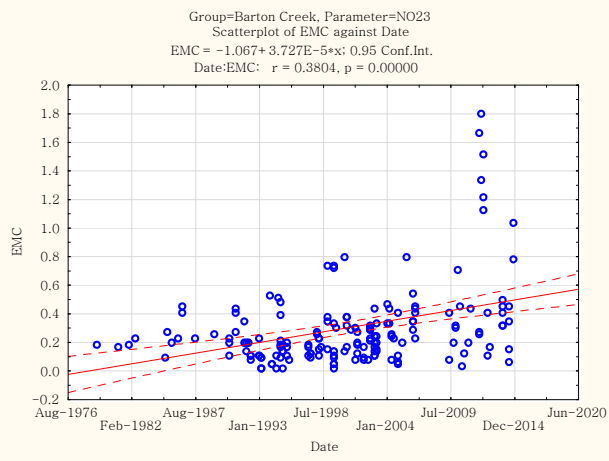


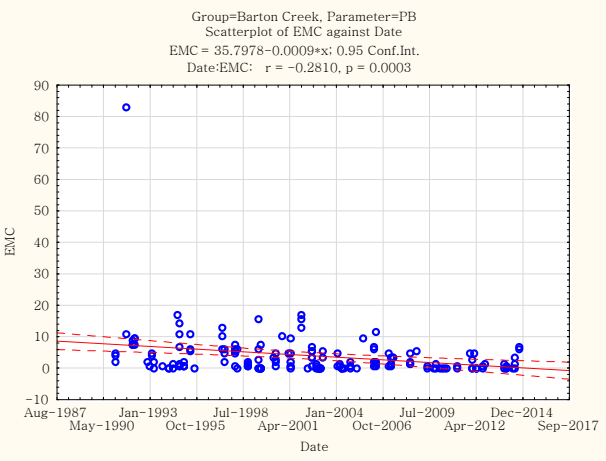


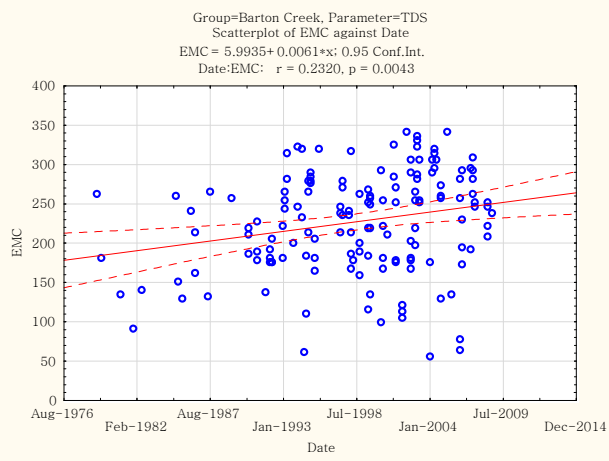


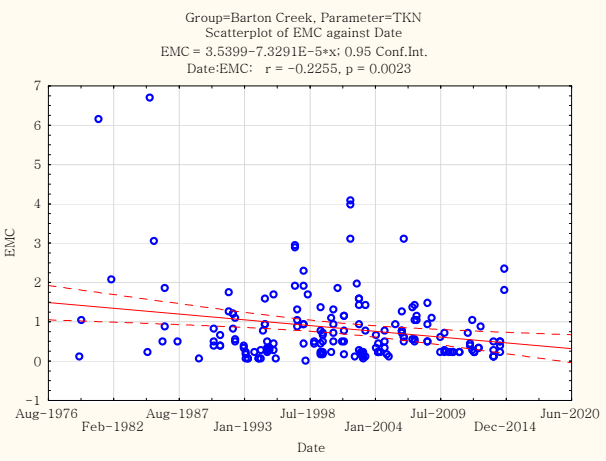


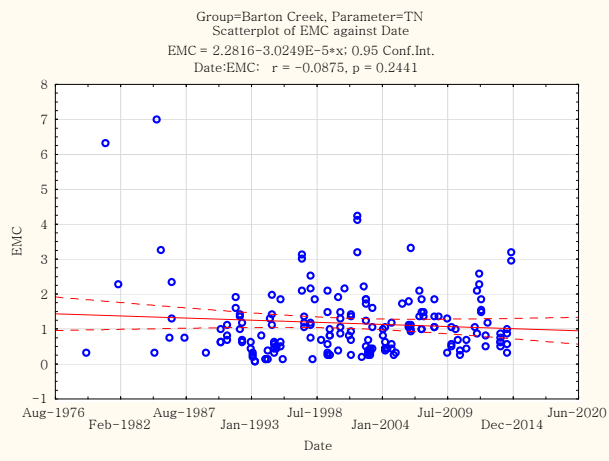


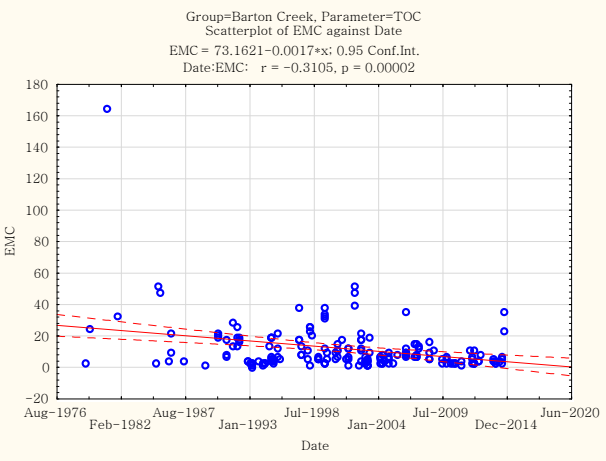

Group=Barton Creek, Parameter=NO23
Scatterplot of EMC against Date
EMC = -1.067+ 3.727E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.3804, p = 0.00000
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

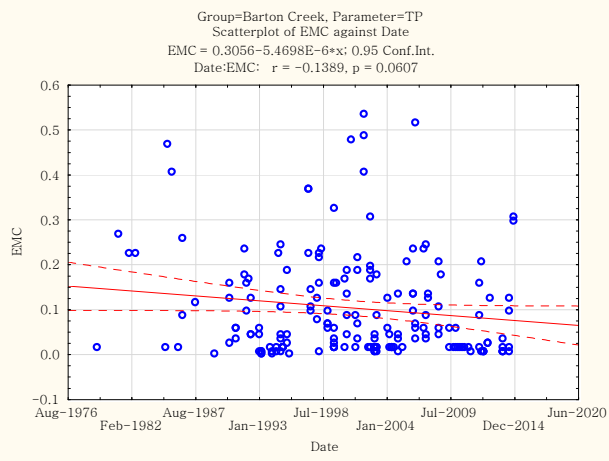

Group=Barton Creek, Parameter=PB
Scatterplot of EMC against Date
EMC = 35.7978-0.0009*x; 0.95 Conf.Int.
Date:EMC: r = -0.2810, p = 0.0003
EMC
Date
Aug-1987
May-1990
Jan-1993
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014
Sep-2017

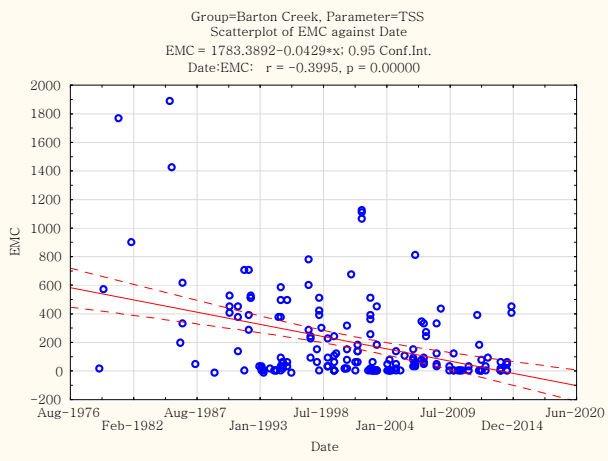

Group=Barton Creek, Parameter=TDS
Scatterplot of EMC against Date
EMC = 5.9935+ 0.0061*x; 0.95 Conf.Int.
Date:EMC: r = 0.2320, p = 0.0043
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

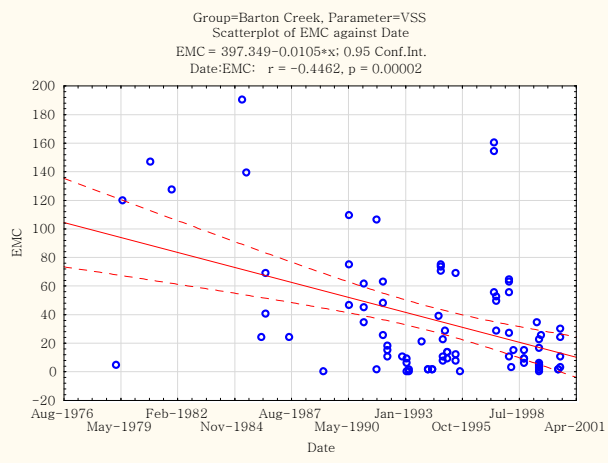

Group=Barton Creek, Parameter=TKN
Scatterplot of EMC against Date
EMC = 3.5399-7.3291E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2255, p = 0.0023
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

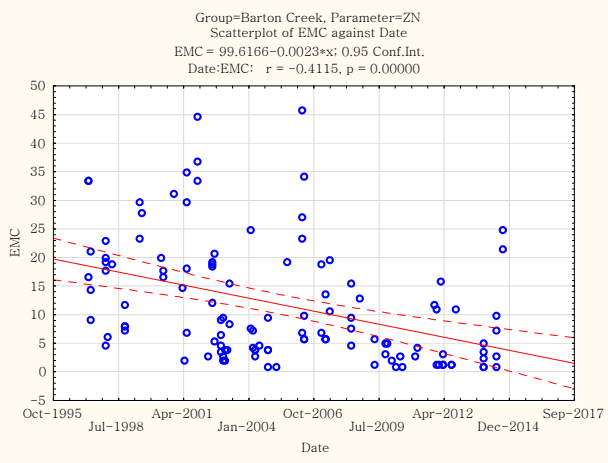

Group=Barton Creek, Parameter=TN
Scatterplot of EMC against Date
EMC = 2.2816-3.0249E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.0875, p = 0.2441
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

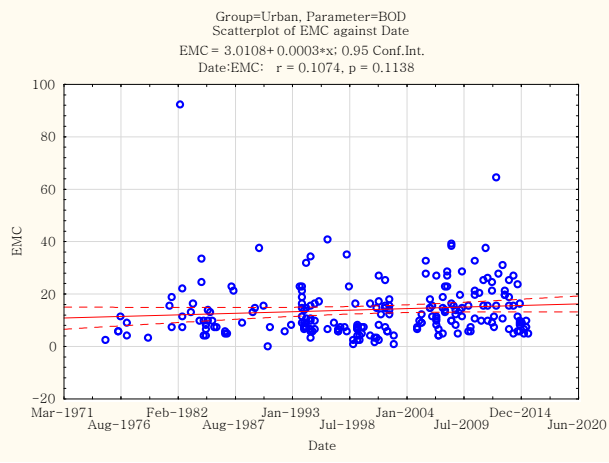

Group=Barton Creek, Parameter=TOC
Scatterplot of EMC against Date
EMC = 73.1621-0.0017*x; 0.95 Conf.Int.
Date:EMC: r = -0.3105, p = 0.00002
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

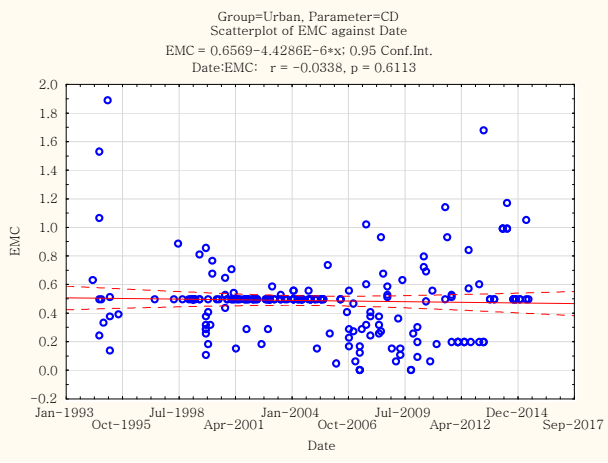

Group=Barton Creek, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.3056-5.4698E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.1389, p = 0.0607
EMC
Date

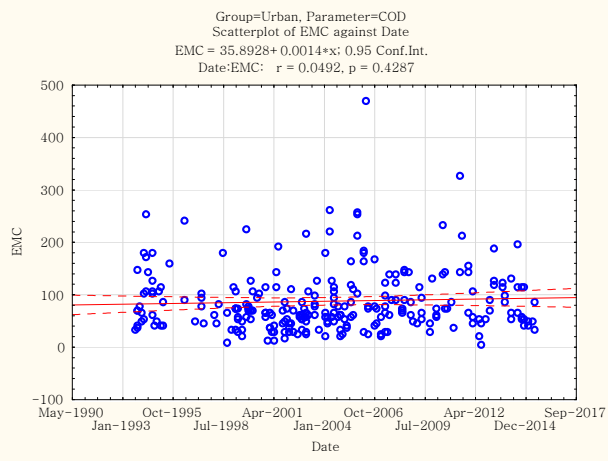

Group=Barton Creek, Parameter=TSS
Scatterplot of EMC against Date
EMC = 1783.3892-0.0429*x; 0.95 Conf.Int.
Date:EMC: r = -0.3995, p = 0.00000
EMC
Date

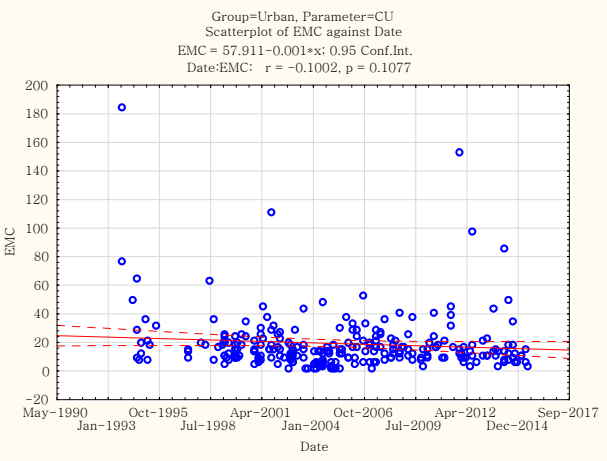

Group=Barton Creek, Parameter=VSS
Scatterplot of EMC against Date
EMC = 397.349-0.0105*x; 0.95 Conf.Int.
Date:EMC: r = -0.4462, p = 0.00002
EMC
Date

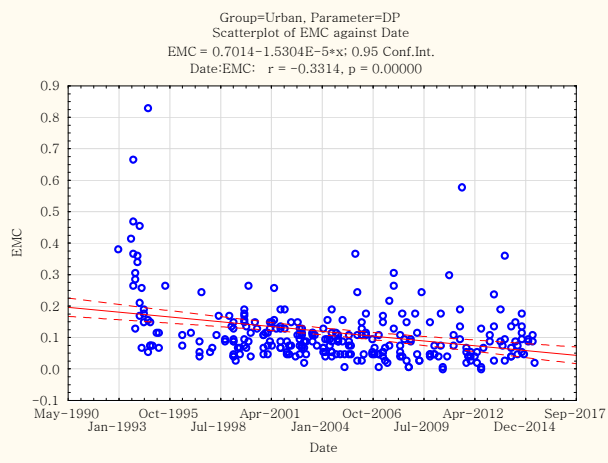

Group=Barton Creek, Parameter=ZN
Scatterplot of EMC against Date
EMC = 99.6166-0.0023*x; 0.95 Conf.Int.
Date:EMC: r = -0.4115, p = 0.00000
EMC
Date

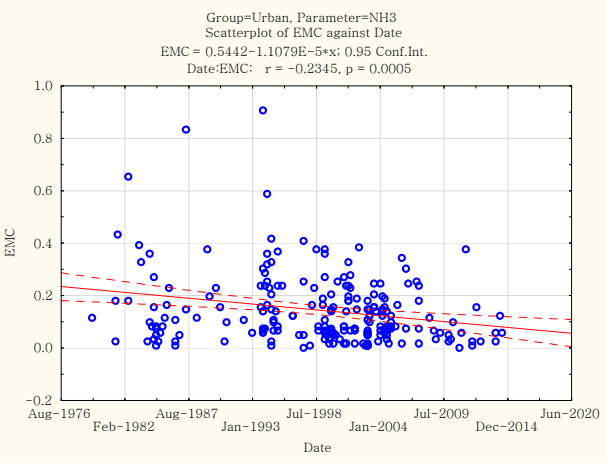

Group=Urban, Parameter=BOD
Scatterplot of EMC against Date
EMC = 3.0108+0.0003*x; 0.95 Conf.Int.
Date:EMC: r = 0.1074, p = 0.1138
EMC
Date

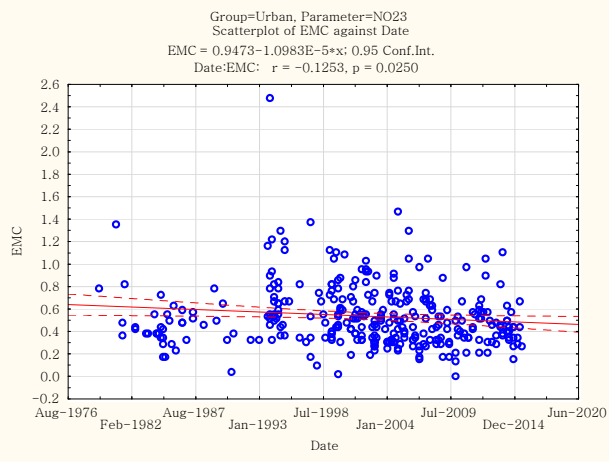

Group=Urban, Parameter=CD
Scatterplot of EMC against Date
EMC = 0.6569-4.4286E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0338, p = 0.6113
EMC
Date

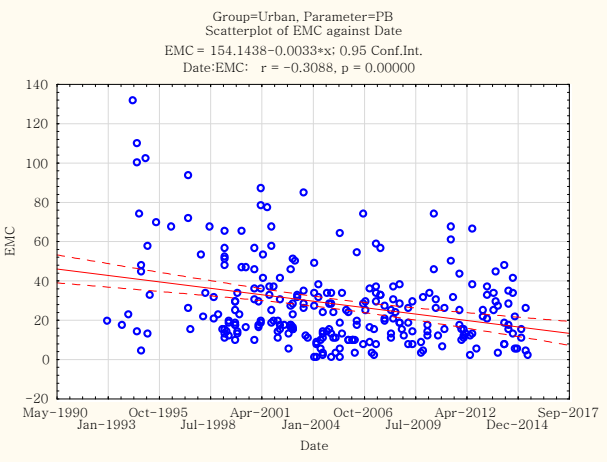

Group=Urban, Parameter=COD
Scatterplot of EMC against Date
EMC = 35.8928+ 0.0014*x; 0.95 Conf.Int.
Date:EMC: r = 0.0492, p = 0.4287
EMC
Date

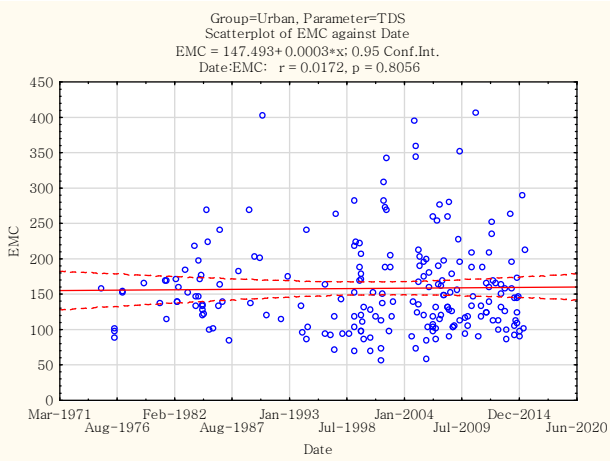

Group=Urban, Parameter=CU
Scatterplot of EMC against Date
EMC = 57.911-0.001*x; 0.95 Conf.Int.
Date:EMC: r = -0.1002, p = 0.1077
EMC
Date

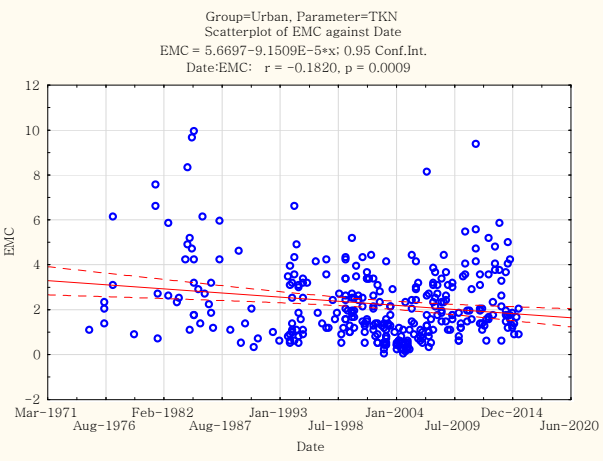

Group=Urban, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.7014-1.5304E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3314, p = 0.00000
EMC
Date

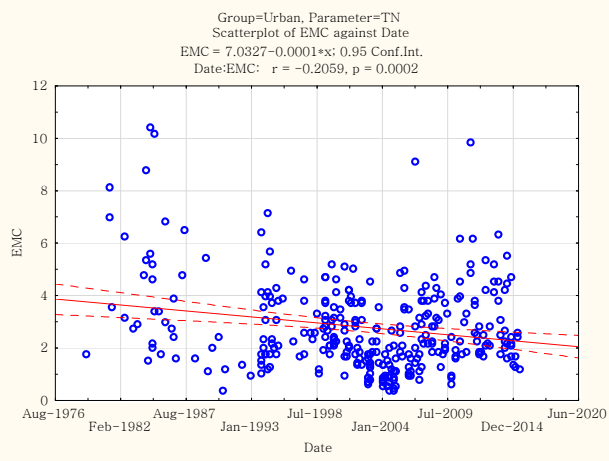

Group=Urban, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.5442-1.1079E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2345, p = 0.0005
EMC
Date

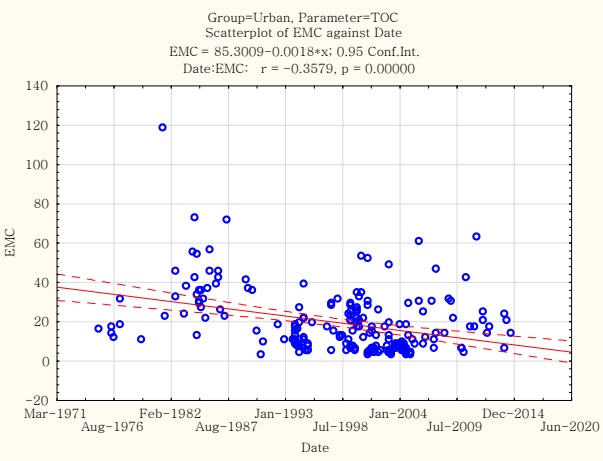

Group=Urban, Parameter=NO23
Scatterplot of EMC against Date
EMC = 0.9473-1.0983E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1253, p = 0.0250
EMC
Date

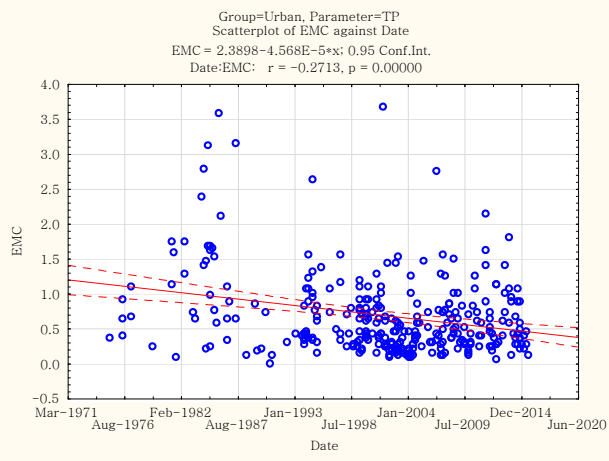

Group=Urban, Parameter=PB
Scatterplot of EMC against Date
EMC = 154.1438-0.0033*x; 0.95 Conf.Int.
Date:EMC: r = -0.3088, p = 0.00000
EMC
Date

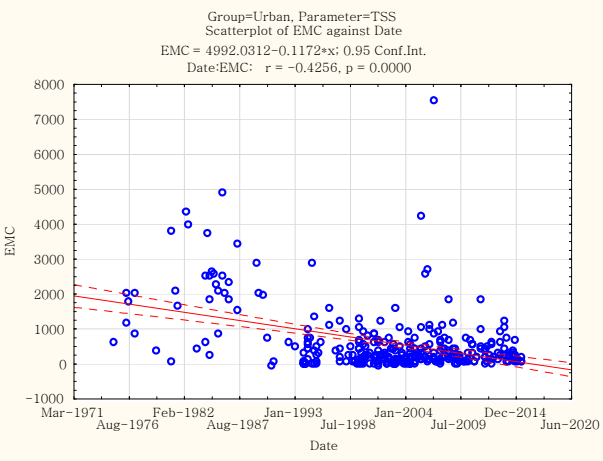

Group=Urban, Parameter=TDS
Scatterplot of EMC against Date
EMC = 147.493+0.0003*x; 0.95 Conf.Int.
Date:EMC: r = 0.0172, p = 0.8056
EMC
Date

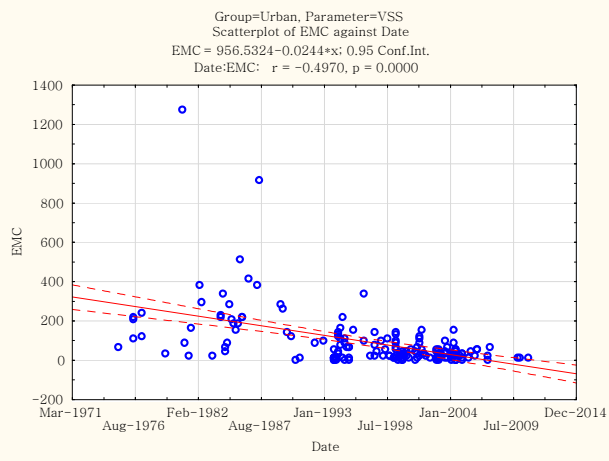

Group=Urban, Parameter=TKN
Scatterplot of EMC against Date
EMC = 5.6697-9.1509E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.1820, p = 0.0009
EMC
Date

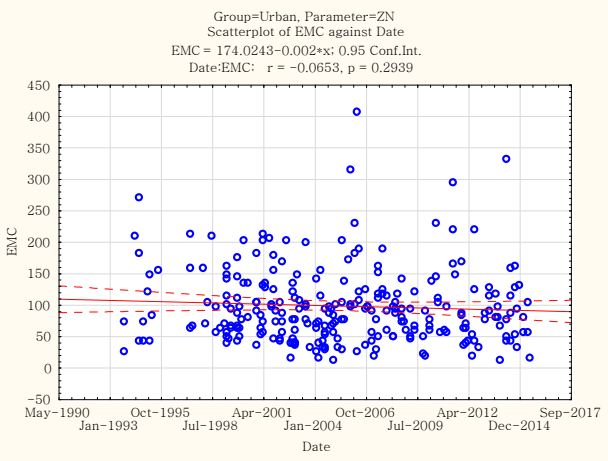

Group=Urban, Parameter=TN
Scatterplot of EMC against Date
EMC = 7.0327-0.0001*x; 0.95 Conf.Int.
Date:EMC: r = -0.2059, p = 0.0002
EMC
Date

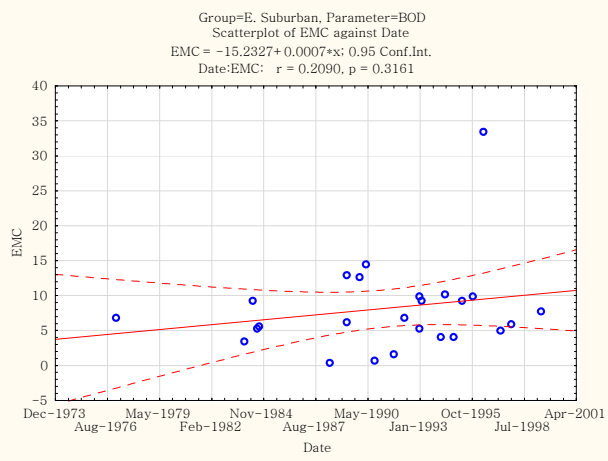

Group=Urban, Parameter=TOC
Scatterplot of EMC against Date
EMC = 85.3009-0.0018*x; 0.95 Conf.Int.
Date:EMC: r = -0.3579, p = 0.00000
EMC
Date

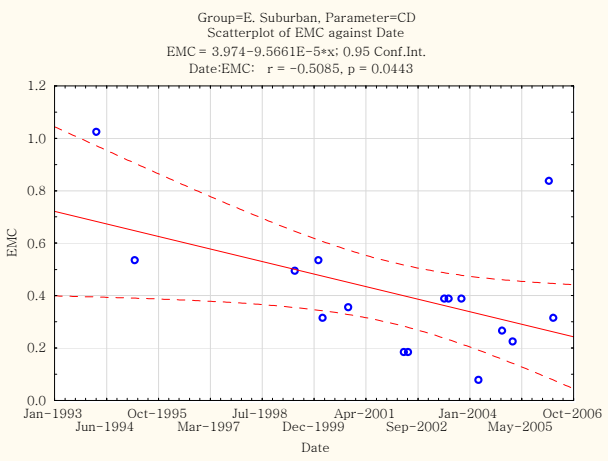

Group=Urban, Parameter=TP
Scatterplot of EMC against Date
EMC = 2.3898-4.568E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.2713, p = 0.00000
EMC
Date

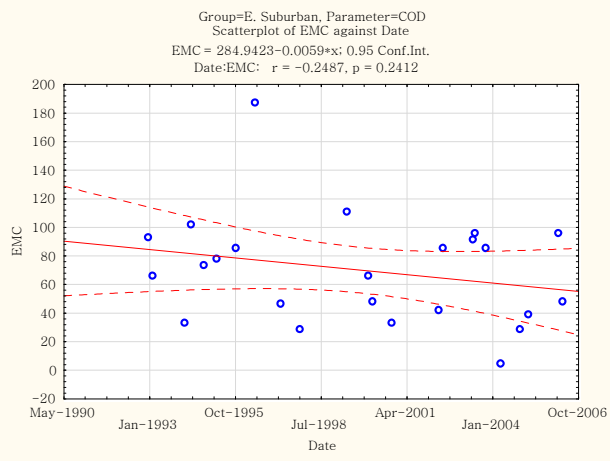

Group=Urban, Parameter=TSS
Scatterplot of EMC against Date
EMC = 4992.0312-0.1172*x; 0.95 Conf.Int.
Date:EMC: r = -0.4256, p = 0.0000
EMC
Date

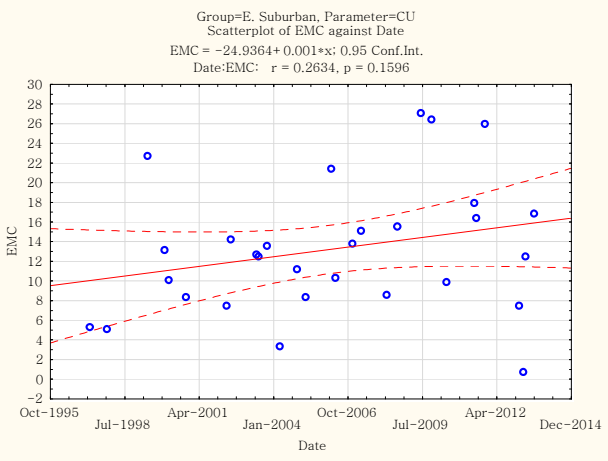

Group=Urban, Parameter=VSS
Scatterplot of EMC against Date
EMC = 956.5324-0.0244*x; 0.95 Conf.Int.
Date:EMC: r = -0.4970, p = 0.0000
EMC
Date

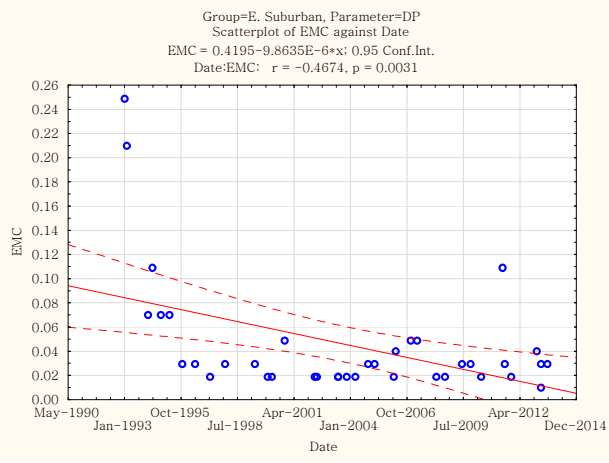

Group=Urban, Parameter=ZN
Scatterplot of EMC against Date
EMC = 174.0243-0.002*x; 0.95 Conf.Int.
Date:EMC: r = -0.0653, p = 0.2939
EMC
Date

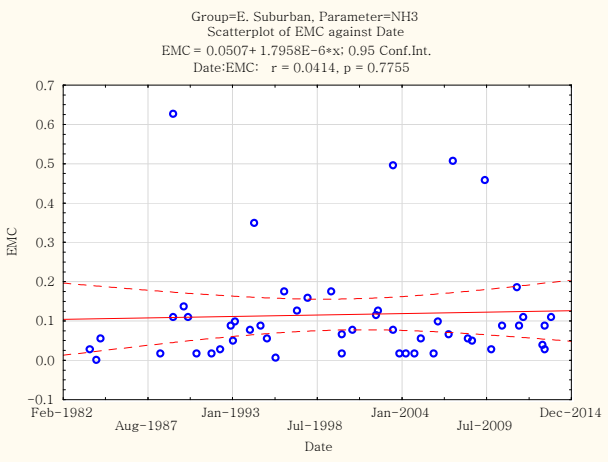

Group=E. Suburban, Parameter=BOD
Scatterplot of EMC against Date
EMC = -15.2327+0.0007*x; 0.95 Conf.Int.
Date:EMC: r = 0.2090, p = 0.3161
EMC
Date

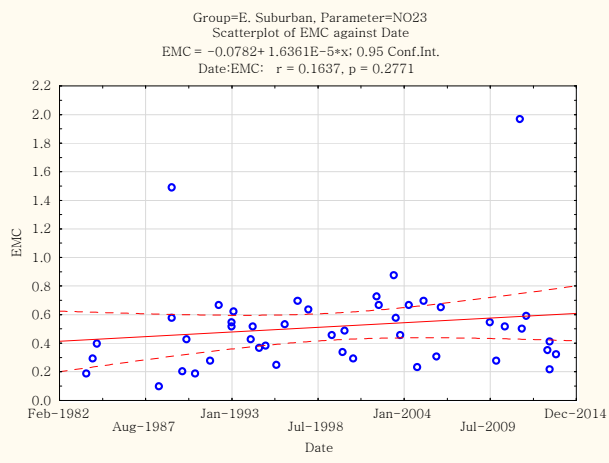

Group=E. Suburban, Parameter=CD
Scatterplot of EMC against Date
EMC = 3.974-9.5661E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.5085, p = 0.0443
EMC
Date

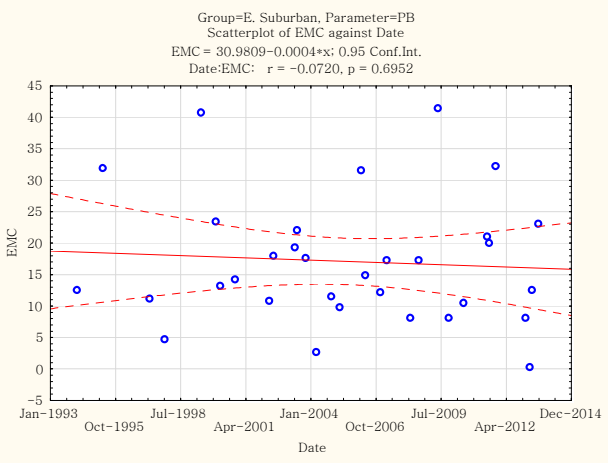

Group=E. Suburban, Parameter=COD
Scatterplot of EMC against Date
EMC = 284.9423-0.0059*x; 0.95 Conf.Int.
Date:EMC: r = -0.2487, p = 0.2412
EMC
Date

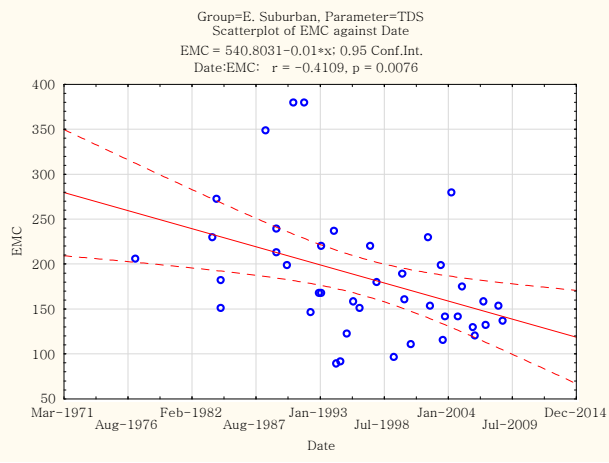

Group=E. Suburban, Parameter=CU
Scatterplot of EMC against Date
EMC = -24.9364+0.001*x; 0.95 Conf.Int.
Date:EMC: r = 0.2634, p = 0.1596
EMC
Date

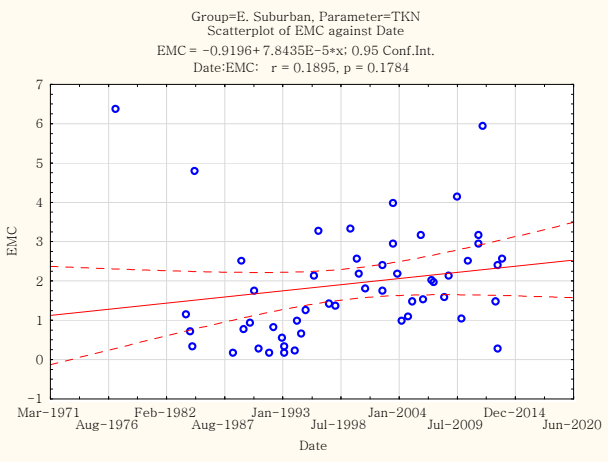

Group=E. Suburban, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.4195-9.8635E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.4674, p = 0.0031
EMC
Date

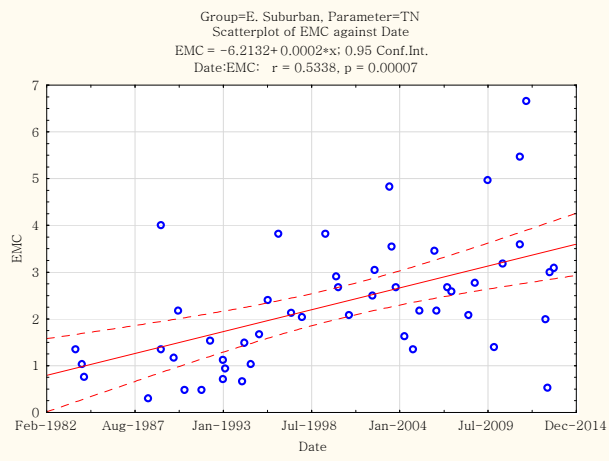

Group=E. Suburban, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.0507+ 1.7958E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.0414, p = 0.7755
EMC
Date

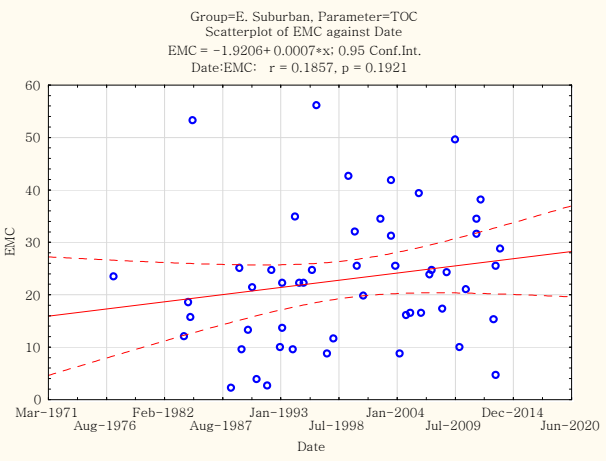

Group=E. Suburban, Parameter=NO23
Scatterplot of EMC against Date
EMC = -0.0782+ 1.6361E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1637, p = 0.2771
EMC
Date

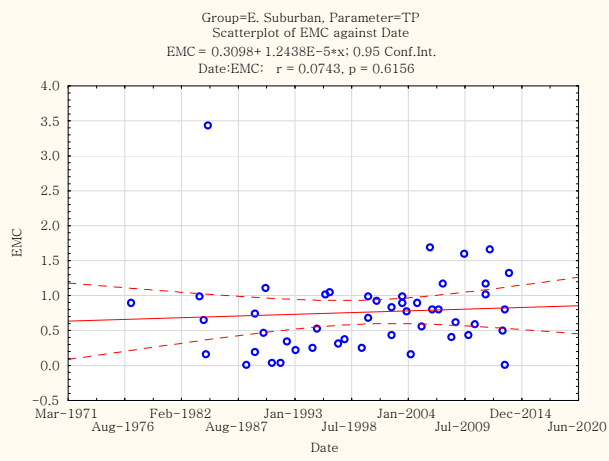

Group=E. Suburban, Parameter=PB
Scatterplot of EMC against Date
EMC = 30.9809-0.0004*x; 0.95 Conf.Int.
Date:EMC: r = -0.0720, p = 0.6952
EMC
Date

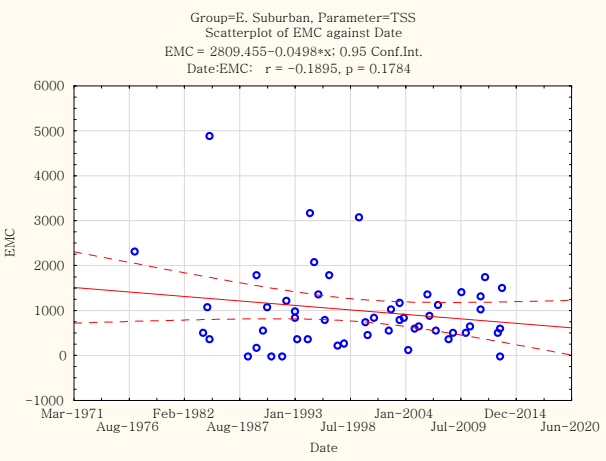

Group=E. Suburban, Parameter=TDS
Scatterplot of EMC against Date
EMC = 540.8031-0.01*x; 0.95 Conf.Int.
Date:EMC: r = -0.4109, p = 0.0076
EMC
Date

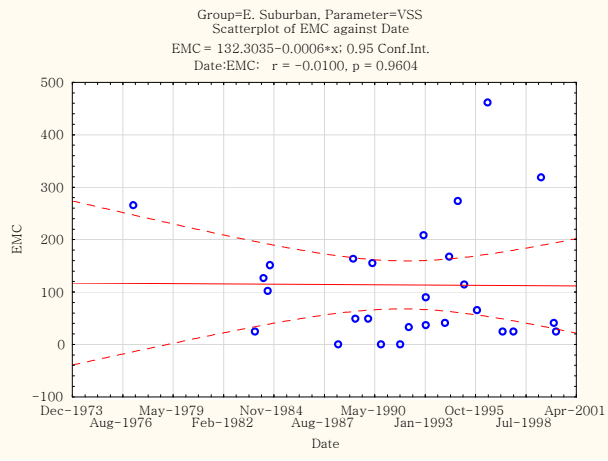

Group=E. Suburban, Parameter=TKN
Scatterplot of EMC against Date
EMC = -0.9196+ 7.8435E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1895, p = 0.1784
EMC
Date

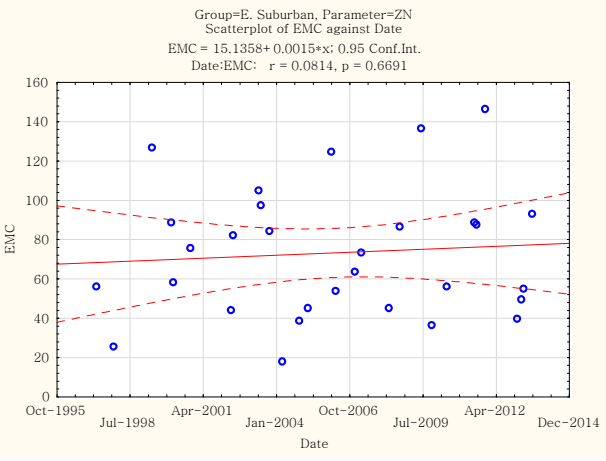

Group=E. Suburban, Parameter=TN
Scatterplot of EMC against Date
EMC = −6.2132+ 0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.5338, p = 0.00007
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

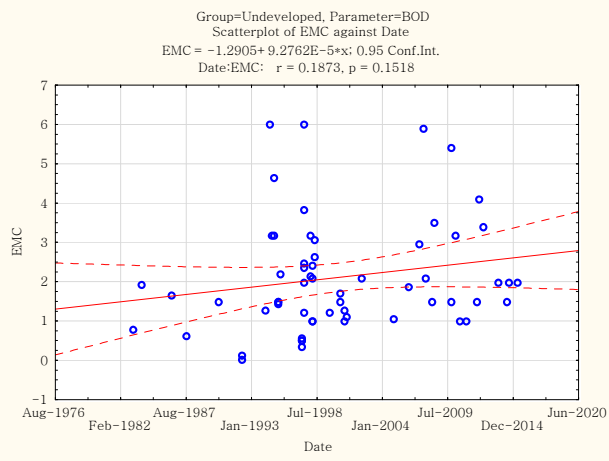

Group=E. Suburban, Parameter=TOC
Scatterplot of EMC against Date
EMC = −1.9206+ 0.0007*x; 0.95 Conf.Int.
Date:EMC: r = 0.1857, p = 0.1921
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

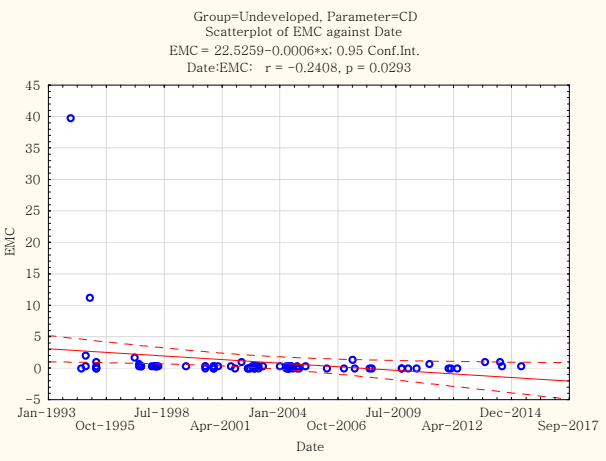

Group=E. Suburban, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.3098+ 1.2438E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.0743, p = 0.6156
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

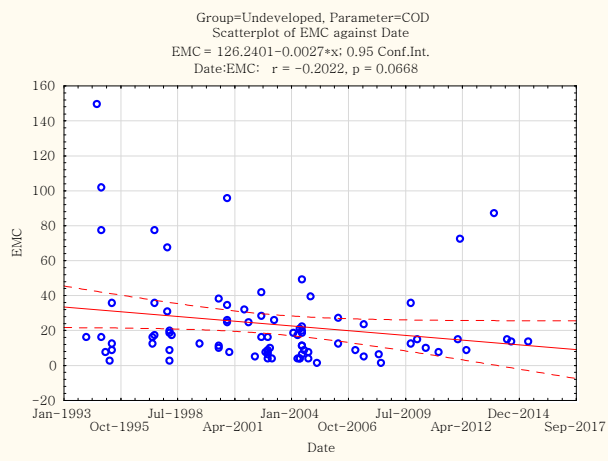

Group=E. Suburban, Parameter=TSS
Scatterplot of EMC against Date
EMC = 2809.455−0.0498*x; 0.95 Conf.Int.
Date:EMC: r = −0.1895, p = 0.1784
EMC
Date
Mar-1971
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

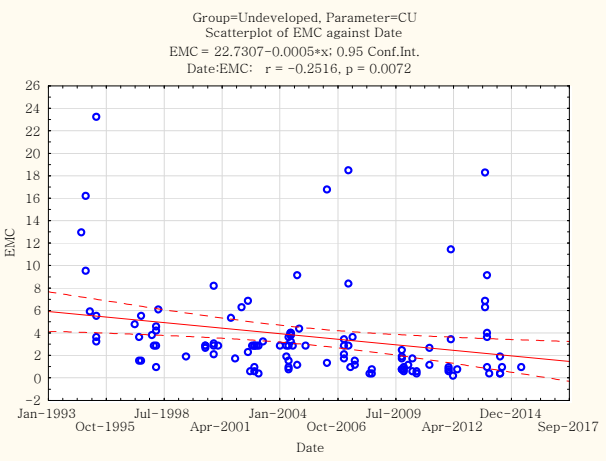

Group=E. Suburban, Parameter=VSS
Scatterplot of EMC against Date
EMC = 132.3035−0.0006*x; 0.95 Conf.Int.
Date:EMC: r = −0.0100, p = 0.9604
EMC
Date
Dec-1973
Aug-1976
May-1979
Feb-1982
Nov-1984
Aug-1987
May-1990
Jan-1993
Oct-1995
Jul-1998
Apr-2001

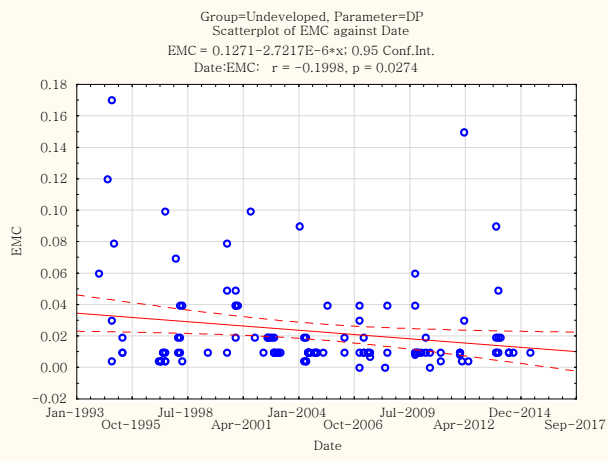

Group=E. Suburban, Parameter=ZN
Scatterplot of EMC against Date
EMC = 15.1358+ 0.0015*x; 0.95 Conf.Int.
Date:EMC: r = 0.0814, p = 0.6691
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014

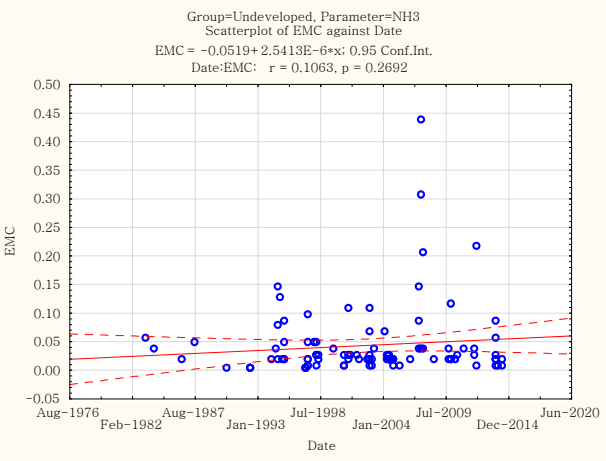

Group=Undeveloped, Parameter=BOD
Scatterplot of EMC against Date
EMC = −1.2905+ 9.2762E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1873, p = 0.1518
EMC
Date
Aug−1976
Feb−1982
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

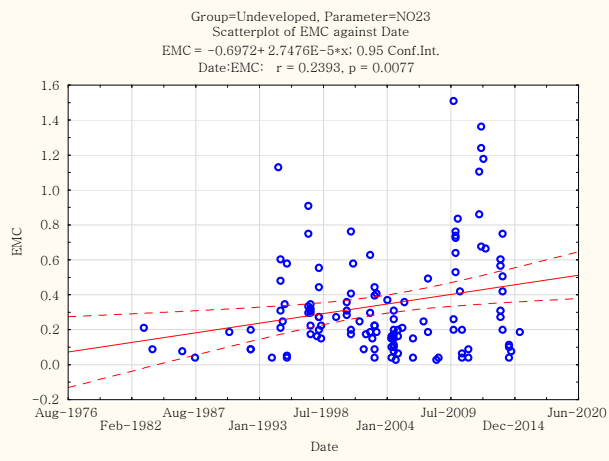

Group=Undeveloped, Parameter=CD
Scatterplot of EMC against Date
EMC = 22.5259−0.0006*x; 0.95 Conf.Int.
Date:EMC: r = −0.2408, p = 0.0293
EMC
Date
Jan−1993
Oct−1995
Jul−1998
Apr−2001
Jan−2004
Oct−2006
Jul−2009
Apr−2012
Dec−2014
Sep−2017

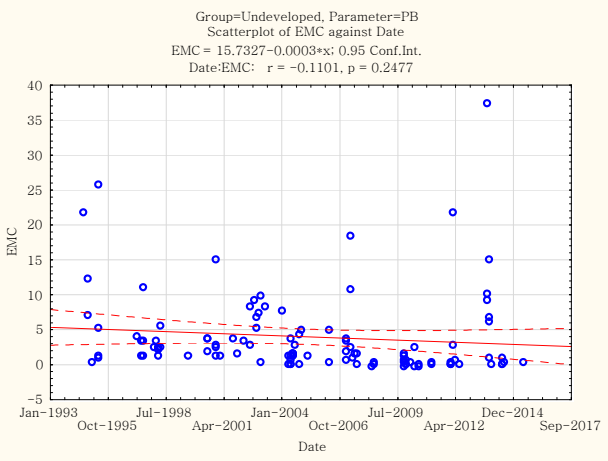

Group=Undeveloped, Parameter=COD
Scatterplot of EMC against Date
EMC = 126.2401−0.0027*x; 0.95 Conf.Int.
Date:EMC: r = −0.2022, p = 0.0668
EMC
Date
Jan−1993
Oct−1995
Jul−1998
Apr−2001
Jan−2004
Oct−2006
Jul−2009
Apr−2012
Dec−2014
Sep−2017

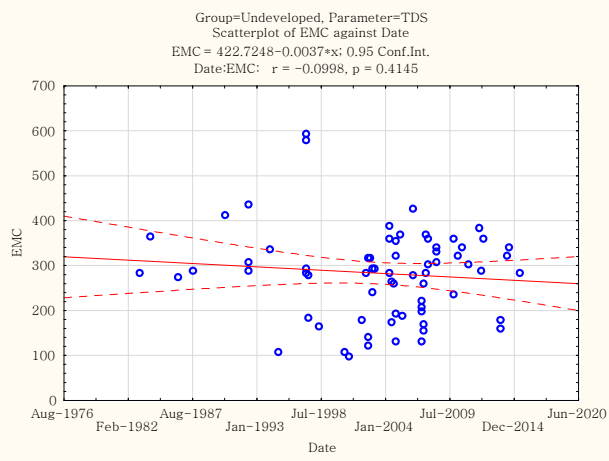

Group=Undeveloped, Parameter=CU
Scatterplot of EMC against Date
EMC = 22.7307−0.0005*x; 0.95 Conf.Int.
Date:EMC: r = −0.2516, p = 0.0072
EMC
Date
Jan−1993
Oct−1995
Jul−1998
Apr−2001
Jan−2004
Oct−2006
Jul−2009
Apr−2012
Dec−2014
Sep−2017

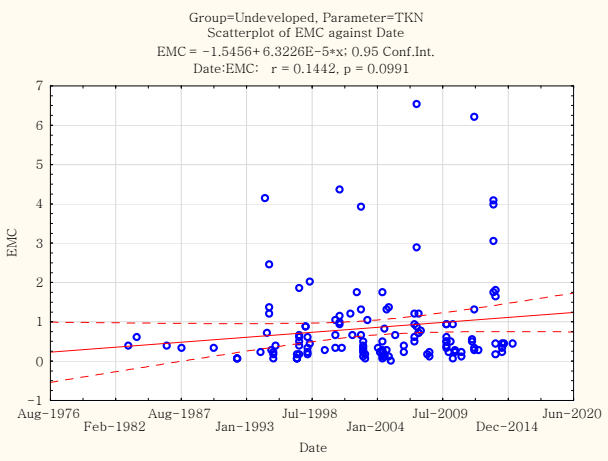

Group=Undeveloped, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.1271−2.7217E−6*x; 0.95 Conf.Int.
Date:EMC: r = −0.1998, p = 0.0274
EMC
Date
Jan−1993
Oct−1995
Jul−1998
Apr−2001
Jan−2004
Oct−2006
Jul−2009
Apr−2012
Dec−2014
Sep−2017

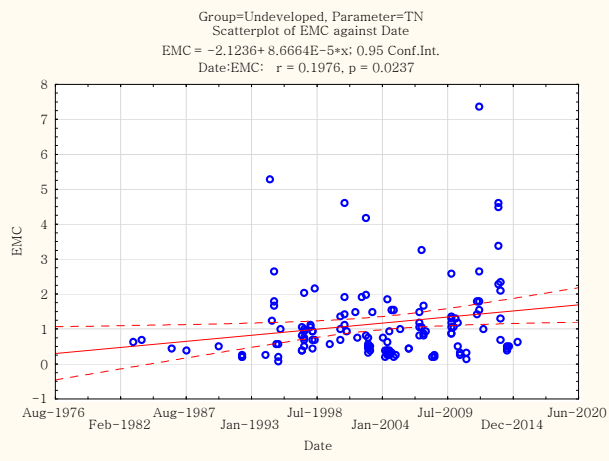

Group=Undeveloped, Parameter=NH3
Scatterplot of EMC against Date
EMC = −0.0519+ 2.5413E−6*x; 0.95 Conf.Int.
Date:EMC: r = 0.1063, p = 0.2692
EMC
Date
Aug−1976
Feb−1982
Aug−1987
Jan−1993
Jul−1998
Jan−2004
Jul−2009
Dec−2014
Jun−2020

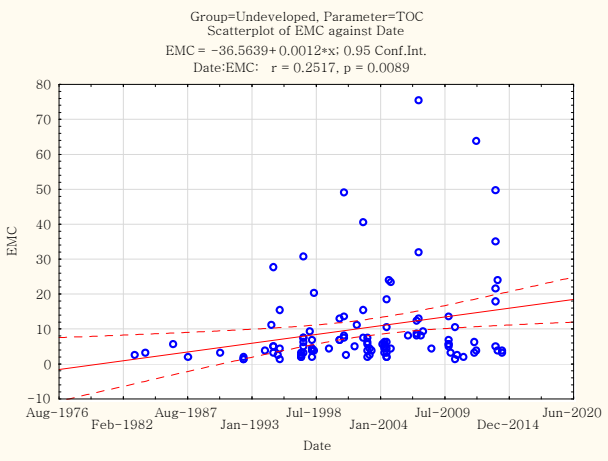

Group=Undeveloped, Parameter=NO23
Scatterplot of EMC against Date
EMC = −0.6972+ 2.7476E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.2393, p = 0.0077
EMC
Date

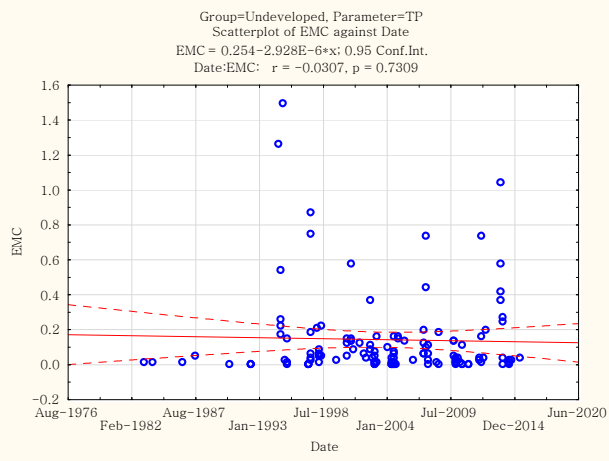

Group=Undeveloped, Parameter=PB
Scatterplot of EMC against Date
EMC = 15.7327−0.0003*x; 0.95 Conf.Int.
Date:EMC: r = −0.1101, p = 0.2477
EMC
Date

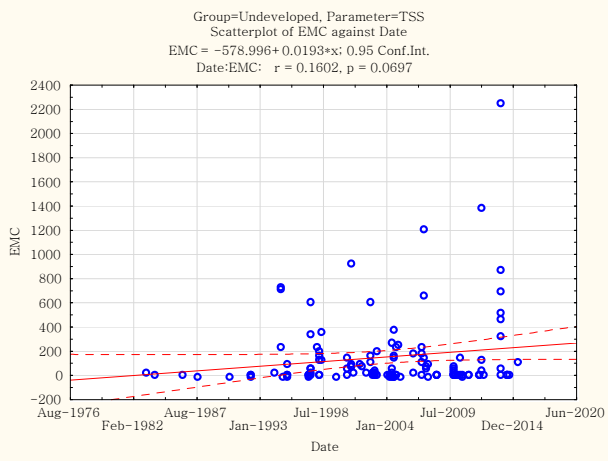

Group=Undeveloped, Parameter=TDS
Scatterplot of EMC against Date
EMC = 422.7248−0.0037*x; 0.95 Conf.Int.
Date:EMC: r = −0.0998, p = 0.4145
EMC
Date

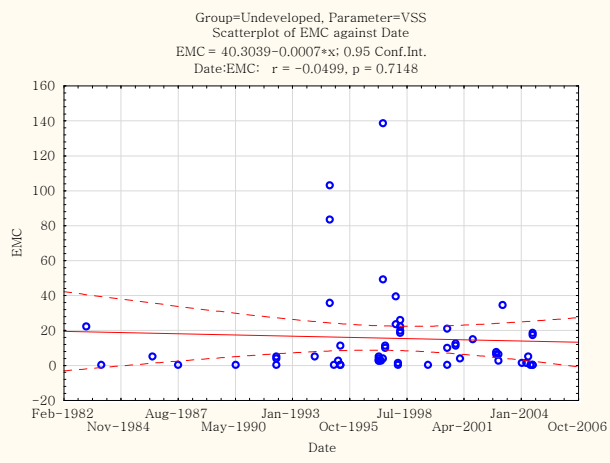

Group=Undeveloped, Parameter=TKN
Scatterplot of EMC against Date
EMC = −1.5456+ 6.3226E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1442, p = 0.0991
EMC
Date

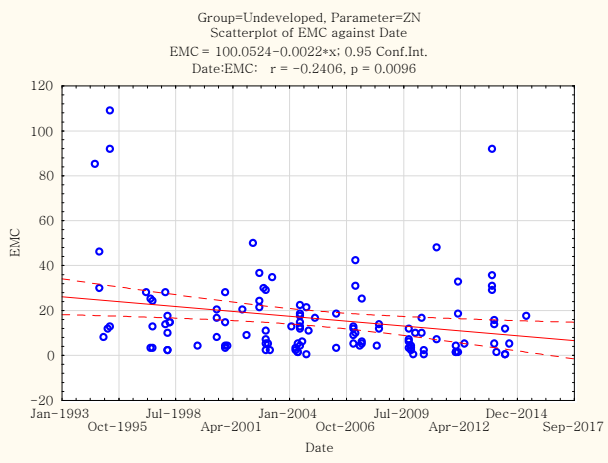

Group=Undeveloped, Parameter=TN
Scatterplot of EMC against Date
EMC = −2.1236+ 8.6664E−5*x; 0.95 Conf.Int.
Date:EMC: r = 0.1976, p = 0.0237
EMC
Date

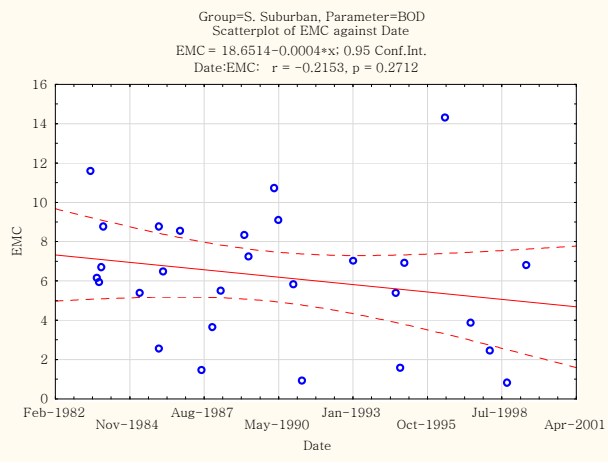

Group=Undeveloped, Parameter=TOC
Scatterplot of EMC against Date
EMC = −36.5639+ 0.0012*x; 0.95 Conf.Int.
Date:EMC: r = 0.2517, p = 0.0089
EMC
Date

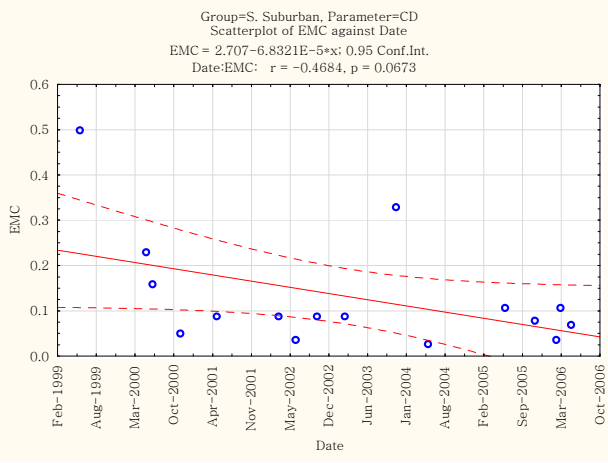

Group=Undeveloped, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.254-2.928E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.0307, p = 0.7309
EMC
Date

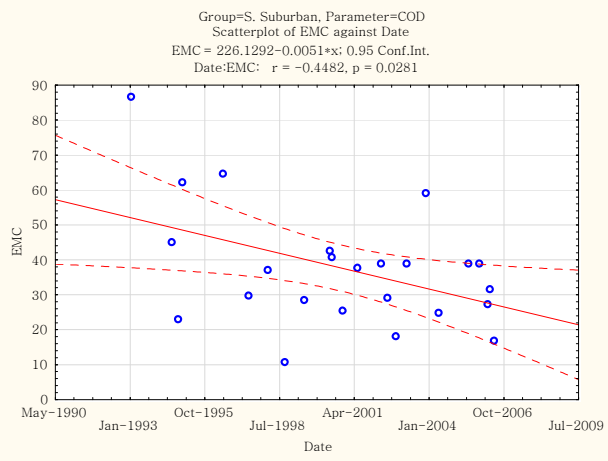

Group=Undeveloped, Parameter=TSS
Scatterplot of EMC against Date
EMC = -578.996+0.0193*x; 0.95 Conf.Int.
Date:EMC: r = 0.1602, p = 0.0697
EMC
Date

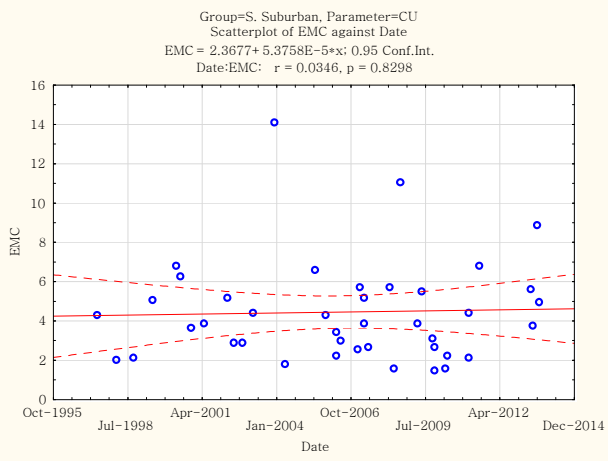

Group=Undeveloped, Parameter=VSS
Scatterplot of EMC against Date
EMC = 40.3039-0.0007*x; 0.95 Conf.Int.
Date:EMC: r = -0.0499, p = 0.7148
EMC
Date

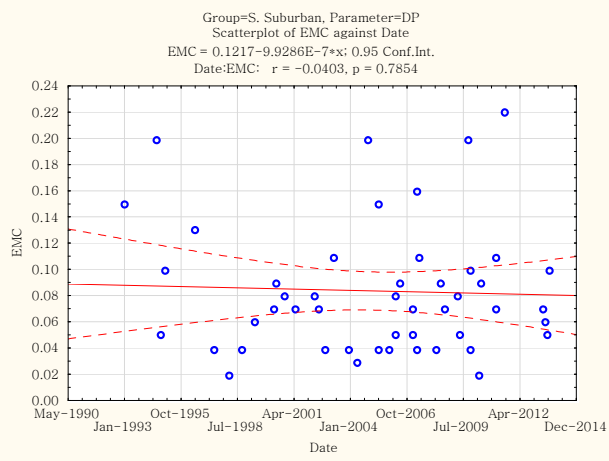

Group=Undeveloped, Parameter=ZN
Scatterplot of EMC against Date
EMC = 100.0524-0.0022*x; 0.95 Conf.Int.
Date:EMC: r = -0.2406, p = 0.0096
EMC
Date

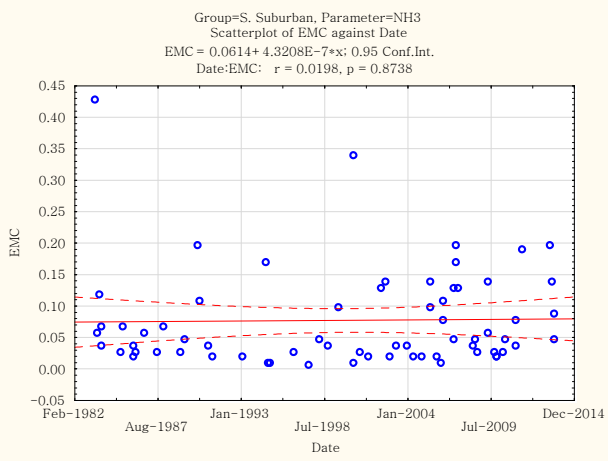

Group=S. Suburban, Parameter=BOD
Scatterplot of EMC against Date
EMC = 18.6514-0.0004*x; 0.95 Conf.Int.
Date:EMC: r = -0.2153, p = 0.2712
EMC
Date

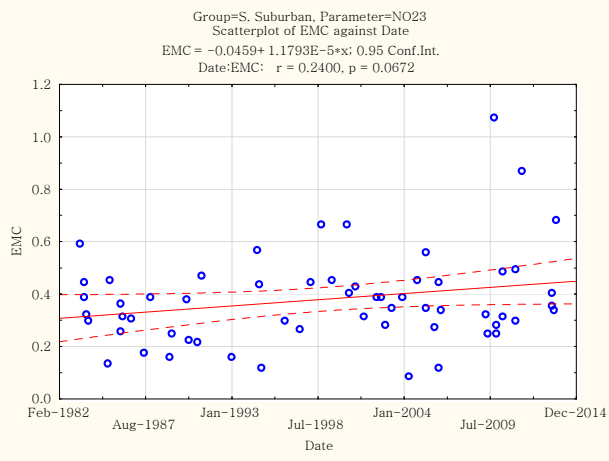

Group=S. Suburban, Parameter=CD
Scatterplot of EMC against Date
EMC = 2.707-6.8321E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.4684, p = 0.0673
EMC
Date

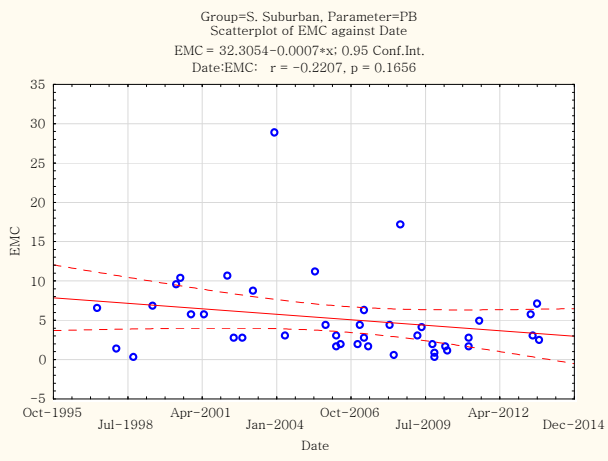

Group=S. Suburban, Parameter=COD
Scatterplot of EMC against Date
EMC = 226.1292-0.0051*x; 0.95 Conf.Int.
Date:EMC: r = -0.4482, p = 0.0281
EMC
Date

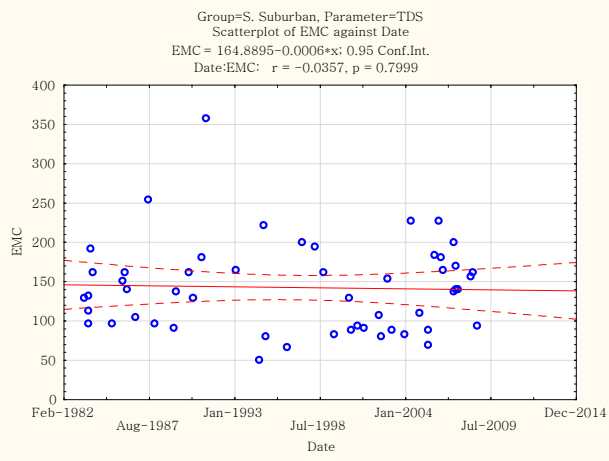

Group=S. Suburban, Parameter=CU
Scatterplot of EMC against Date
EMC = 2.3677+ 5.3758E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.0346, p = 0.8298
EMC
Date

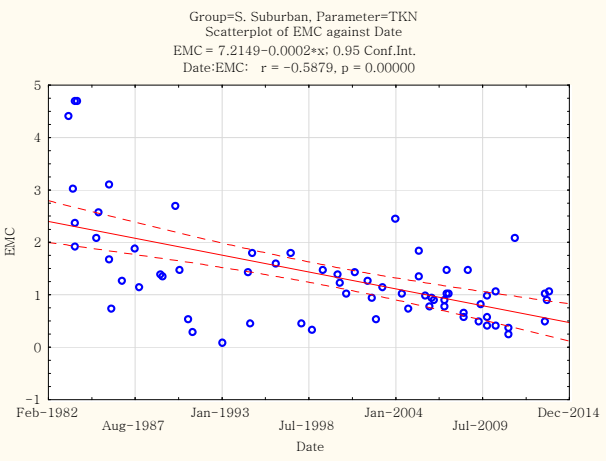

Group=S. Suburban, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.1217-9.9286E-7*x; 0.95 Conf.Int.
Date:EMC: r = -0.0403, p = 0.7854
EMC
Date

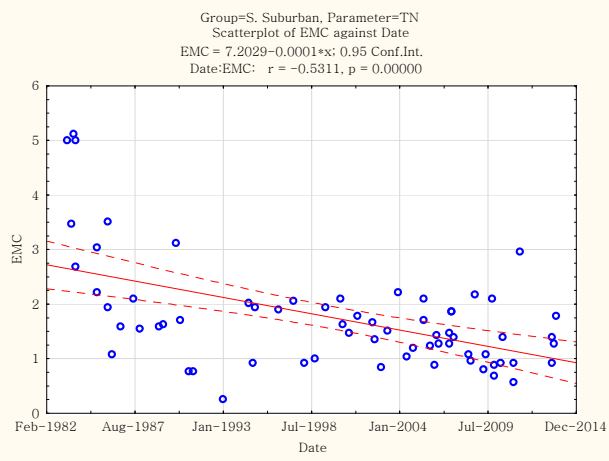

Group=S. Suburban, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.0614+ 4.3208E-7*x; 0.95 Conf.Int.
Date:EMC: r = 0.0198, p = 0.8738
EMC
Date

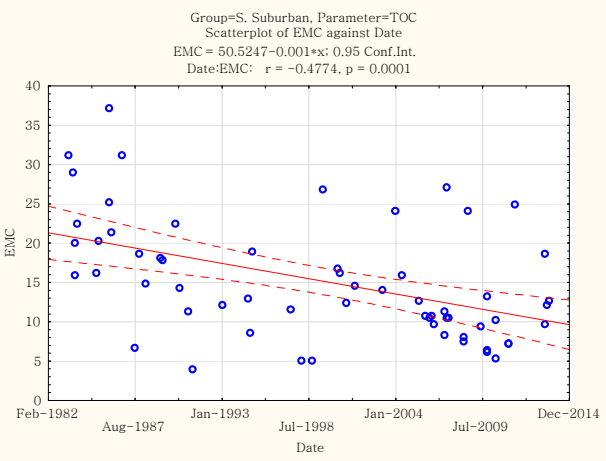

Group=S. Suburban, Parameter=NO23
Scatterplot of EMC against Date
EMC = -0.0459+ 1.1793E-5*x; 0.95 Conf.Int.
Date:EMC: r = 0.2400, p = 0.0672
EMC
Date

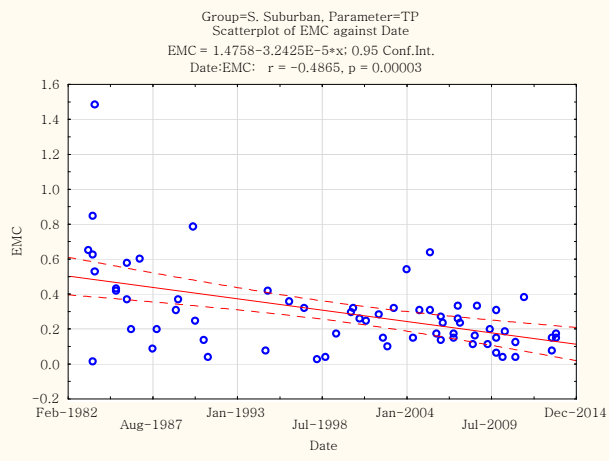

Group=S. Suburban, Parameter=PB
Scatterplot of EMC against Date
EMC = 32.3054-0.0007*x; 0.95 Conf.Int.
Date:EMC: r = -0.2207, p = 0.1656
EMC
Date

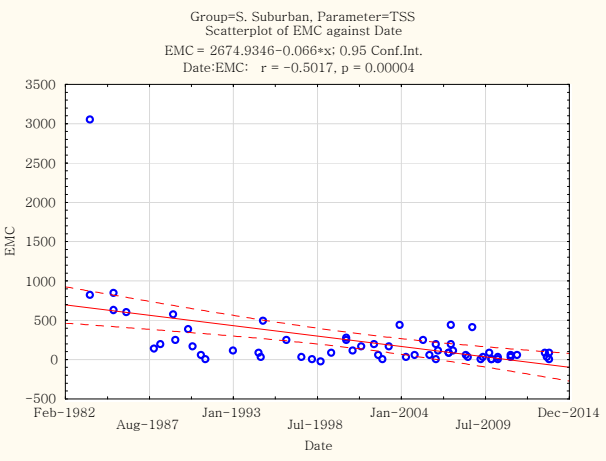

Group=S. Suburban, Parameter=TDS
Scatterplot of EMC against Date
EMC = 164.8895-0.0006*x; 0.95 Conf.Int.
Date:EMC: r = -0.0357, p = 0.7999
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

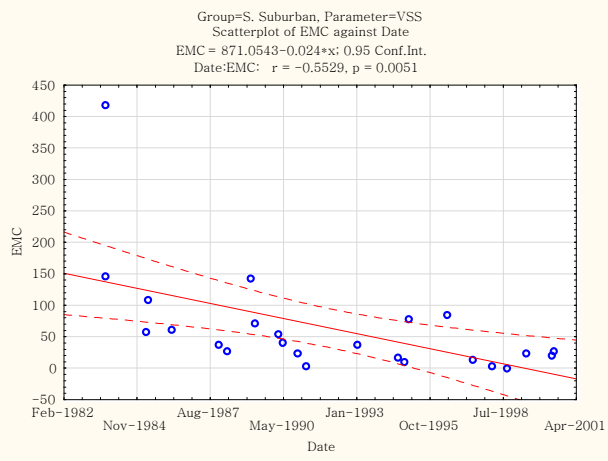

Group=S. Suburban, Parameter=TKN
Scatterplot of EMC against Date
EMC = 7.2149-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.5879, p = 0.00000
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

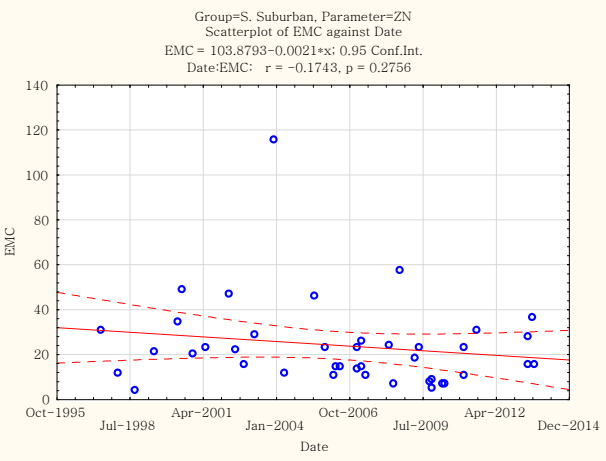

Group=S. Suburban, Parameter=TN
Scatterplot of EMC against Date
EMC = 7.2029-0.0001*x; 0.95 Conf.Int.
Date:EMC: r = -0.5311, p = 0.00000
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

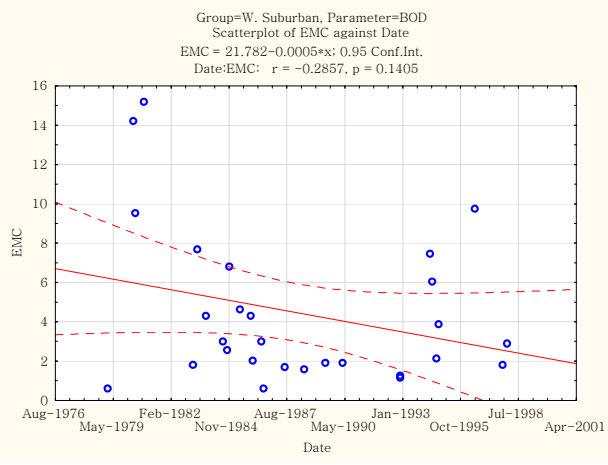

Group=S. Suburban, Parameter=TOC
Scatterplot of EMC against Date
EMC = 50.5247-0.001*x; 0.95 Conf.Int.
Date:EMC: r = -0.4774, p = 0.0001
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

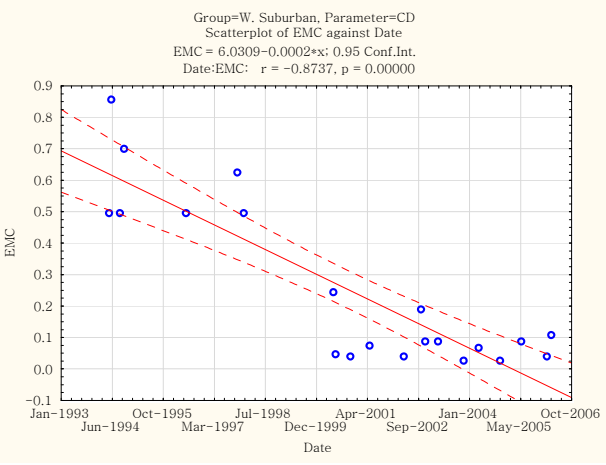

Group=S. Suburban, Parameter=TP
Scatterplot of EMC against Date
EMC = 1.4758-3.2425E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.4865, p = 0.00003
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

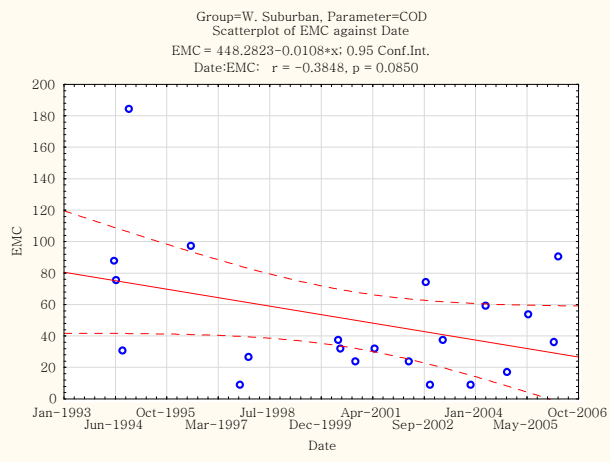

Group=S. Suburban, Parameter=TSS
Scatterplot of EMC against Date
EMC = 2674.9346-0.066*x; 0.95 Conf.Int.
Date:EMC: r = -0.5017, p = 0.00004
EMC
Date
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014

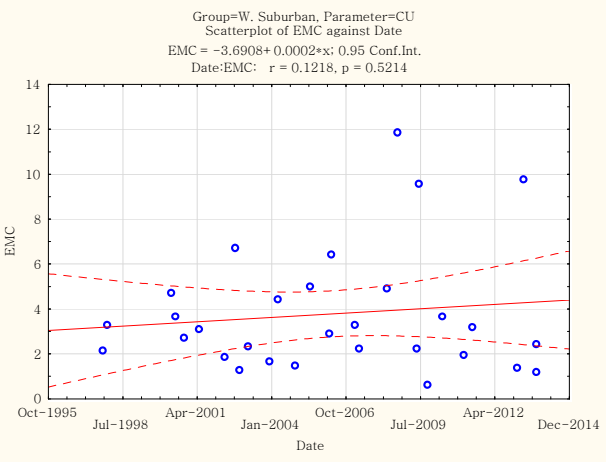

Group=S. Suburban, Parameter=VSS
Scatterplot of EMC against Date
EMC = 871.0543-0.024*x; 0.95 Conf.Int.
Date:EMC: r = -0.5529, p = 0.0051
EMC
Date

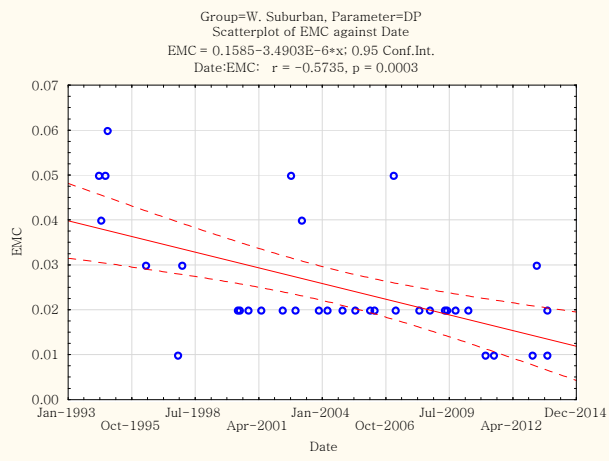

Group=S. Suburban, Parameter=ZN
Scatterplot of EMC against Date
EMC = 103.8793-0.0021*x; 0.95 Conf.Int.
Date:EMC: r = -0.1743, p = 0.2756
EMC
Date

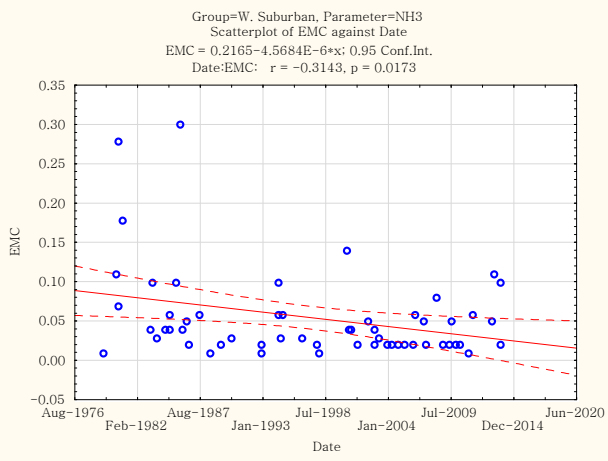

Group=W. Suburban, Parameter=BOD
Scatterplot of EMC against Date
EMC = 21.782-0.0005*x; 0.95 Conf.Int.
Date:EMC: r = -0.2857, p = 0.1405
EMC
Date

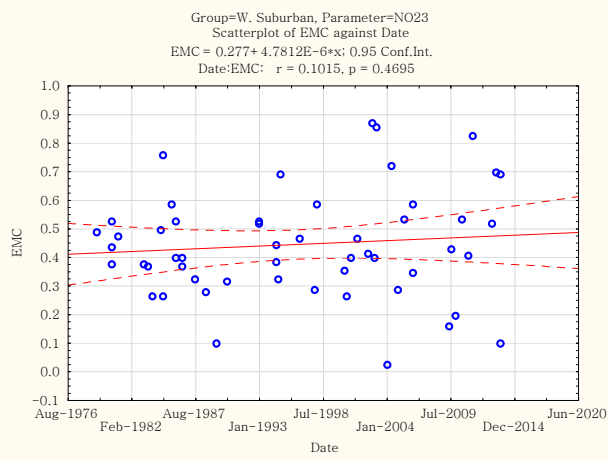

Group=W. Suburban, Parameter=CD
Scatterplot of EMC against Date
EMC = 6.0309-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.8737, p = 0.00000
EMC
Date

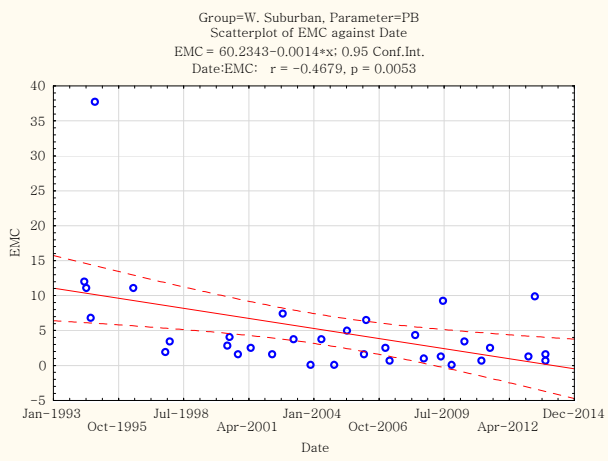

Group=W. Suburban, Parameter=COD
Scatterplot of EMC against Date
EMC = 448.2823-0.0108*x; 0.95 Conf.Int.
Date:EMC: r = -0.3848, p = 0.0850
EMC
Date

