DEPARTMENT OF WATER RESOURCES
DIVISION OF FLOOD MANAGEMENT
P.O. BOX 219000
SACRAMENTO, CA 95821-9000

March 7, 2013

TO: Long Range Weather Forecasting Committee Members

SUBJECT: Spring 2013 Forecasts

The updated Climate Prediction Center forecast for March is now available and I do not expect anything new in the next few weeks, other than actual March weather, so I am sending out the quarterly spring forecasts now. The winter started quite wet, but then switched to the driest January and February in a record 90 of years. Some years have shown recovery in March or April, such as 1991, but many have not.

Enclosed are the new sets of experimental long-range forecasts for spring and next summer issued by the National Weather Service (NWS) Climate Prediction Center (CPC) which were produced on February 21 or 28. For the 3 month spring period, the CPC is forecasting a large dry area over California and the Southwest with wetness over the upper Mississippi region. The Northwest forecast is cool, but the south and east are warmer than normal, which will continue into the summer. A weak La Nina is in progress in the eastern tropical Pacific, which is expected to diminish to near neutral later on. It is too soon to make El Nino projections for the summer or next fall. The Pacific Decadal Oscillation (PDO) was still slightly negative at -0.14 in January, but that is much relaxed from strong negative values last year. It has been gradually trending toward neutral so far this water year. (February values are not yet posted by the University of Washington).

Art Douglas, former head of the Meteorology Department of Creighton University in Omaha and now retired in southeastern Arizona, was kind enough to send me a copy of his outlook. It seems somewhat similar to that of the CPC, with quite a bit of dryness in California.

The next set of maps for winter and spring are from the International Research Institute of Columbia University at Palisades, New York. It is similar to the CPC for the USA (based on the same methodology), but shows other countries in North America. Perhaps the most striking feature is the warmness projected for much of North America next summer.

The drought monitor map is attached near the end of the package. The Great Plains region continues to be the center of a very large dry area in the nation, including much of the Rocky Mountains.

For California, especially the north, this season has started well, with northern Sierra seasonal precipitation far above average at the end of December, and still remaining about average as of March 1. The central Sierra San Joaquin 5 station index slipped below average around the 1st of February and stood at 76 percent on March 1. The

statewide snowpack is now about 65 percent for the date and about 55 percent of a full April 1 pack. Reservoir storage is near average for this time of the year, with two notable exceptions; San Luis and Pine Flat in the San Joaquin Valley. Much of the rain and snow we received this season—roughly 30 percent of an average annual total—came from two strong atmospheric river events (sometimes labeled the pineapple express) at the end of November and just before Christmas, conveying significant amounts of moisture into northern California. There is some hope for an opening of the storm door to allow rain in California during the first week of March, but in view of the dry signals for the spring from forecasters, it would be wise not to figure on a wet spring this year.

If you have questions or comments, please feel free to call me at (916) 574-2625, or e-mail me at Maury.Roos@water.ca.gov.

Sincerely,

Maurice Roos

Maurice Roos
Chief Hydrologist (part time)
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Attachments

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Jon Ericson
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Steven Nemeth
Michael Anderson
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HOME > Outlook Maps > Monthly to Seasonal Outlooks > Seasonal Outlooks

One-Month Outlook

Revised OFFICIAL Forecasts

March 2013

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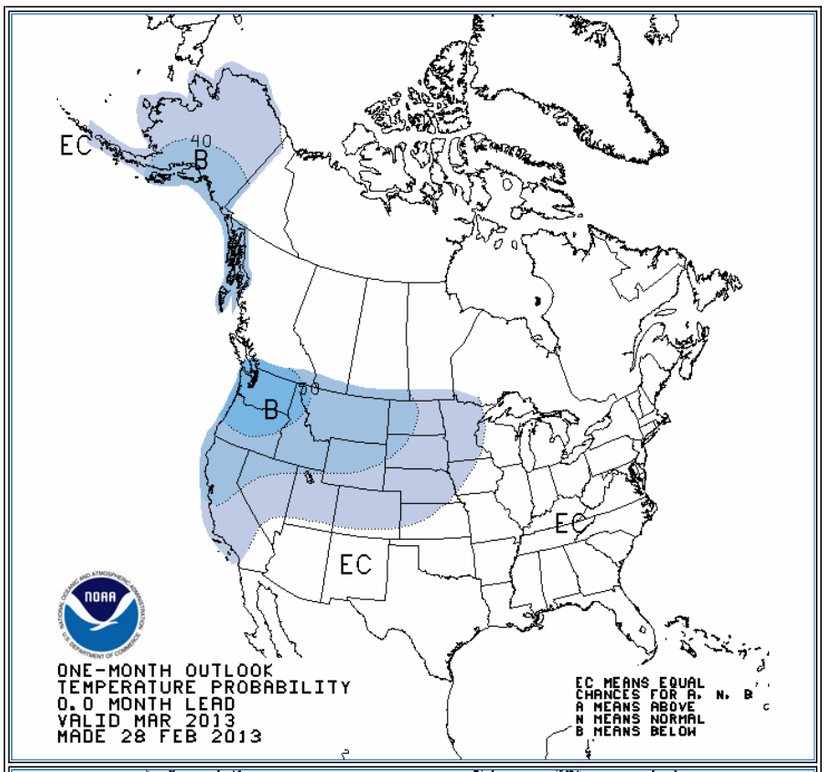
[EXPERIMENTAL TWO-CLASS SEASONAL FORECASTS]

