



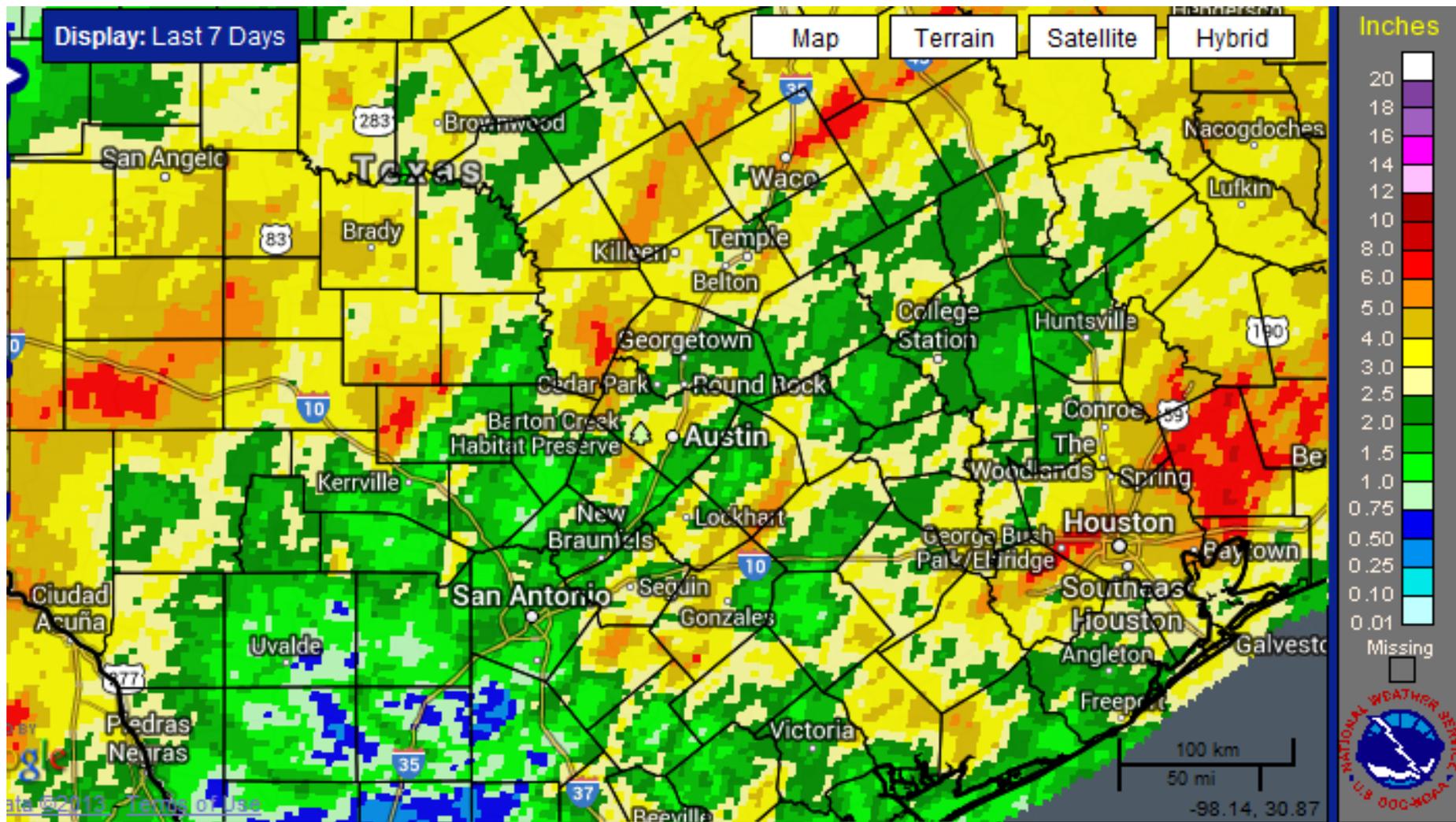
Drought Update; Fall Weather Outlook

Commercial Water Conservation Technical Workshop

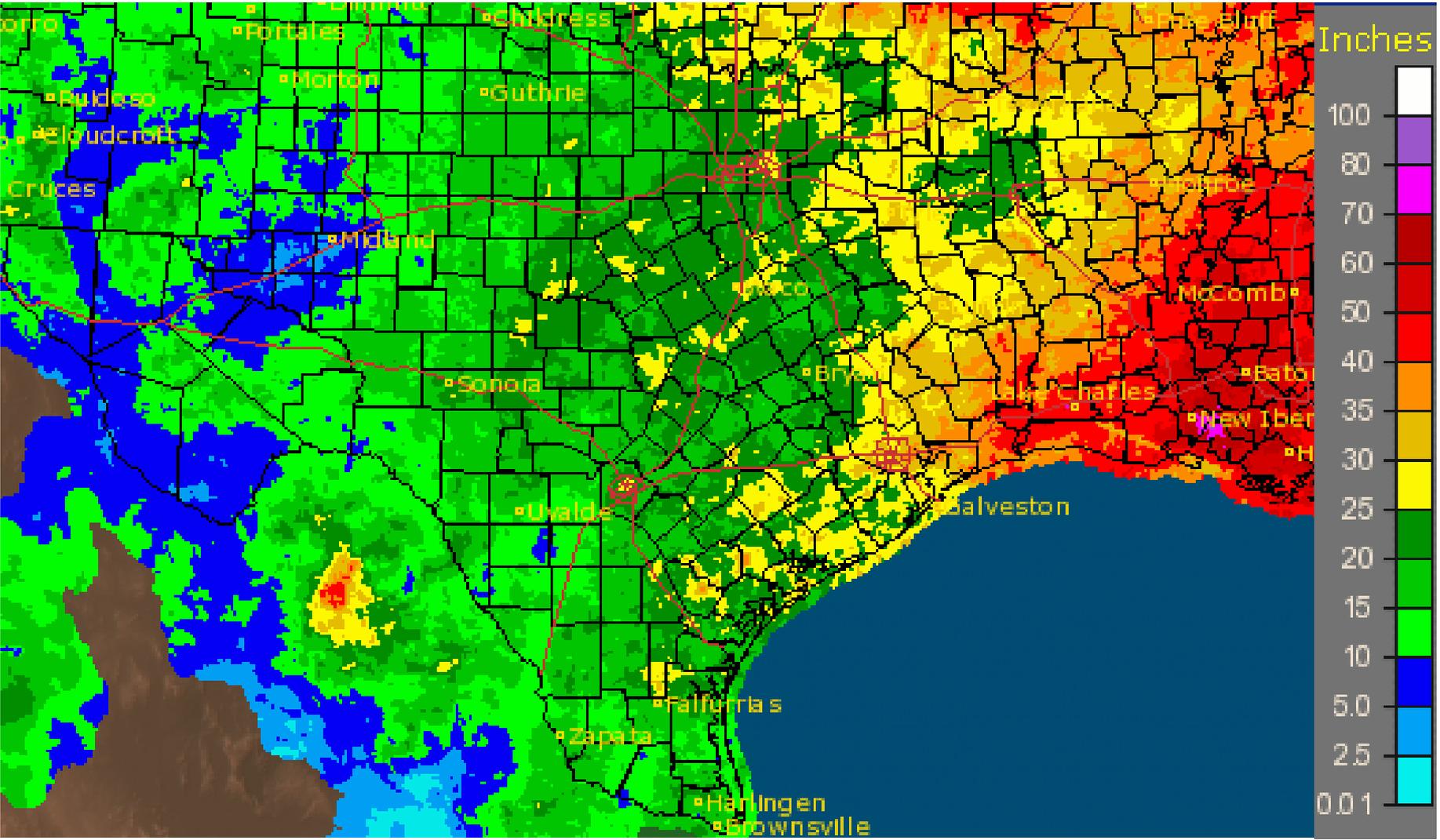
September 25, 2013

Bob Rose, LCRA Chief Meteorologist

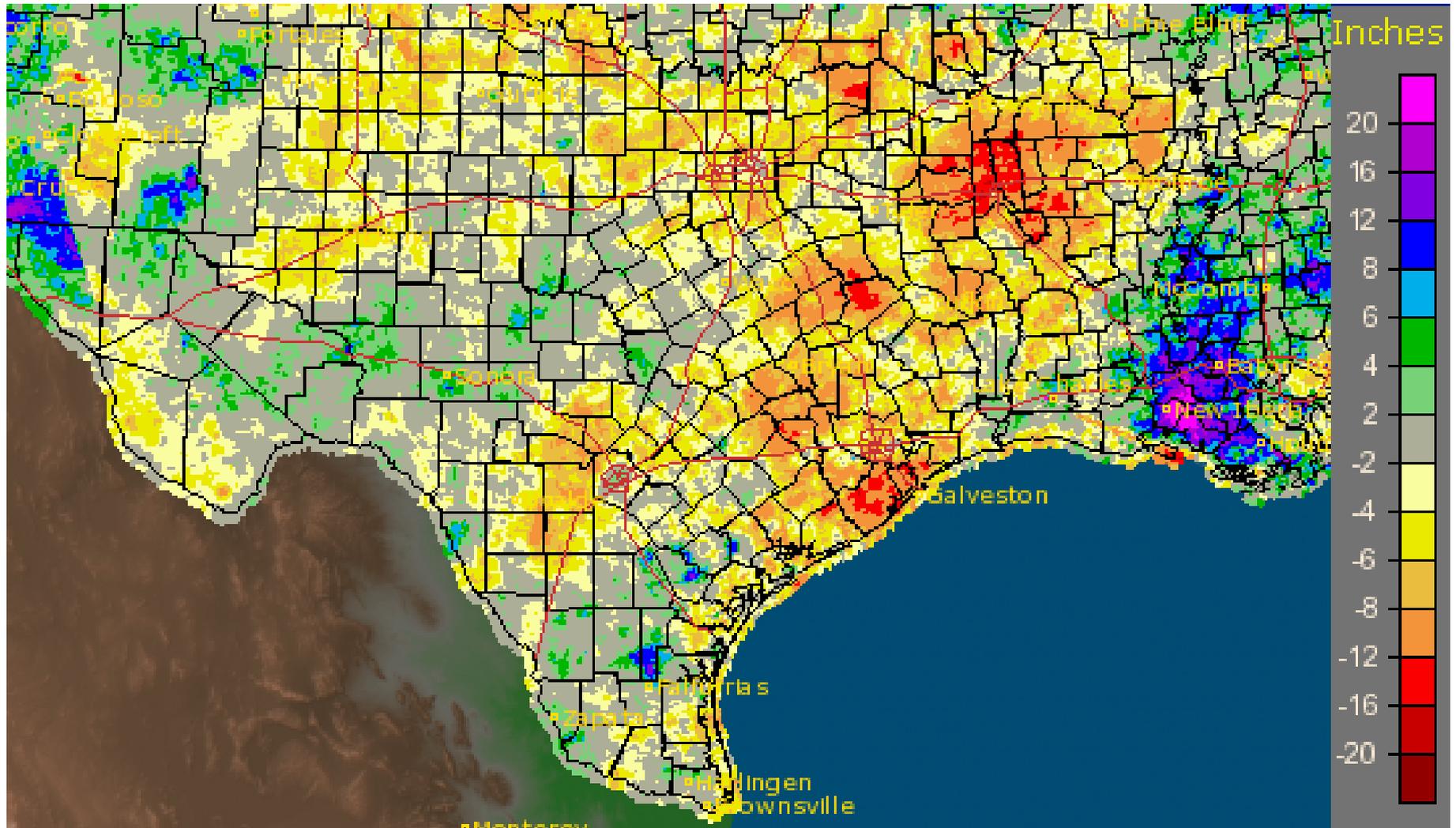
Last Week's Rains



Rainfall, year to date

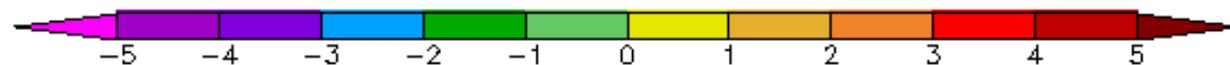
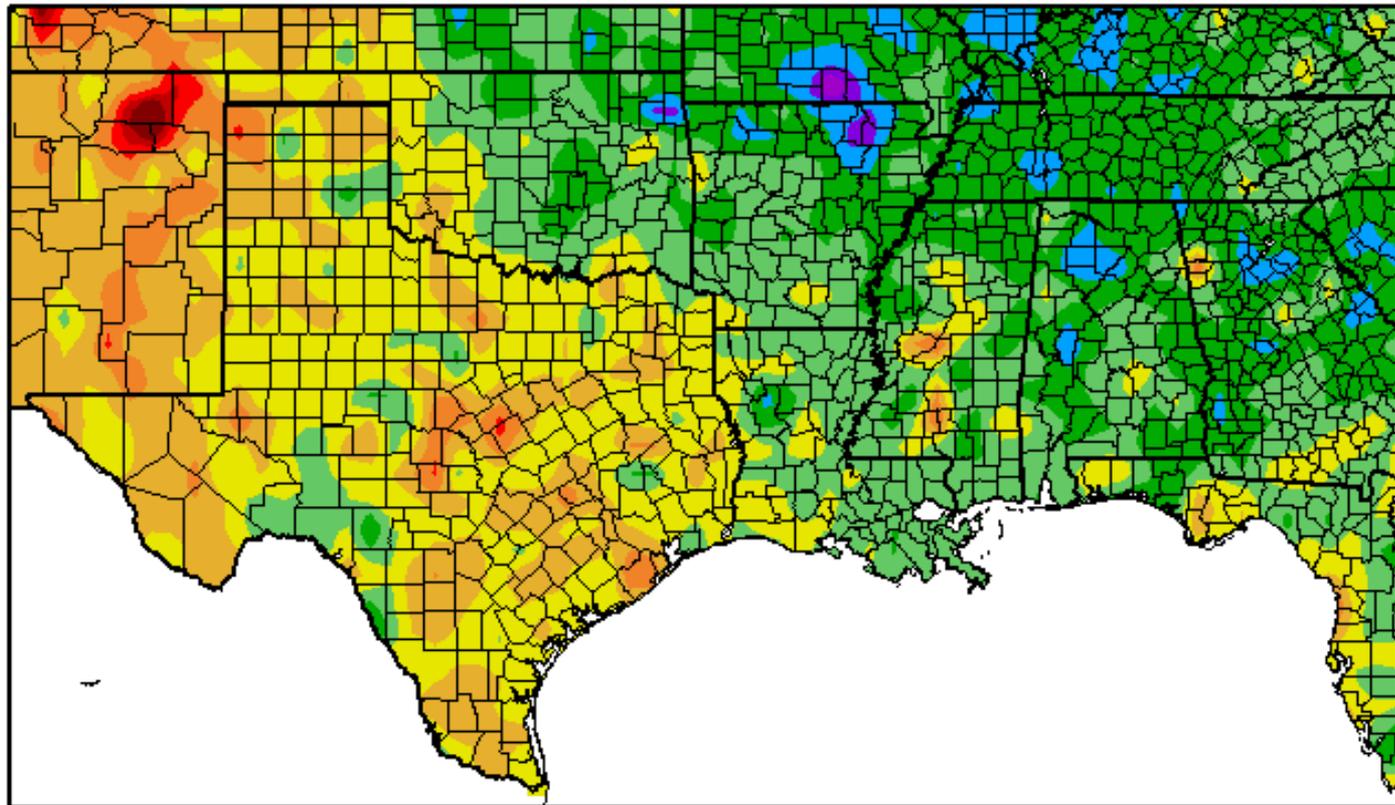