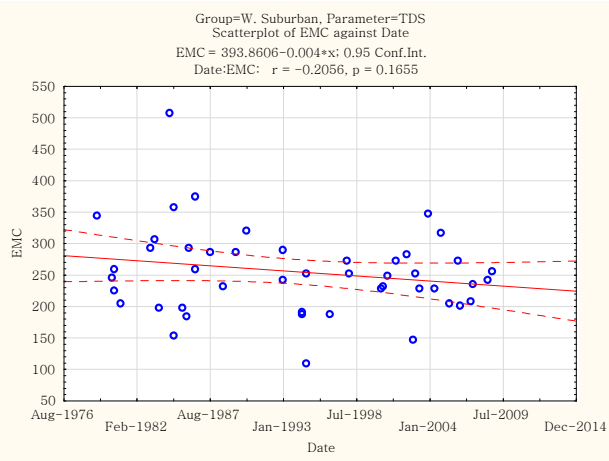

Group=W. Suburban, Parameter=CU
Scatterplot of EMC against Date
EMC = -3.6908+0.0002*x; 0.95 Conf.Int.
Date:EMC: r = 0.1218, p = 0.5214
EMC
Date

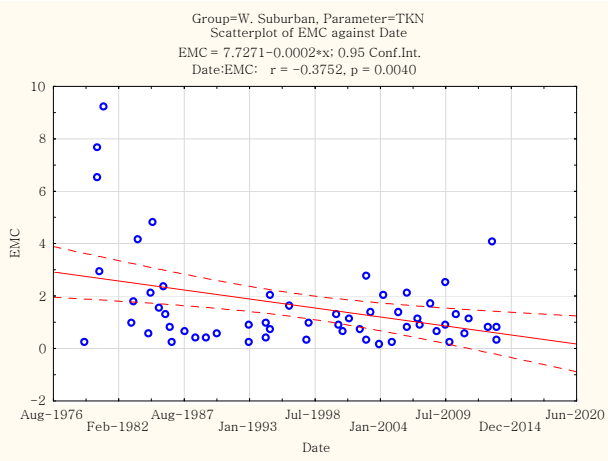

Group=W. Suburban, Parameter=DP
Scatterplot of EMC against Date
EMC = 0.1585-3.4903E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.5735, p = 0.0003
EMC
Date

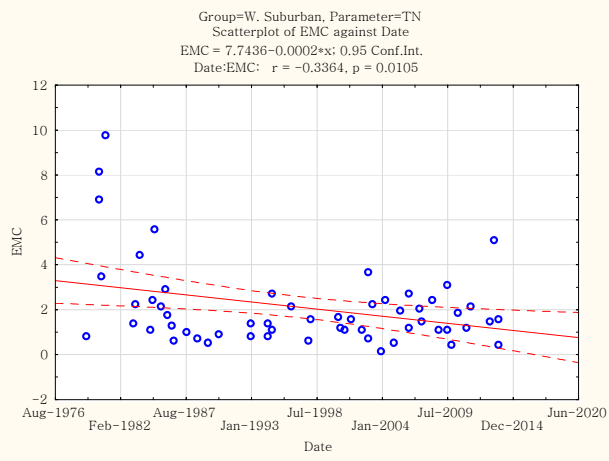

Group=W. Suburban, Parameter=NH3
Scatterplot of EMC against Date
EMC = 0.2165-4.5684E-6*x; 0.95 Conf.Int.
Date:EMC: r = -0.3143, p = 0.0173
EMC
Date

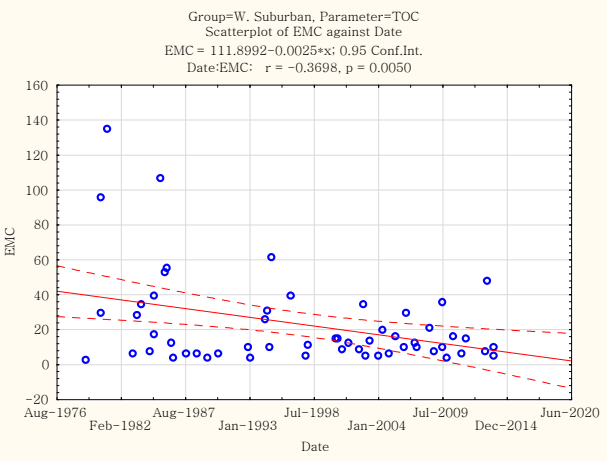

Group=W. Suburban, Parameter=NO23
Scatterplot of EMC against Date
EMC = 0.277+ 4.7812E-6*x; 0.95 Conf.Int.
Date:EMC: r = 0.1015, p = 0.4695
EMC
Date

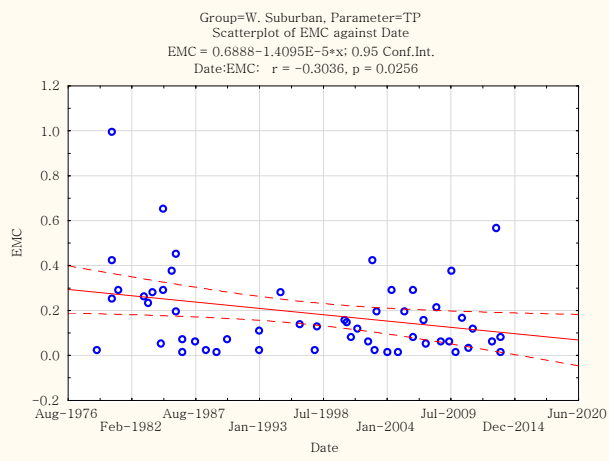

Group=W. Suburban, Parameter=PB
Scatterplot of EMC against Date
EMC = 60.2343-0.0014*x; 0.95 Conf.Int.
Date:EMC: r = -0.4679, p = 0.0053
EMC
Date

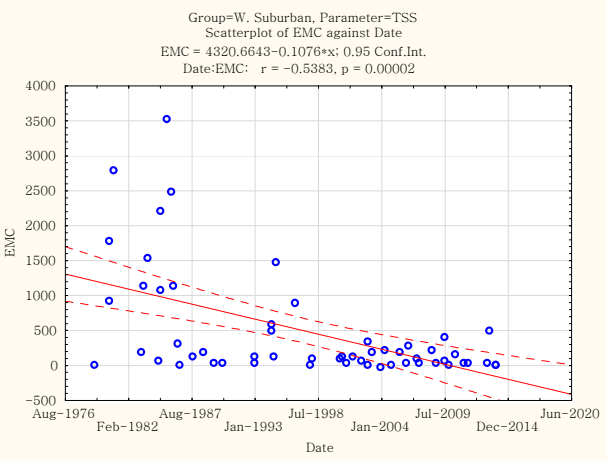

Group=W. Suburban, Parameter=TDS
Scatterplot of EMC against Date
EMC = 393.8606-0.004*x; 0.95 Conf.Int.
Date:EMC: r = -0.2056, p = 0.1655
EMC
Date

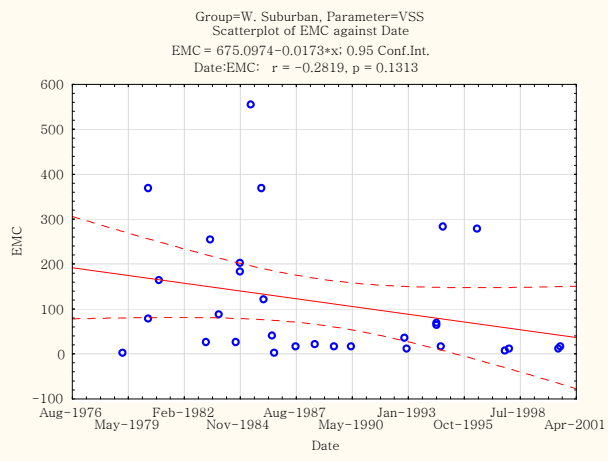

Group=W. Suburban, Parameter=TKN
Scatterplot of EMC against Date
EMC = 7.7271-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.3752, p = 0.0040
EMC
Date

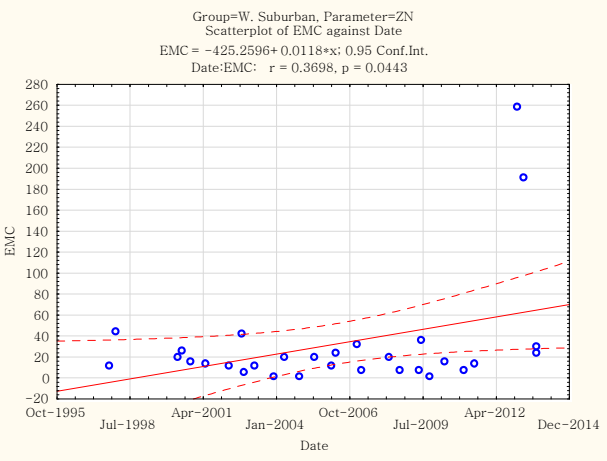

Group=W. Suburban, Parameter=TN
Scatterplot of EMC against Date
EMC = 7.7436-0.0002*x; 0.95 Conf.Int.
Date:EMC: r = -0.3364, p = 0.0105
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020


Group=W. Suburban, Parameter=TOC
Scatterplot of EMC against Date
EMC = 111.8992-0.0025*x; 0.95 Conf.Int.
Date:EMC: r = -0.3698, p = 0.0050
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

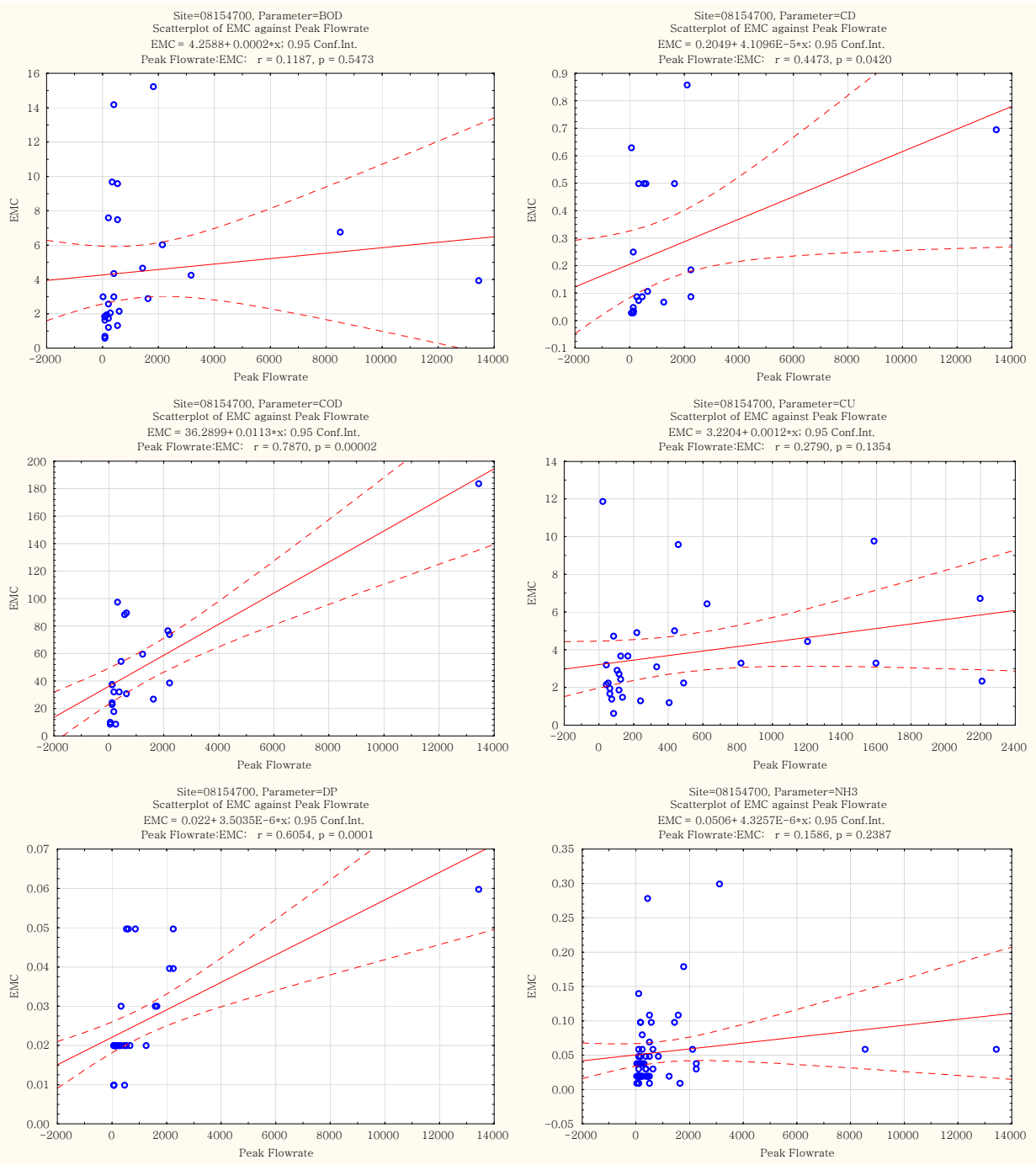

Group=W. Suburban, Parameter=TP
Scatterplot of EMC against Date
EMC = 0.6888-1.4095E-5*x; 0.95 Conf.Int.
Date:EMC: r = -0.3036, p = 0.0256
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

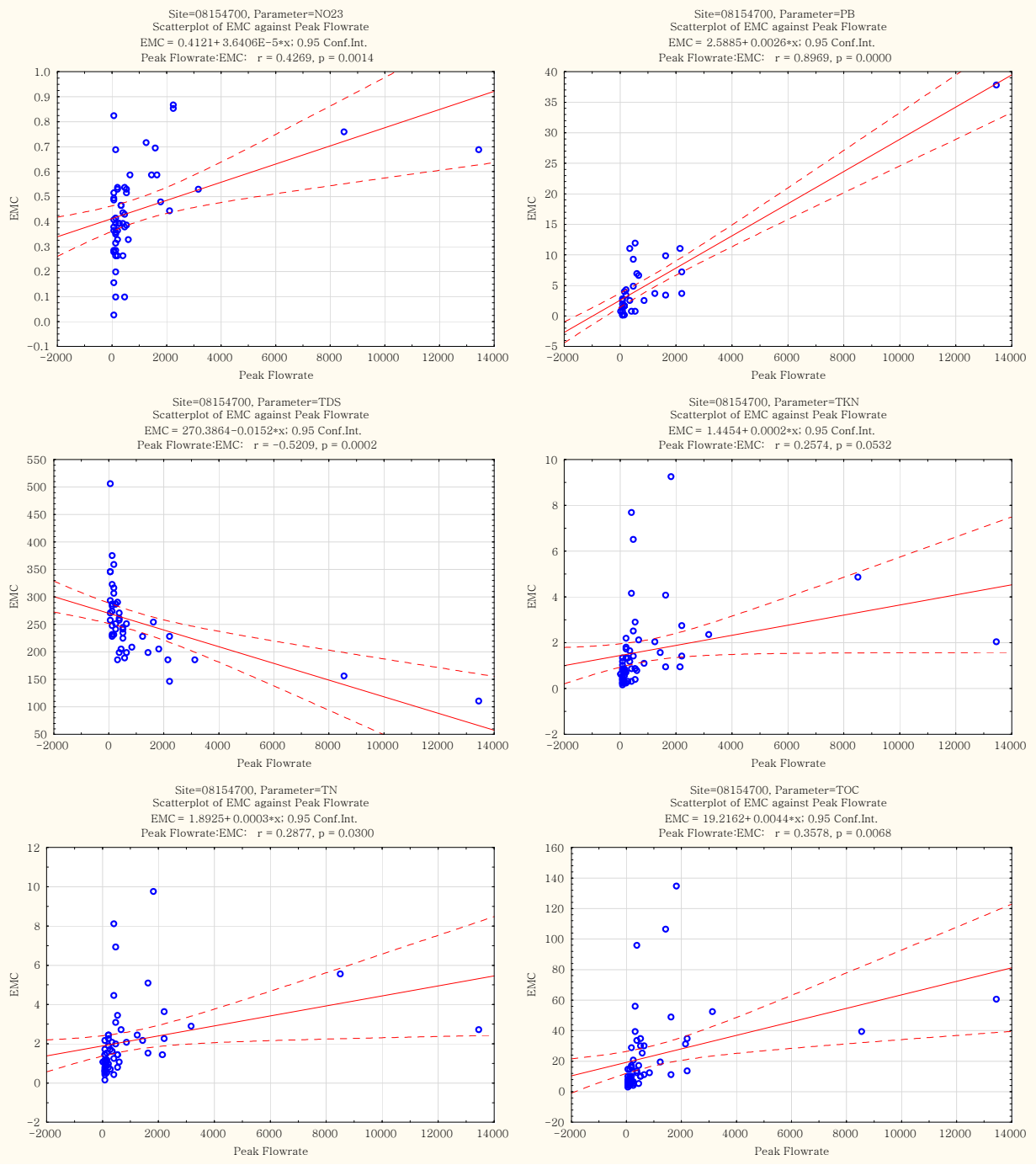

Group=W. Suburban, Parameter=TSS
Scatterplot of EMC against Date
EMC = 4320.6643-0.1076*x; 0.95 Conf.Int.
Date:EMC: r = -0.5383, p = 0.00002
EMC
Date
Aug-1976
Feb-1982
Aug-1987
Jan-1993
Jul-1998
Jan-2004
Jul-2009
Dec-2014
Jun-2020

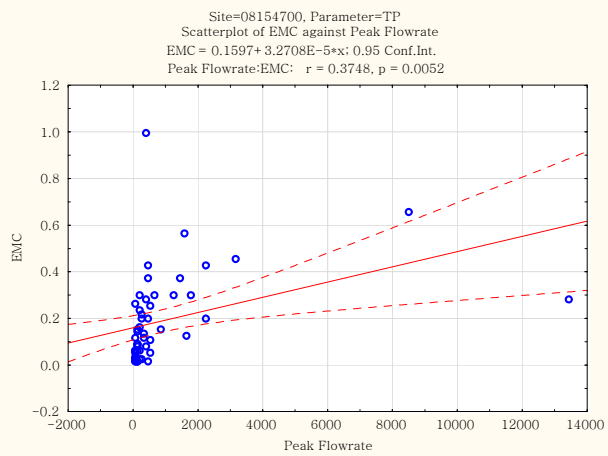

Group=W. Suburban, Parameter=VSS
Scatterplot of EMC against Date
EMC = 675.0974-0.0173*x; 0.95 Conf.Int.
Date:EMC: r = -0.2819, p = 0.1313
EMC
Date
Aug-1976
May-1979
Feb-1982
Nov-1984
Aug-1987
May-1990
Jan-1993
Oct-1995
Jul-1998
Apr-2001

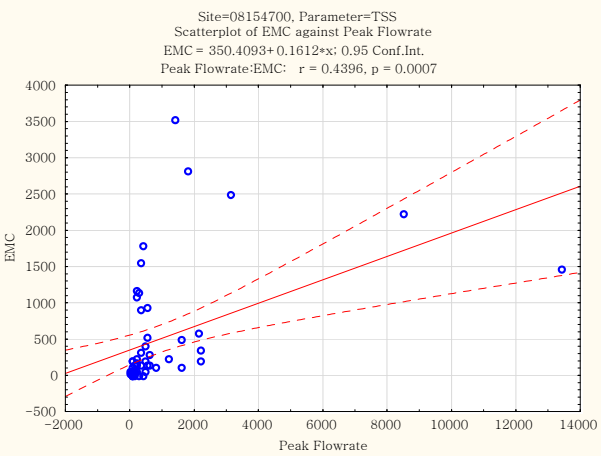

Group=W. Suburban, Parameter=ZN
Scatterplot of EMC against Date
EMC = -425.2596+ 0.0118*x; 0.95 Conf.Int.
Date:EMC: r = 0.3698, p = 0.0443
EMC
Date
Oct-1995
Jul-1998
Apr-2001
Jan-2004
Oct-2006
Jul-2009
Apr-2012
Dec-2014

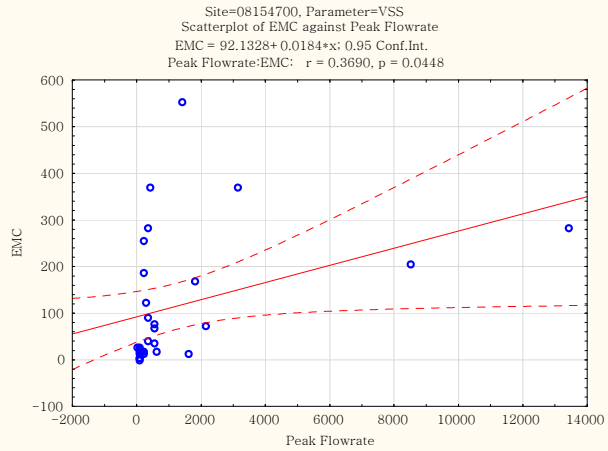
Appendix G Figures of Relationships between EMCs and Peak Flowrate for All Stations

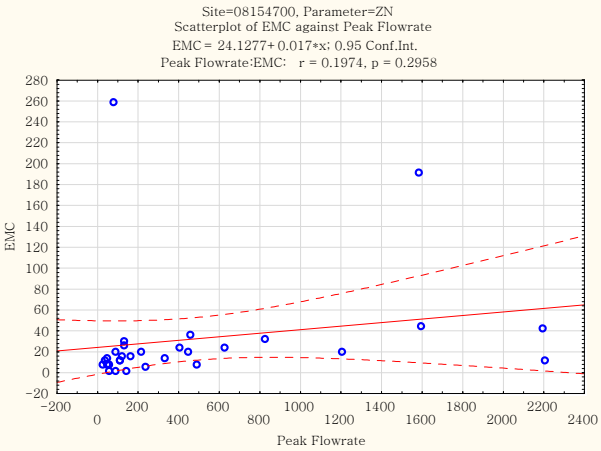


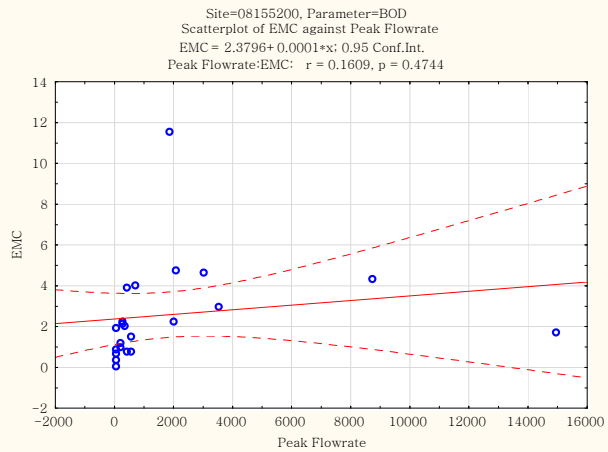

Site=08154700, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.4121+ 3.6406E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4269, p = 0.0014
Site=08154700, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 2.5885+ 0.0026*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8969, p = 0.0000
Site=08154700, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 270.3864−0.0152*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.5209, p = 0.0002
Site=08154700, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.4454+ 0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2574, p = 0.0532
Site=08154700, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.8925+ 0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2877, p = 0.0300
Site=08154700, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 19.2162+ 0.0044*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3578, p = 0.0068
EMC
Peak Flowrate

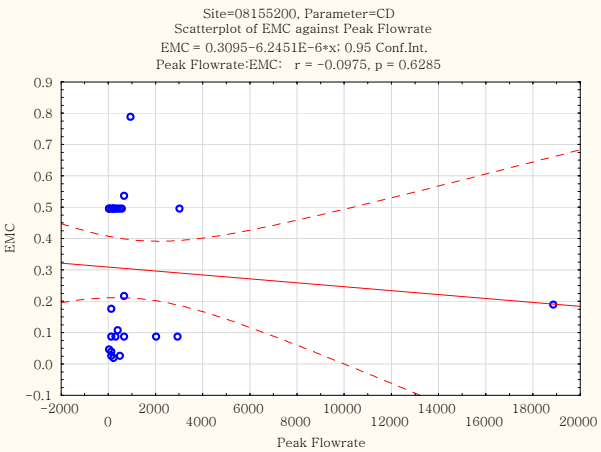

Site=08154700, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1597+ 3.2708E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3748, p = 0.0052
EMC
Peak Flowrate

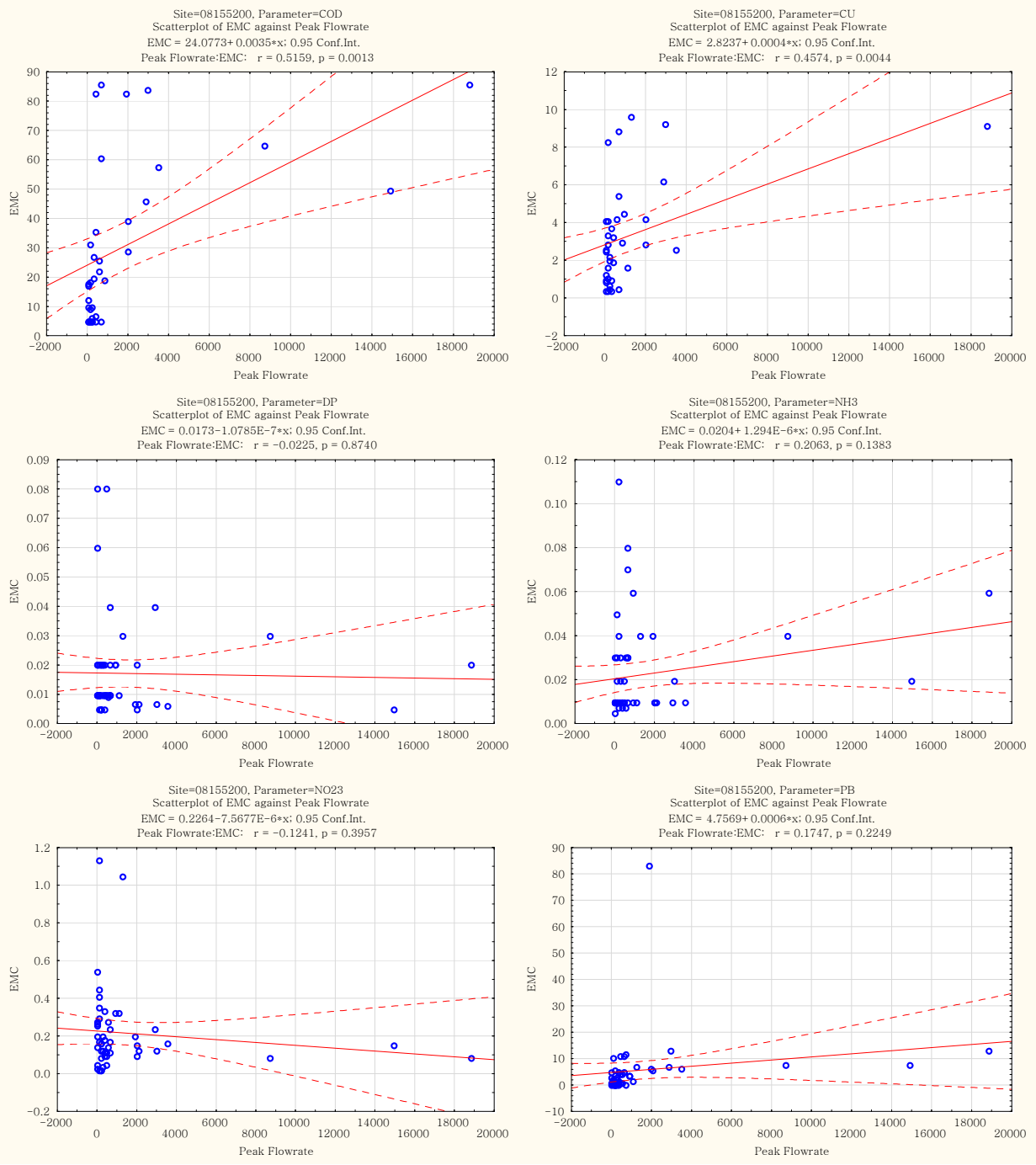

Site=08154700, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 350.4093+ 0.1612*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4396, p = 0.0007
EMC
Peak Flowrate

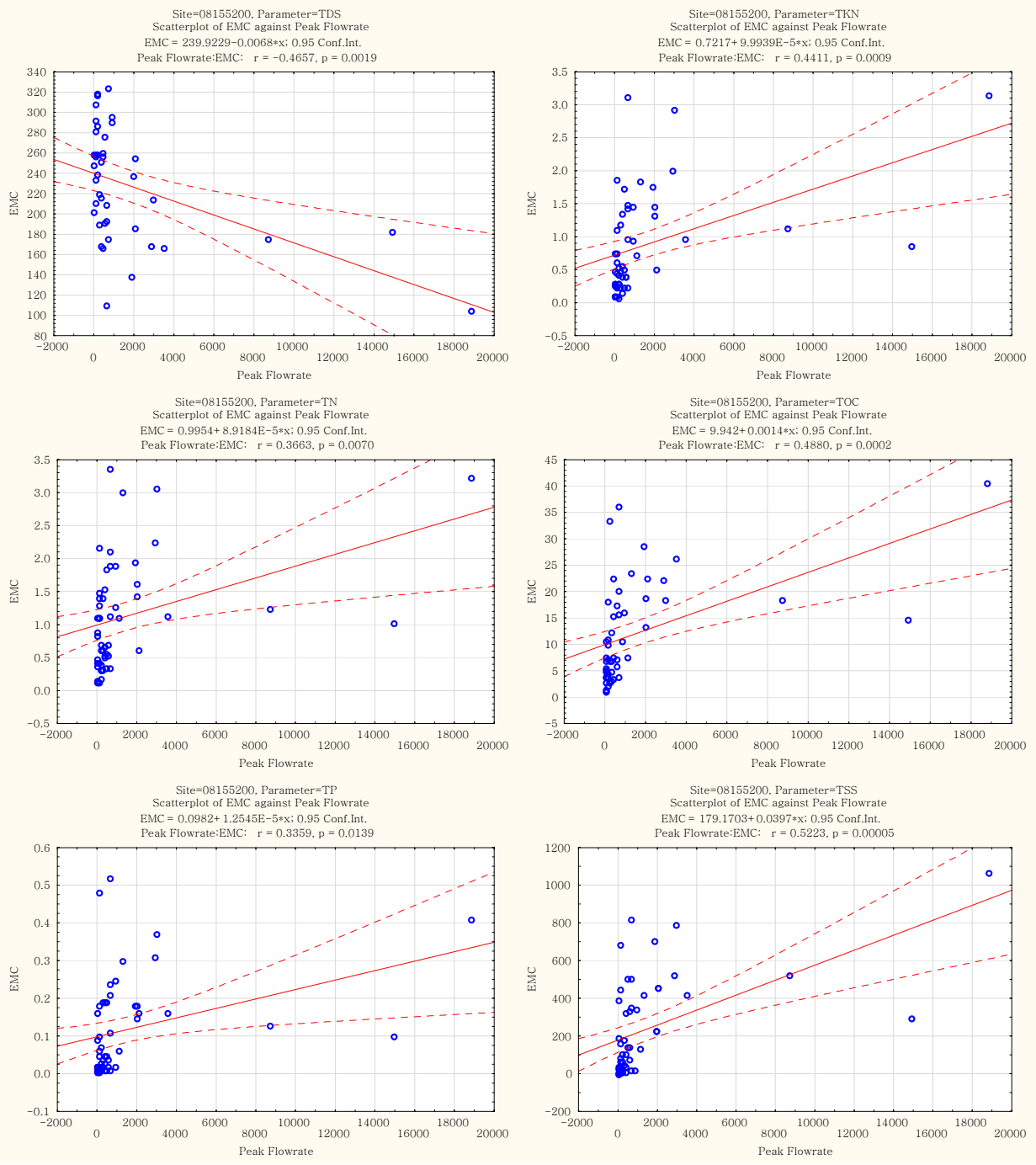

Site=08154700, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 92.1328+ 0.0184*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3690, p = 0.0448
EMC
Peak Flowrate

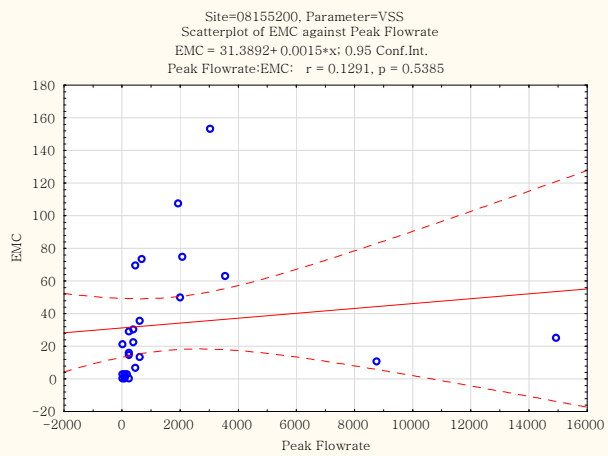

Site=08154700, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 24.1277+ 0.017*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1974, p = 0.2958
EMC
Peak Flowrate

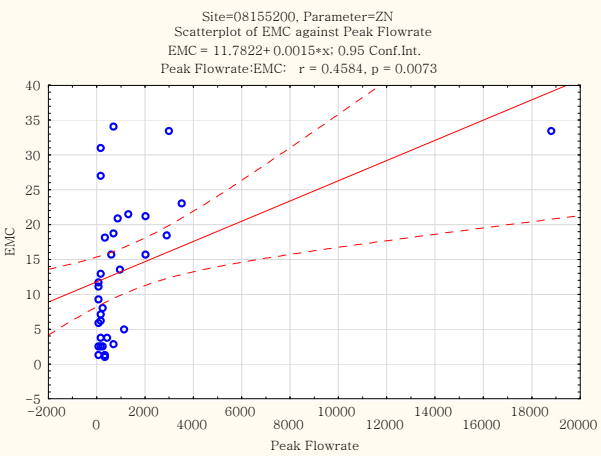

Site=08155200, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 2.3796+ 0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1609, p = 0.4744
EMC
Peak Flowrate

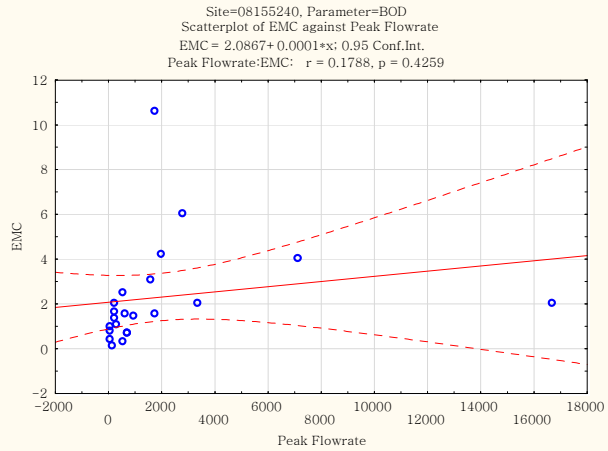

Site=08155200, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.3095-6.2451E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0975, p = 0.6285
EMC
Peak Flowrate

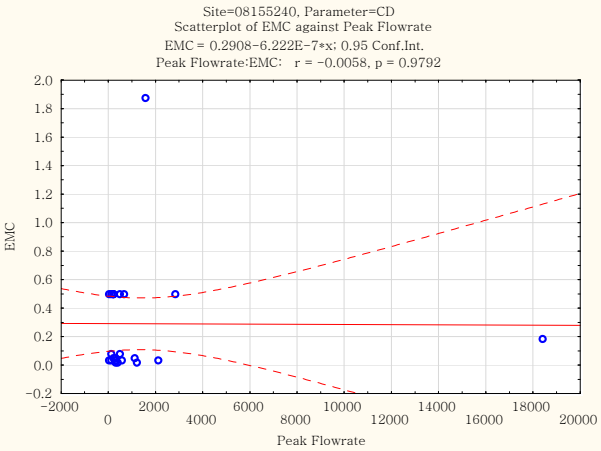

Site=08155200, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 24.0773+ 0.0035*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5159, p = 0.0013
Site=08155200, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 2.8237+ 0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4574, p = 0.0044
Site=08155200, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0173−1.0785E−7*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0225, p = 0.8740
Site=08155200, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0204+ 1.294E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2063, p = 0.1383
Site=08155200, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.2264−7.5677E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.1241, p = 0.3957
Site=08155200, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 4.7569+ 0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1747, p = 0.2249
EMC
Peak Flowrate

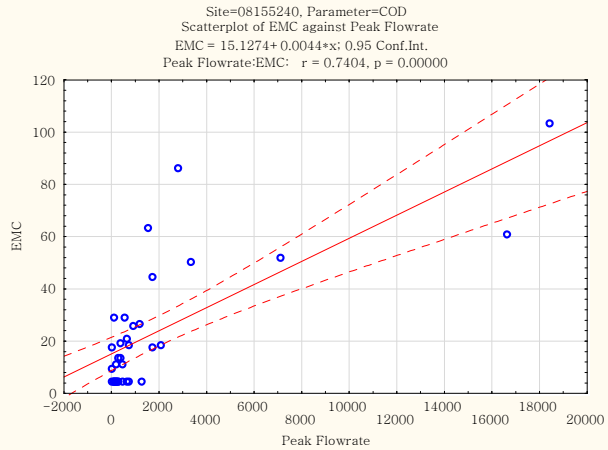

Site=08155200, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 239.9229−0.0068*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.4657, p = 0.0019
Site=08155200, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.7217+ 9.9939E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4411, p = 0.0009
Site=08155200, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.9954+ 8.9184E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3663, p = 0.0070
Site=08155200, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 9.942+ 0.0014*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4880, p = 0.0002
Site=08155200, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0982+ 1.2545E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3359, p = 0.0139
Site=08155200, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 179.1703+ 0.0397*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5223, p = 0.00005
EMC
Peak Flowrate

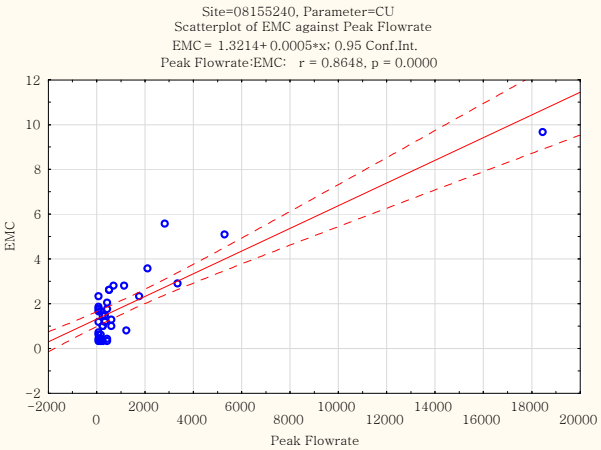

Site=08155200, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 31.3892+ 0.0015*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1291, p = 0.5385
EMC
Peak Flowrate

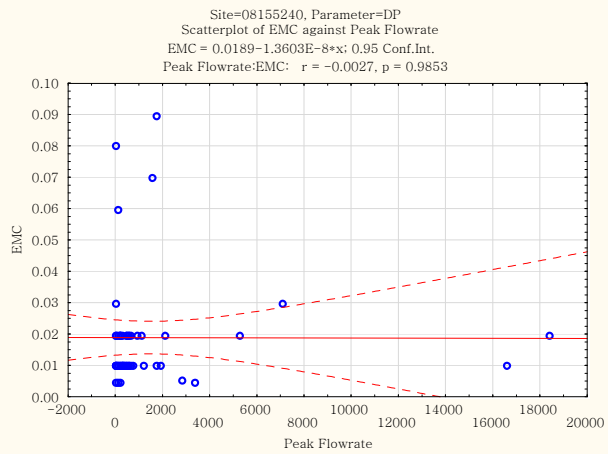

Site=08155200, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 11.7822+ 0.0015*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4584, p = 0.0073
EMC
Peak Flowrate

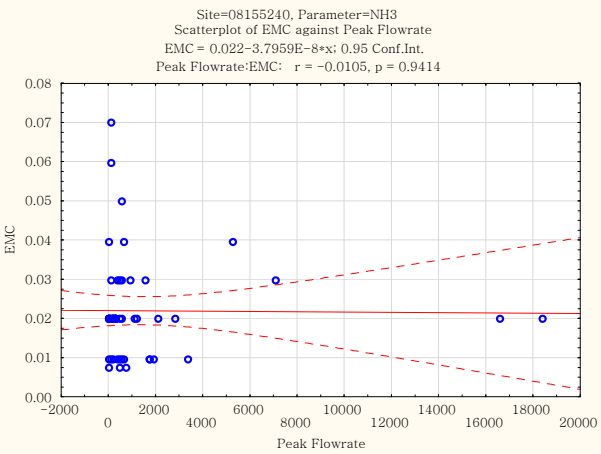

Site=08155240, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 2.0867+ 0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1788, p = 0.4259
EMC
Peak Flowrate

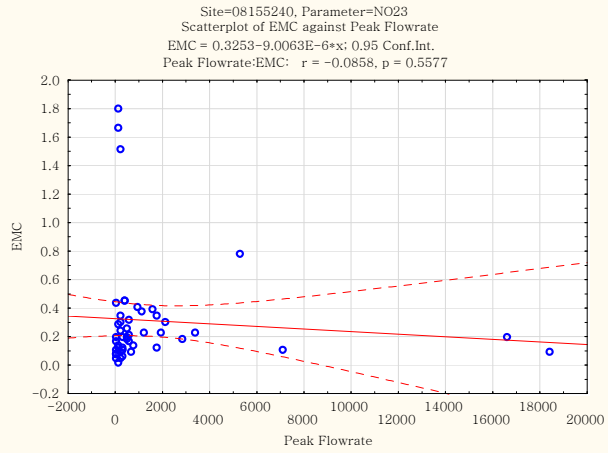

Site=08155240, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.2908-6.222E-7*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0058, p = 0.9792
EMC
Peak Flowrate

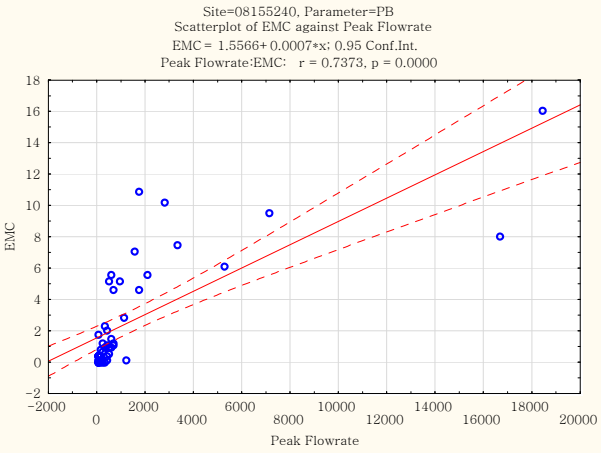

Site=08155240, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 15.1274+ 0.0044*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7404, p = 0.00000
EMC
Peak Flowrate

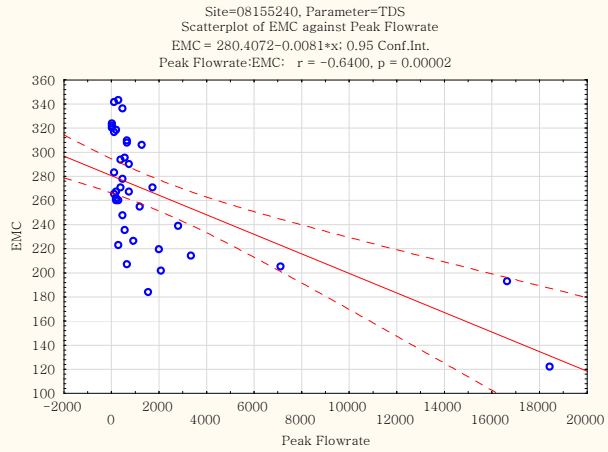

Site=08155240, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 1.3214+ 0.0005*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8648, p = 0.0000
EMC
Peak Flowrate

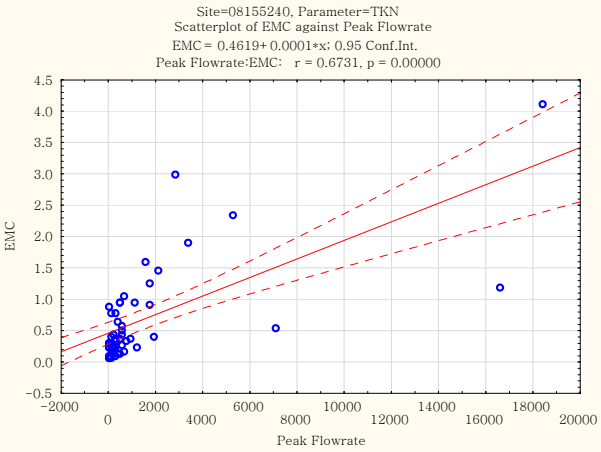

Site=08155240, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0189-1.3603E-8*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0027, p = 0.9853
EMC
Peak Flowrate

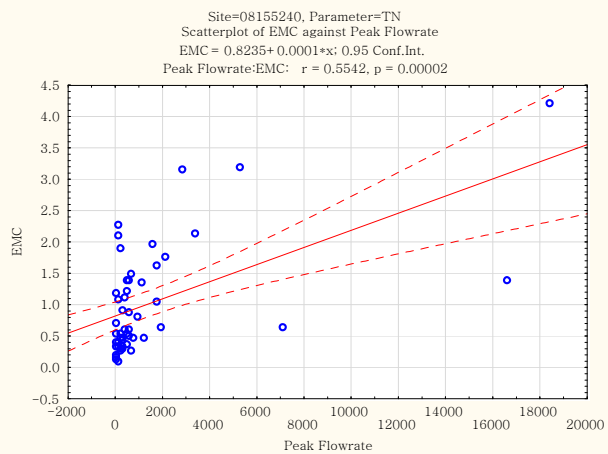

Site=08155240, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.022-3.7959E-8*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0105, p = 0.9414
EMC
Peak Flowrate

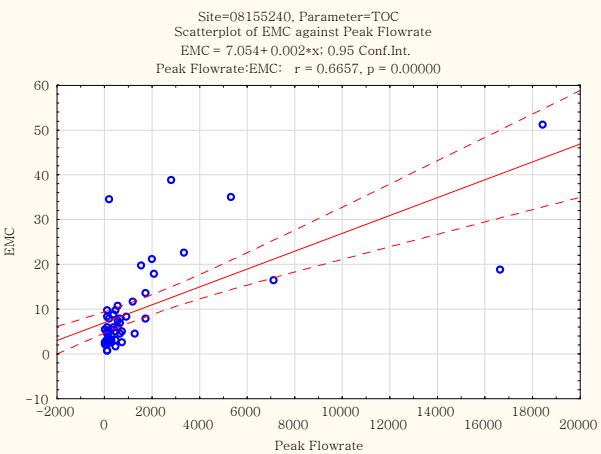

Site=08155240, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3253-9.0063E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0858, p = 0.5577
EMC
Peak Flowrate

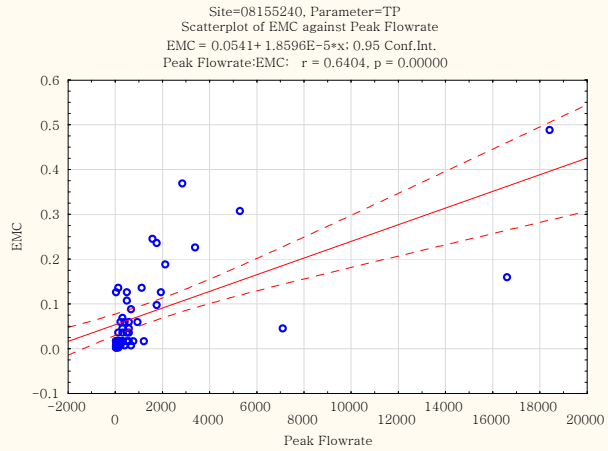

Site=08155240, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 1.5566+0.0007*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7373, p = 0.0000
EMC
Peak Flowrate

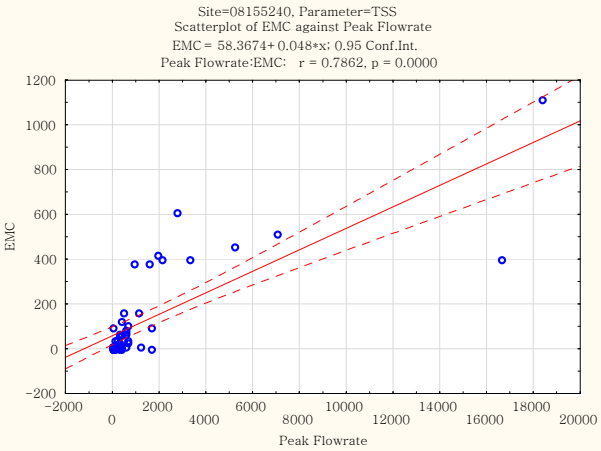

Site=08155240, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 280.4072-0.0081*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.6400, p = 0.00002
EMC
Peak Flowrate

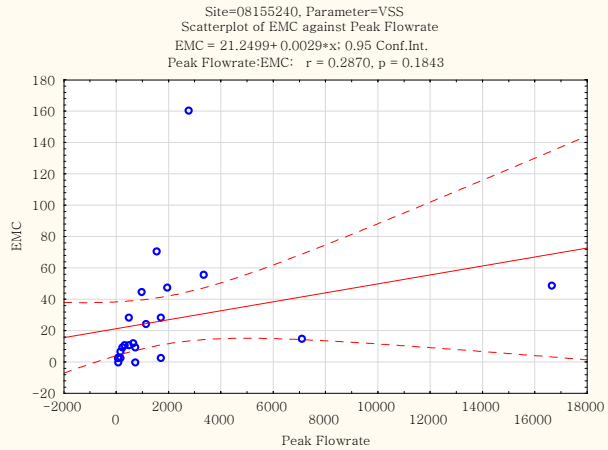

Site=08155240, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.4619+0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6731, p = 0.00000
EMC
Peak Flowrate

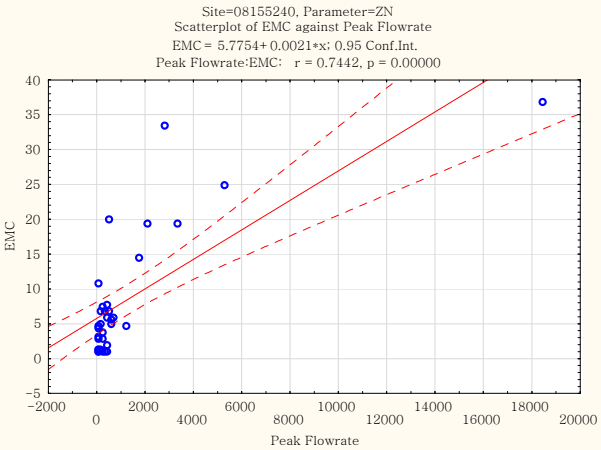

Site=08155240, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.8235+ 0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5542, p = 0.00002
EMC
Peak Flowrate

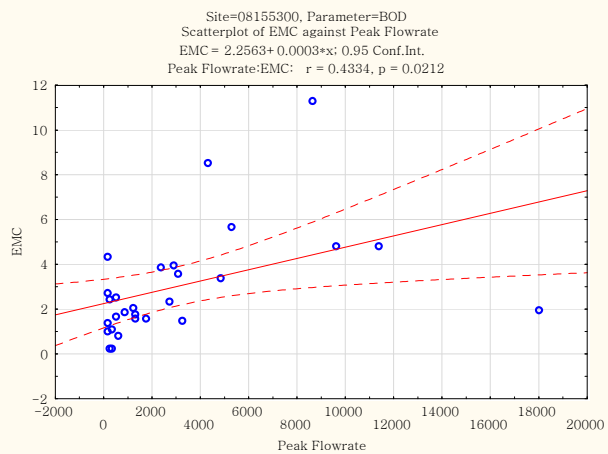

Site=08155240, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 7.054+ 0.002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6657, p = 0.00000
EMC
Peak Flowrate

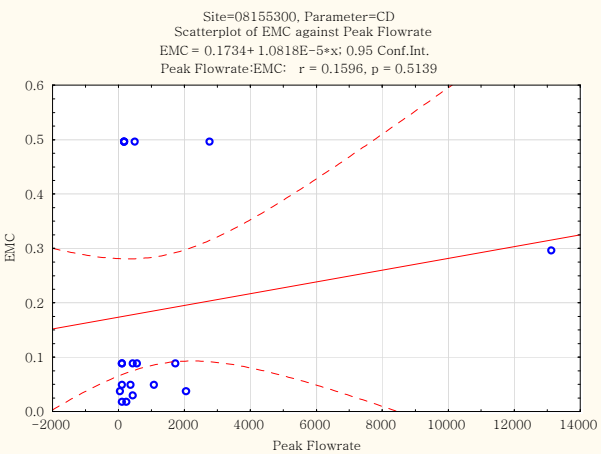

Site=08155240, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0541+ 1.8596E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6404, p = 0.00000
EMC
Peak Flowrate

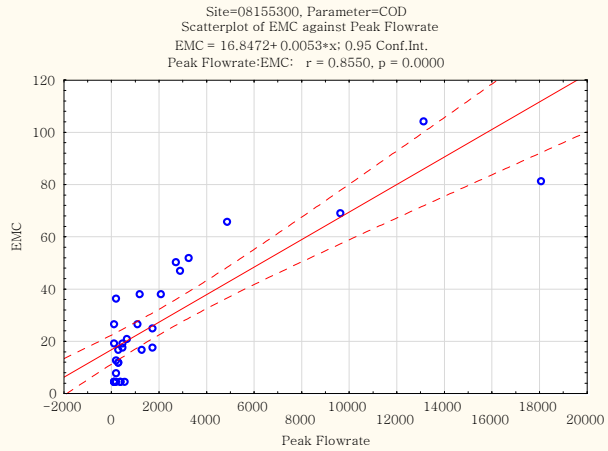

Site=08155240, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 58.3674+ 0.048*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7862, p = 0.0000
EMC
Peak Flowrate

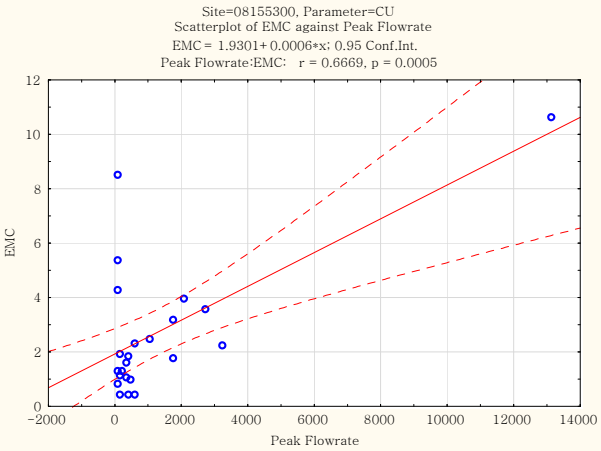

Site=08155240, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 21.2499+ 0.0029*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2870, p = 0.1843
EMC
Peak Flowrate

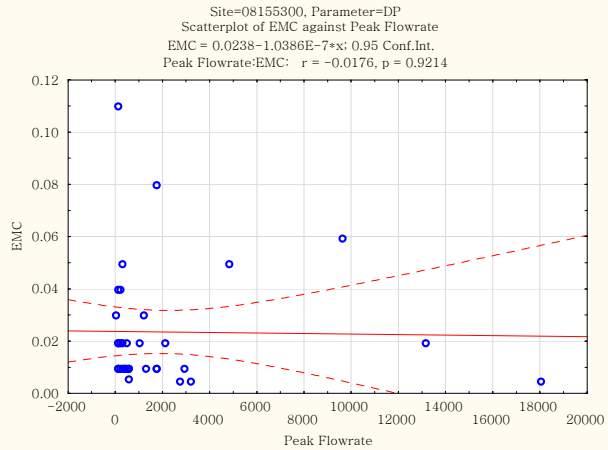

Site=08155240, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 5.7754+ 0.0021*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7442, p = 0.00000
EMC
Peak Flowrate

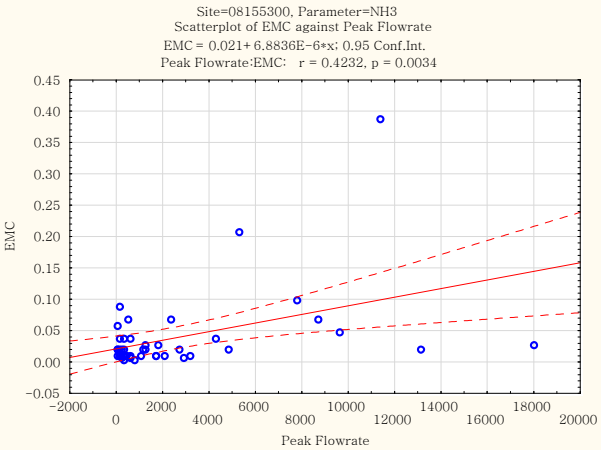

Site=08155300, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 2.2563+ 0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4334, p = 0.0212
EMC
Peak Flowrate

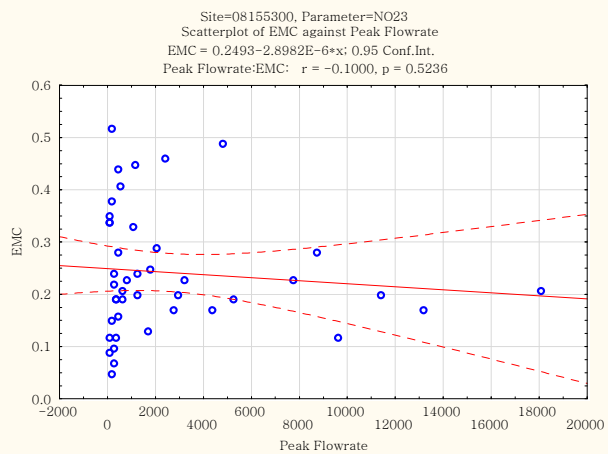

Site=08155300, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.1734+ 1.0818E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1596, p = 0.5139
EMC
Peak Flowrate

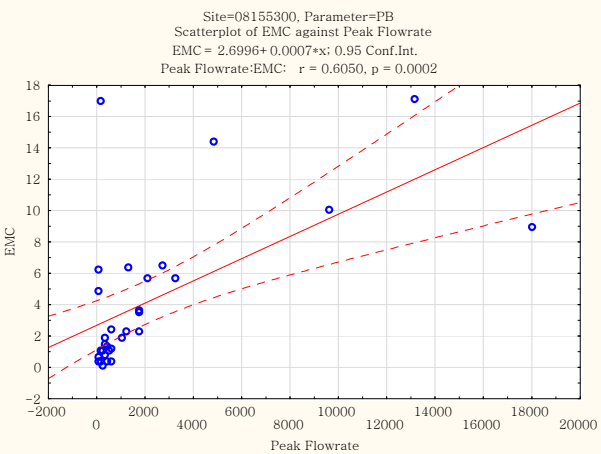

Site=08155300, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 16.8472+ 0.0053*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8550, p = 0.0000
EMC
Peak Flowrate

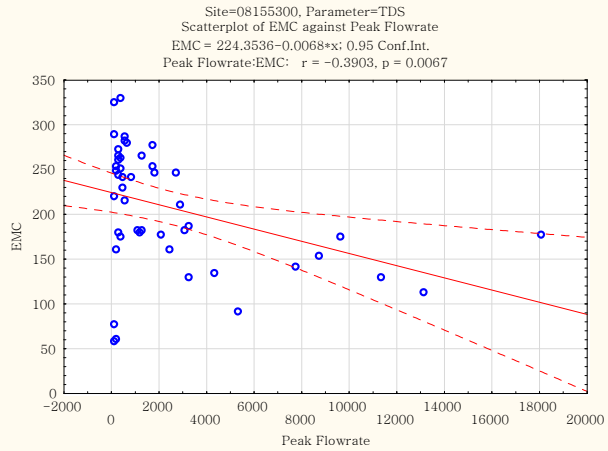

Site=08155300, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 1.9301+ 0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6669, p = 0.0005
EMC
Peak Flowrate

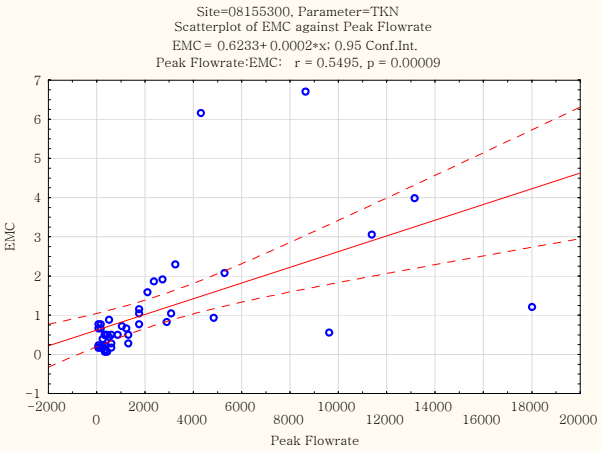

Site=08155300, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0238-1.0386E-7*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0176, p = 0.9214
EMC
Peak Flowrate

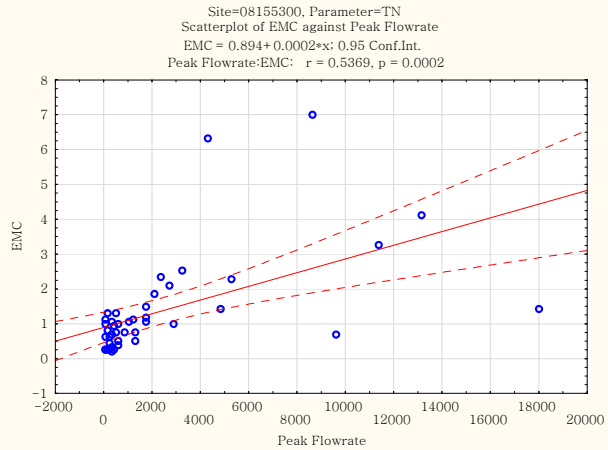

Site=08155300, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.021+ 6.8836E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4232, p = 0.0034
EMC
Peak Flowrate

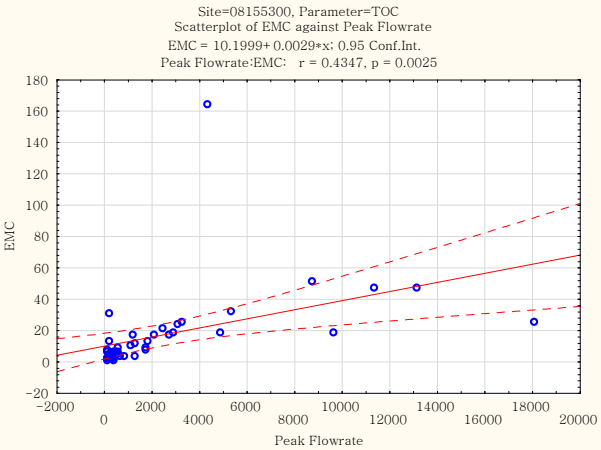

Site=08155300, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.2493−2.8982E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.1000, p = 0.5236
EMC
Peak Flowrate

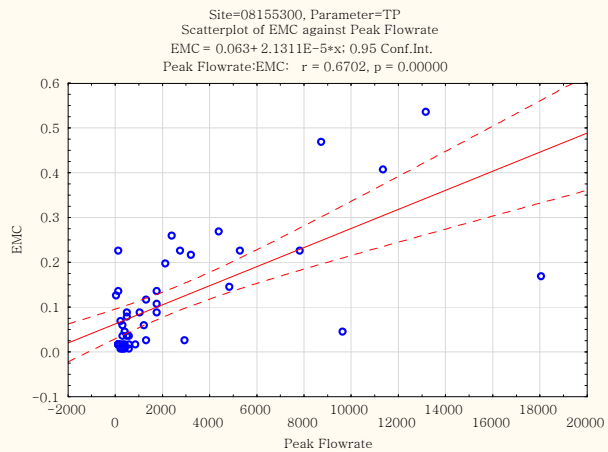

Site=08155300, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 2.6996+0.0007*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6050, p = 0.0002
EMC
Peak Flowrate

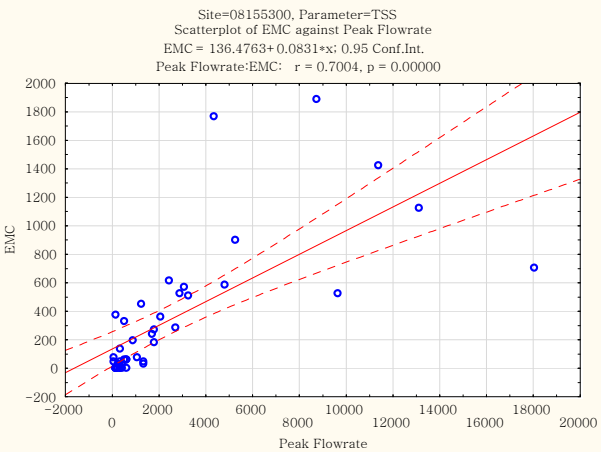

Site=08155300, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 224.3536−0.0068*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.3903, p = 0.0067
EMC
Peak Flowrate

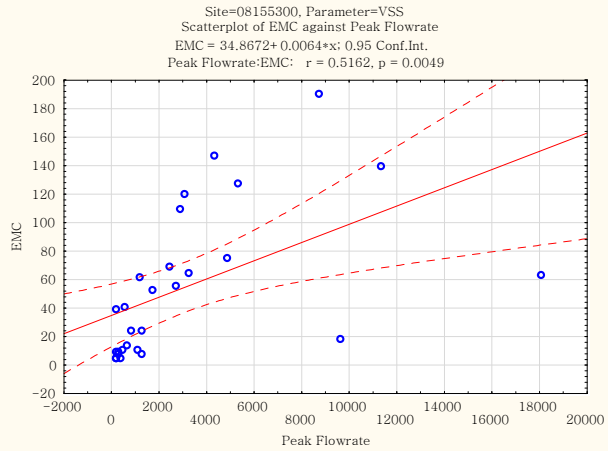

Site=08155300, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.6233+0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5495, p = 0.00009
EMC
Peak Flowrate

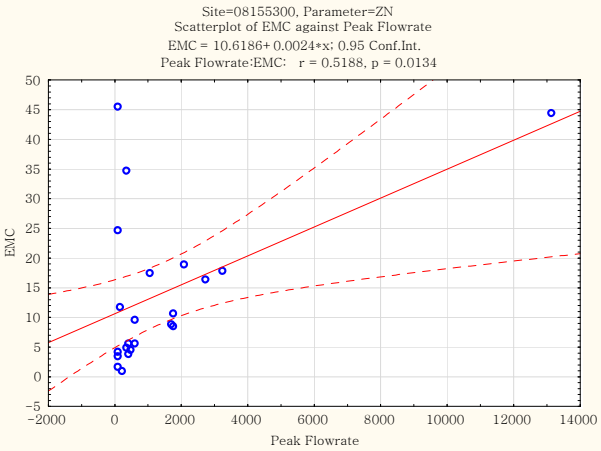

Site=08155300, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.894+0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5369, p = 0.0002
EMC
Peak Flowrate

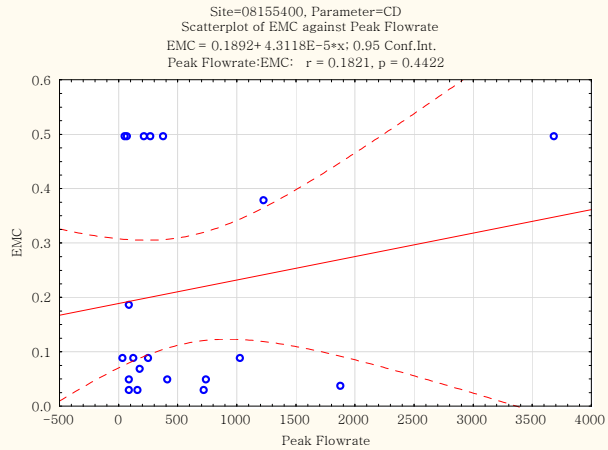

Site=08155300, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 10.1999+0.0029*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4347, p = 0.0025
EMC
Peak Flowrate

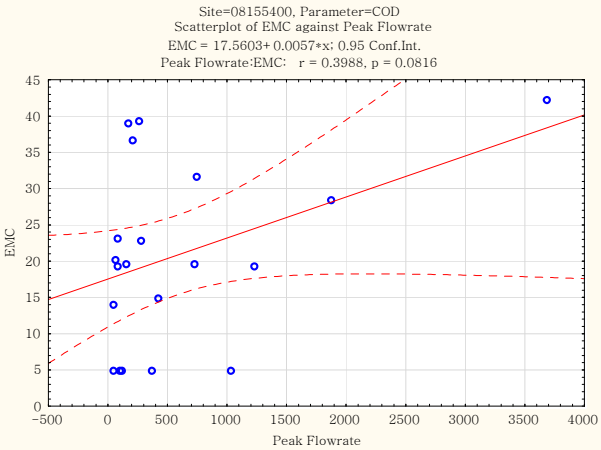

Site=08155300, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.063+ 2.1311E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6702, p = 0.00000
EMC
Peak Flowrate

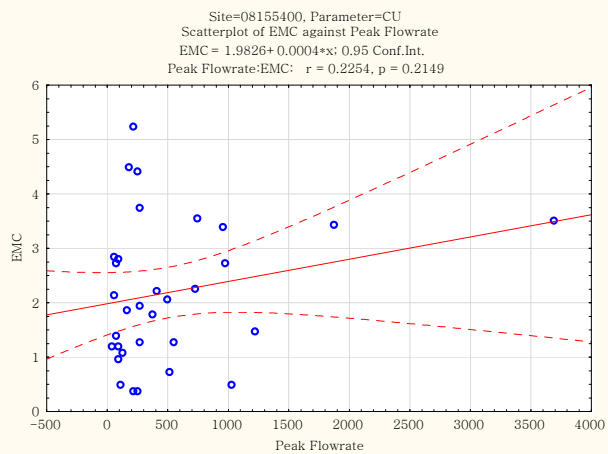

Site=08155300, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 136.4763+ 0.0831*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7004, p = 0.00000
EMC
Peak Flowrate

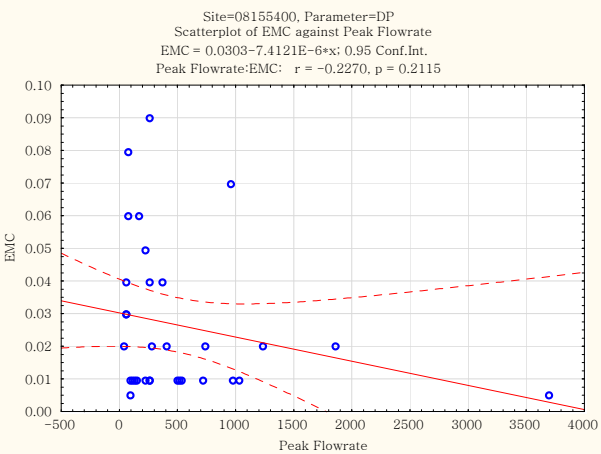

Site=08155300, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 34.8672+ 0.0064*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5162, p = 0.0049
EMC
Peak Flowrate

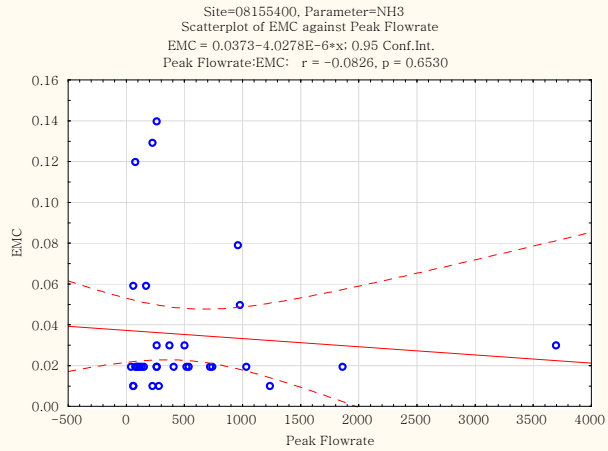

Site=08155300, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 10.6186+ 0.0024*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5188, p = 0.0134
EMC
Peak Flowrate

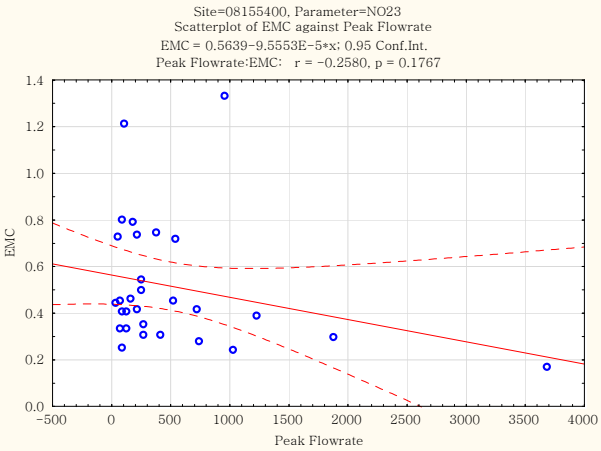

Site=08155400, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.1892+ 4.3118E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1821, p = 0.4422
EMC
Peak Flowrate

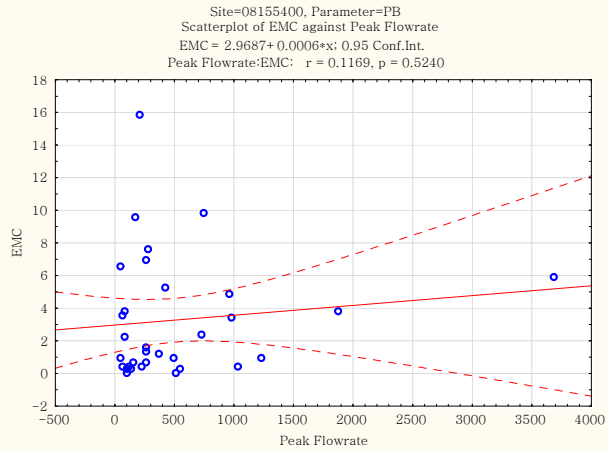

Site=08155400, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 17.5603+ 0.0057*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3988, p = 0.0816
EMC
Peak Flowrate

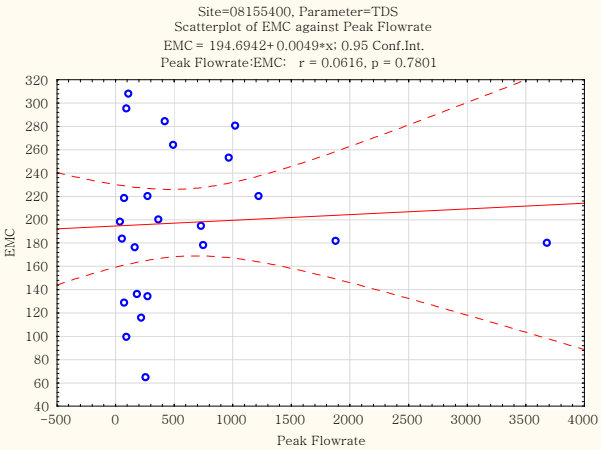

Site=08155400, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 1.9826+0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2254, p = 0.2149
EMC
Peak Flowrate

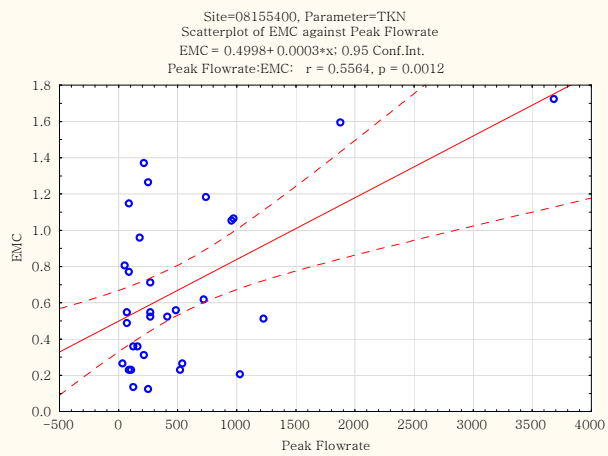

Site=08155400, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0303-7.4121E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.2270, p = 0.2115
EMC
Peak Flowrate

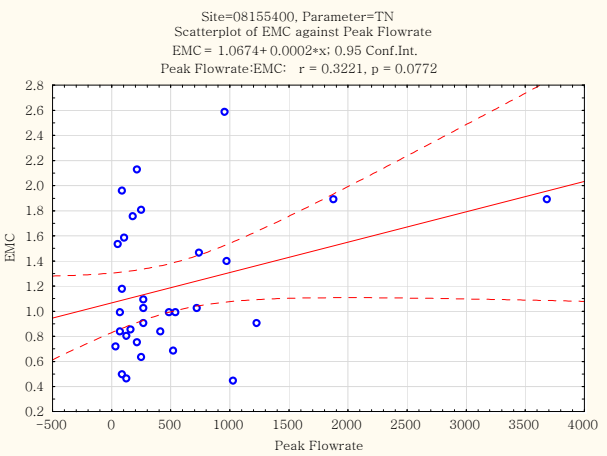

Site=08155400, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0373-4.0278E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0826, p = 0.6530
EMC
Peak Flowrate

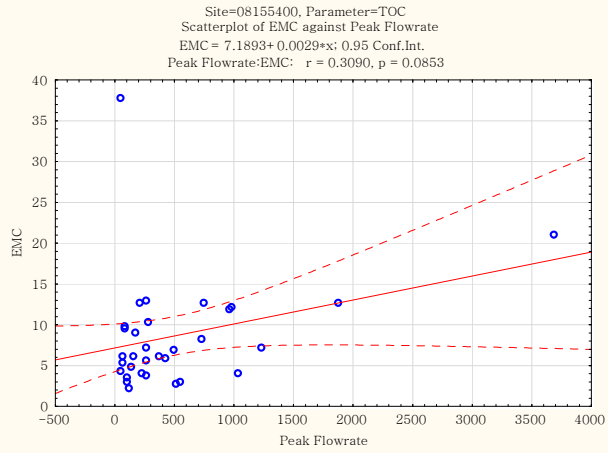

Site=08155400, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.5639-9.5553E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.2580, p = 0.1767
EMC
Peak Flowrate

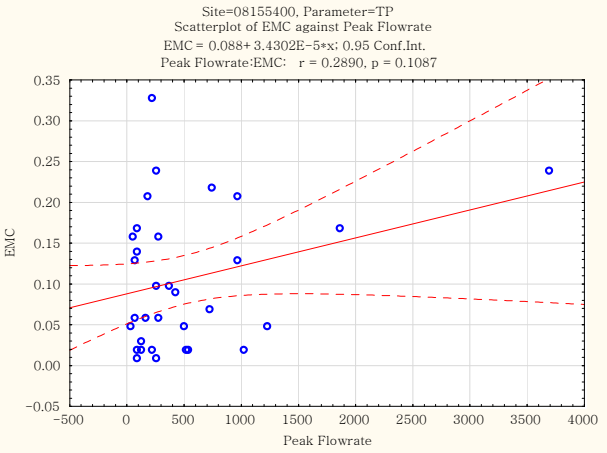

Site=08155400, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 2.9687+0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1169, p = 0.5240
EMC
Peak Flowrate

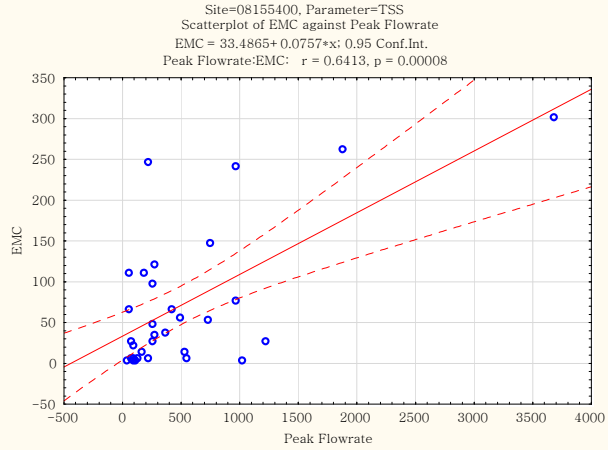

Site=08155400, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 194.6942+0.0049*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0616, p = 0.7801
EMC
Peak Flowrate

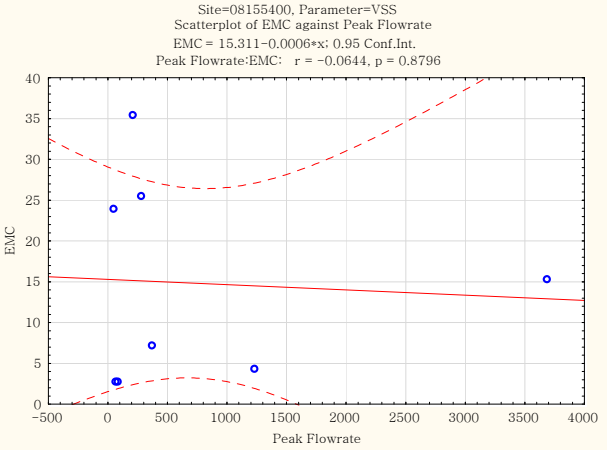

Site=08155400, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.4998+0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5564, p = 0.0012
EMC
Peak Flowrate

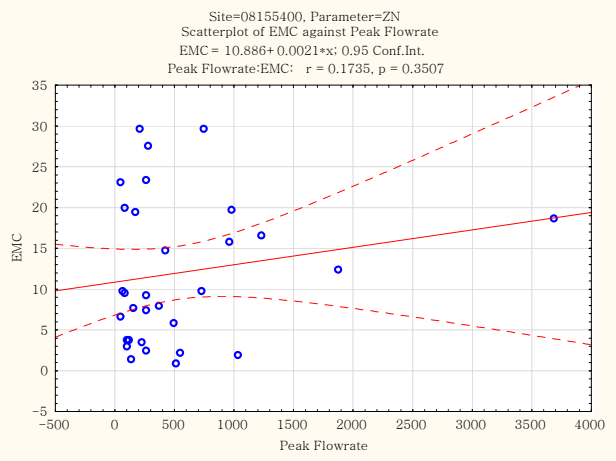

Site=08155400, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.0674+0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3221, p = 0.0772
EMC
Peak Flowrate

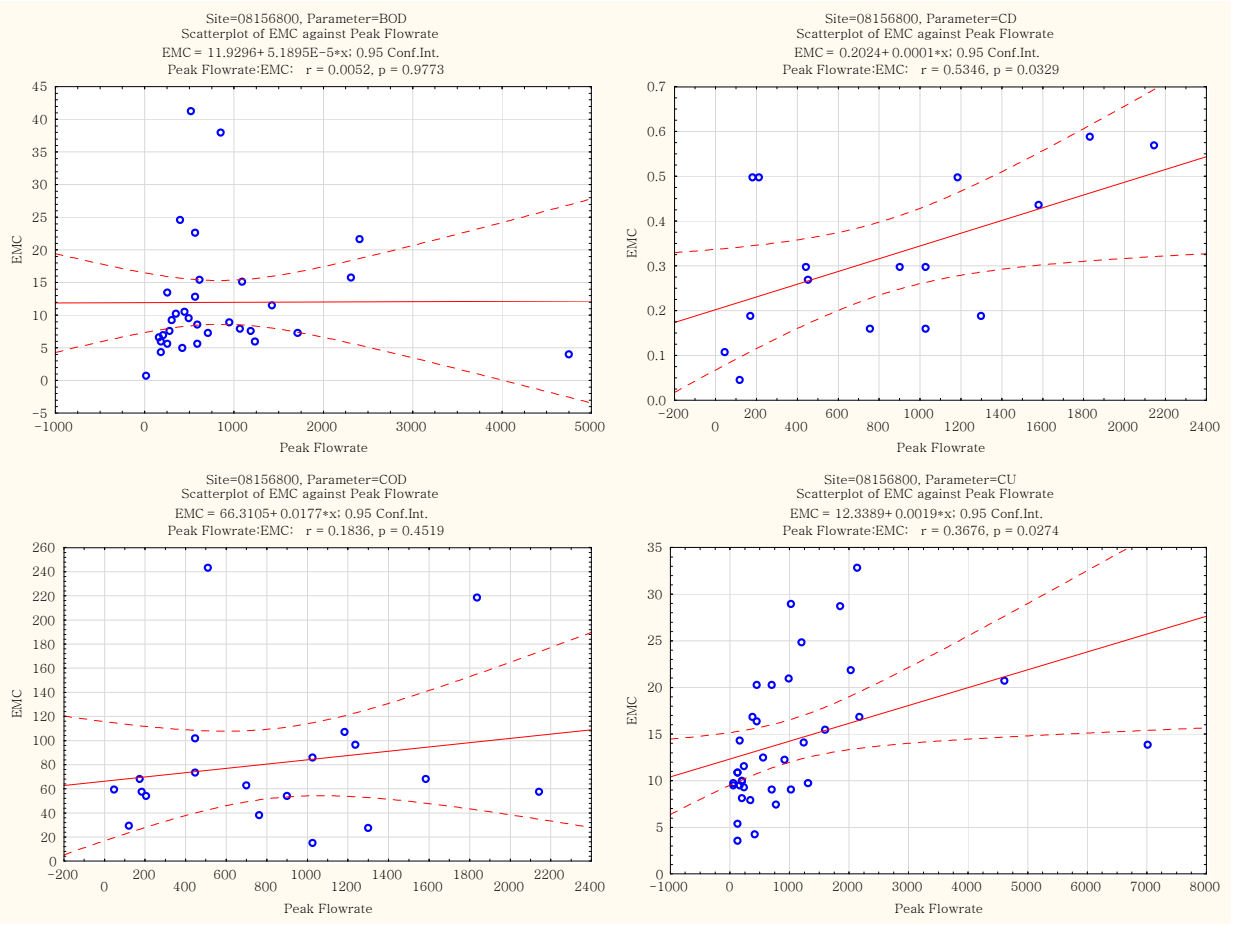

Site=08155400, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 7.1893+0.0029*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3090, p = 0.0853
EMC
Peak Flowrate

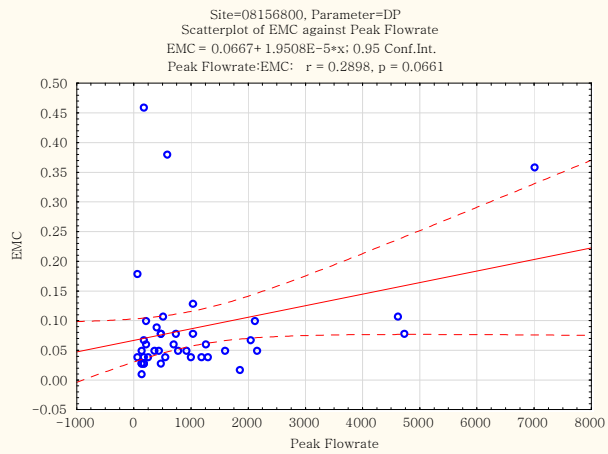

Site=08155400, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.088+3.4302E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2890, p = 0.1087
EMC
Peak Flowrate

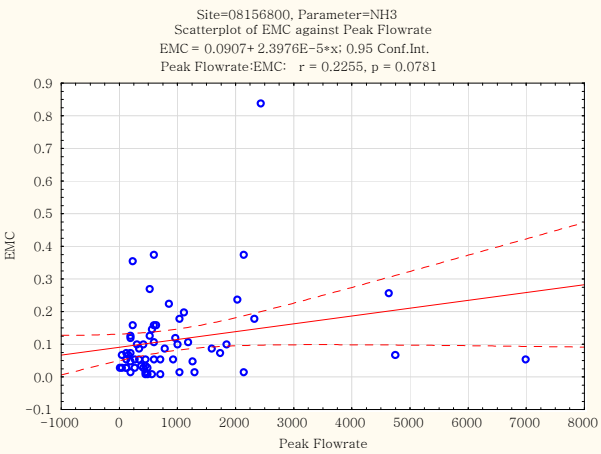

Site=08155400, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 33.4865+0.0757*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6413, p = 0.00008
EMC
Peak Flowrate

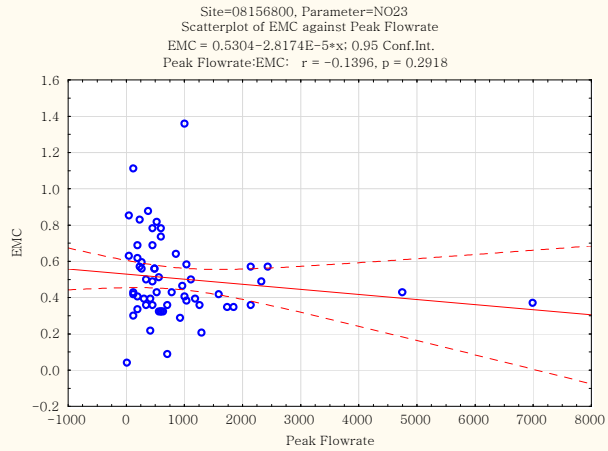

Site=08155400, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 15.311-0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0644, p = 0.8796
EMC
Peak Flowrate

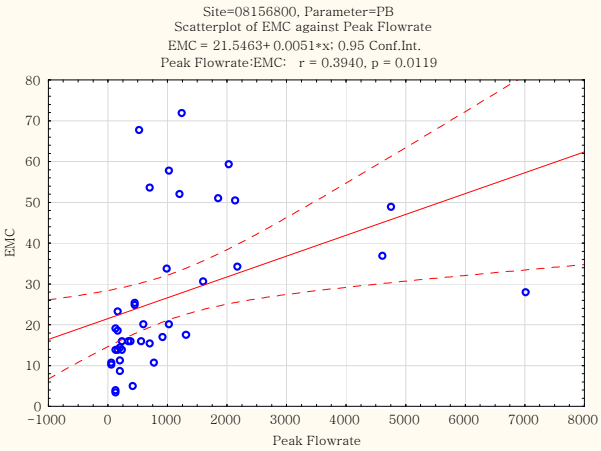

Site=08155400, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 10.886+ 0.0021*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1735, p = 0.3507
EMC
Peak Flowrate