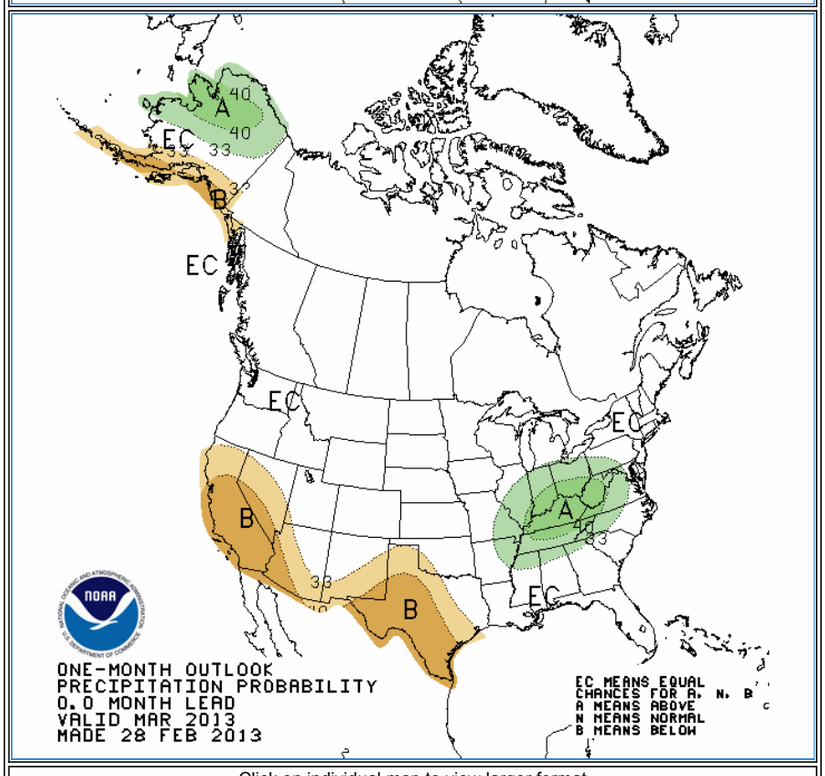
Text-Format Discussions
Monthly
Long Lead
30-& 90-Day Hawaiian

More Outlooks
0.5mn MAM 2013
1.5mn AMJ 2013
2.5mn MJJ 2013
3.5mn JJA 2013
4.5mn JAS 2013
5.5mn ASO 2013
6.5mn SON 2013
7.5mn OND 2013
8.5mn NDJ 2013 - 14
9.5mn DJF 2013 - 14
10.5mn JFM 2014
11.5mn FMA 2014
12.5mn MAM 2014
0.5mn Mar 2013

Climatological Values (1981-2010) for Mar

Tools Used (see Discussion for explanation)
Tools Discussion (updated as new tools are implemented)
Canonical Correlation Analysis
ECCA - Ensemble Canonical Correlation Analysis
Optimal Climate Normals
Coupled Ocean-Atmosphere Model
Soil-Moisture Tools
Probability of Exceedence