Departure from normal, year to date



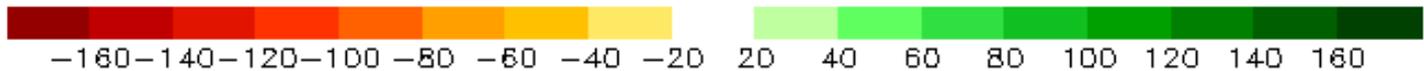
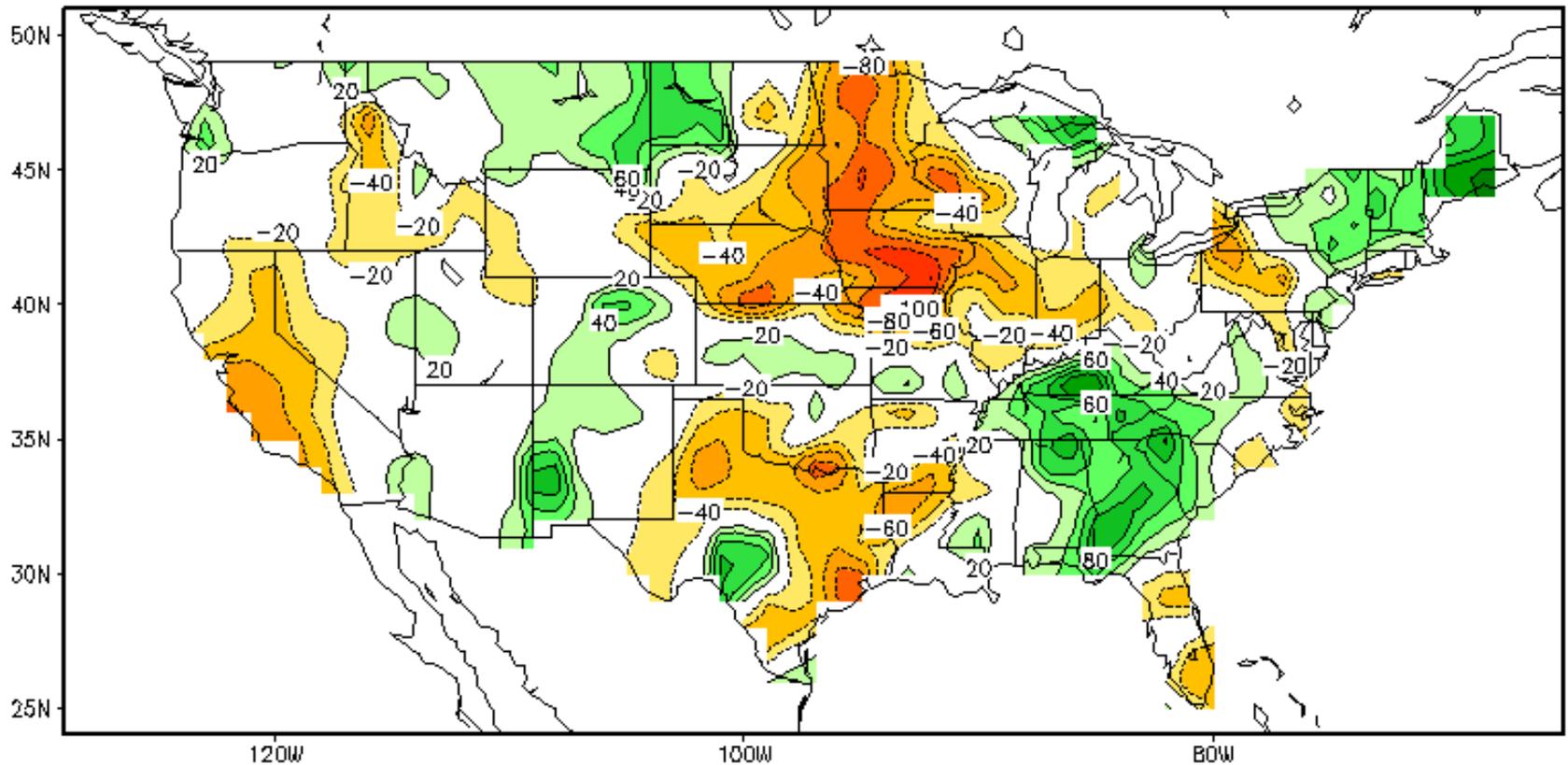
Summer Average Temperature

Departure from Normal Temperature (F)
6/1/2013 – 8/31/2013



Soil Moisture Anomaly

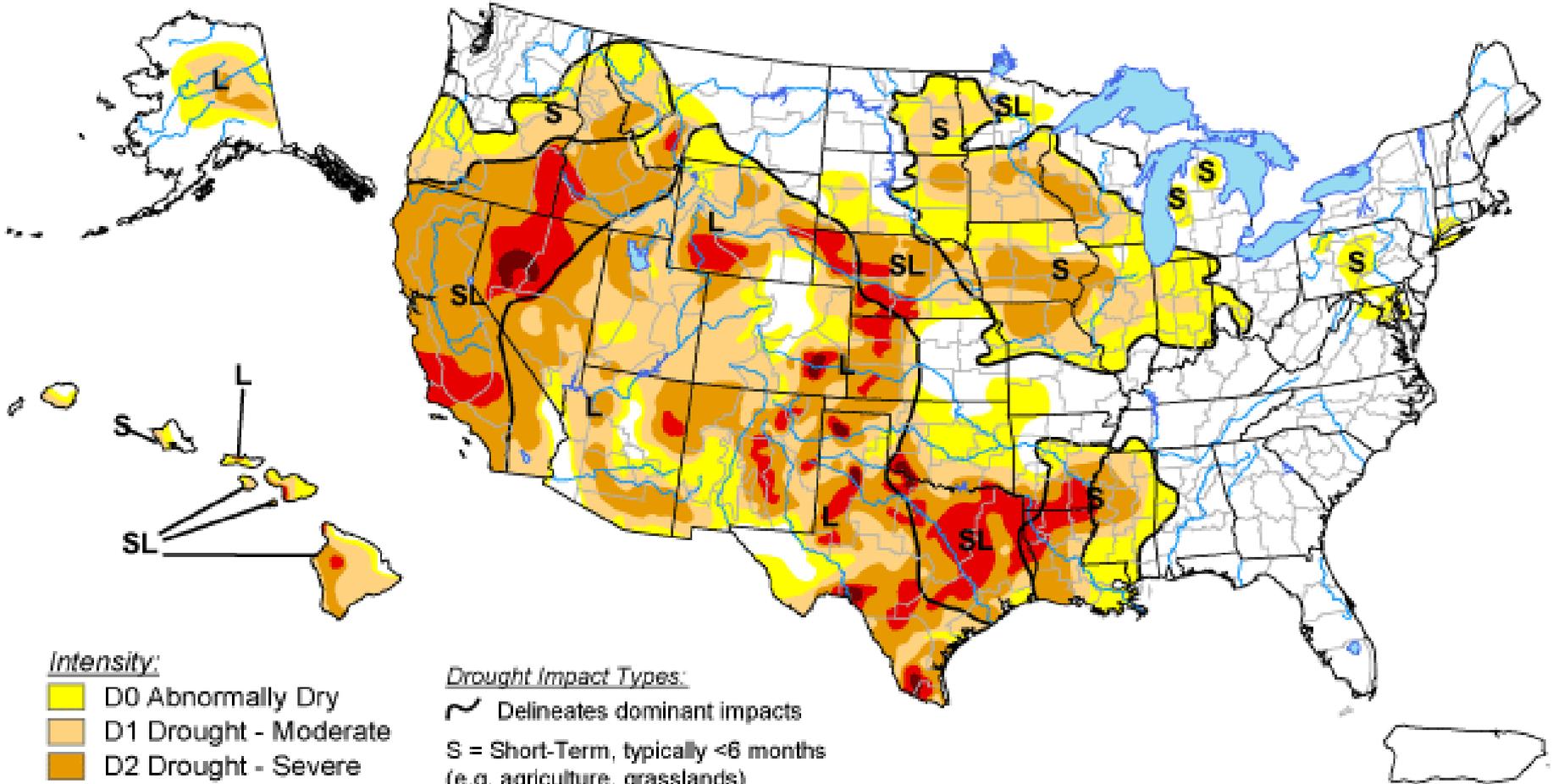
Calculated Soil Moisture Anomaly (mm)
SEP 22, 2013



U.S. Drought Monitor

September 17, 2013

Valid 7 a.m. EDT



Intensity:

-  D0 Abnormally Dry
-  D1 Drought - Moderate
-  D2 Drought - Severe
-  D3 Drought - Extreme
-  D4 Drought - Exceptional

Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months
(e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months
(e.g. hydrology, ecology)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, September 19, 2013

Author: David Miskus, NOAA/NWS/NCEP/CPC

<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor

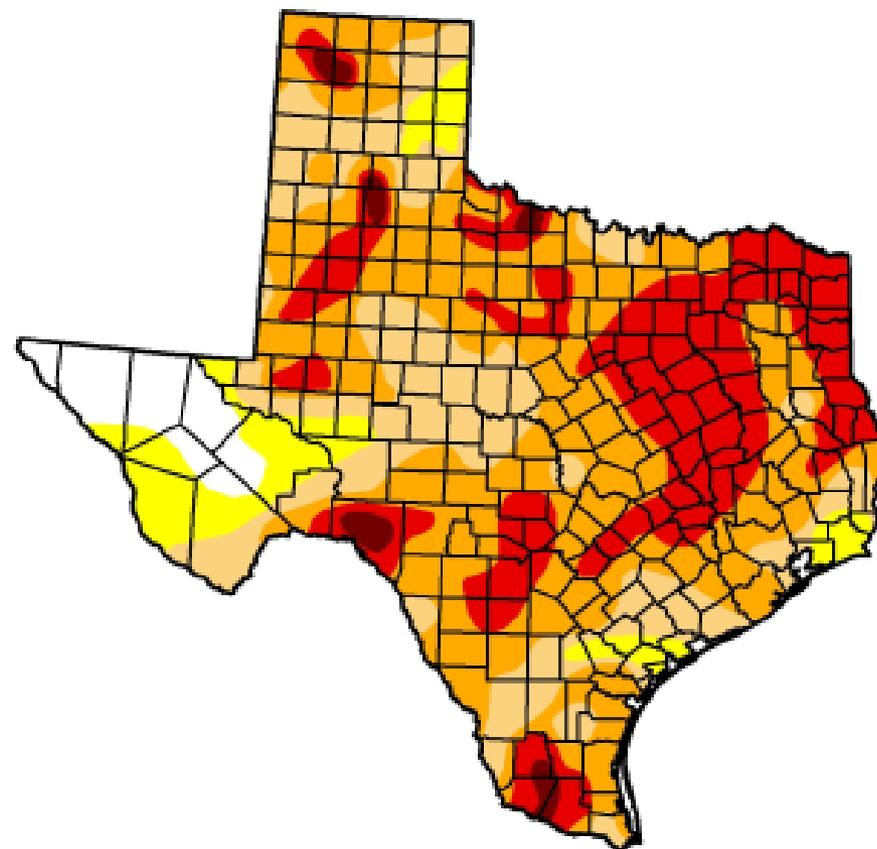
September 17, 2013

Valid 7 a.m. EST

Texas

Drought Conditions (Percent Area)

| | None | D0-D4 | D1-D4 | D2-D4 | D3-D4 | D4 |
|---|------|-------|-------|-------|-------|-------|
| Current | 5.30 | 94.70 | 86.30 | 64.06 | 25.08 | 1.65 |
| Last Week (09/10/2013 map) | 4.14 | 95.86 | 87.12 | 65.59 | 21.79 | 2.62 |
| 3 Months Ago (06/18/2013 map) | 4.76 | 95.24 | 84.82 | 58.48 | 29.43 | 11.83 |
| Start of Calendar Year (01/01/2013 map) | 3.04 | 96.96 | 87.00 | 65.39 | 35.03 | 11.96 |
| Start of Water Year (09/25/2012 map) | 9.13 | 90.87 | 78.73 | 57.41 | 24.91 | 5.18 |
| One Year Ago (09/11/2012 map) | 7.26 | 92.74 | 76.50 | 52.10 | 23.13 | 4.80 |



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

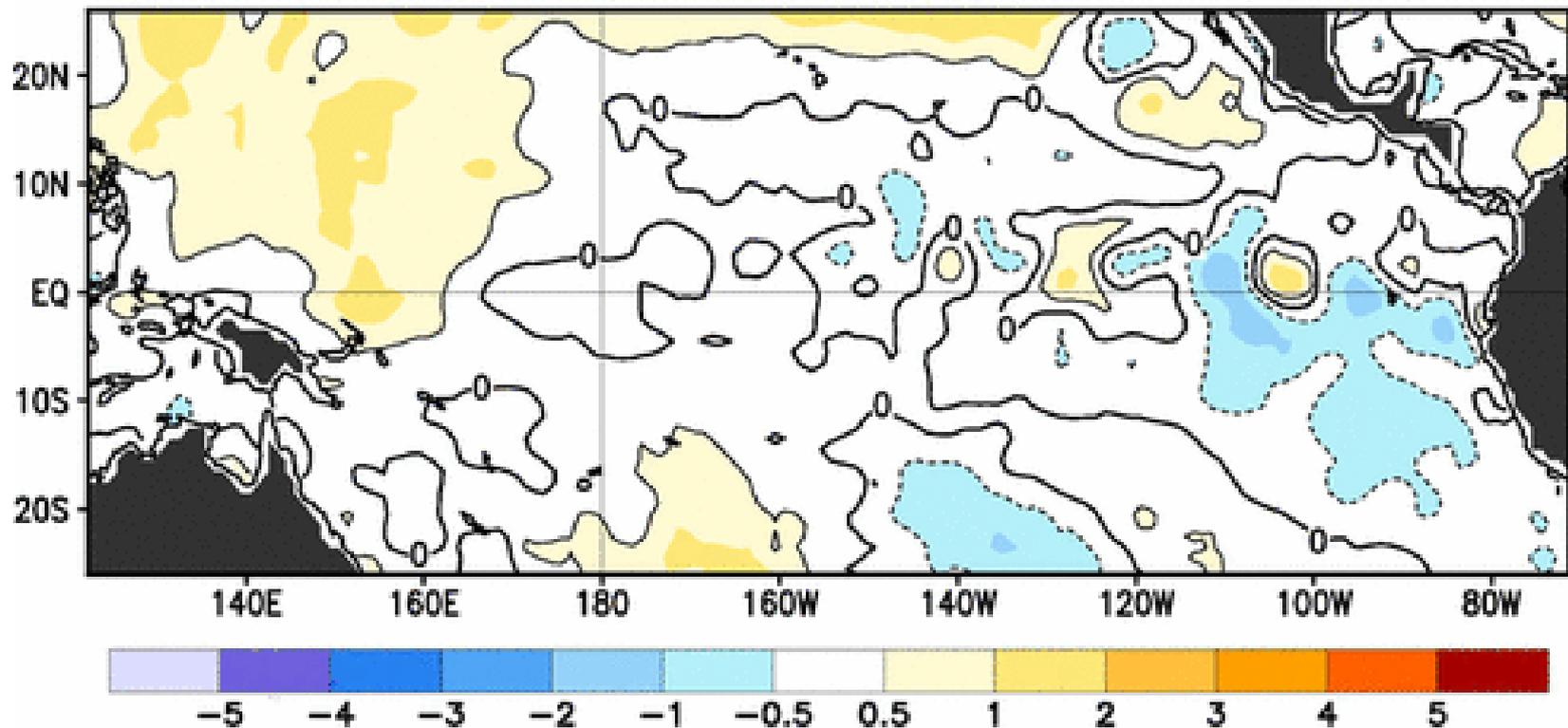
<http://droughtmonitor.unl.edu>



Released Thursday, September 19, 2013
National Drought Mitigation Center,

Pacific Remains Neutral

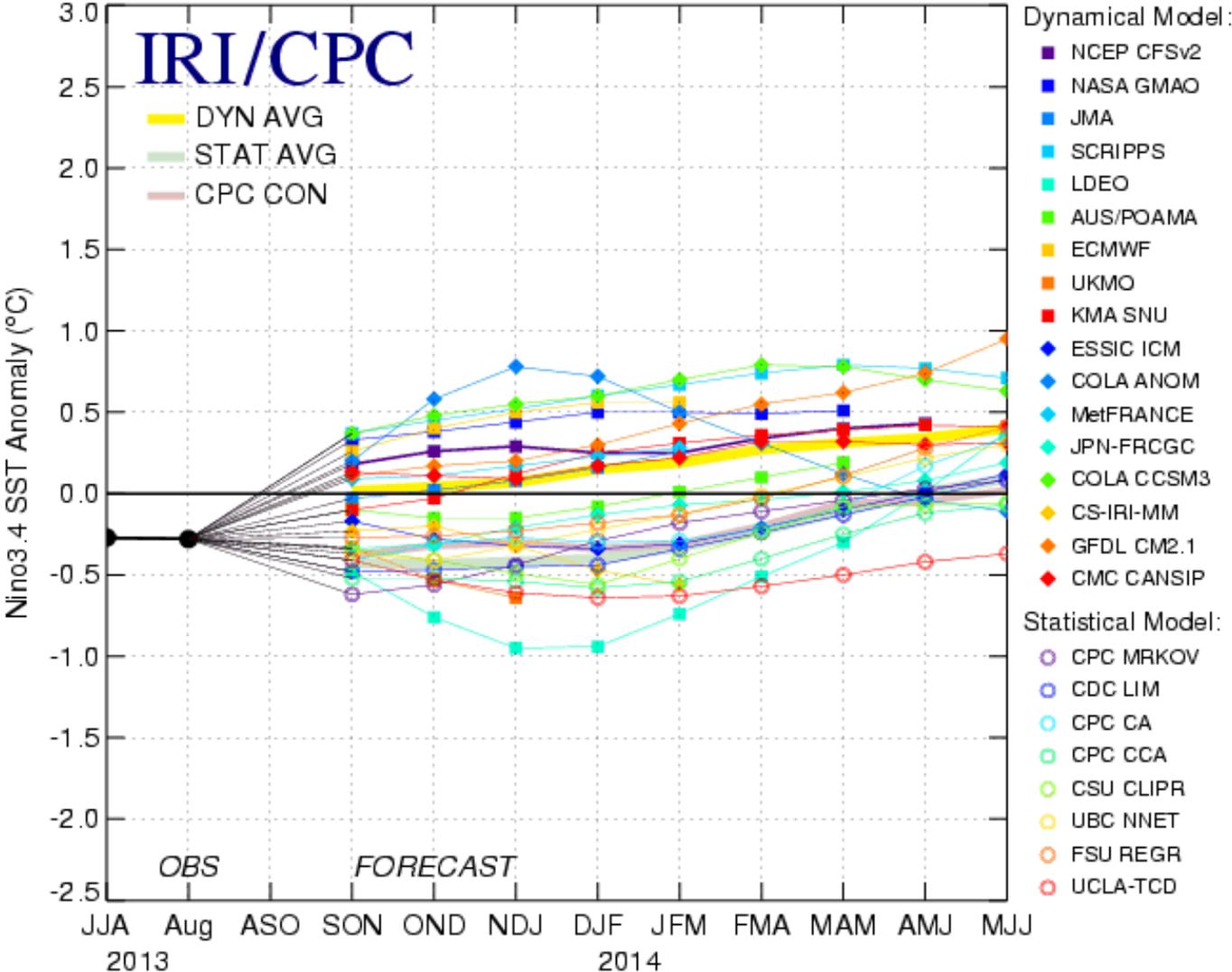
Observed Sea Surface Temperature Anomalies (°C)