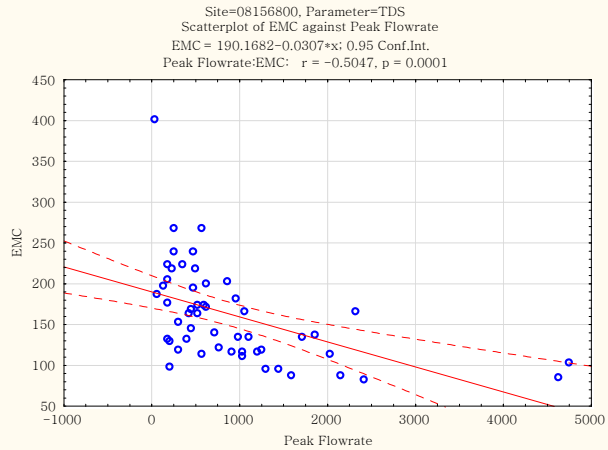

Site=08156800, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 11.9296+ 5.1895E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0052, p = 0.9773
EMC
Peak Flowrate
Site=08156800, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.2024+ 0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5346, p = 0.0329
EMC
Peak Flowrate
Site=08156800, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 66.3105+ 0.0177*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1836, p = 0.4519
EMC
Peak Flowrate
Site=08156800, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 12.3389+ 0.0019*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3676, p = 0.0274
EMC
Peak Flowrate

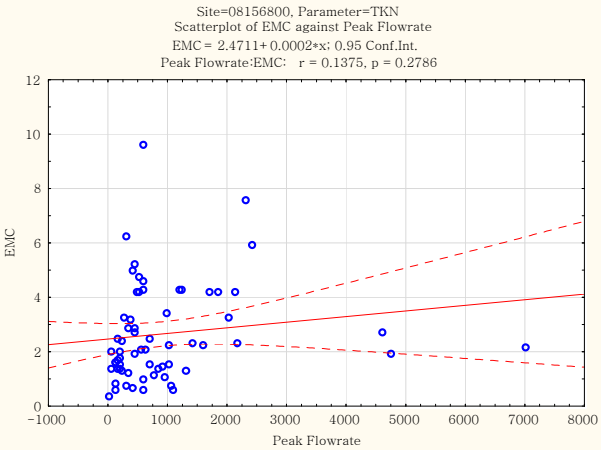

Site=08156800, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0667+ 1.9508E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2898, p = 0.0661
EMC
Peak Flowrate

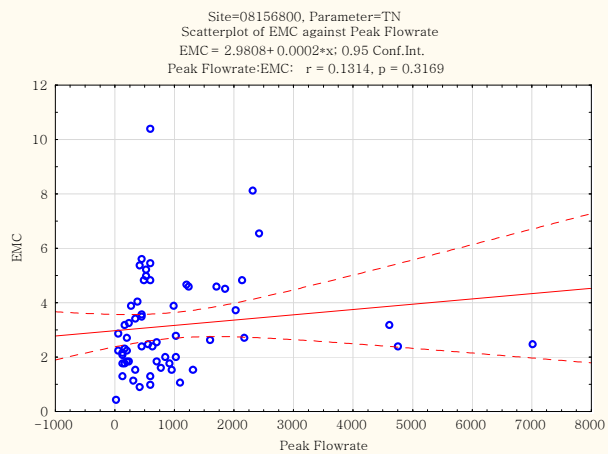

Site=08156800, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0907+ 2.3976E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2255, p = 0.0781
EMC
Peak Flowrate

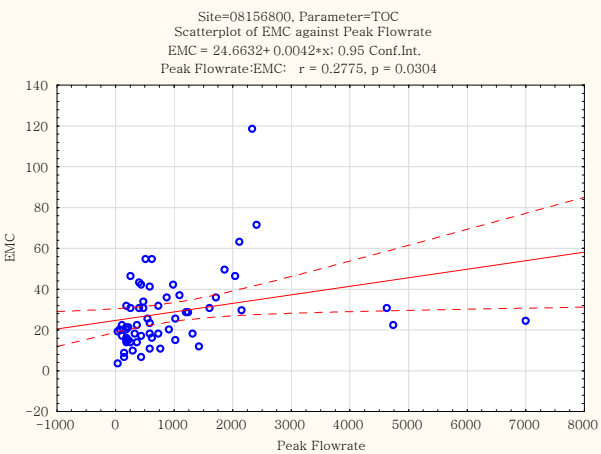

Site=08156800, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.5304−2.8174E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.1396, p = 0.2918
EMC
Peak Flowrate

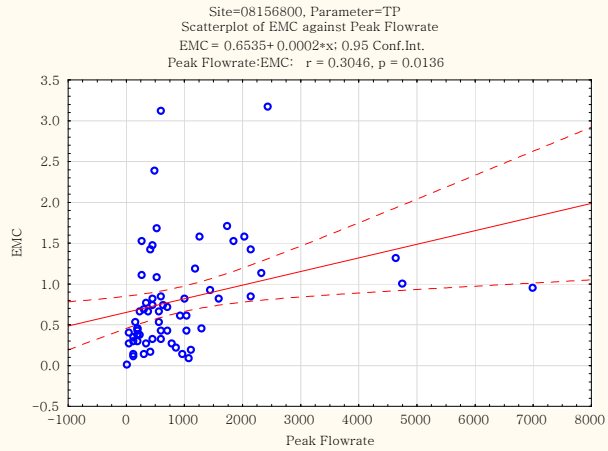

Site=08156800, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 21.5463+ 0.0051*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3940, p = 0.0119
EMC
Peak Flowrate

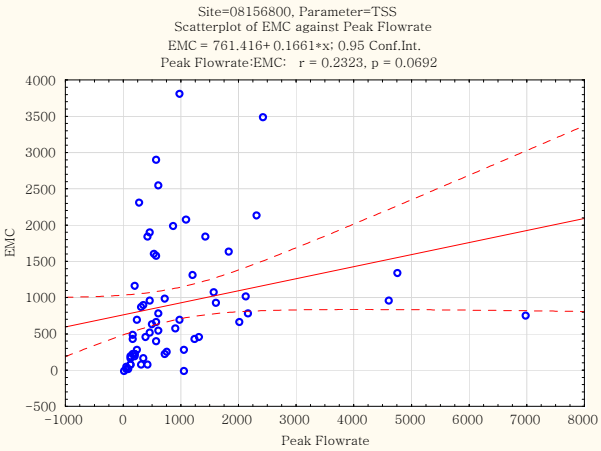

Site=08156800, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 190.1682−0.0307*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.5047, p = 0.0001
EMC
Peak Flowrate

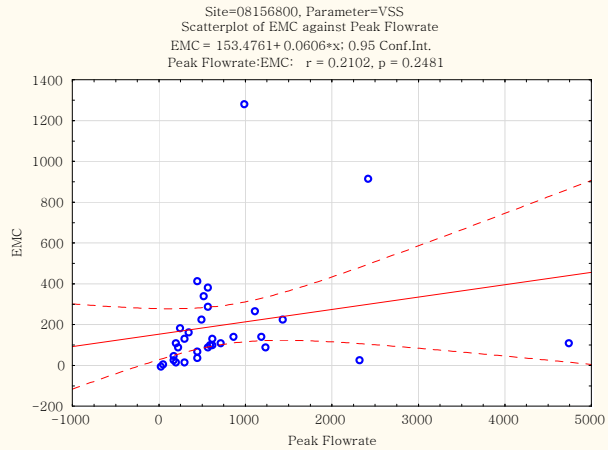

Site=08156800, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 2.4711+ 0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1375, p = 0.2786
EMC
Peak Flowrate

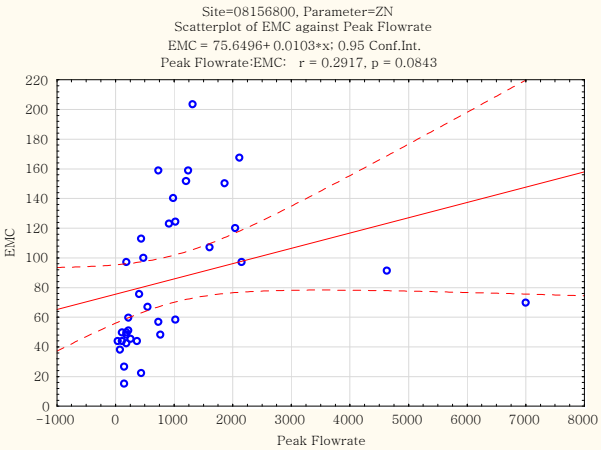

Site=08156800, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 2.9808+ 0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1314, p = 0.3169
EMC
Peak Flowrate

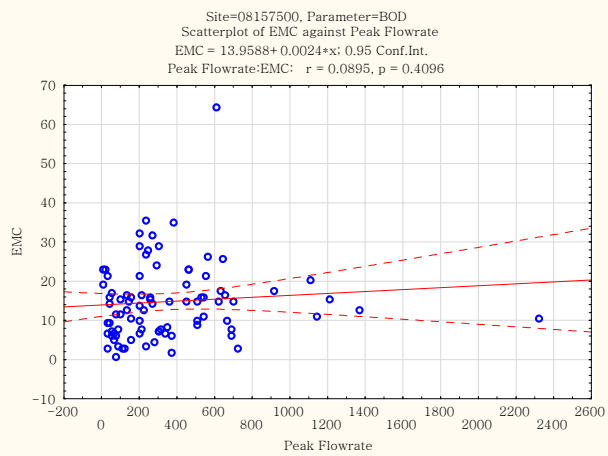

Site=08156800, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 24.6632+ 0.0042*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2775, p = 0.0304
EMC
Peak Flowrate

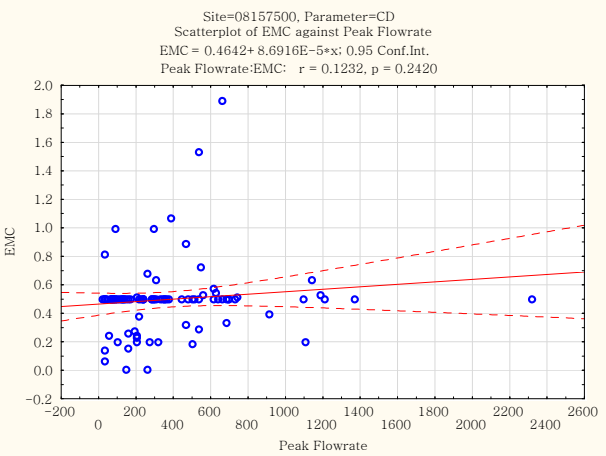

Site=08156800, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.6535+ 0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3046, p = 0.0136
EMC
Peak Flowrate

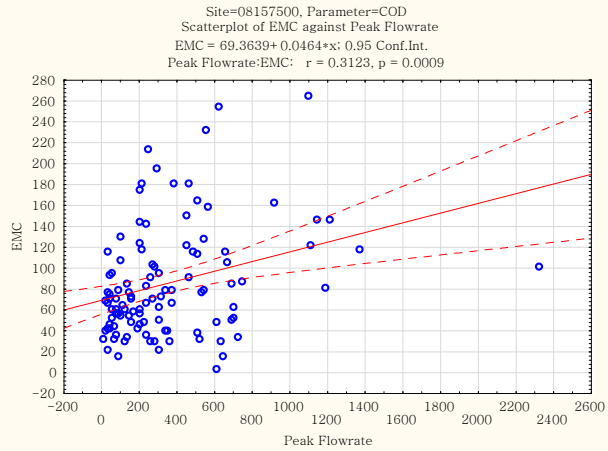

Site=08156800, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 761.416+ 0.1661*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2323, p = 0.0692
EMC
Peak Flowrate

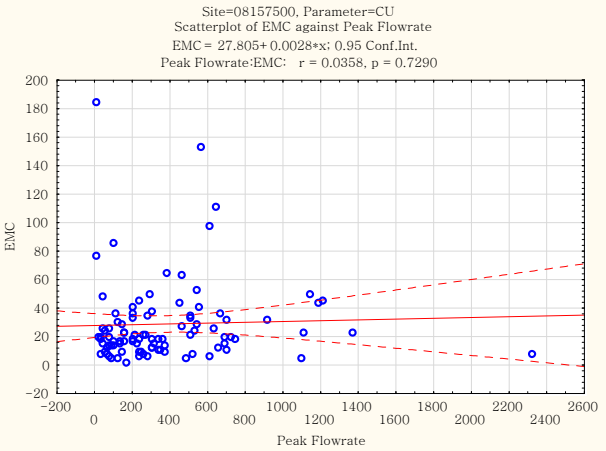

Site=08156800, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 153.4761+ 0.0606*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2102, p = 0.2481
EMC
Peak Flowrate

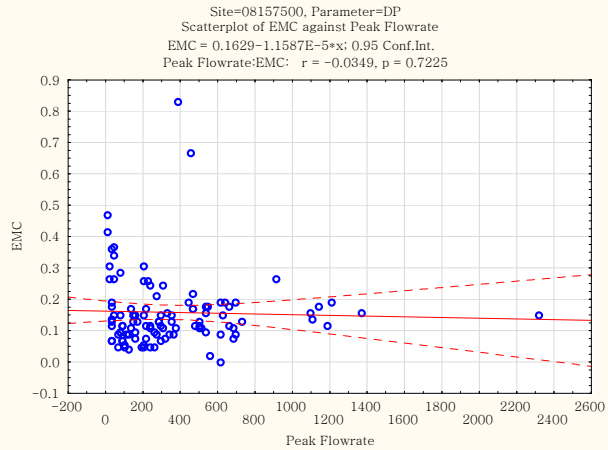

Site=08156800, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 75.6496+ 0.0103*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2917, p = 0.0843
EMC
Peak Flowrate

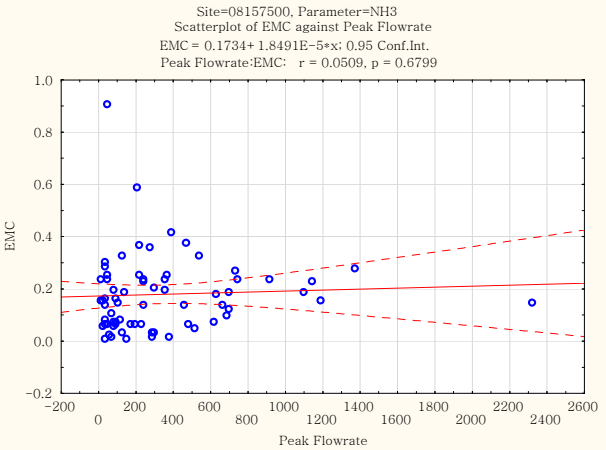

Site=08157500, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 13.9588+ 0.0024*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0895, p = 0.4096
EMC
Peak Flowrate

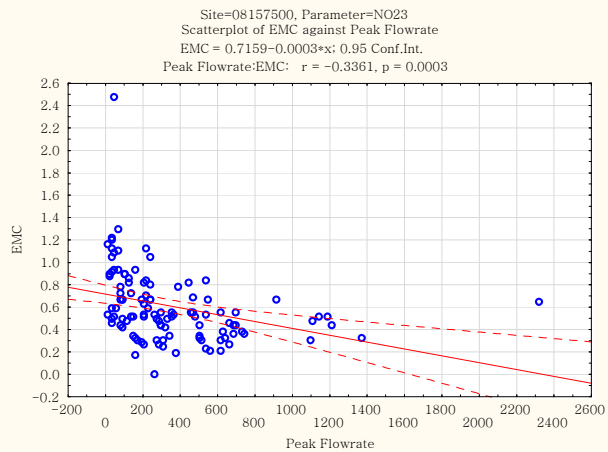

Site=08157500, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.4642+ 8.6916E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1232, p = 0.2420
EMC
Peak Flowrate

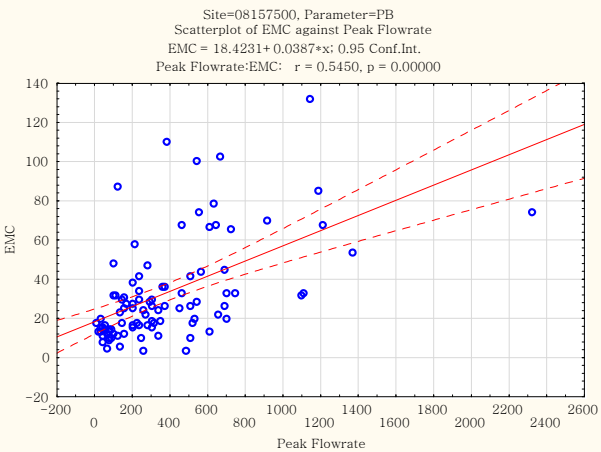

Site=08157500, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 69.3639+ 0.0464*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3123, p = 0.0009
EMC
Peak Flowrate

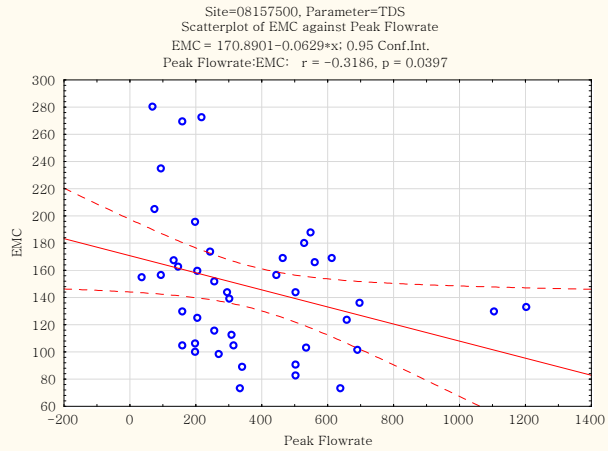

Site=08157500, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 27.805+ 0.0028*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0358, p = 0.7290
EMC
Peak Flowrate

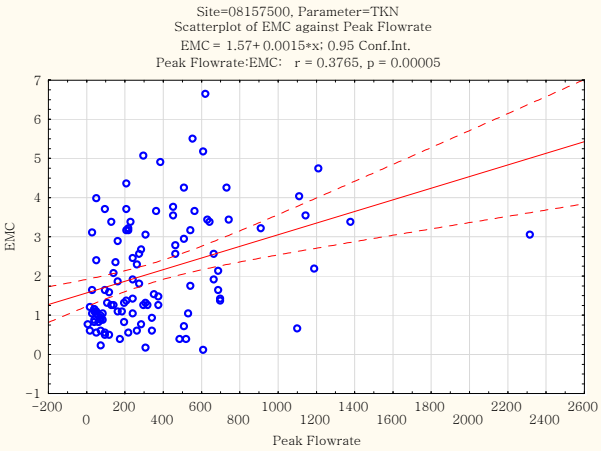

Site=08157500, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1629-1.1587E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0349, p = 0.7225
EMC
Peak Flowrate

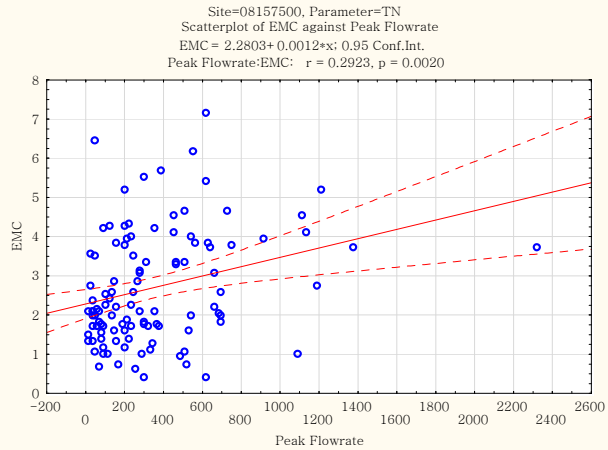

Site=08157500, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.1734+ 1.8491E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0509, p = 0.6799
EMC
Peak Flowrate

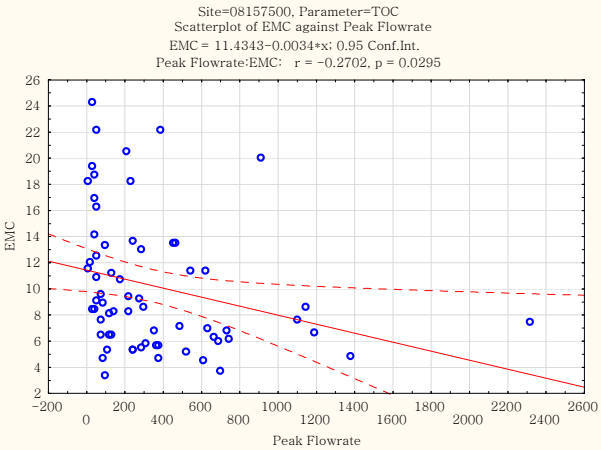

Site=08157500, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.7159−0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.3361, p = 0.0003
EMC
Peak Flowrate

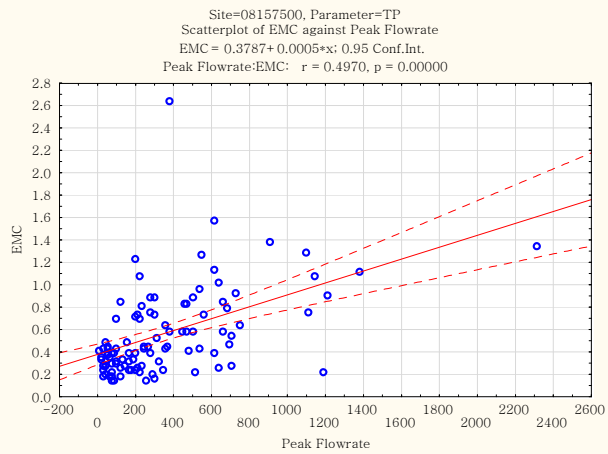

Site=08157500, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 18.4231+0.0387*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5450, p = 0.00000
EMC
Peak Flowrate

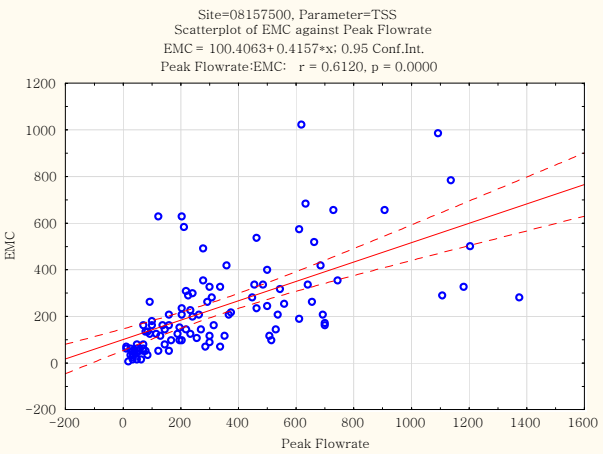

Site=08157500, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 170.8901−0.0629*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.3186, p = 0.0397
EMC
Peak Flowrate

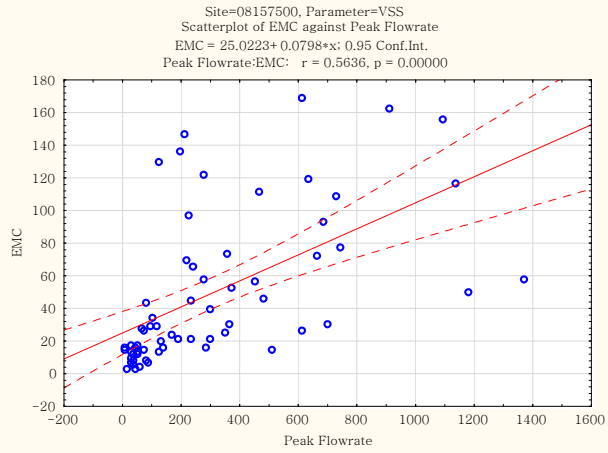

Site=08157500, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.57+0.0015*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3765, p = 0.00005
EMC
Peak Flowrate

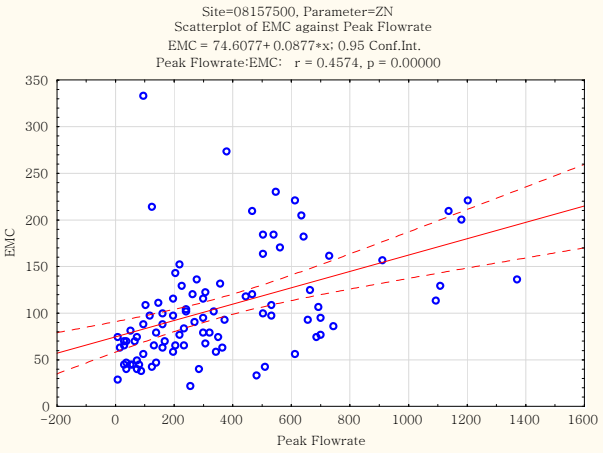

Site=08157500, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 2.2803+0.0012*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2923, p = 0.0020
EMC
Peak Flowrate

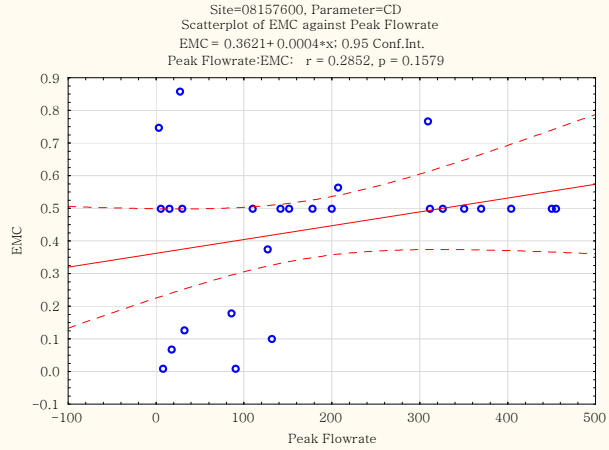

Site=08157500, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 11.4343−0.0034*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.2702, p = 0.0295
EMC
Peak Flowrate

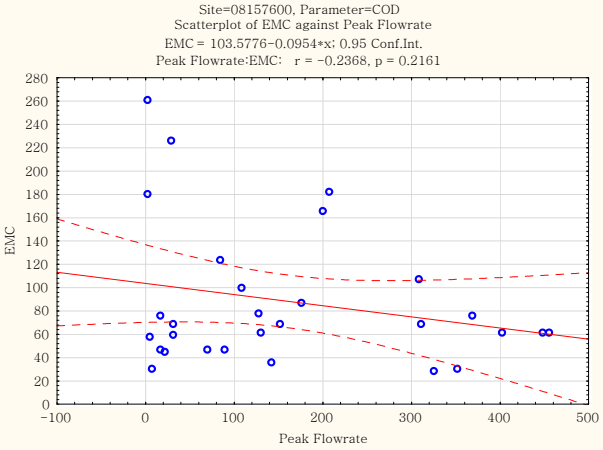

Site=08157500, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.3787+0.0005*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4970, p = 0.00000
EMC
Peak Flowrate

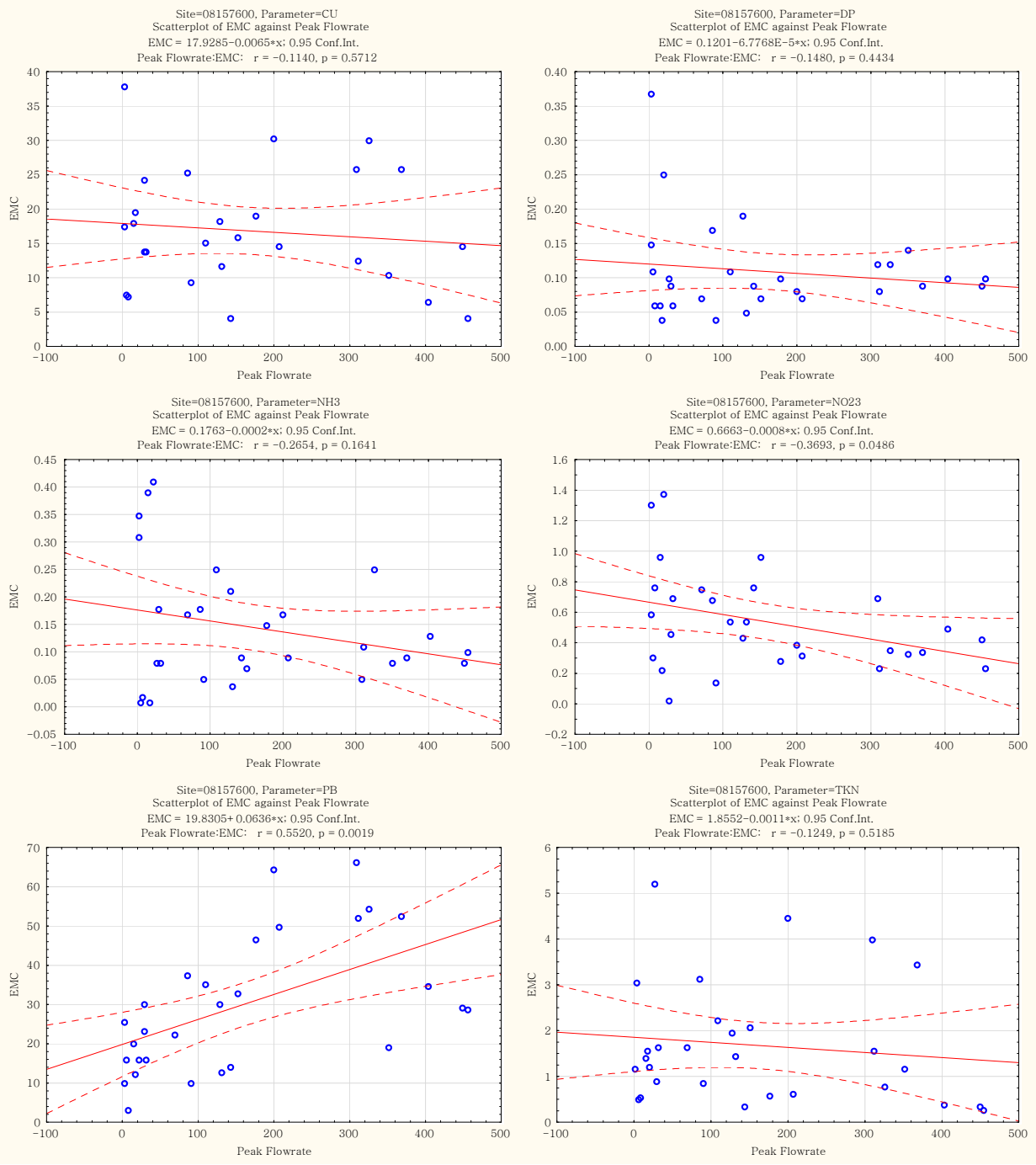

Site=08157500, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 100.4063+0.4157*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6120, p = 0.0000
EMC
Peak Flowrate

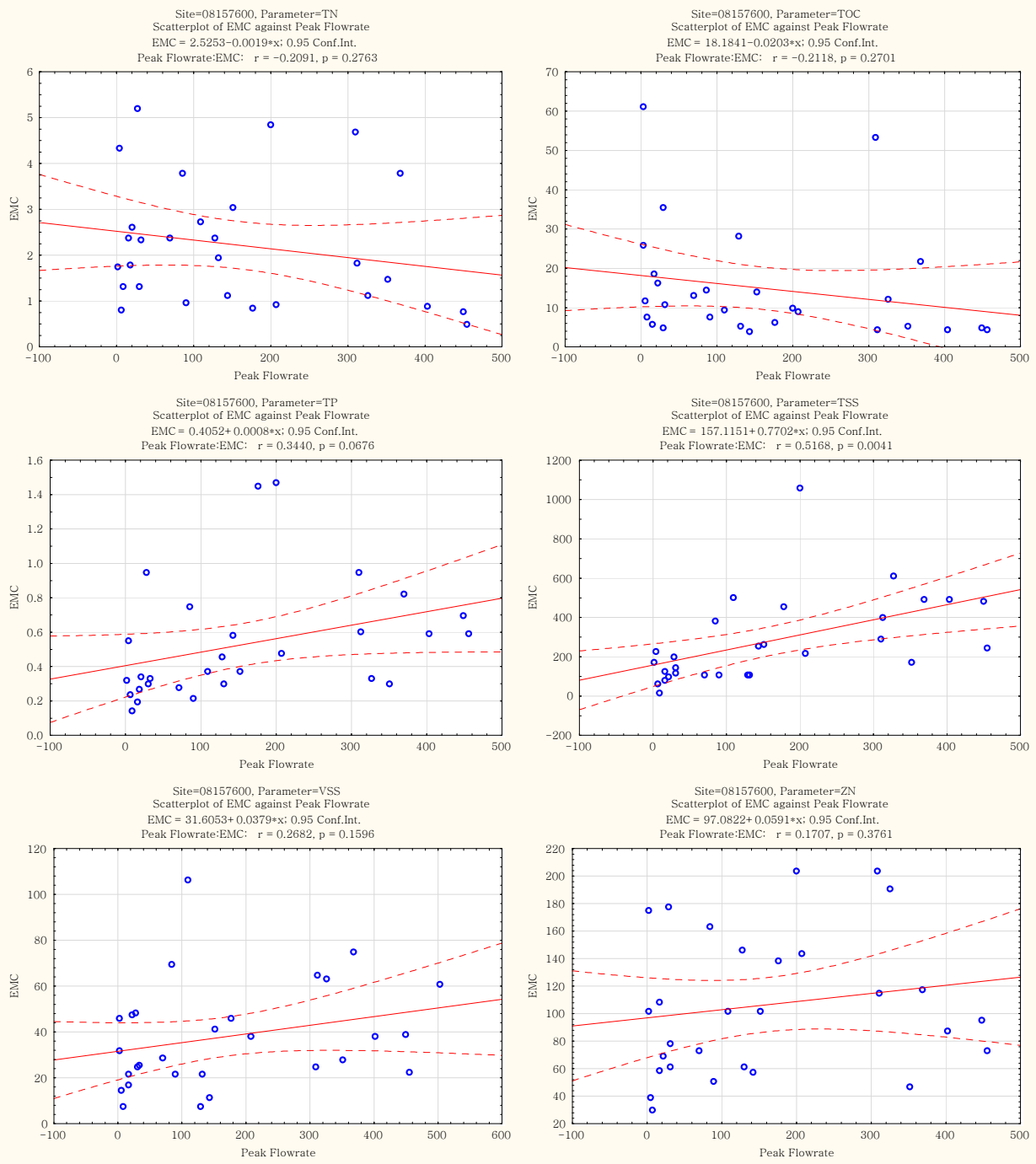

Site=08157500, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 25.0223+0.0798*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5636, p = 0.00000
EMC
Peak Flowrate

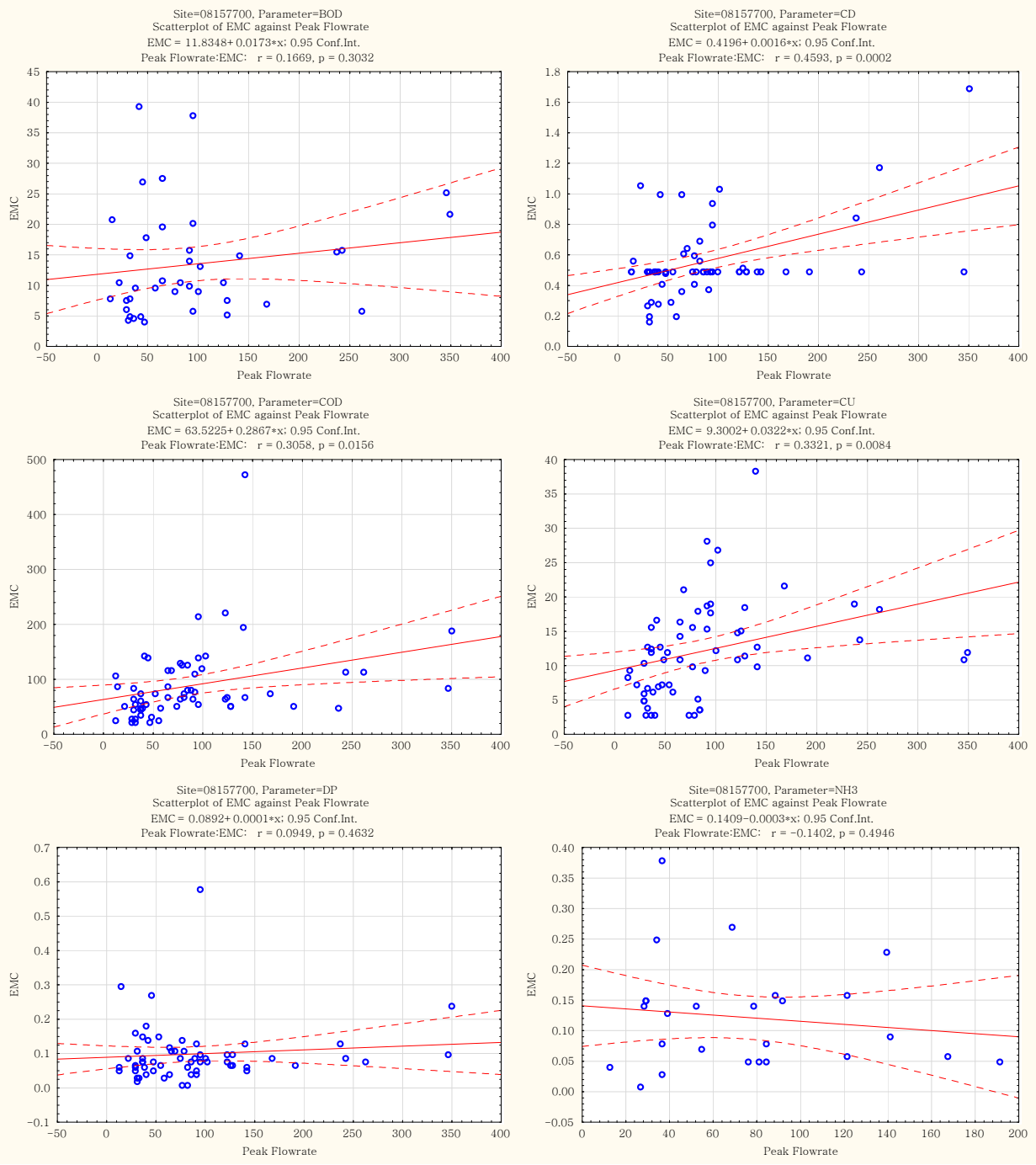

Site=08157500, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 74.6077+0.0877*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4574, p = 0.00000
EMC
Peak Flowrate

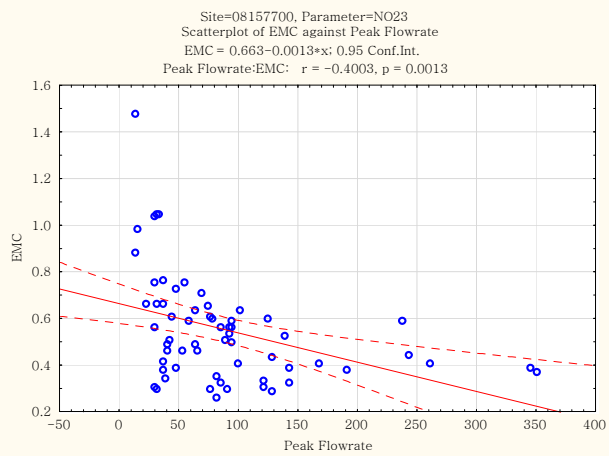

Site=08157600, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.3621+0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2852, p = 0.1579
EMC
Peak Flowrate

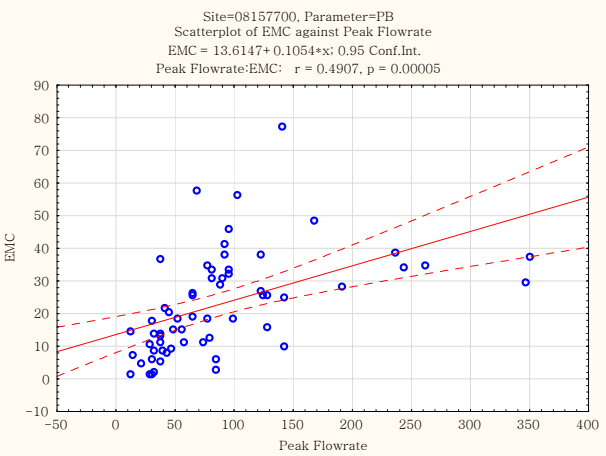

Site=08157600, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 103.5776-0.0954*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.2368, p = 0.2161
EMC
Peak Flowrate

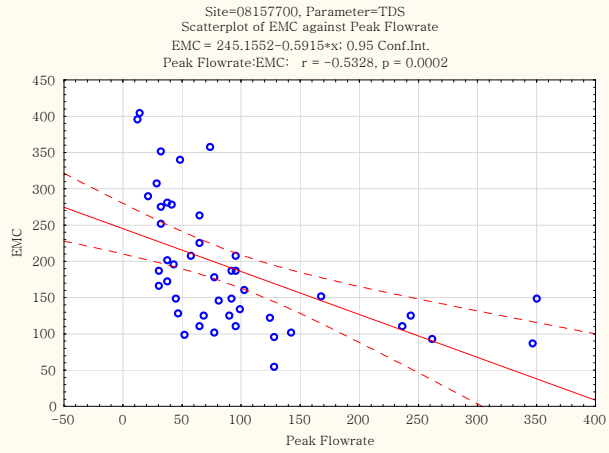

Site=08157600, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 17.9285-0.0065*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1140, p = 0.5712
Site=08157600, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1201-6.7768E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1480, p = 0.4434
Site=08157600, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.1763-0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.2654, p = 0.1641
Site=08157600, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.6663-0.0008*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.3693, p = 0.0486
Site=08157600, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 19.8305+ 0.0636*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5520, p = 0.0019
Site=08157600, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.8552-0.0011*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1249, p = 0.5185
EMC
Peak Flowrate

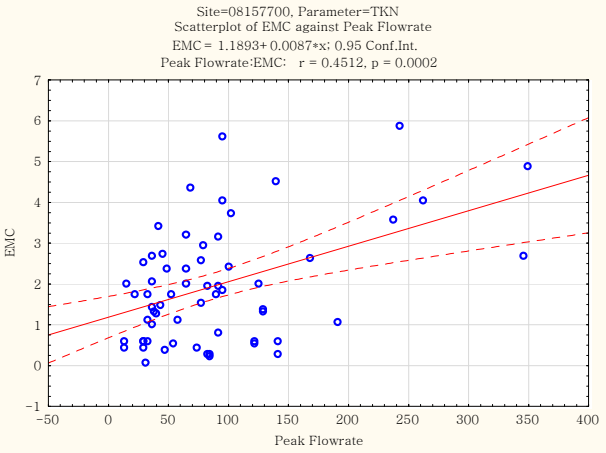

Site=08157600, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 2.5253-0.0019*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.2091, p = 0.2763
Site=08157600, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 18.1841-0.0203*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.2118, p = 0.2701
Site=08157600, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.4052+0.0008*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3440, p = 0.0676
Site=08157600, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 157.1151+0.7702*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5168, p = 0.0041
Site=08157600, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 31.6053+0.0379*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2682, p = 0.1596
Site=08157600, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 97.0822+0.0591*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1707, p = 0.3761
EMC
Peak Flowrate

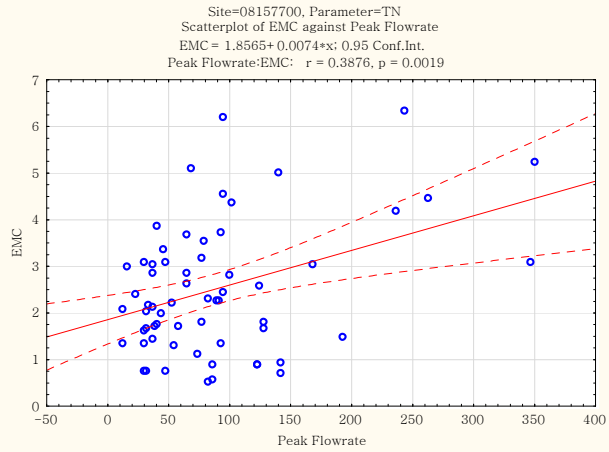

Site=08157700, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 11.8348+ 0.0173*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1669, p = 0.3032
Site=08157700, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.4196+ 0.0016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4593, p = 0.0002
Site=08157700, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 63.5225+ 0.2867*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3058, p = 0.0156
Site=08157700, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 9.3002+ 0.0322*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3321, p = 0.0084
Site=08157700, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0892+ 0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0949, p = 0.4632
Site=08157700, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.1409−0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.1402, p = 0.4946
EMC
Peak Flowrate

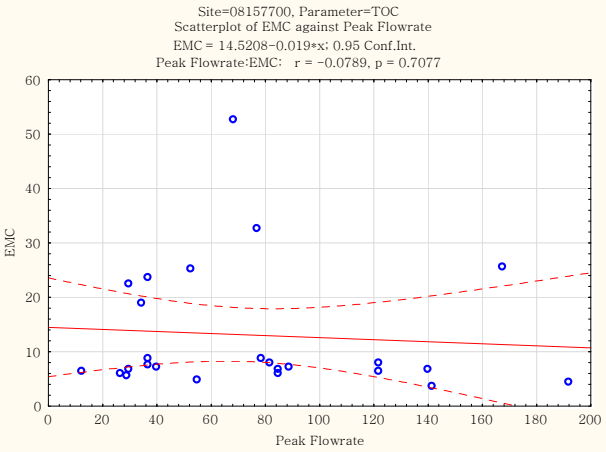

Site=08157700, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.663−0.0013*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.4003, p = 0.0013
EMC
Peak Flowrate

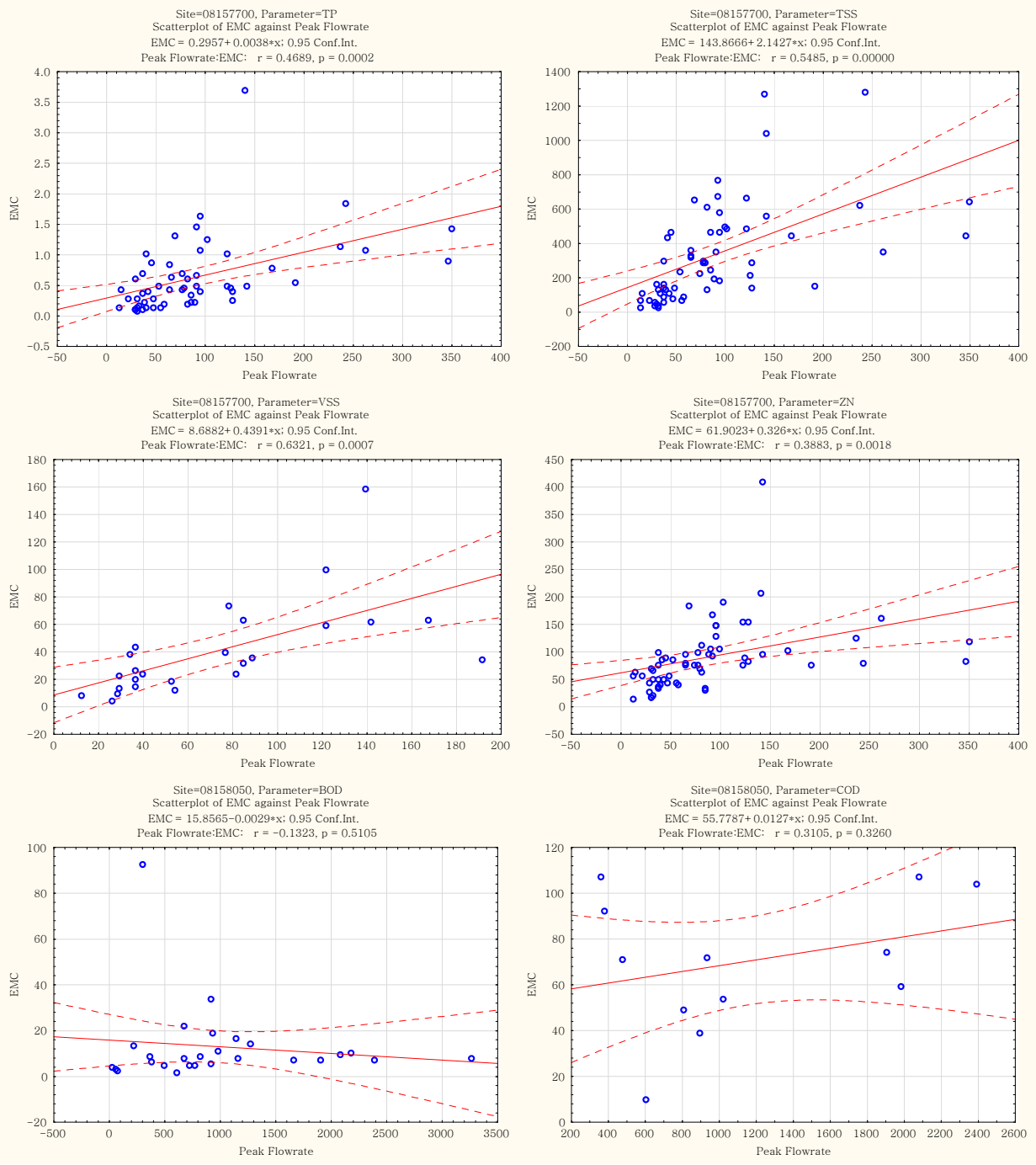

Site=08157700, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 13.6147+0.1054*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4907, p = 0.00005
EMC
Peak Flowrate

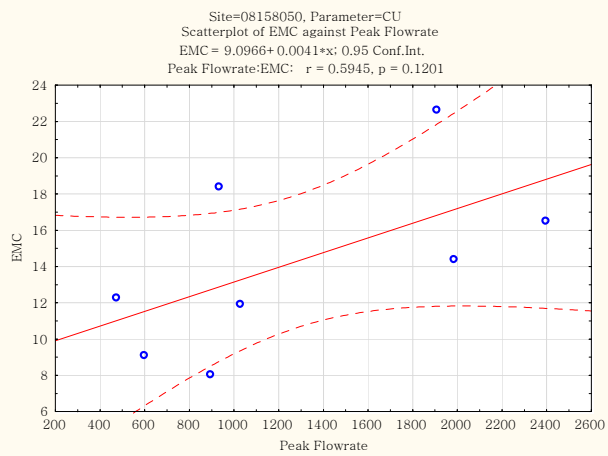

Site=08157700, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 245.1552−0.5915*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.5328, p = 0.0002
EMC
Peak Flowrate

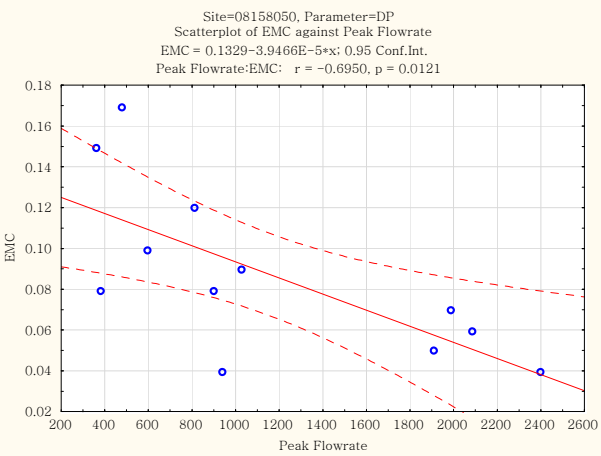

Site=08157700, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.1893+0.0087*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4512, p = 0.0002
EMC
Peak Flowrate

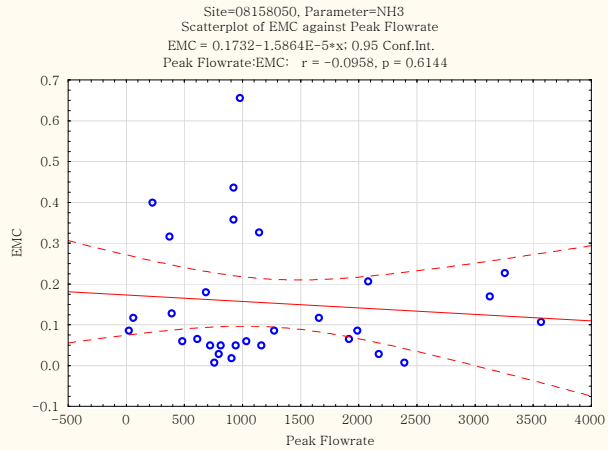

Site=08157700, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.8565+0.0074*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3876, p = 0.0019
EMC
Peak Flowrate

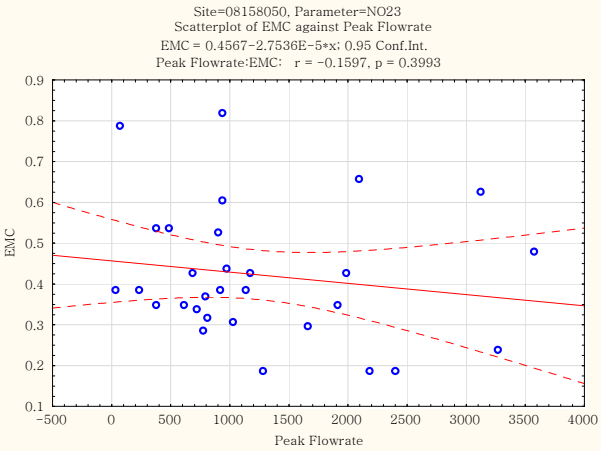

Site=08157700, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 14.5208−0.019*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0789, p = 0.7077
EMC
Peak Flowrate

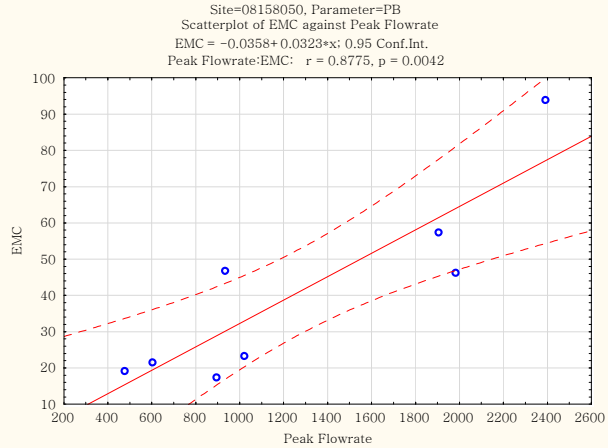

Site=08157700, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.2957+0.0038*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4689, p = 0.0002
Site=08157700, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 143.8666+2.1427*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5485, p = 0.00000
Site=08157700, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 8.6882+0.4391*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6321, p = 0.0007
Site=08157700, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 61.9023+0.326*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3883, p = 0.0018
Site=08158050, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 15.8565-0.0029*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1323, p = 0.5105
Site=08158050, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 55.7787+0.0127*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3105, p = 0.3260
EMC
Peak Flowrate

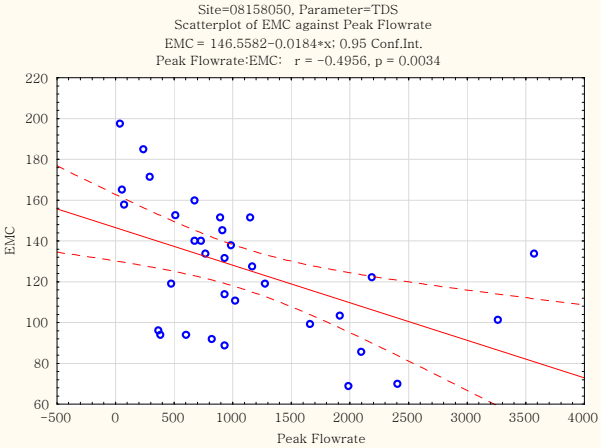

Site=08158050, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 9.0966+0.0041*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5945, p = 0.1201
EMC
Peak Flowrate

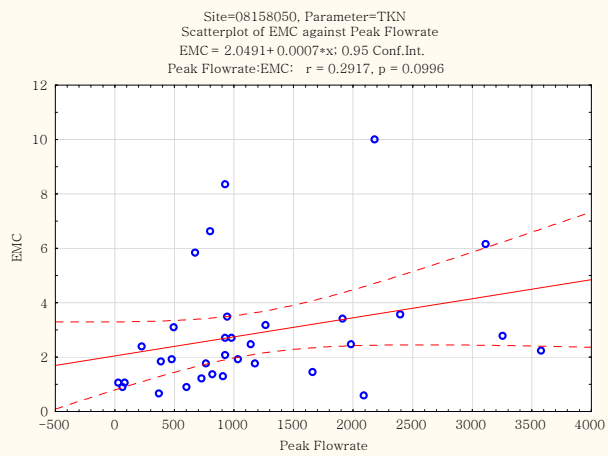

Site=08158050, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1329-3.9466E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.6950, p = 0.0121
EMC
Peak Flowrate

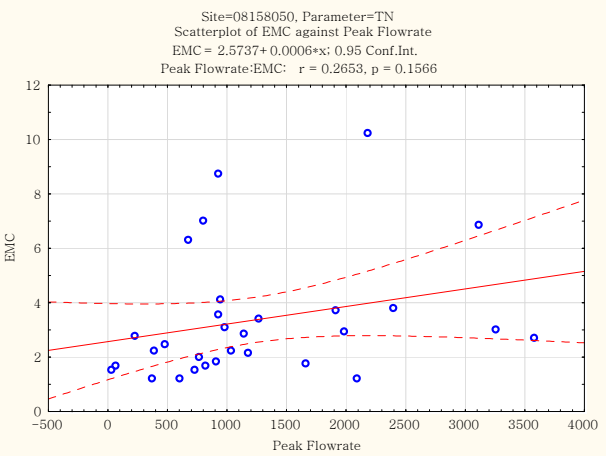

Site=08158050, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.1732-1.5864E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0958, p = 0.6144
EMC
Peak Flowrate

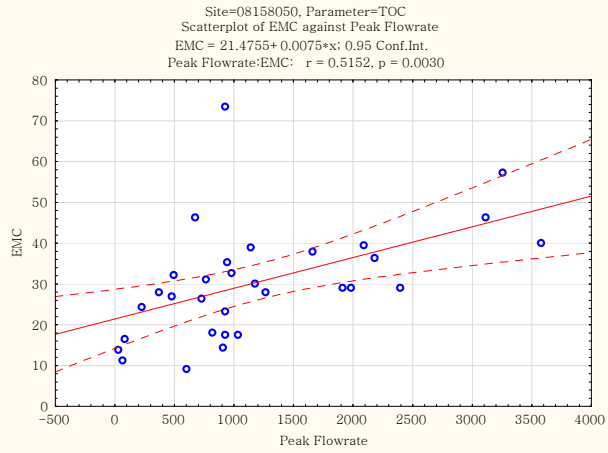

Site=08158050, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.4567-2.7536E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1597, p = 0.3993
EMC
Peak Flowrate

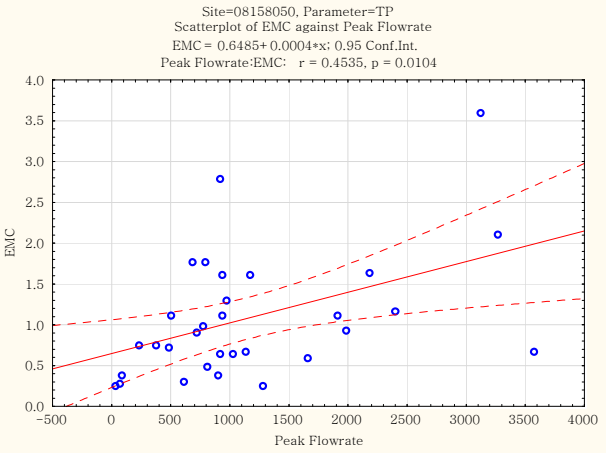

Site=08158050, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = -0.0358+0.0323*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8775, p = 0.0042
EMC
Peak Flowrate

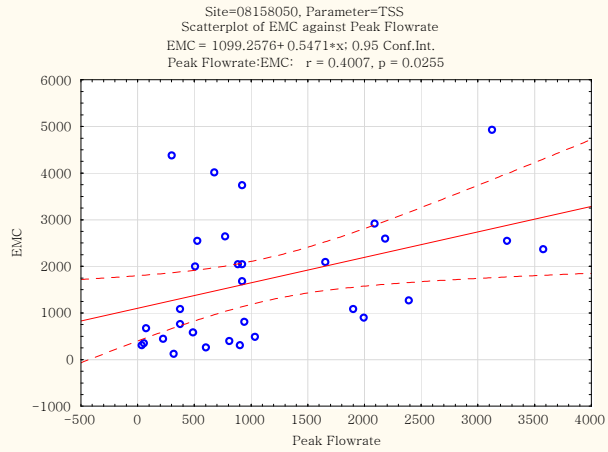

Site=08158050, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 146.5582-0.0184*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.4956, p = 0.0034
EMC
Peak Flowrate

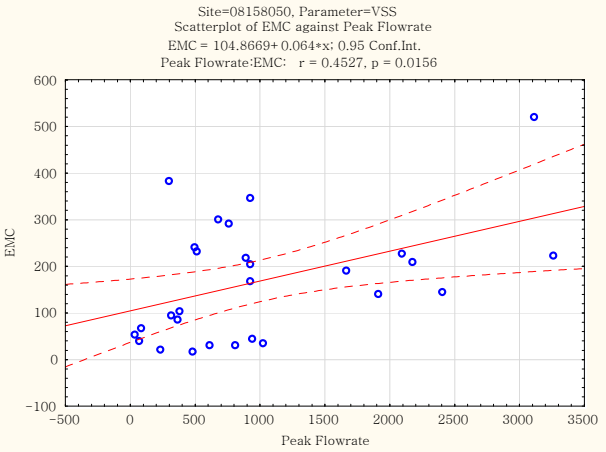

Site=08158050, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 2.0491+ 0.0007*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2917, p = 0.0996
EMC
Peak Flowrate

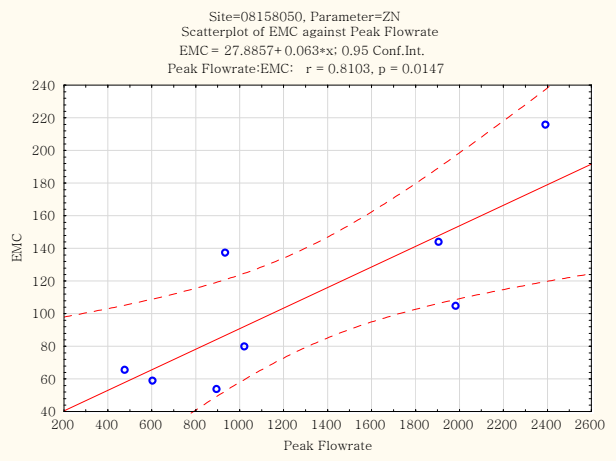

Site=08158050, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 2.5737+ 0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2653, p = 0.1566
EMC
Peak Flowrate

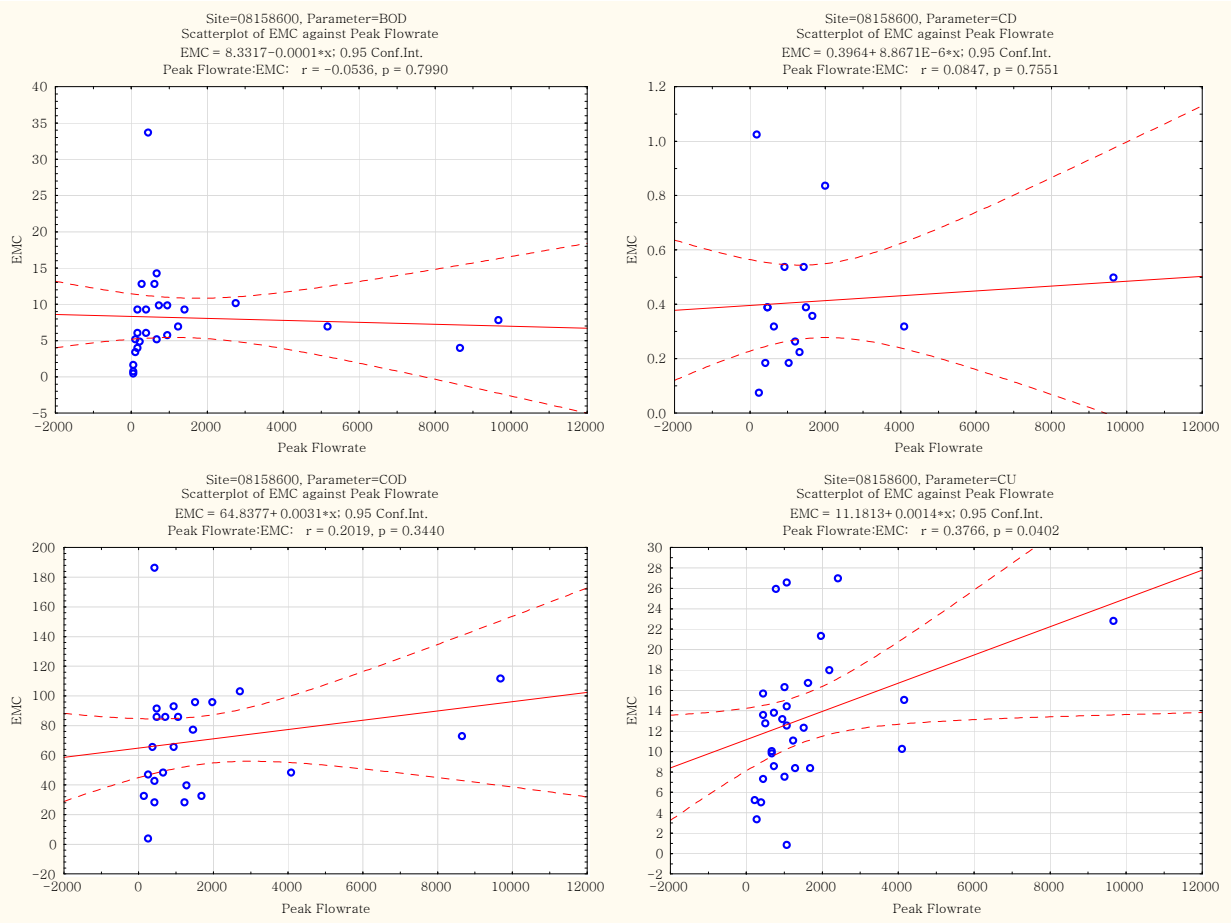

Site=08158050, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 21.4755+ 0.0075*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5152, p = 0.0030
EMC
Peak Flowrate

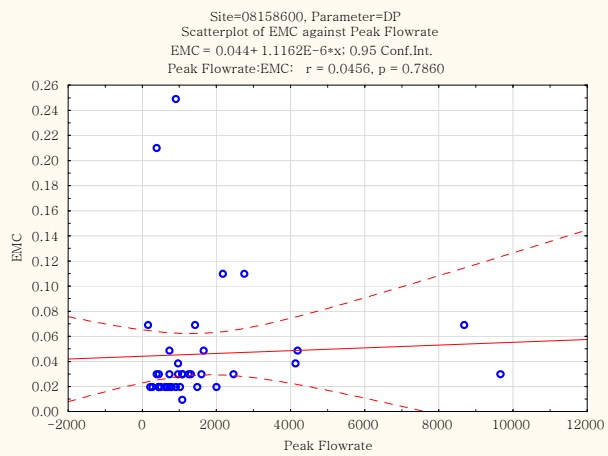

Site=08158050, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.6485+ 0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4535, p = 0.0104
EMC
Peak Flowrate

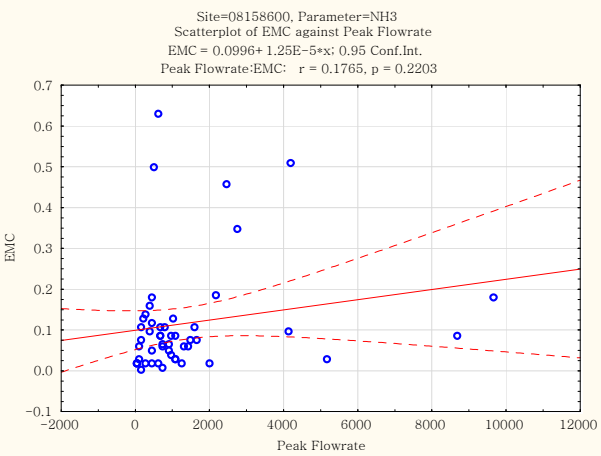

Site=08158050, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 1099.2576+ 0.5471*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4007, p = 0.0255
EMC
Peak Flowrate

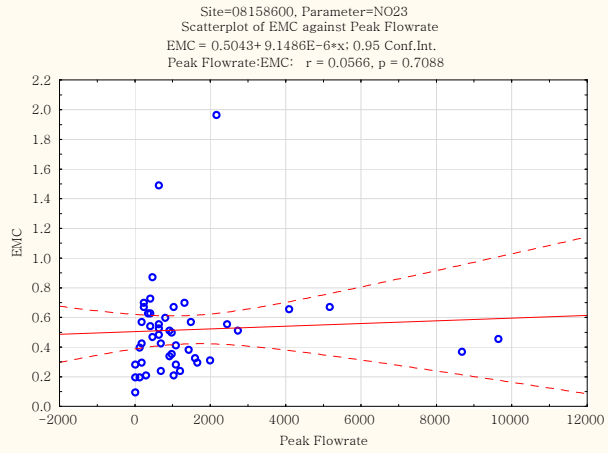

Site=08158050, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 104.8669+ 0.064*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4527, p = 0.0156
EMC
Peak Flowrate

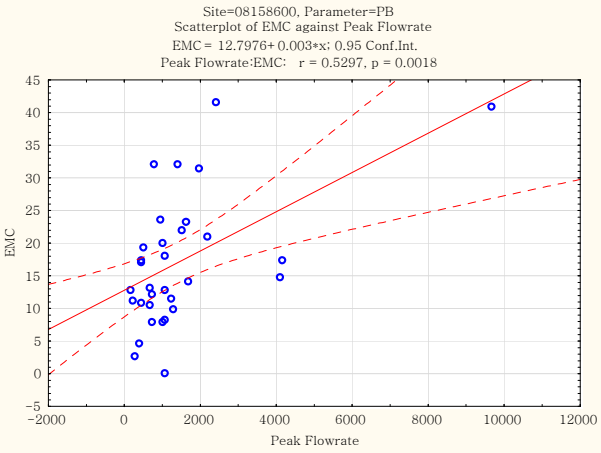

Site=08158050, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 27.8857+ 0.063*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8103, p = 0.0147
EMC
Peak Flowrate

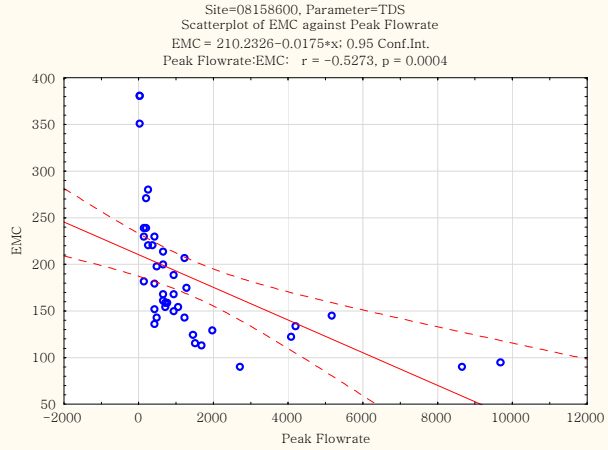

Site=08158600, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 8.3317−0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0536, p = 0.7990
Site=08158600, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.3964+ 8.8671E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0847, p = 0.7551
Site=08158600, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 64.8377+ 0.0031*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2019, p = 0.3440
Site=08158600, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 11.1813+ 0.0014*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3766, p = 0.0402
EMC
Peak Flowrate

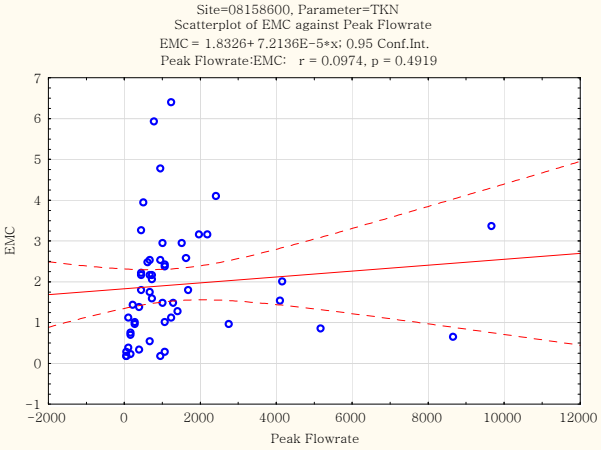

Site=08158600, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.044+ 1.1162E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0456, p = 0.7860
EMC
Peak Flowrate

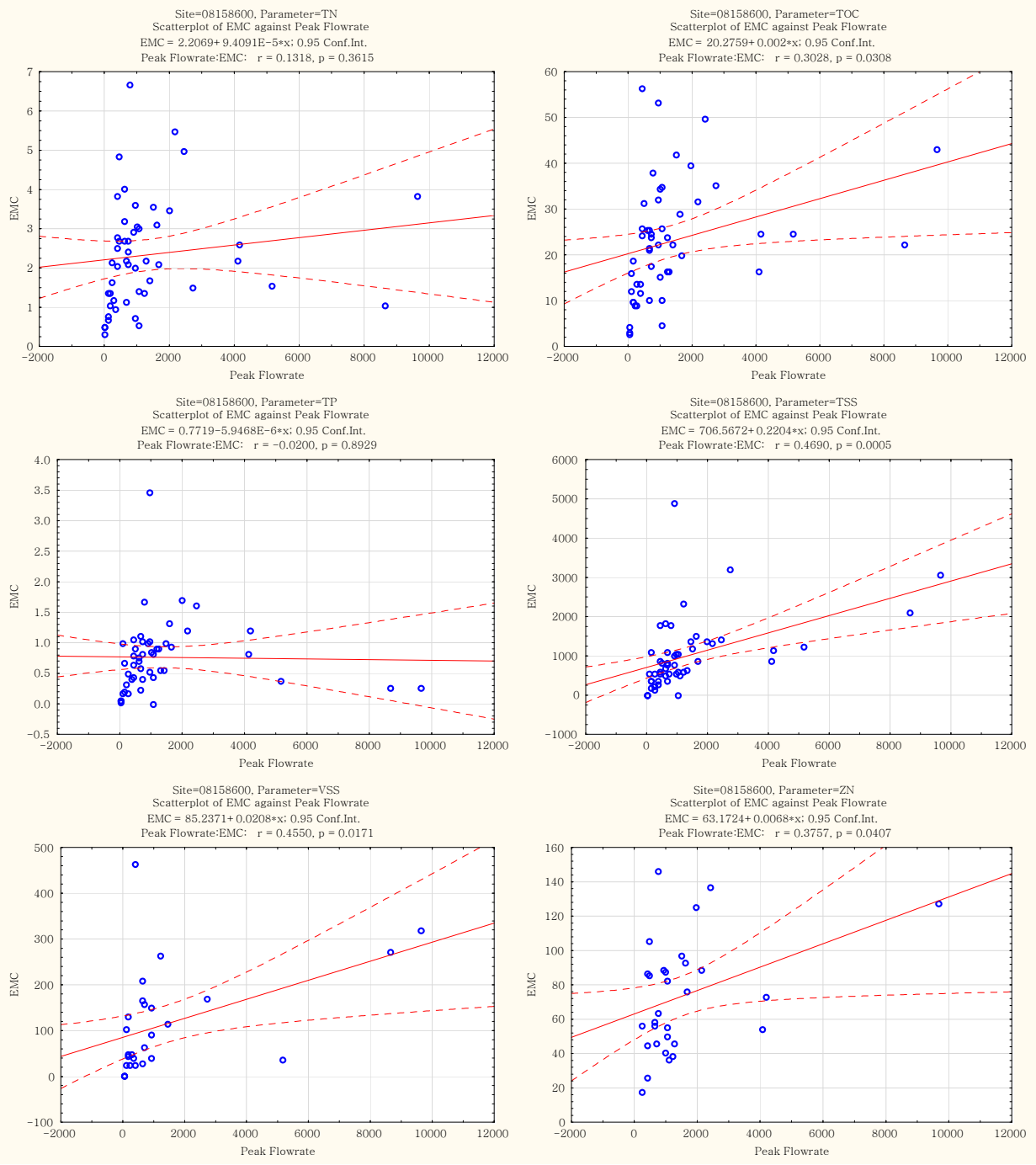

Site=08158600, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0996+ 1.25E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1765, p = 0.2203
EMC
Peak Flowrate

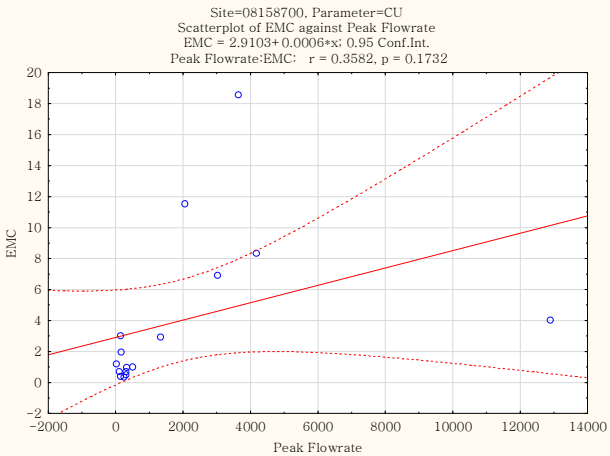

Site=08158600, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.5043+ 9.1486E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0566, p = 0.7088
EMC
Peak Flowrate

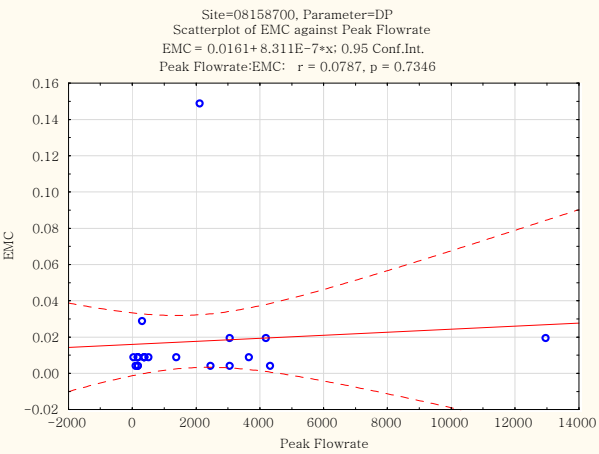

Site=08158600, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 12.7976+ 0.003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5297, p = 0.0018
EMC
Peak Flowrate

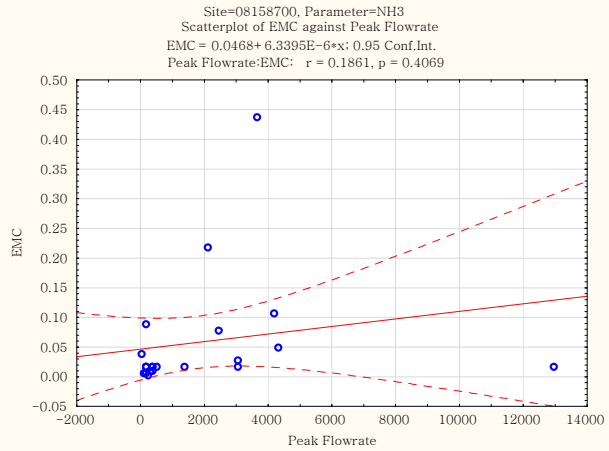

Site=08158600, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 210.2326-0.0175*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.5273, p = 0.0004
EMC
Peak Flowrate

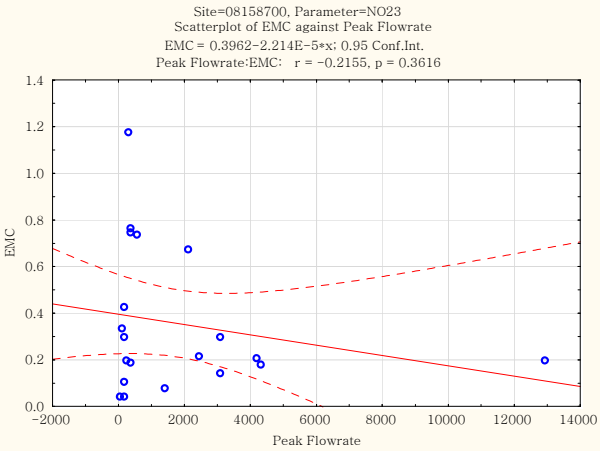

Site=08158600, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.8326+ 7.2136E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0974, p = 0.4919
EMC
Peak Flowrate

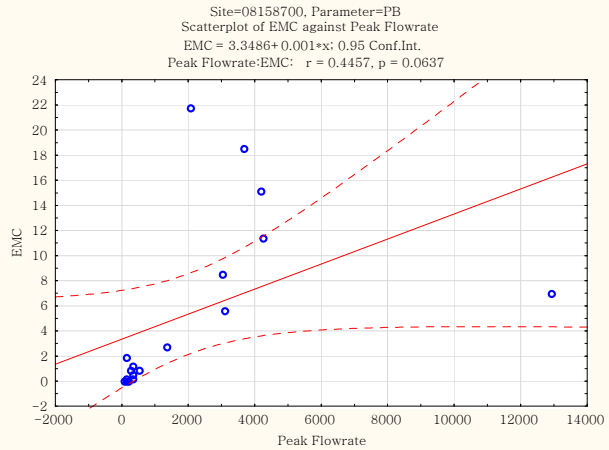

Site=08158600, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 2.2069+ 9.4091E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1318, p = 0.3615
Site=08158600, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 20.2759+ 0.002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3028, p = 0.0308
Site=08158600, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.7719−5.9468E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0200, p = 0.8929
Site=08158600, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 706.5672+ 0.2204*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4690, p = 0.0005
Site=08158600, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 85.2371+ 0.0208*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4550, p = 0.0171
Site=08158600, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 63.1724+ 0.0068*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3757, p = 0.0407
EMC
Peak Flowrate

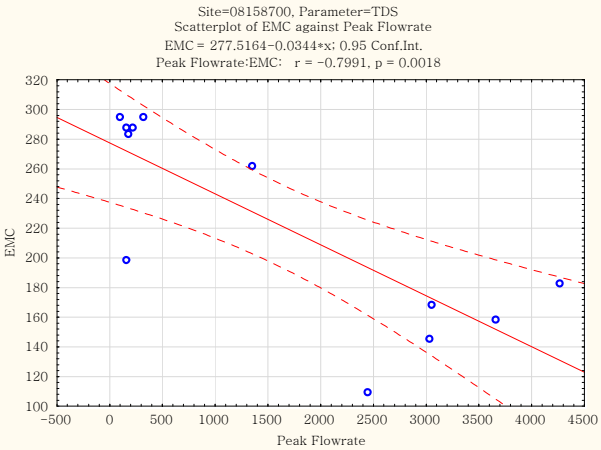

Site=08158700, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 2.9103+0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3582, p = 0.1732
EMC
Peak Flowrate

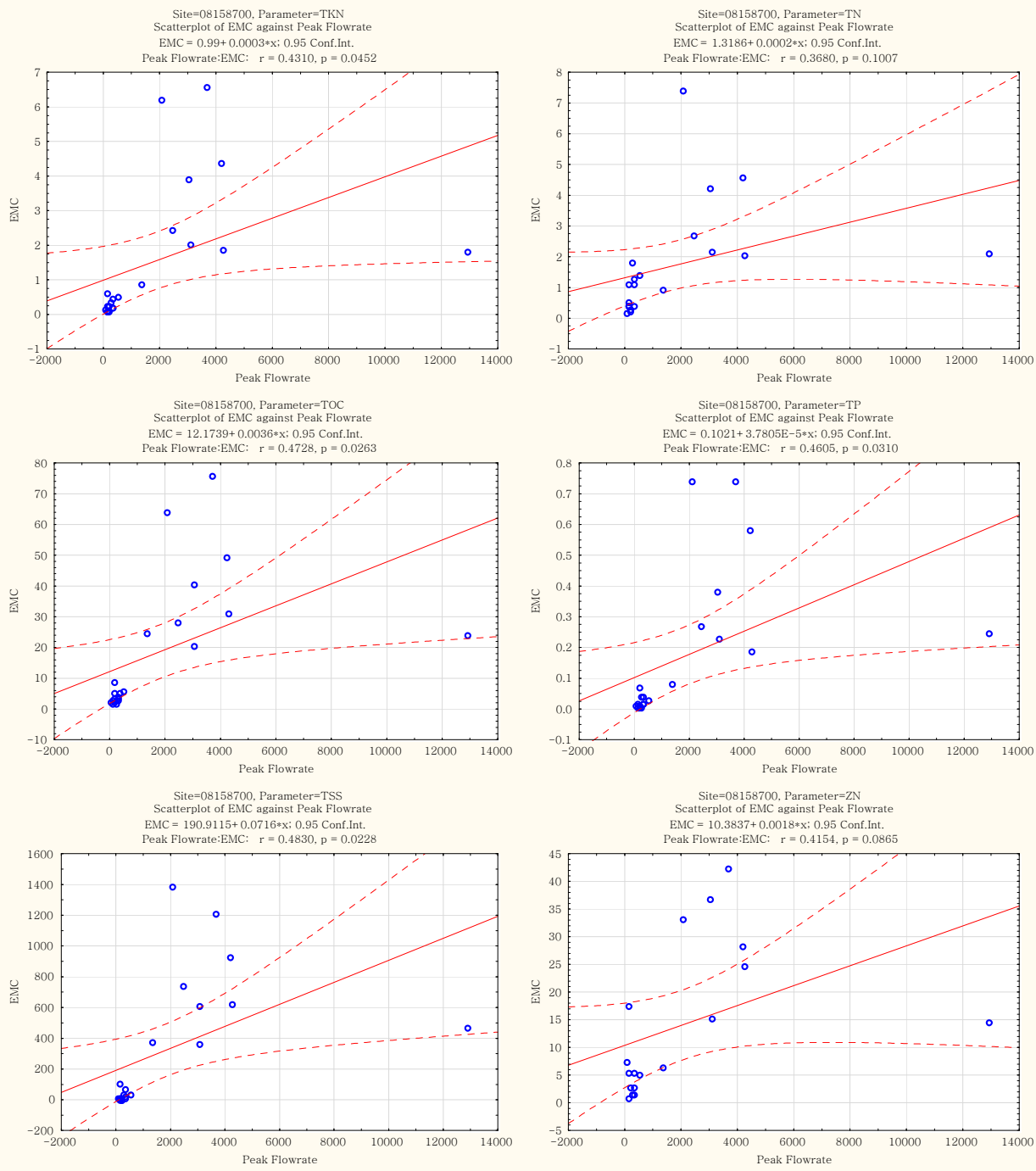

Site=08158700, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0161+8.311E-7*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0787, p = 0.7346
EMC
Peak Flowrate

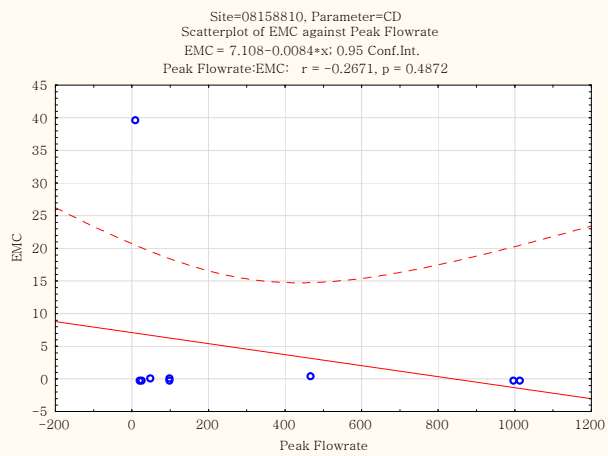

Site=08158700, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0468+6.3395E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1861, p = 0.4069
EMC
Peak Flowrate

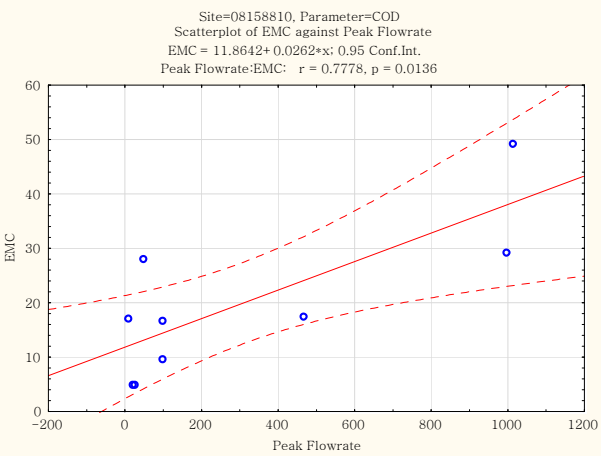

Site=08158700, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3962-2.214E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.2155, p = 0.3616
EMC
Peak Flowrate

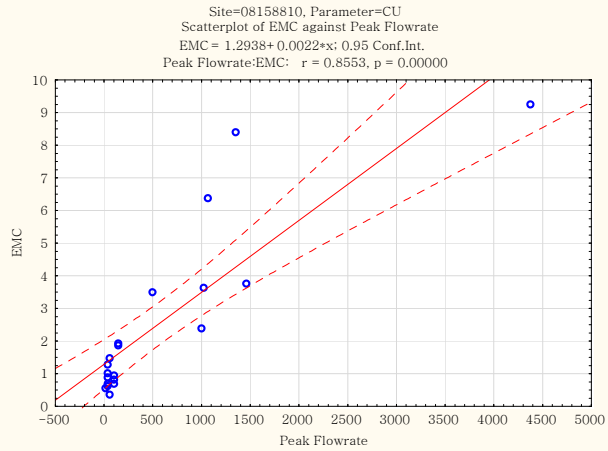

Site=08158700, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 3.3486+0.001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4457, p = 0.0637
EMC
Peak Flowrate

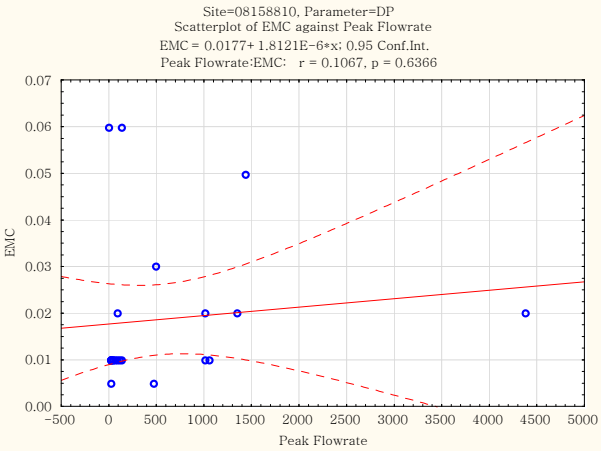

Site=08158700, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 277.5164-0.0344*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.7991, p = 0.0018
EMC
Peak Flowrate