Click on individual map to view larger format

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Three-Month Outlooks

OFFICIAL Forecasts

Mar-Apr-May 2013

Click here for information about the three-month outlook

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0.5mn MAM 2013
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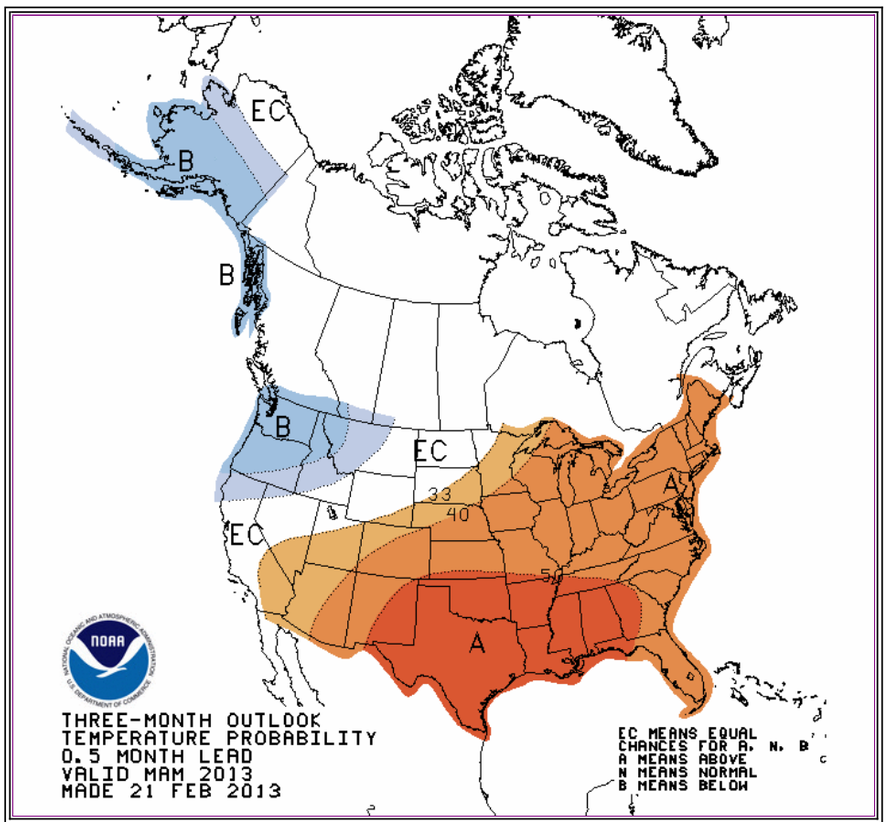
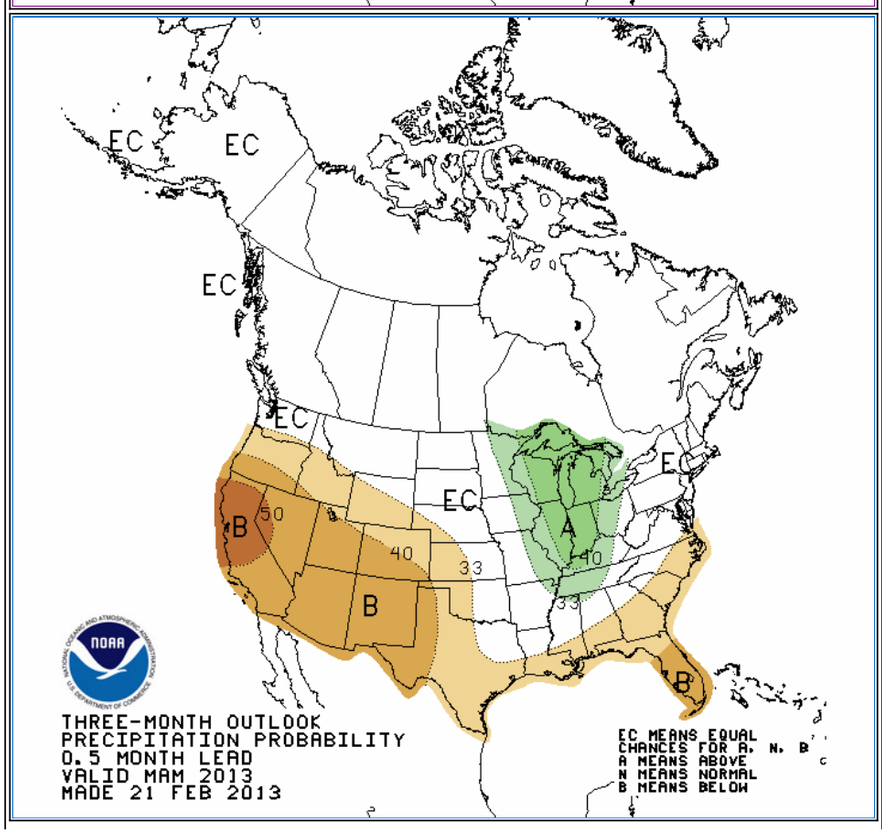
2.5mn MJJ 2013
3.5mn JJA 2013
4.5mn JAS 2013
5.5mn ASO 2013
6.5mn SON 2013
7.5mn OND 2013
8.5mn NDJ 2013 - 14
9.5mn DJF 2013 - 14
10.5mn JFM 2014
11.5mn FMA 2014
12.5mn MAM 2014
0.5mn Mar 2013

Climatological Values (1981-2010) for MAM

Tools Used (see Discussion for explanation)
Tools Discussion (updated as new tools are implemented) Canonical Correlation Analysis
Ensemble Canonical Correlation Analysis
Optimal Climate Normals
Coupled Ocean-Atmosphere Model
Soil-Moisture Tools
Probability of Exceedence





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Apr-May-Jun 2013

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11.5mn FMA 2014
12.5mn MAM 2014
0.5mn Mar 2013

Climatological Values (1981-2010) for AMJ

Tools Used (see Discussion for explanation)
Tools Discussion (updated as new tools are implemented) Canonical Correlation Analysis
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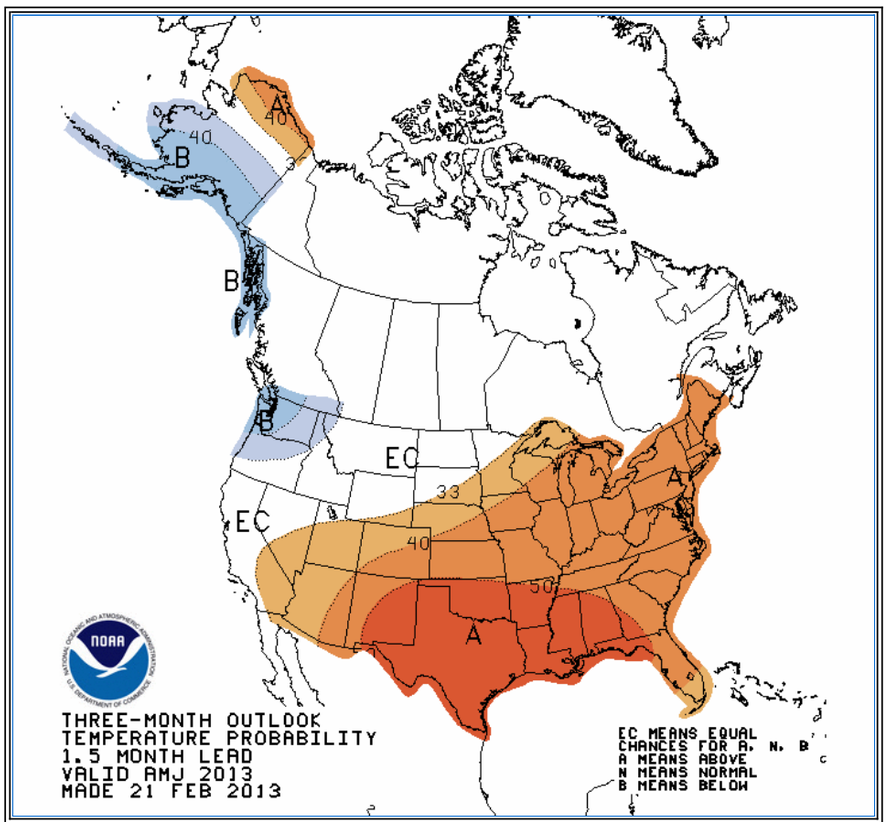