7-day Average Centered on 11 September 2013

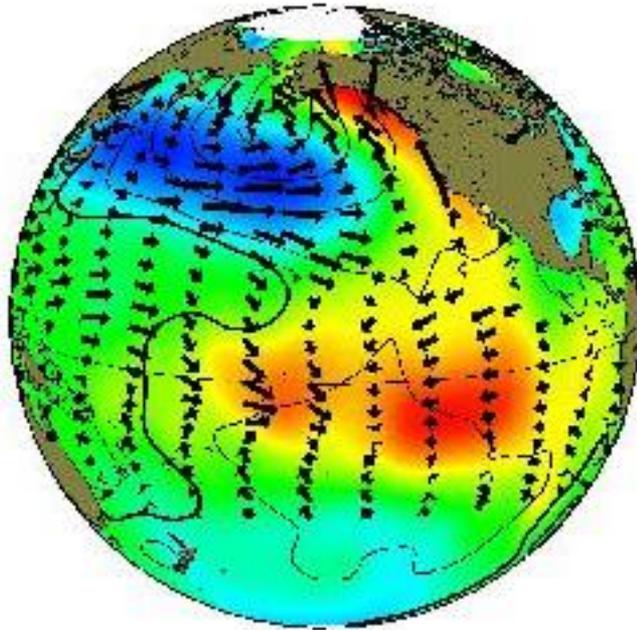
Niño Outlook for Next 9 Months

Mid-Sep 2013 Plume of Model ENSO Predictions

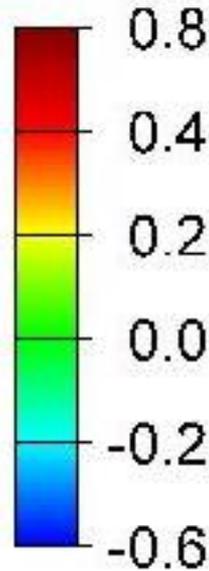
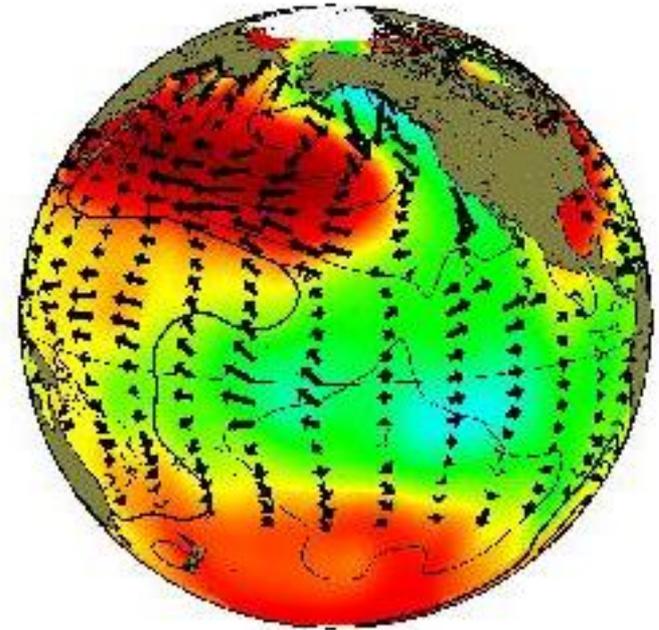


The Pacific Decadal Oscillation

warm phase

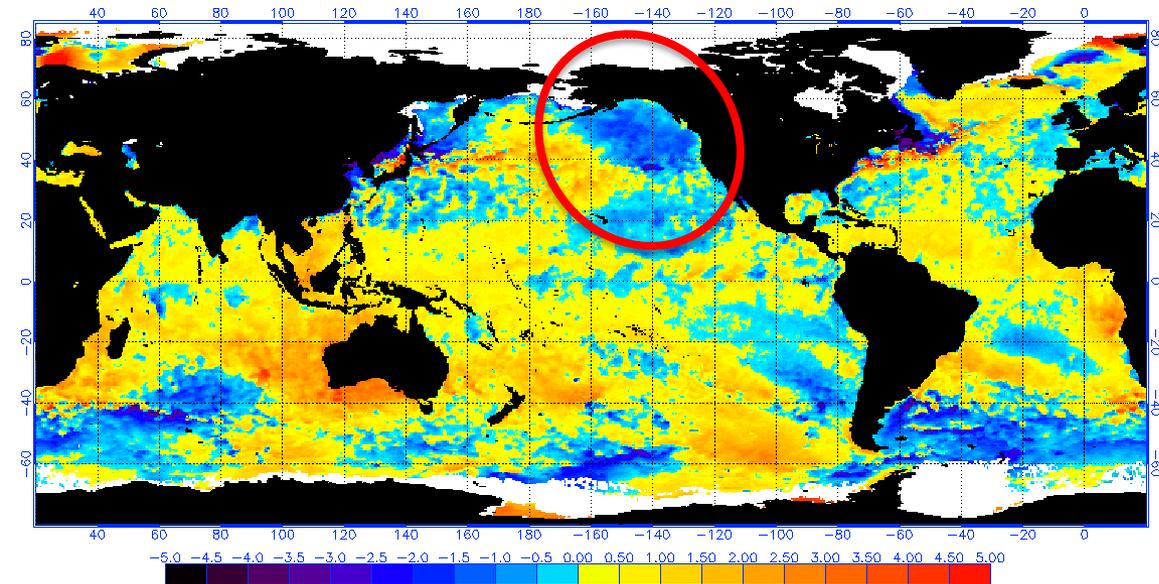


cool phase



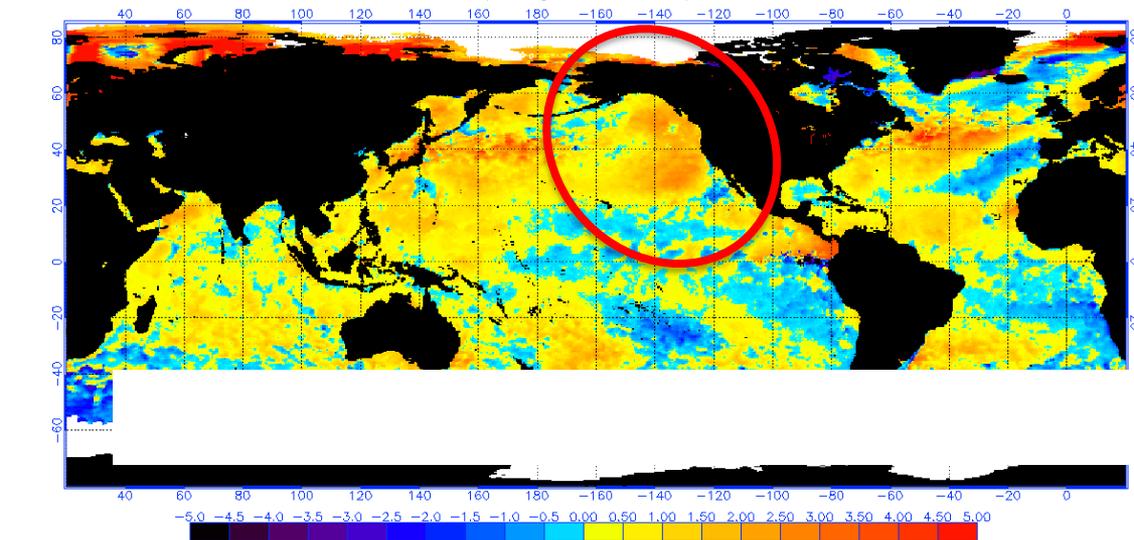
Changes Off the West Coast

NOAA/NESDIS 50 KM GLOBAL ANALYSIS: SST Anomaly (degrees C), 1/3/2013
(white regions indicate sea-ice)



January 3, 2013

NOAA/NESDIS 50 KM GLOBAL ANALYSIS: SST Anomaly (degrees C), 9/16/2013
(white regions indicate sea-ice)



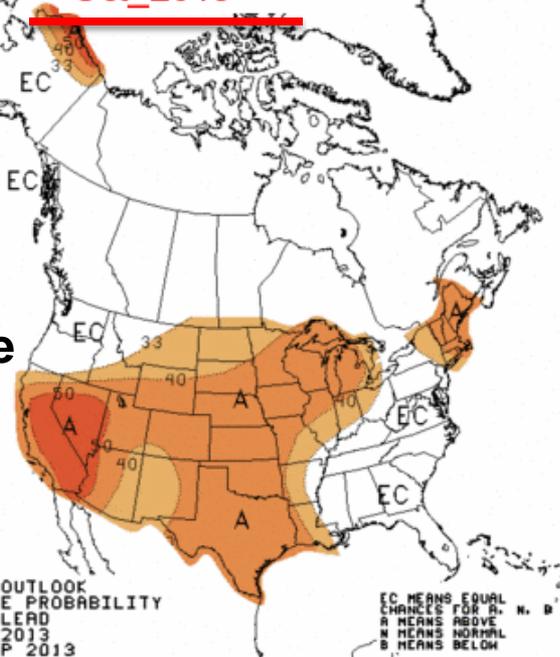
September 16, 2013

Oct_2013

Temperature



ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID OCT 2013
MADE 19 SEP 2013



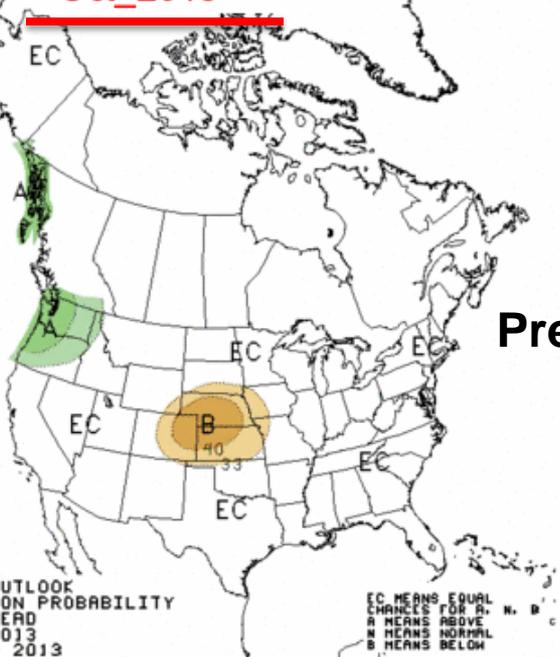
EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Oct_2013

Precipitation



ONE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID OCT 2013
MADE 19 SEP 2013

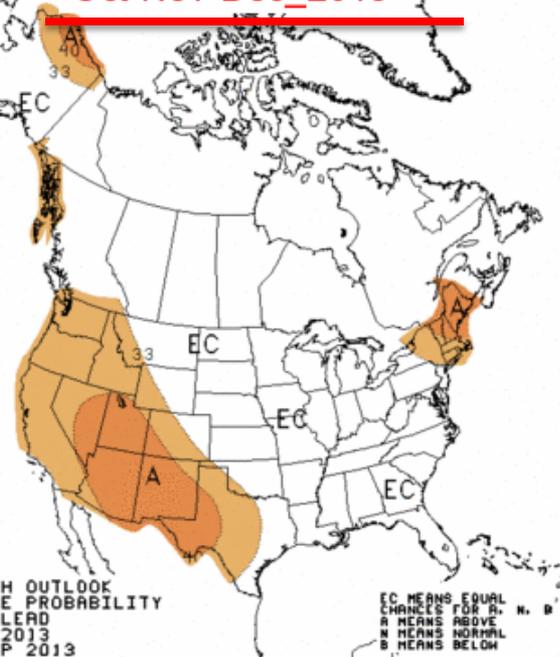


EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Oct-Nov-Dec_2013



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID OND 2013
MADE 19 SEP 2013



EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Oct-Nov-Dec_2013



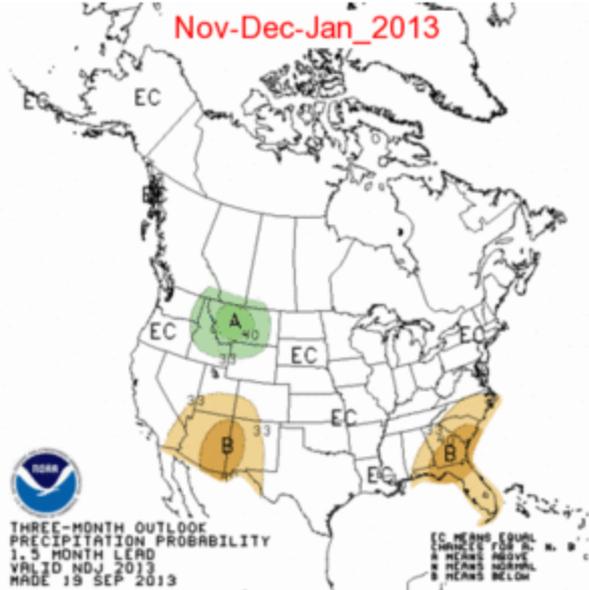
THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID OND 2013
MADE 19 SEP 2013