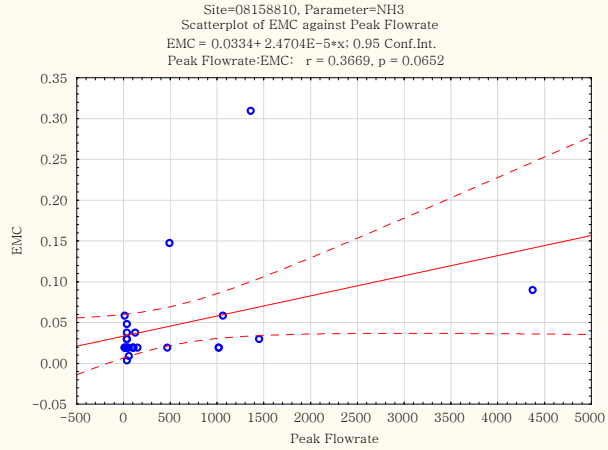

Site=08158700, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.99+ 0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4310, p = 0.0452
Site=08158700, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.3186+ 0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3680, p = 0.1007
Site=08158700, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 12.1739+ 0.0036*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4728, p = 0.0263
Site=08158700, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1021+ 3.7805E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4605, p = 0.0310
Site=08158700, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 190.9115+ 0.0716*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4830, p = 0.0228
Site=08158700, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 10.3837+ 0.0018*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4154, p = 0.0865
EMC
Peak Flowrate

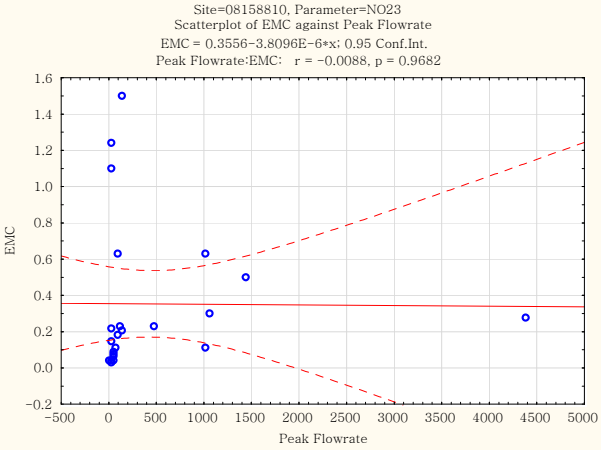

Site=08158810, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 7.108−0.0084*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.2671, p = 0.4872
EMC
Peak Flowrate

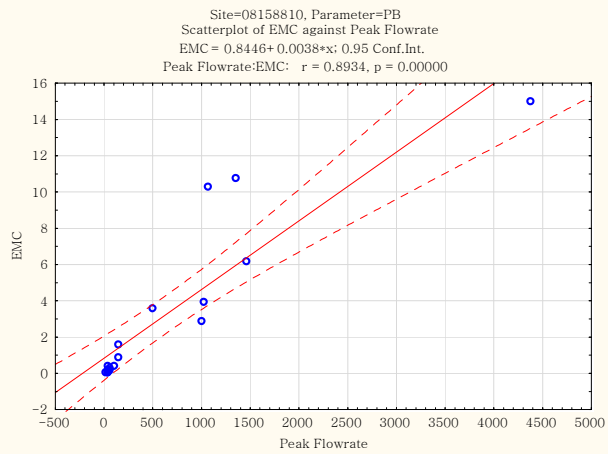

Site=08158810, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 11.8642+0.0262*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7778, p = 0.0136
EMC
Peak Flowrate

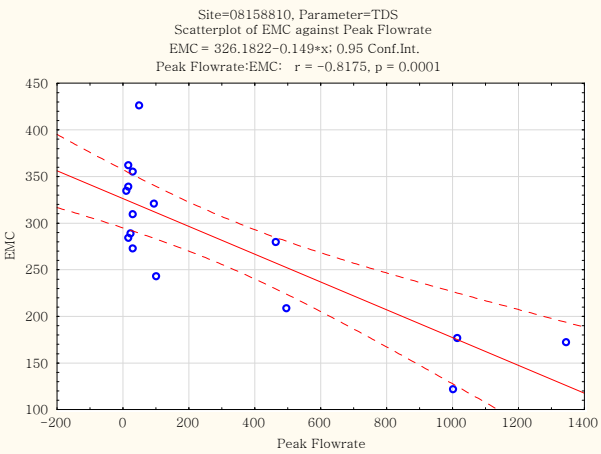

Site=08158810, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 1.2938+0.0022*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8553, p = 0.00000
EMC
Peak Flowrate

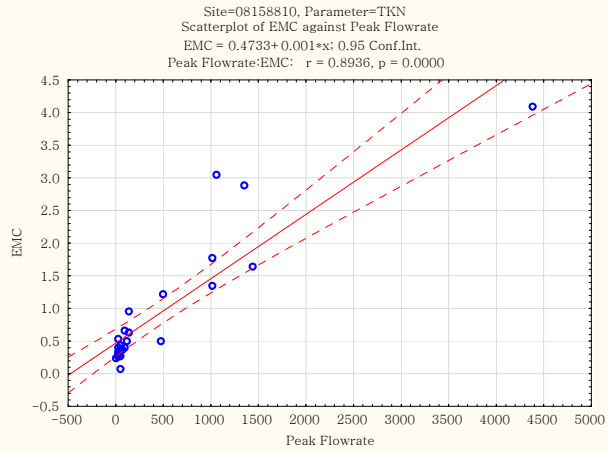

Site=08158810, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0177+1.8121E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1067, p = 0.6366
EMC
Peak Flowrate

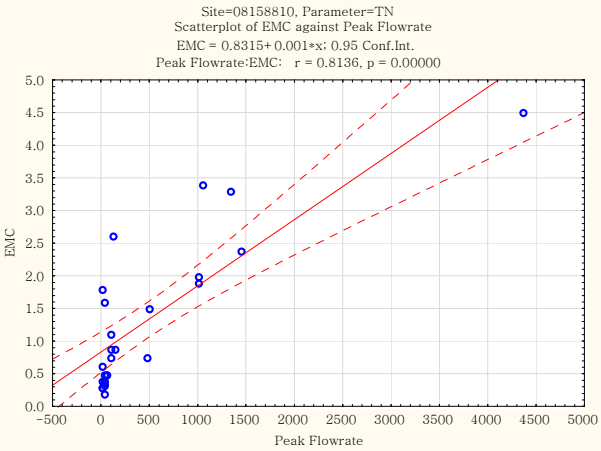

Site=08158810, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0334+2.4704E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3669, p = 0.0652
EMC
Peak Flowrate

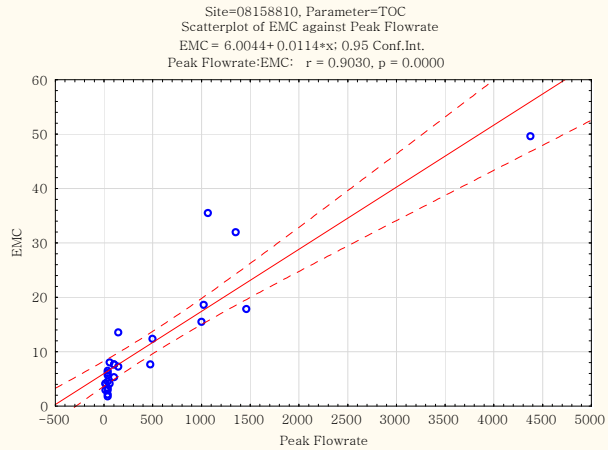

Site=08158810, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3556−3.8096E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0088, p = 0.9682
EMC
Peak Flowrate

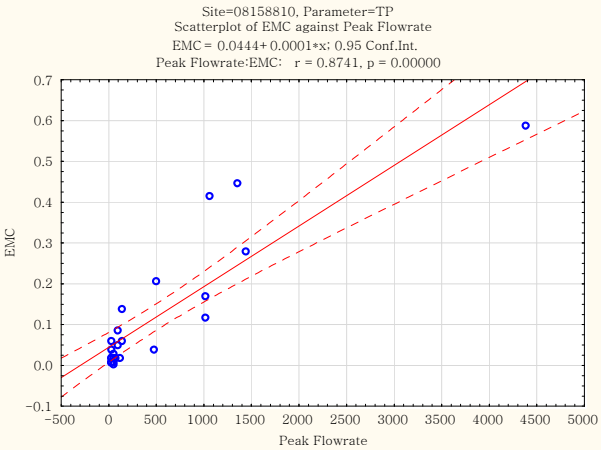

Site=08158810, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 0.8446+0.0038*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8934, p = 0.00000
EMC
Peak Flowrate

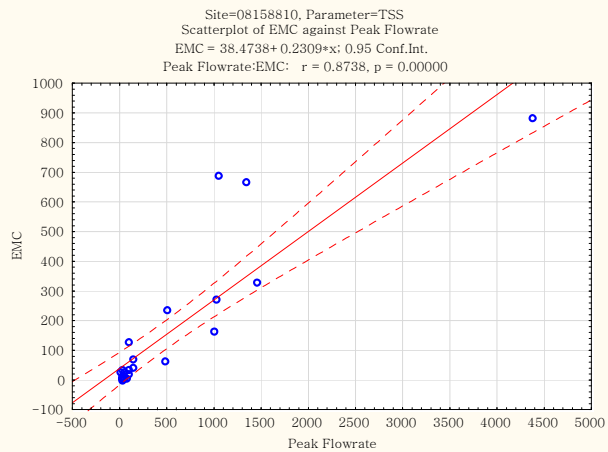

Site=08158810, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 326.1822−0.149*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.8175, p = 0.0001
EMC
Peak Flowrate

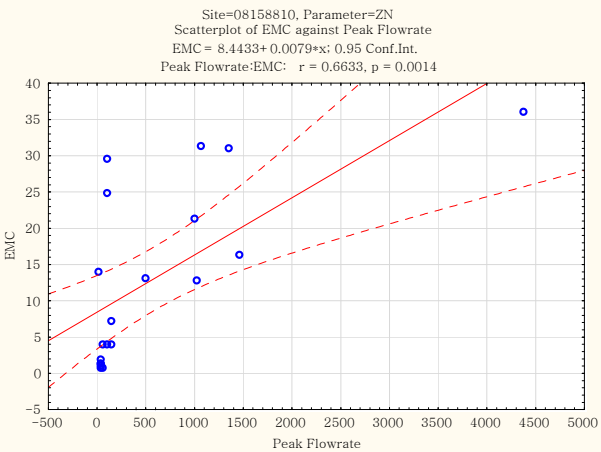

Site=08158810, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.4733+0.001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8936, p = 0.0000
EMC
Peak Flowrate

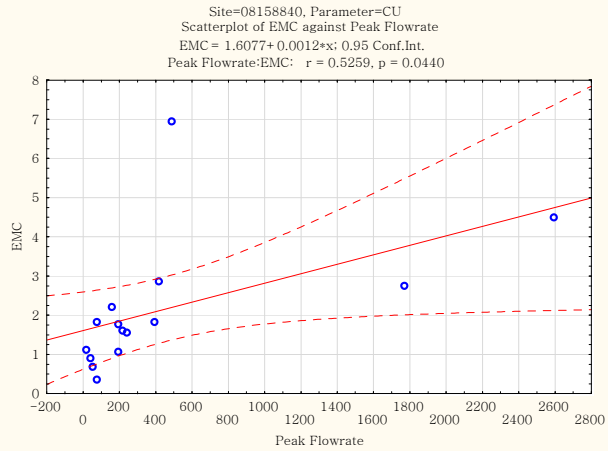

Site=08158810, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.8315+0.001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8136, p = 0.00000
EMC
Peak Flowrate

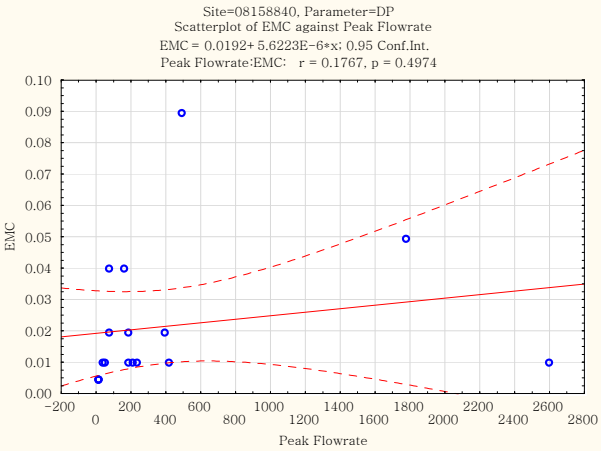

Site=08158810, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 6.0044+0.0114*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.9030, p = 0.0000
EMC
Peak Flowrate

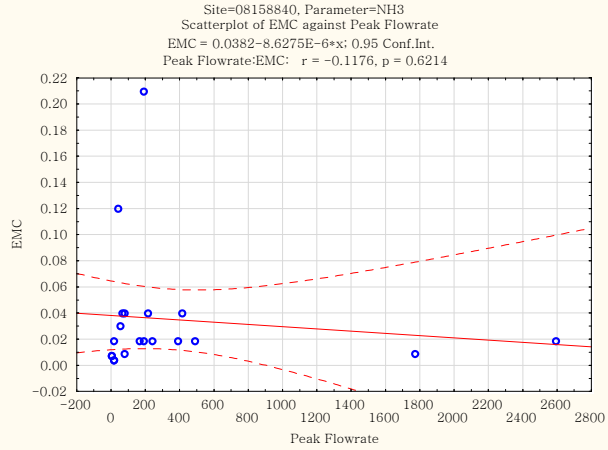

Site=08158810, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0444+0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8741, p = 0.00000
EMC
Peak Flowrate

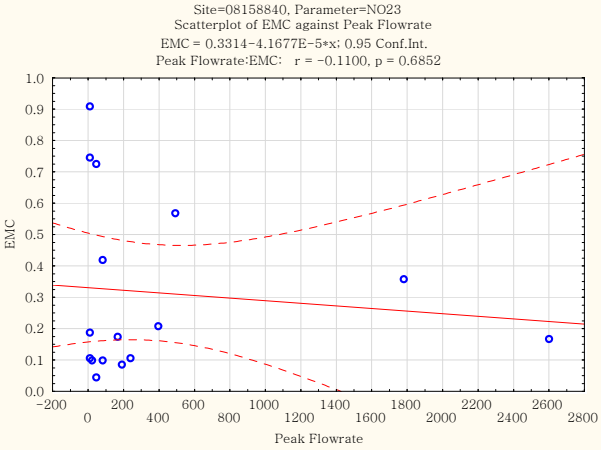

Site=08158810, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 38.4738+ 0.2309*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8738, p = 0.00000
EMC
Peak Flowrate

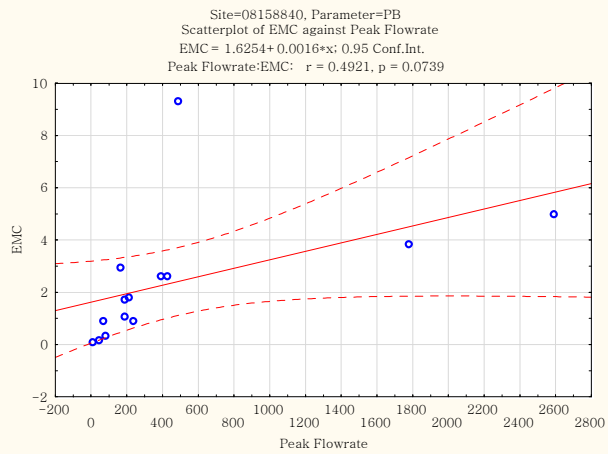

Site=08158810, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 8.4433+ 0.0079*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6633, p = 0.0014
EMC
Peak Flowrate

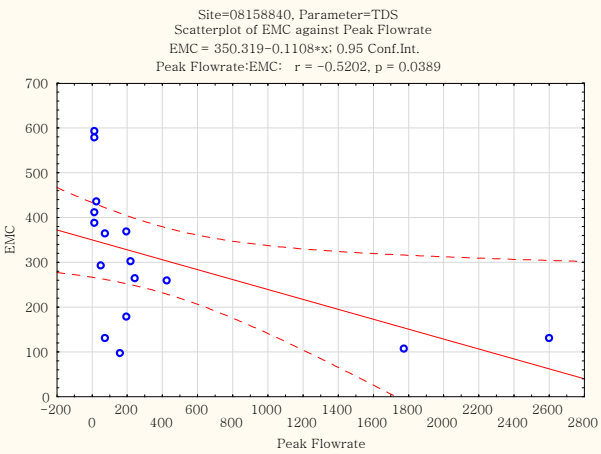

Site=08158840, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 1.6077+ 0.0012*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5259, p = 0.0440
EMC
Peak Flowrate

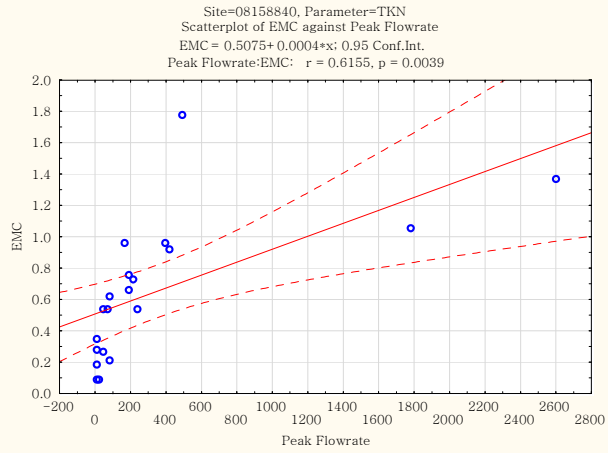

Site=08158840, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0192+ 5.6223E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1767, p = 0.4974
EMC
Peak Flowrate

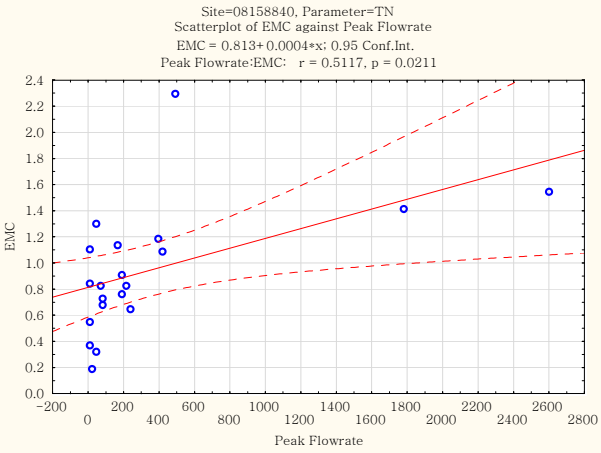

Site=08158840, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0382-8.6275E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1176, p = 0.6214
EMC
Peak Flowrate

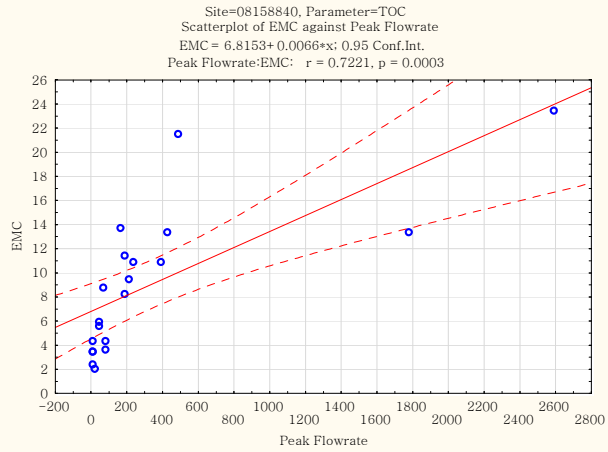

Site=08158840, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3314-4.1677E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1100, p = 0.6852
EMC
Peak Flowrate

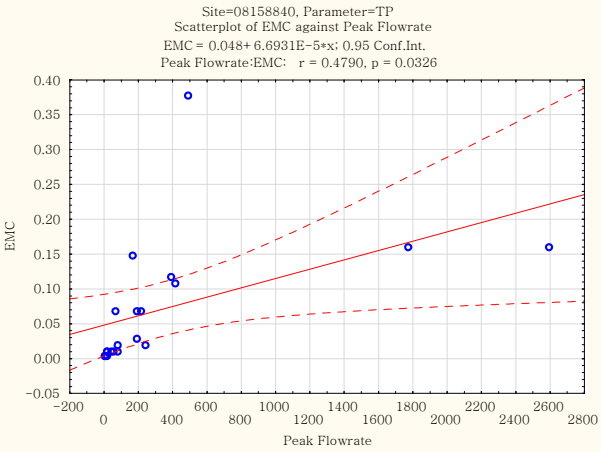

Site=08158840, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 1.6254+0.0016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4921, p = 0.0739
EMC
Peak Flowrate

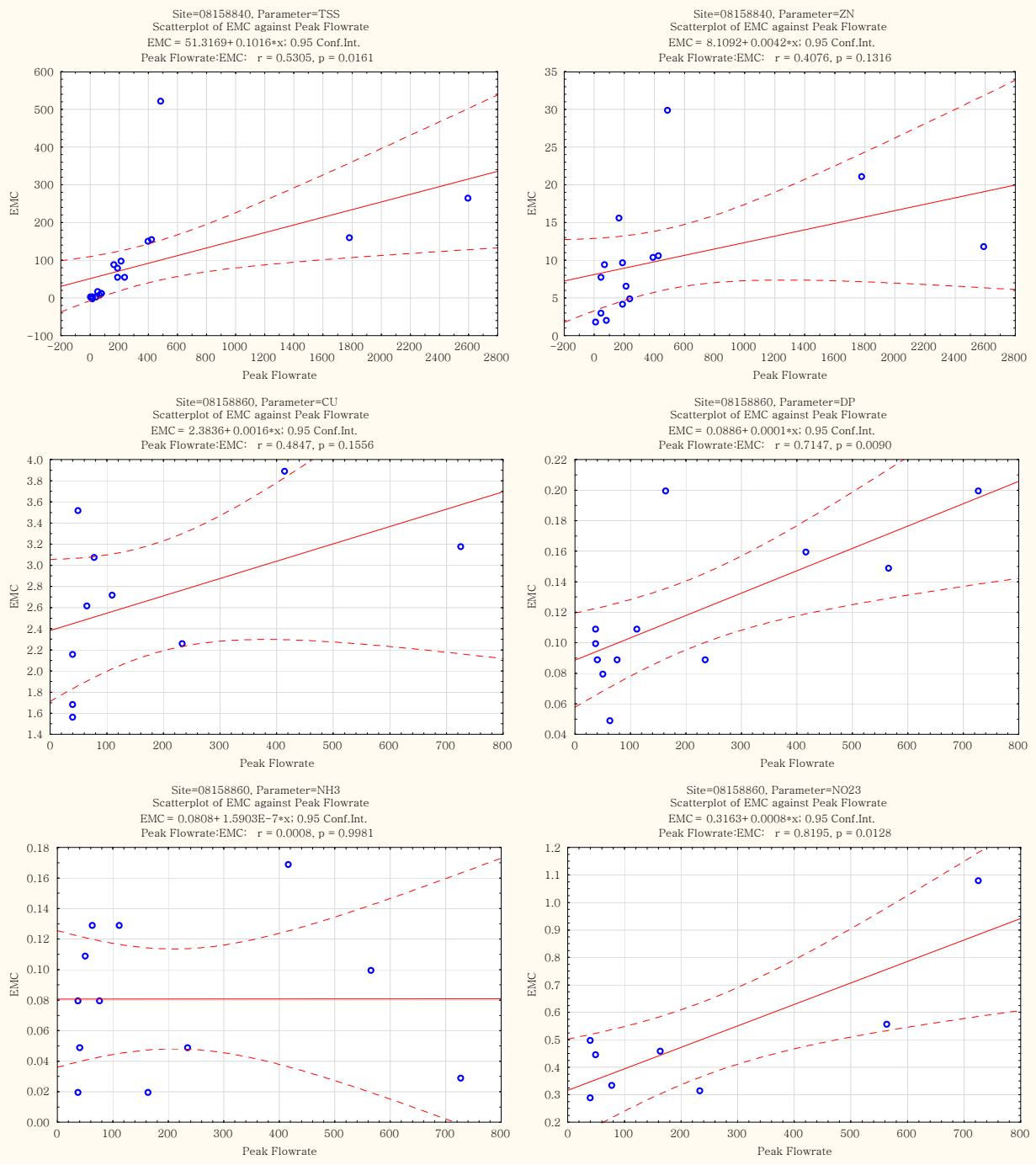

Site=08158840, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 350.319-0.1108*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.5202, p = 0.0389
EMC
Peak Flowrate

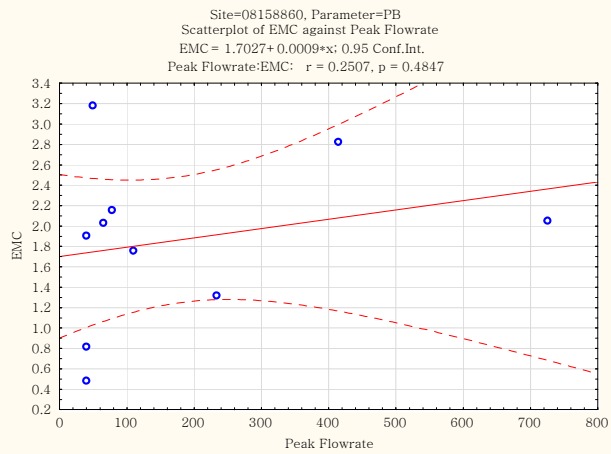

Site=08158840, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.5075+0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6155, p = 0.0039
EMC
Peak Flowrate

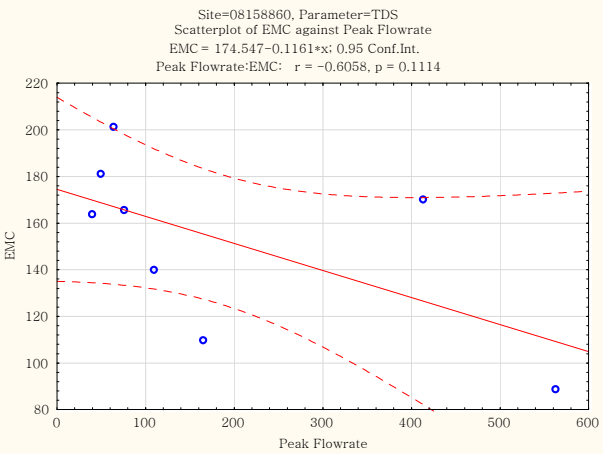

Site=08158840, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.813+0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5117, p = 0.0211
EMC
Peak Flowrate

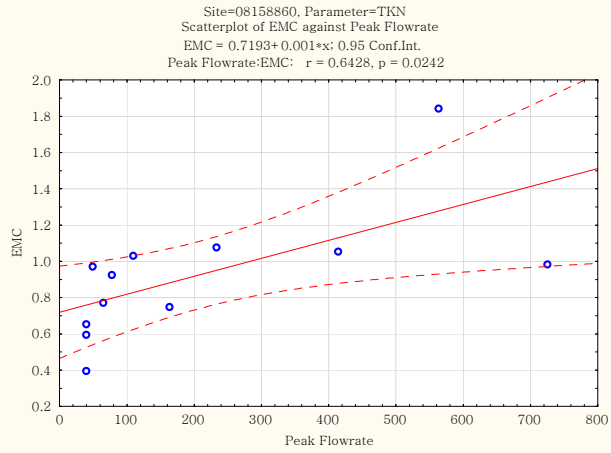

Site=08158840, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 6.8153+0.0066*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7221, p = 0.0003
EMC
Peak Flowrate

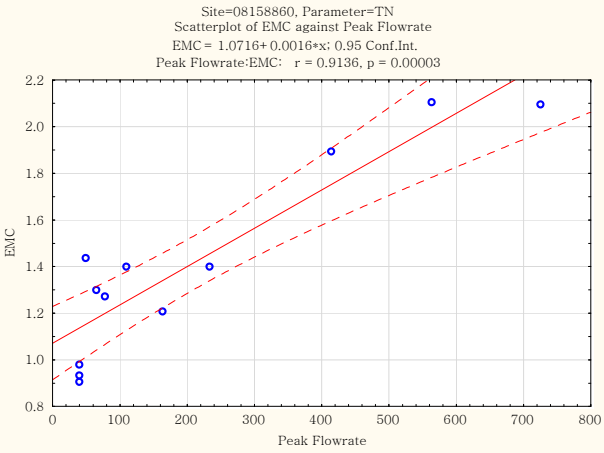

Site=08158840, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.048+6.6931E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4790, p = 0.0326
EMC
Peak Flowrate

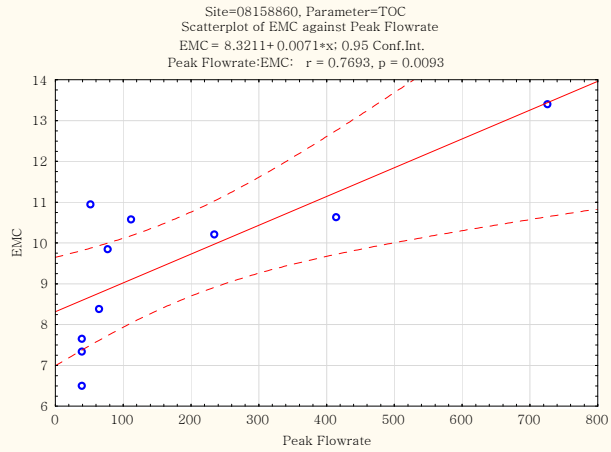

Site=08158840, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 51.3169+0.1016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5305, p = 0.0161
EMC
Peak Flowrate
Site=08158840, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 8.1092+0.0042*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4076, p = 0.1316
EMC
Peak Flowrate
Site=08158860, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 2.3836+0.0016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4847, p = 0.1556
EMC
Peak Flowrate
Site=08158860, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0886+0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7147, p = 0.0090
EMC
Peak Flowrate
Site=08158860, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0808+1.5903E-7*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0008, p = 0.9981
EMC
Peak Flowrate
Site=08158860, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3163+0.0008*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8195, p = 0.0128
EMC
Peak Flowrate

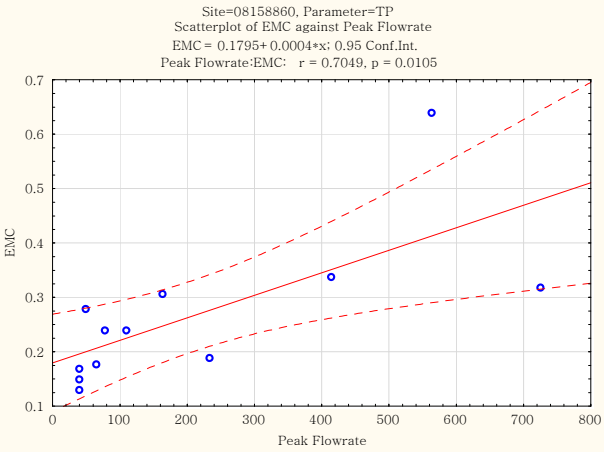

Site=08158860, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 1.7027+0.0009*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2507, p = 0.4847
EMC
Peak Flowrate

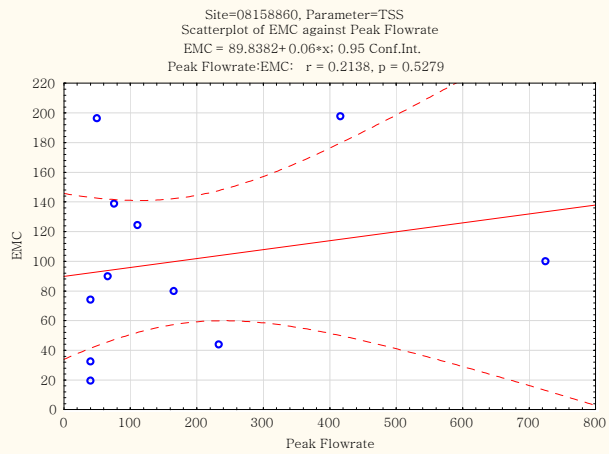

Site=08158860, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 174.547-0.1161*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.6058, p = 0.1114
EMC
Peak Flowrate

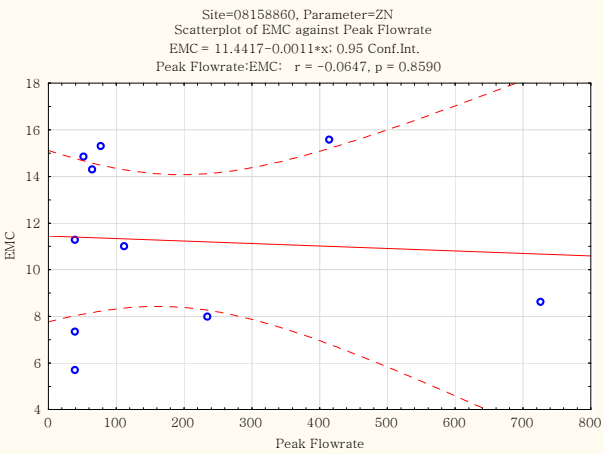

Site=08158860, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.7193+0.001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6428, p = 0.0242
EMC
Peak Flowrate

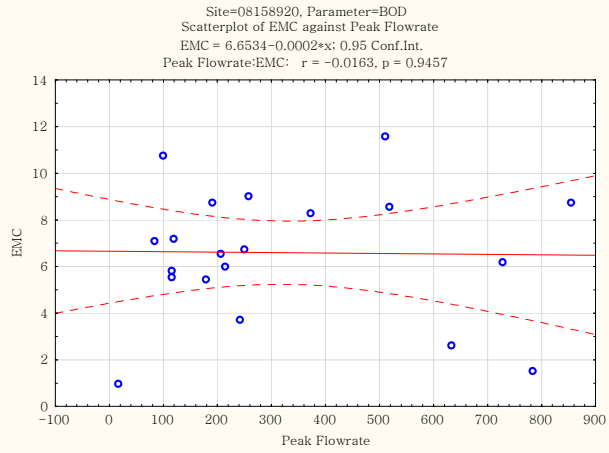

Site=08158860, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.0716+0.0016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.9136, p = 0.00003
EMC
Peak Flowrate

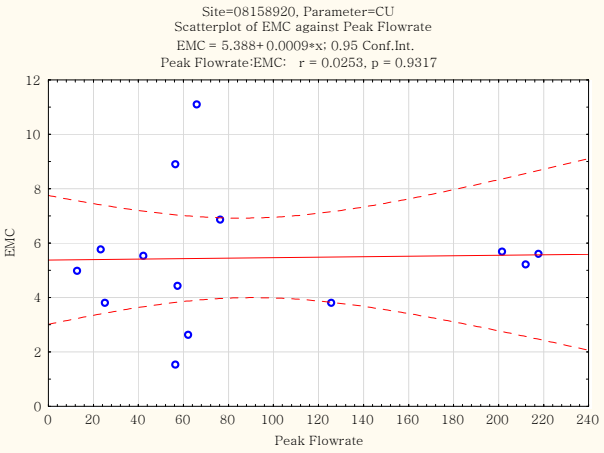

Site=08158860, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 8.3211+0.0071*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7693, p = 0.0093
EMC
Peak Flowrate

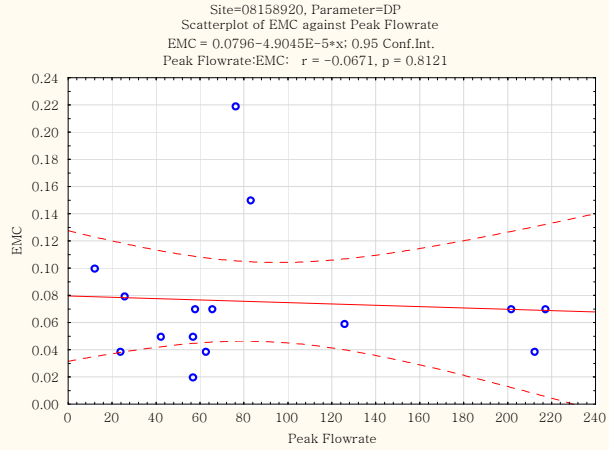

Site=08158860, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1795+0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7049, p = 0.0105
EMC
Peak Flowrate

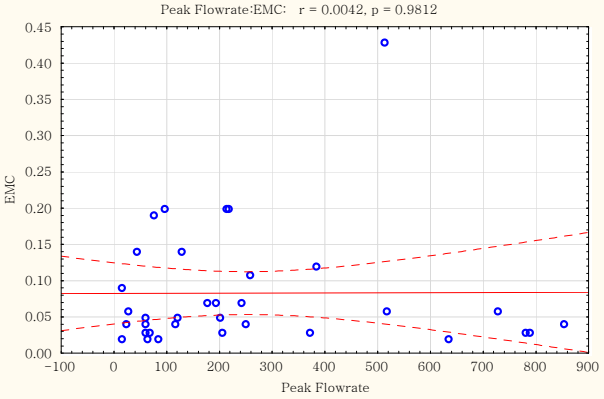

Site=08158860, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 89.8382+0.06*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2138, p = 0.5279
EMC
Peak Flowrate

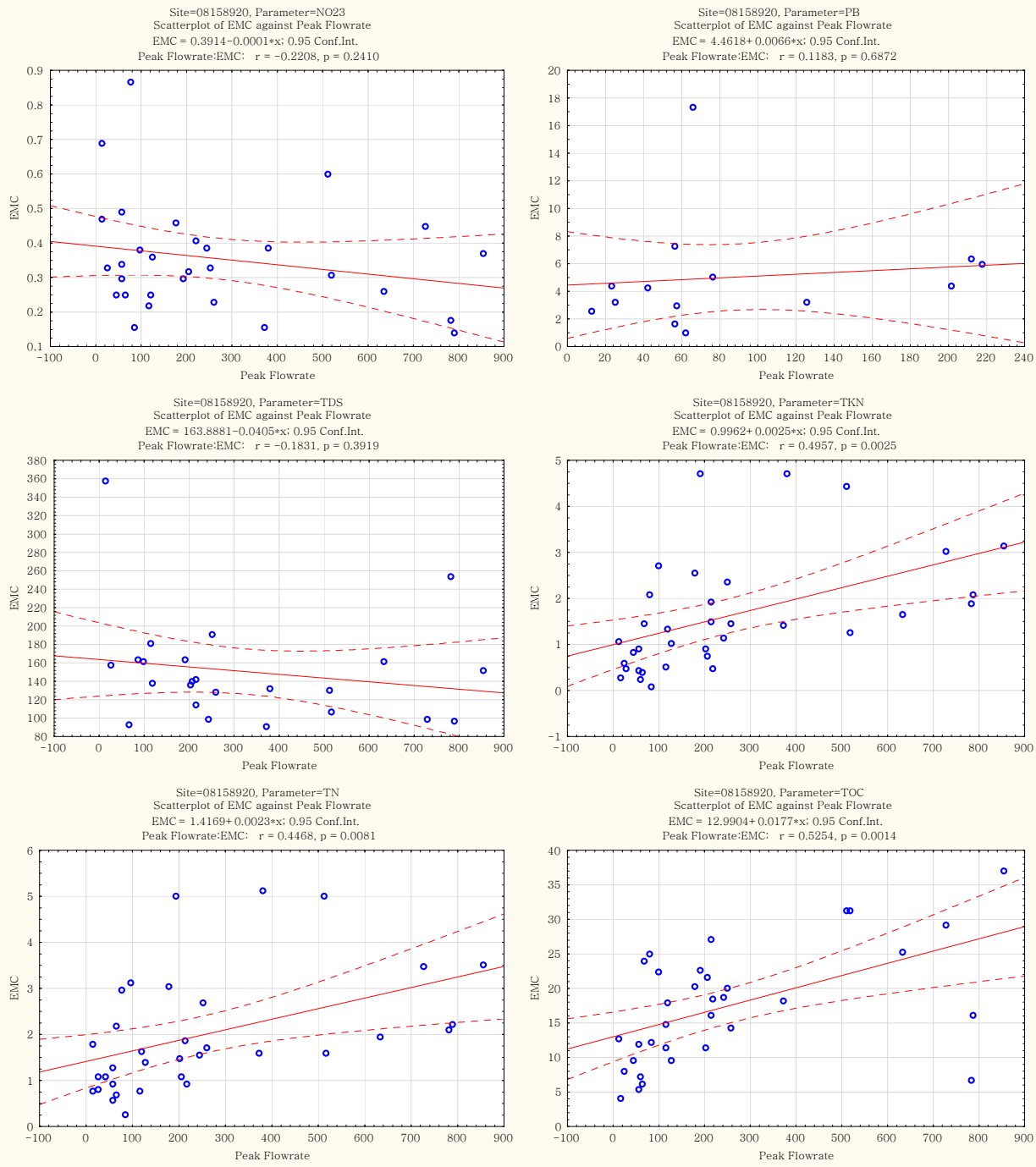

Site=08158860, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 11.4417-0.0011*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0647, p = 0.8590
EMC
Peak Flowrate

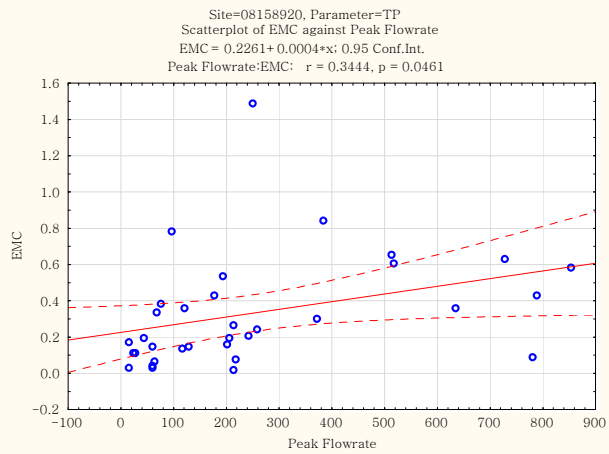

Site=08158920, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 6.6534-0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0163, p = 0.9457
EMC
Peak Flowrate

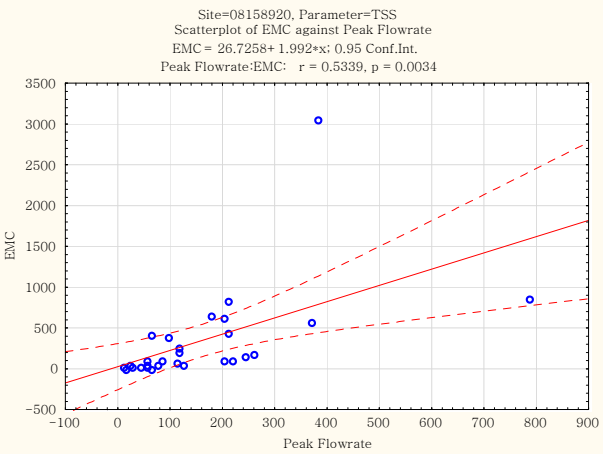

Site=08158920, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 5.388+0.0009*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0253, p = 0.9317
EMC
Peak Flowrate

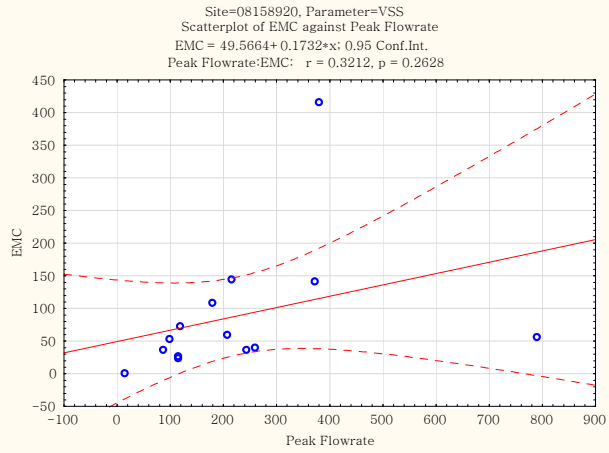

Site=08158920, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0796-4.9045E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0671, p = 0.8121
EMC
Peak Flowrate

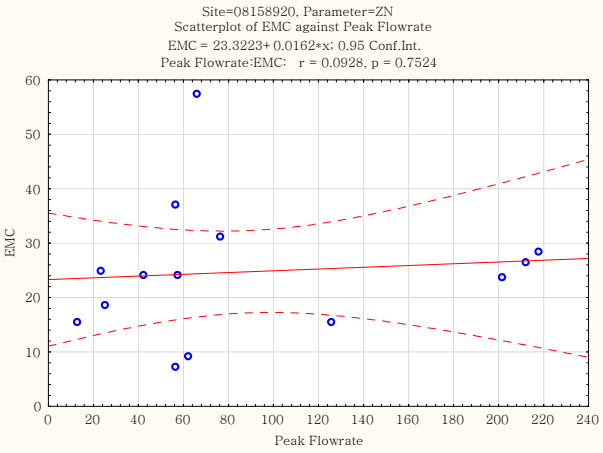

Site=08158920, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0826+1.4007E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0042, p = 0.9812
EMC
Peak Flowrate

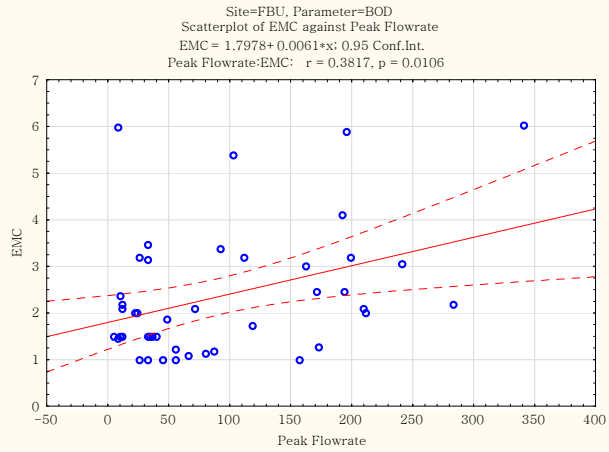

Site=08158920, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3914−0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.2208, p = 0.2410
EMC
Peak Flowrate
Site=08158920, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 4.4618+0.0066*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1183, p = 0.6872
EMC
Peak Flowrate
Site=08158920, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 163.8881−0.0405*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.1831, p = 0.3919
EMC
Peak Flowrate
Site=08158920, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.9962+0.0025*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4957, p = 0.0025
EMC
Peak Flowrate
Site=08158920, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.4169+0.0023*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4468, p = 0.0081
EMC
Peak Flowrate
Site=08158920, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 12.9904+0.0177*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5254, p = 0.0014
EMC
Peak Flowrate

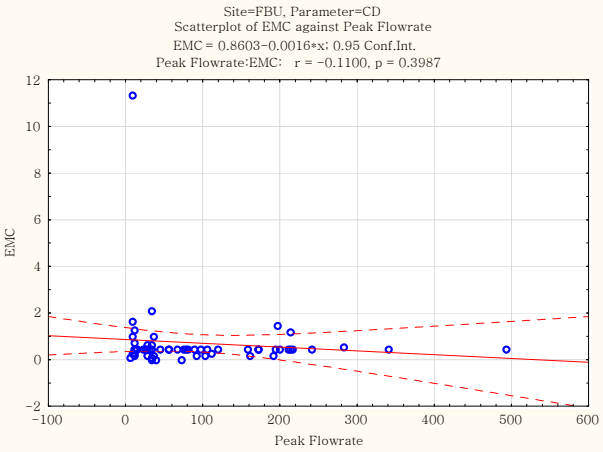

Site=08158920, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.2261+ 0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3444, p = 0.0461
EMC
Peak Flowrate


Site=08158920, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 26.7258+ 1.992*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5339, p = 0.0034
EMC
Peak Flowrate

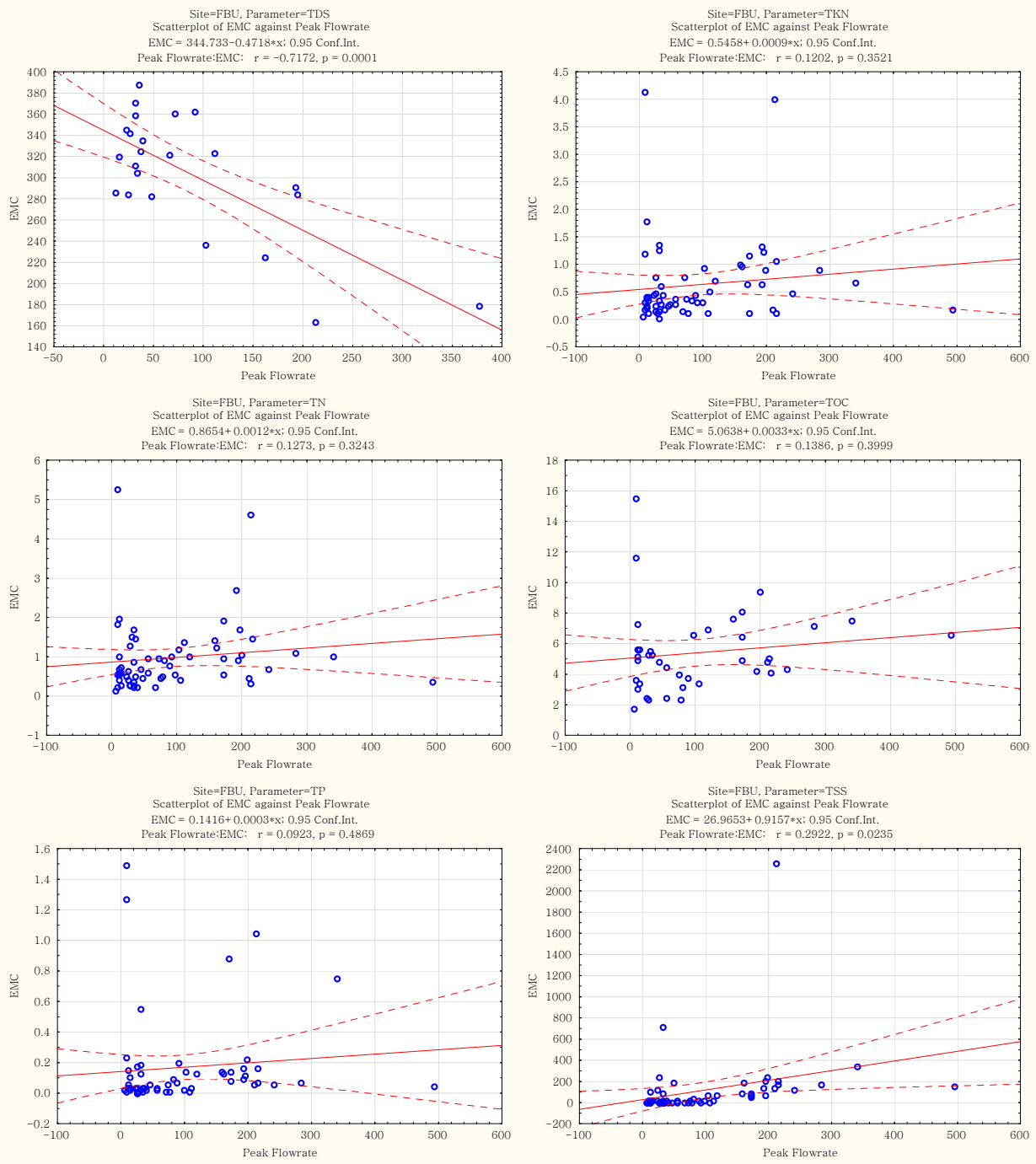

Site=08158920, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 49.5664+ 0.1732*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3212, p = 0.2628
EMC
Peak Flowrate

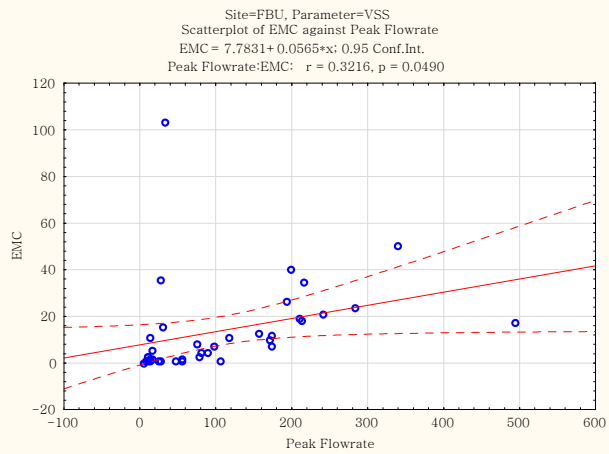

Site=08158920, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 23.3223+ 0.0162*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0928, p = 0.7524
EMC
Peak Flowrate

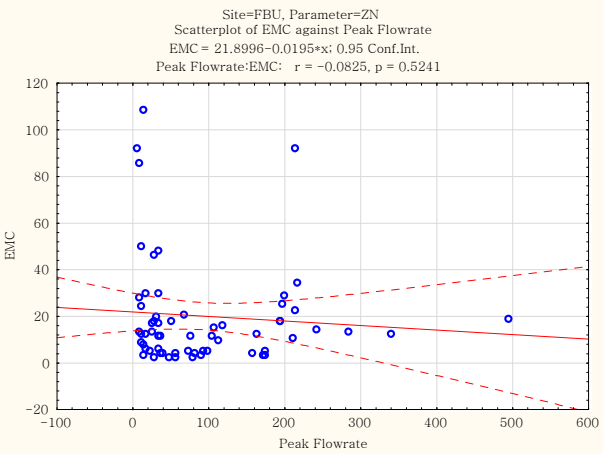

Site=FBU, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 1.7978+ 0.0061*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3817, p = 0.0106
EMC
Peak Flowrate

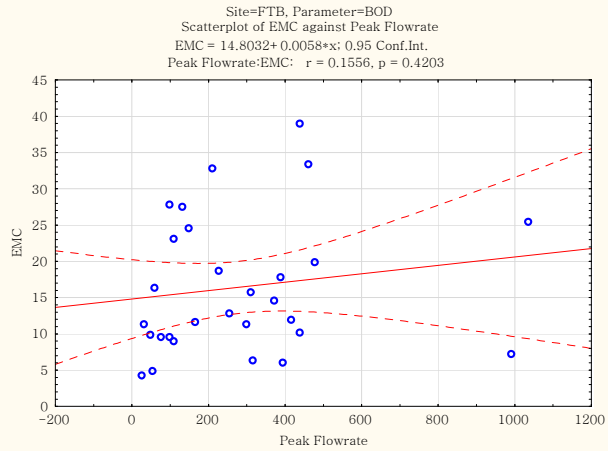

Site=FBU, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.8603−0.0016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.1100, p = 0.3987
EMC
Peak Flowrate

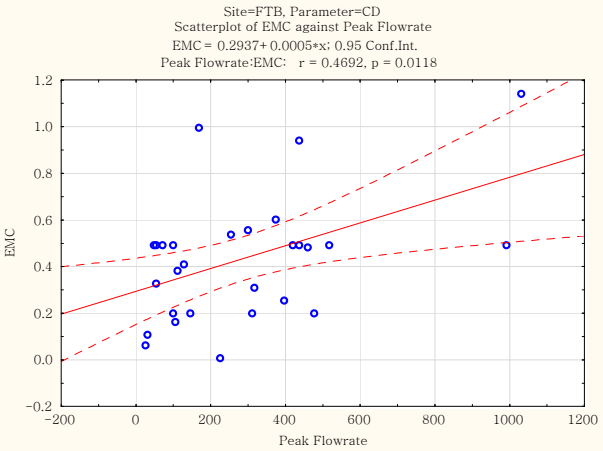
Site=FBU, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 18.6567+0.056*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1996, p = 0.1199
Site=FBU, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 4.5498-0.0015*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0324, p = 0.8023
Site=FBU, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0273-6.8476E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0199, p = 0.8797
Site=FBU, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0456-5.6817E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1874, p = 0.2469
Site=FBU, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3138+0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0994, p = 0.4420
Site=FBU, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 4.034+0.0016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0239, p = 0.8537
EMC
Peak Flowrate

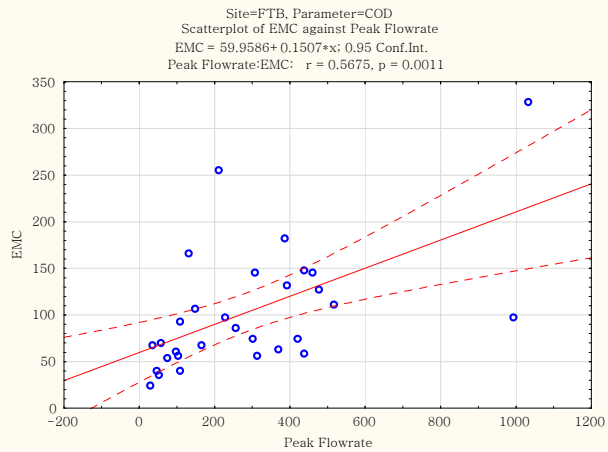

Site=FBU, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 344.733−0.4718*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.7172, p = 0.0001
EMC
Peak Flowrate
Site=FBU, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.5458+0.0009*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1202, p = 0.3521
EMC
Peak Flowrate
Site=FBU, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.8654+0.0012*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1273, p = 0.3243
EMC
Peak Flowrate
Site=FBU, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 5.0638+0.0033*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1386, p = 0.3999
EMC
Peak Flowrate
Site=FBU, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1416+0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0923, p = 0.4869
EMC
Peak Flowrate
Site=FBU, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 26.9653+0.9157*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2922, p = 0.0235
EMC
Peak Flowrate

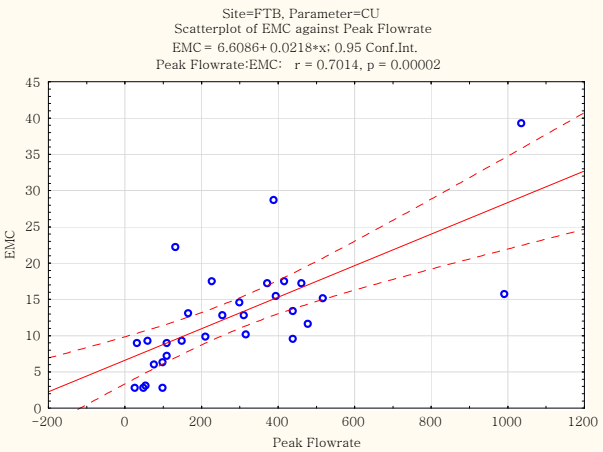

Site=FBU, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 7.7831+ 0.0565*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3216, p = 0.0490
EMC
Peak Flowrate

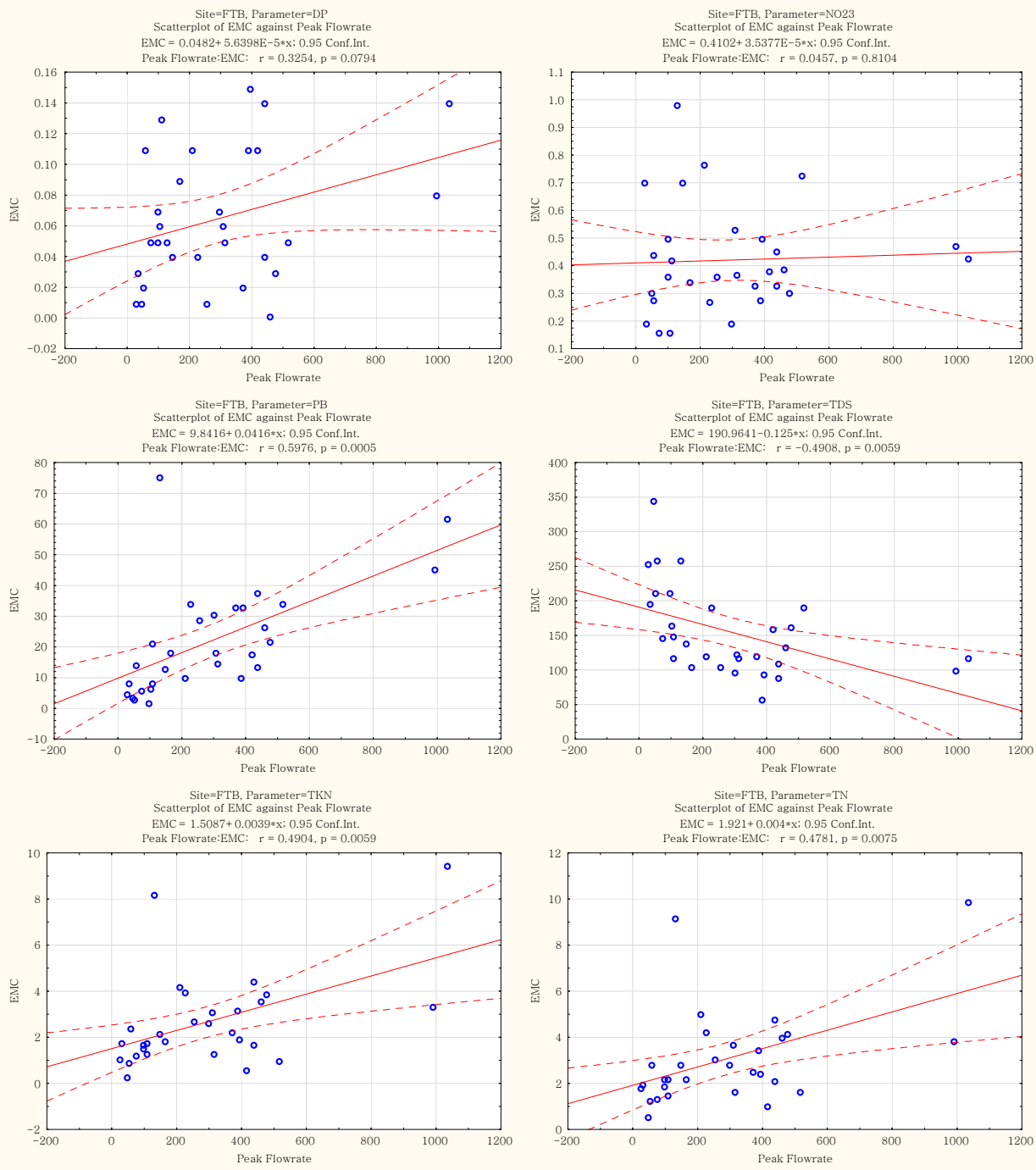

Site=FBU, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 21.8996-0.0195*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0825, p = 0.5241
EMC
Peak Flowrate

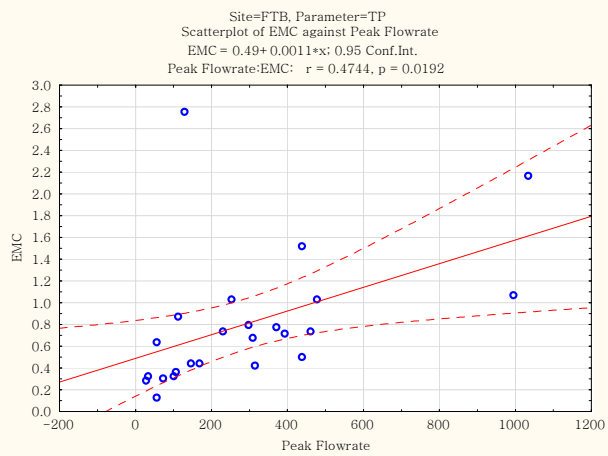

Site=FTB, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 14.8032+ 0.0058*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1556, p = 0.4203
EMC
Peak Flowrate

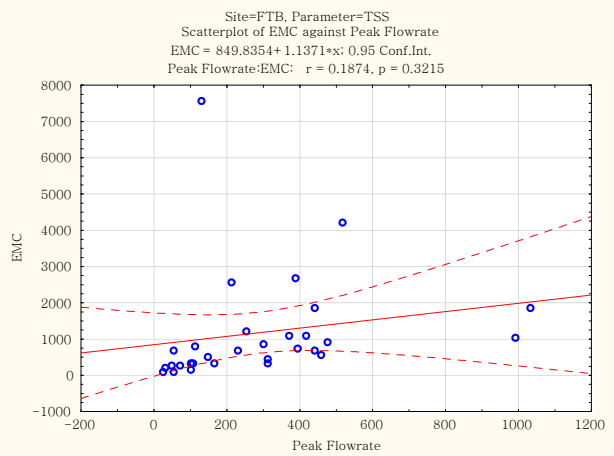

Site=FTB, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.2937+ 0.0005*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4692, p = 0.0118
EMC
Peak Flowrate

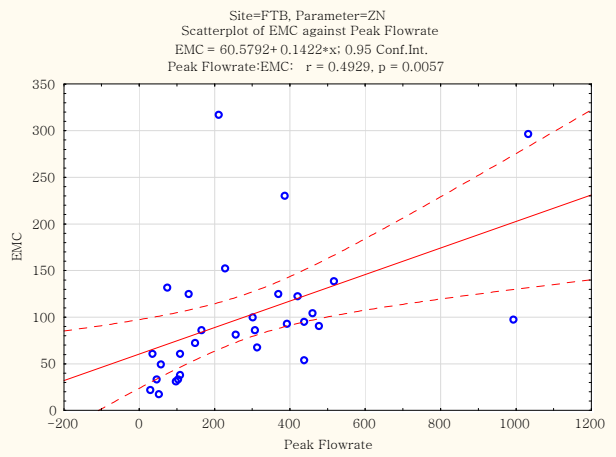

Site=FTB, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 59.9586+ 0.1507*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5675, p = 0.0011
EMC
Peak Flowrate


Site=FTB, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 6.6086+ 0.0218*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7014, p = 0.00002
EMC
Peak Flowrate

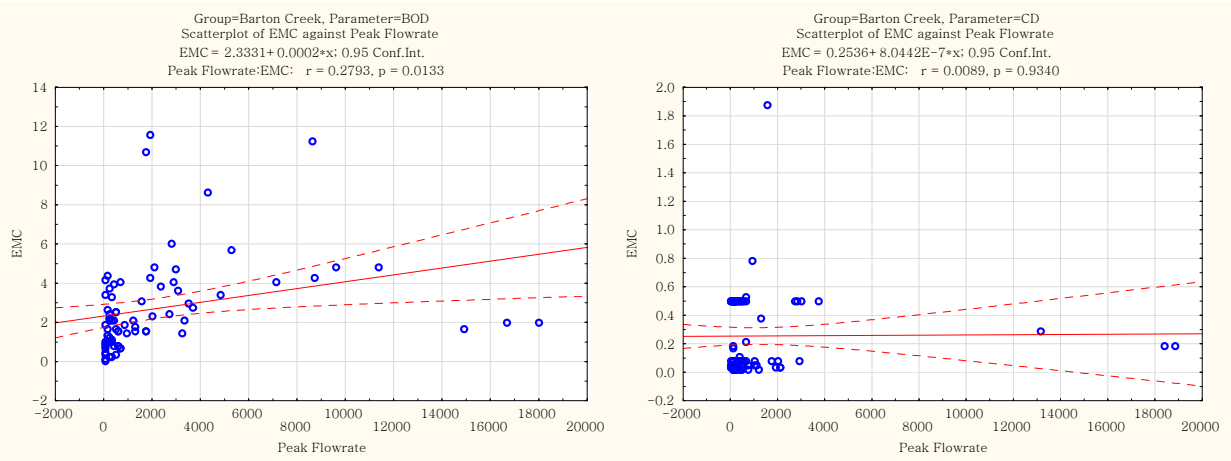

Site=FTB, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0482+ 5.6398E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3254, p = 0.0794
Site=FTB, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.4102+ 3.5377E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0457, p = 0.8104
Site=FTB, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 9.8416+ 0.0416*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5976, p = 0.0005
Site=FTB, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 190.9641−0.125*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.4908, p = 0.0059
Site=FTB, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.5087+ 0.0039*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4904, p = 0.0059
Site=FTB, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.921+ 0.004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4781, p = 0.0075
EMC
Peak Flowrate

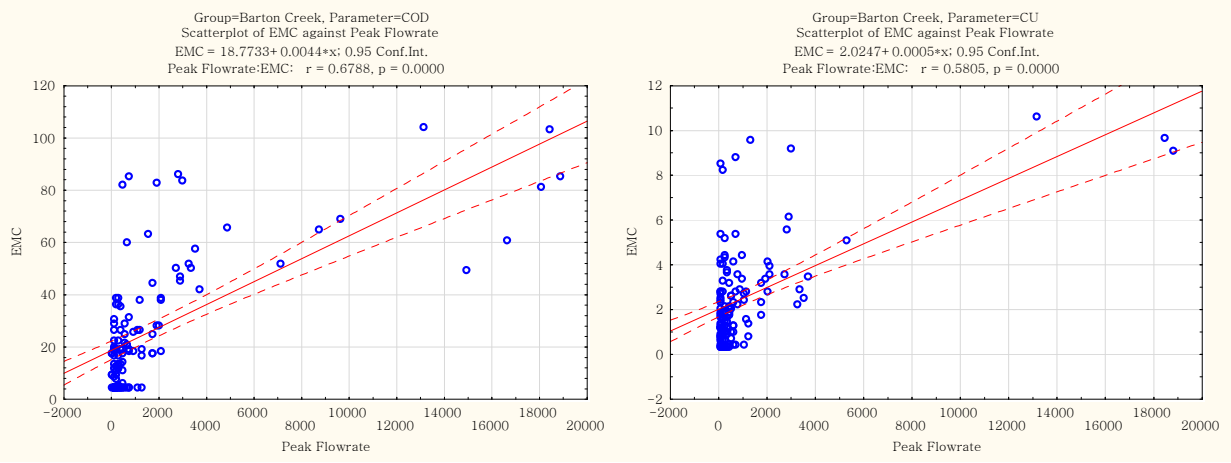

Site=FTB, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.49+ 0.0011*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4744, p = 0.0192
EMC
Peak Flowrate

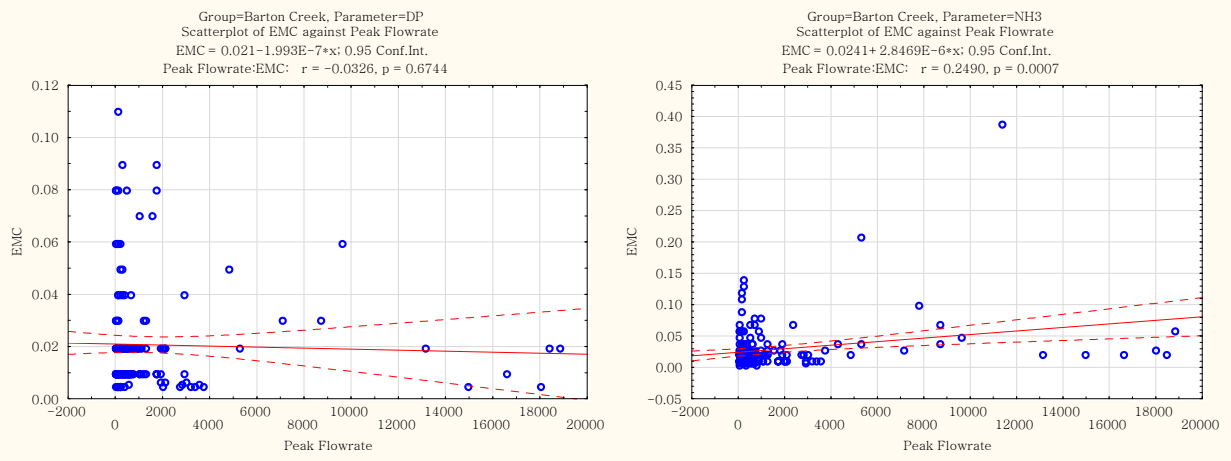

Site=FTB, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 849.8354+ 1.1371*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1874, p = 0.3215
EMC
Peak Flowrate

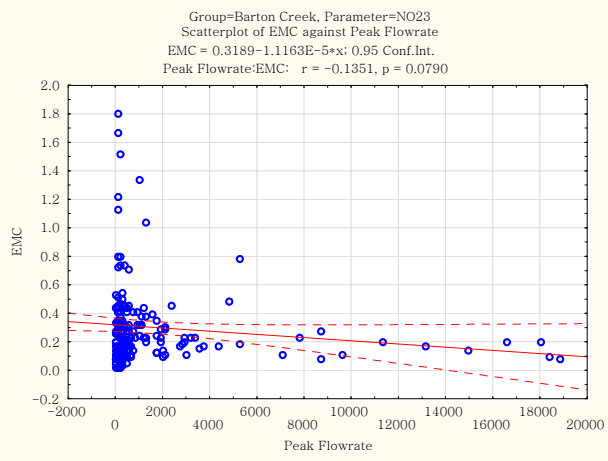

Site=FTB, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 60.5792+ 0.1422*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4929, p = 0.0057
EMC
Peak Flowrate

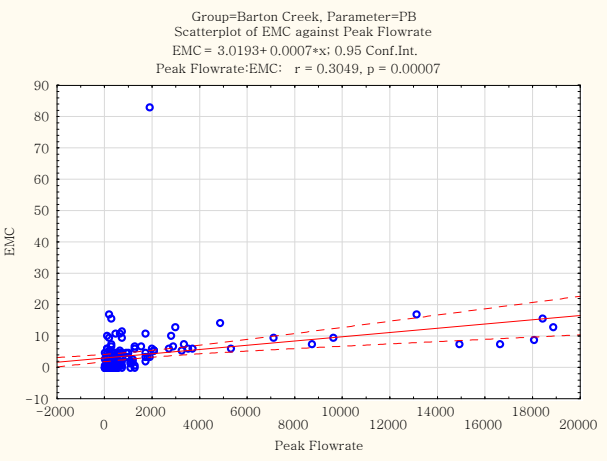
Appendix H Figures of Relationships between EMCs and Peak Flowrate for All Groups

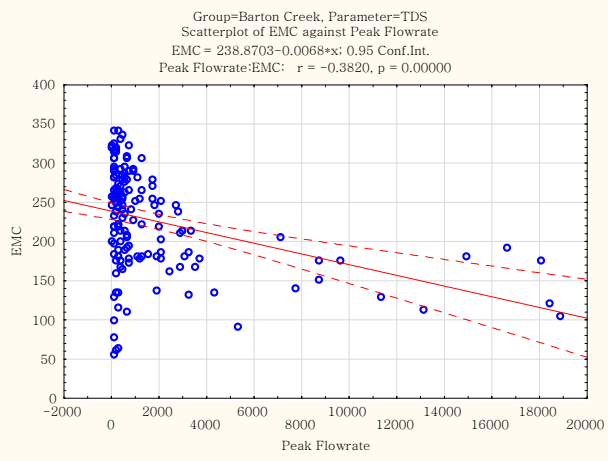


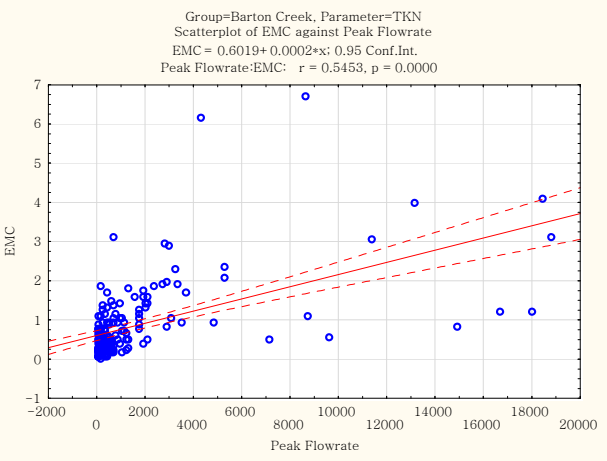


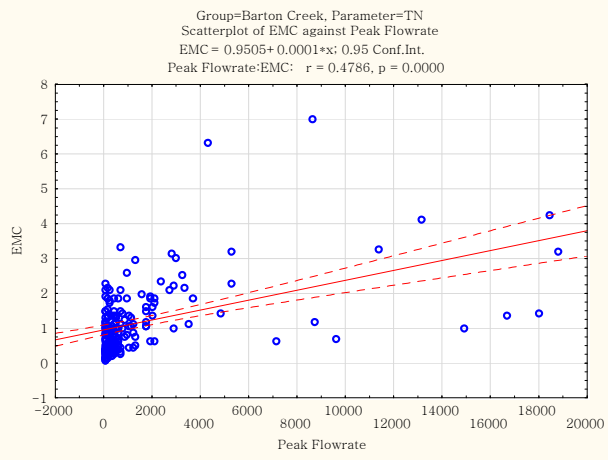


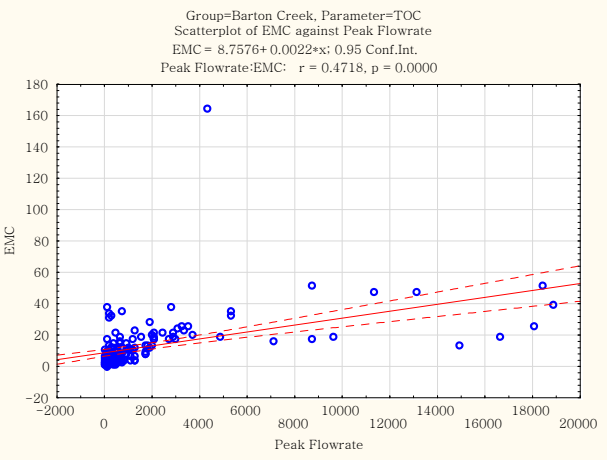

Group=Barton Creek, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3189−1.1163E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.1351, p = 0.0790
EMC
Peak Flowrate

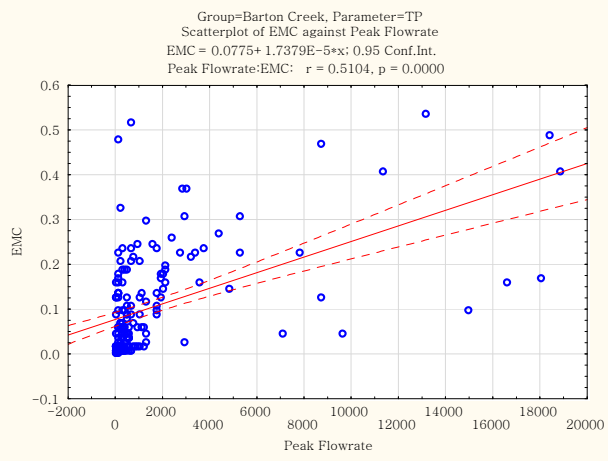

Group=Barton Creek, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 3.0193+0.0007*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3049, p = 0.00007
EMC
Peak Flowrate

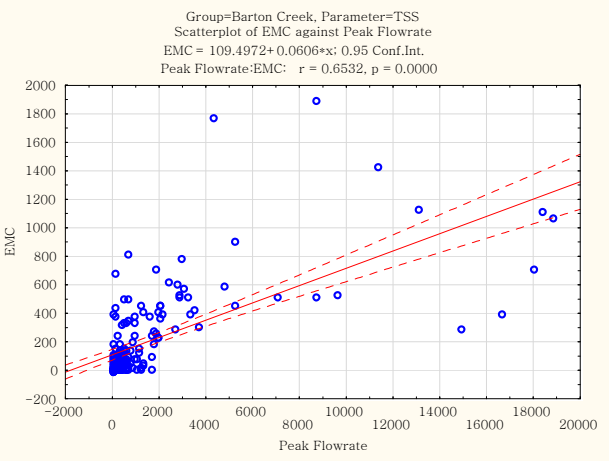

Group=Barton Creek, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 238.8703−0.0068*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.3820, p = 0.00000
EMC
Peak Flowrate

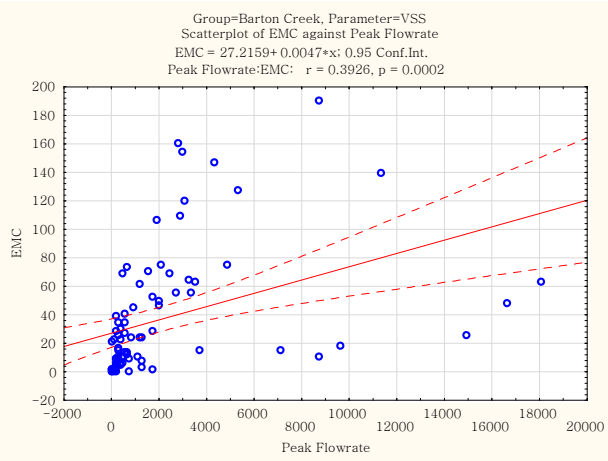

Group=Barton Creek, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.6019+0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5453, p = 0.0000
EMC
Peak Flowrate

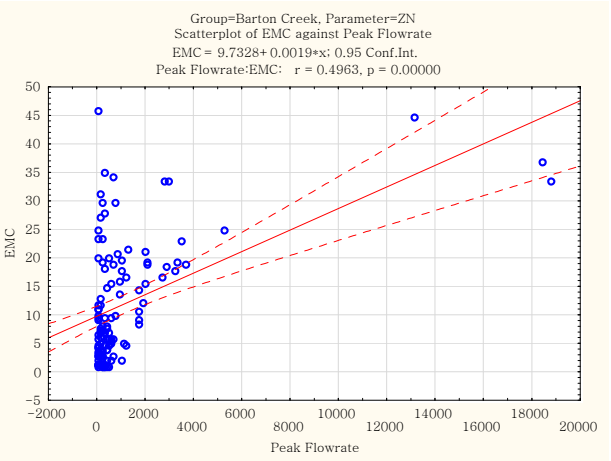

Group=Barton Creek, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.9505+0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4786, p = 0.0000
EMC
Peak Flowrate

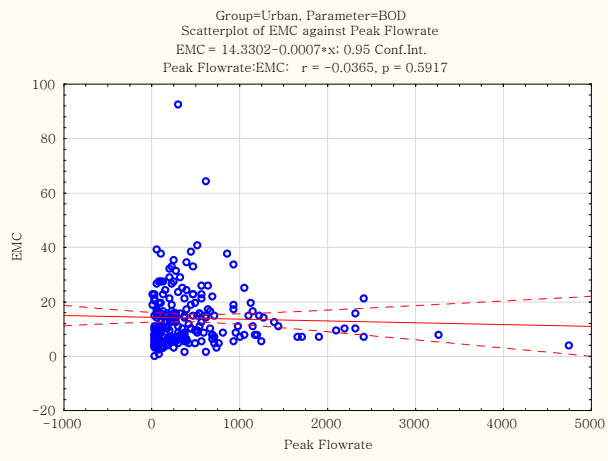

Group=Barton Creek, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 8.7576+0.0022*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4718, p = 0.0000
EMC
Peak Flowrate

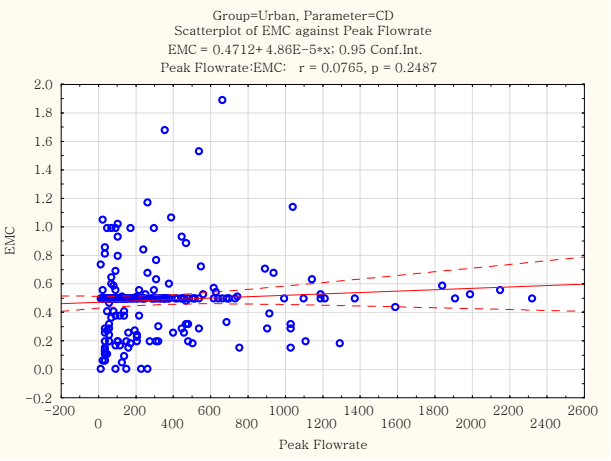

Group=Barton Creek, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.0775+ 1.7379E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5104, p = 0.0000
EMC
Peak Flowrate

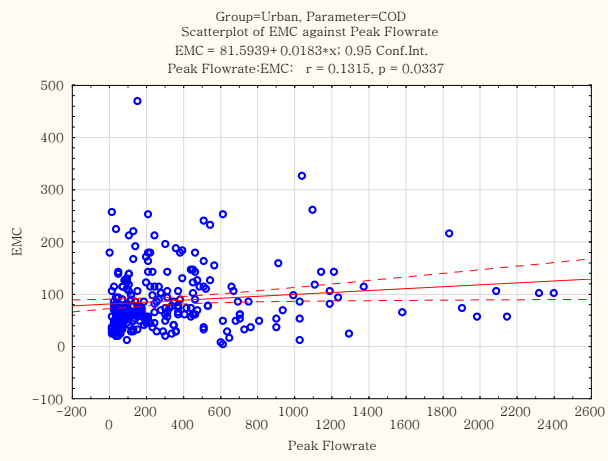

Group=Barton Creek, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 109.4972+ 0.0606*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6532, p = 0.0000
EMC
Peak Flowrate

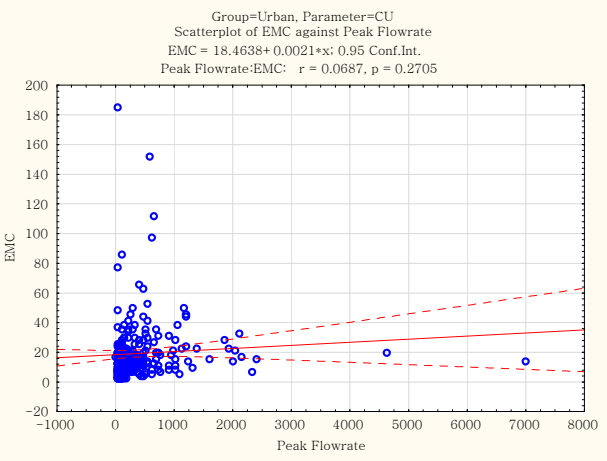

Group=Barton Creek, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 27.2159+ 0.0047*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3926, p = 0.0002
EMC
Peak Flowrate

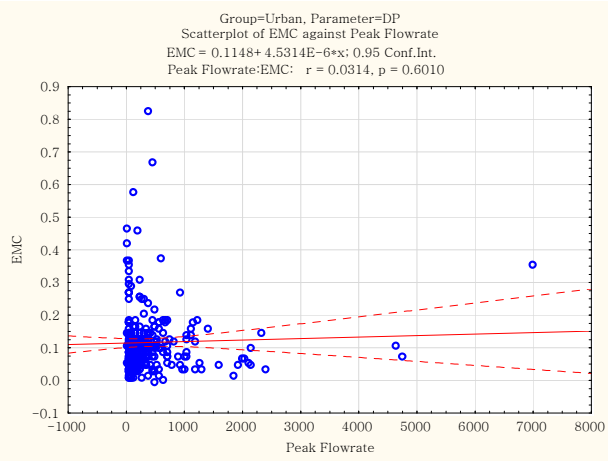

Group=Barton Creek, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 9.7328+ 0.0019*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4963, p = 0.00000
EMC
Peak Flowrate

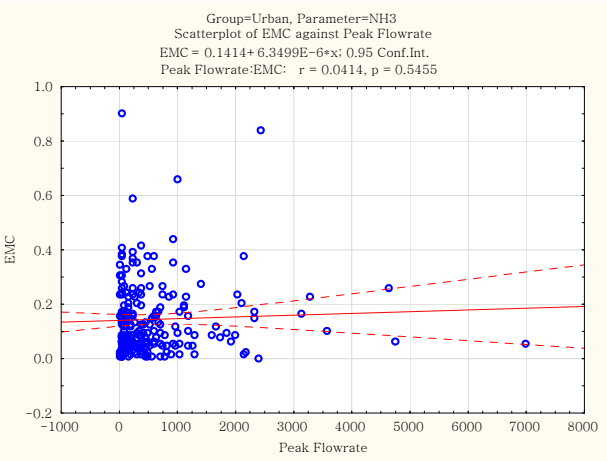

Group=Urban, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 14.3302−0.0007*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0365, p = 0.5917
EMC
Peak Flowrate

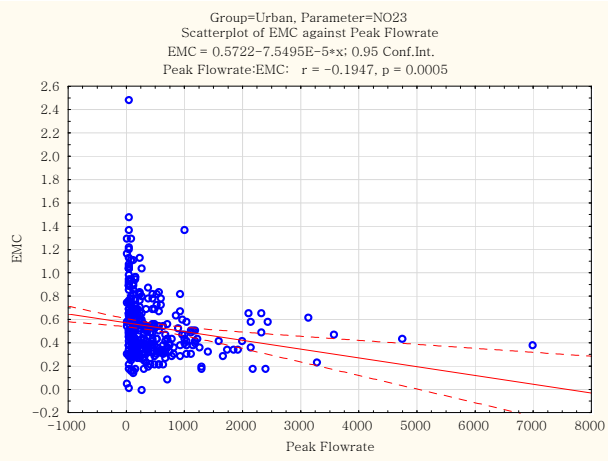

Group=Urban, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.4712+ 4.86E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0765, p = 0.2487
EMC
Peak Flowrate

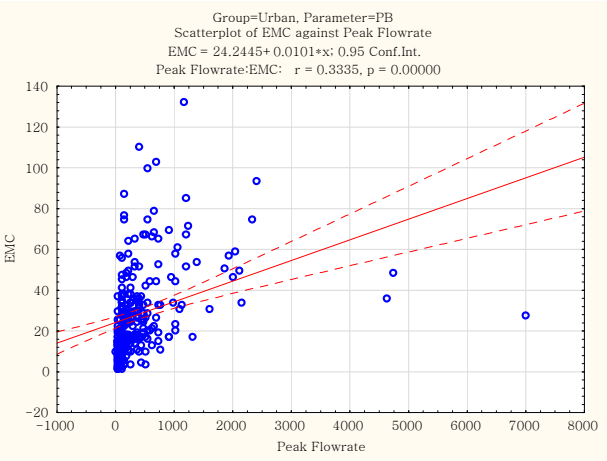

Group=Urban, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 81.5939+ 0.0183*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1315, p = 0.0337
EMC
Peak Flowrate

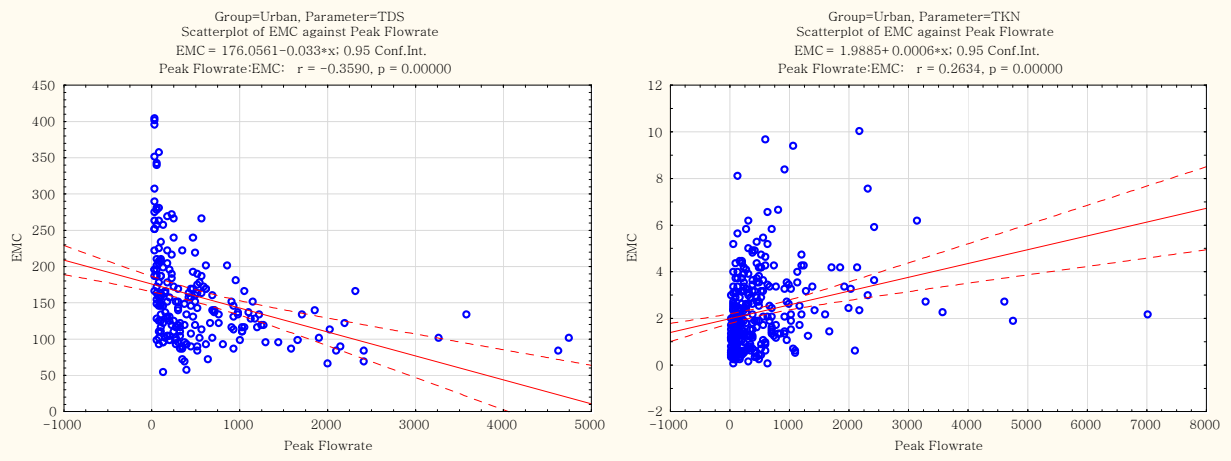

Group=Urban, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 18.4638+ 0.0021*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0687, p = 0.2705
EMC
Peak Flowrate