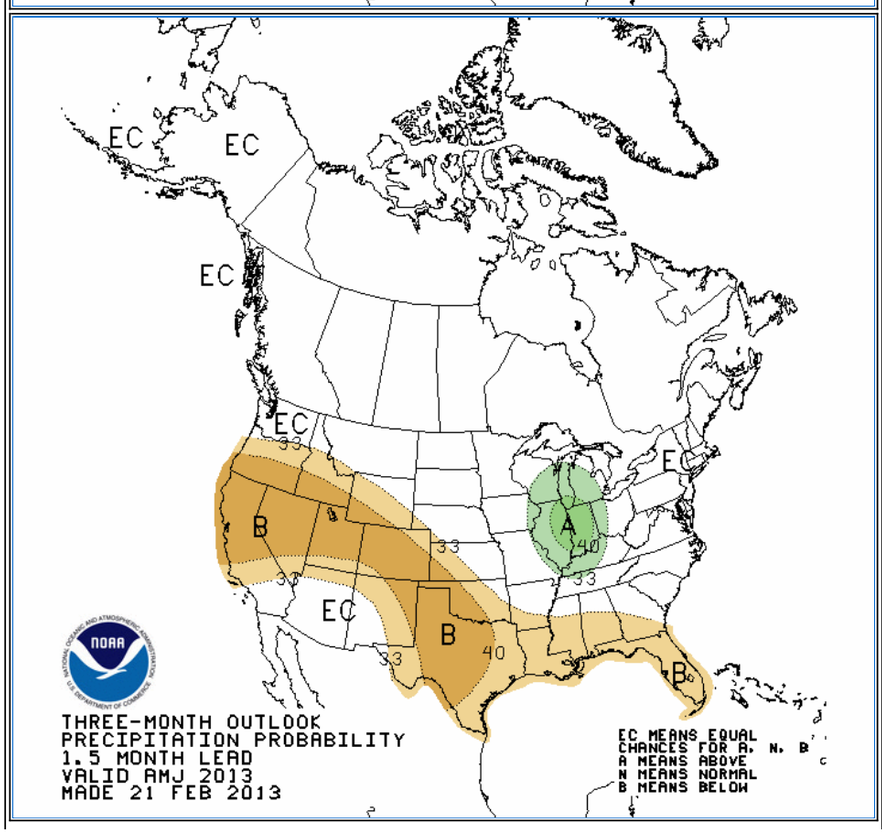

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Three-Month Outlooks

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9.5mn DJF 2013 - 14
10.5mn JFM 2014
11.5mn FMA 2014
12.5mn MAM 2014
0.5mn Mar 2013