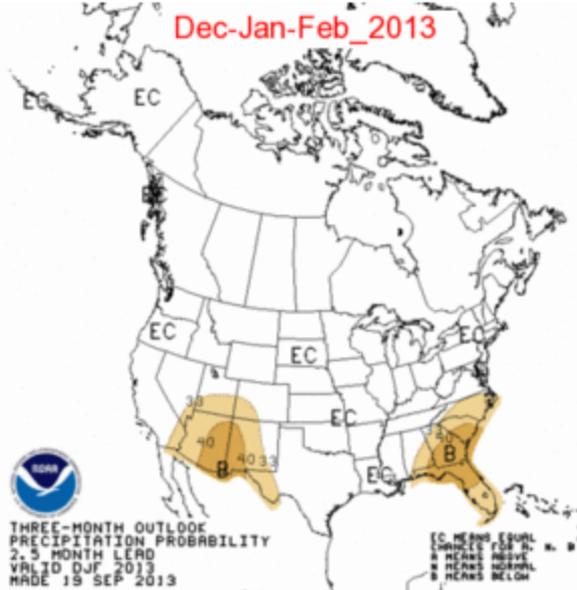
EC MEANS EQUAL CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

NWS Rainfall Outlook

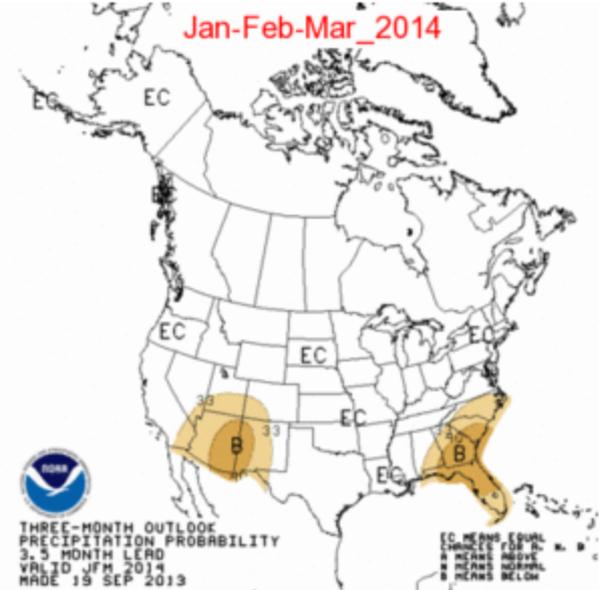
Nov-Dec-Jan_2013



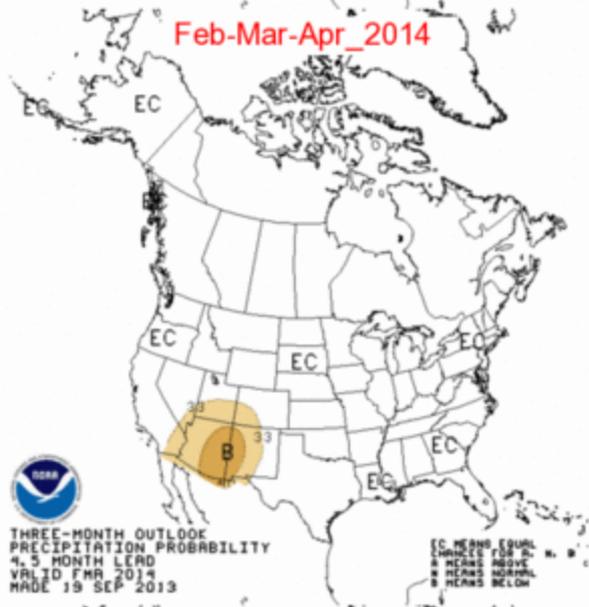
Dec-Jan-Feb_2013



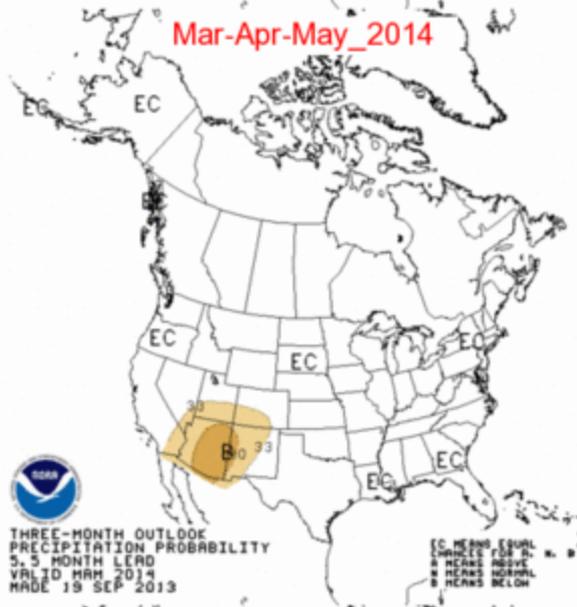
Jan-Feb-Mar_2014



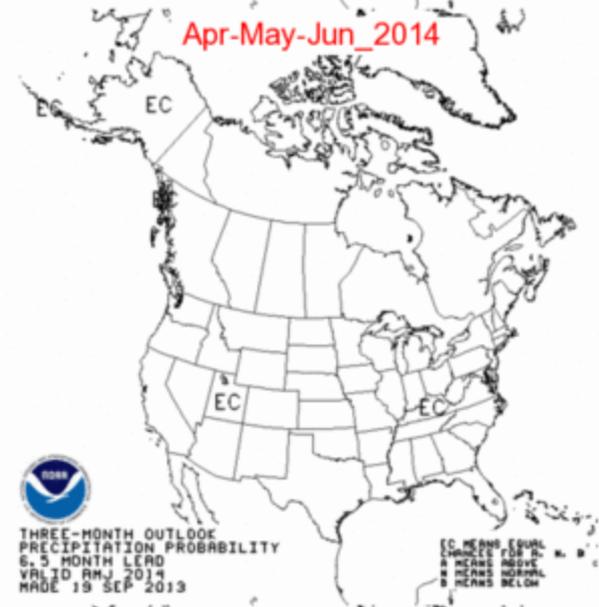
Feb-Mar-Apr_2014



Mar-Apr-May_2014

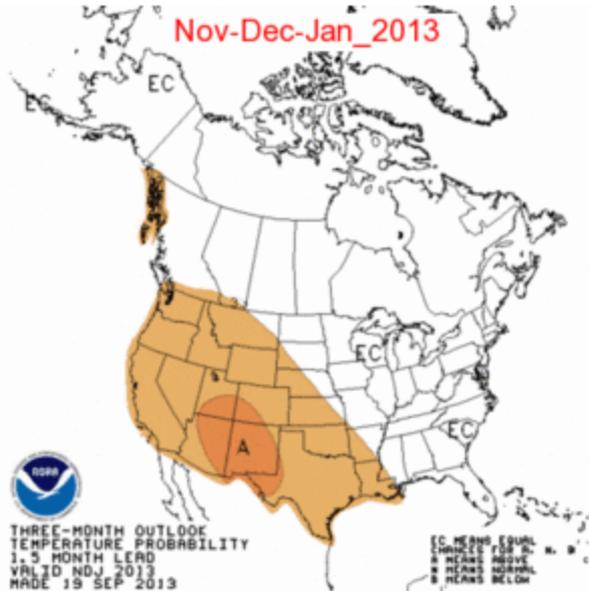


Apr-May-Jun_2014

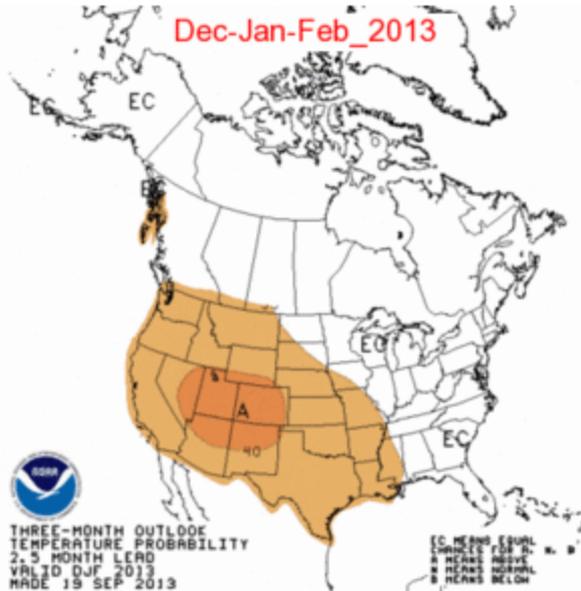


NWS Temperature Outlook

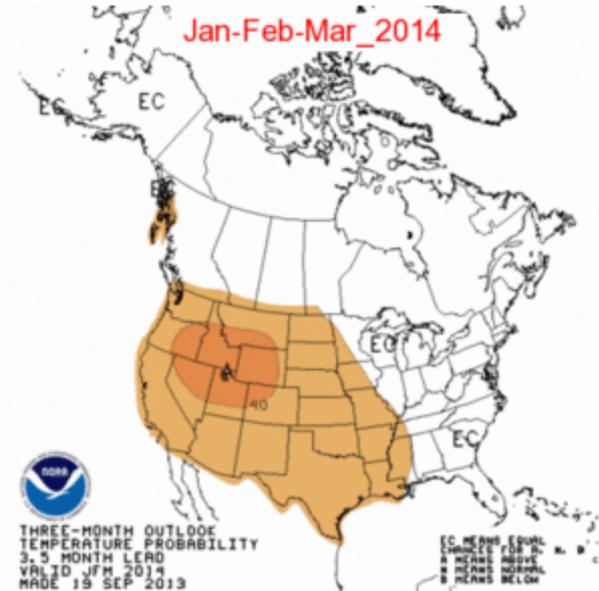
Nov-Dec-Jan_2013



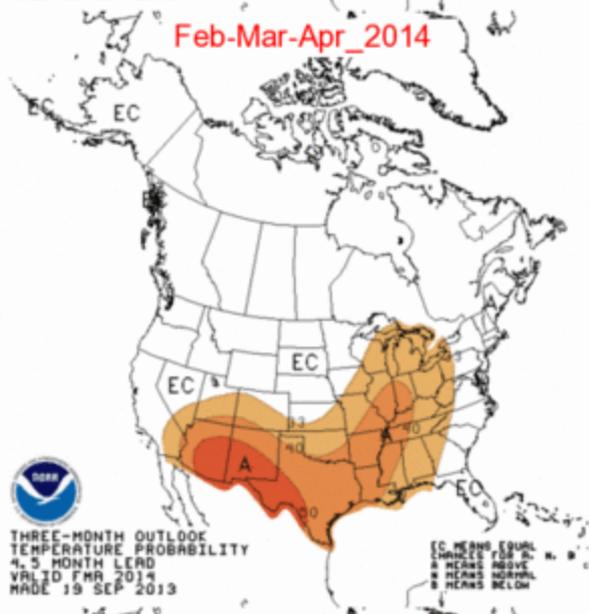
Dec-Jan-Feb_2013



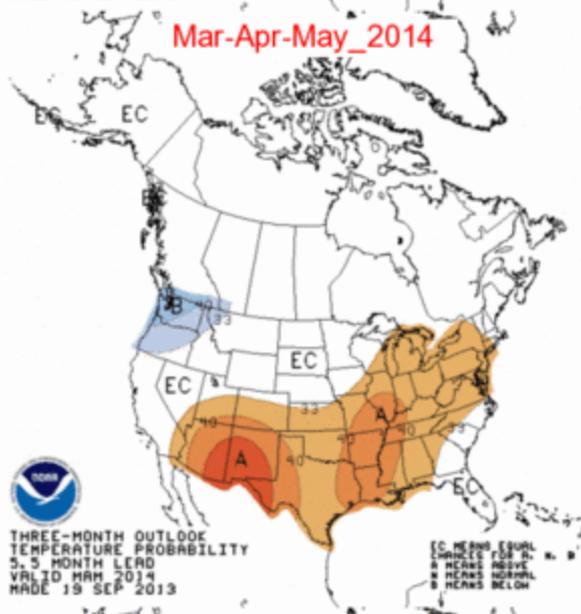
Jan-Feb-Mar_2014



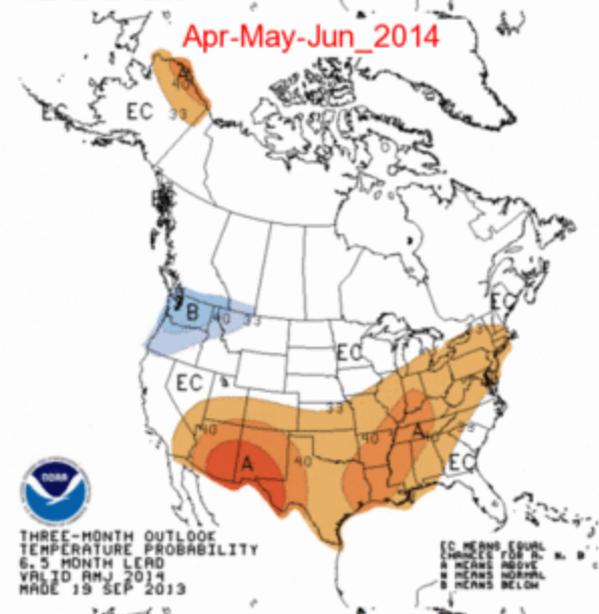