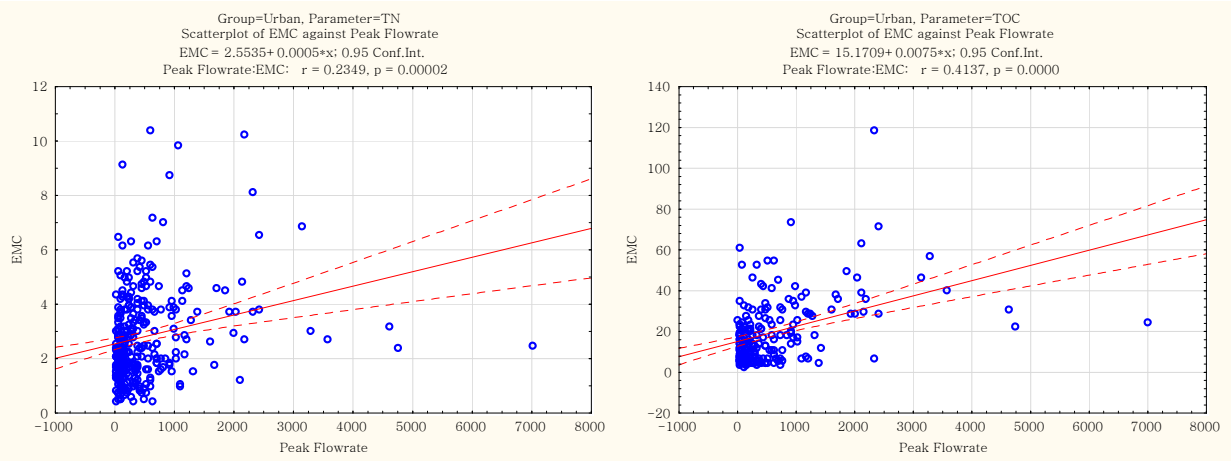

Group=Urban, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1148+ 4.5314E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0314, p = 0.6010
EMC
Peak Flowrate

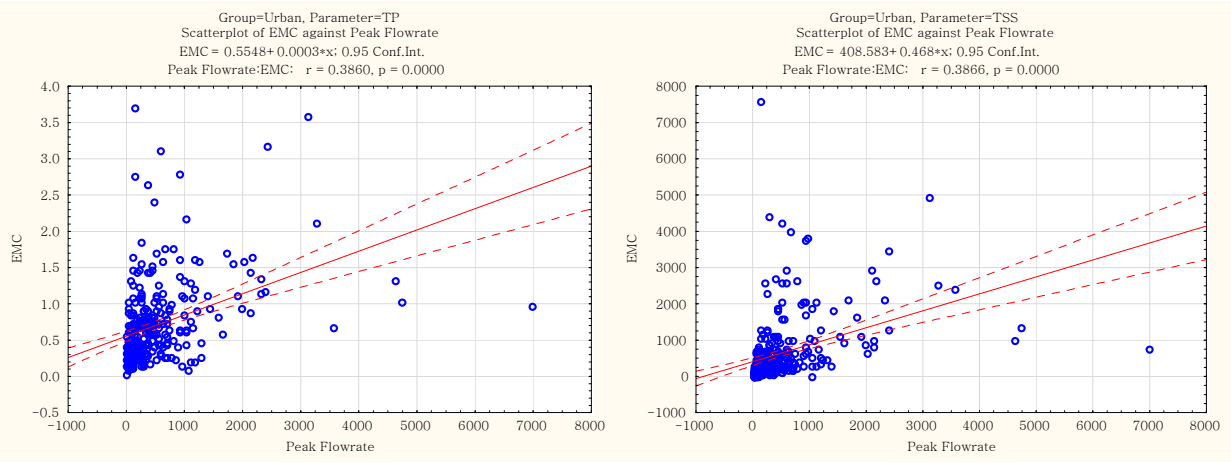

Group=Urban, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.1414+ 6.3499E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0414, p = 0.5455
EMC
Peak Flowrate

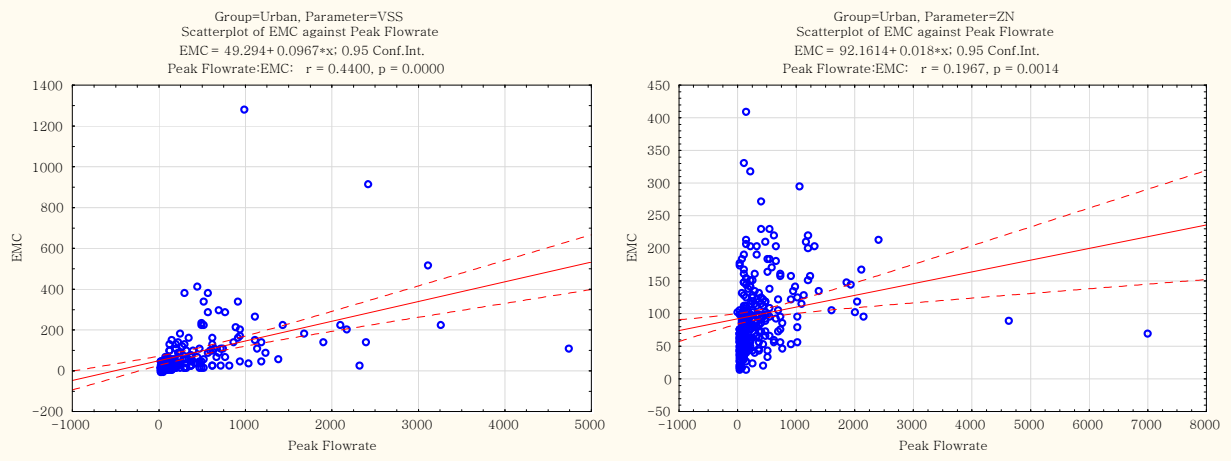

Group=Urban, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.5722-7.5495E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.1947, p = 0.0005
EMC
Peak Flowrate

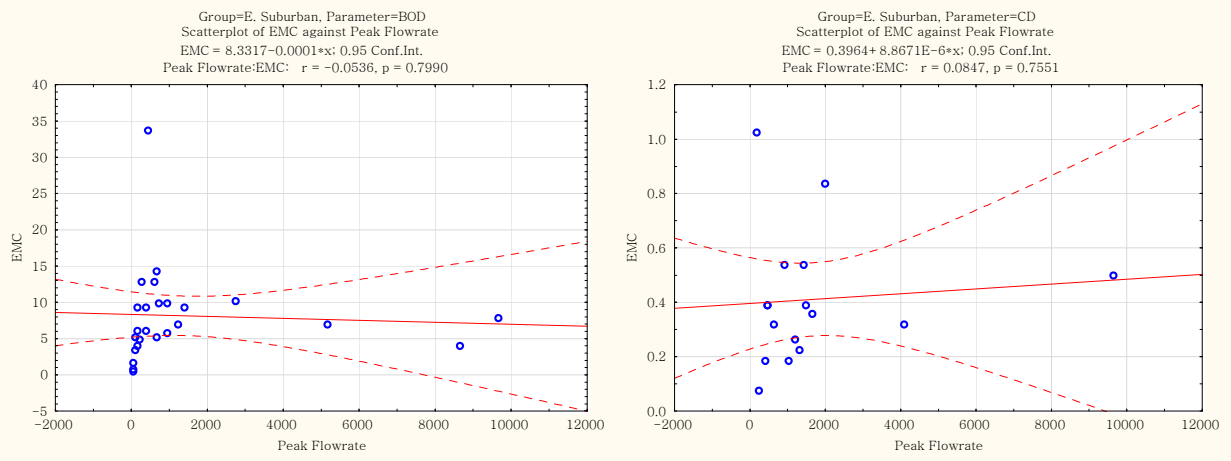

Group=Urban, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 24.2445+ 0.0101*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3335, p = 0.00000
EMC
Peak Flowrate

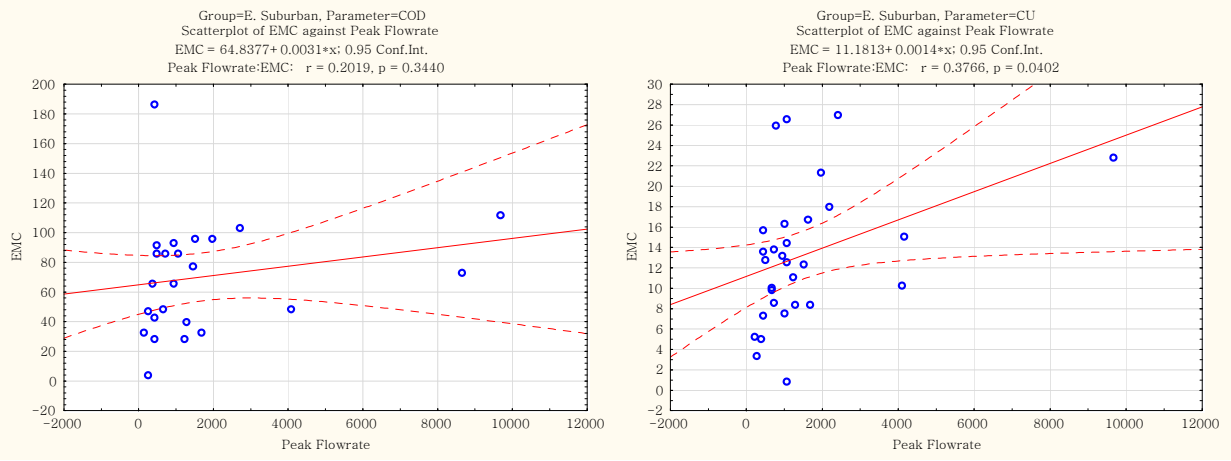

Group=Urban, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 176.0561−0.033*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.3590, p = 0.00000
EMC
Peak Flowrate
Group=Urban, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.9885+0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2634, p = 0.00000
EMC
Peak Flowrate

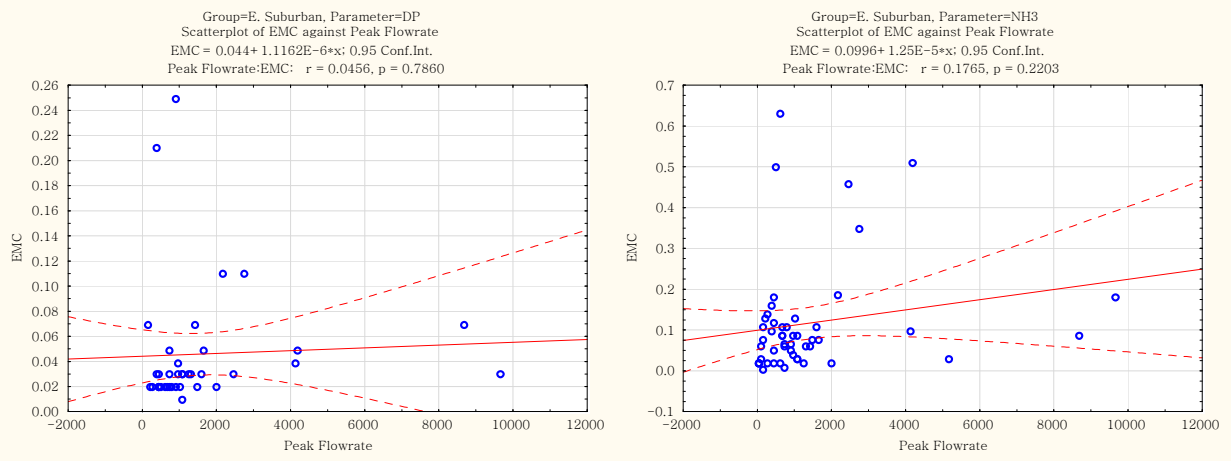

Group=Urban, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 2.5535+0.0005*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2349, p = 0.00002
EMC
Peak Flowrate
Group=Urban, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 15.1709+0.0075*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4137, p = 0.0000
EMC
Peak Flowrate

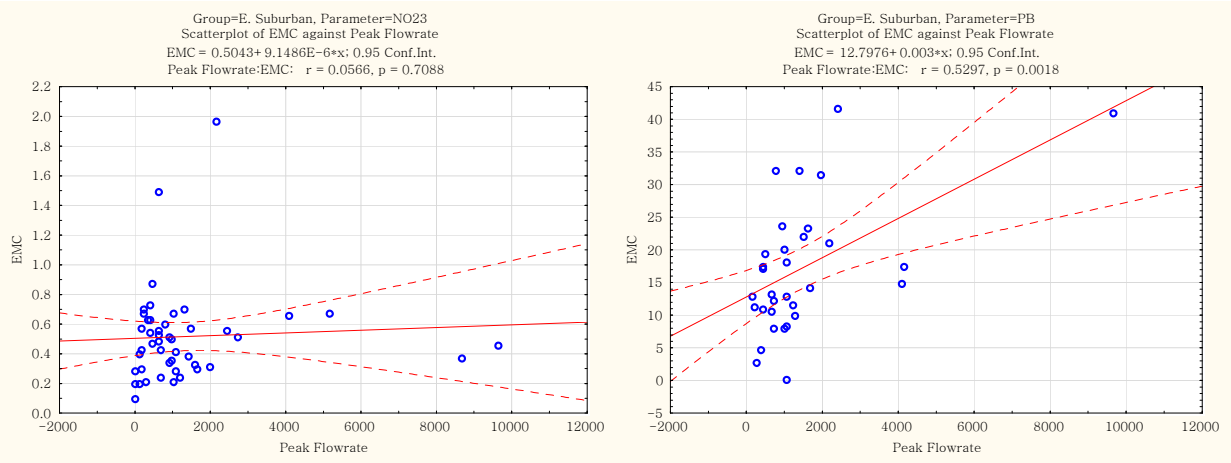

Group=Urban, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.5548+0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3860, p = 0.0000
EMC
Peak Flowrate
Group=Urban, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 408.583+0.468*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3866, p = 0.0000
EMC
Peak Flowrate

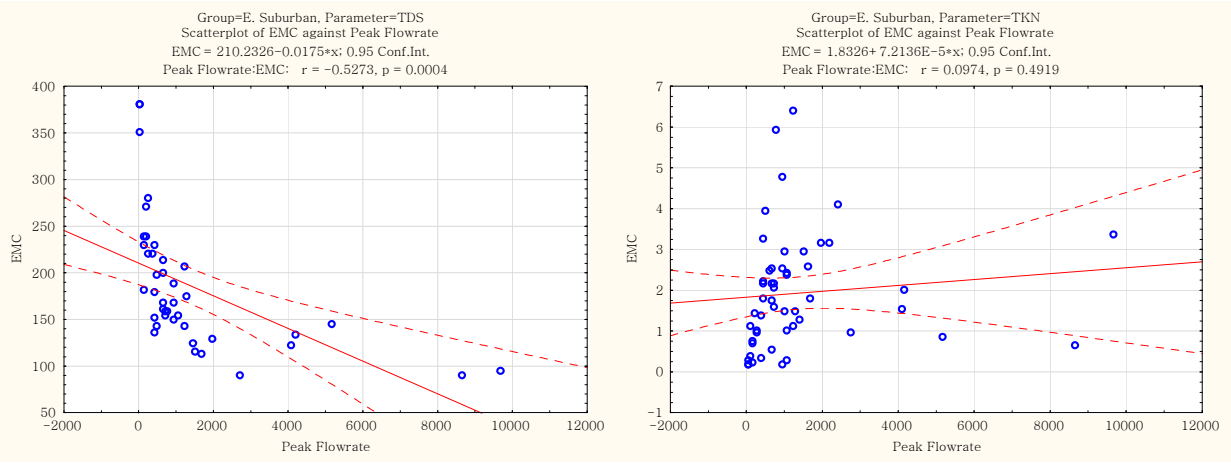

Group=Urban, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 49.294+ 0.0967*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4400, p = 0.0000
EMC
Peak Flowrate
Group=Urban, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 92.1614+ 0.018*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1967, p = 0.0014
EMC
Peak Flowrate

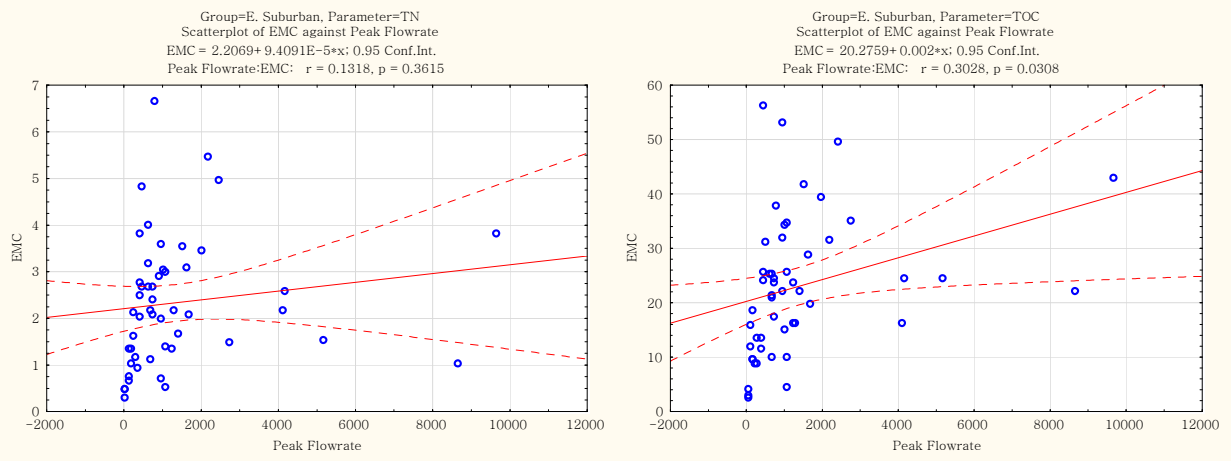

Group=E. Suburban, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 8.3317-0.0001*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0536, p = 0.7990
EMC
Peak Flowrate
Group=E. Suburban, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.3964+ 8.8671E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0847, p = 0.7551
EMC
Peak Flowrate

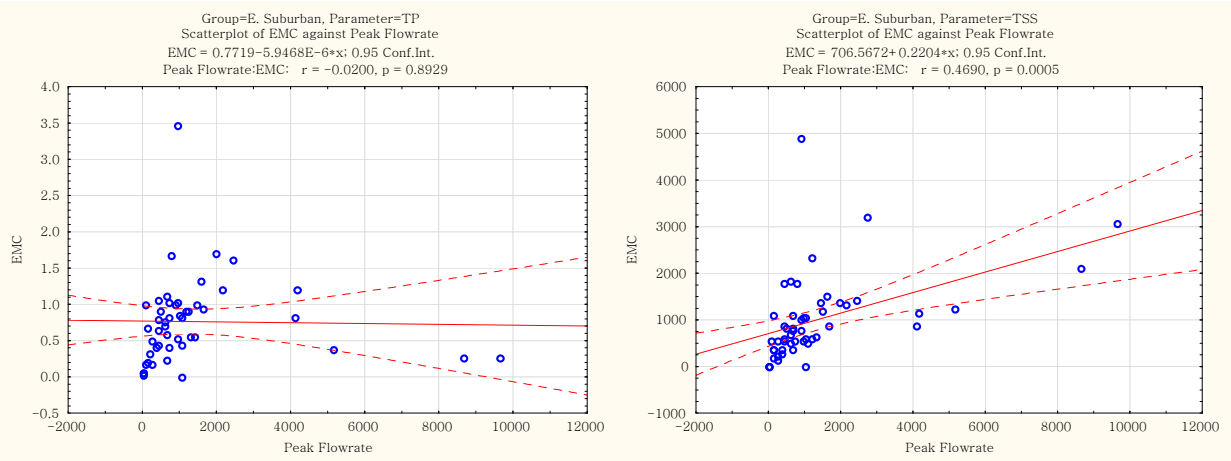

Group=E. Suburban, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 64.8377+ 0.0031*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2019, p = 0.3440
EMC
Peak Flowrate
Group=E. Suburban, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 11.1813+ 0.0014*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3766, p = 0.0402
EMC
Peak Flowrate

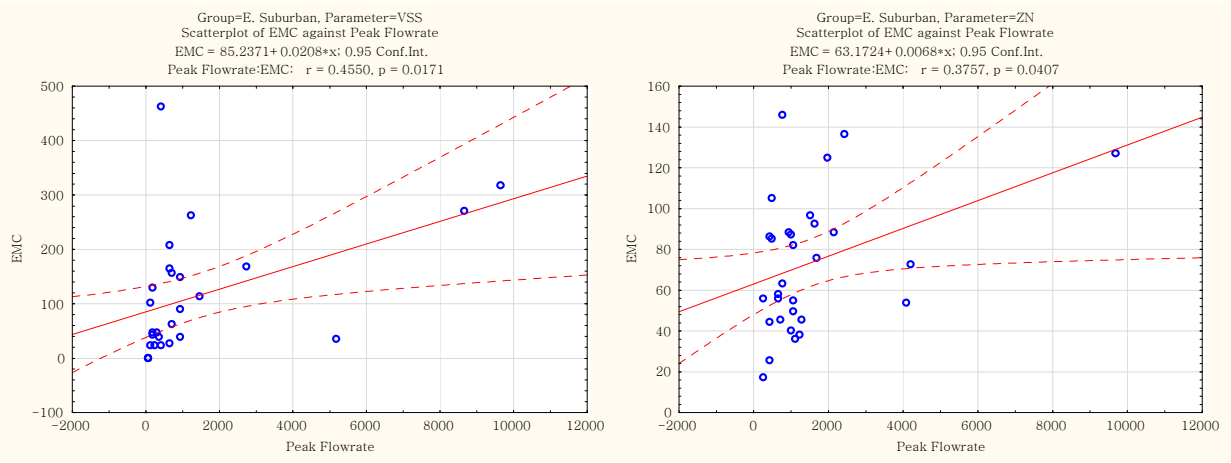

Group=E. Suburban, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.044+ 1.1162E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0456, p = 0.7860
EMC
Peak Flowrate
Group=E. Suburban, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0996+ 1.25E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1765, p = 0.2203
EMC
Peak Flowrate


Group=E. Suburban, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.5043+ 9.1486E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0566, p = 0.7088
EMC
Peak Flowrate
Group=E. Suburban, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 12.7976+ 0.003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5297, p = 0.0018
EMC
Peak Flowrate

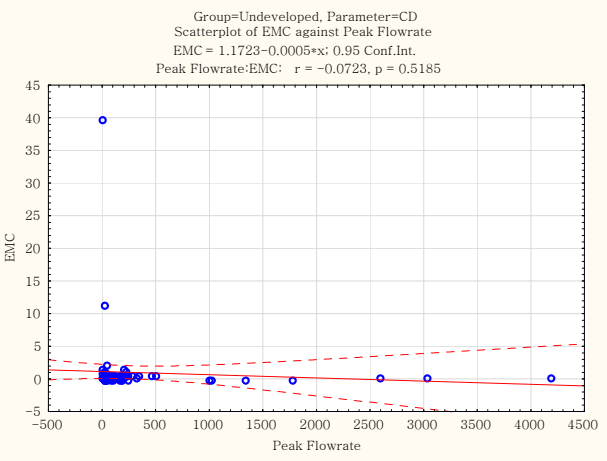

Group=E. Suburban, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 210.2326-0.0175*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.5273, p = 0.0004
EMC
Peak Flowrate
Group=E. Suburban, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.8326+ 7.2136E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0974, p = 0.4919
EMC
Peak Flowrate


Group=E. Suburban, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 2.2069+ 9.4091E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1318, p = 0.3615
EMC
Peak Flowrate
Group=E. Suburban, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 20.2759+ 0.002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3028, p = 0.0308
EMC
Peak Flowrate

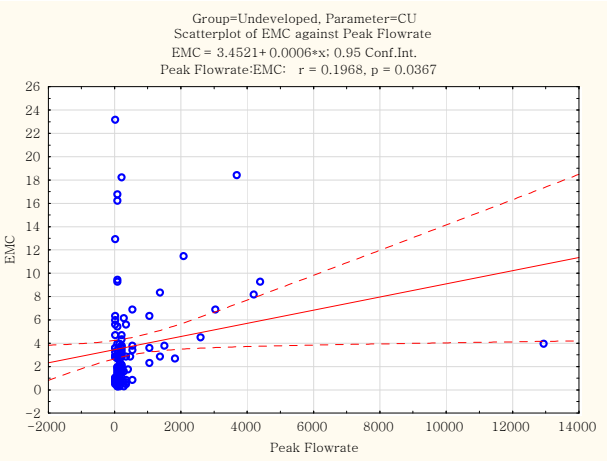

Group=E. Suburban, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.7719−5.9468E−6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0200, p = 0.8929
EMC
Peak Flowrate
Group=E. Suburban, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 706.5672+ 0.2204*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4690, p = 0.0005
EMC
Peak Flowrate

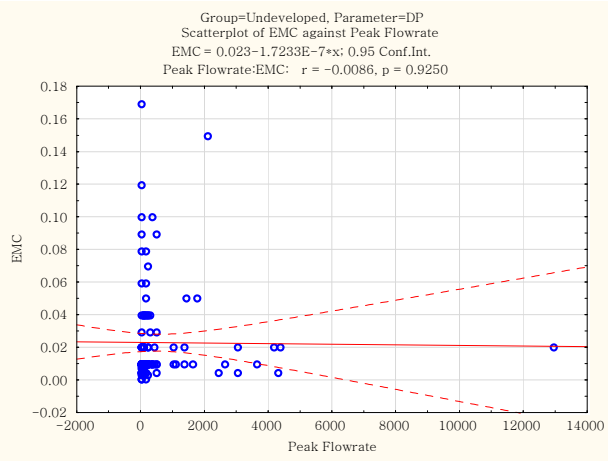

Group=E. Suburban, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 85.2371+ 0.0208*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4550, p = 0.0171
EMC
Peak Flowrate
Group=E. Suburban, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 63.1724+ 0.0068*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3757, p = 0.0407
EMC
Peak Flowrate

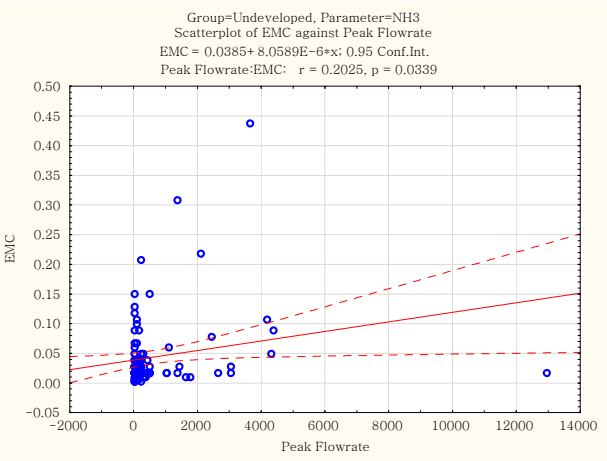
Group=Undeveloped, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 1.9741+ 0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2913, p = 0.0240
EMC
Peak Flowrate

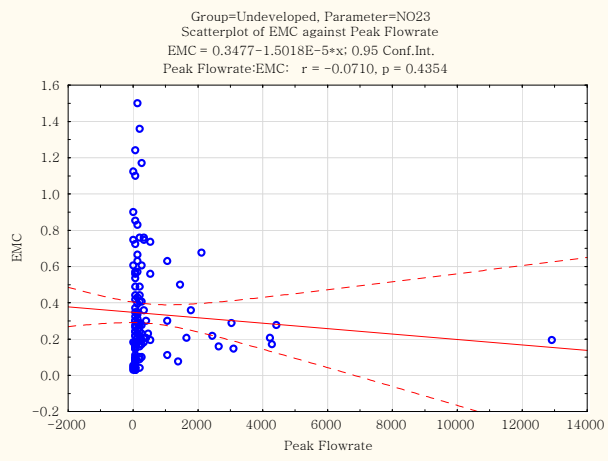

Group=Undeveloped, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 1.1723-0.0005*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0723, p = 0.5185
EMC
Peak Flowrate

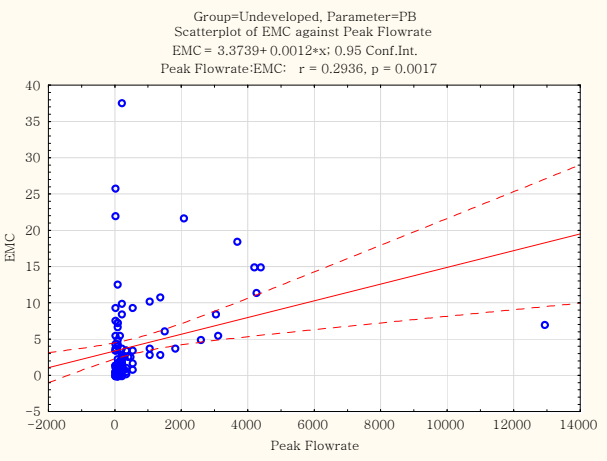
Group=Undeveloped, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 20.2872+ 0.0128*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3276, p = 0.0025
EMC
Peak Flowrate

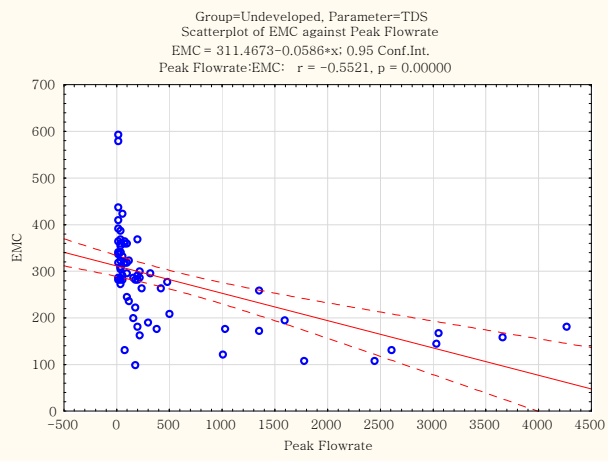

Group=Undeveloped, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 3.4521+ 0.0006*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1968, p = 0.0367
EMC
Peak Flowrate

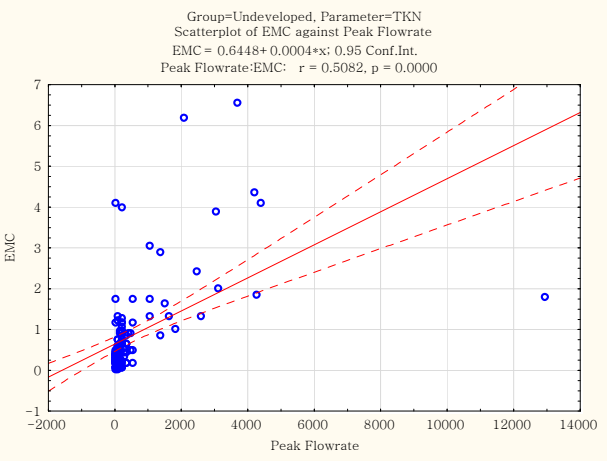

Group=Undeveloped, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.023-1.7233E-7*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0086, p = 0.9250
EMC
Peak Flowrate

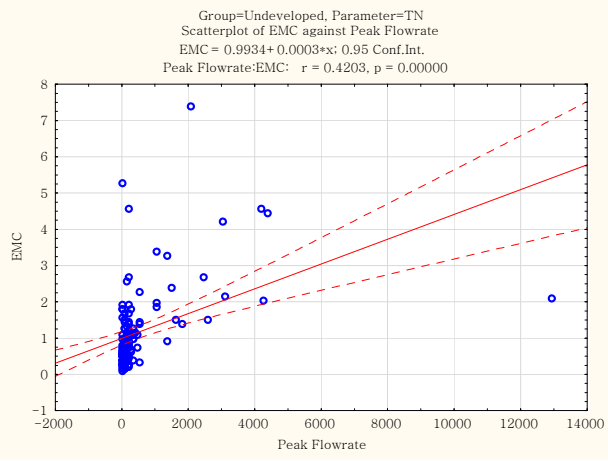

Group=Undeveloped, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0385+ 8.0589E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2025, p = 0.0339
EMC
Peak Flowrate

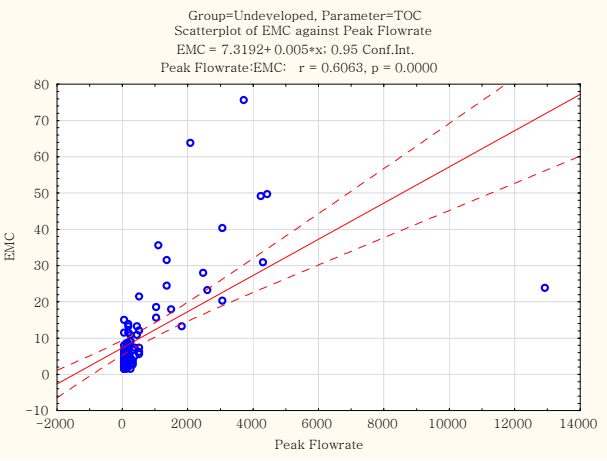

Group=Undeveloped, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.3477−1.5018E−5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.0710, p = 0.4354
EMC
Peak Flowrate

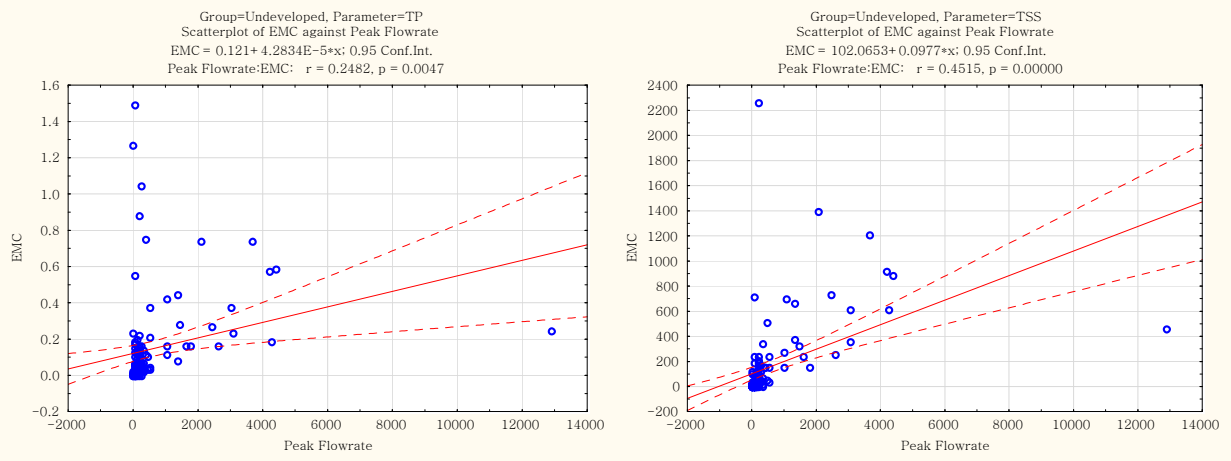

Group=Undeveloped, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 3.3739+0.0012*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2936, p = 0.0017
EMC
Peak Flowrate

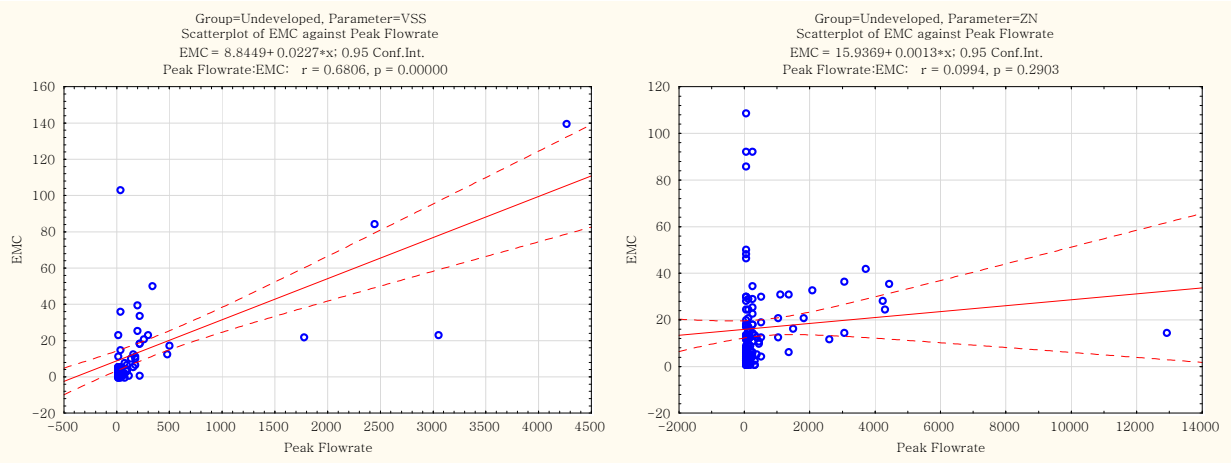

Group=Undeveloped, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 311.4673−0.0586*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.5521, p = 0.00000
EMC
Peak Flowrate

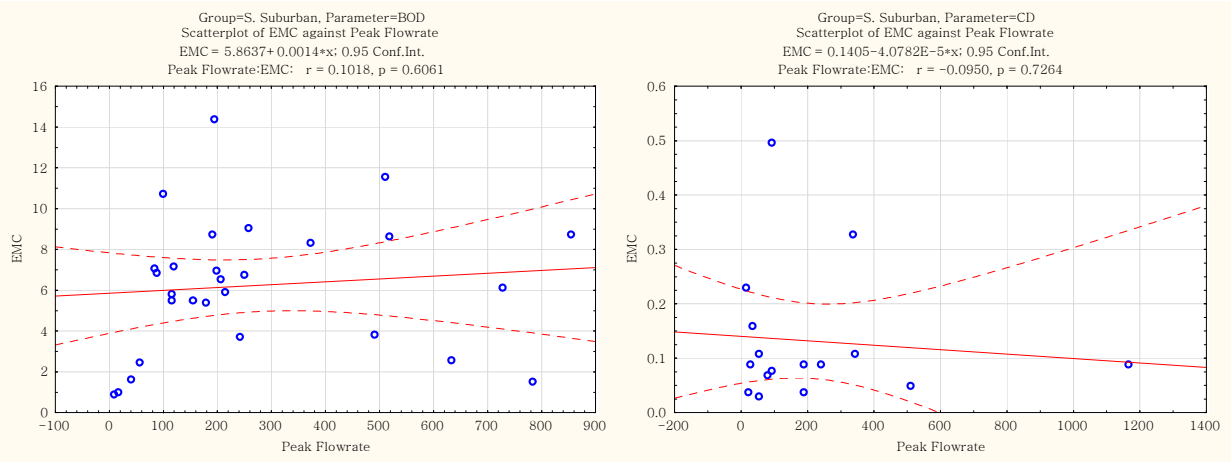

Group=Undeveloped, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.6448+0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.5082, p = 0.0000
EMC
Peak Flowrate

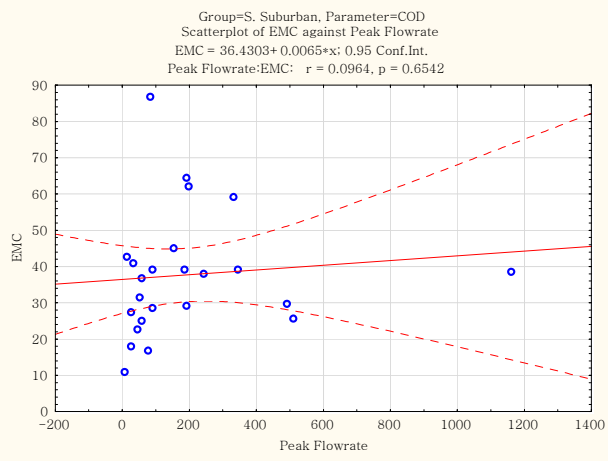

Group=Undeveloped, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 0.9934+0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4203, p = 0.00000
EMC
Peak Flowrate

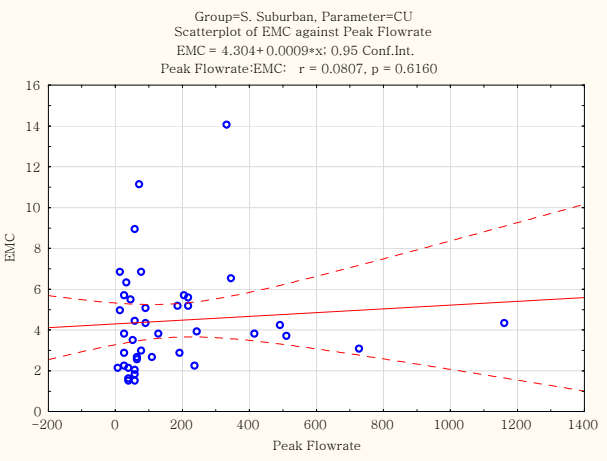

Group=Undeveloped, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 7.3192+0.005*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6063, p = 0.0000
EMC
Peak Flowrate

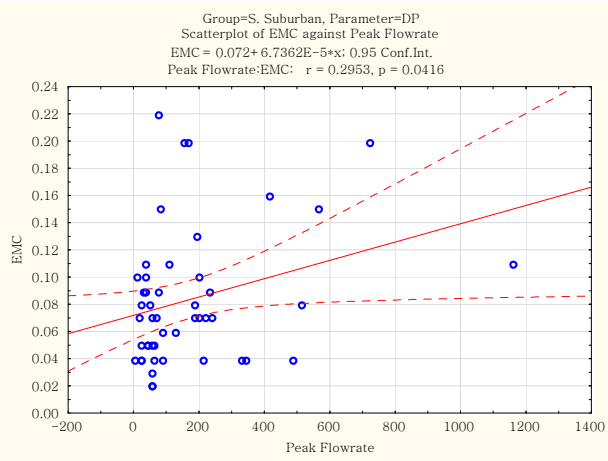

Group=Undeveloped, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.121+ 4.2834E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2482, p = 0.0047
EMC
Peak Flowrate
Group=Undeveloped, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 102.0653+ 0.0977*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4515, p = 0.00000
EMC
Peak Flowrate

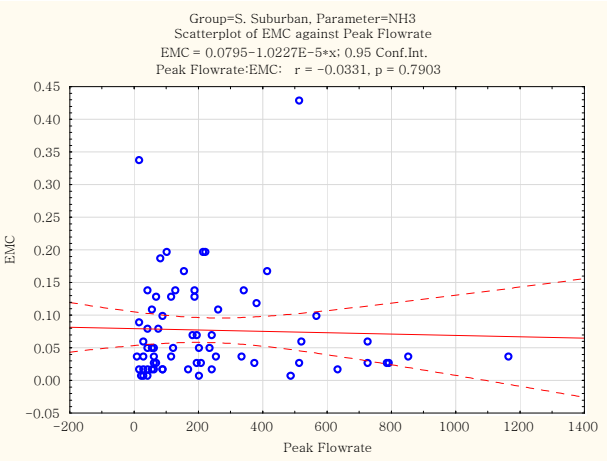

Group=Undeveloped, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 8.8449+ 0.0227*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6806, p = 0.00000
EMC
Peak Flowrate
Group=Undeveloped, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 15.9369+ 0.0013*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0994, p = 0.2903
EMC
Peak Flowrate

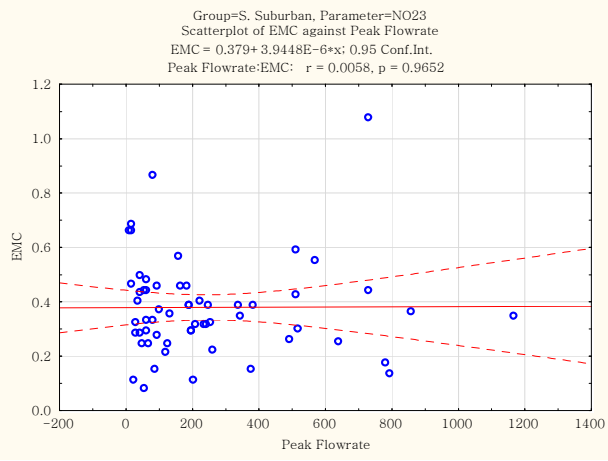

Group=S. Suburban, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 5.8637+ 0.0014*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1018, p = 0.6061
EMC
Peak Flowrate
Group=S. Suburban, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.1405-4.0782E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0950, p = 0.7264
EMC
Peak Flowrate

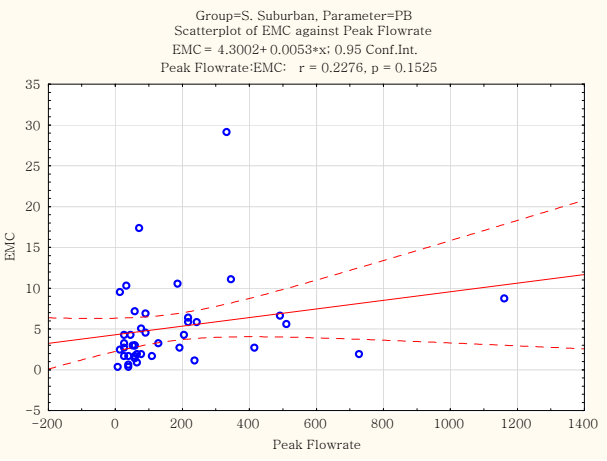

Group=S. Suburban, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 36.4303+ 0.0065*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0964, p = 0.6542
EMC
Peak Flowrate

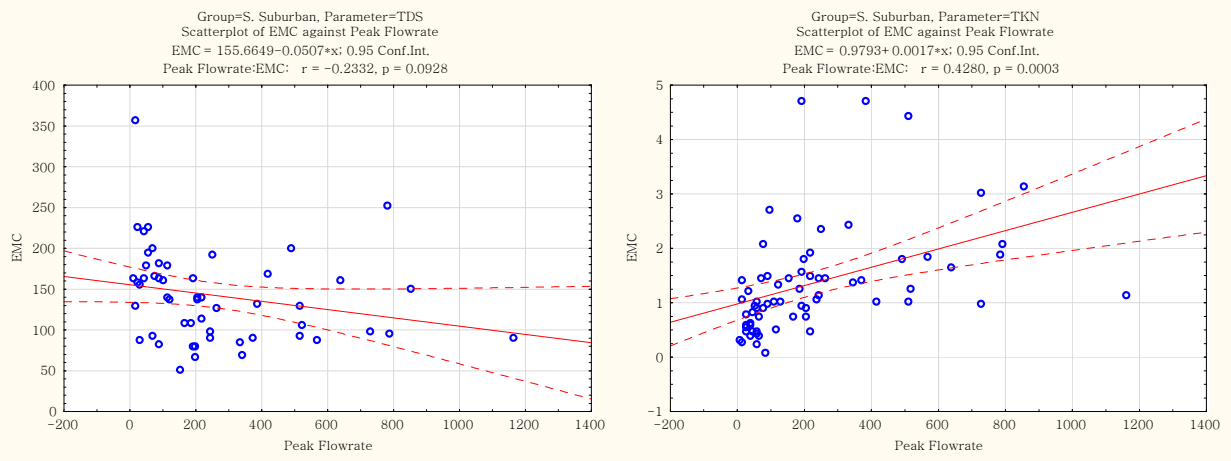

Group=S. Suburban, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 4.304+ 0.0009*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0807, p = 0.6160
EMC
Peak Flowrate

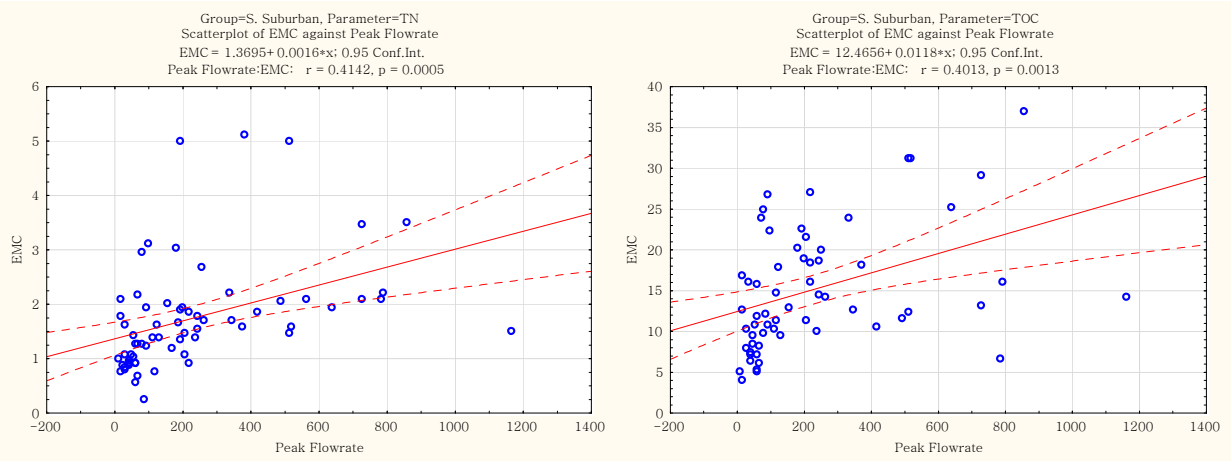

Group=S. Suburban, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.072+ 6.7362E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2953, p = 0.0416
EMC
Peak Flowrate

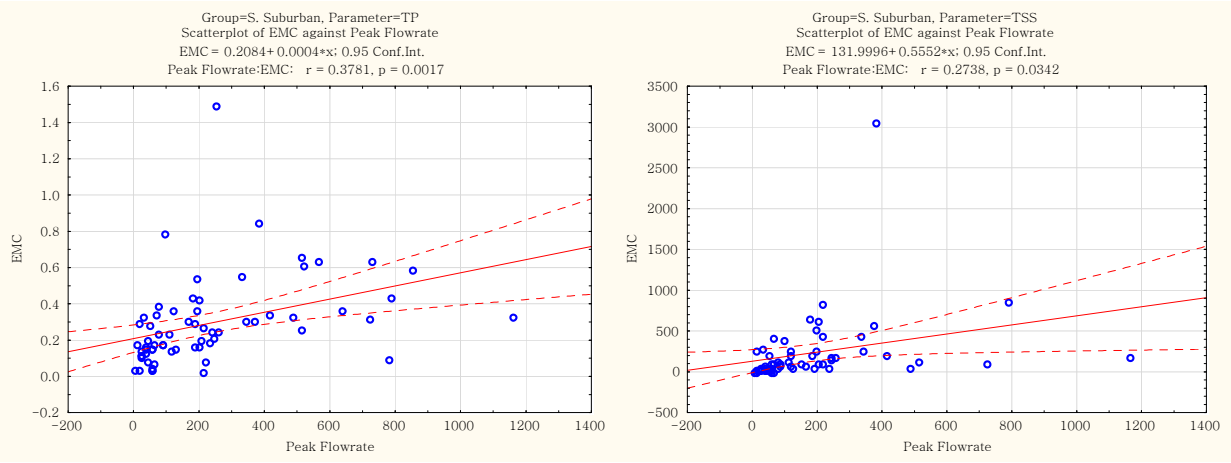

Group=S. Suburban, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0795-1.0227E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.0331, p = 0.7903
EMC
Peak Flowrate

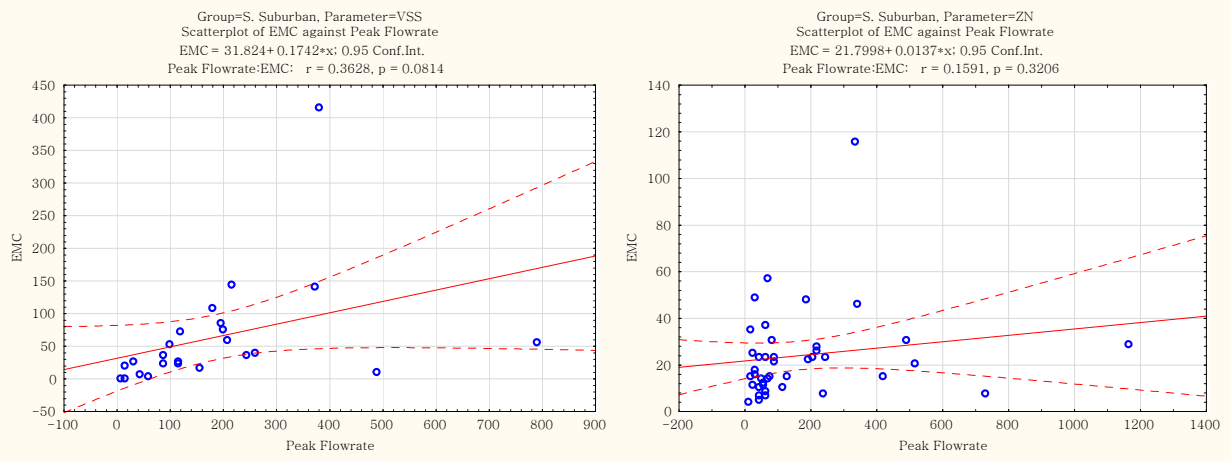

Group=S. Suburban, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.379+ 3.9448E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.0058, p = 0.9652
EMC
Peak Flowrate

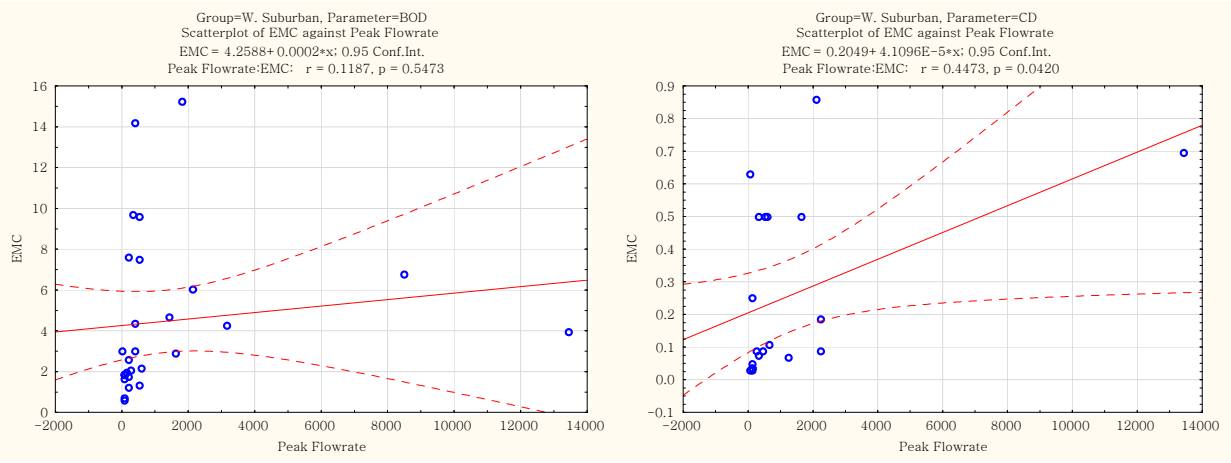

Group=S. Suburban, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 4.3002+ 0.0053*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2276, p = 0.1525
EMC
Peak Flowrate

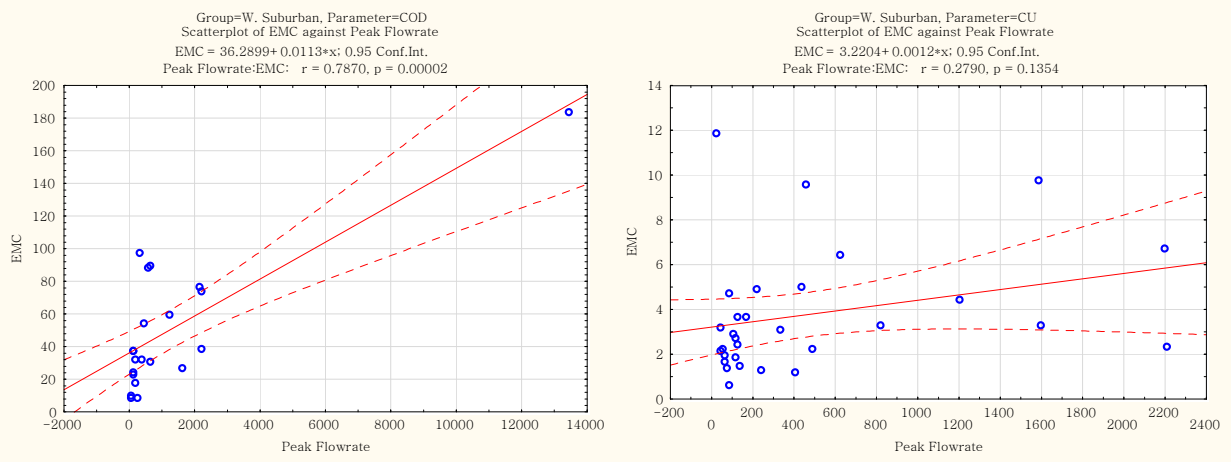

Group=S. Suburban, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 155.6649−0.0507*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = −0.2332, p = 0.0928
EMC
Peak Flowrate
Group=S. Suburban, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 0.9793+0.0017*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4280, p = 0.0003
EMC
Peak Flowrate

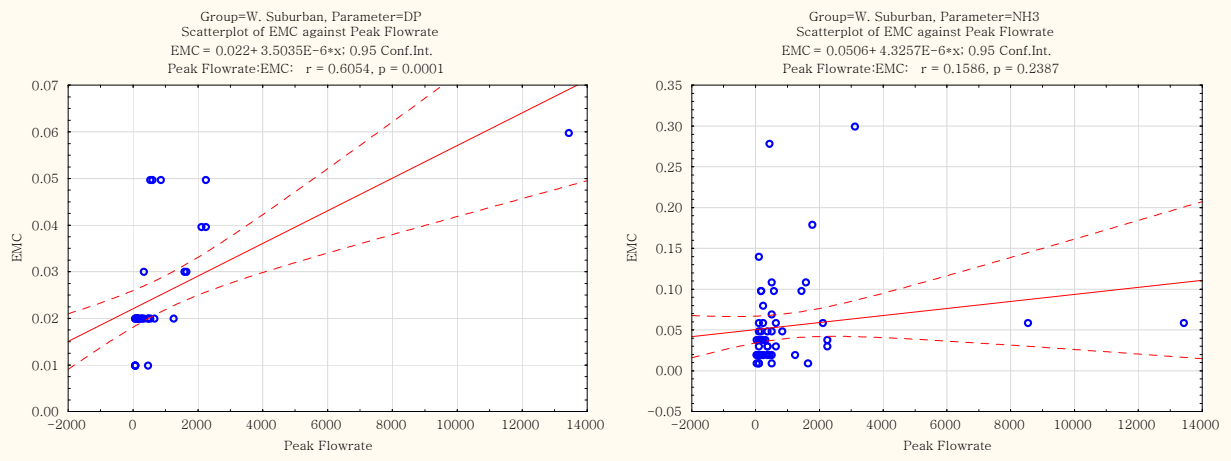

Group=S. Suburban, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.3695+0.0016*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4142, p = 0.0005
EMC
Peak Flowrate
Group=S. Suburban, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 12.4656+0.0118*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4013, p = 0.0013
EMC
Peak Flowrate

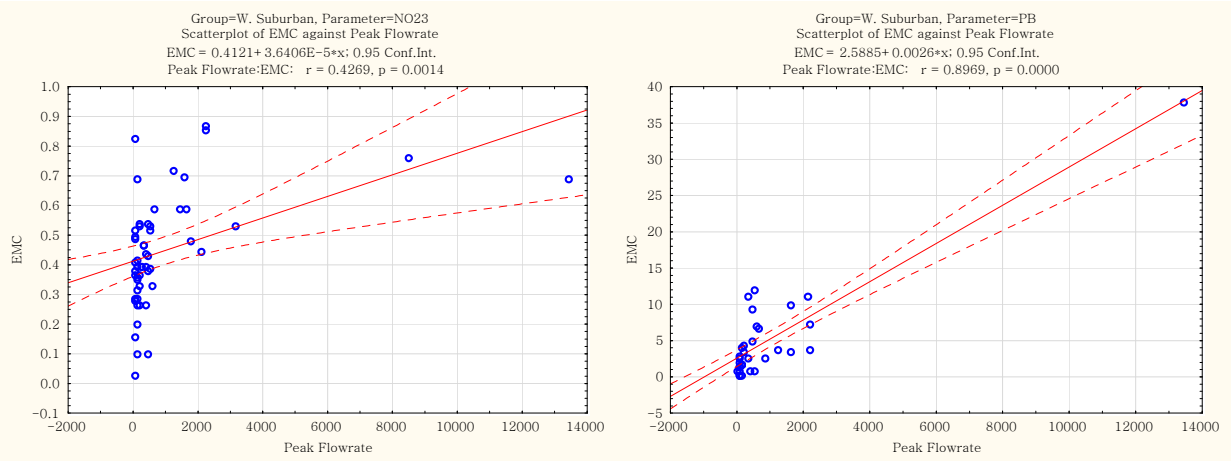

Group=S. Suburban, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.2084+0.0004*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3781, p = 0.0017
EMC
Peak Flowrate
Group=S. Suburban, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 131.9996+0.5552*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2738, p = 0.0342
EMC
Peak Flowrate

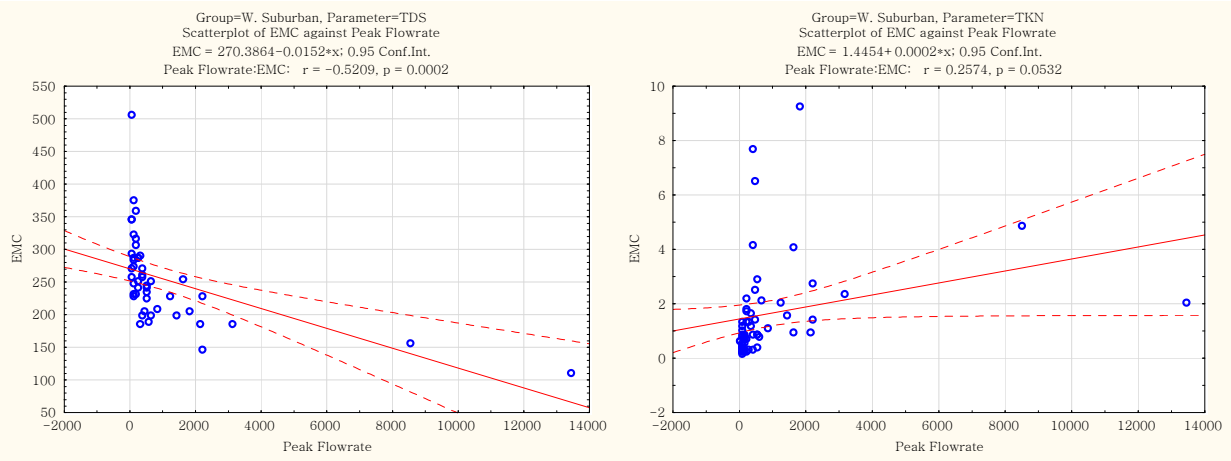

Group=S. Suburban, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 31.824+ 0.1742*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3628, p = 0.0814
EMC
Peak Flowrate
Group=S. Suburban, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 21.7998+ 0.0137*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1591, p = 0.3206
EMC
Peak Flowrate

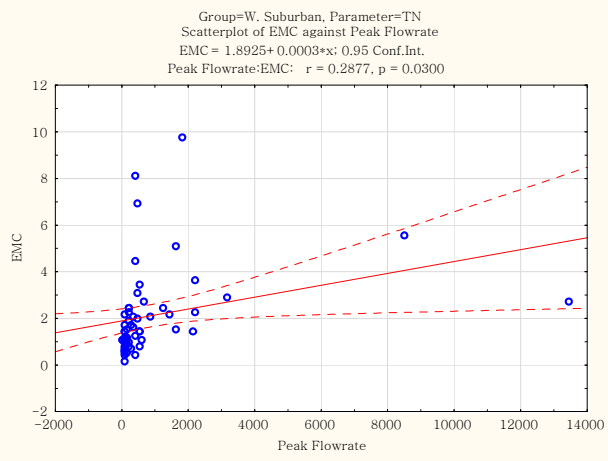

Group=W. Suburban, Parameter=BOD
Scatterplot of EMC against Peak Flowrate
EMC = 4.2588+ 0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1187, p = 0.5473
EMC
Peak Flowrate
Group=W. Suburban, Parameter=CD
Scatterplot of EMC against Peak Flowrate
EMC = 0.2049+ 4.1096E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4473, p = 0.0420
EMC
Peak Flowrate

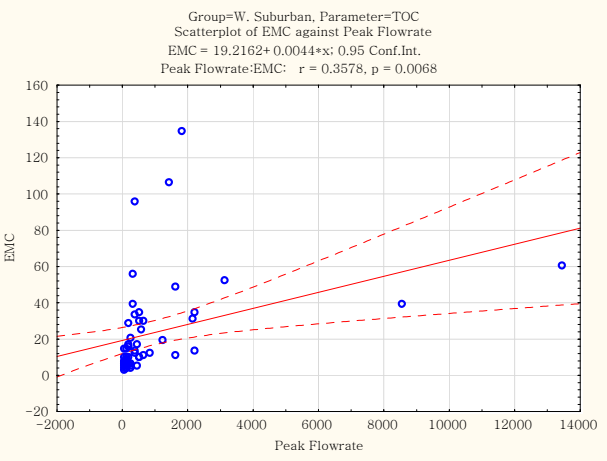

Group=W. Suburban, Parameter=COD
Scatterplot of EMC against Peak Flowrate
EMC = 36.2899+ 0.0113*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.7870, p = 0.00002
EMC
Peak Flowrate
Group=W. Suburban, Parameter=CU
Scatterplot of EMC against Peak Flowrate
EMC = 3.2204+ 0.0012*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2790, p = 0.1354
EMC
Peak Flowrate

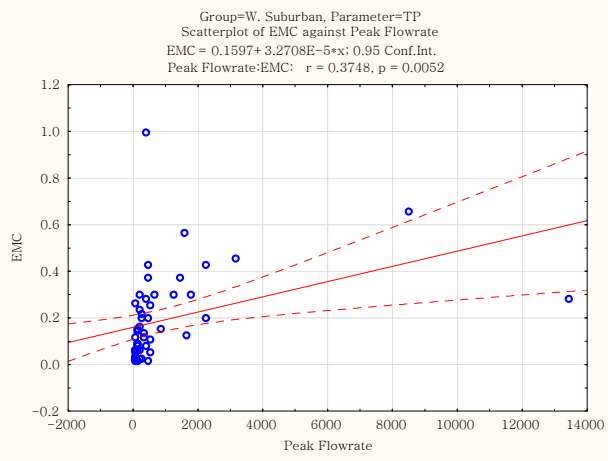

Group=W. Suburban, Parameter=DP
Scatterplot of EMC against Peak Flowrate
EMC = 0.022+ 3.5035E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.6054, p = 0.0001
EMC
Peak Flowrate
Group=W. Suburban, Parameter=NH3
Scatterplot of EMC against Peak Flowrate
EMC = 0.0506+ 4.3257E-6*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1586, p = 0.2387
EMC
Peak Flowrate

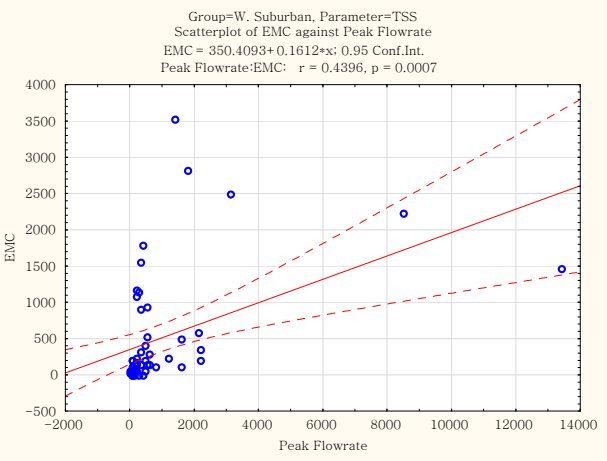

Group=W. Suburban, Parameter=NO23
Scatterplot of EMC against Peak Flowrate
EMC = 0.4121+ 3.6406E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4269, p = 0.0014
EMC
Peak Flowrate
Group=W. Suburban, Parameter=PB
Scatterplot of EMC against Peak Flowrate
EMC = 2.5885+ 0.0026*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.8969, p = 0.0000
EMC
Peak Flowrate

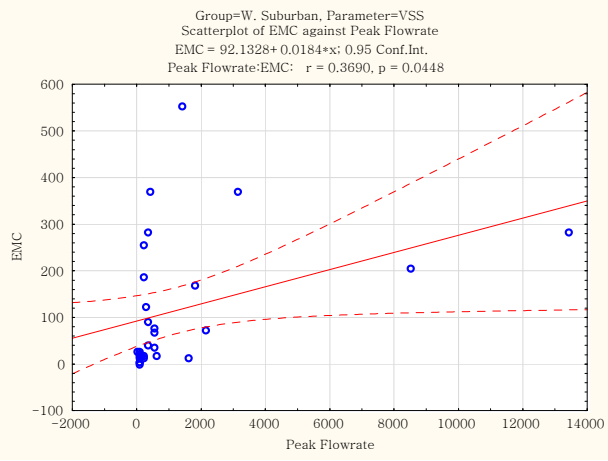

Group=W. Suburban, Parameter=TDS
Scatterplot of EMC against Peak Flowrate
EMC = 270.3864-0.0152*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = -0.5209, p = 0.0002
EMC
Peak Flowrate
Group=W. Suburban, Parameter=TKN
Scatterplot of EMC against Peak Flowrate
EMC = 1.4454+ 0.0002*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2574, p = 0.0532
EMC
Peak Flowrate

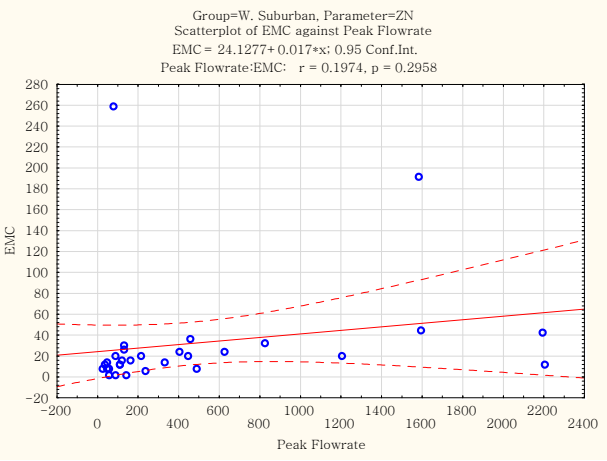

Group=W. Suburban, Parameter=TN
Scatterplot of EMC against Peak Flowrate
EMC = 1.8925+ 0.0003*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.2877, p = 0.0300
EMC
Peak Flowrate


Group=W. Suburban, Parameter=TOC
Scatterplot of EMC against Peak Flowrate
EMC = 19.2162+ 0.0044*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3578, p = 0.0068
EMC
Peak Flowrate

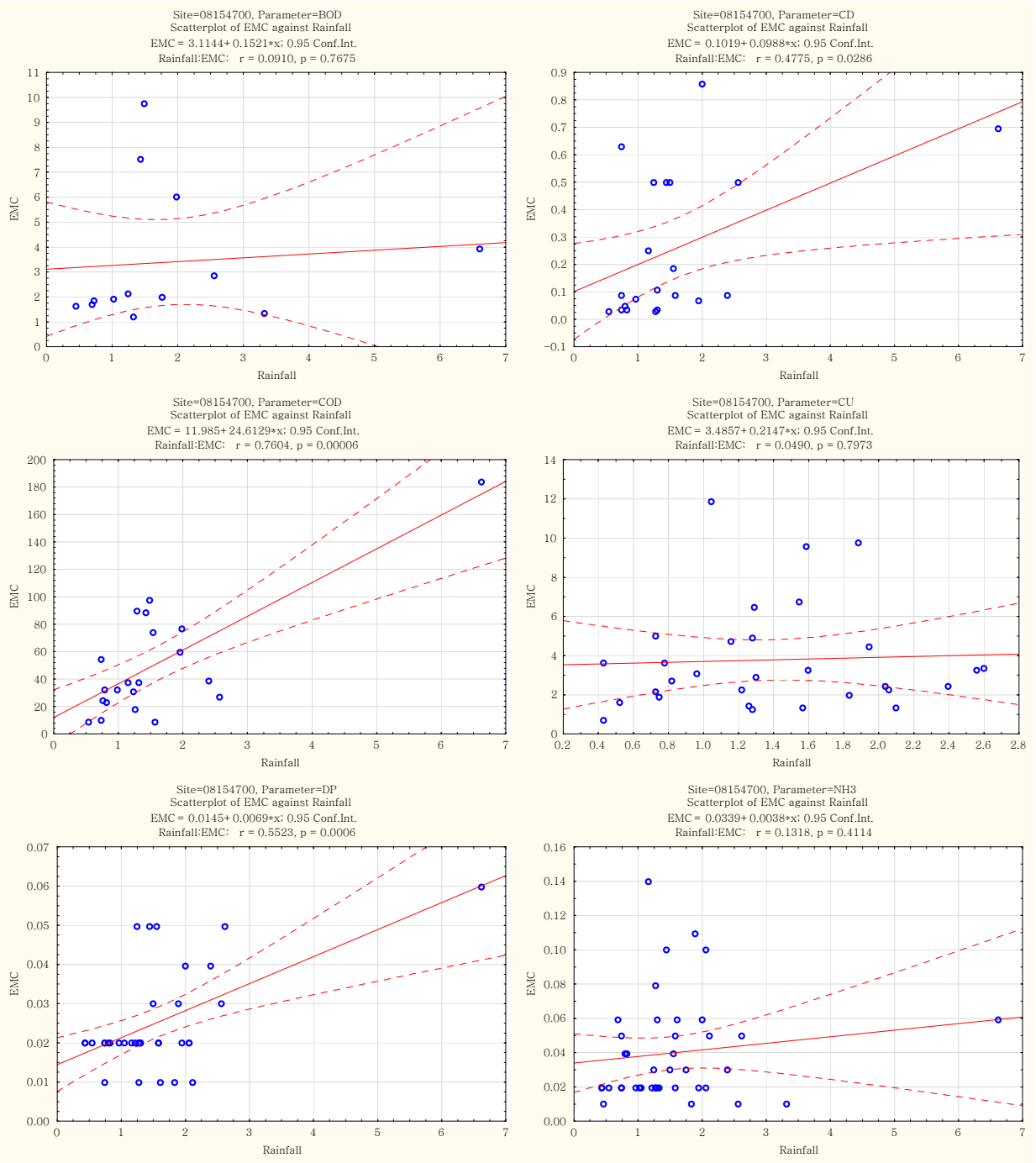

Group=W. Suburban, Parameter=TP
Scatterplot of EMC against Peak Flowrate
EMC = 0.1597+ 3.2708E-5*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3748, p = 0.0052
EMC
Peak Flowrate

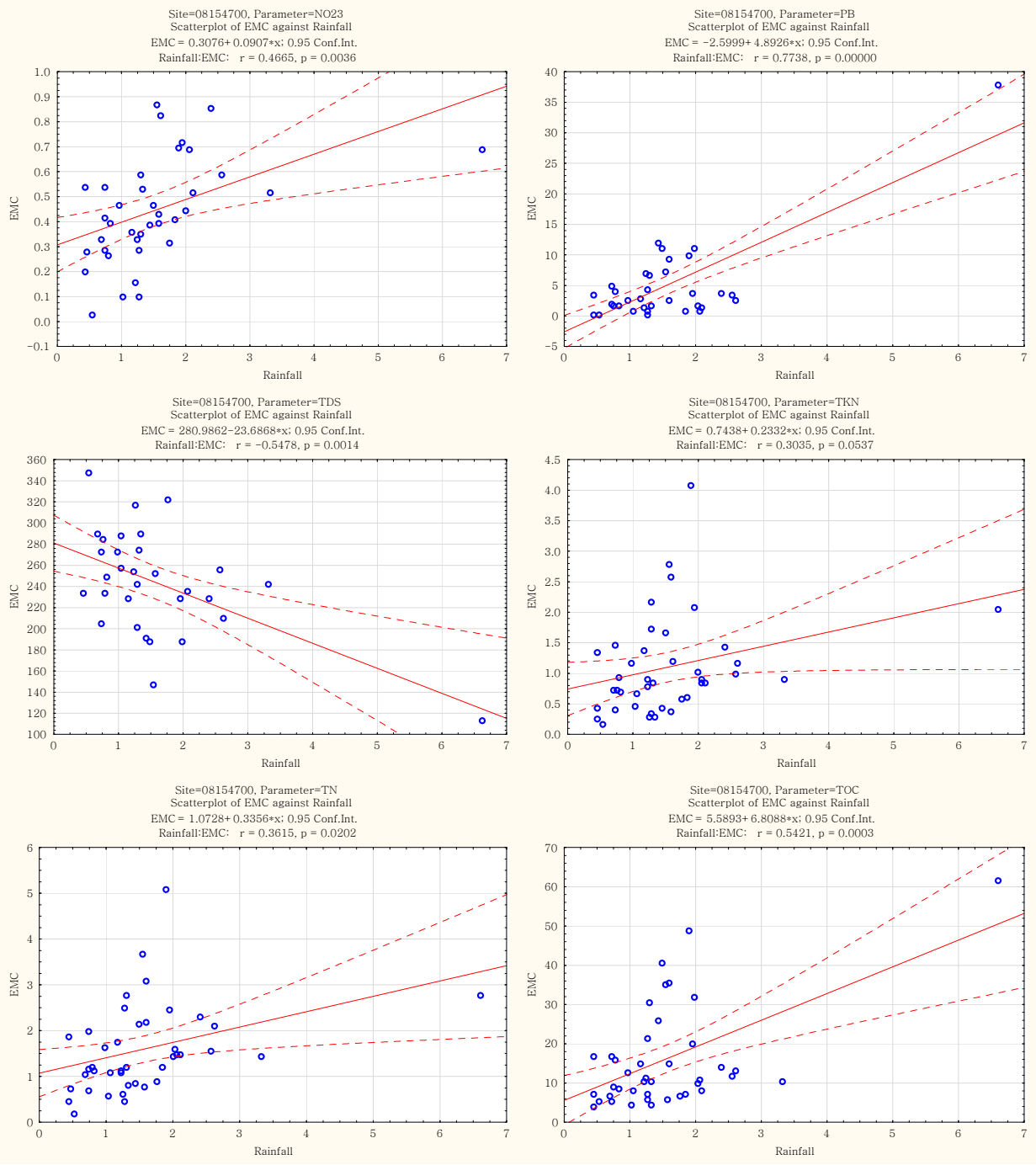

Group=W. Suburban, Parameter=TSS
Scatterplot of EMC against Peak Flowrate
EMC = 350.4093+ 0.1612*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.4396, p = 0.0007
EMC
Peak Flowrate

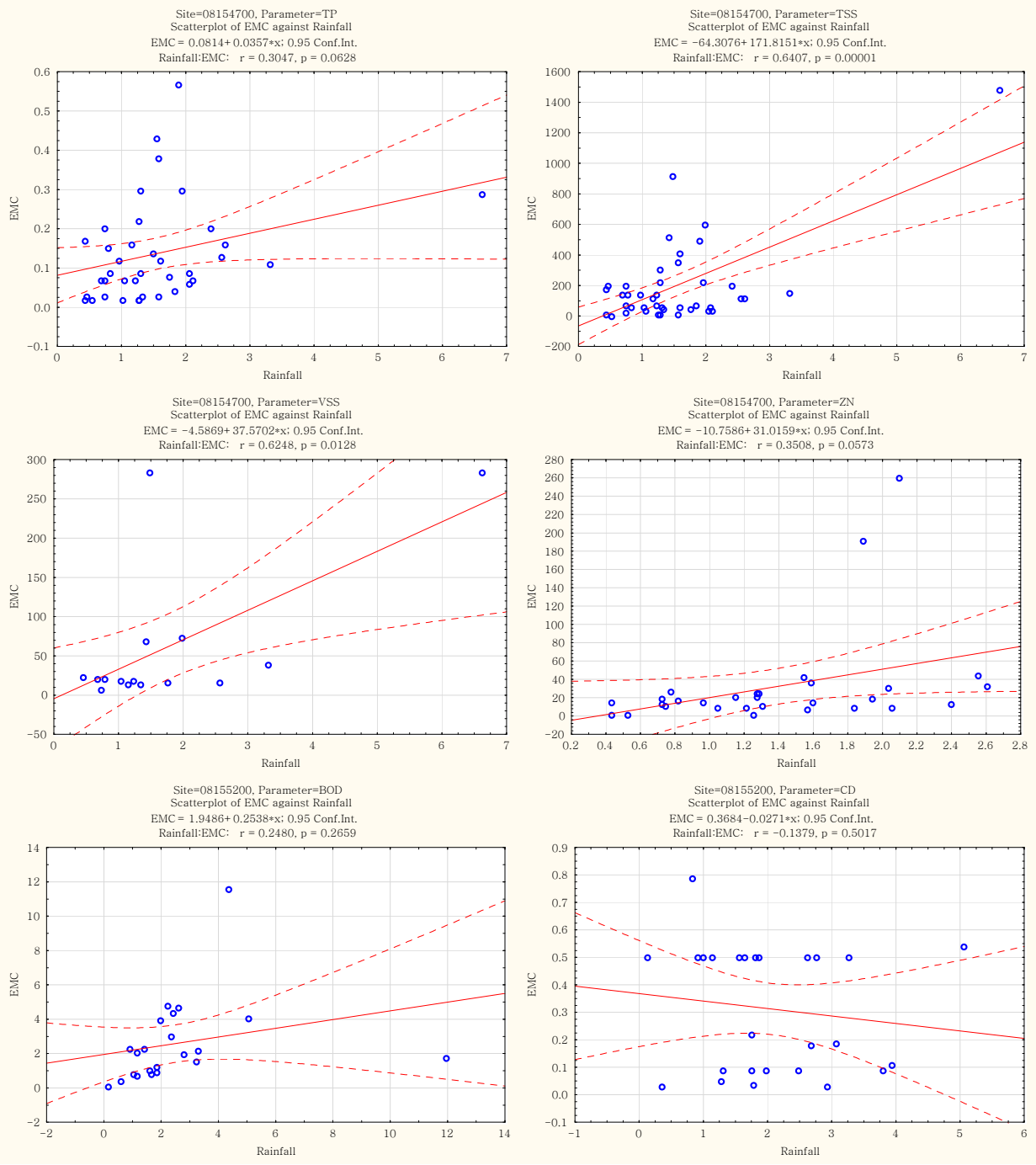

Group=W. Suburban, Parameter=VSS
Scatterplot of EMC against Peak Flowrate
EMC = 92.1328+ 0.0184*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.3690, p = 0.0448
EMC
Peak Flowrate

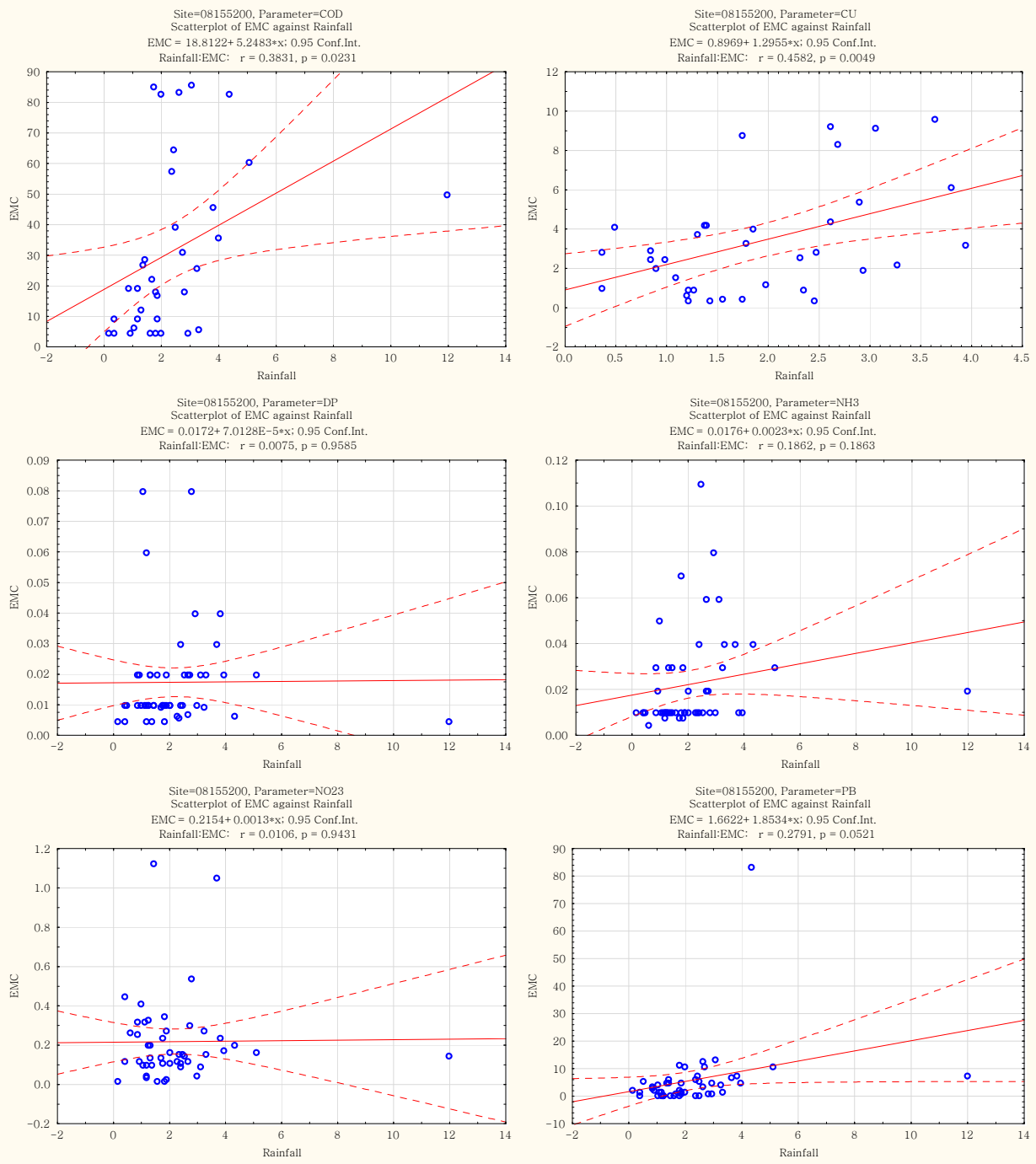

Group=W. Suburban, Parameter=ZN
Scatterplot of EMC against Peak Flowrate
EMC = 24.1277+ 0.017*x; 0.95 Conf.Int.
Peak Flowrate:EMC: r = 0.1974, p = 0.2958
EMC
Peak Flowrate

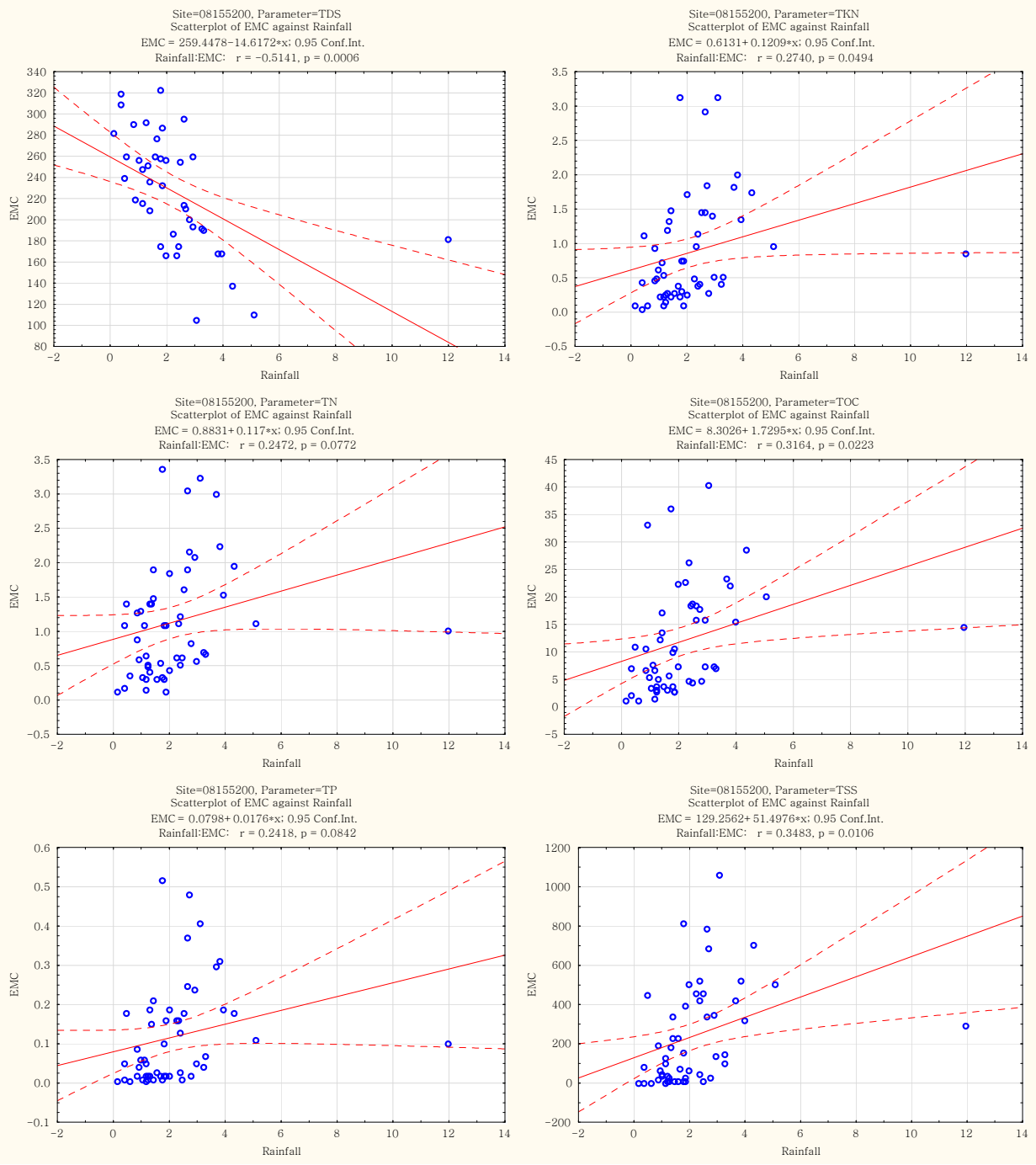
Appendix I Figures of Relationships between EMCs and Rainfall for All Stations