Climatological Values (1981-2010) for JJA

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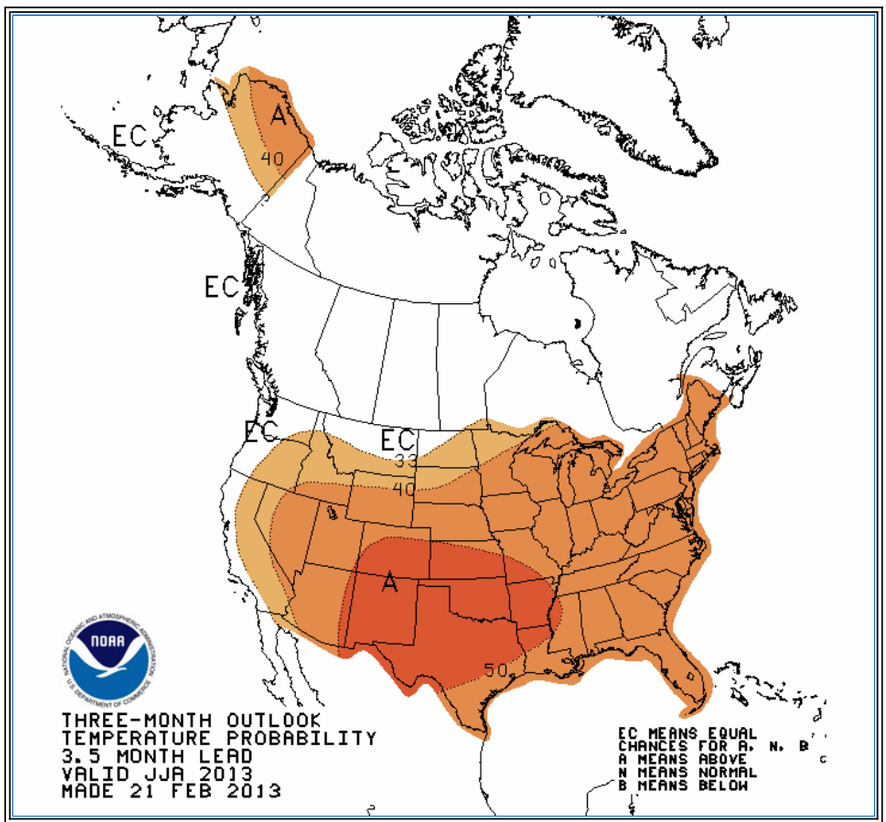
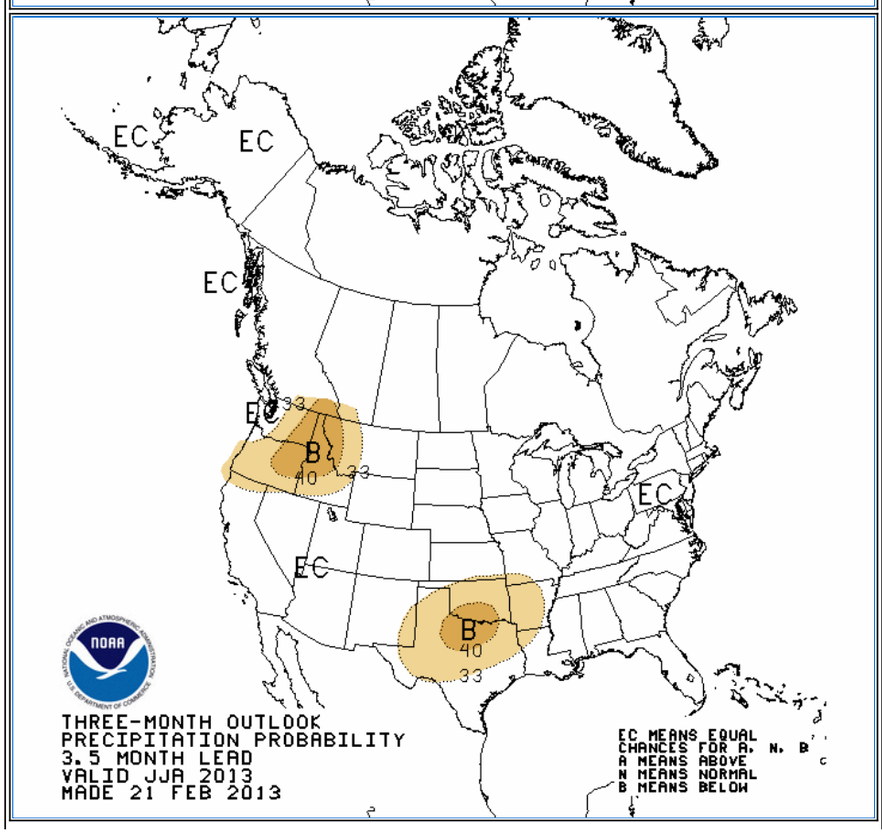
Soil-Moisture Tools
Probability of Exceedence