Feb-Mar-Apr_2014



Mar-Apr-May_2014



Apr-May-Jun_2014



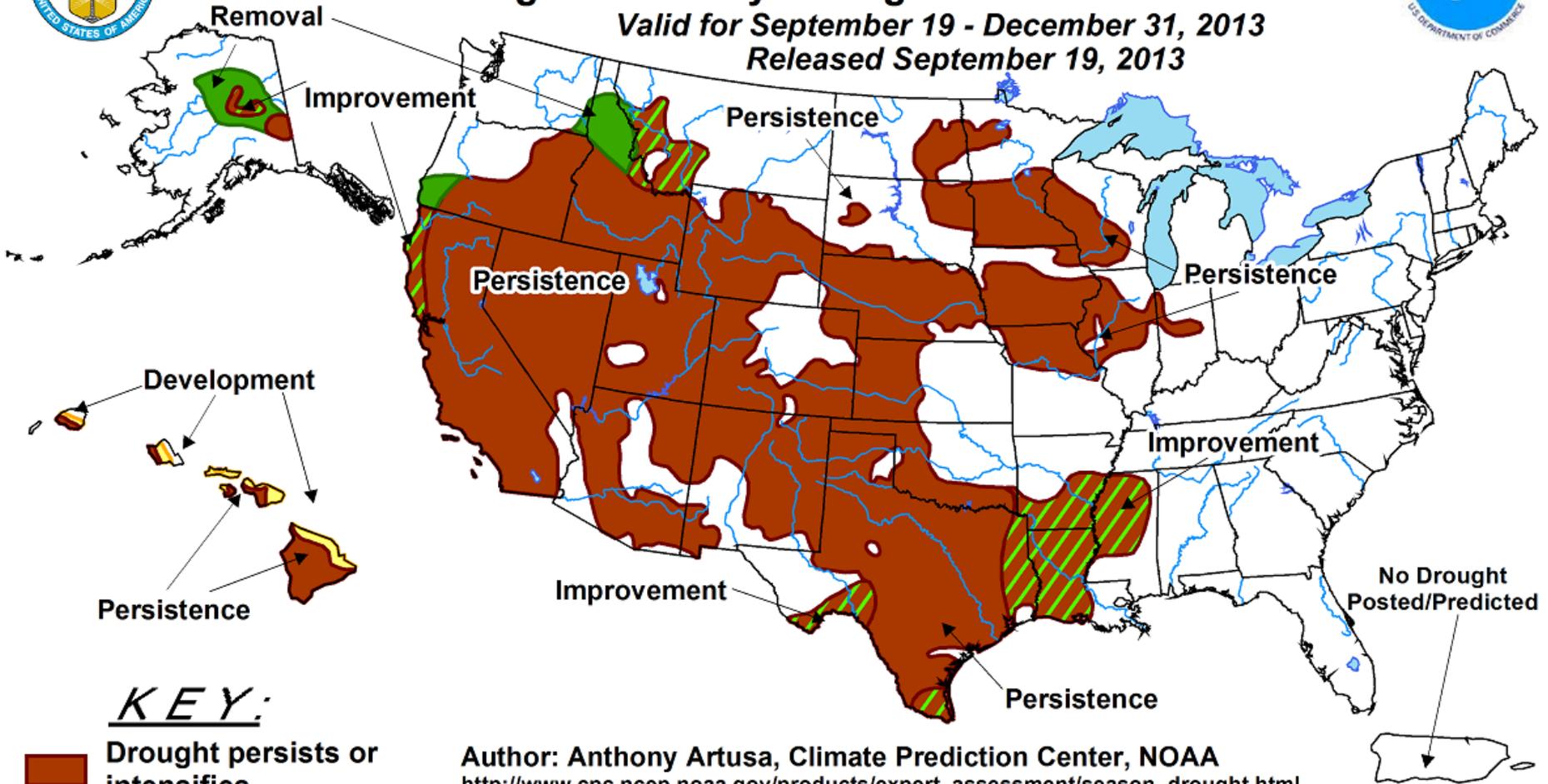


U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for September 19 - December 31, 2013

Released September 19, 2013



KEY:

-  Drought persists or intensifies
-  Drought remains but improves
-  Drought removal likely
-  Drought development likely

Author: Anthony Artusa, Climate Prediction Center, NOAA

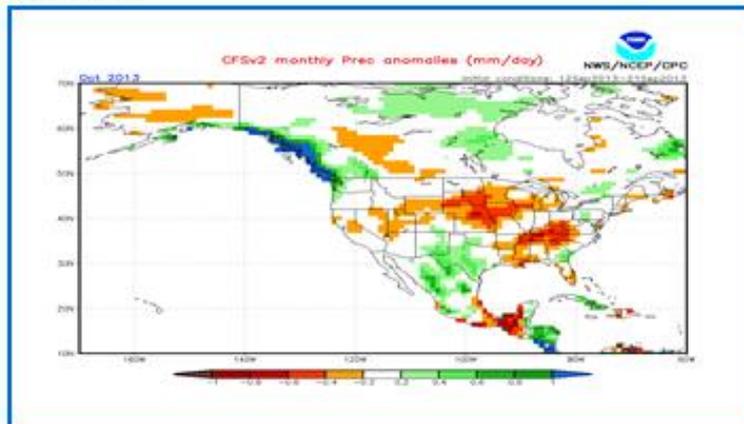
http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor.

NOTE: The Green and Brown hatched areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period although drought will remain. The Green areas imply drought removal by the end of the period (D0 or none)