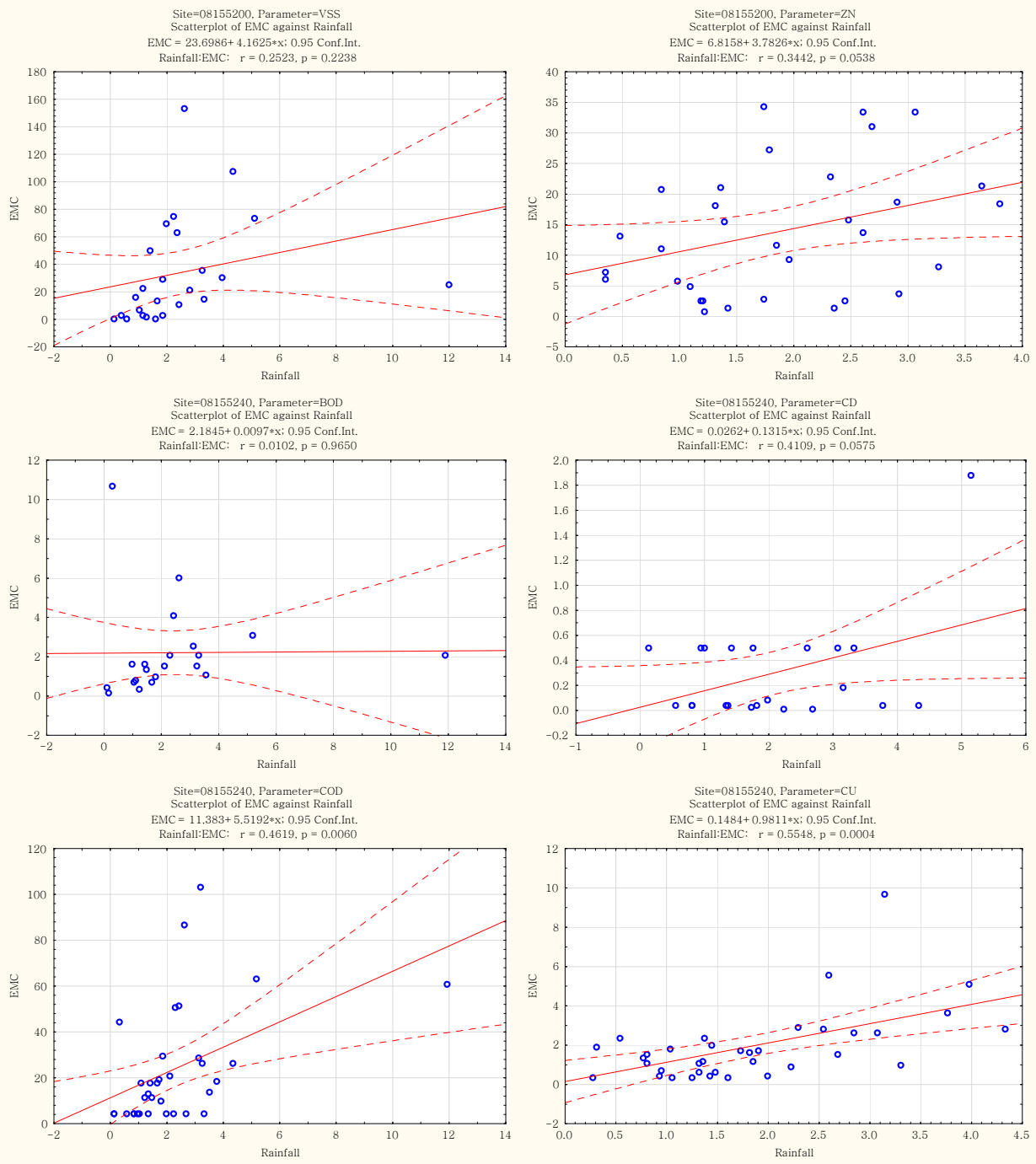


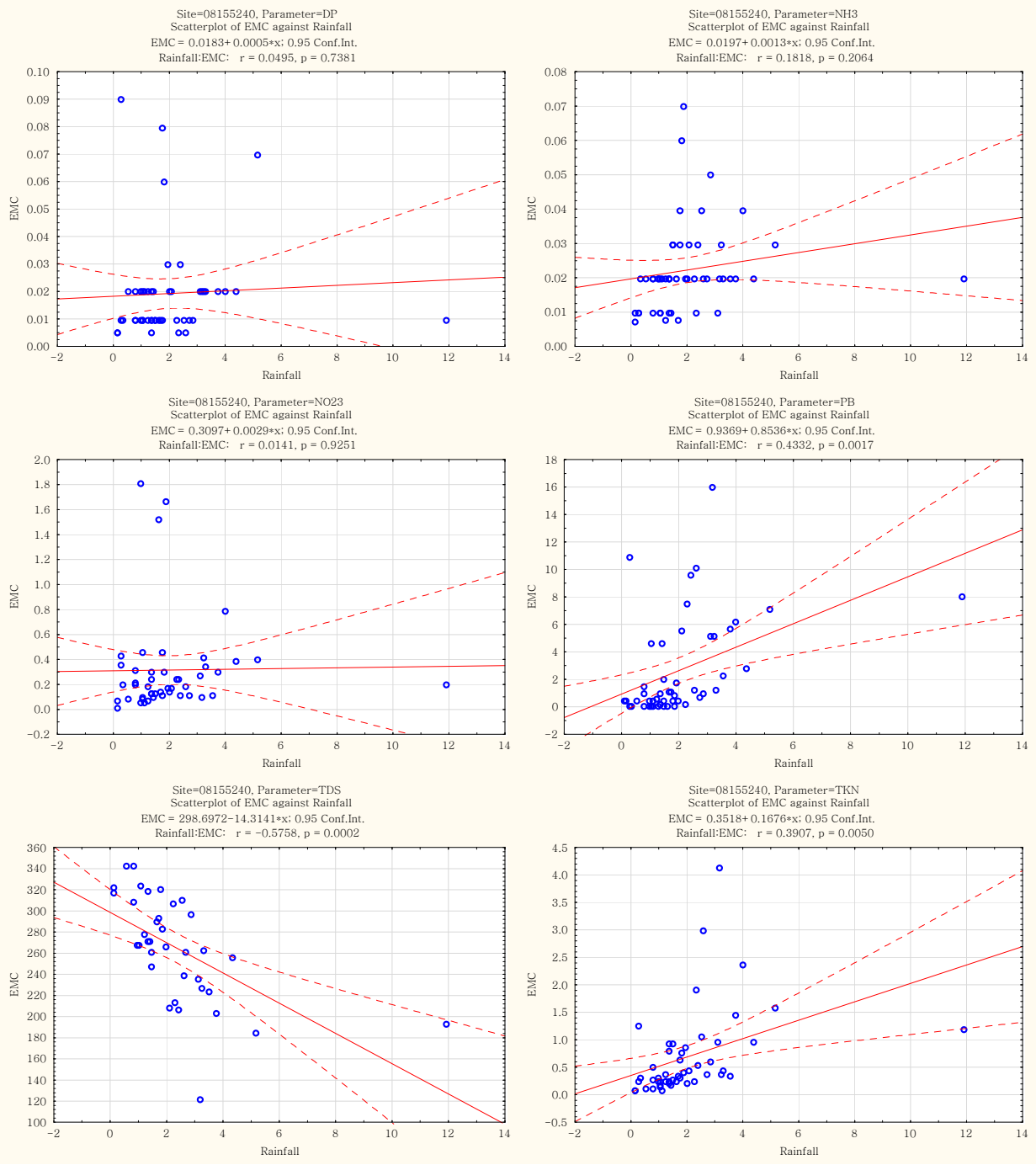

Site=08154700, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.3076+ 0.0907*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4665, p = 0.0036
Site=08154700, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = −2.5999+ 4.8926*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7738, p = 0.00000
Site=08154700, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 280.9862−23.6868*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.5478, p = 0.0014
Site=08154700, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.7438+ 0.2332*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3035, p = 0.0537
Site=08154700, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 1.0728+ 0.3356*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3615, p = 0.0202
Site=08154700, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 5.5893+ 6.8088*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5421, p = 0.0003
EMC
Rainfall

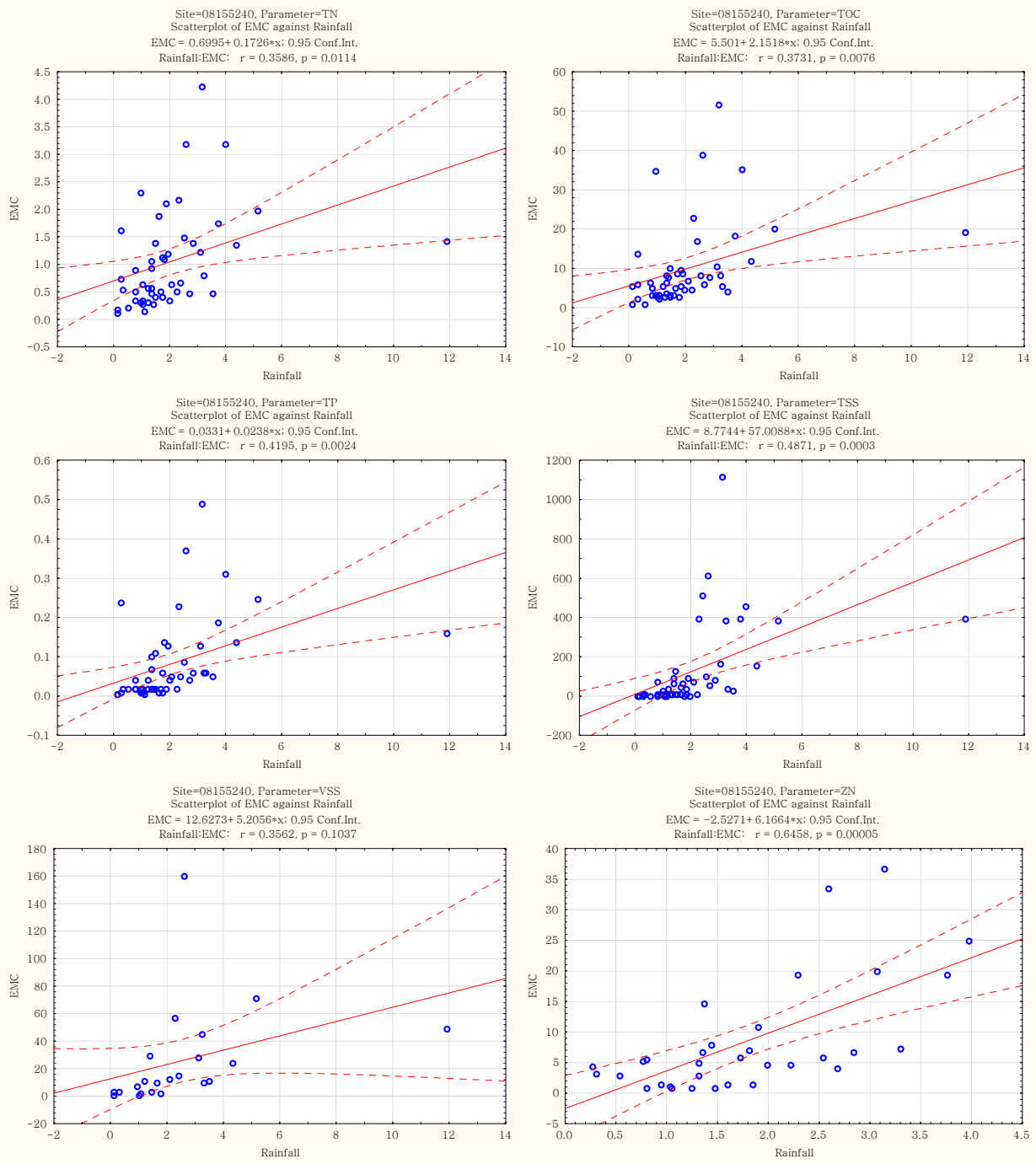

Site=08154700, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0814+ 0.0357*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3047, p = 0.0628
Site=08154700, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = −64.3076+ 171.8151*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6407, p = 0.00001
Site=08154700, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = −4.5869+ 37.5702*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6248, p = 0.0128
Site=08154700, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = −10.7586+ 31.0159*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3508, p = 0.0573
Site=08155200, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 1.9486+ 0.2538*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2480, p = 0.2659
Site=08155200, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.3684−0.0271*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1379, p = 0.5017
EMC
Rainfall

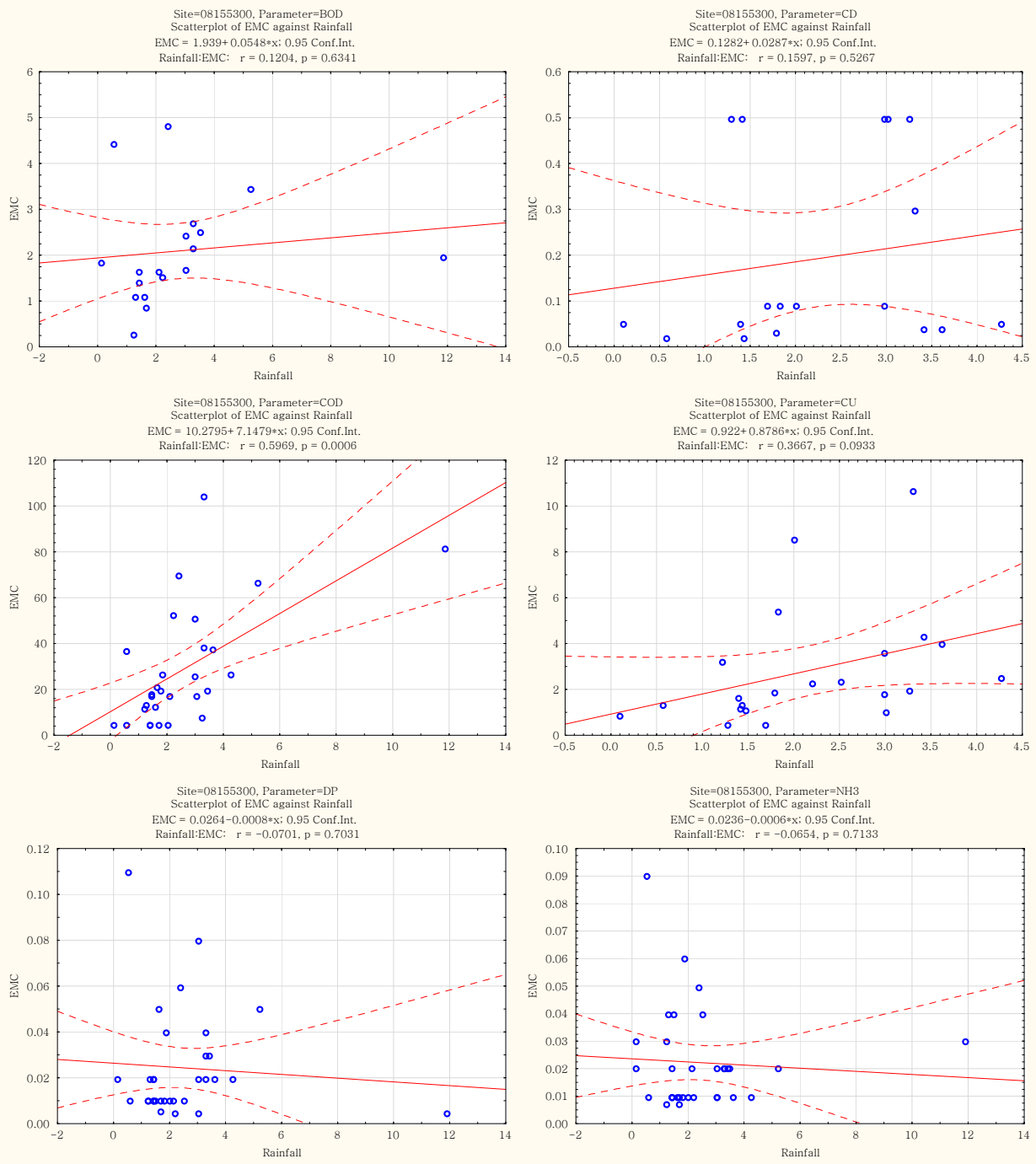

Site=08155200, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 18.8122+ 5.2483*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3831, p = 0.0231
Site=08155200, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 0.8969+ 1.2955*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4582, p = 0.0049
Site=08155200, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0172+ 7.0128E-5*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0075, p = 0.9585
Site=08155200, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0176+ 0.0023*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1862, p = 0.1863
Site=08155200, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.2154+ 0.0013*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0106, p = 0.9431
Site=08155200, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 1.6622+ 1.8534*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2791, p = 0.0521
EMC
Rainfall

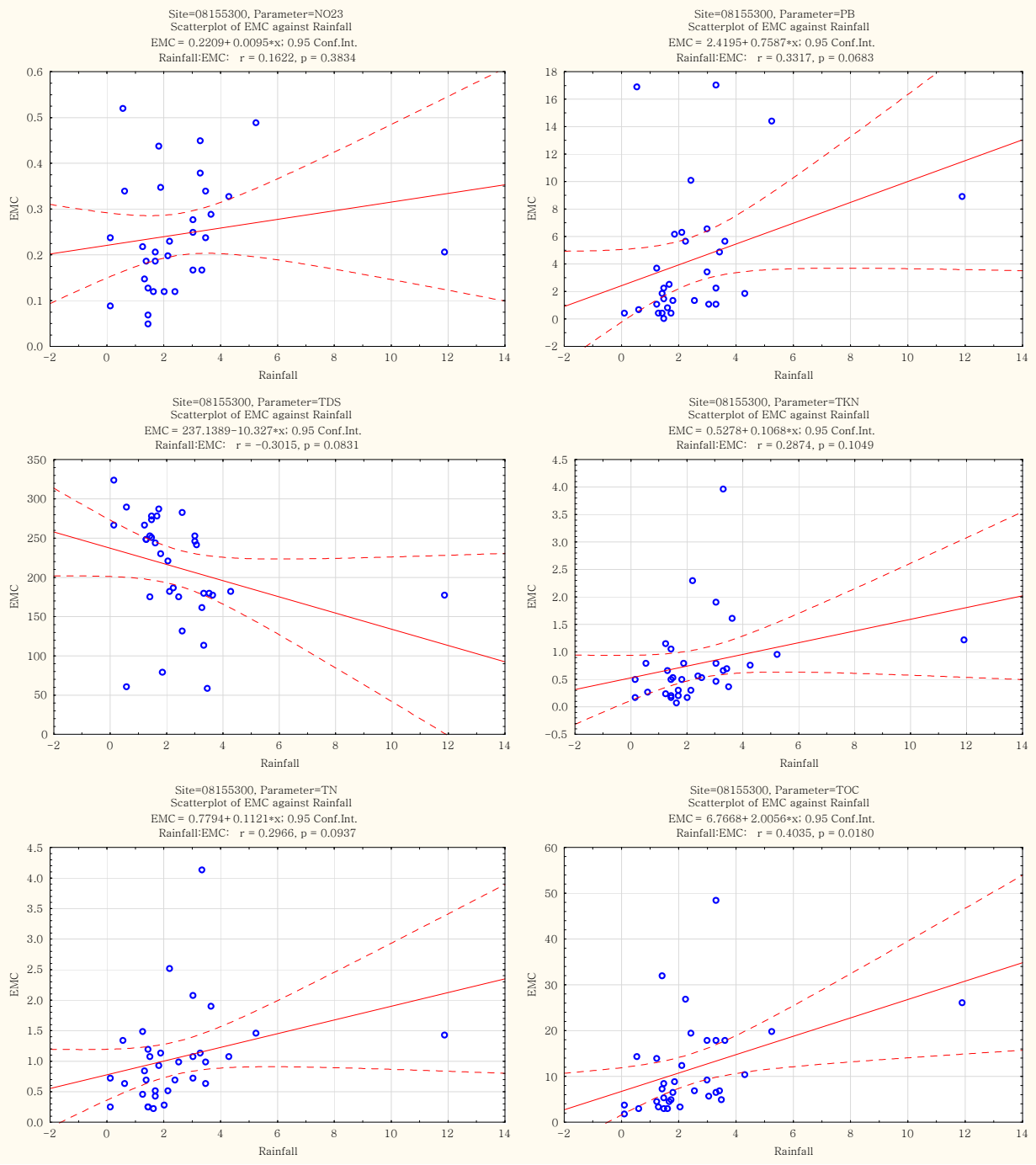

Site=08155200, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 259.4478−14.6172*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.5141, p = 0.0006
Site=08155200, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.6131+ 0.1209*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2740, p = 0.0494
Site=08155200, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.8831+ 0.117*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2472, p = 0.0772
Site=08155200, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 8.3026+ 1.7295*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3164, p = 0.0223
Site=08155200, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0798+ 0.0176*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2418, p = 0.0842
Site=08155200, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 129.2562+ 51.4976*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3483, p = 0.0106
EMC
Rainfall

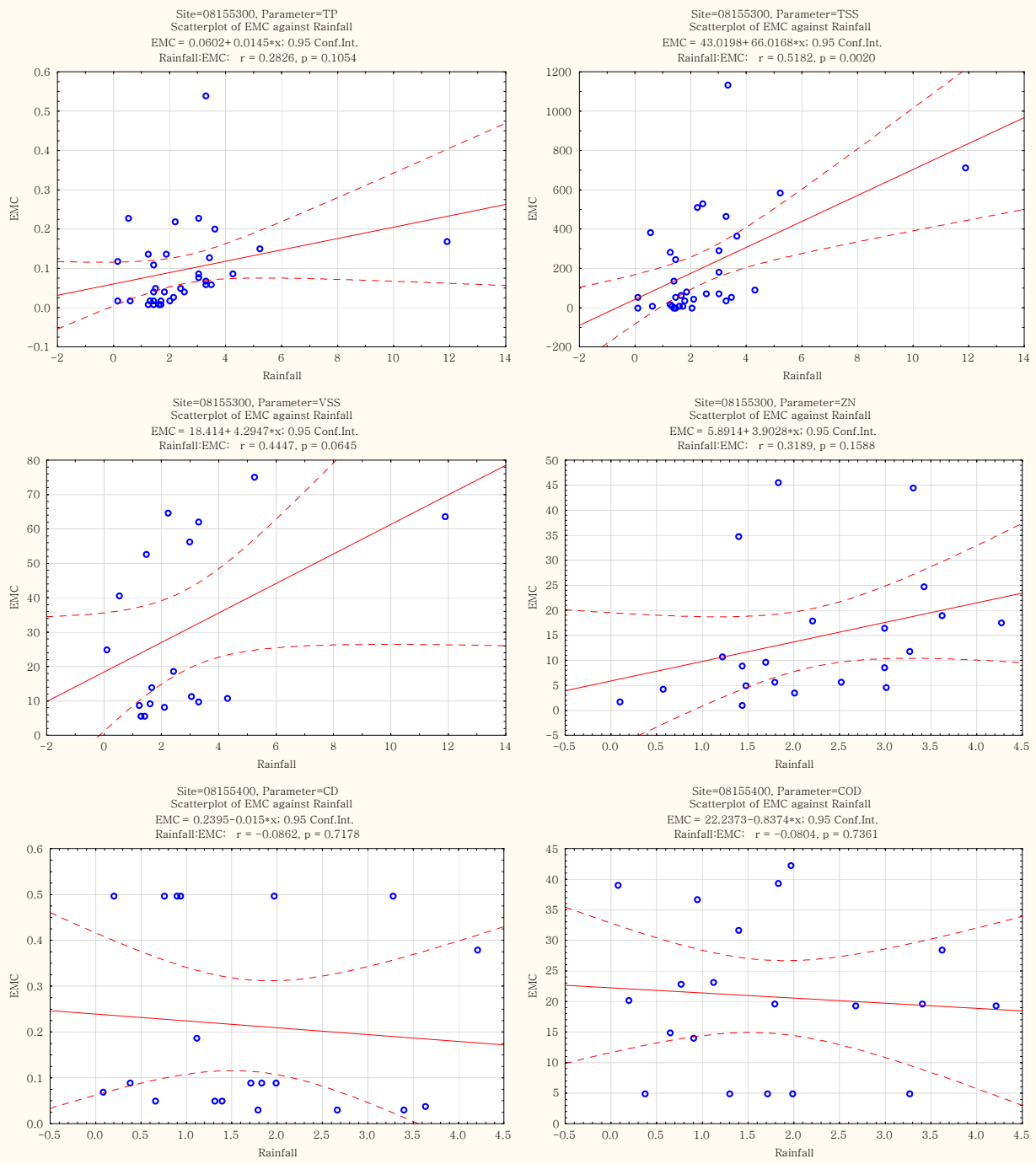

Site=08155200, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 23.6986+ 4.1625*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2523, p = 0.2238
Site=08155200, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 6.8158+ 3.7826*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3442, p = 0.0538
Site=08155240, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 2.1845+ 0.0097*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0102, p = 0.9650
Site=08155240, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.0262+ 0.1315*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4109, p = 0.0575
Site=08155240, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 11.383+ 5.5192*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4619, p = 0.0060
Site=08155240, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 0.1484+ 0.9811*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5548, p = 0.0004
EMC
Rainfall


Site=08155240, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0183+ 0.0005*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0495, p = 0.7381
Site=08155240, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0197+ 0.0013*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1818, p = 0.2064
Site=08155240, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.3097+ 0.0029*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0141, p = 0.9251
Site=08155240, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 0.9369+ 0.8536*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4332, p = 0.0017
Site=08155240, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 298.6972−14.3141*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.5758, p = 0.0002
Site=08155240, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.3518+ 0.1676*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3907, p = 0.0050
EMC
Rainfall

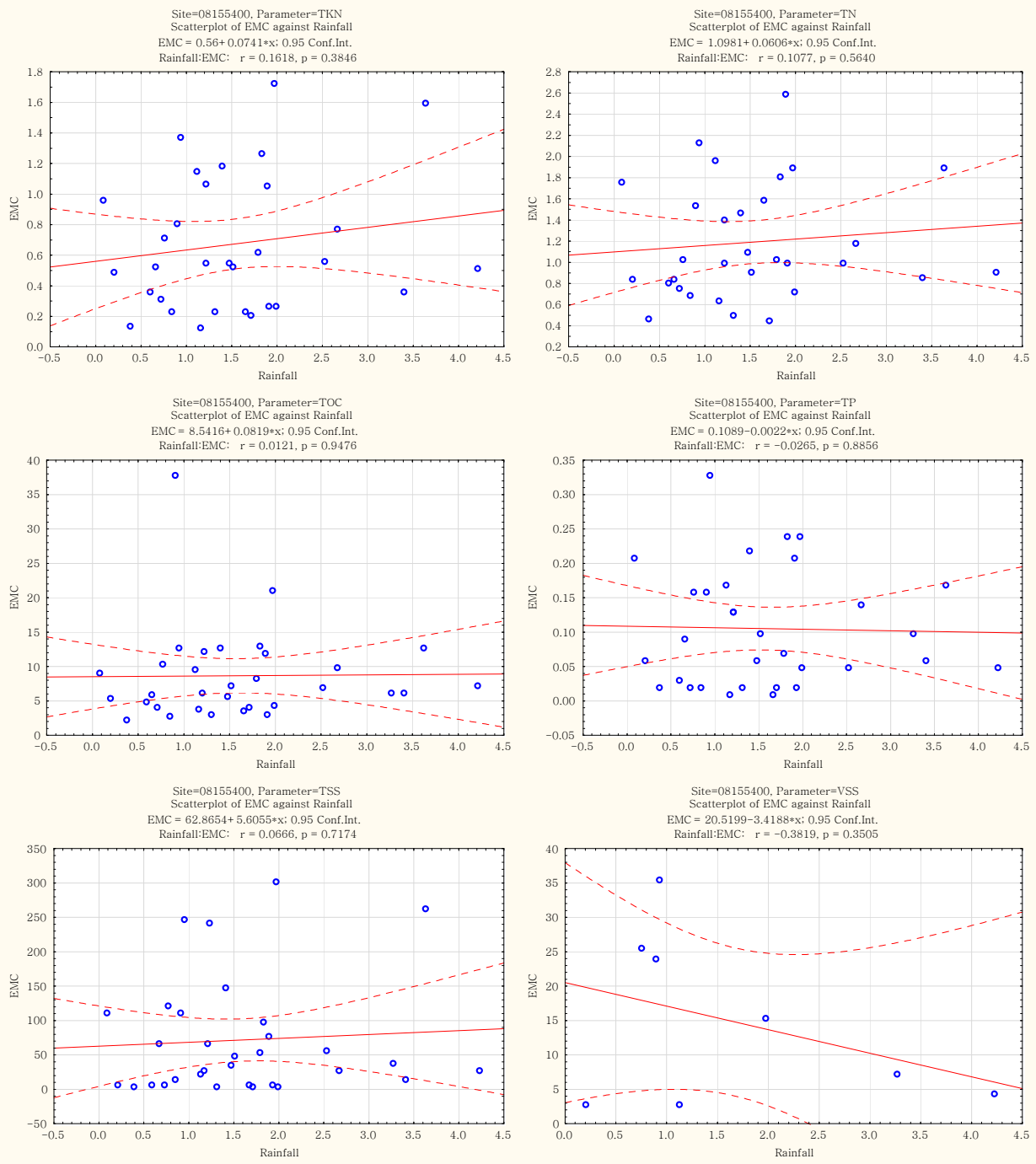

Site=08155240, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.6995+ 0.1726*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3586, p = 0.0114
Site=08155240, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 5.501+ 2.1518*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3731, p = 0.0076
Site=08155240, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0331+ 0.0238*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4195, p = 0.0024
Site=08155240, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 8.7744+ 57.0088*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4871, p = 0.0003
Site=08155240, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 12.6273+ 5.2056*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3562, p = 0.1037
Site=08155240, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = −2.5271+ 6.1664*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6458, p = 0.00005
EMC
Rainfall

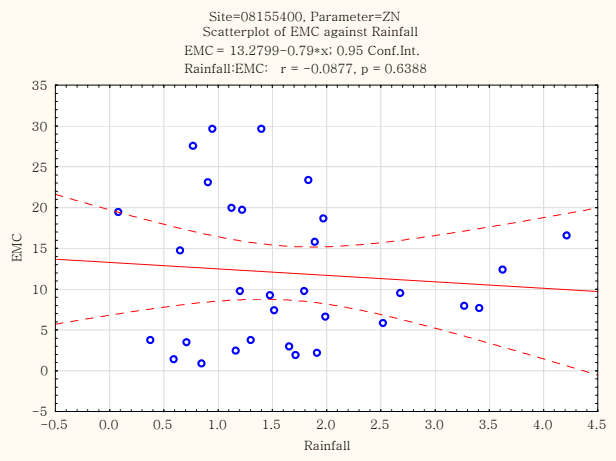

Site=08155300, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 1.939+ 0.0548*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1204, p = 0.6341
Site=08155300, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.1282+ 0.0287*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1597, p = 0.5267
Site=08155300, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 10.2795+ 7.1479*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5969, p = 0.0006
Site=08155300, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 0.922+ 0.8786*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3667, p = 0.0933
Site=08155300, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0264−0.0008*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0701, p = 0.7031
Site=08155300, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0236−0.0006*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0654, p = 0.7133
EMC
Rainfall

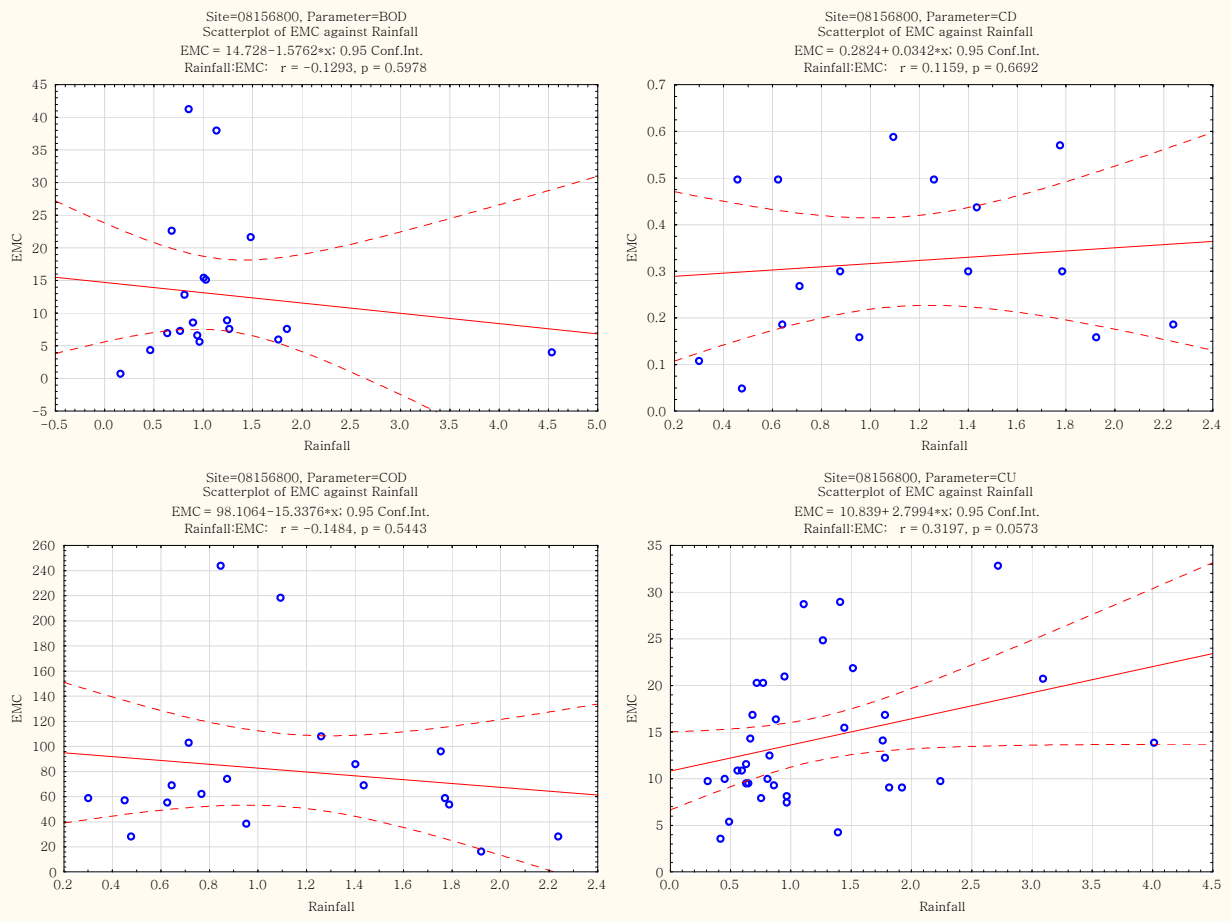

Site=08155300, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.2209+ 0.0095*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1622, p = 0.3834
Site=08155300, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 2.4195+ 0.7587*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3317, p = 0.0683
Site=08155300, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 237.1389−10.327*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3015, p = 0.0831
Site=08155300, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.5278+ 0.1068*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2874, p = 0.1049
Site=08155300, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.7794+ 0.1121*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2966, p = 0.0937
Site=08155300, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 6.7668+ 2.0056*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4035, p = 0.0180
EMC
Rainfall

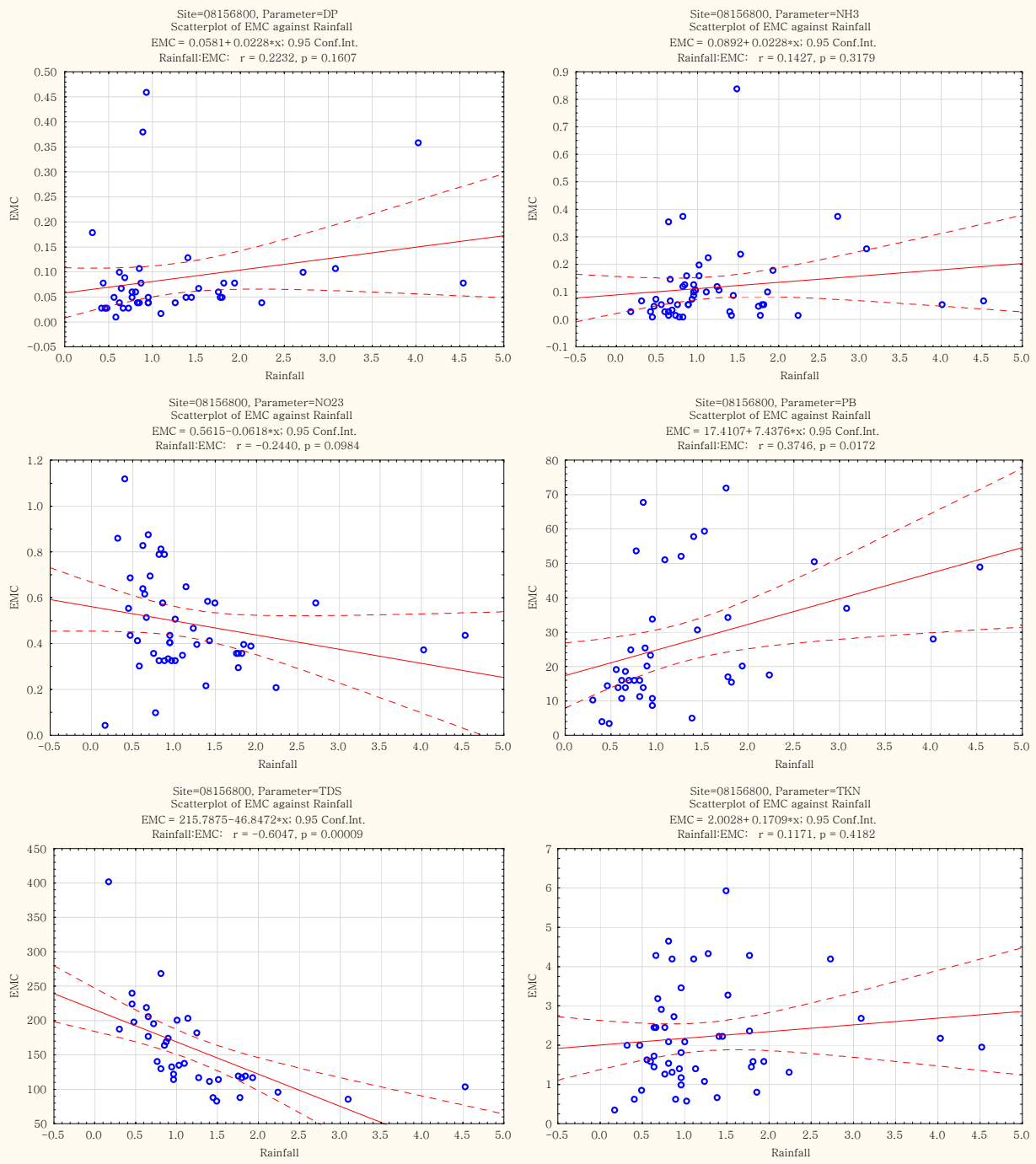

Site=08155300, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0602+ 0.0145*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2826, p = 0.1054
Site=08155300, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 43.0198+ 66.0168*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5182, p = 0.0020
Site=08155300, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 18.414+ 4.2947*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4447, p = 0.0645
Site=08155300, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 5.8914+ 3.9028*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3189, p = 0.1588
Site=08155400, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.2395−0.015*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0862, p = 0.7178
Site=08155400, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 22.2373−0.8374*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0804, p = 0.7361
EMC
Rainfall

Site=08155400, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 2.1661+ 0.0151*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0116, p = 0.9497
Site=08155400, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0275−0.0006*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0247, p = 0.8932
Site=08155400, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0423−0.0044*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1270, p = 0.4887
Site=08155400, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.5191−0.0018*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0069, p = 0.9718
Site=08155400, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 4.6056−0.8418*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.2289, p = 0.2076
Site=08155400, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 202.3942−2.8699*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0497, p = 0.8219
EMC
Rainfall


Site=08155400, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.56+ 0.0741*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1618, p = 0.3846
Site=08155400, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 1.0981+ 0.0606*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1077, p = 0.5640
Site=08155400, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 8.5416+ 0.0819*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0121, p = 0.9476
Site=08155400, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.1089−0.0022*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0265, p = 0.8856
Site=08155400, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 62.8654+ 5.6055*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0666, p = 0.7174
Site=08155400, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 20.5199−3.4188*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3819, p = 0.3505
EMC
Rainfall


Site=08155400, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 13.2799−0.79*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0877, p = 0.6388
EMC
Rainfall


Site=08156800, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 14.728−1.5762*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1293, p = 0.5978
Site=08156800, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.2824+ 0.0342*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1159, p = 0.6692
Site=08156800, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 98.1064−15.3376*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1484, p = 0.5443
Site=08156800, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 10.839+ 2.7994*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3197, p = 0.0573
EMC
Rainfall

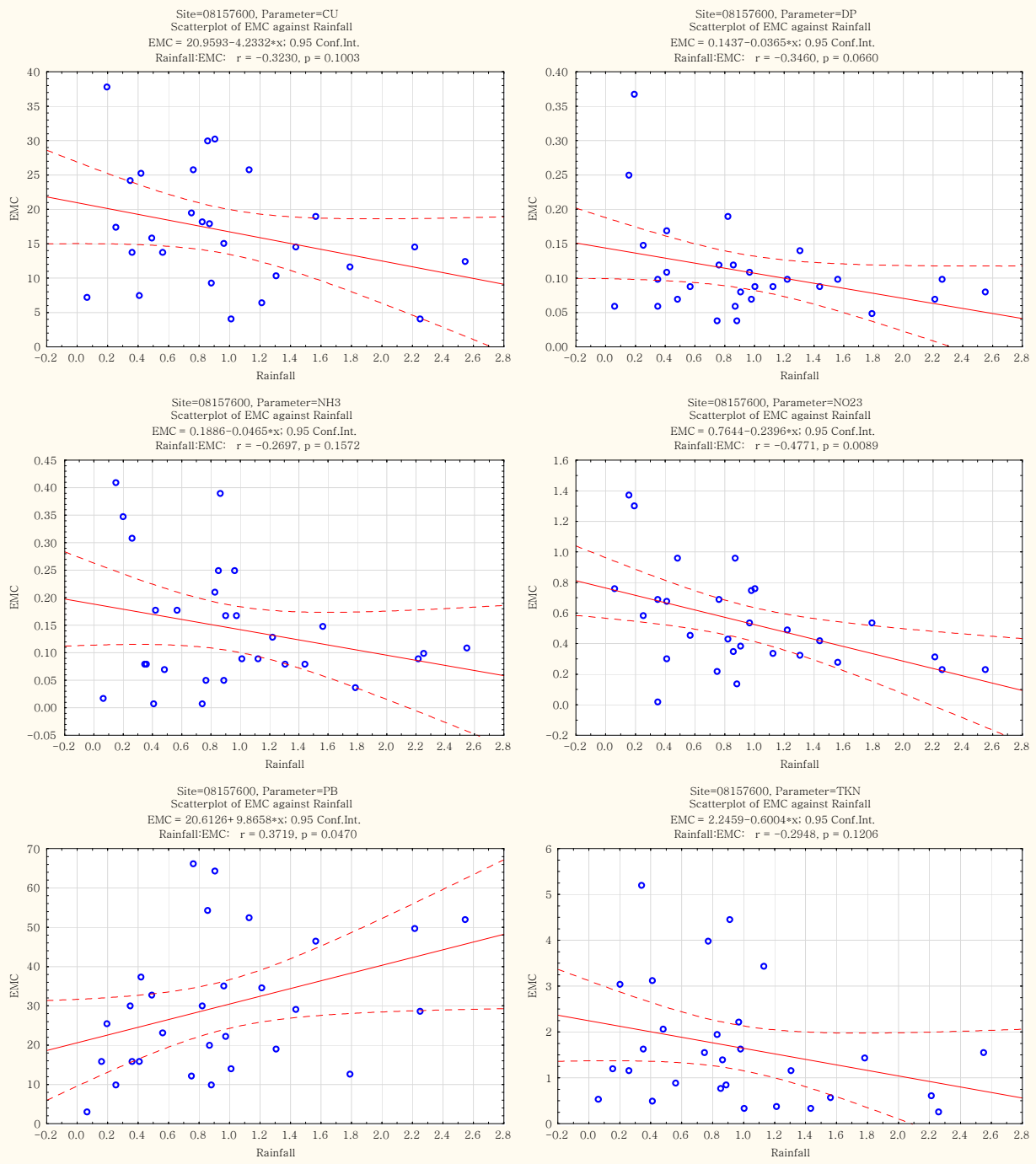

Site=08156800, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0581+ 0.0228*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2232, p = 0.1607
Site=08156800, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0892+ 0.0228*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1427, p = 0.3179
Site=08156800, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.5615−0.0618*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.2440, p = 0.0984
Site=08156800, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 17.4107+ 7.4376*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3746, p = 0.0172
Site=08156800, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 215.7875−46.8472*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.6047, p = 0.00009
Site=08156800, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 2.0028+ 0.1709*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1171, p = 0.4182
EMC
Rainfall

Site=08156800, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.5907+ 0.1029*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0667, p = 0.6452
Site=08156800, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 20.9758+ 3.3892*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2164, p = 0.1396
Site=08156800, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.3974+ 0.2231*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3572, p = 0.0109
Site=08156800, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 521.3418+ 163.582*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1934, p = 0.1738
Site=08156800, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 141.7287+ 20.3277*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0878, p = 0.7050
Site=08156800, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 57.6246+ 23.3051*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3925, p = 0.0179
EMC
Rainfall

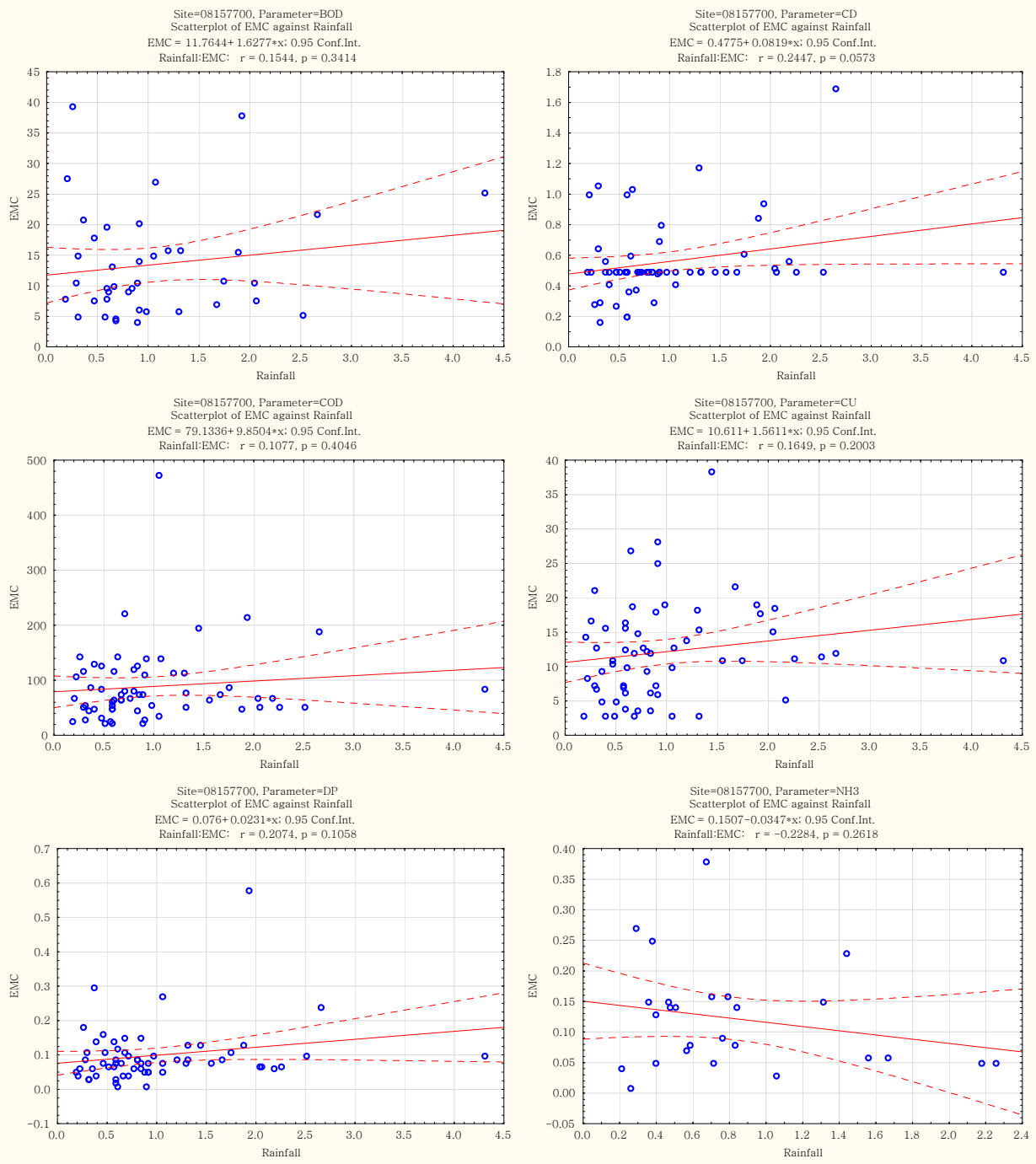
Site=08157500, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 14.2241+ 0.7072*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0397, p = 0.7147
Site=08157500, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.5493−0.0566*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1296, p = 0.2184
Site=08157500, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 83.3803+ 2.4835*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0278, p = 0.7738
Site=08157500, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 33.0612−4.6916*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0975, p = 0.3447
Site=08157500, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.1729−0.0165*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0824, p = 0.4013
Site=08157500, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.1895−0.0127*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0540, p = 0.6616
EMC
Rainfall

Site=08157500, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.8247−0.2505*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.4591, p = 0.00000
Site=08157500, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 26.3047+ 7.3525*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1684, p = 0.1028
Site=08157500, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 194.7427−47.573*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.4897, p = 0.0010
Site=08157500, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.8007+ 0.332*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1402, p = 0.1459
Site=08157500, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.6185+ 0.0893*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0365, p = 0.7067
Site=08157500, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 12.7314−3.161*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3812, p = 0.0017
EMC
Rainfall

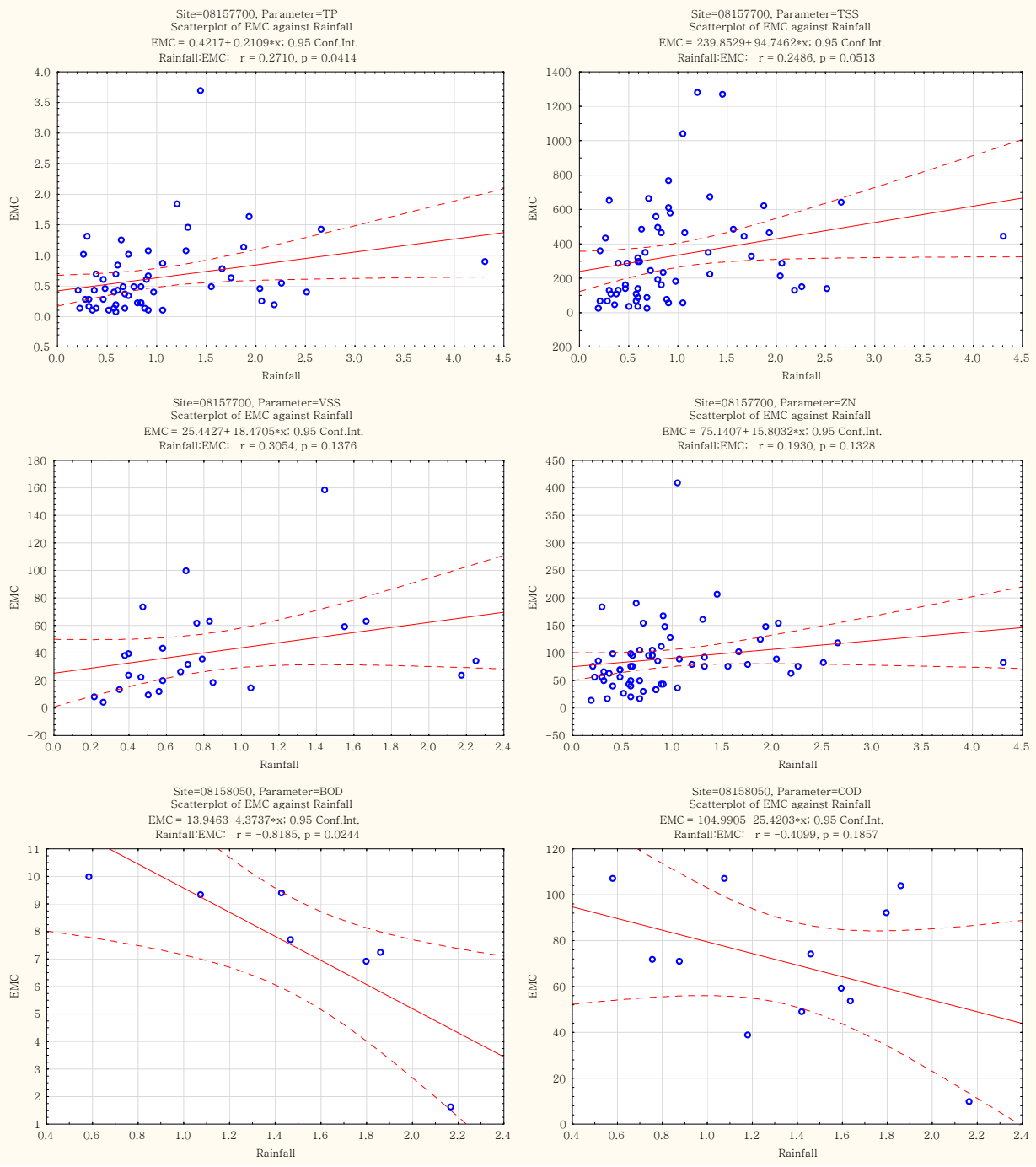
Site=08157500, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.4699+ 0.1099*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1700, p = 0.0860
Site=08157500, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 164.2411+ 85.2847*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2354, p = 0.0151
Site=08157500, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 34.7882+ 18.9495*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2366, p = 0.0598
Site=08157500, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 96.4526+ 10.2366*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0986, p = 0.3420
Site=08157600, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.4026+ 0.0332*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0964, p = 0.6393
Site=08157600, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 102.3646−14.7714*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1591, p = 0.4097
EMC
Rainfall

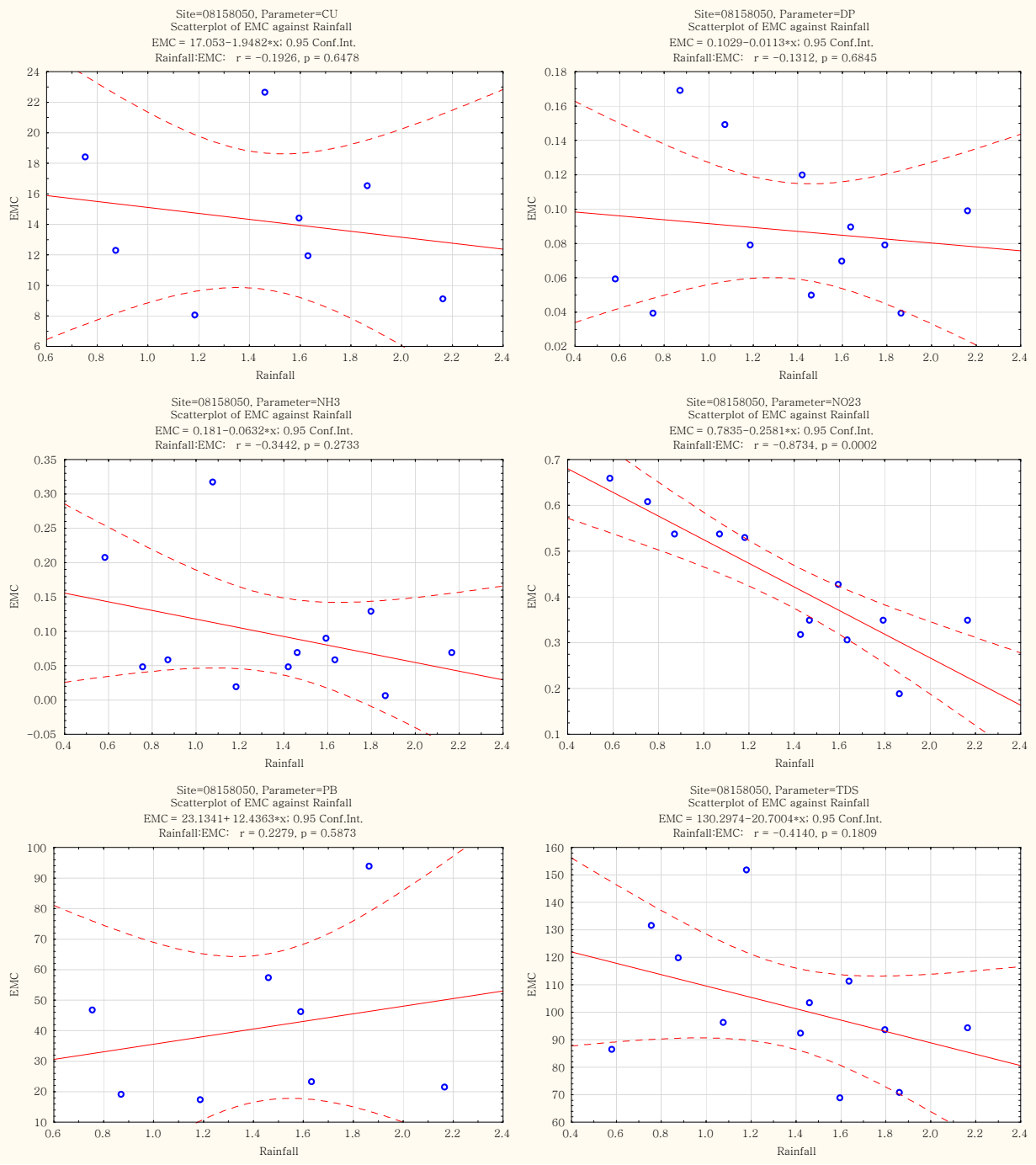

Site=08157600, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 20.9593-4.2332*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.3230, p = 0.1003
Site=08157600, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.1437-0.0365*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.3460, p = 0.0660
Site=08157600, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.1886-0.0465*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.2697, p = 0.1572
Site=08157600, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.7644-0.2396*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.4771, p = 0.0089
Site=08157600, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 20.6126+ 9.8658*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3719, p = 0.0470
Site=08157600, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 2.2459-0.6004*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.2948, p = 0.1206
EMC
Rainfall

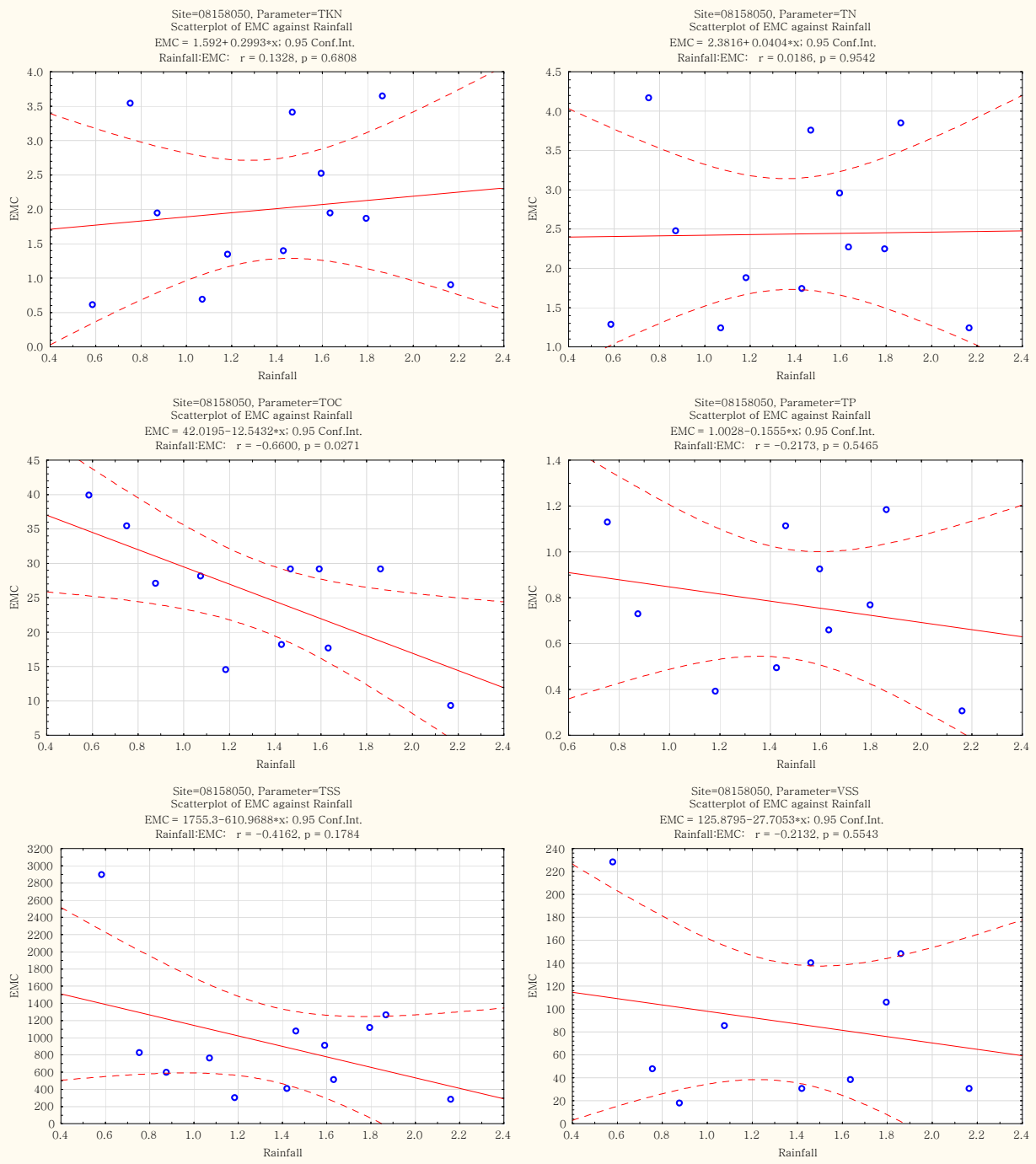
Site=08157600, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 3.0144−0.8408*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3991, p = 0.0320
Site=08157600, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 23.938−9.5157*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.4316, p = 0.0194
Site=08157600, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.4266+ 0.1094*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2080, p = 0.2789
Site=08157600, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 202.4559+ 81.4742*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2374, p = 0.2150
Site=08157600, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 32.9039+ 5.2173*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1531, p = 0.4278
Site=08157600, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 107.222−0.8166*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0102, p = 0.9580
EMC
Rainfall

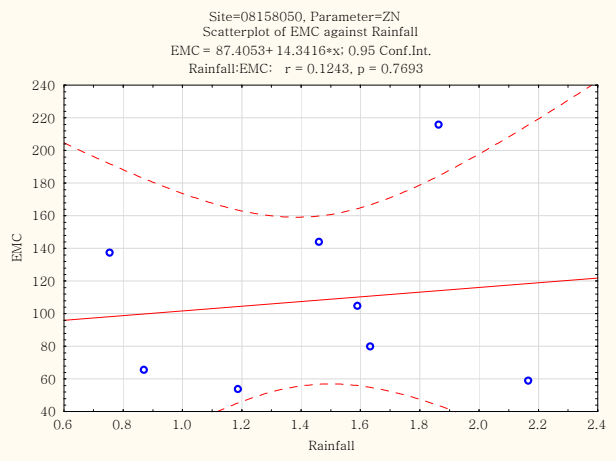

Site=08157700, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 11.7644+ 1.6277*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1544, p = 0.3414
Site=08157700, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.4775+ 0.0819*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2447, p = 0.0573
Site=08157700, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 79.1336+ 9.8504*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1077, p = 0.4046
Site=08157700, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 10.611+ 1.5611*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1649, p = 0.2003
Site=08157700, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.076+ 0.0231*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2074, p = 0.1058
Site=08157700, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.1507−0.0347*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.2284, p = 0.2618
EMC
Rainfall

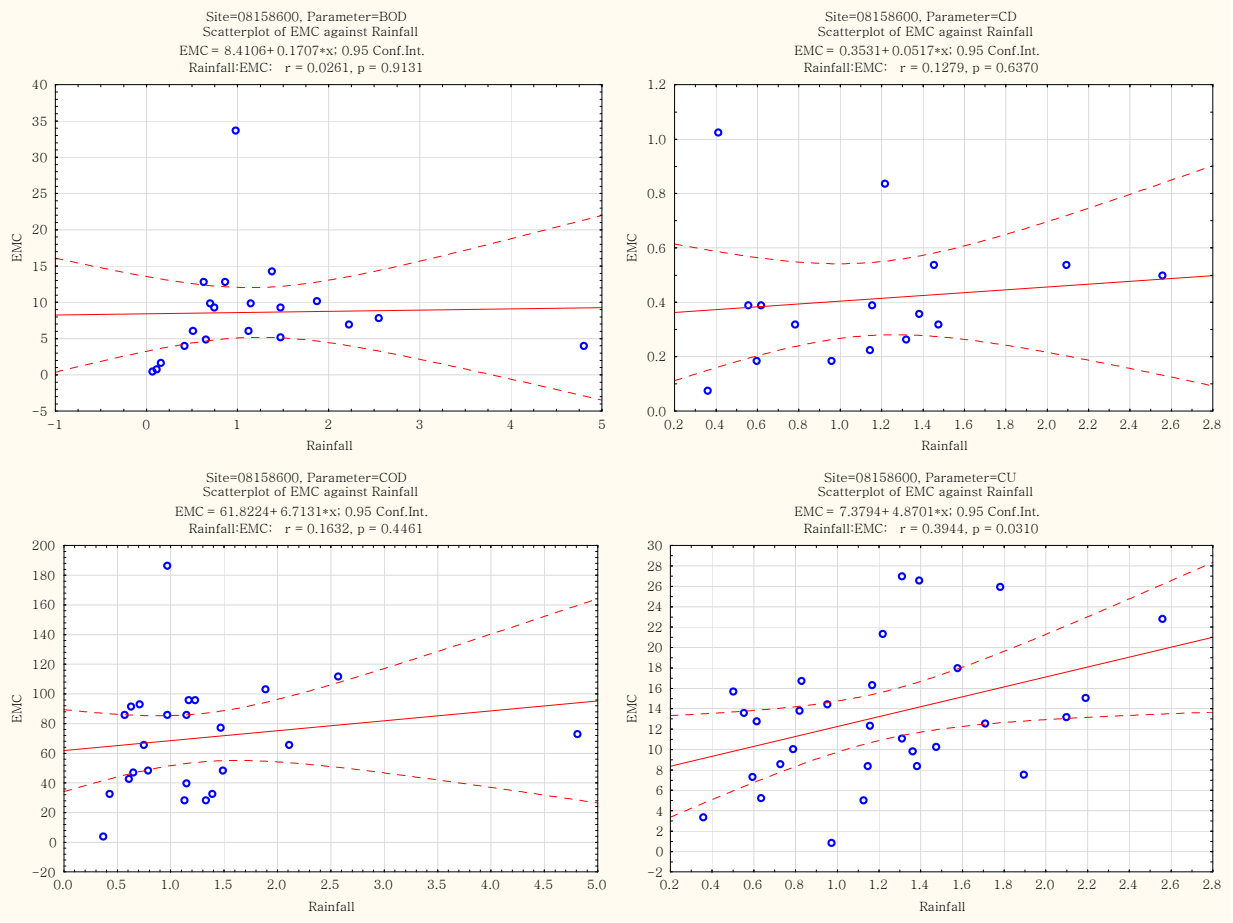
Site=08157700, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.6671−0.117*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3827, p = 0.0021
Site=08157700, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 16.0788+ 6.9595*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3323, p = 0.0083
Site=08157700, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 249.3427−57.5214*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.5152, p = 0.0003
Site=08157700, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.5816+ 0.3816*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2030, p = 0.1136
Site=08157700, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.2532+ 0.2633*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1409, p = 0.2748
Site=08157700, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 16.4443−4.1071*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.2016, p = 0.3340
EMC
Rainfall


Site=08157700, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.4217+ 0.2109*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2710, p = 0.0414
Site=08157700, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 239.8529+ 94.7462*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2486, p = 0.0513
Site=08157700, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 25.4427+ 18.4705*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3054, p = 0.1376
Site=08157700, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 75.1407+ 15.8032*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1930, p = 0.1328
Site=08158050, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 13.9463-4.3737*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.8185, p = 0.0244
Site=08158050, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 104.9905-25.4203*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.4099, p = 0.1857
EMC
Rainfall

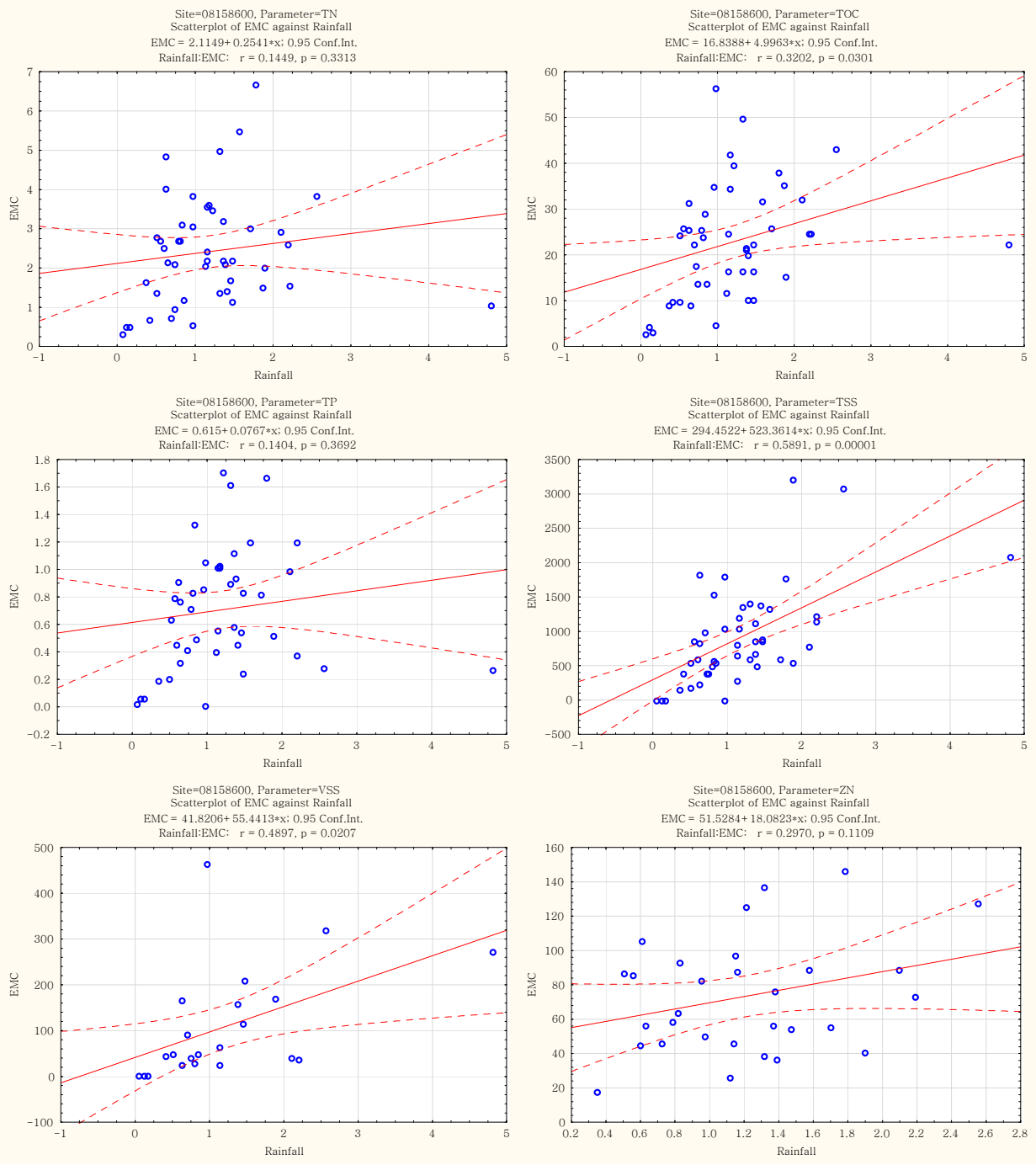

Site=08158050, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 17.053−1.9482*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1926, p = 0.6478
Site=08158050, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.1029−0.0113*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1312, p = 0.6845
Site=08158050, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.181−0.0632*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3442, p = 0.2733
Site=08158050, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.7835−0.2581*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.8734, p = 0.0002
Site=08158050, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 23.1341+ 12.4363*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2279, p = 0.5873
Site=08158050, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 130.2974−20.7004*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.4140, p = 0.1809
EMC
Rainfall

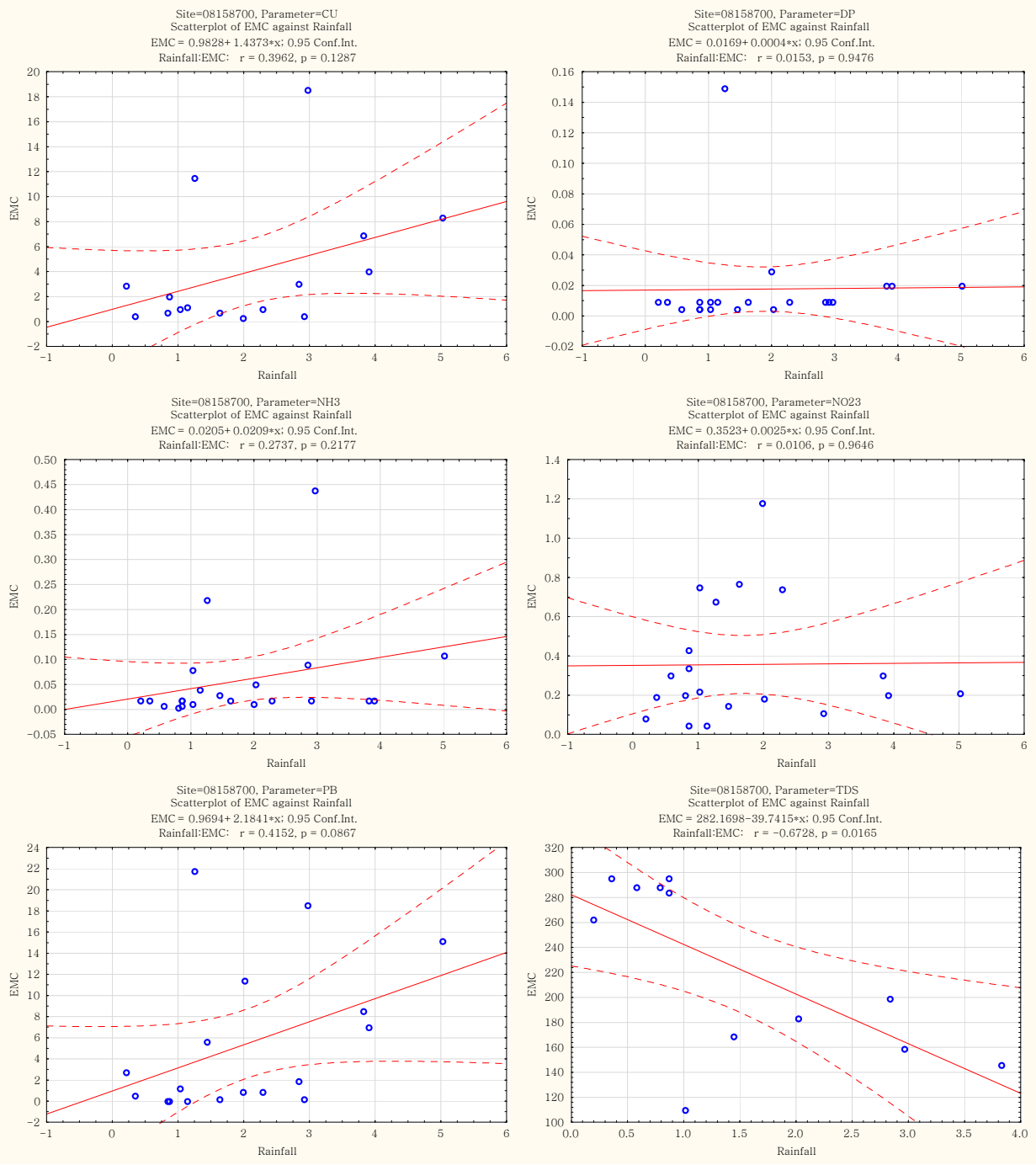

Site=08158050, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.592+0.2993*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1328, p = 0.6808
Site=08158050, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.3816+0.0404*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0186, p = 0.9542
Site=08158050, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 42.0195-12.5432*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.6600, p = 0.0271
Site=08158050, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 1.0028-0.1555*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.2173, p = 0.5465
Site=08158050, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 1755.3-610.9688*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.4162, p = 0.1784
Site=08158050, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 125.8795-27.7053*x; 0.95 Conf.Int.
Rainfall:EMC: r = -0.2132, p = 0.5543
EMC
Rainfall

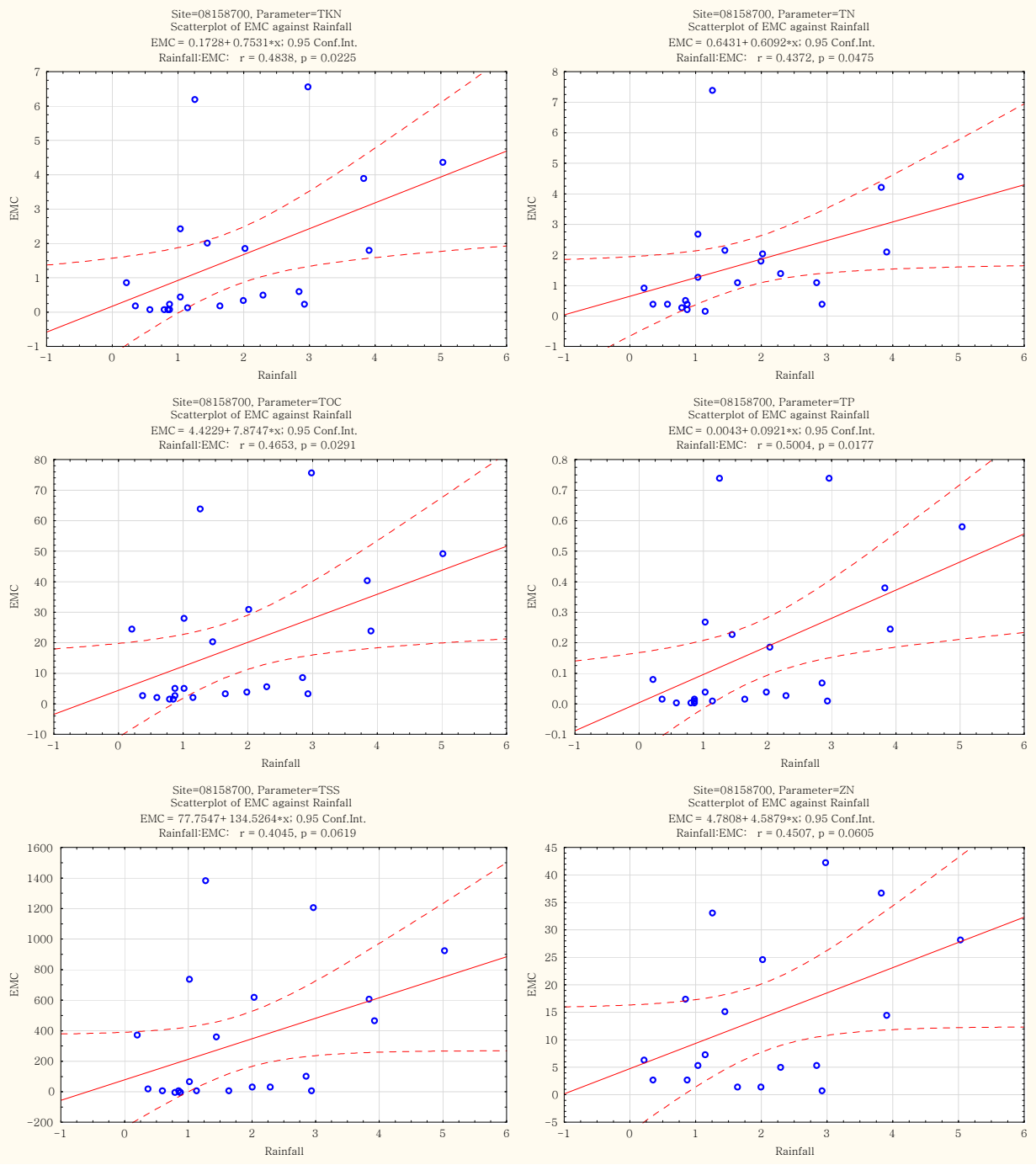

Site=08158050, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 87.4053+ 14.3416*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1243, p = 0.7693
EMC
Rainfall

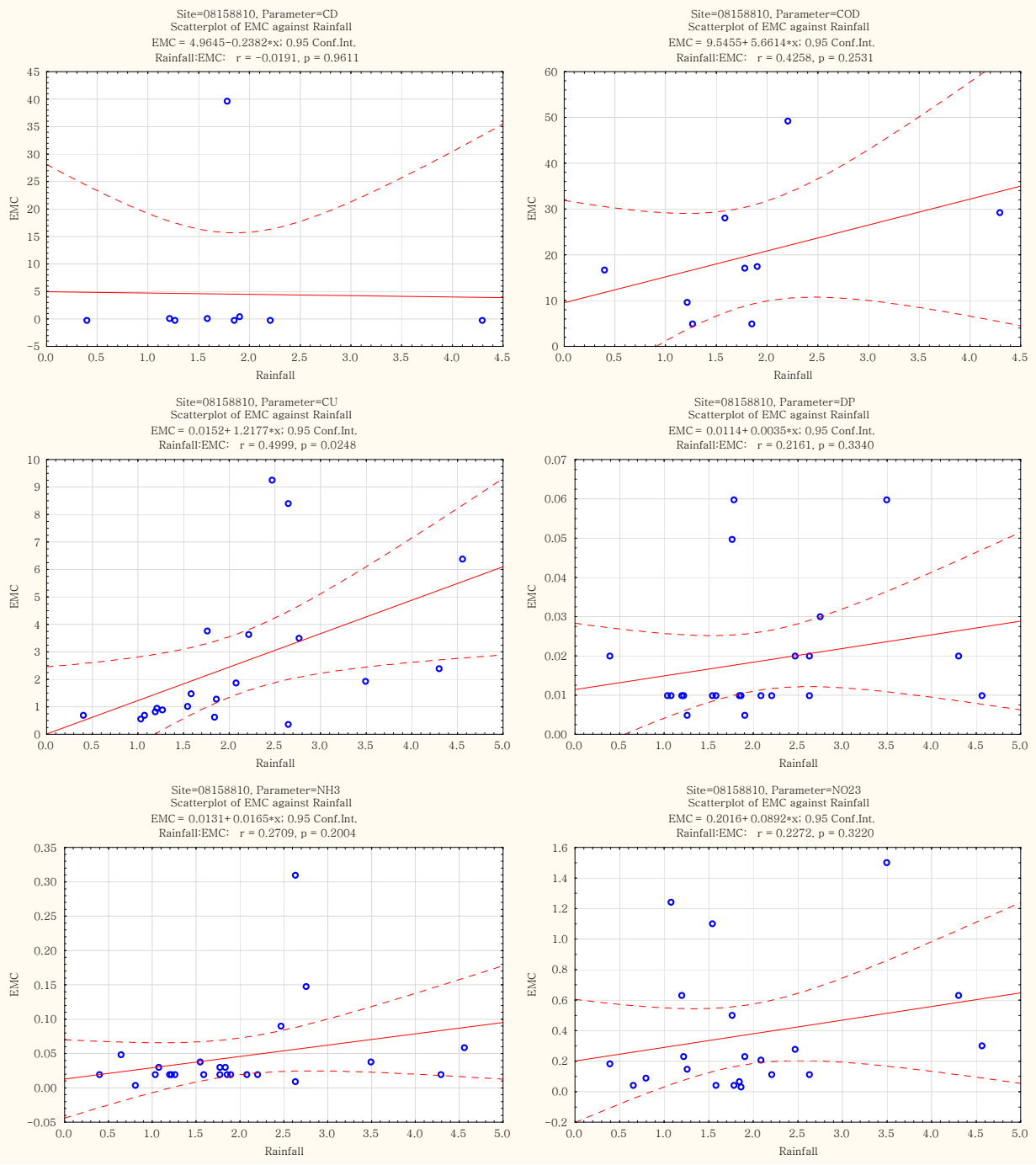

Site=08158600, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 8.4106+ 0.1707*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0261, p = 0.9131
Site=08158600, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.3531+ 0.0517*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1279, p = 0.6370
Site=08158600, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 61.8224+ 6.7131*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1632, p = 0.4461
Site=08158600, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 7.3794+ 4.8701*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3944, p = 0.0310
EMC
Rainfall

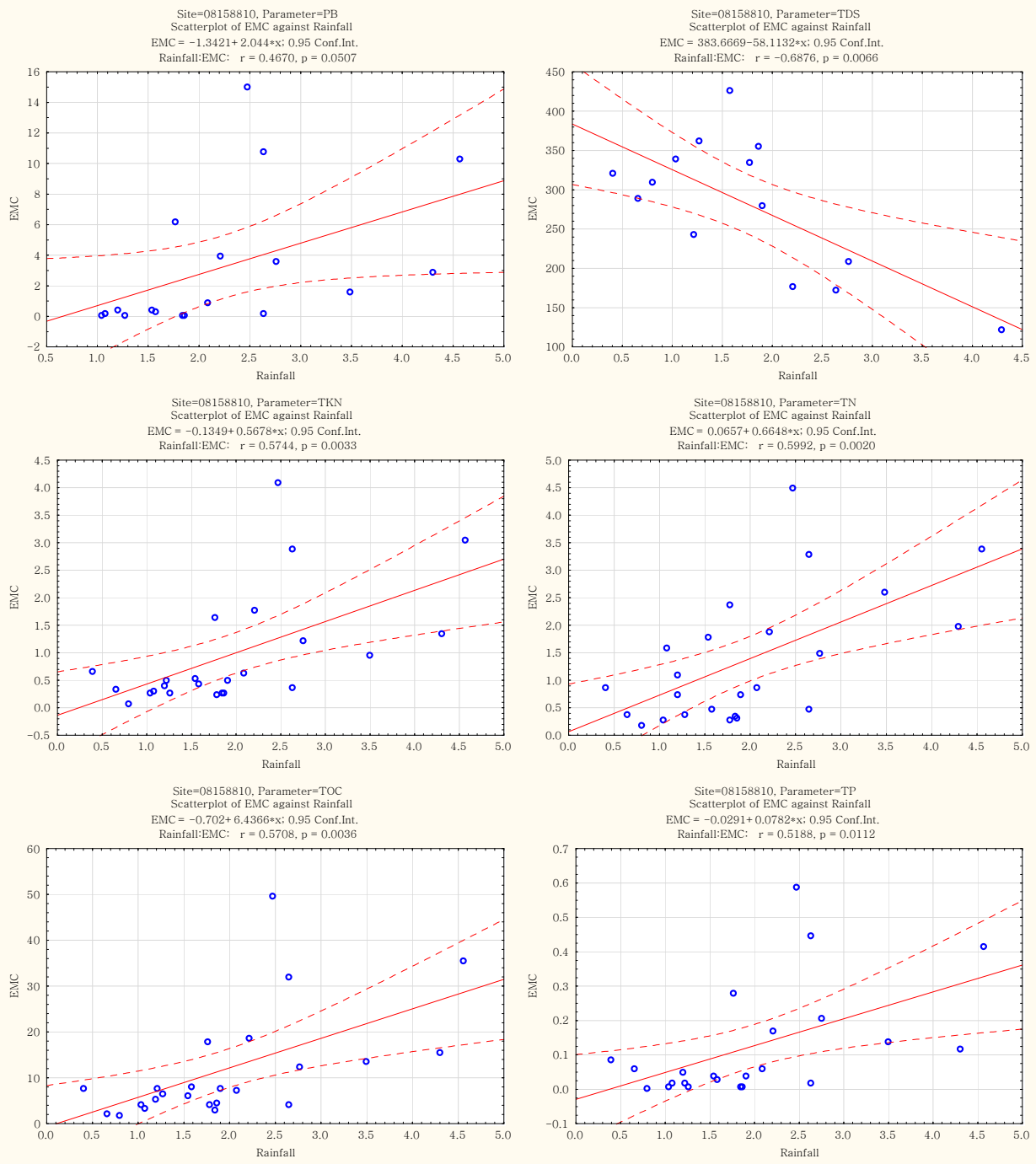
Site=08158600, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0439+ 0.0015*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0237, p = 0.8878
Site=08158600, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.1021+ 0.0168*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0950, p = 0.5254
Site=08158600, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.5368−0.0043*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0108, p = 0.9454
Site=08158600, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 7.6351+ 8.002*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4323, p = 0.0135
Site=08158600, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 241.2201−51.7699*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.6231, p = 0.00005
Site=08158600, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.5587+ 0.244*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1590, p = 0.2858
EMC
Rainfall