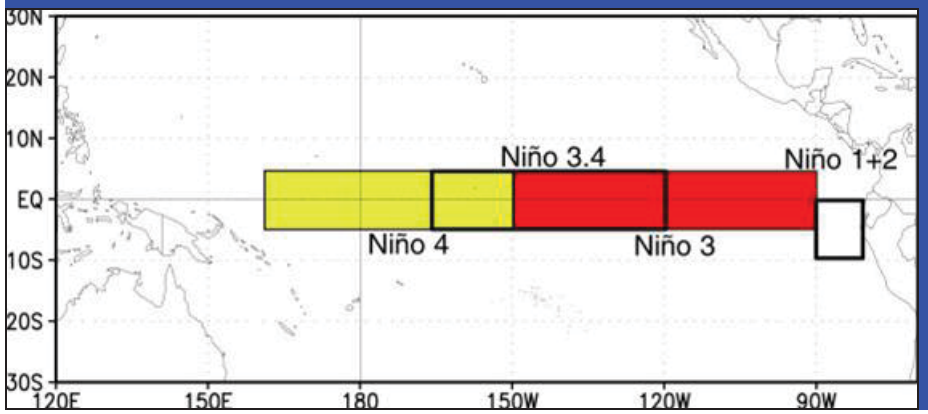


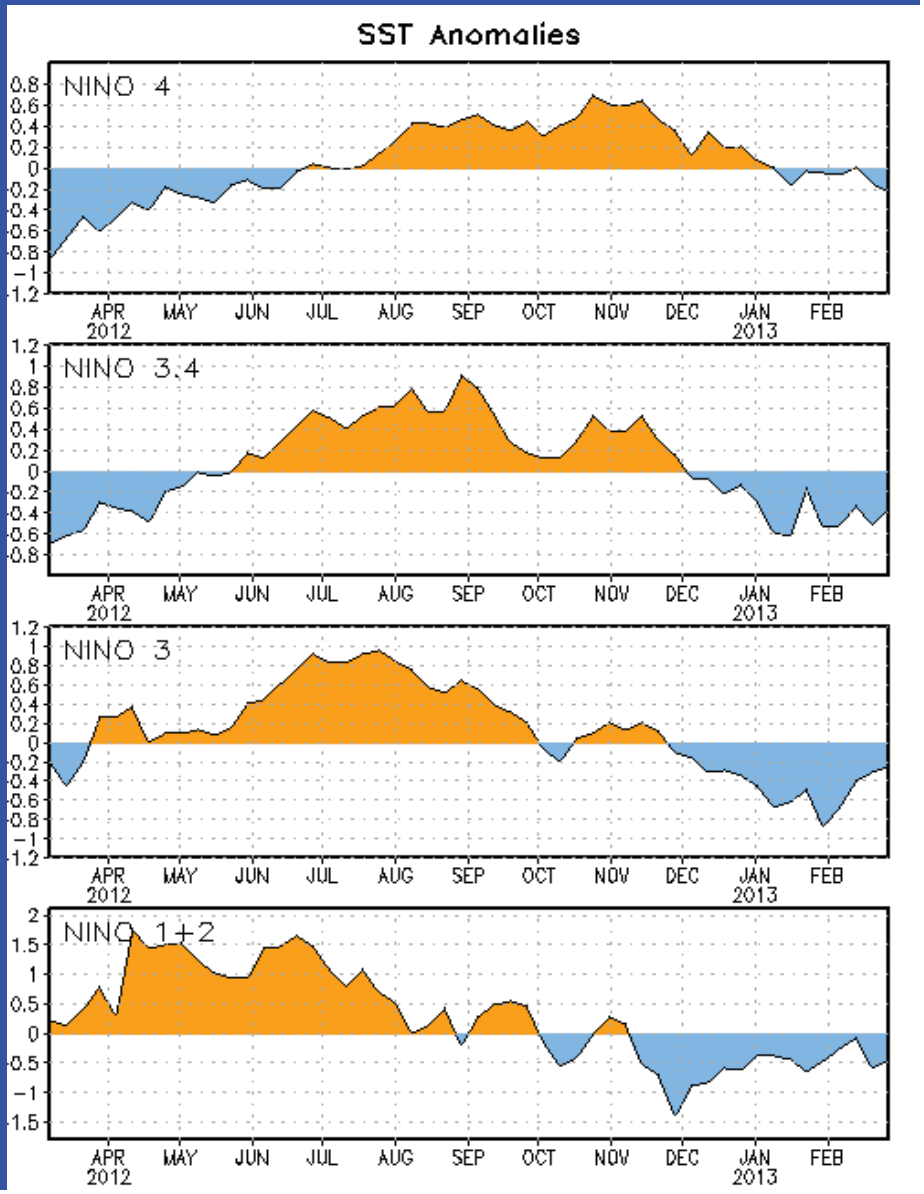


Niño Region SST Departures (ºC)
Recent Evolution

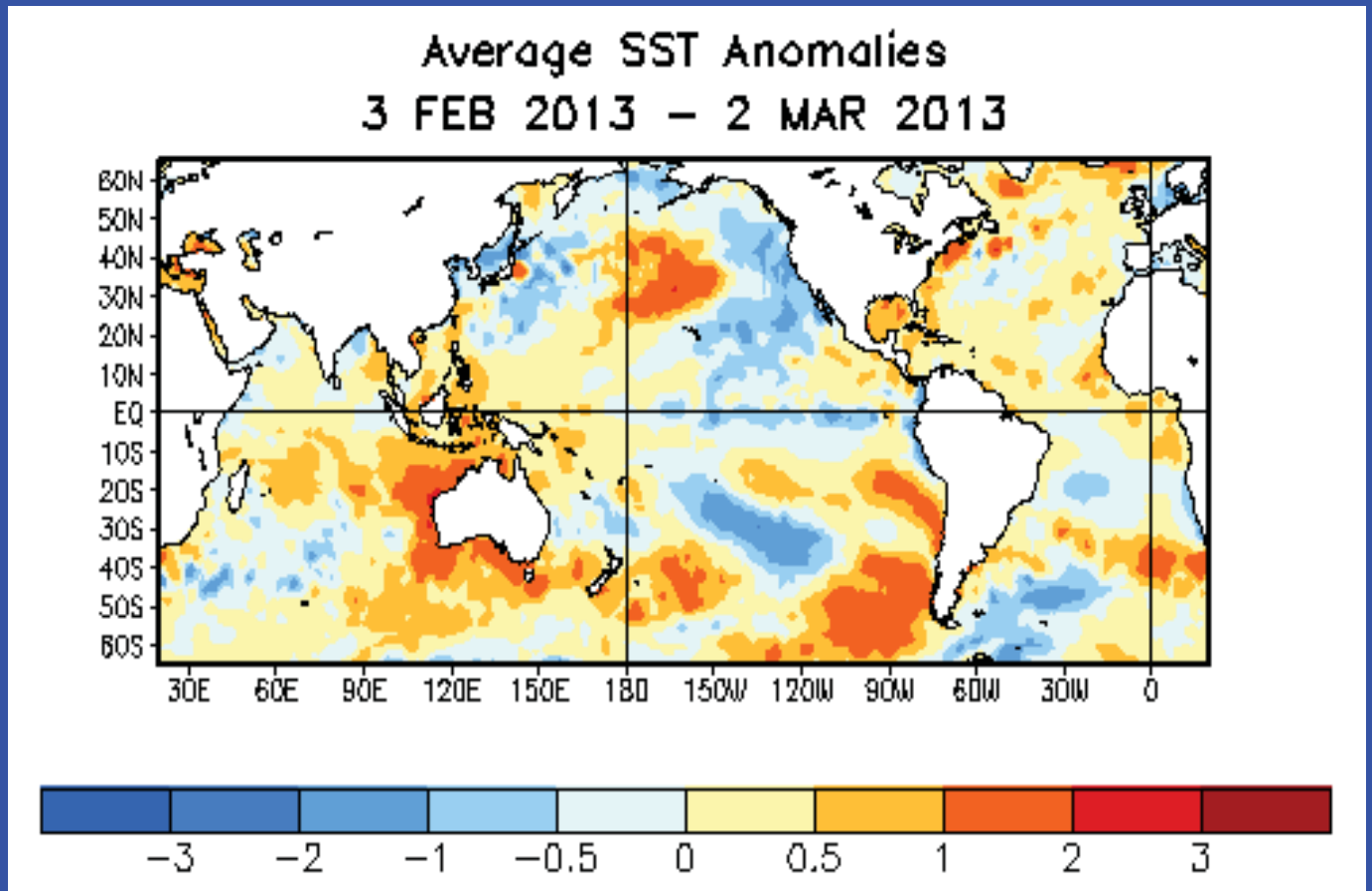
The latest weekly SST departures are:

Niño 4	**-0.2ºC**
Niño 3.4	**-0.3ºC**
Niño 3	**-0.2ºC**
Niño 1+2	**-0.4ºC**





Global SST Departures (ºC)



During the last four weeks, equatorial SSTs were above average across the eastern Atlantic Ocean and near the Maritime Continent (north of Australia). SSTs were below average in the central and eastern Pacific Ocean.