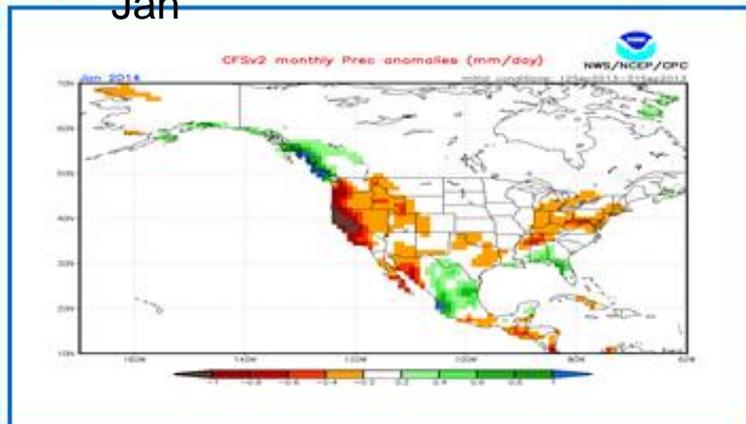
CFS monthly precipitation anomalies

Oct 2013

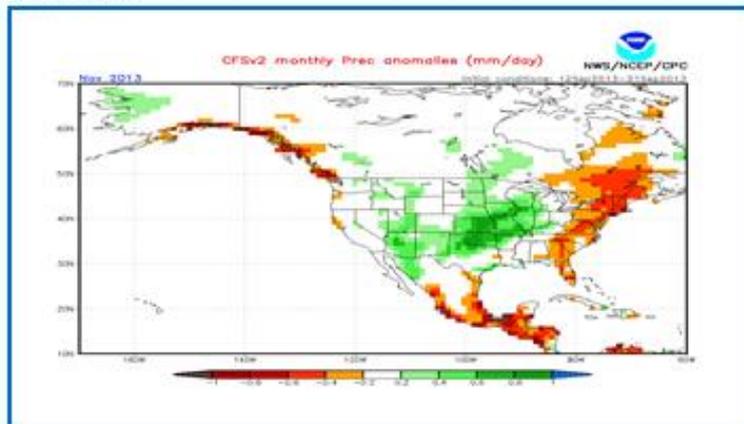


2014

Jan

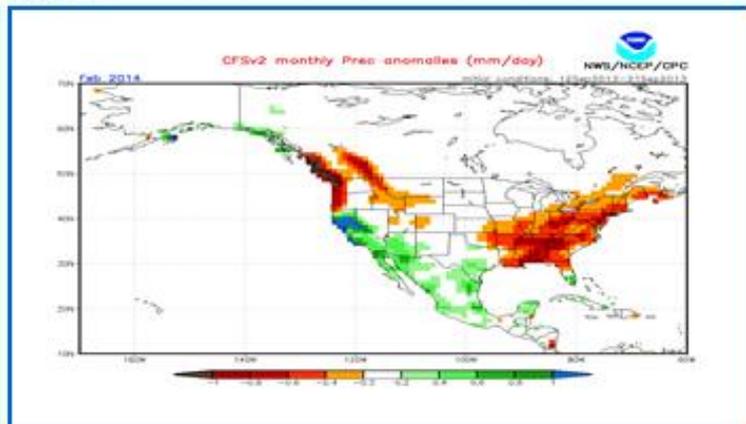


Nov 2013

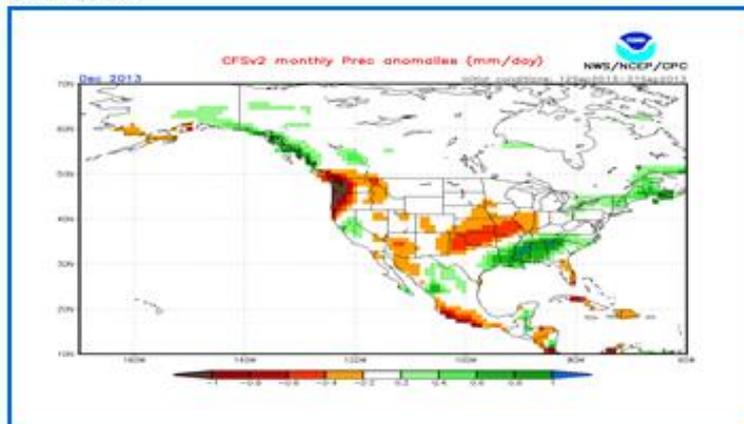


2014

Feb

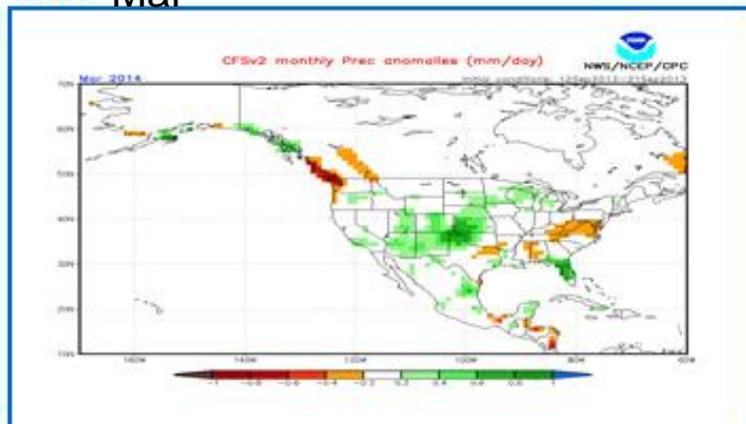


Dec 2013



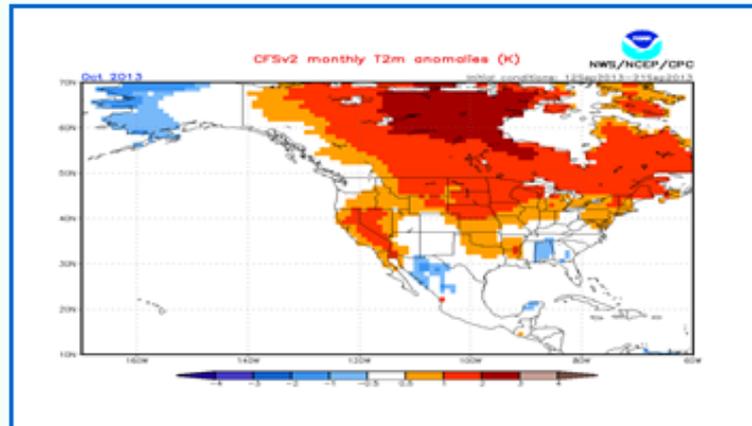
2014

Mar

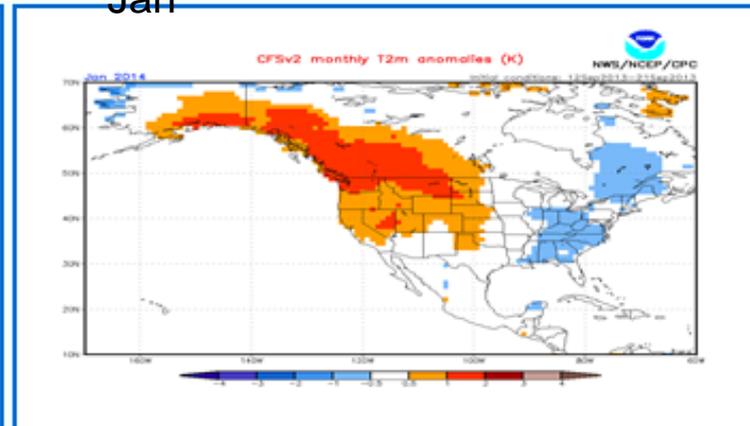


CFS monthly Temp. anomalies

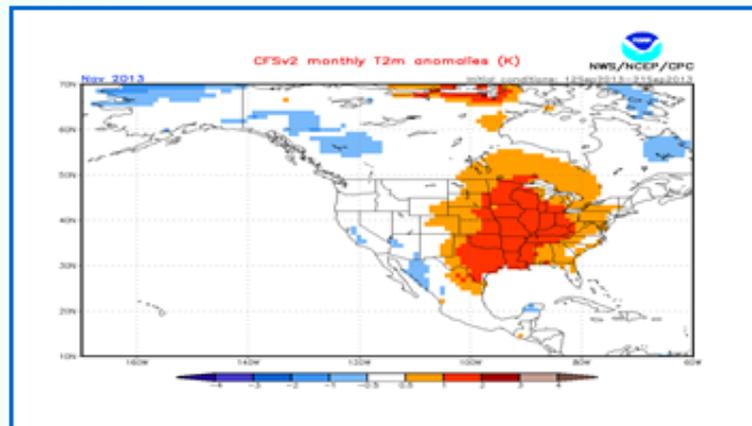
Oct 2013



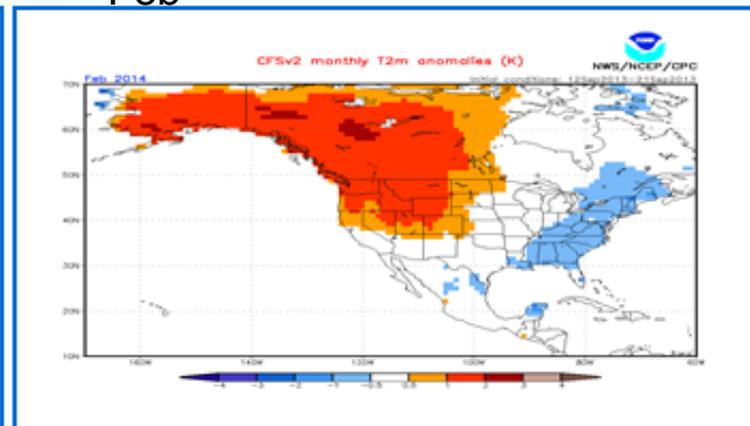
2014 Jan



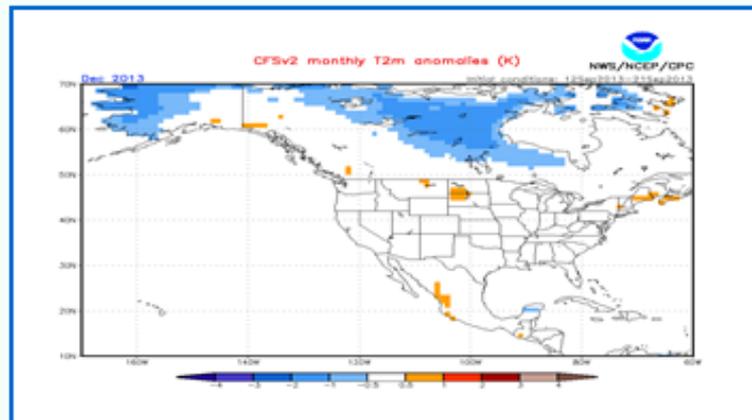
Nov 2013



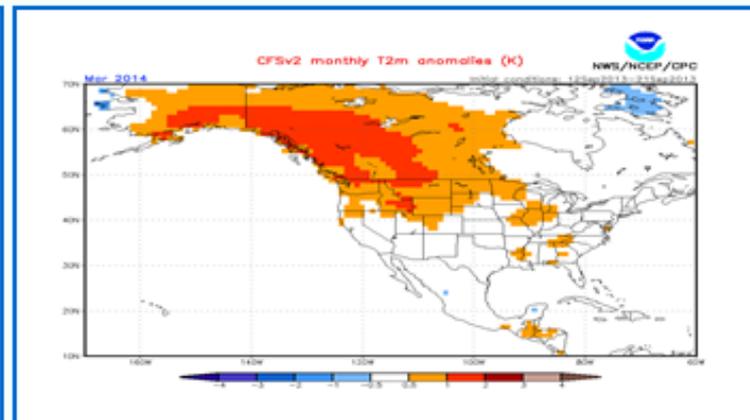
2014 Feb



Dec 2013



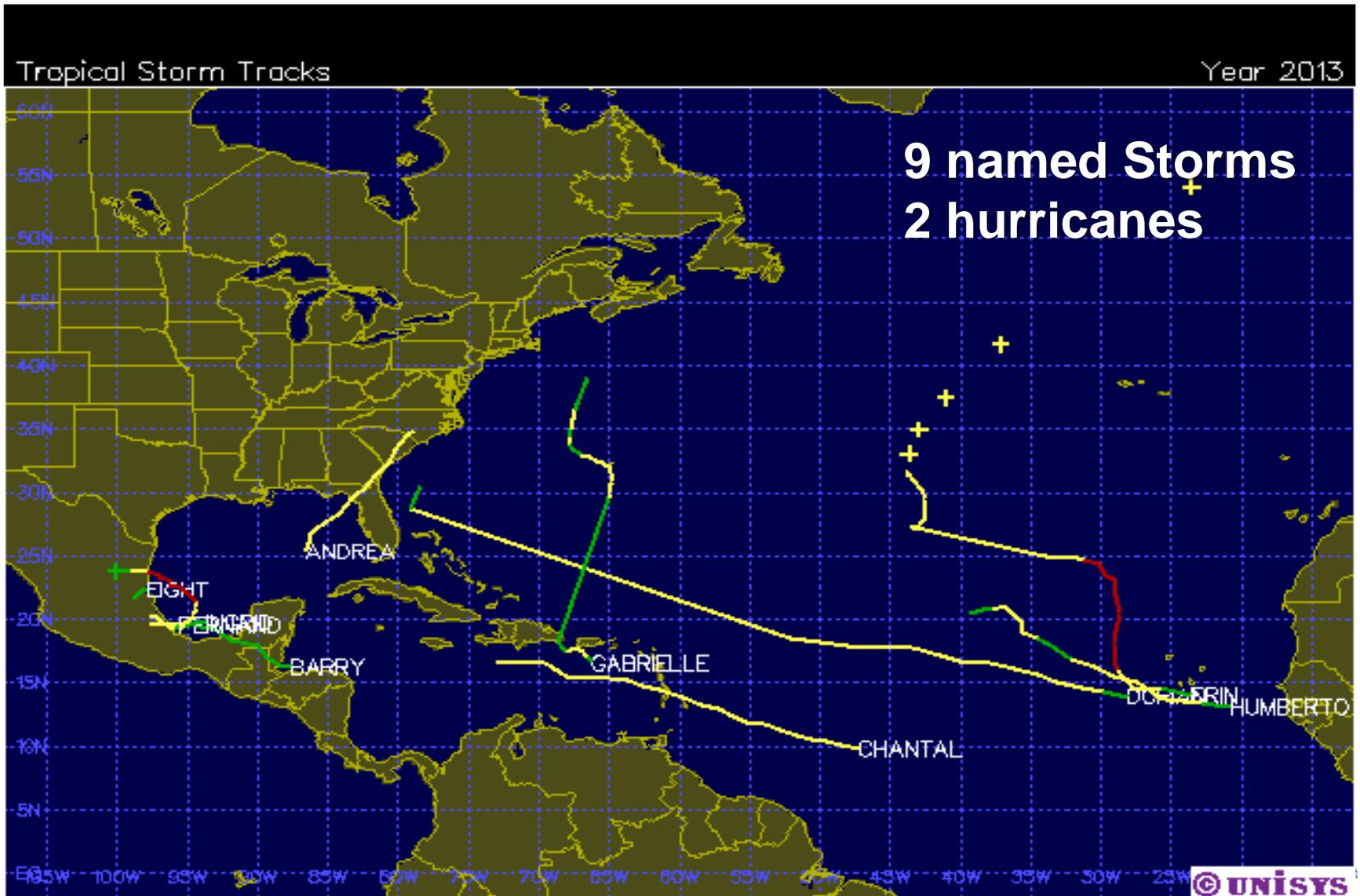
2014 Mar



The 2013 Atlantic Hurricane Season

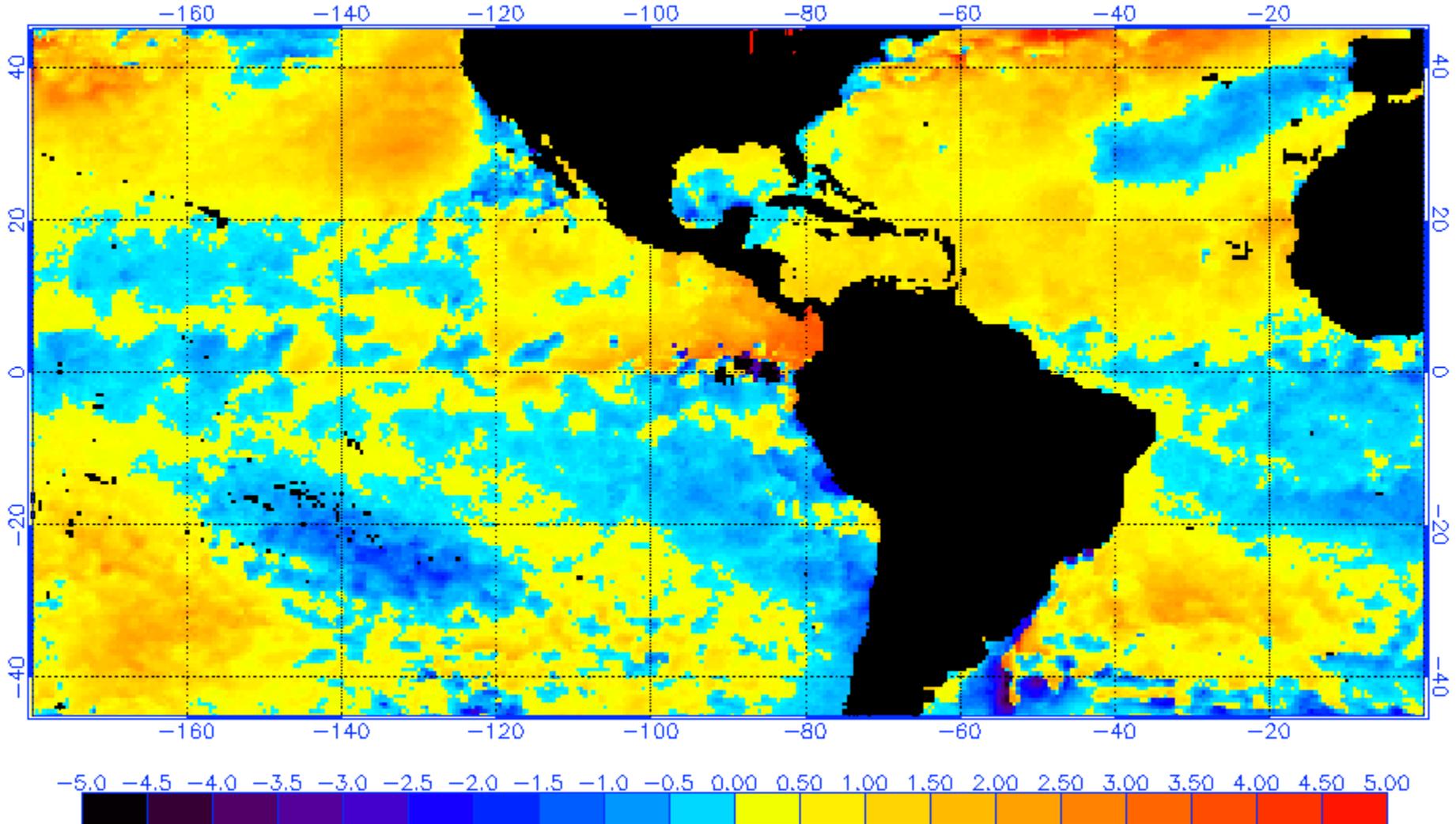


Tropical Weather Season to Date

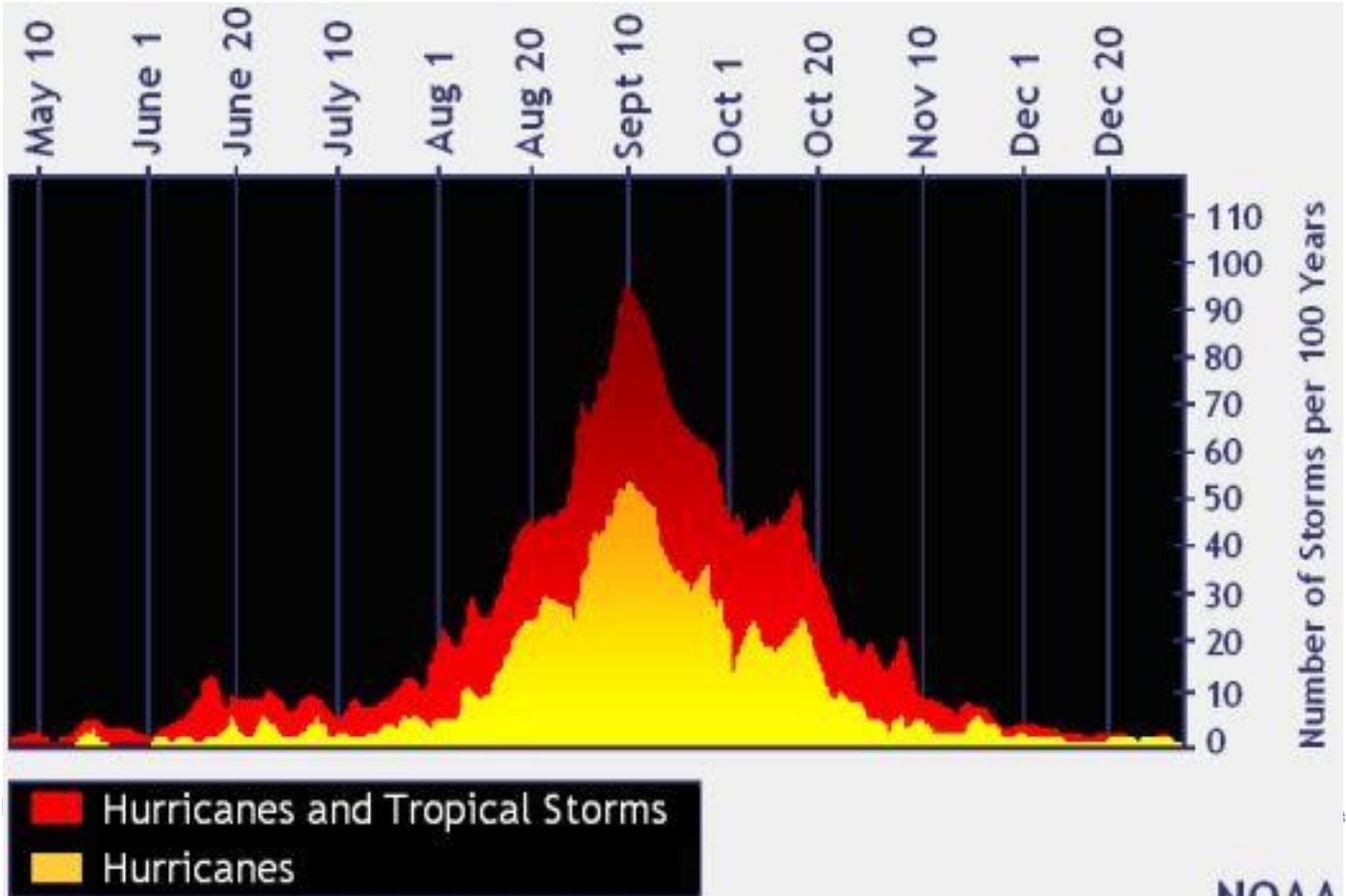


Sea Surface Temperature Anomalies

NOAA/NESDIS SST Anomaly (degrees C), 9/23/2013



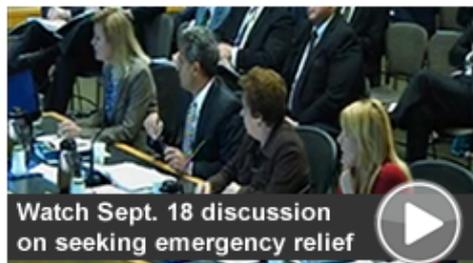
Tropical Cyclone Activity by Month



2013 Fall Weather Outlook

- **No end in sight to the ongoing drought.**
- **Warmer than normal temperatures in October but trending toward normal in November.**
- **Rainfall trending near normal this fall and early winter.**
- **No true wet signal seen over the next few months.**

LCRA to seek relief from environmental requirements to send Highland Lakes water to Matagorda Bay



Watch Sept. 18 discussion on seeking emergency relief

With the levels of lakes Travis and Buchanan nearing all-time lows, LCRA will ask the state to temporarily waive requirements to release water from the Highland Lakes for the health of Matagorda Bay.

LCRA's Board of Directors voted 9-6 Sept. 18 to seek the

emergency drought relief from the Texas Commission on Environmental Quality (TCEQ). This followed a Sept. 10 decision from the Board to follow the state-approved Water Management Plan and release 8,684 acre-feet from lakes Travis and Buchanan in September for Matagorda Bay. LCRA Directors at the Sept. 10 meeting also said they would consider asking the state for emergency relief from environmental flow requirements as the drought continues.



Watch the Board vote

LCRA could potentially be required to release up to an additional 5,834 acre-feet from the Highland Lakes for the bay's health by the end of the year unless TCEQ agrees to waive the requirement. [Read the resolution.](#)

See rain totals and more on LCRA's [Hydromet website](#)

Highland Lakes, lower Colorado River basin benefit from Friday rains

Widespread moderate to heavy rains fell across much of the lower Colorado River basin Friday, filling some streams and creeks and raising levels in lakes Travis and Buchanan.

By mid-morning Monday, Lake Travis had risen 1.5 feet and Lake Buchanan had risen a little more than an inch since the rains started on Friday. Additional gains are expected over the next few days as more water makes its way to the lakes from area streams and creeks.

Combined storage in lakes Travis and Buchanan has increased more than 14,000 acre-feet since early Friday and is continuing to climb. Combined storage remains at 32 percent of capacity.