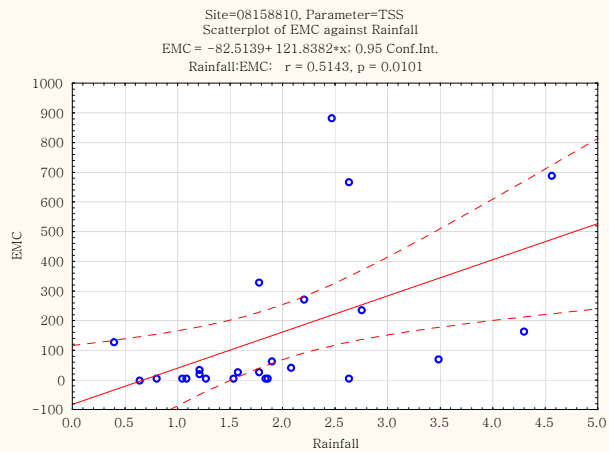

Site=08158600, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.1149+ 0.2541*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1449, p = 0.3313
Site=08158600, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 16.8388+ 4.9963*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3202, p = 0.0301
Site=08158600, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.615+ 0.0767*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1404, p = 0.3692
Site=08158600, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 294.4522+ 523.3614*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5891, p = 0.00001
Site=08158600, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 41.8206+ 55.4413*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4897, p = 0.0207
Site=08158600, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 51.5284+ 18.0823*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2970, p = 0.1109
EMC
Rainfall

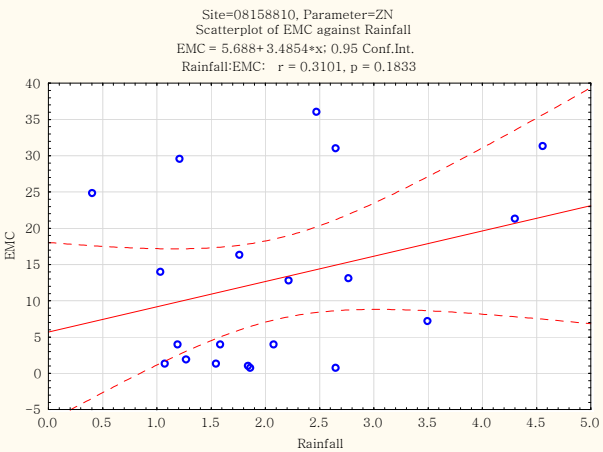

Site=08158700, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 0.9828+ 1.4373*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3962, p = 0.1287
Site=08158700, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0169+ 0.0004*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0153, p = 0.9476
Site=08158700, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0205+ 0.0209*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2737, p = 0.2177
Site=08158700, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.3523+ 0.0025*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0106, p = 0.9646
Site=08158700, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 0.9694+ 2.1841*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4152, p = 0.0867
Site=08158700, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 282.1698−39.7415*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.6728, p = 0.0165
EMC
Rainfall

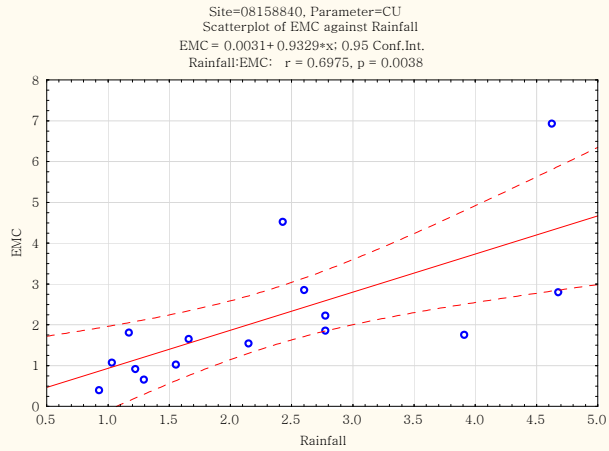

Site=08158700, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.1728+ 0.7531*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4838, p = 0.0225
Site=08158700, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.6431+ 0.6092*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4372, p = 0.0475
Site=08158700, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 4.4229+ 7.8747*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4653, p = 0.0291
Site=08158700, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0043+ 0.0921*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5004, p = 0.0177
Site=08158700, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 77.7547+ 134.5264*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4045, p = 0.0619
Site=08158700, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 4.7808+ 4.5879*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4507, p = 0.0605
EMC
Rainfall

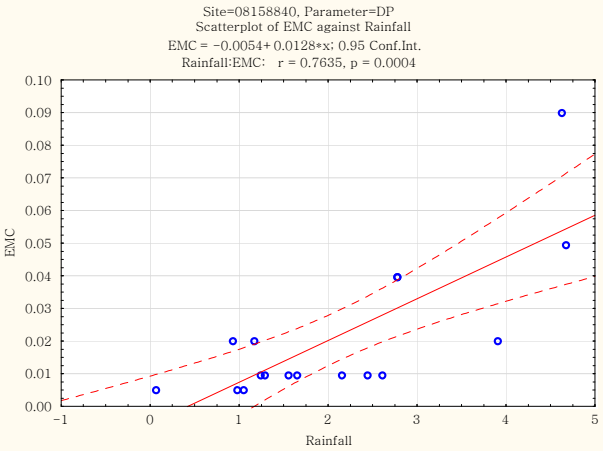

Site=08158810, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 4.9645−0.2382*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0191, p = 0.9611
Site=08158810, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 9.5455+ 5.6614*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4258, p = 0.2531
Site=08158810, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 0.0152+ 1.2177*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4999, p = 0.0248
Site=08158810, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0114+ 0.0035*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2161, p = 0.3340
Site=08158810, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0131+ 0.0165*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2709, p = 0.2004
Site=08158810, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.2016+ 0.0892*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2272, p = 0.3220
EMC
Rainfall

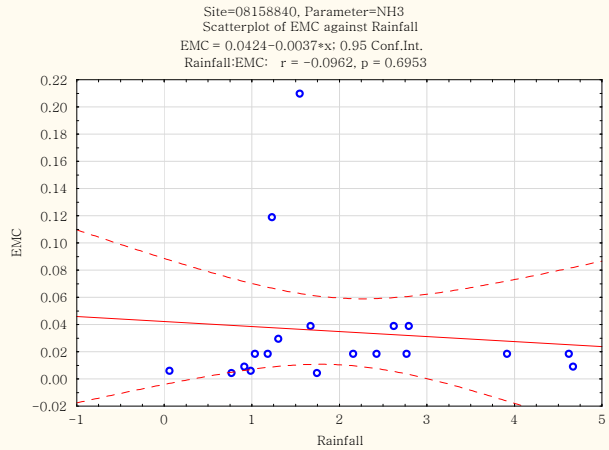

Site=08158810, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = −1.3421+ 2.044*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4670, p = 0.0507
Site=08158810, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 383.6669−58.1132*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.6876, p = 0.0066
Site=08158810, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = −0.1349+ 0.5678*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5744, p = 0.0033
Site=08158810, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.0657+ 0.6648*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5992, p = 0.0020
Site=08158810, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = −0.702+ 6.4366*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5708, p = 0.0036
Site=08158810, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = −0.0291+ 0.0782*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5188, p = 0.0112
EMC
Rainfall

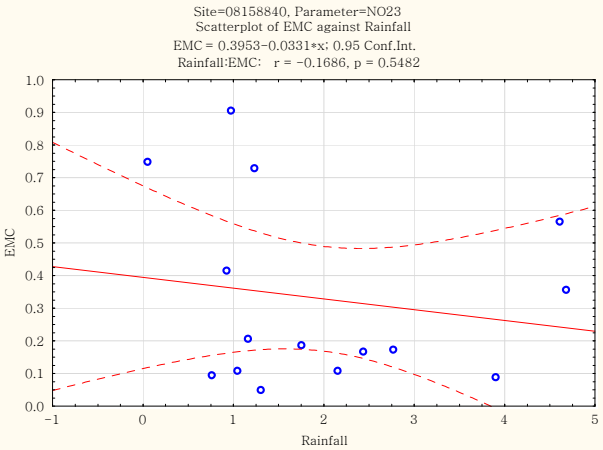

Site=08158810, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = −82.5139+ 121.8382*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5143, p = 0.0101
EMC
Rainfall

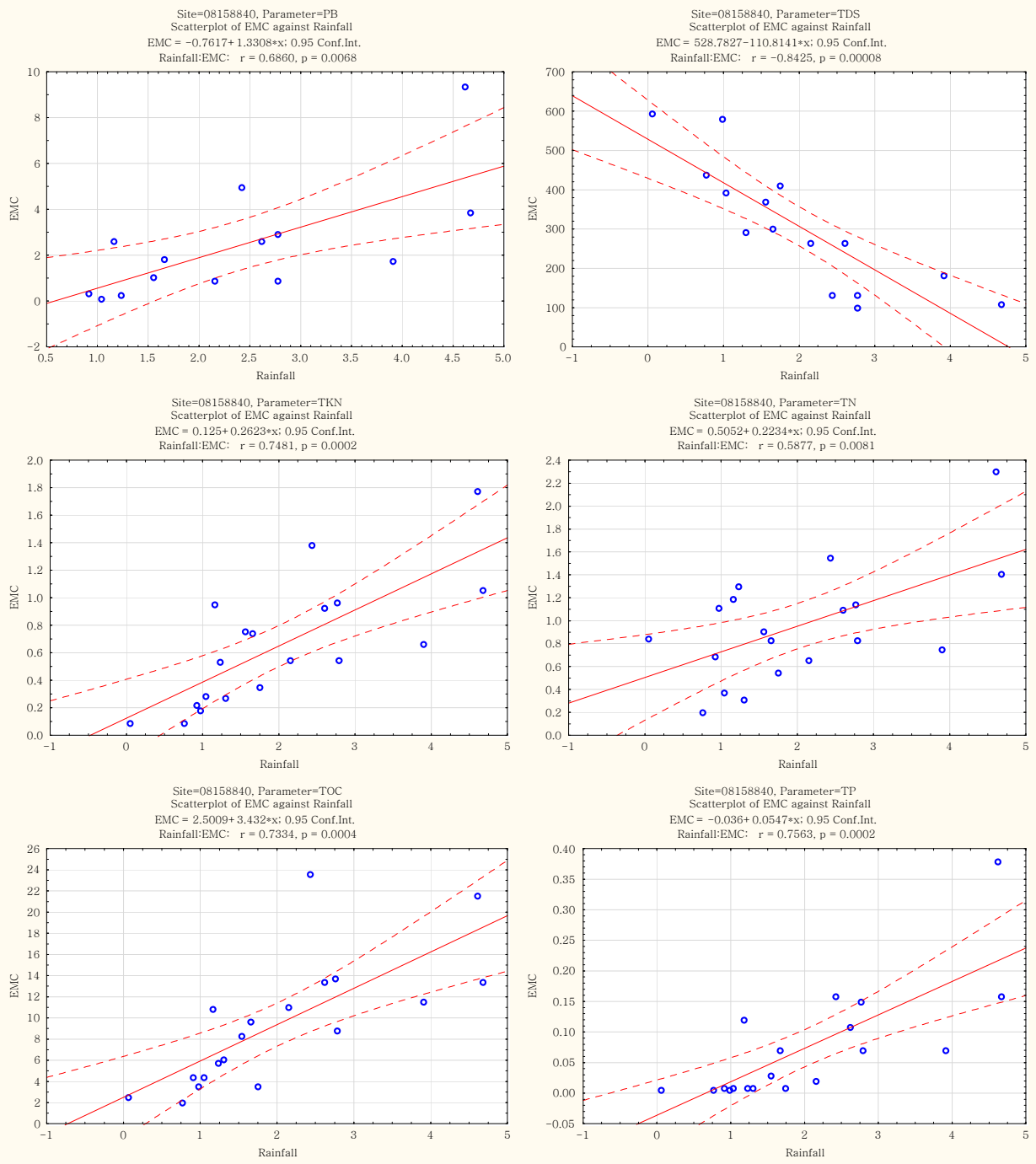

Site=08158810, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 5.688+ 3.4854*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3101, p = 0.1833
EMC
Rainfall

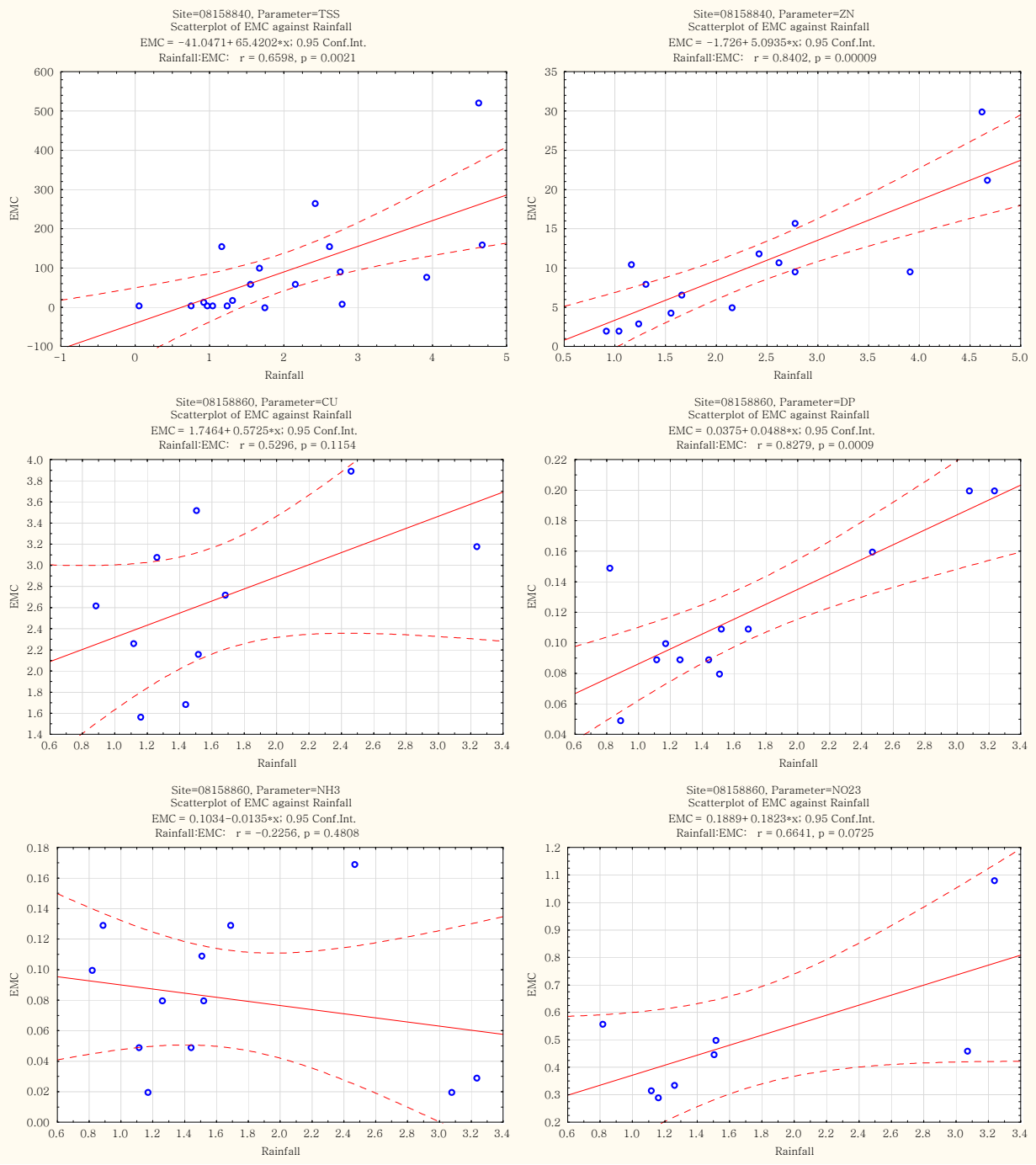

Site=08158840, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 0.0031+ 0.9329*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6975, p = 0.0038
EMC
Rainfall

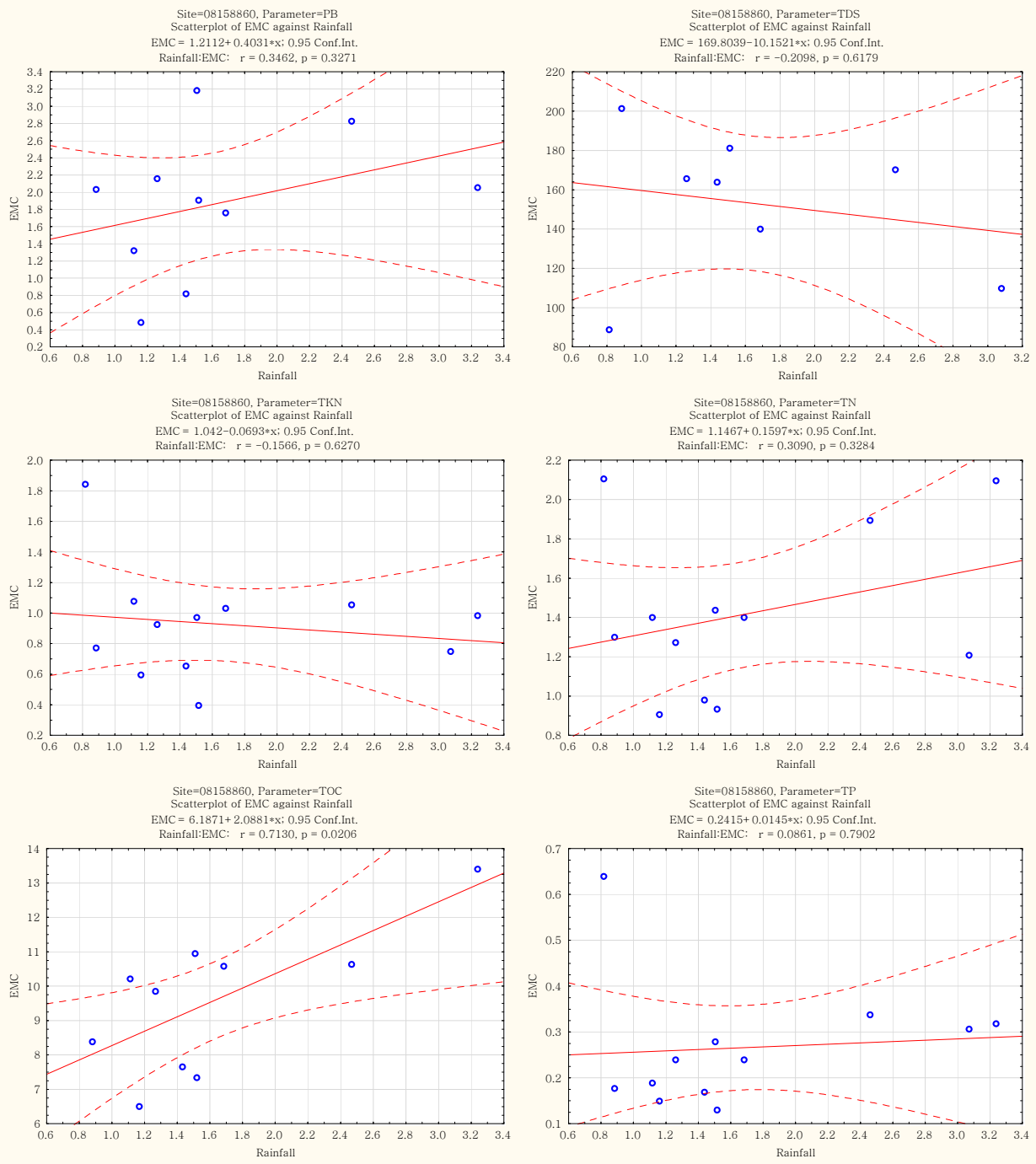

Site=08158840, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = −0.0054+ 0.0128*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7635, p = 0.0004
EMC
Rainfall

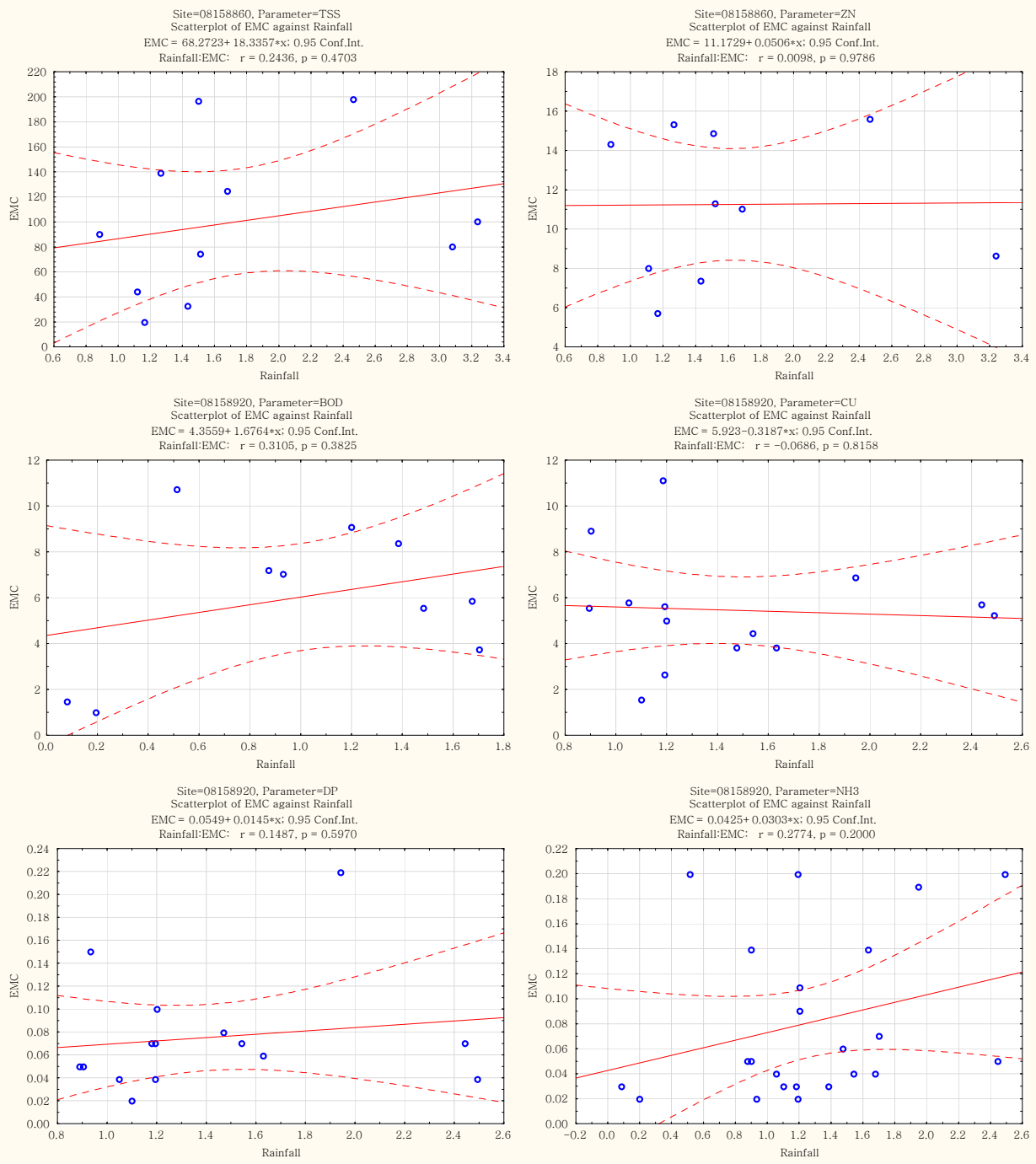

Site=08158840, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0424−0.0037*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0962, p = 0.6953
EMC
Rainfall

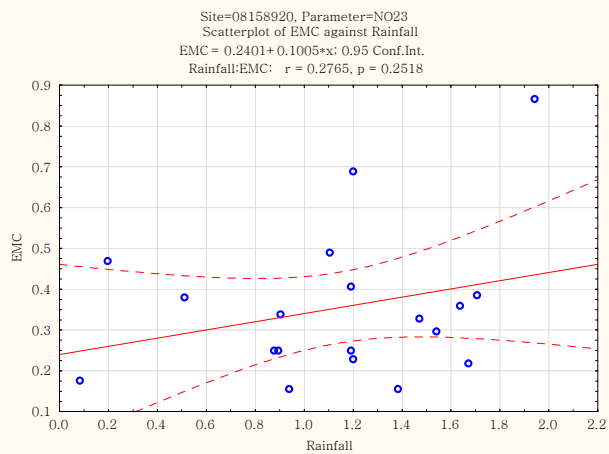

Site=08158840, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.3953−0.0331*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1686, p = 0.5482
EMC
Rainfall

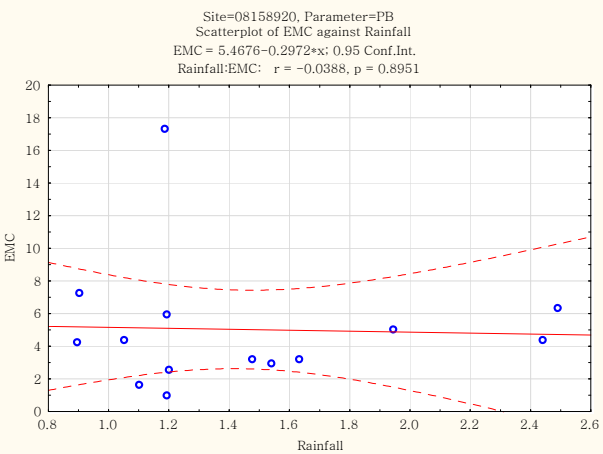

Site=08158840, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = −0.7617+ 1.3308*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6860, p = 0.0068
Site=08158840, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 528.7827−110.8141*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.8425, p = 0.00008
Site=08158840, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.125+ 0.2623*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7481, p = 0.0002
Site=08158840, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.5052+ 0.2234*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5877, p = 0.0081
Site=08158840, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 2.5009+ 3.432*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7334, p = 0.0004
Site=08158840, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = −0.036+ 0.0547*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7563, p = 0.0002
EMC
Rainfall

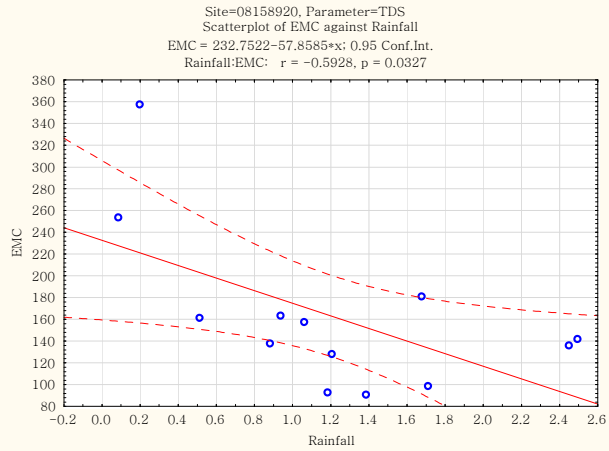

Site=08158840, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = −41.0471+ 65.4202*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6598, p = 0.0021
EMC
Rainfall
Site=08158840, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = −1.726+ 5.0935*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.8402, p = 0.00009
EMC
Rainfall
Site=08158860, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 1.7464+ 0.5725*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5296, p = 0.1154
EMC
Rainfall
Site=08158860, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0375+ 0.0488*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.8279, p = 0.0009
EMC
Rainfall
Site=08158860, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.1034−0.0135*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.2256, p = 0.4808
EMC
Rainfall
Site=08158860, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.1889+ 0.1823*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6641, p = 0.0725
EMC
Rainfall

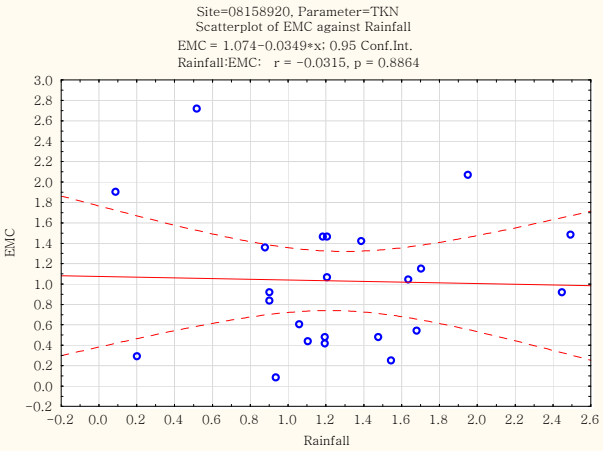

Site=08158860, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 1.2112+0.4031*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3462, p = 0.3271
Site=08158860, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 169.8039−10.1521*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.2098, p = 0.6179
Site=08158860, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.042−0.0693*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1566, p = 0.6270
Site=08158860, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 1.1467+0.1597*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3090, p = 0.3284
Site=08158860, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 6.1871+2.0881*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7130, p = 0.0206
Site=08158860, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.2415+0.0145*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0861, p = 0.7902
EMC
Rainfall

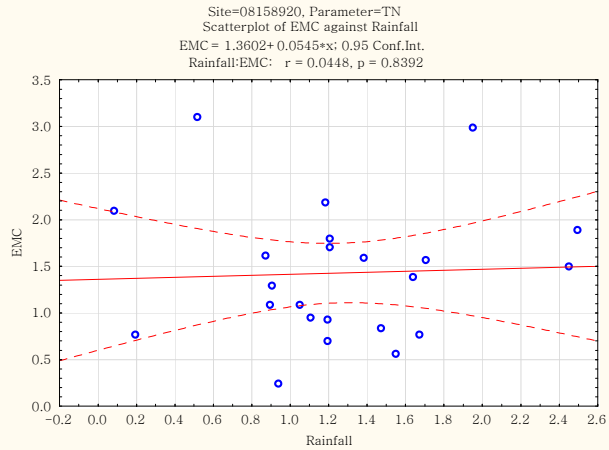

Site=08158860, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 68.2723+ 18.3357*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2436, p = 0.4703
Site=08158860, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 11.1729+ 0.0506*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0098, p = 0.9786
Site=08158920, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 4.3559+ 1.6764*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3105, p = 0.3825
Site=08158920, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 5.923−0.3187*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0686, p = 0.8158
Site=08158920, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0549+ 0.0145*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1487, p = 0.5970
Site=08158920, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0425+ 0.0303*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2774, p = 0.2000
EMC
Rainfall

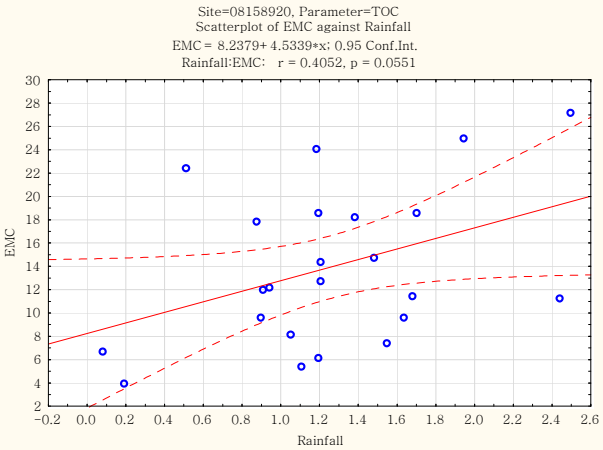

Site=08158920, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.2401+ 0.1005*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2765, p = 0.2518
EMC
Rainfall

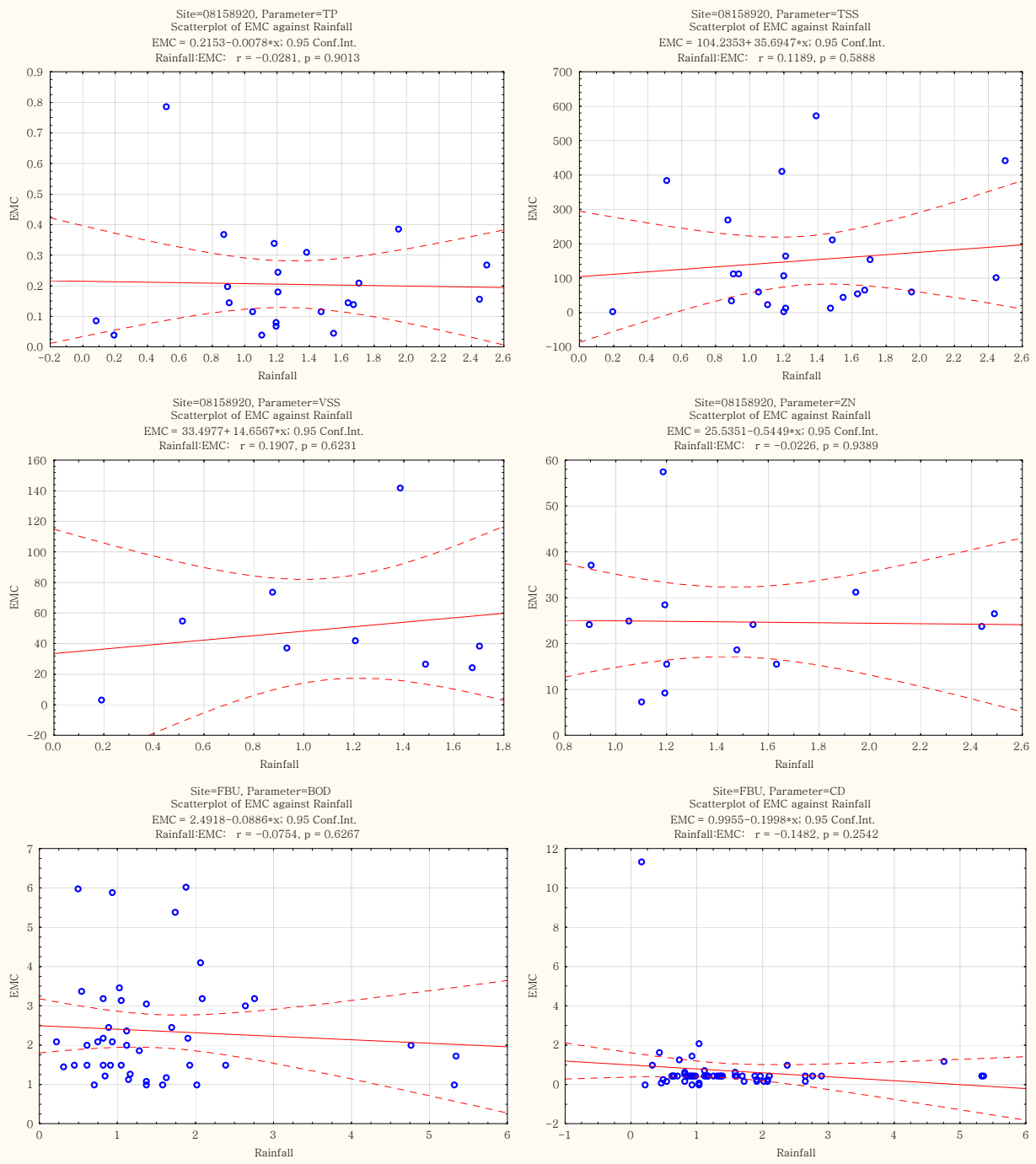

Site=08158920, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 5.4676−0.2972*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0388, p = 0.8951
EMC
Rainfall


Site=08158920, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 232.7522−57.8585*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.5928, p = 0.0327
EMC
Rainfall


Site=08158920, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.074−0.0349*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0315, p = 0.8864
EMC
Rainfall


Site=08158920, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 1.3602+ 0.0545*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0448, p = 0.8392
EMC
Rainfall

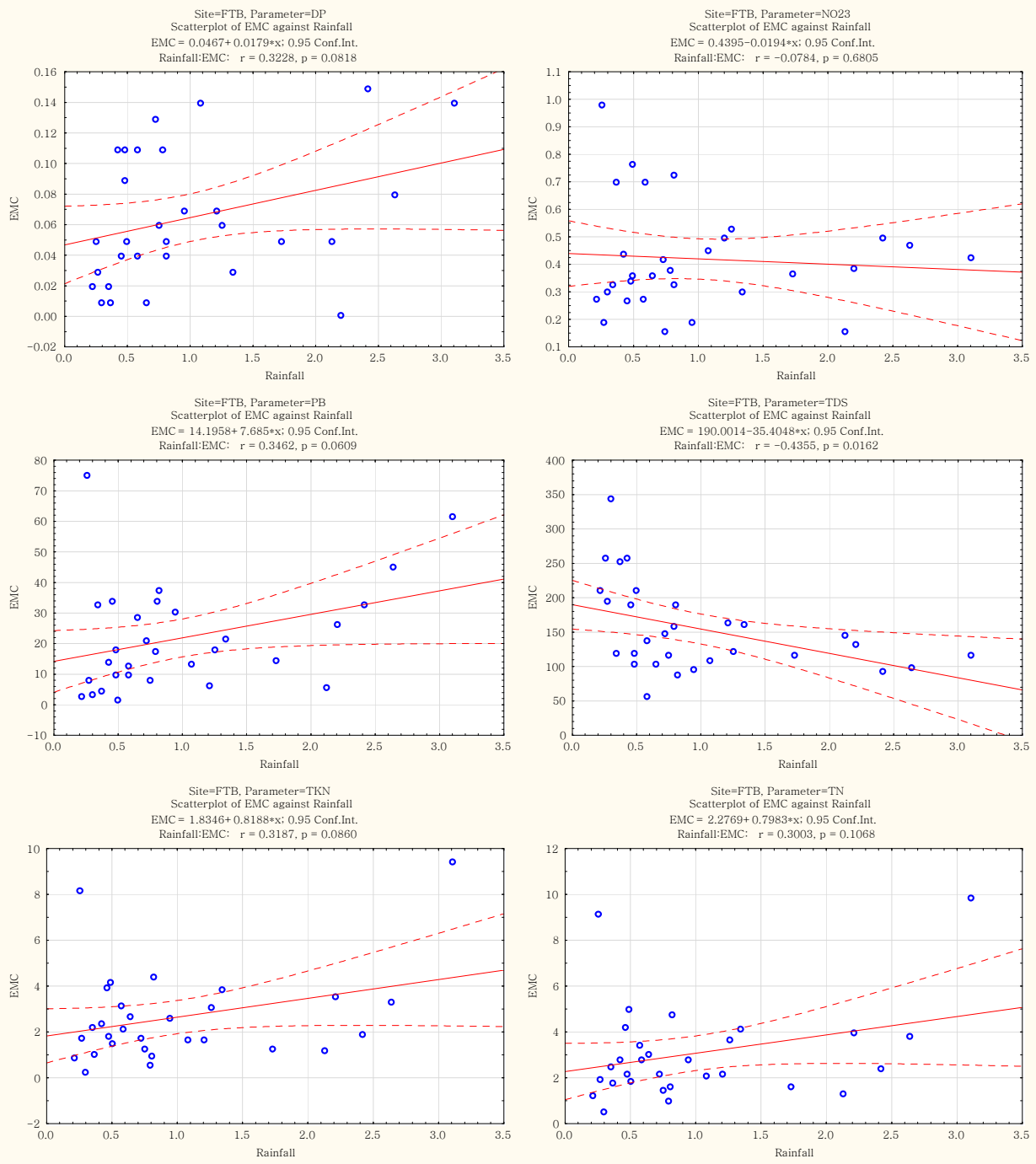

Site=08158920, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 8.2379+ 4.5339*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4052, p = 0.0551
EMC
Rainfall

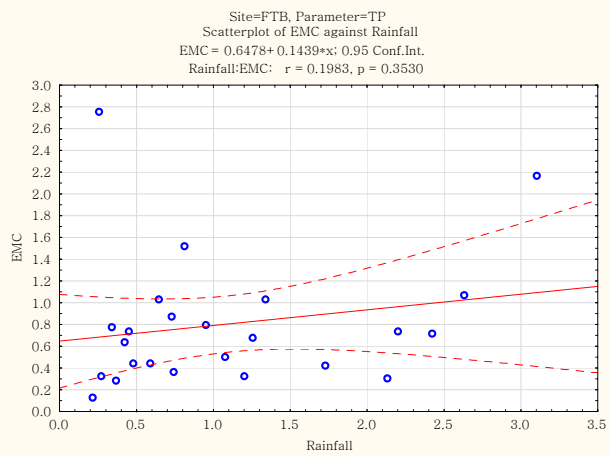

Site=08158920, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.2153−0.0078*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0281, p = 0.9013
Site=08158920, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 104.2353+ 35.6947*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1189, p = 0.5888
Site=08158920, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 33.4977+ 14.6567*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1907, p = 0.6231
Site=08158920, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 25.5351−0.5449*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0226, p = 0.9389
Site=FBU, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 2.4918−0.0886*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0754, p = 0.6267
Site=FBU, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.9955−0.1998*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1482, p = 0.2542
EMC
Rainfall

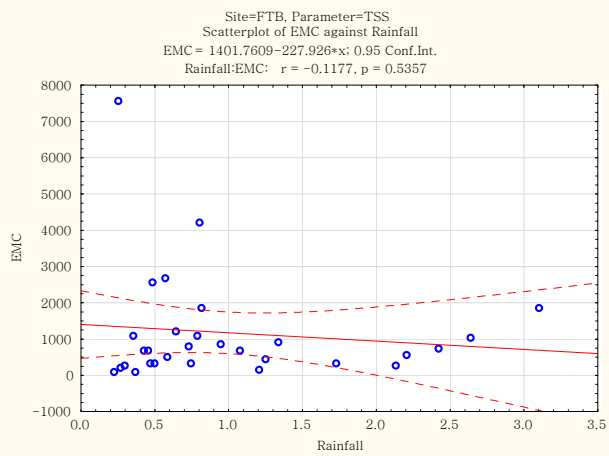
Site=FBU, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 17.1337+ 4.6403*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1799, p = 0.1617
Site=FBU, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 4.4434−0.021*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0050, p = 0.9691
Site=FBU, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0194+ 0.005*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1587, p = 0.2259
Site=FBU, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0401−0.0002*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0080, p = 0.9611
Site=FBU, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.2937+ 0.0311*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1256, p = 0.3308
Site=FBU, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 2.2508+ 1.3509*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2259, p = 0.0775
EMC
Rainfall

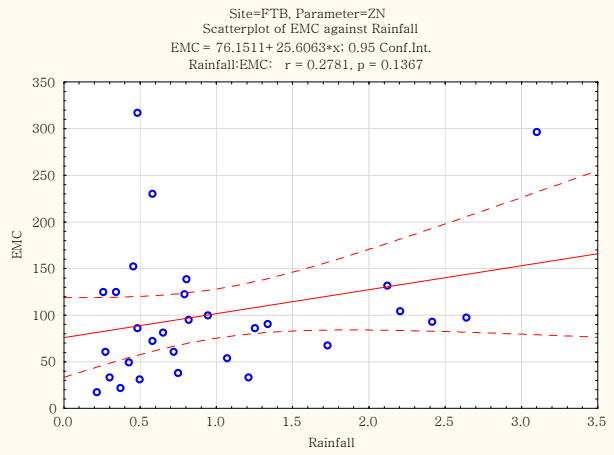
Site=FBU, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 365.4906−38.4124*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.7286, p = 0.00008
EMC
Rainfall
Site=FBU, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.336+ 0.2054*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2895, p = 0.0225
EMC
Rainfall
Site=FBU, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.6339+ 0.2371*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2767, p = 0.0295
EMC
Rainfall
Site=FBU, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 5.0309+ 0.2653*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1092, p = 0.5080
EMC
Rainfall
Site=FBU, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.1333+ 0.0242*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0851, p = 0.5218
EMC
Rainfall
Site=FBU, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = −62.6932+ 120.8179*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4215, p = 0.0008
EMC
Rainfall

Site=FBU, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 10.932+ 2.0187*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1162, p = 0.4873
Site=FBU, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 17.3483+ 1.9393*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0900, p = 0.4868
Site=FTB, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 16.0596+ 0.3681*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0314, p = 0.8717
Site=FTB, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.3464+ 0.0858*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2555, p = 0.1894
Site=FTB, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 70.1558+ 33.5237*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3956, p = 0.0305
Site=FTB, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 8.7836+ 4.1286*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4170, p = 0.0219
EMC
Rainfall

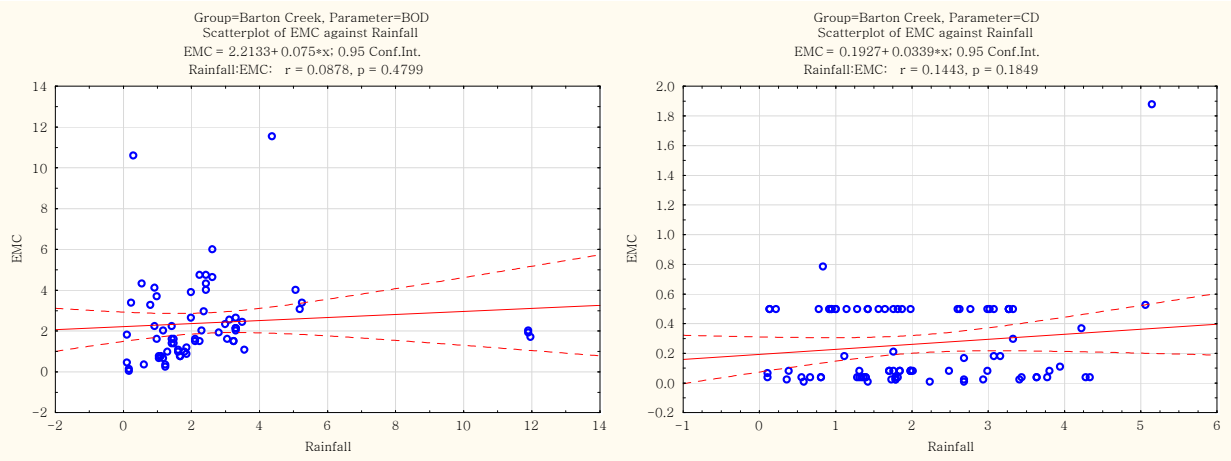

Site=FTB, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0467+ 0.0179*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3228, p = 0.0818
Site=FTB, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.4395−0.0194*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0784, p = 0.6805
Site=FTB, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 14.1958+ 7.685*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3462, p = 0.0609
Site=FTB, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 190.0014−35.4048*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.4355, p = 0.0162
Site=FTB, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.8346+ 0.8188*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3187, p = 0.0860
Site=FTB, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.2769+ 0.7983*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3003, p = 0.1068
EMC
Rainfall

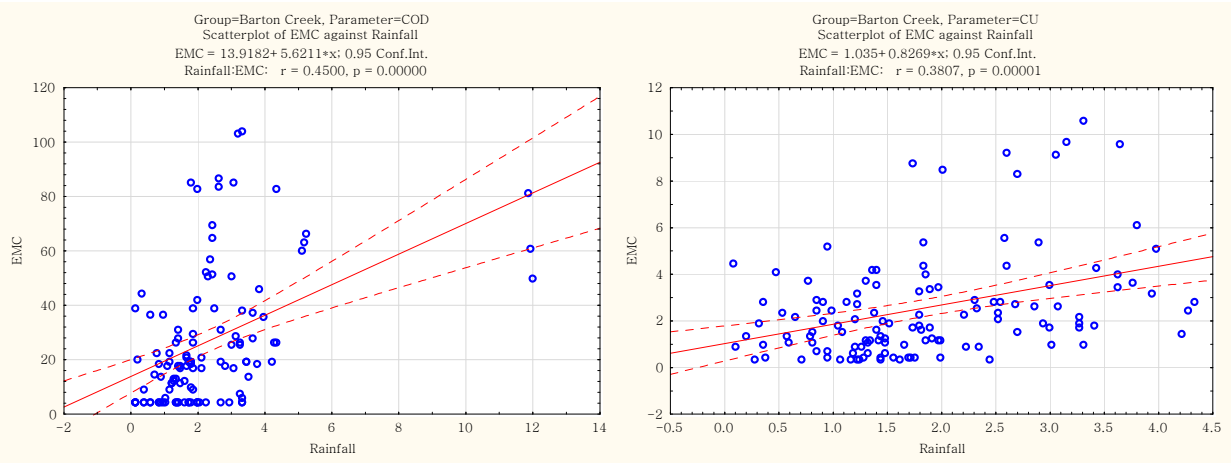

Site=FTB, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.6478+ 0.1439*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1983, p = 0.3530
EMC
Rainfall

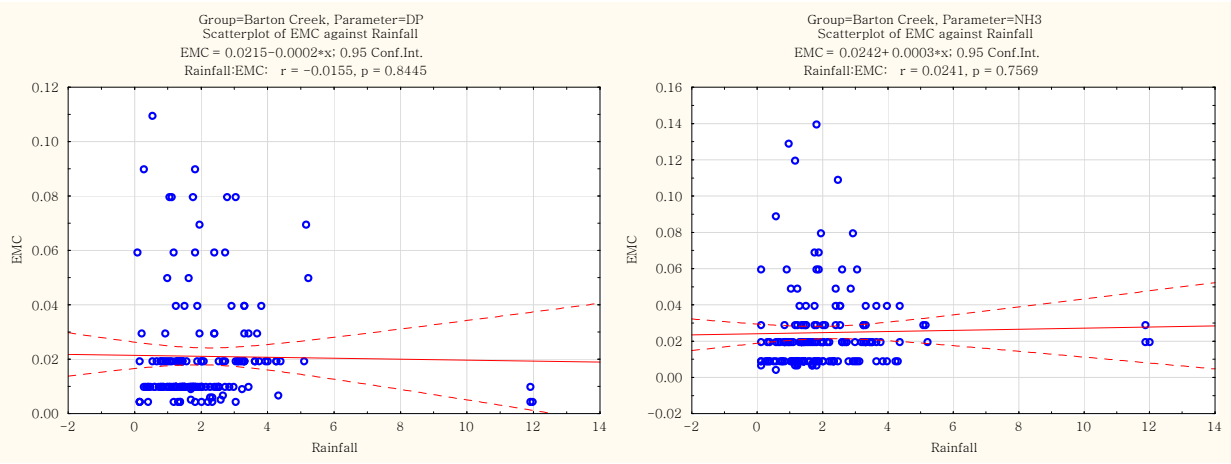

Site=FTB, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 1401.7609−227.926*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1177, p = 0.5357
EMC
Rainfall

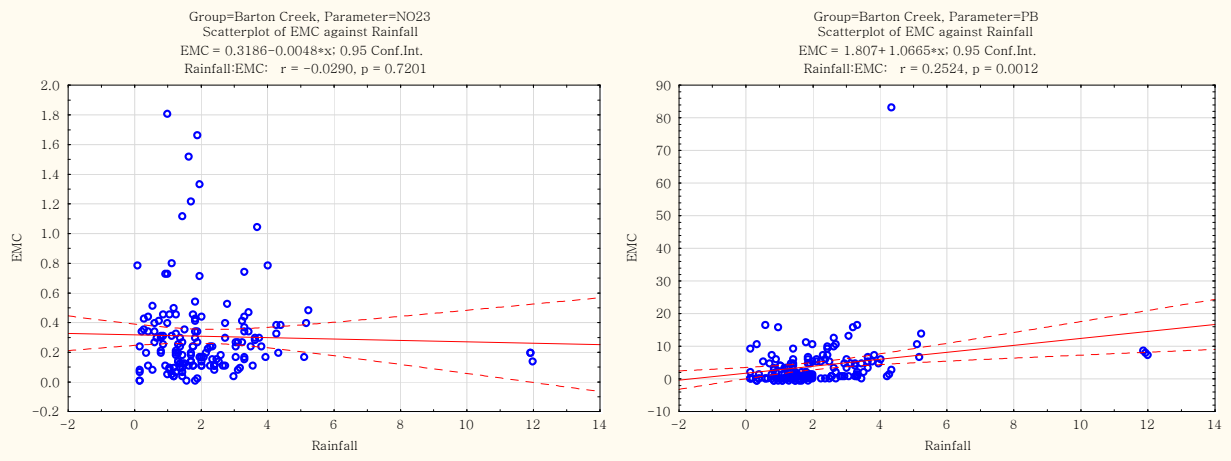

Site=FTB, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 76.1511+ 25.6063*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2781, p = 0.1367
EMC
Rainfall

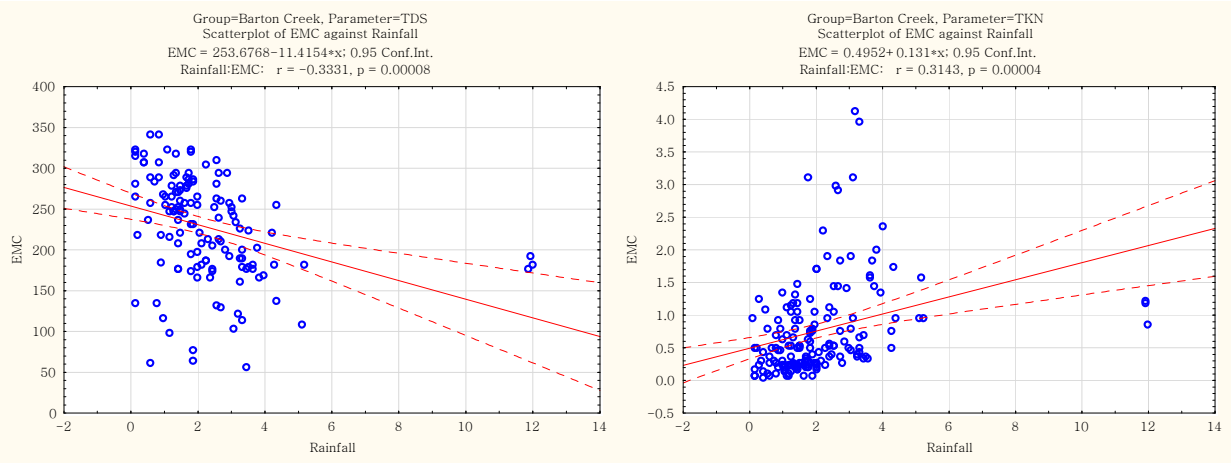
Appendix J Figures of Relationships between EMCs and Rainfall for All Groups

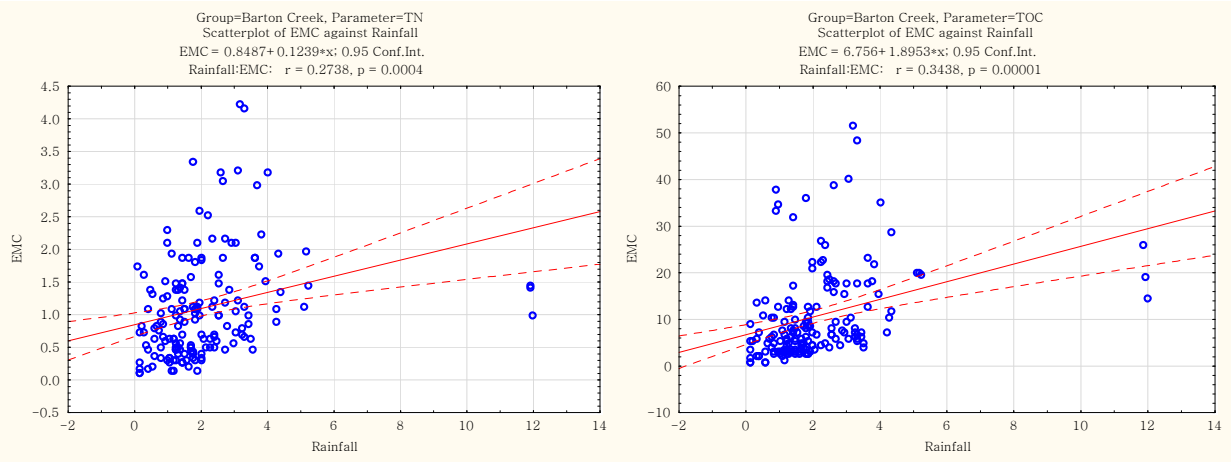


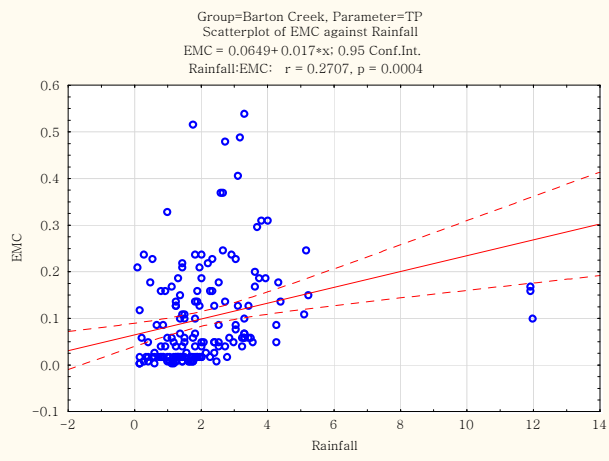


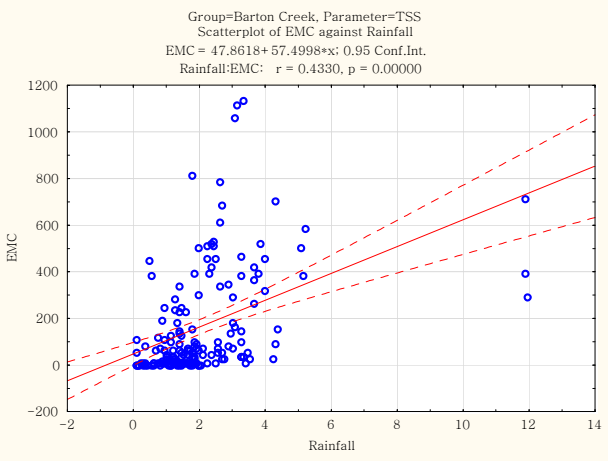


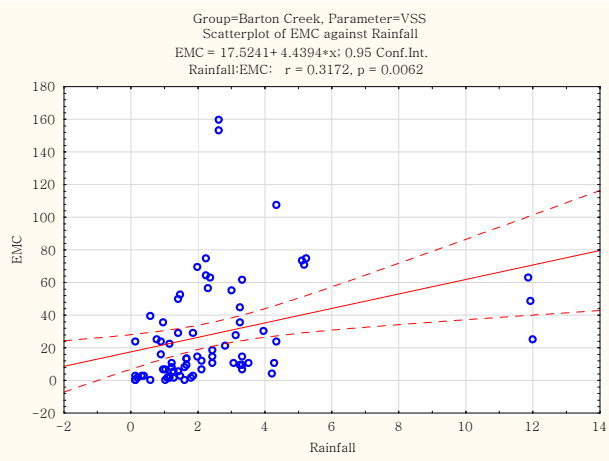

Group=Barton Creek, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.3186−0.0048*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0290, p = 0.7201
EMC
Rainfall
Group=Barton Creek, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 1.807+ 1.0665*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2524, p = 0.0012
EMC
Rainfall

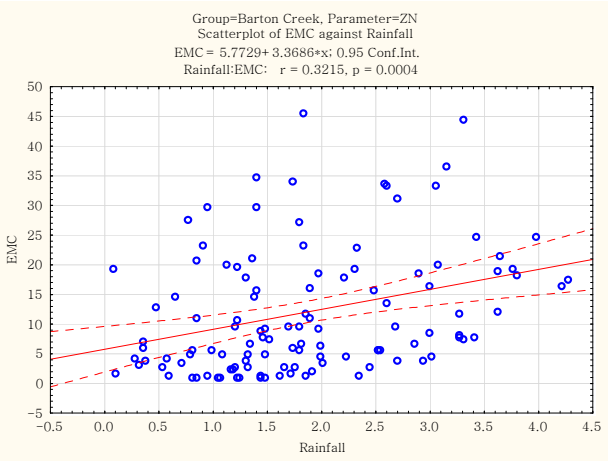

Group=Barton Creek, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 253.6768−11.4154*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3331, p = 0.00008
EMC
Rainfall
Group=Barton Creek, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.4952+ 0.131*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3143, p = 0.00004
EMC
Rainfall

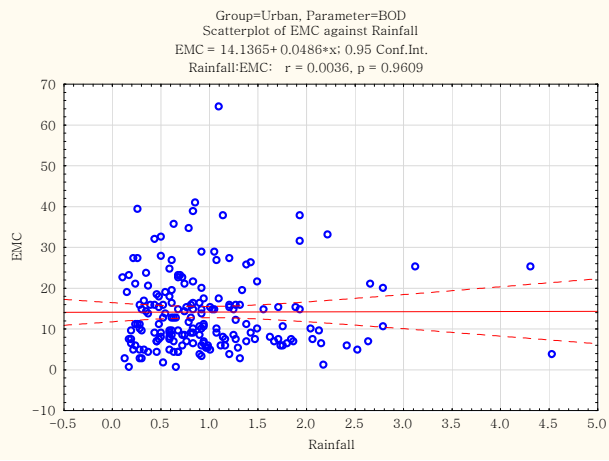

Group=Barton Creek, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.8487+ 0.1239*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2738, p = 0.0004
EMC
Rainfall
Group=Barton Creek, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 6.756+ 1.8953*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3438, p = 0.00001
EMC
Rainfall

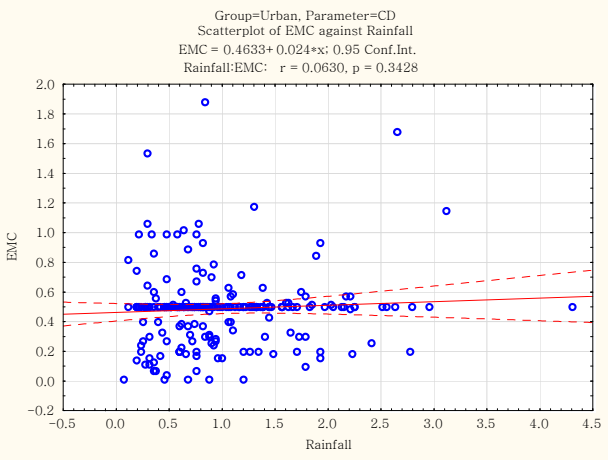

Group=Barton Creek, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0649+ 0.017*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2707, p = 0.0004
EMC
Rainfall

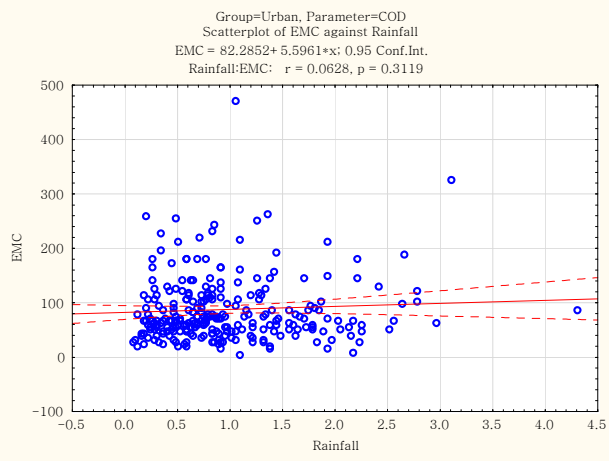

Group=Barton Creek, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 47.8618+ 57.4998*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4330, p = 0.00000
EMC
Rainfall

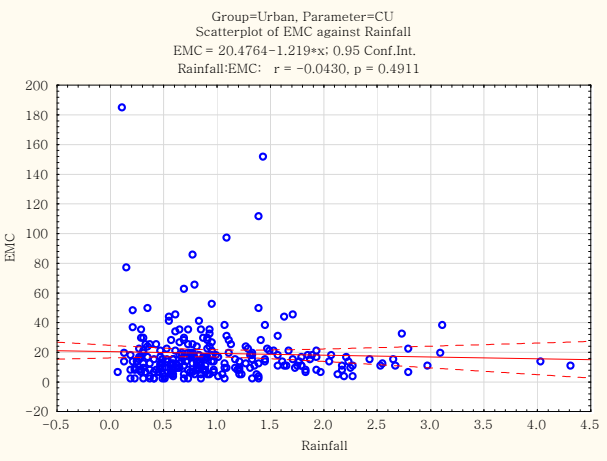

Group=Barton Creek, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 17.5241+ 4.4394*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3172, p = 0.0062
EMC
Rainfall

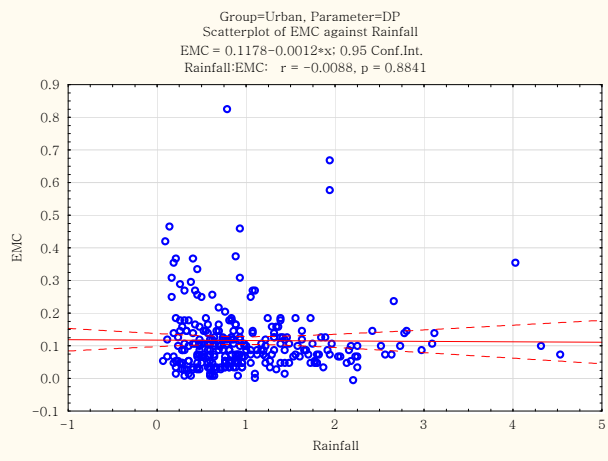

Group=Barton Creek, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 5.7729+ 3.3686*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3215, p = 0.0004
EMC
Rainfall

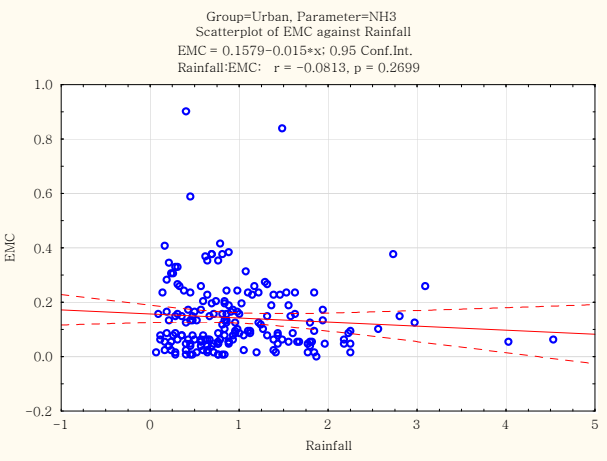

Group=Urban, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 14.1365+ 0.0486*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0036, p = 0.9609
EMC
Rainfall

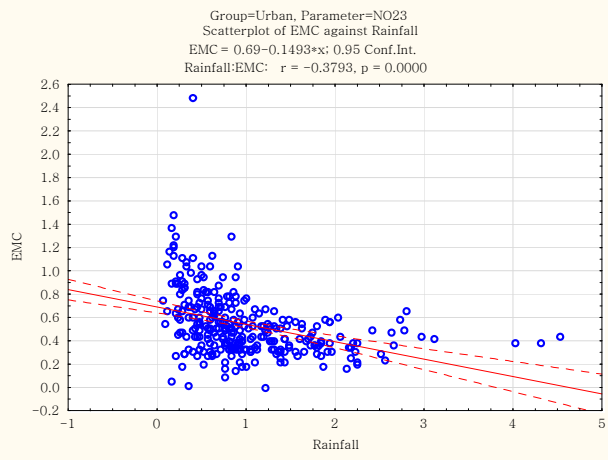

Group=Urban, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.4633+ 0.024*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0630, p = 0.3428
EMC
Rainfall

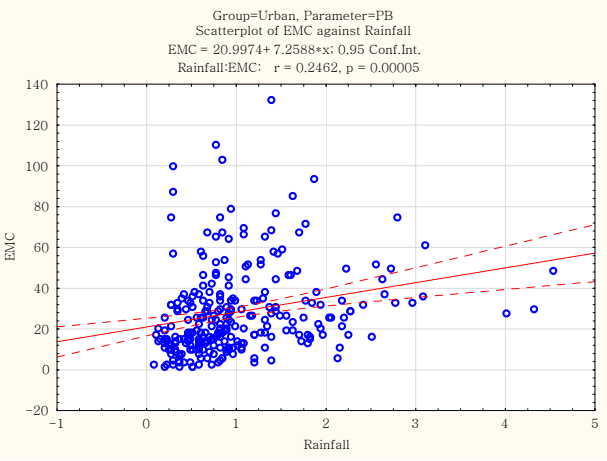

Group=Urban, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 82.2852+ 5.5961*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0628, p = 0.3119
EMC
Rainfall

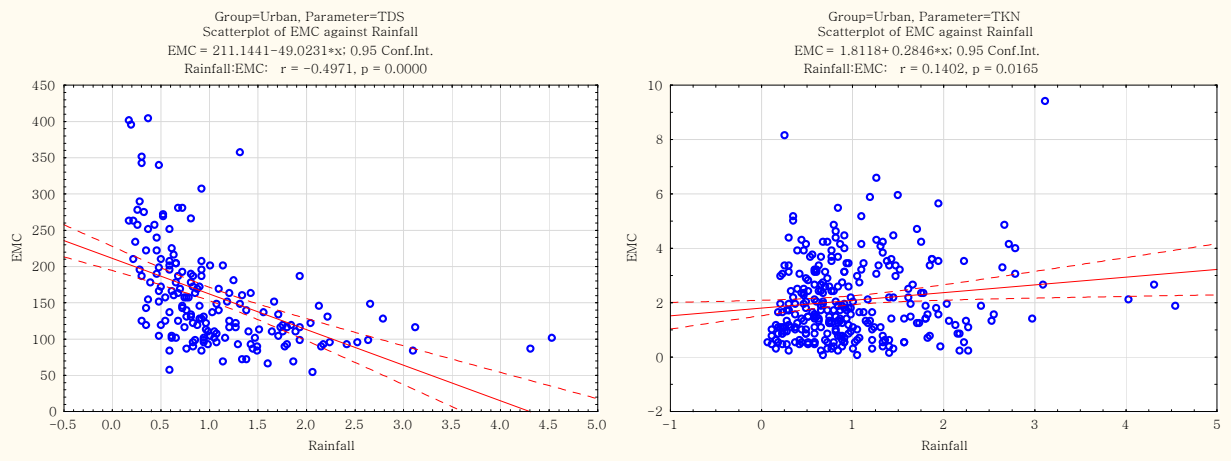

Group=Urban, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 20.4764−1.219*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0430, p = 0.4911
EMC
Rainfall

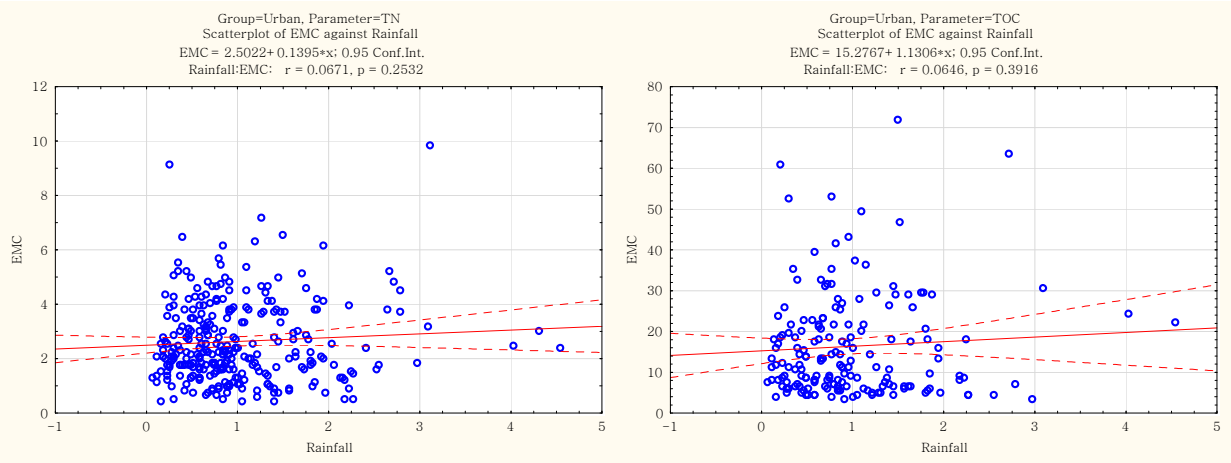

Group=Urban, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.1178−0.0012*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0088, p = 0.8841
EMC
Rainfall

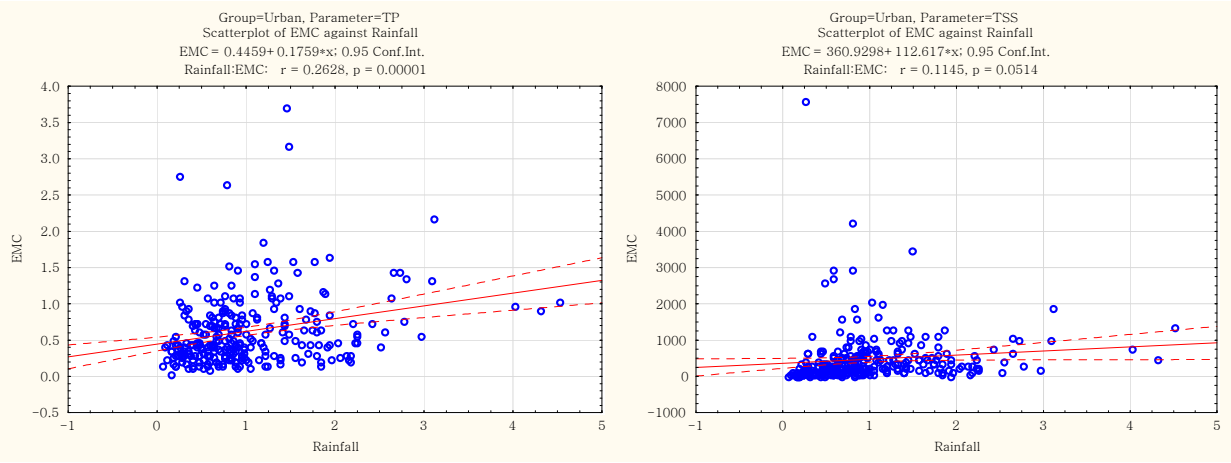

Group=Urban, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.1579−0.015*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0813, p = 0.2699
EMC
Rainfall

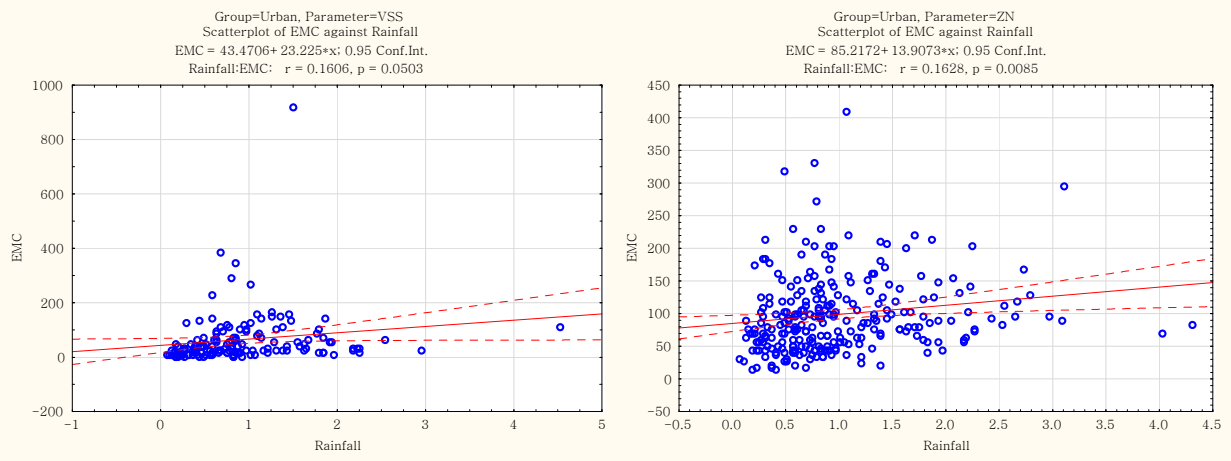

Group=Urban, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.69−0.1493*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3793, p = 0.0000
EMC
Rainfall

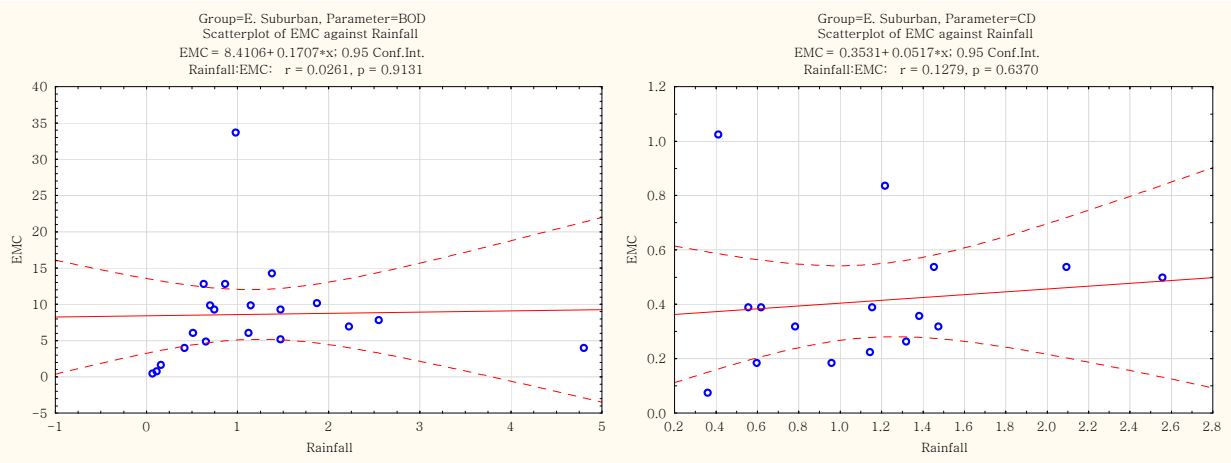

Group=Urban, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 20.9974+ 7.2588*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2462, p = 0.00005
EMC
Rainfall

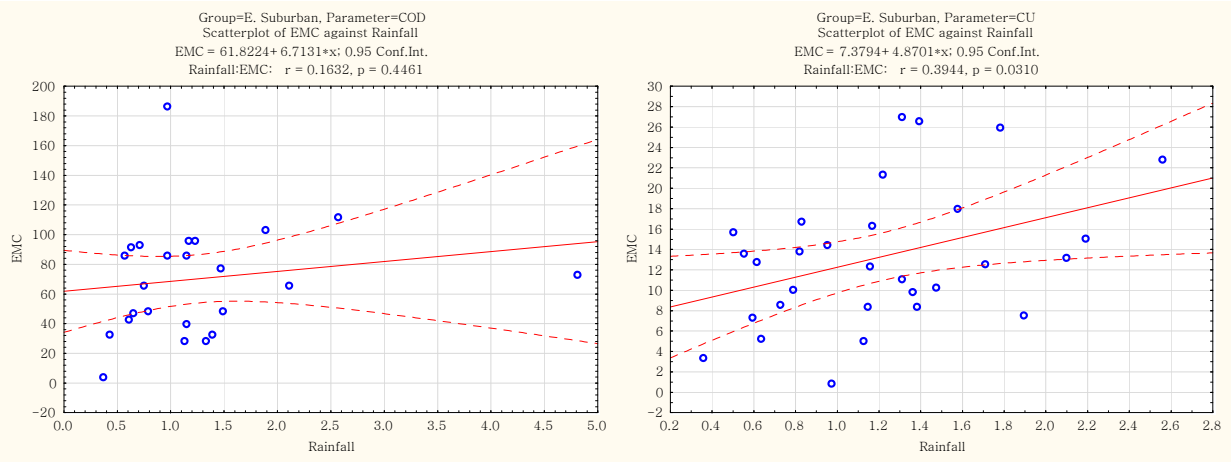

Group=Urban, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 211.1441−49.0231*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.4971, p = 0.0000
EMC
Rainfall
Group=Urban, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.8118+0.2846*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1402, p = 0.0165
EMC
Rainfall

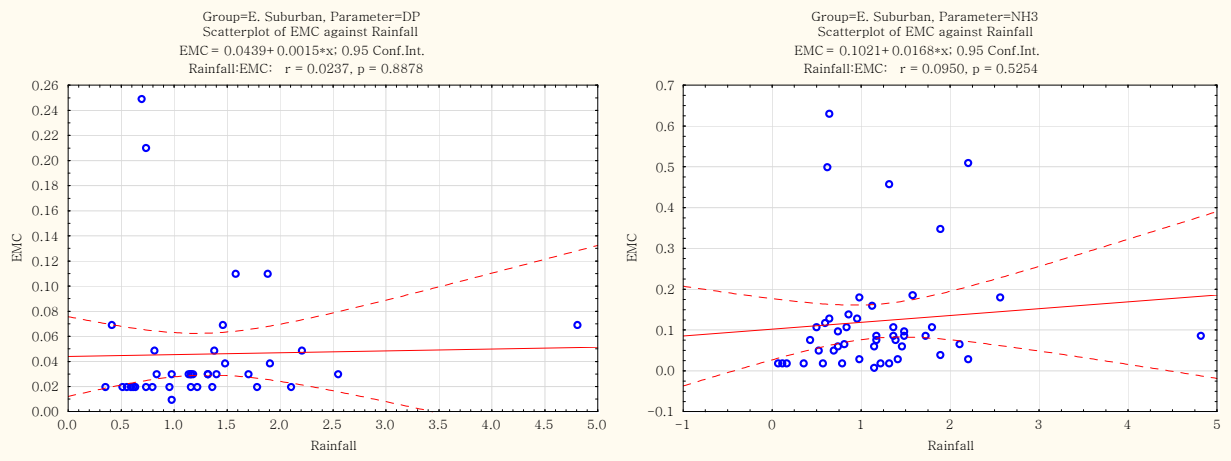

Group=Urban, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.5022+0.1395*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0671, p = 0.2532
EMC
Rainfall
Group=Urban, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 15.2767+1.1306*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0646, p = 0.3916
EMC
Rainfall

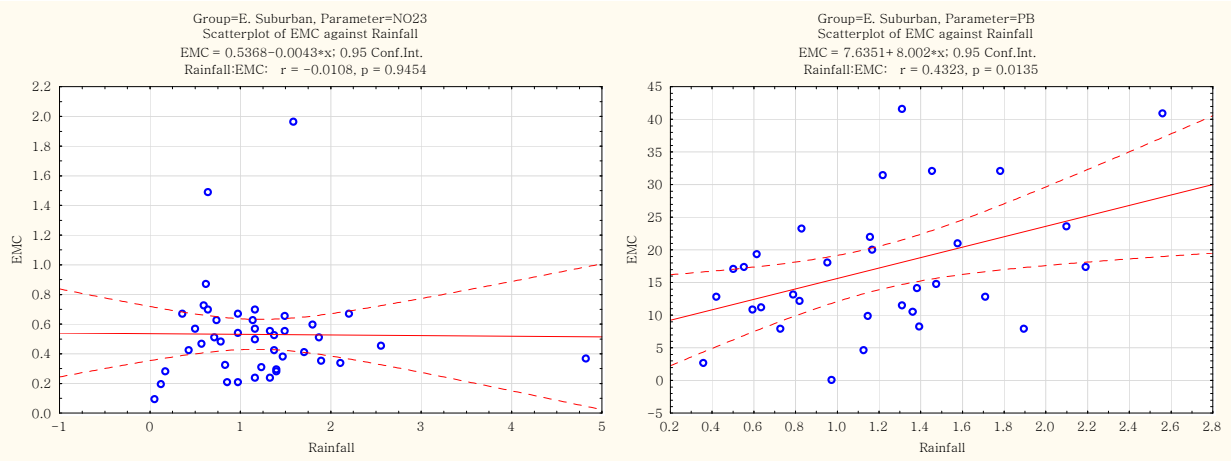

Group=Urban, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.4459+0.1759*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2628, p = 0.00001
EMC
Rainfall
Group=Urban, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 360.9298+112.617*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1145, p = 0.0514
EMC
Rainfall

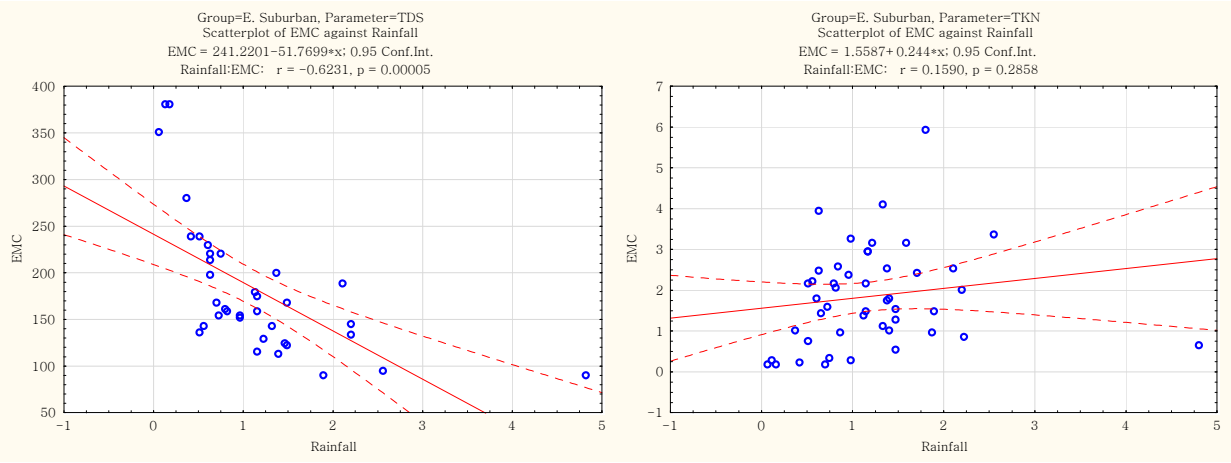

Group=Urban, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 43.4706+ 23.225*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1606, p = 0.0503
EMC
Rainfall
Group=Urban, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 85.2172+ 13.9073*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1628, p = 0.0085
EMC
Rainfall

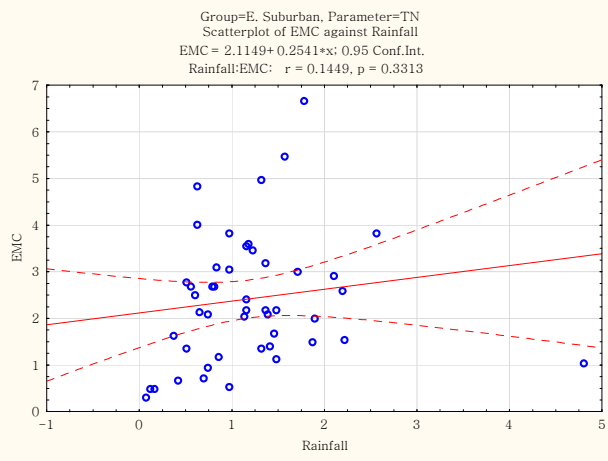

Group=E. Suburban, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 8.4106+ 0.1707*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0261, p = 0.9131
EMC
Rainfall
Group=E. Suburban, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.3531+ 0.0517*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1279, p = 0.6370
EMC
Rainfall

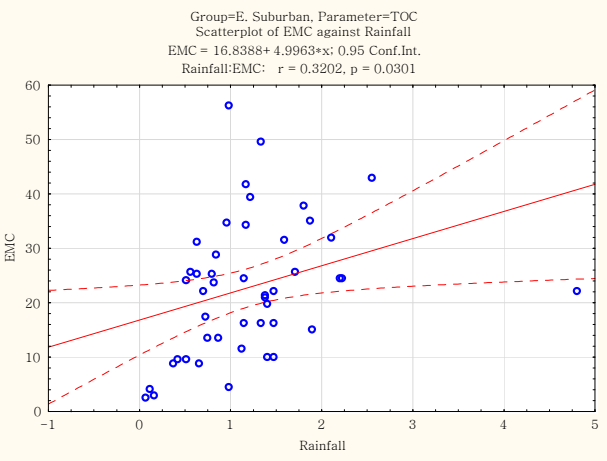

Group=E. Suburban, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 61.8224+ 6.7131*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1632, p = 0.4461
EMC
Rainfall
Group=E. Suburban, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 7.3794+ 4.8701*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3944, p = 0.0310
EMC
Rainfall

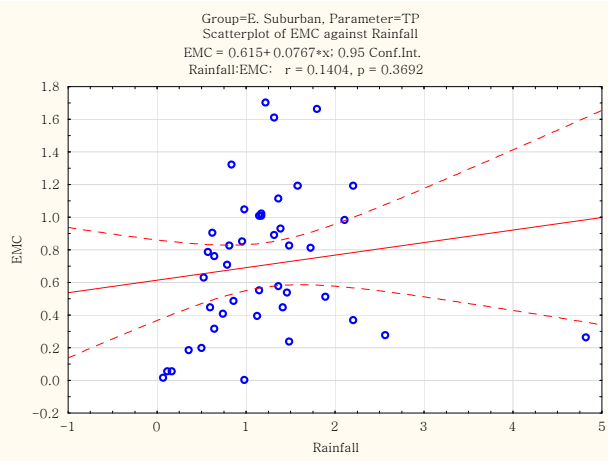

Group=E. Suburban, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0439+ 0.0015*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0237, p = 0.8878
EMC
Rainfall
Group=E. Suburban, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.1021+ 0.0168*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0950, p = 0.5254
EMC
Rainfall

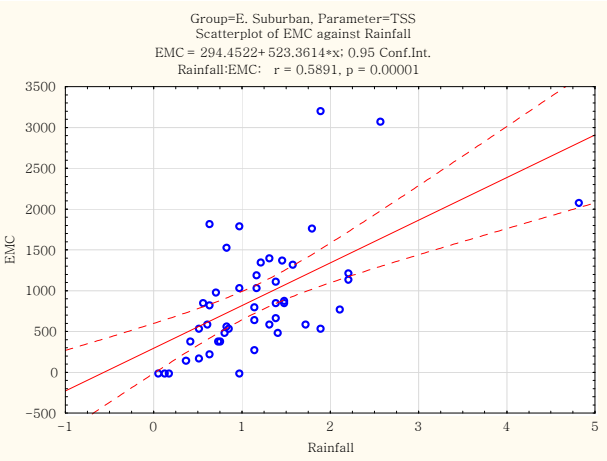

Group=E. Suburban, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.5368−0.0043*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0108, p = 0.9454
EMC
Rainfall
Group=E. Suburban, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 7.6351+ 8.002*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4323, p = 0.0135
EMC
Rainfall

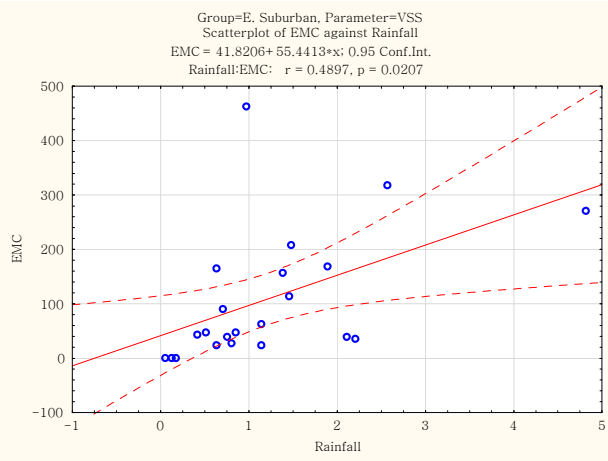

Group=E. Suburban, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 241.2201−51.7699*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.6231, p = 0.00005
EMC
Rainfall
Group=E. Suburban, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.5587+ 0.244*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1590, p = 0.2858
EMC
Rainfall