Pacific Niño 3.4 SST Outlook

• Most models predict the persistence of current Niño-3.4 values, with ENSO-neutral (-0.5ºC to +0.5ºC) continuing through the Northern Hemisphere summer 2013.

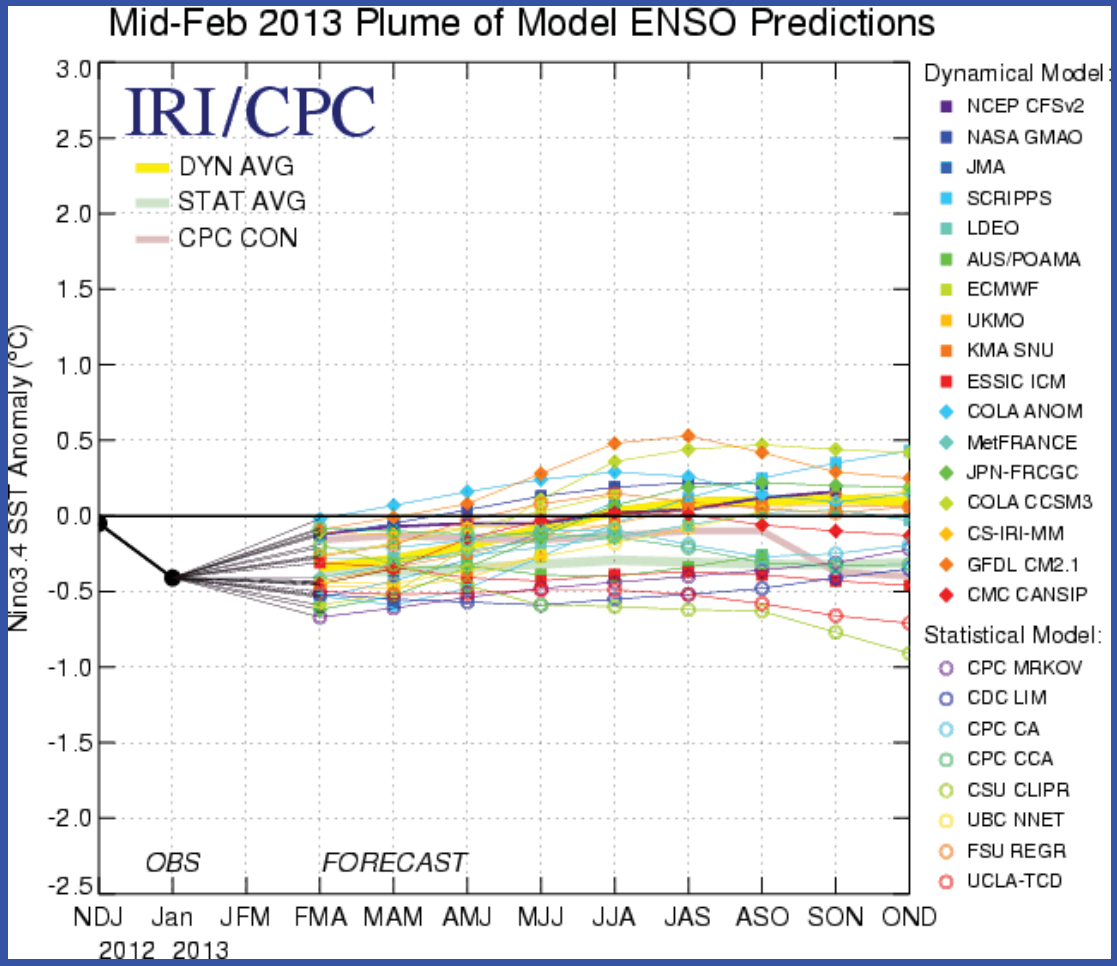
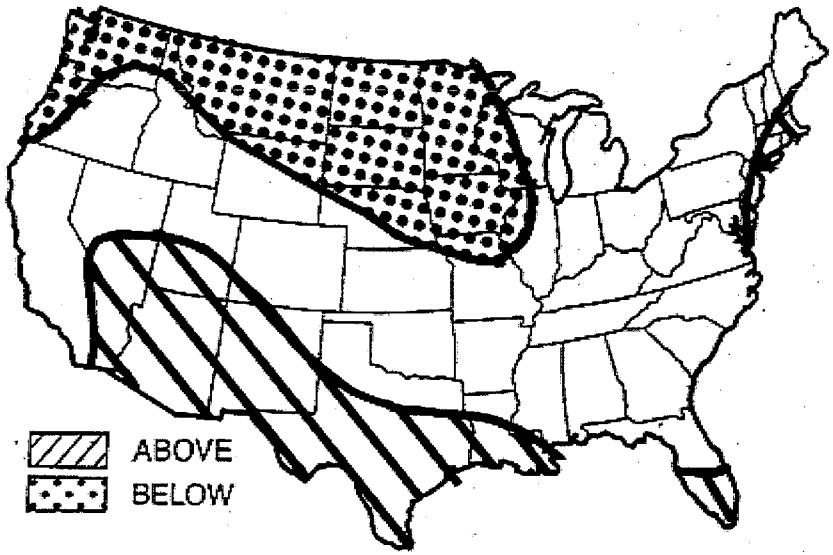
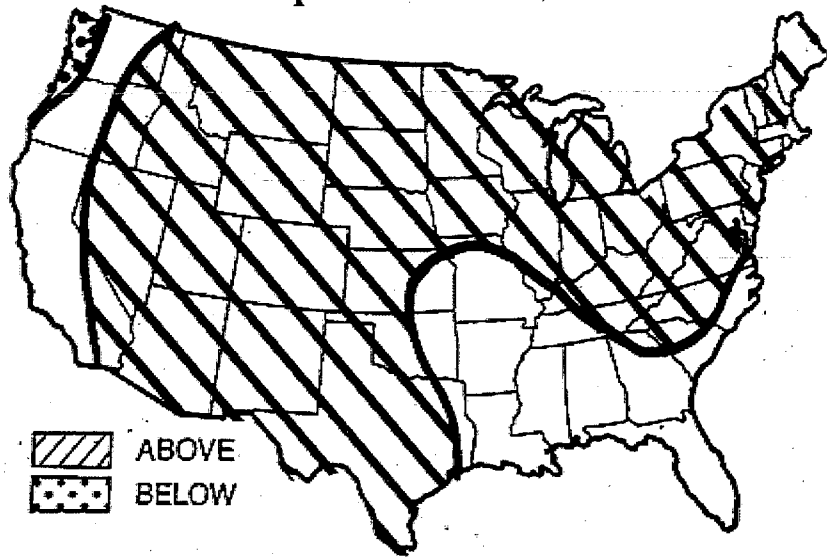