Lake Travis aerials - Sept 12, 2013

How full are the lakes?

32%

Lakes Travis and Buchanan are our region's water supply reservoirs and currently hold about 651,923 acre-feet of water.

Preparing docks for floods on the Highland Lakes

[CLICK HERE](#)

SUBSCRIBE TO THE



DROUGHT E-NEWSLETTER

Boat Ramp Information

STATUS AT A GLANCE

Show: Open Closed All

Granite Beach Recreation Area

Inks Lake State Park

Johnson Park

Lakeside Park

[Detailed Boat Ramp Information](#)

Last Updated: September 3, 2013

LCRA General Manager Becky Motal announces Dec. 31 retirement



Becky Motal, general manager at the Lower Colorado River Authority (LCRA), announced Sept. 18 that she will be retiring on Dec. 31, 2013. Motal, who took over as general manager on July 2, 2011, ends a 27-year career with LCRA.

"Leading LCRA was an incredible opportunity for me and one I thoroughly enjoyed," she said. "The wonderful team at LCRA met every challenge and succeeded admirably. I am proud of the work my leadership team has done, and I am sure all LCRA employees will continue to do great work for this organization and the state of Texas." [Read the news release.](#)

[Watch the Board of Directors' discussion on Motal's retirement.](#)

Rivers and Lakes

| LAKE | LEVEL | MO. AVG |
|--------------|--------|---------|
| Buchanan | 985.38 | 1010.23 |
| Inks | 887.22 | 887.39 |
| LBJ | 824.69 | 824.34 |
| Marble Falls | 736.44 | 736.73 |
| Travis | 620.39 | 663.80 |
| Austin | 491.95 | 492.25 |

[More▶](#)

[Daily River Report](#) [Hydromet Data](#)

[Daily Water Releases](#) ▶▶▶

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e-newsletters and
electronic alerts

Financial Highlights

- Business Plan
- Annual Report
- Check Register

WATER USE RESTRICTIONS SCHEDULE

LCRA has no plans to lower pass-through lakes



LCRA has no plans to lower any of the pass-through lakes in the Highland Lakes chain to combat the ongoing, historic drought, the chairman of the LCRA Board of Directors said Thursday.

"Our Board is looking at innovative ways to expand and extend our water supply, but the idea of lowering the lakes is not

and has not been a serious consideration," said Timothy Timmerman, chairman of the LCRA Board of Directors. [Read more.](#)

Preparing docks for floods on the Highland Lakes

LCRA is strongly recommending all Highland Lake dock owners take precautions now to protect their docks from floods. Flash floods occur with little warning, and a dock can easily break loose and become a hazard if it is not properly maintained to accommodate stresses created by wind, waves, current, boat wakes and fluctuating lake levels. [Read more.](#)



LCRA urges Highland Lakes boat dock owners to prepare for floods

WEATHER BLOG

BOB ROSE'S WEATHER

5 Day Weather Forecast

CENTRAL TEXAS

| | | |
|-----|--|----------------------------|
| Mon | | 90°F / 65°F - Sunny |
| Tue | | 92°F / 66°F - Sunny |
| Wed | | 94°F / 66°F - Sunny |
| Thu | | 95°F / 71°F - Mostly Sunny |



Bob Rose
LCRA Chief Meteorologist

bob.rose@lcra.org

512-578-3350