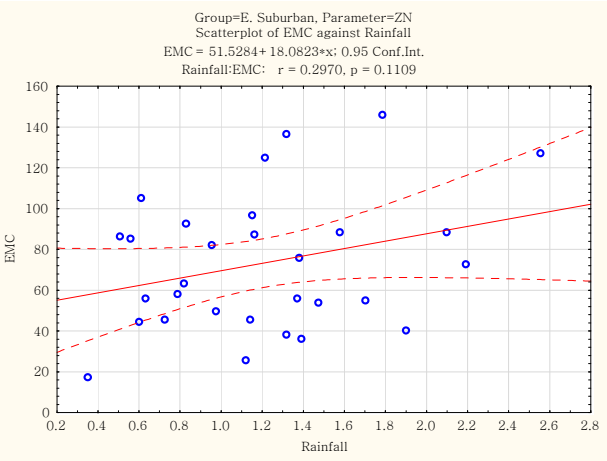

Group=E. Suburban, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 2.1149+ 0.2541*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1449, p = 0.3313
EMC
Rainfall

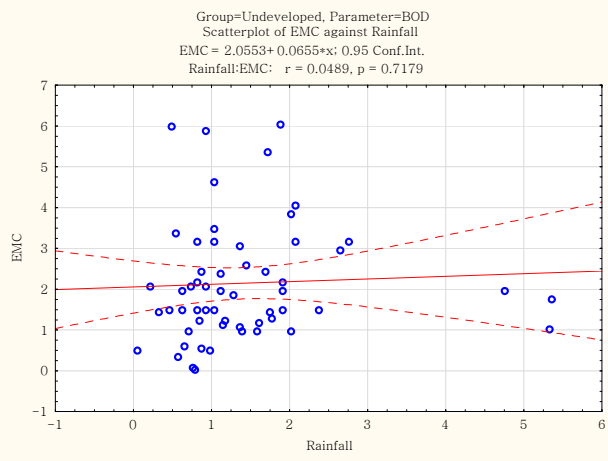

Group=E. Suburban, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 16.8388+ 4.9963*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3202, p = 0.0301
EMC
Rainfall

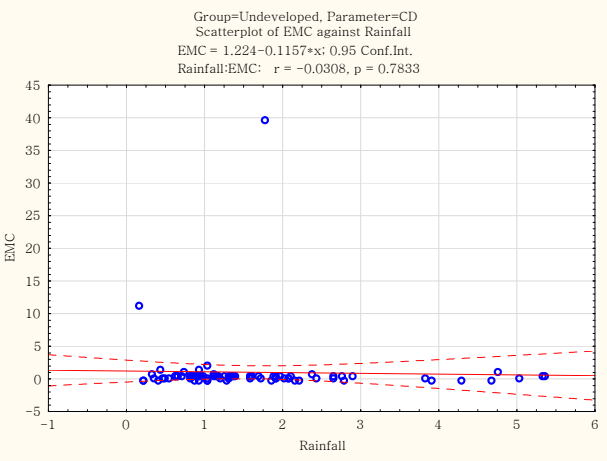

Group=E. Suburban, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.615+ 0.0767*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1404, p = 0.3692
EMC
Rainfall

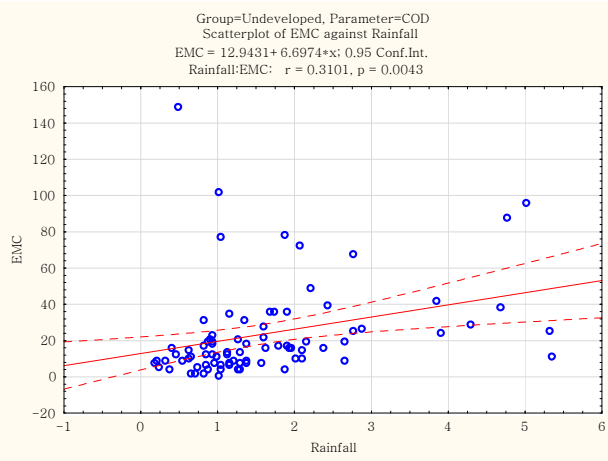

Group=E. Suburban, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 294.4522+ 523.3614*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5891, p = 0.00001
EMC
Rainfall

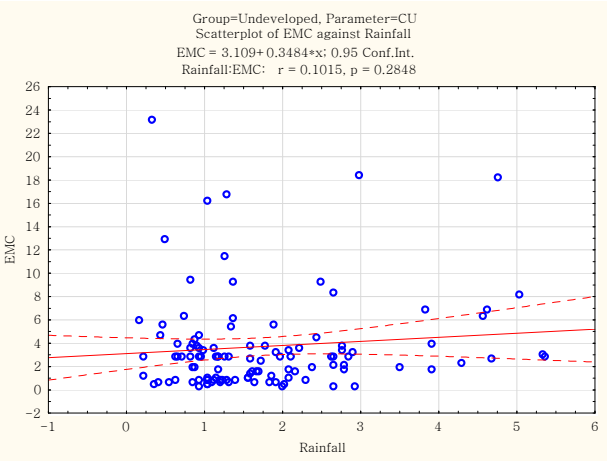

Group=E. Suburban, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 41.8206+ 55.4413*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4897, p = 0.0207
EMC
Rainfall

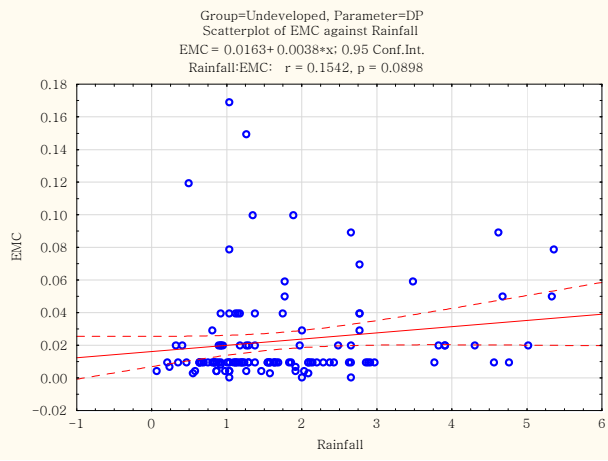

Group=E. Suburban, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 51.5284+ 18.0823*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2970, p = 0.1109
EMC
Rainfall

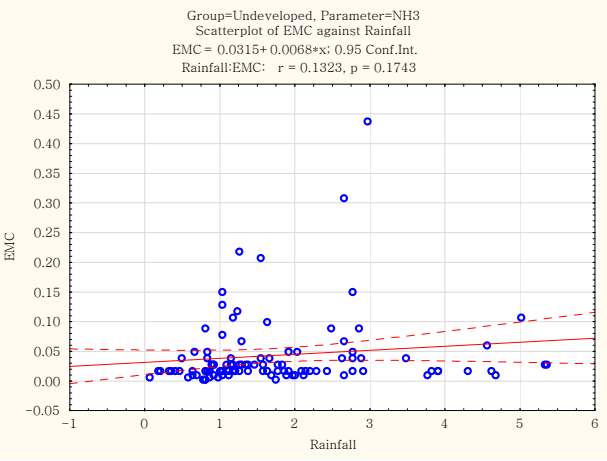

Group=Undeveloped, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 2.0553+ 0.0655*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0489, p = 0.7179
EMC
Rainfall

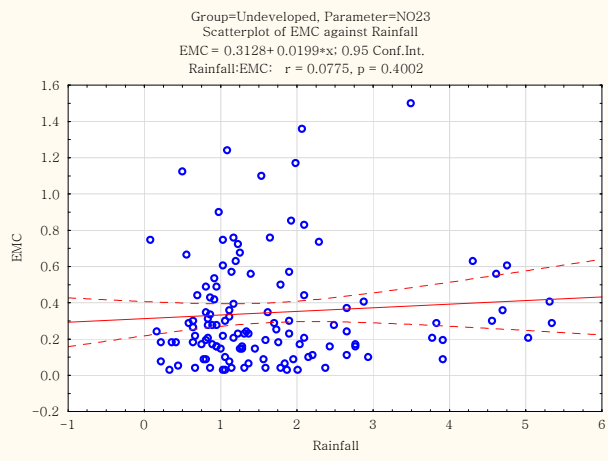

Group=Undeveloped, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 1.224−0.1157*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0308, p = 0.7833
EMC
Rainfall

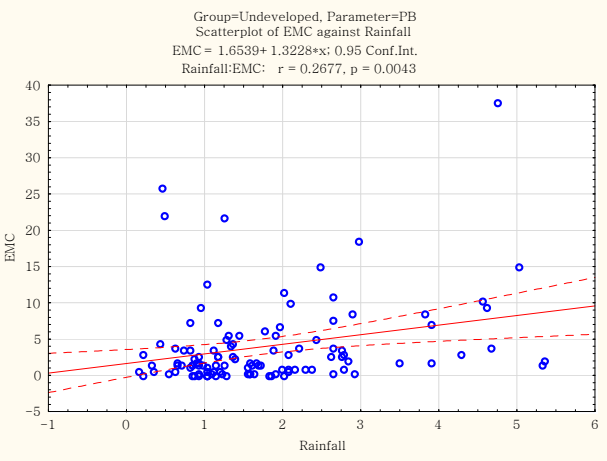

Group=Undeveloped, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 12.9431+ 6.6974*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3101, p = 0.0043
EMC
Rainfall

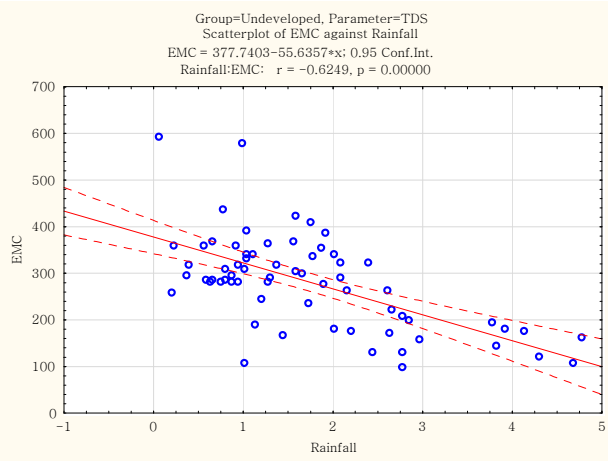

Group=Undeveloped, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 3.109+ 0.3484*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1015, p = 0.2848
EMC
Rainfall

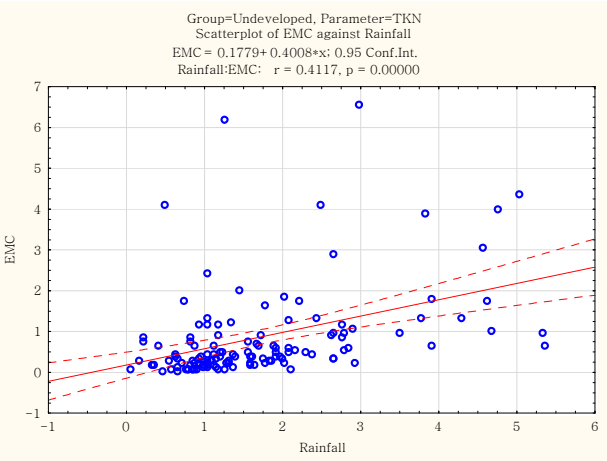

Group=Undeveloped, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0163+ 0.0038*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1542, p = 0.0898
EMC
Rainfall

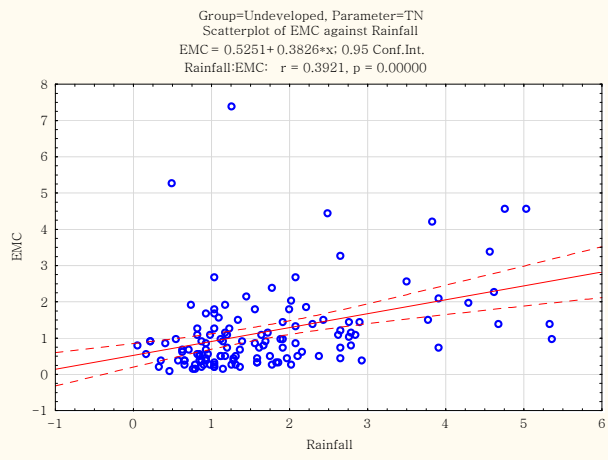

Group=Undeveloped, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0315+ 0.0068*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1323, p = 0.1743
EMC
Rainfall

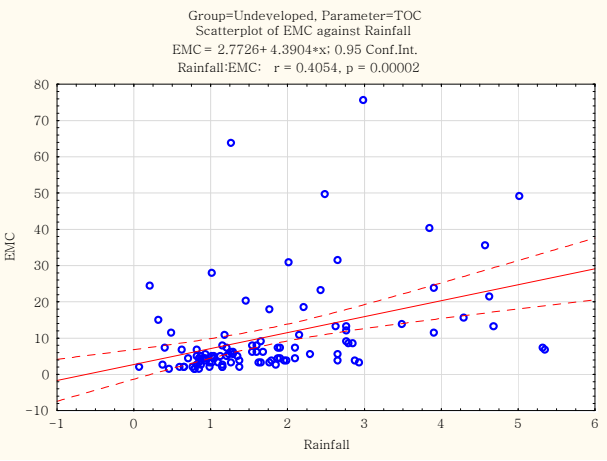

Group=Undeveloped, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.3128+ 0.0199*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0775, p = 0.4002
EMC
Rainfall

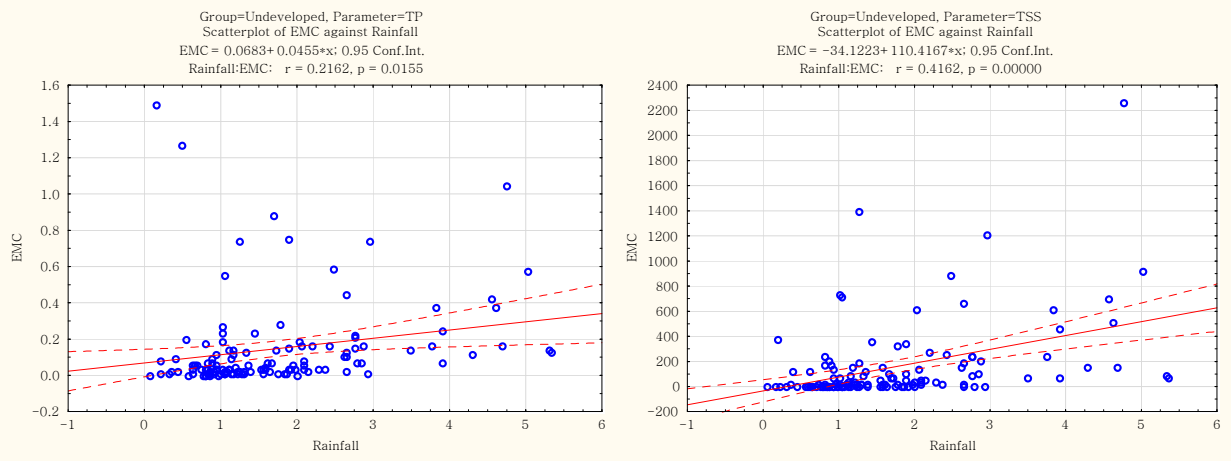

Group=Undeveloped, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 1.6539+ 1.3228*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2677, p = 0.0043
EMC
Rainfall

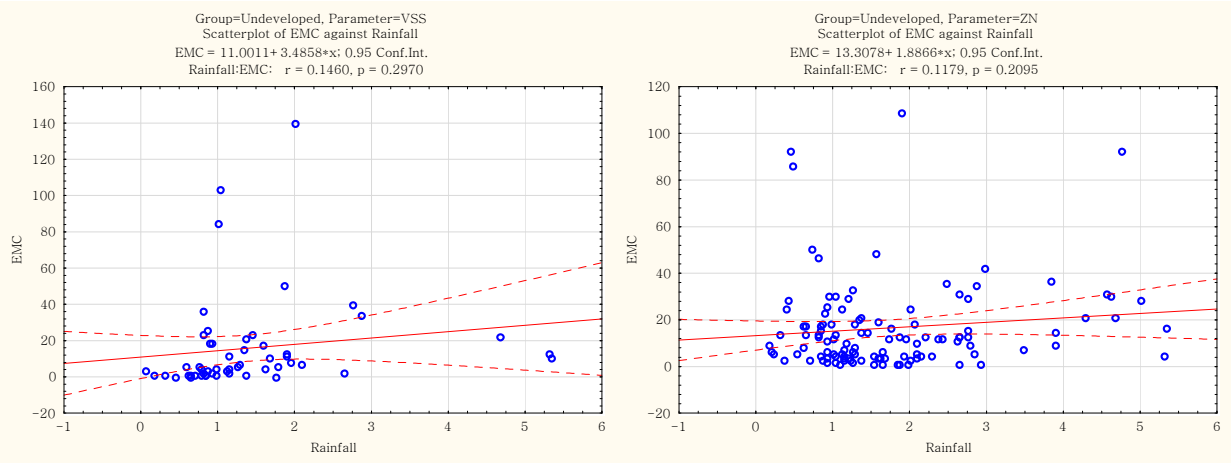

Group=Undeveloped, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 377.7403−55.6357*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.6249, p = 0.00000
EMC
Rainfall

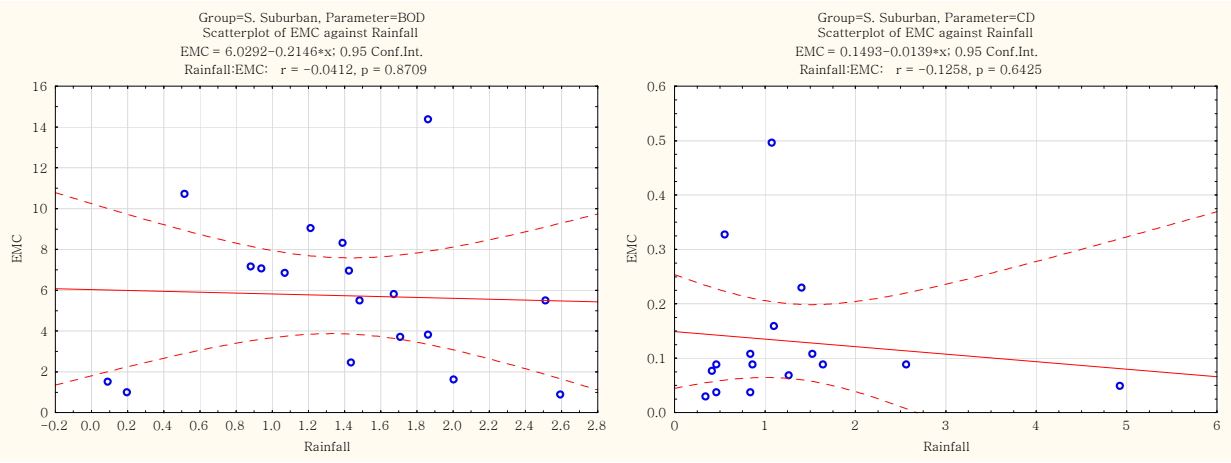

Group=Undeveloped, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.1779+ 0.4008*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4117, p = 0.00000
EMC
Rainfall

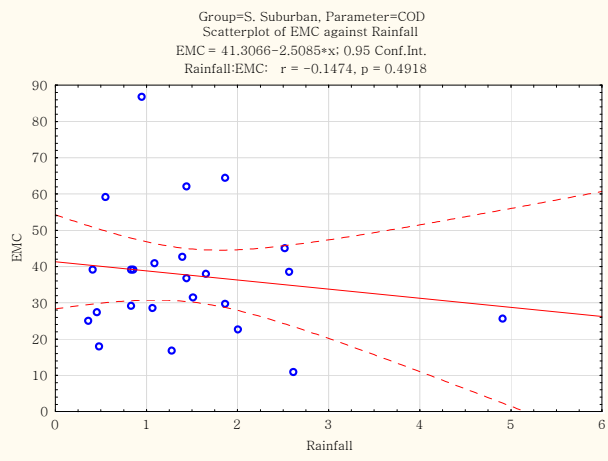

Group=Undeveloped, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 0.5251+ 0.3826*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3921, p = 0.00000
EMC
Rainfall

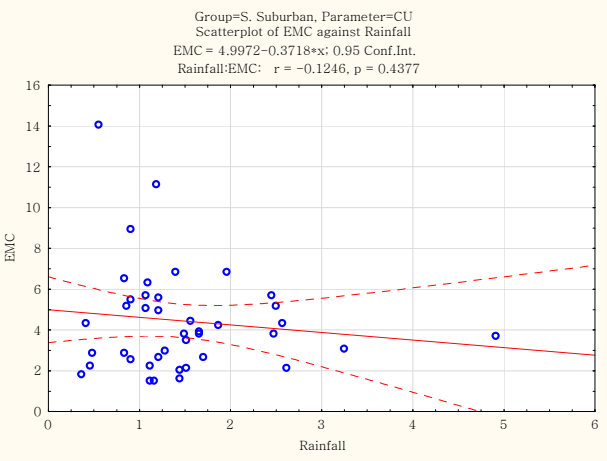

Group=Undeveloped, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 2.7726+ 4.3904*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4054, p = 0.00002
EMC
Rainfall

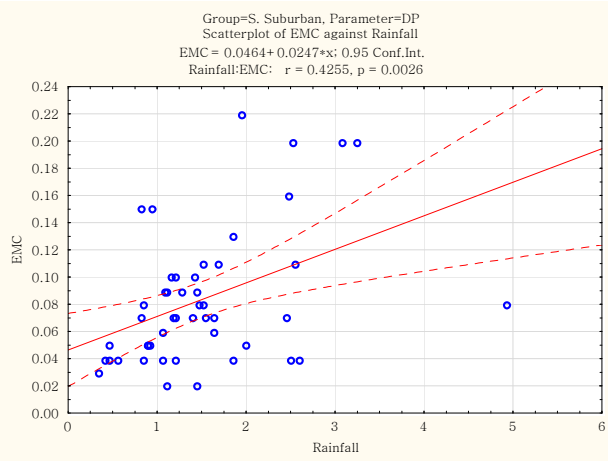

Group=Undeveloped, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0683+ 0.0455*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.2162, p = 0.0155
EMC
Rainfall
Group=Undeveloped, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = −34.1223+ 110.4167*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4162, p = 0.00000
EMC
Rainfall

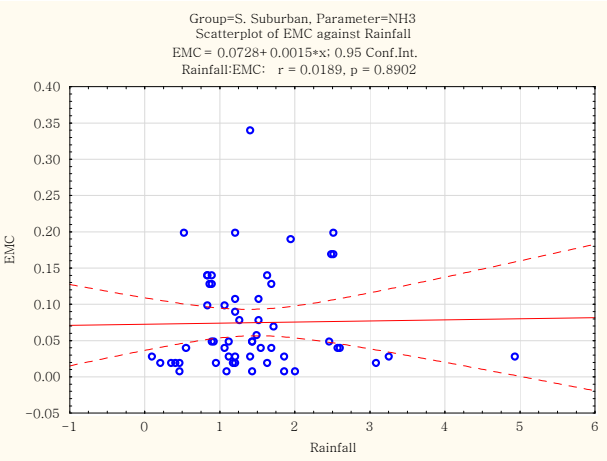

Group=Undeveloped, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 11.0011+ 3.4858*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1460, p = 0.2970
EMC
Rainfall
Group=Undeveloped, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 13.3078+ 1.8866*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1179, p = 0.2095
EMC
Rainfall

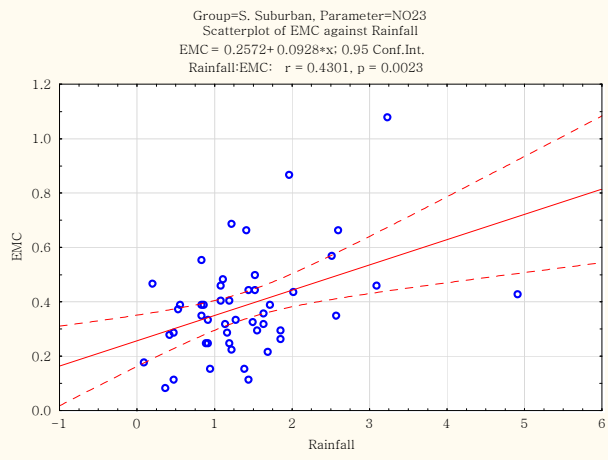

Group=S. Suburban, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 6.0292−0.2146*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0412, p = 0.8709
EMC
Rainfall
Group=S. Suburban, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.1493−0.0139*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1258, p = 0.6425
EMC
Rainfall

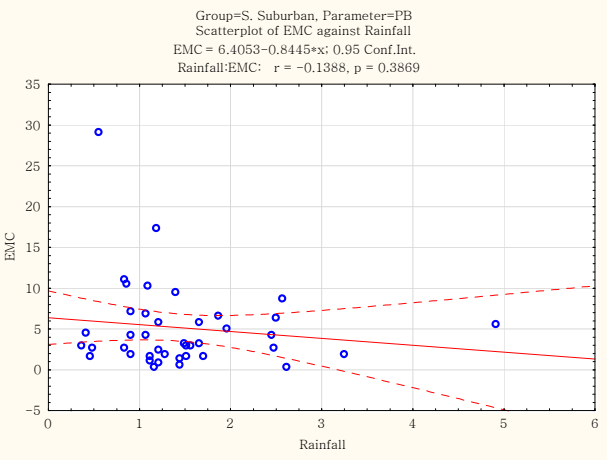

Group=S. Suburban, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 41.3066−2.5085*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1474, p = 0.4918
EMC
Rainfall

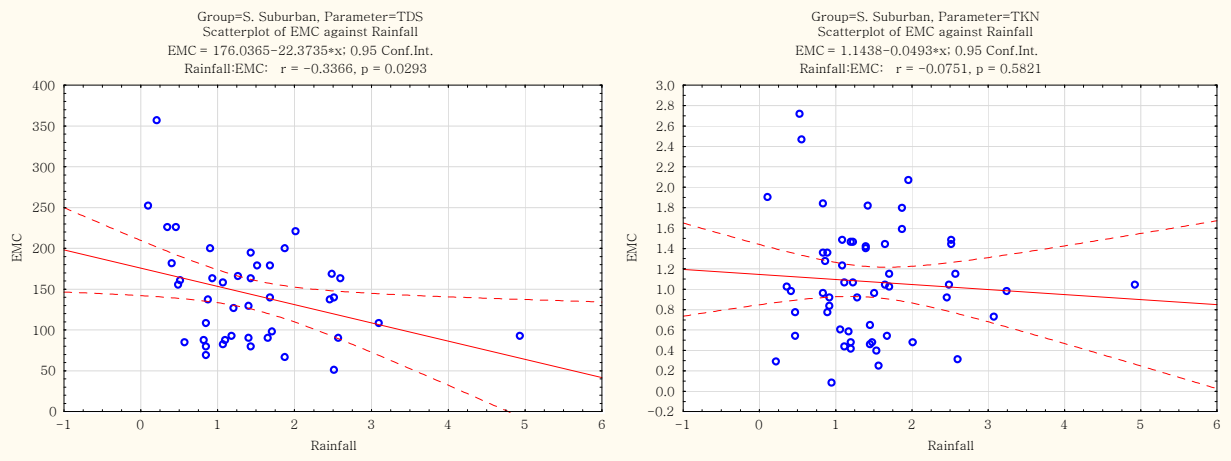

Group=S. Suburban, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 4.9972−0.3718*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1246, p = 0.4377
EMC
Rainfall

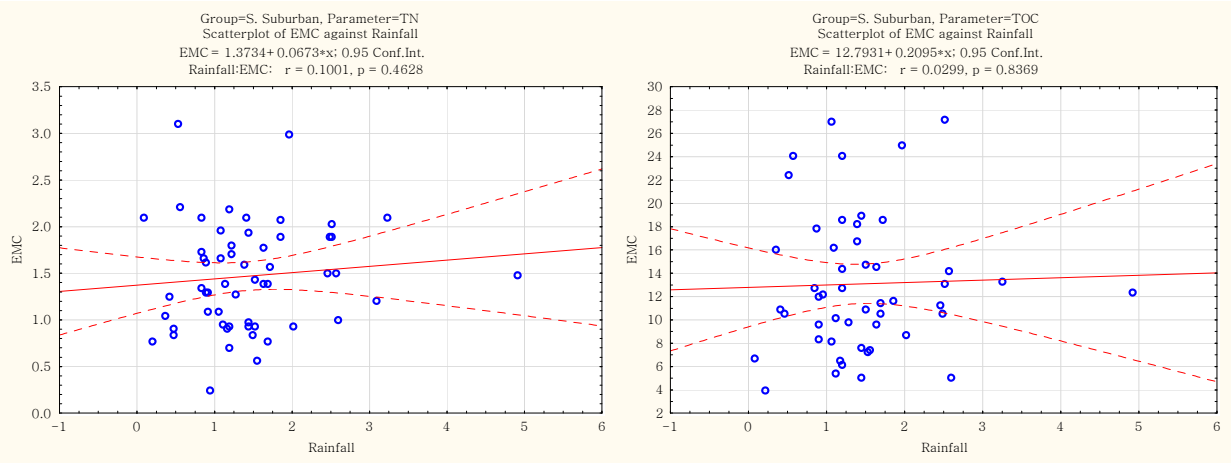

Group=S. Suburban, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0464+ 0.0247*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4255, p = 0.0026
EMC
Rainfall

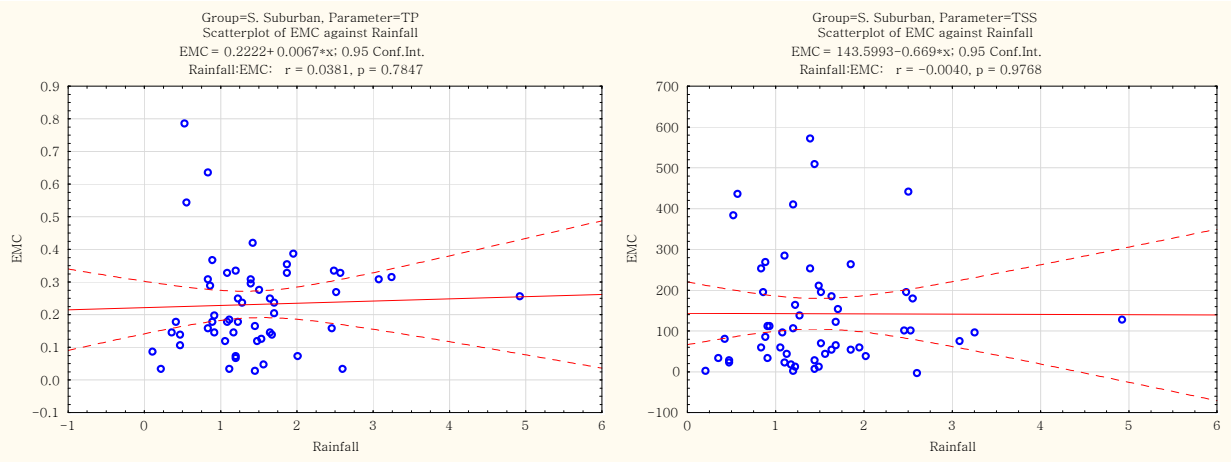

Group=S. Suburban, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0728+ 0.0015*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0189, p = 0.8902
EMC
Rainfall

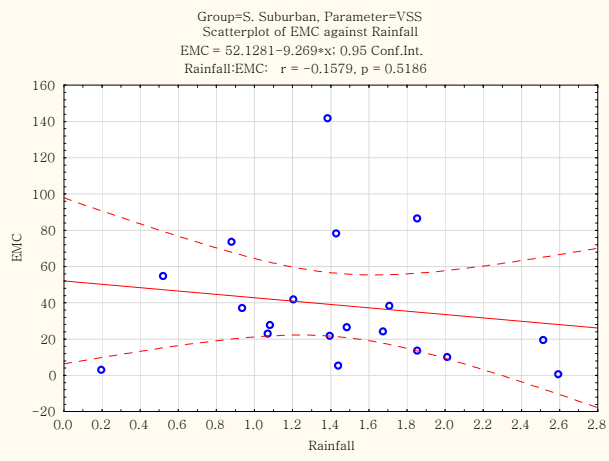

Group=S. Suburban, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.2572+ 0.0928*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4301, p = 0.0023
EMC
Rainfall

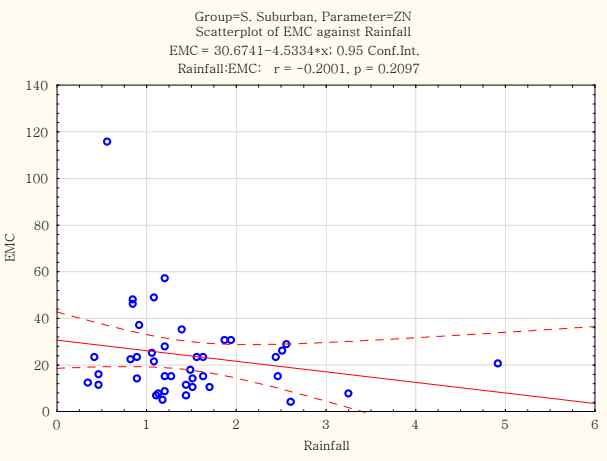

Group=S. Suburban, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = 6.4053−0.8445*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1388, p = 0.3869
EMC
Rainfall

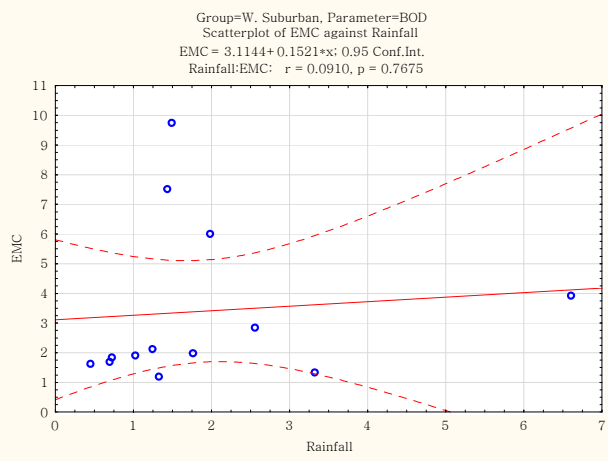

Group=S. Suburban, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 176.0365−22.3735*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.3366, p = 0.0293
EMC
Rainfall
Group=S. Suburban, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 1.1438−0.0493*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0751, p = 0.5821
EMC
Rainfall

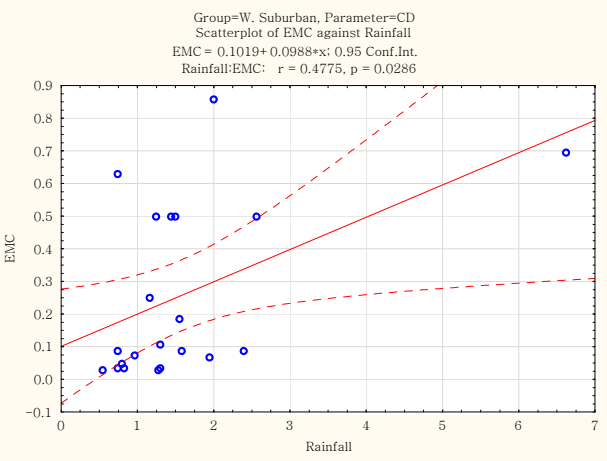

Group=S. Suburban, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 1.3734+0.0673*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1001, p = 0.4628
EMC
Rainfall
Group=S. Suburban, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 12.7931+0.2095*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0299, p = 0.8369
EMC
Rainfall

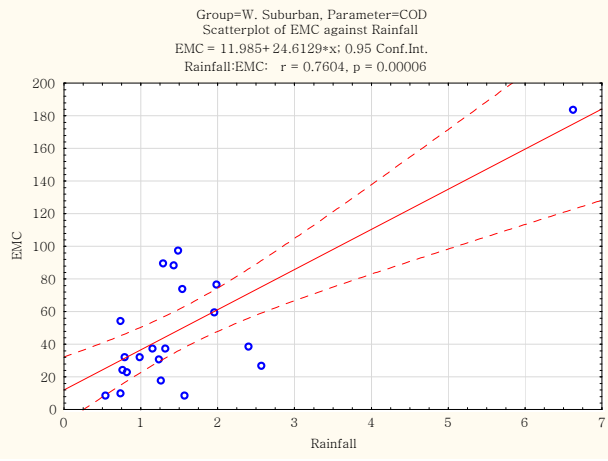

Group=S. Suburban, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.2222+0.0067*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0381, p = 0.7847
EMC
Rainfall
Group=S. Suburban, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = 143.5993−0.669*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.0040, p = 0.9768
EMC
Rainfall

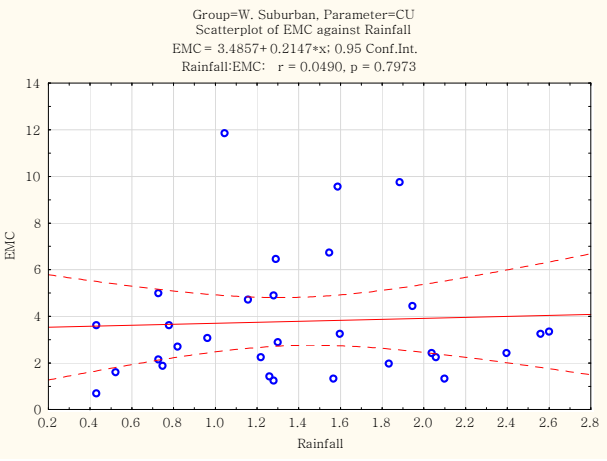

Group=S. Suburban, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = 52.1281−9.269*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.1579, p = 0.5186
EMC
Rainfall

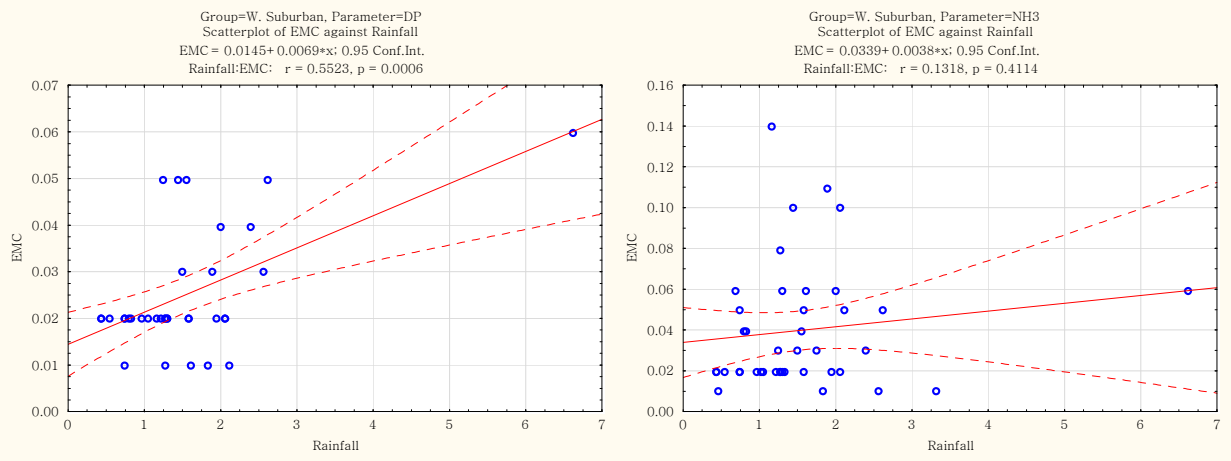

Group=S. Suburban, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = 30.6741−4.5334*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.2001, p = 0.2097
EMC
Rainfall


Group=W. Suburban, Parameter=BOD
Scatterplot of EMC against Rainfall
EMC = 3.1144+0.1521*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0910, p = 0.7675
EMC
Rainfall

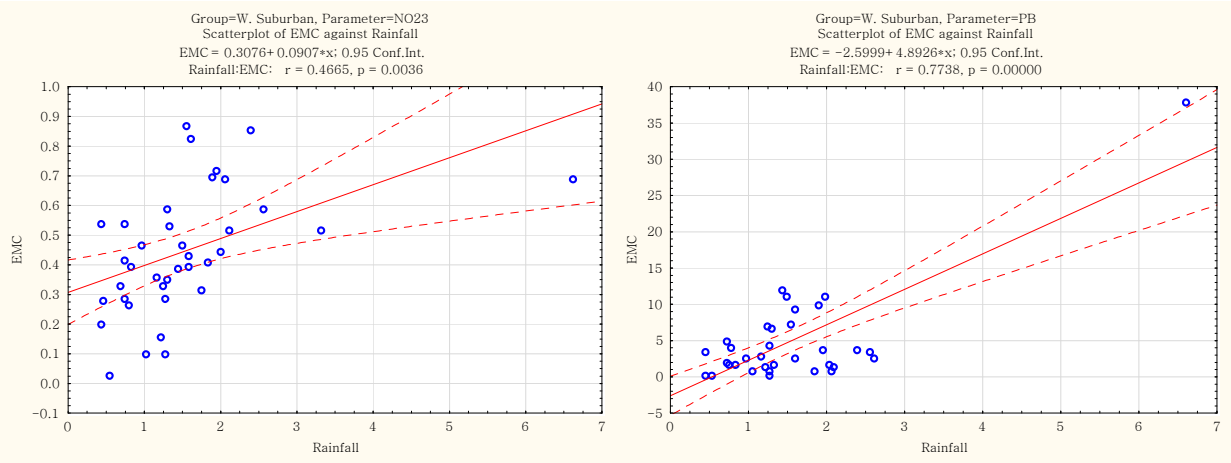

Group=W. Suburban, Parameter=CD
Scatterplot of EMC against Rainfall
EMC = 0.1019+0.0988*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4775, p = 0.0286
EMC
Rainfall


Group=W. Suburban, Parameter=COD
Scatterplot of EMC against Rainfall
EMC = 11.985+24.6129*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7604, p = 0.00006
EMC
Rainfall

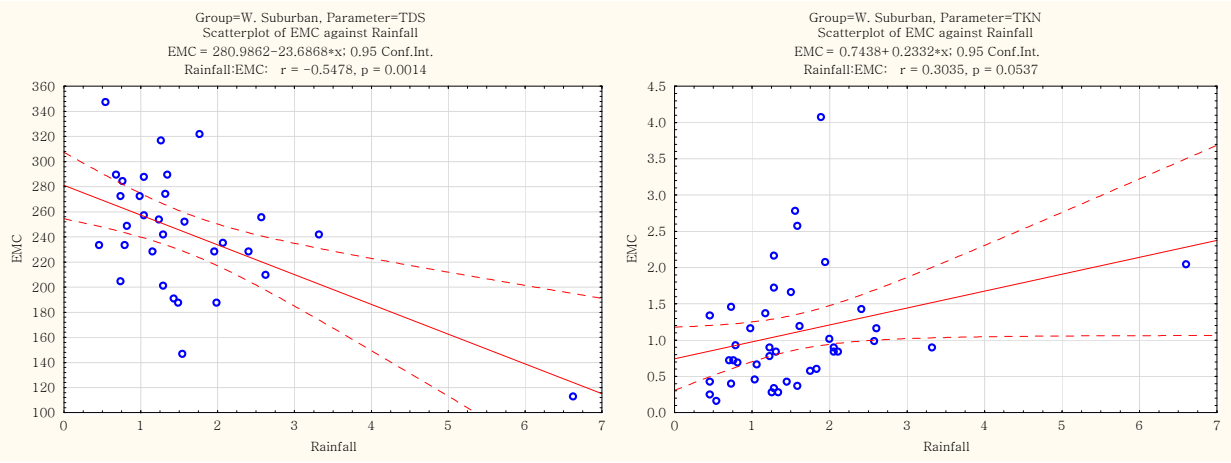

Group=W. Suburban, Parameter=CU
Scatterplot of EMC against Rainfall
EMC = 3.4857+0.2147*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.0490, p = 0.7973
EMC
Rainfall


Group=W. Suburban, Parameter=DP
Scatterplot of EMC against Rainfall
EMC = 0.0145+ 0.0069*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5523, p = 0.0006
EMC
Rainfall

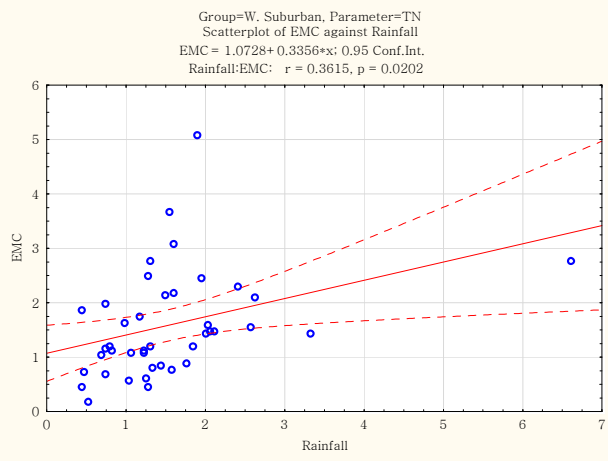
Group=W. Suburban, Parameter=NH3
Scatterplot of EMC against Rainfall
EMC = 0.0339+ 0.0038*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.1318, p = 0.4114
EMC
Rainfall

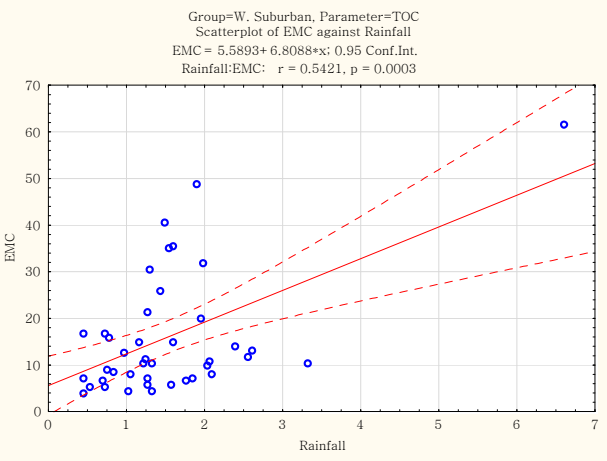

Group=W. Suburban, Parameter=NO23
Scatterplot of EMC against Rainfall
EMC = 0.3076+ 0.0907*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.4665, p = 0.0036
EMC
Rainfall

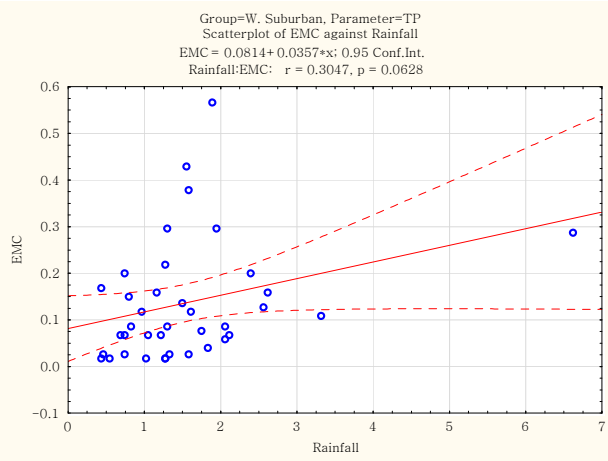
Group=W. Suburban, Parameter=PB
Scatterplot of EMC against Rainfall
EMC = −2.5999+ 4.8926*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.7738, p = 0.00000
EMC
Rainfall

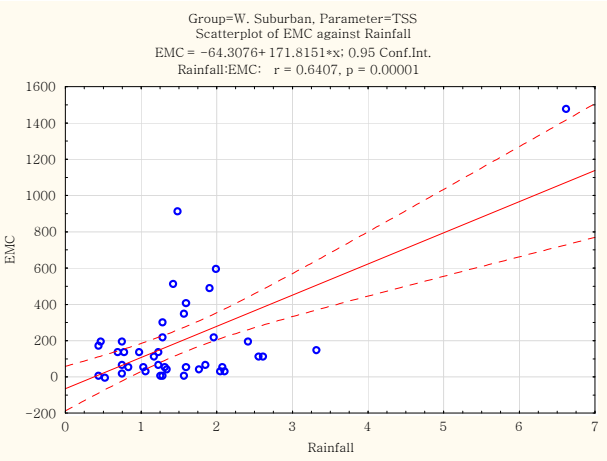

Group=W. Suburban, Parameter=TDS
Scatterplot of EMC against Rainfall
EMC = 280.9862−23.6868*x; 0.95 Conf.Int.
Rainfall:EMC: r = −0.5478, p = 0.0014
EMC
Rainfall

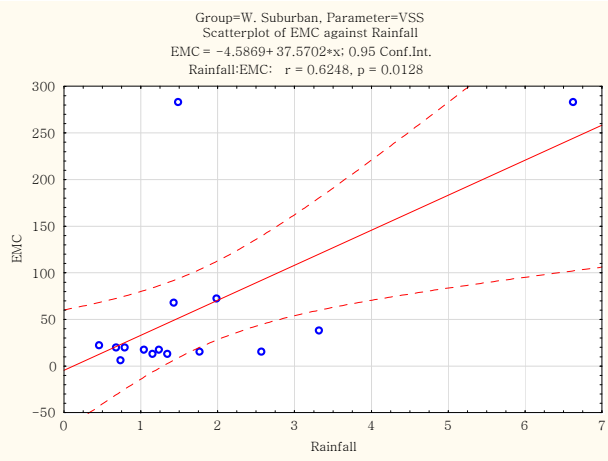
Group=W. Suburban, Parameter=TKN
Scatterplot of EMC against Rainfall
EMC = 0.7438+ 0.2332*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3035, p = 0.0537
EMC
Rainfall

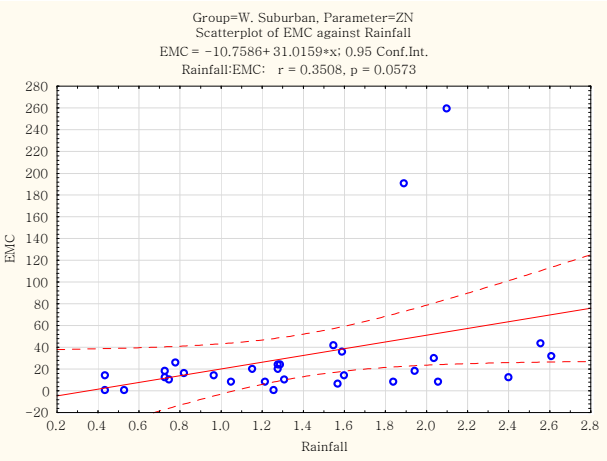

Group=W. Suburban, Parameter=TN
Scatterplot of EMC against Rainfall
EMC = 1.0728+ 0.3356*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3615, p = 0.0202
EMC
Rainfall


Group=W. Suburban, Parameter=TOC
Scatterplot of EMC against Rainfall
EMC = 5.5893+ 6.8088*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.5421, p = 0.0003
EMC
Rainfall


Group=W. Suburban, Parameter=TP
Scatterplot of EMC against Rainfall
EMC = 0.0814+ 0.0357*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3047, p = 0.0628
EMC
Rainfall


Group=W. Suburban, Parameter=TSS
Scatterplot of EMC against Rainfall
EMC = −64.3076+ 171.8151*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6407, p = 0.00001
EMC
Rainfall


Group=W. Suburban, Parameter=VSS
Scatterplot of EMC against Rainfall
EMC = −4.5869+ 37.5702*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.6248, p = 0.0128
EMC
Rainfall


Group=W. Suburban, Parameter=ZN
Scatterplot of EMC against Rainfall
EMC = −10.7586+ 31.0159*x; 0.95 Conf.Int.
Rainfall:EMC: r = 0.3508, p = 0.0573
EMC
Rainfall

Appendix K Figures for Baseflow Load and Impervious Cover

The unit for average annual baseflow load is pounds per inch of runoff per acre.

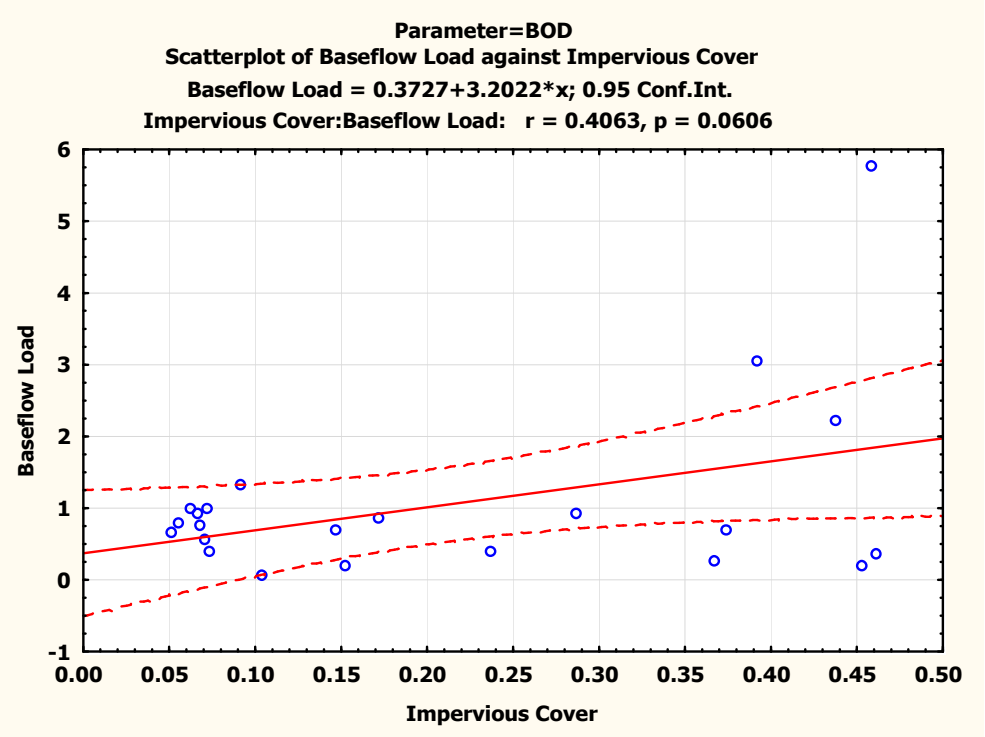


Figure K.1: Load from Baseflow vs. impervious cover for BOD

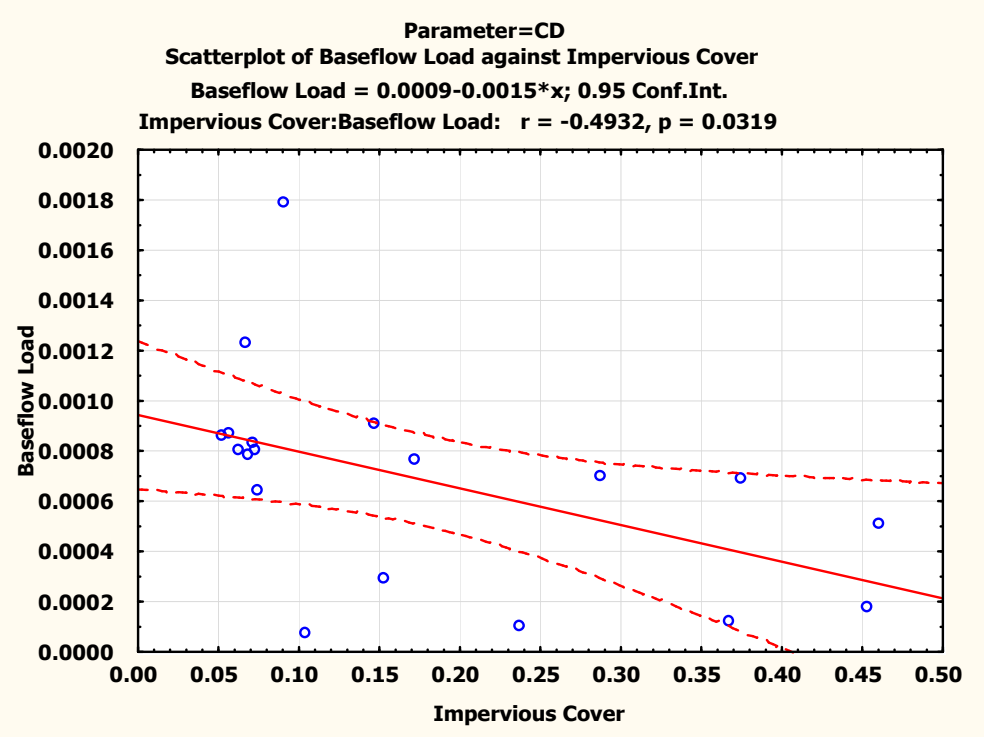


Figure K.2: Load from Baseflow vs. impervious cover for CD

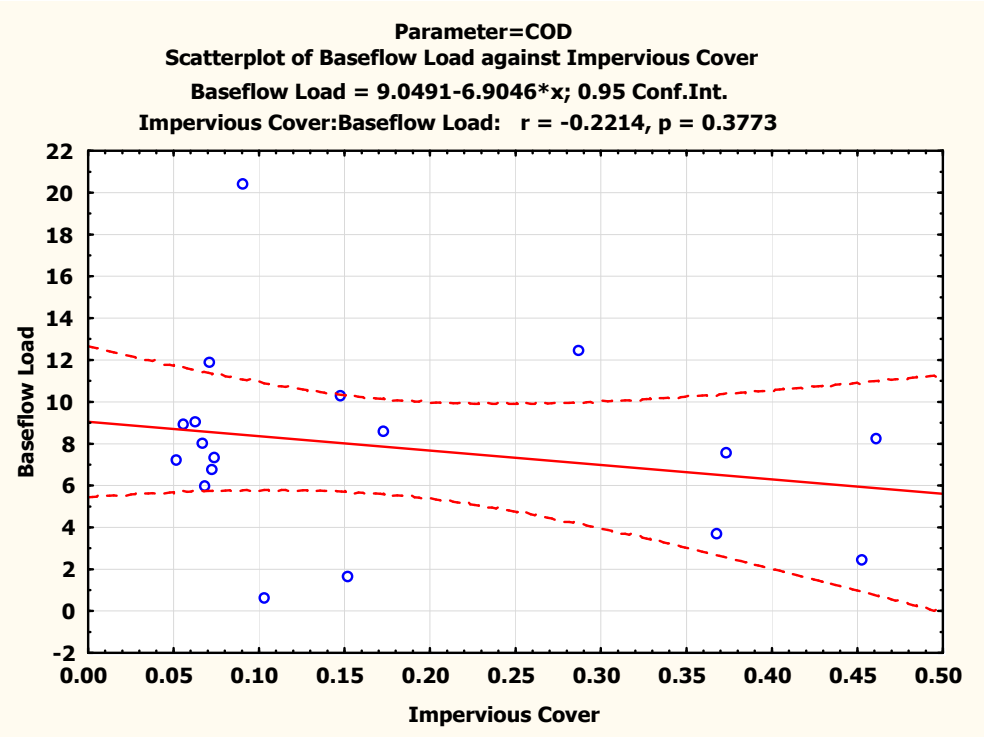


Figure K.3: Load from Baseflow vs. impervious cover for COD

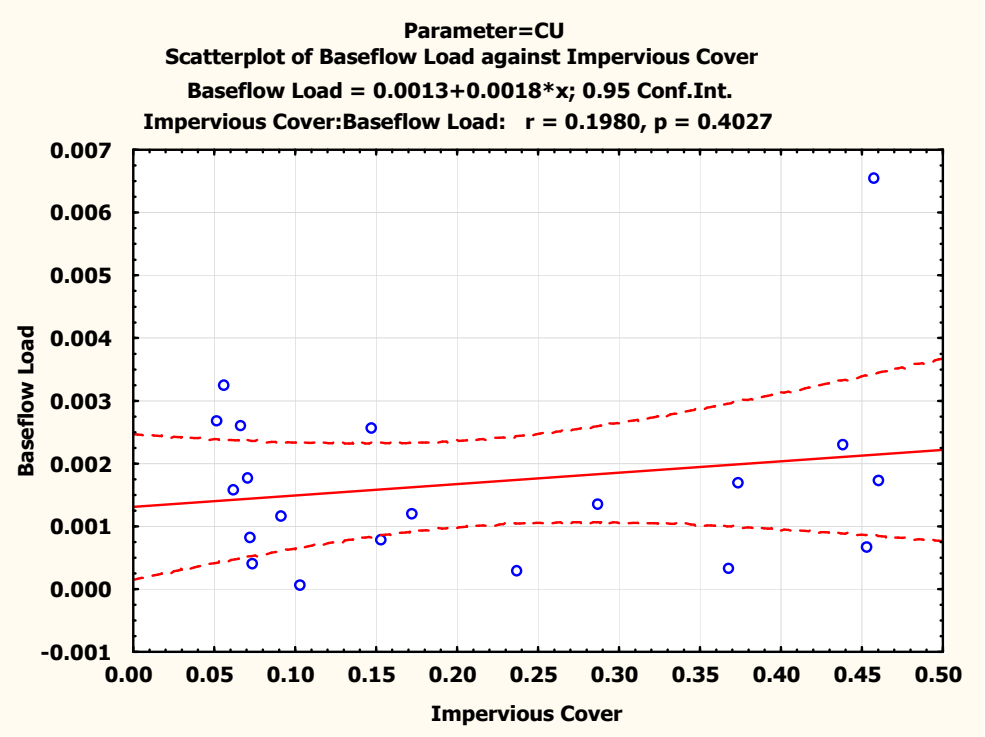


Figure K.4: Load from Baseflow vs. impervious cover for CU

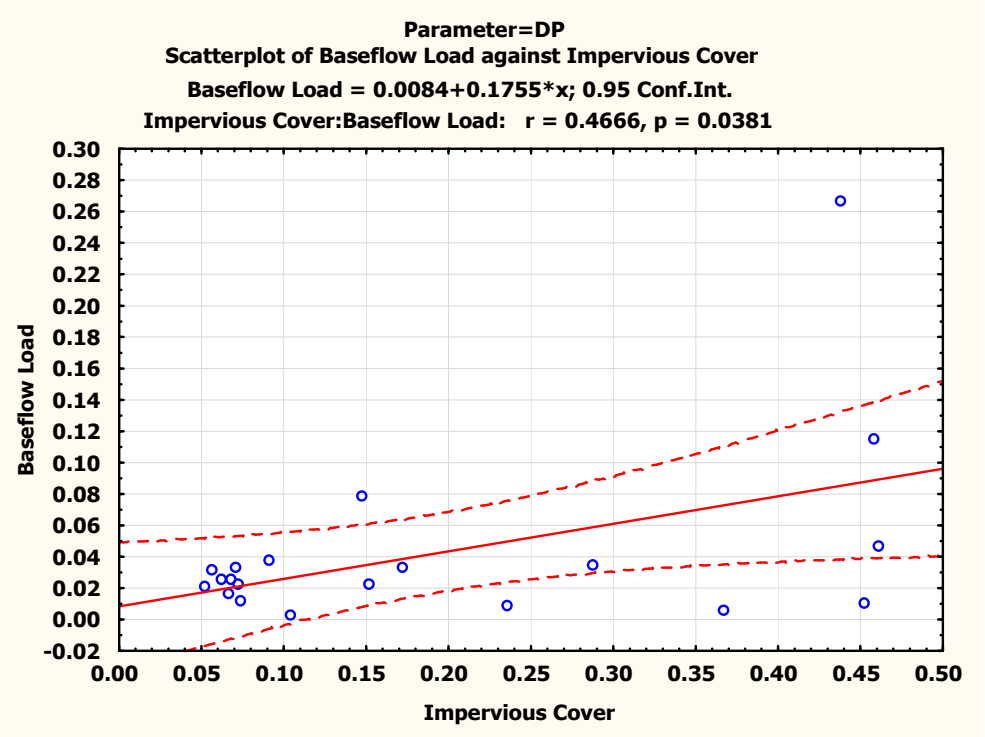


Figure K.5: Load from Baseflow vs. impervious cover for DP

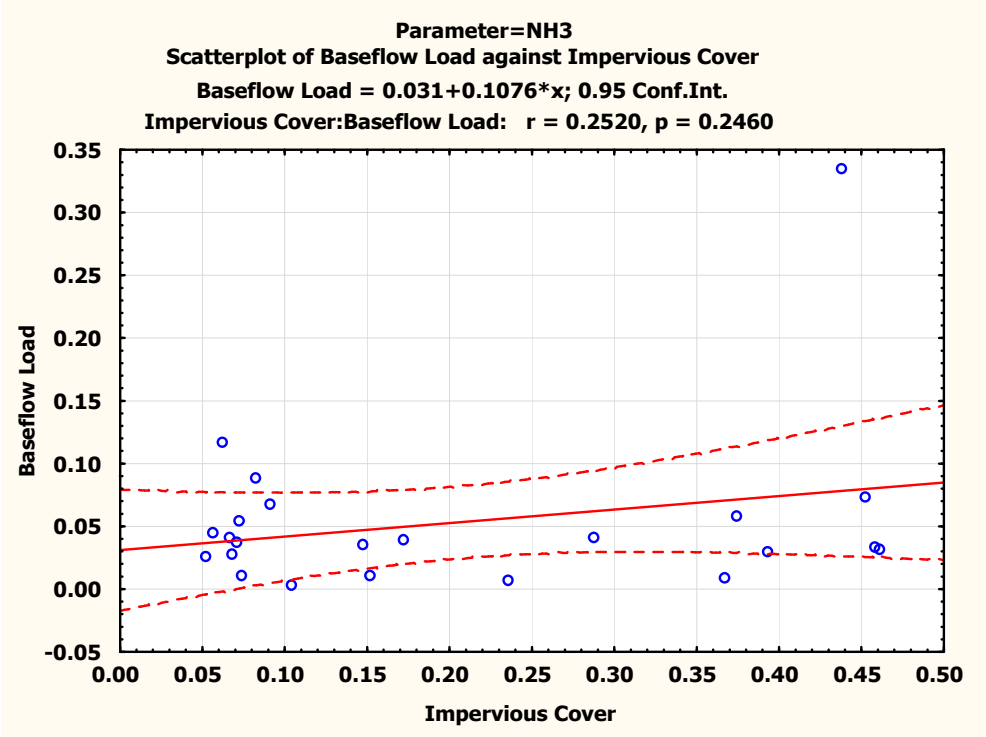


Figure K.6: Load from Baseflow vs. impervious cover for NH3

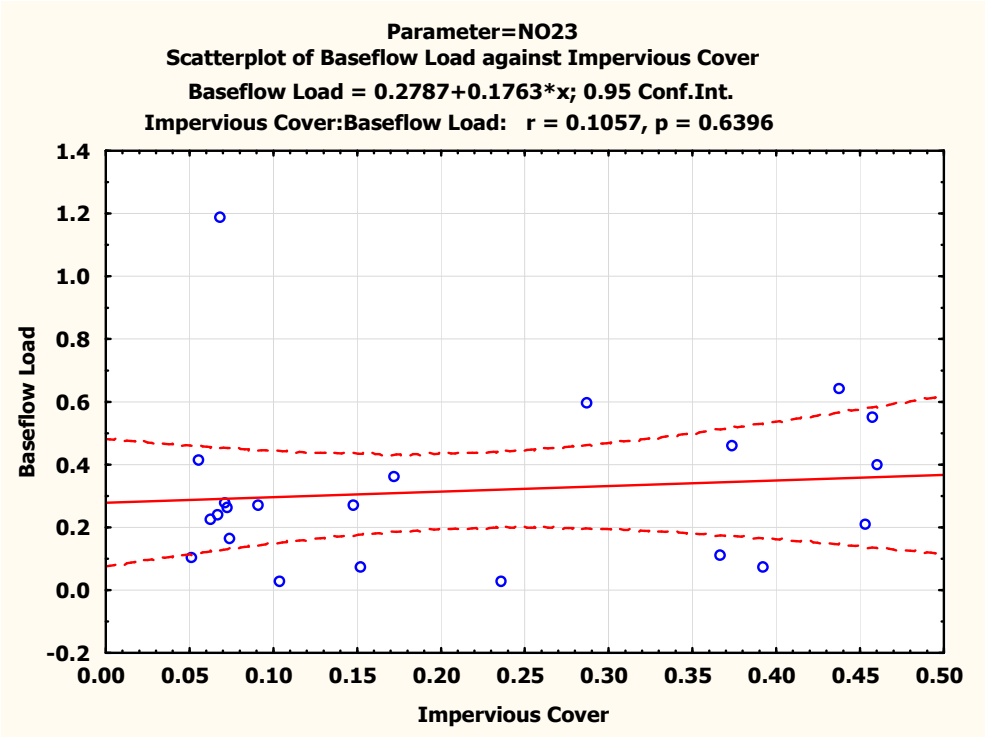


Figure K.7: Load from Baseflow vs. impervious cover for NO23

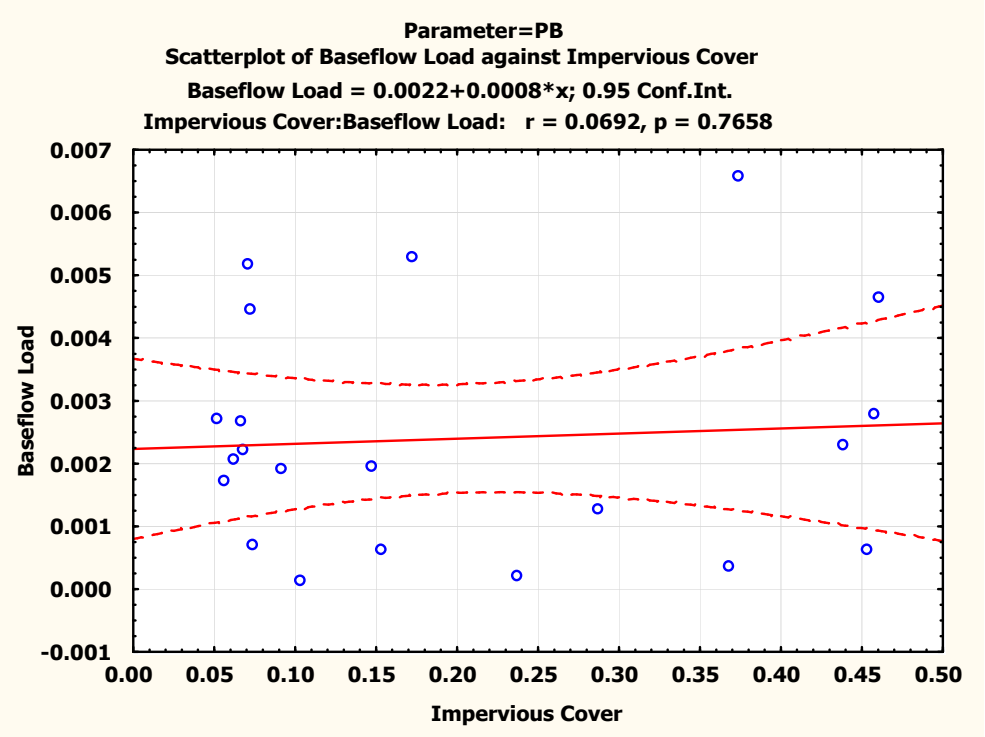


Figure K.8: Load from Baseflow vs. impervious cover for PB

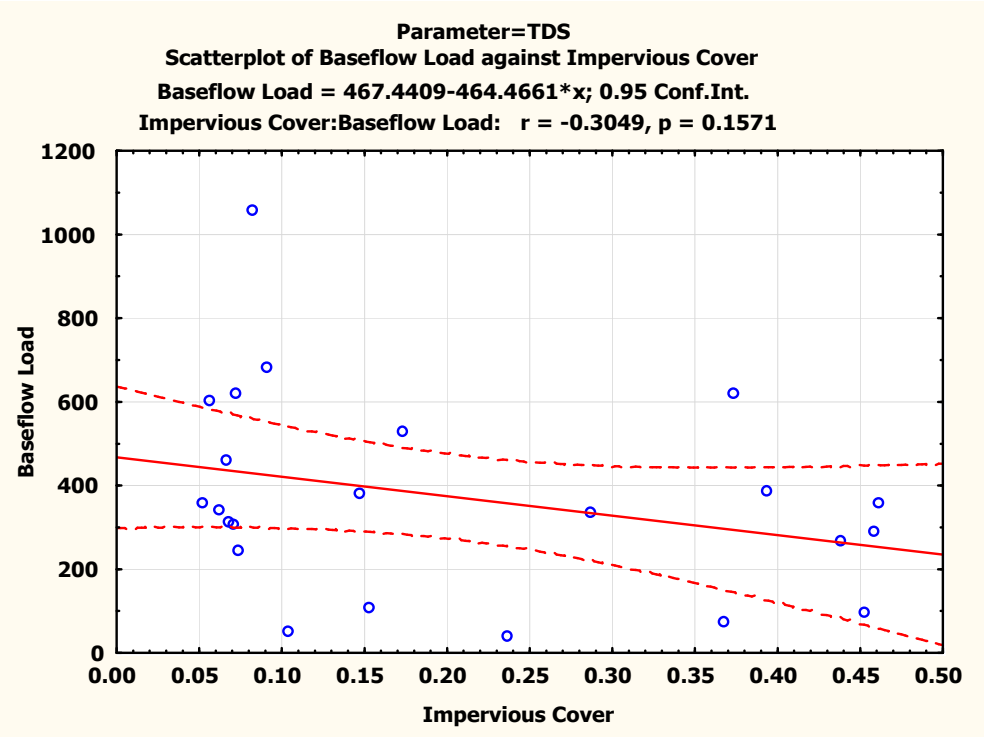


Figure K.9: Load from Baseflow vs. impervious cover for TDS

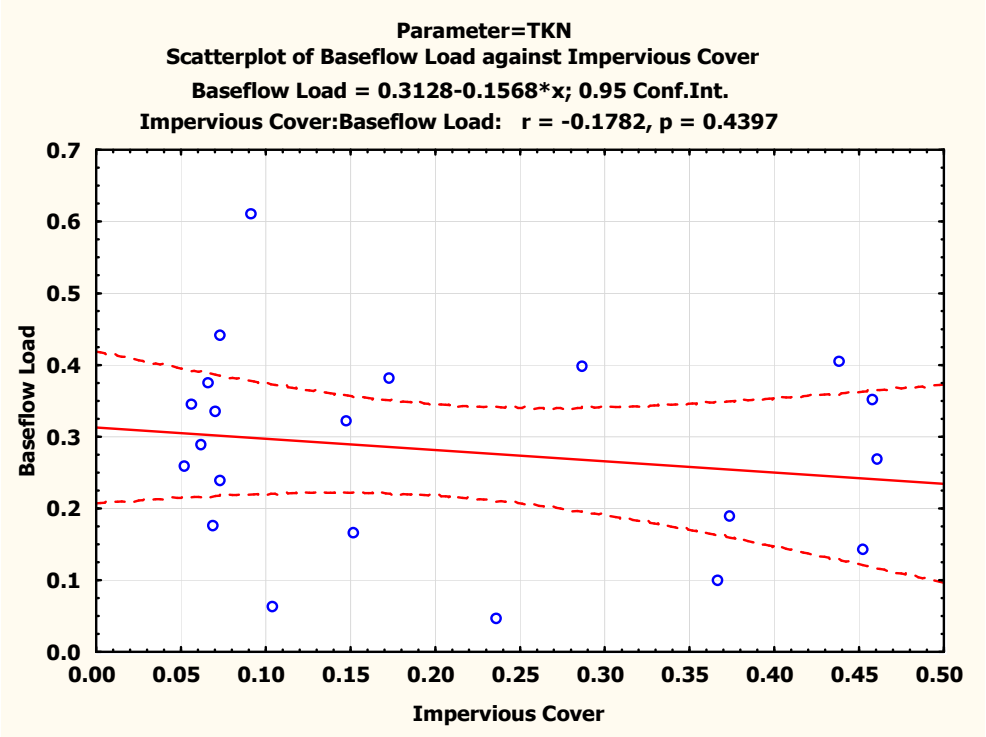


Figure K.10: Load from Baseflow vs. impervious cover for TKN

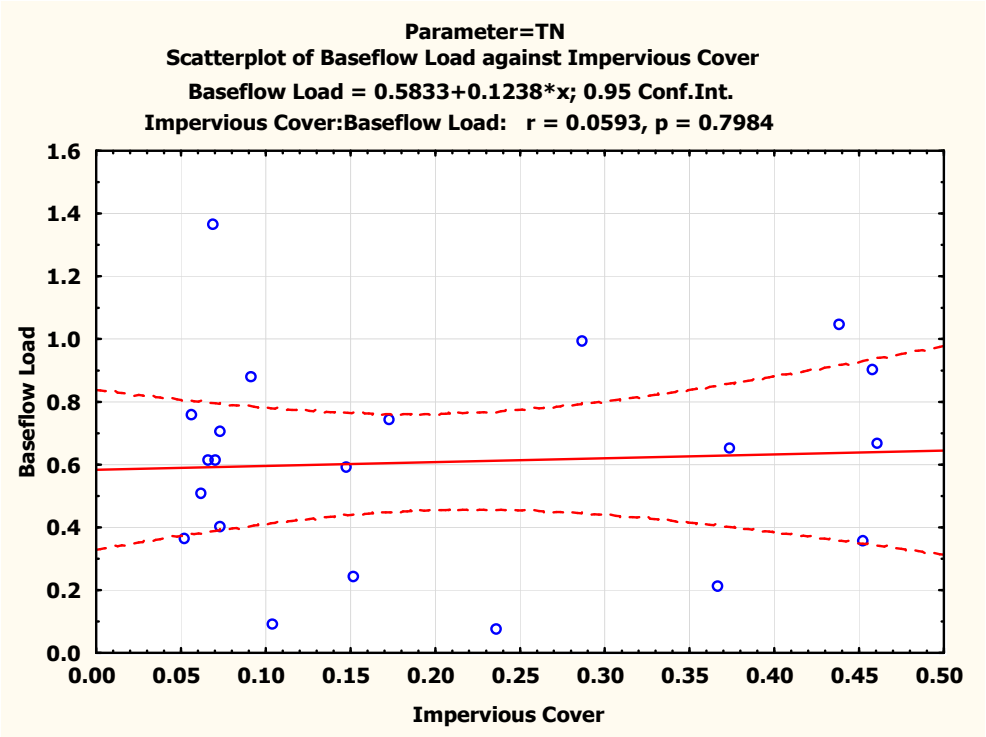


Figure K.11: Load from Baseflow vs. impervious cover for TN

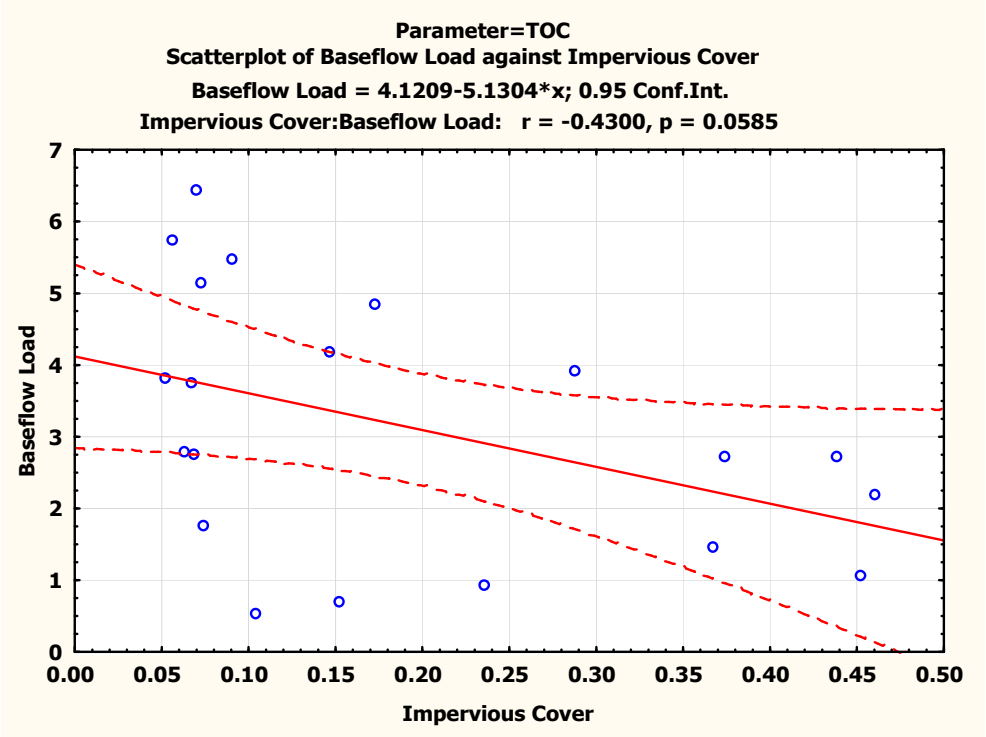


Figure K.12: Load from Baseflow vs. impervious cover for TOC

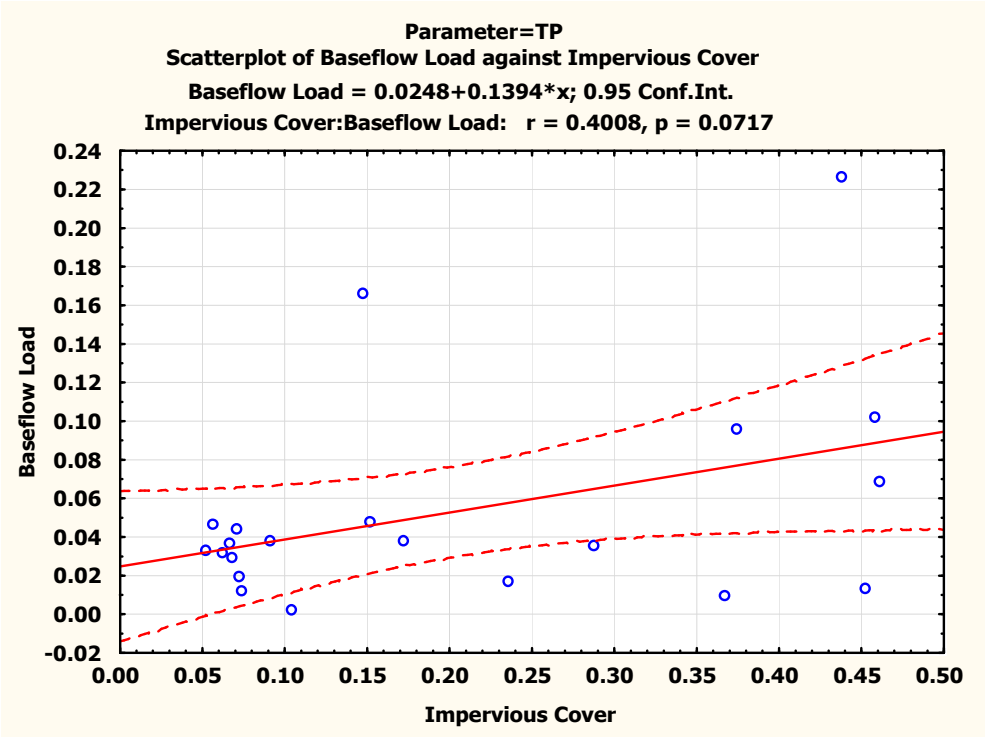


Figure K.13: Load from Baseflow vs. impervious cover for TP

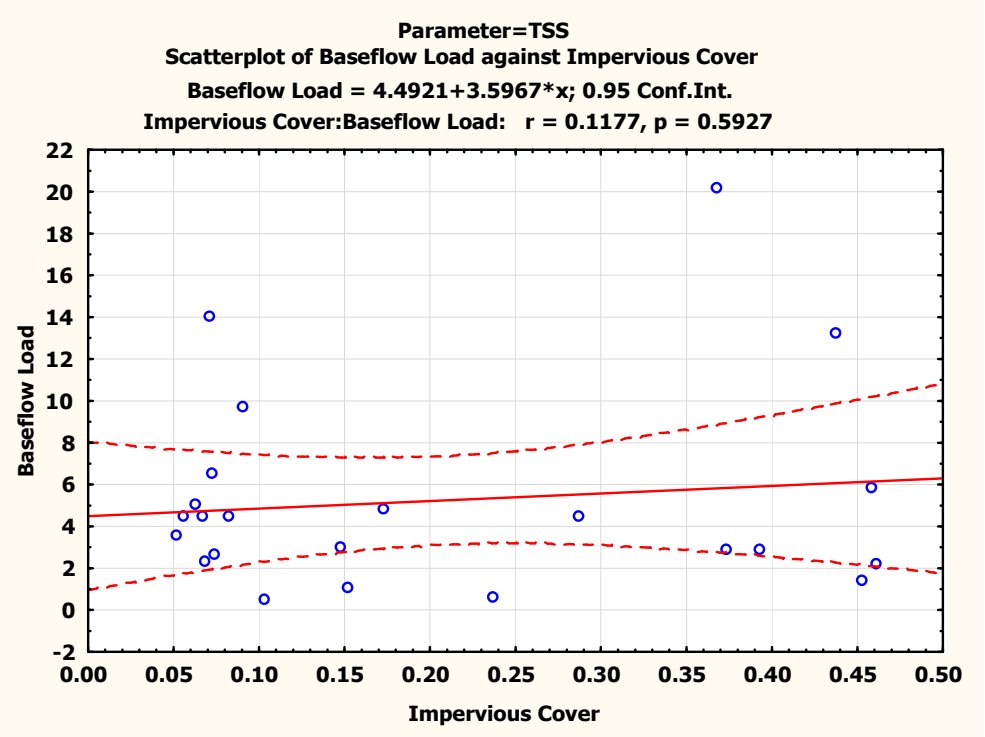


Figure K.14: Load from Baseflow vs. impervious cover for TSS

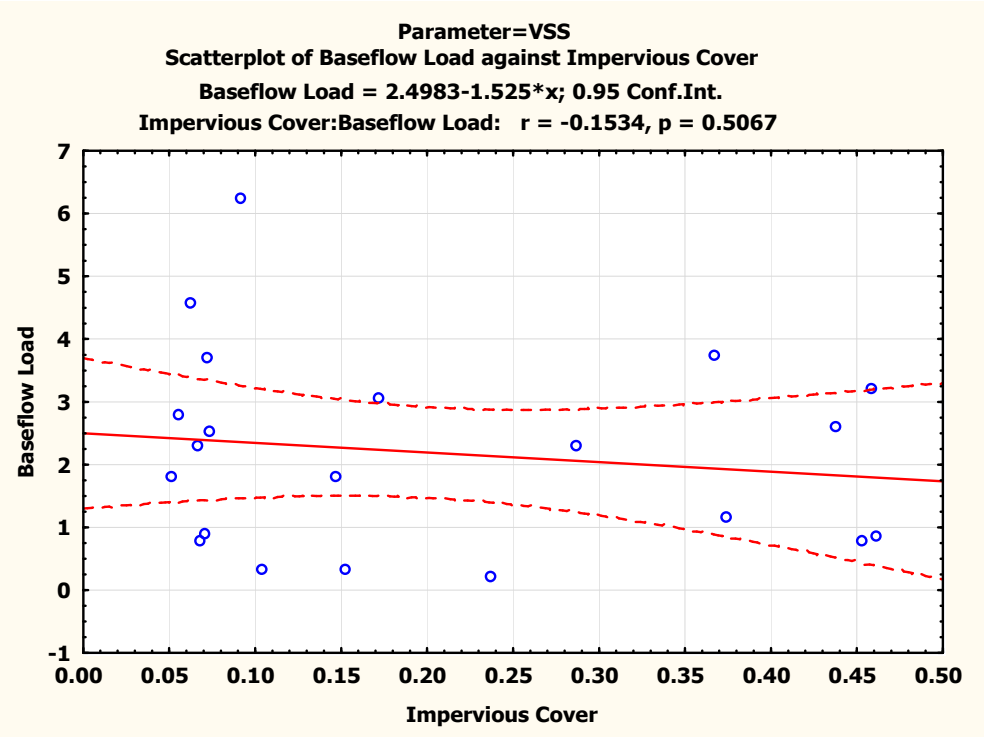


Figure K.15: Load from Baseflow vs. impervious cover for VSS

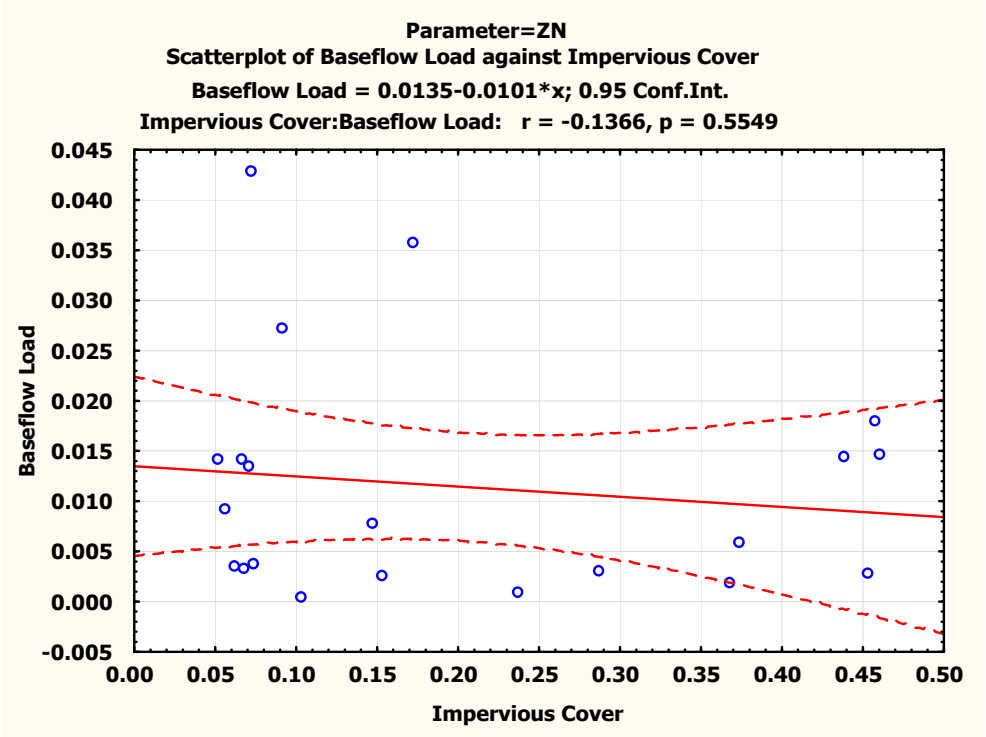


Figure K.16: Load from Baseflow vs. impervious cover for ZN