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 18 Feb 2013).

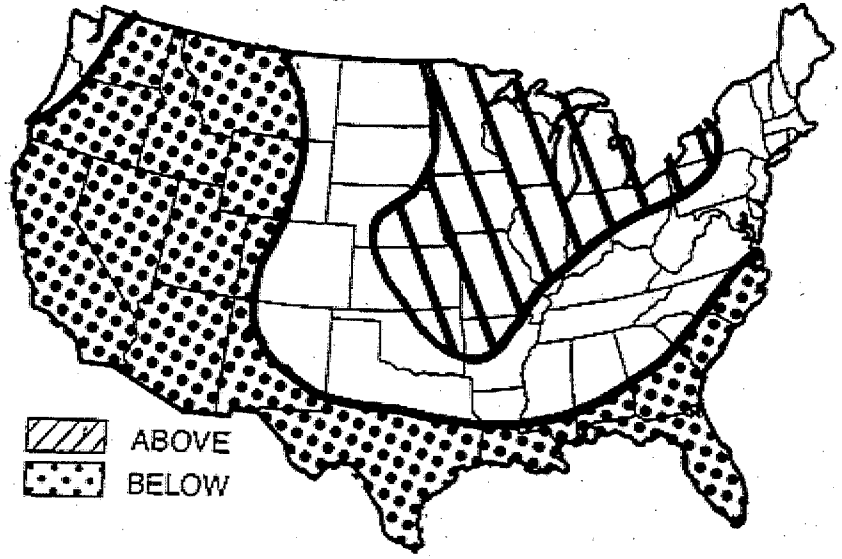
Spring 2013
Temperature Outlook



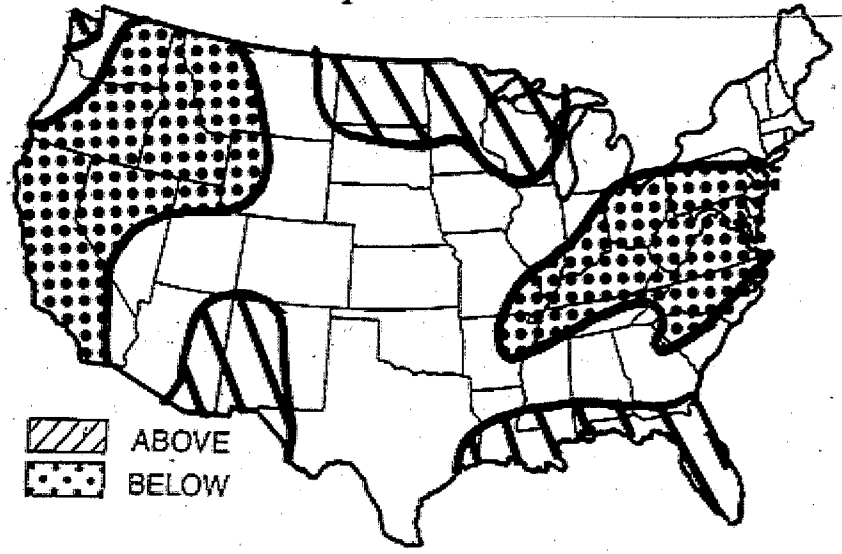
Summer 2013
Temperature Outlook



Spring 2013
Precipitation Outlook



Summer 2013
Precipitation Outlook



Art Douglas 3/1/13

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Forecast Type: Precipitation | Forecast Issue Date: February 2013 | Target Season: March-April-May | Region: North America | Observed Data

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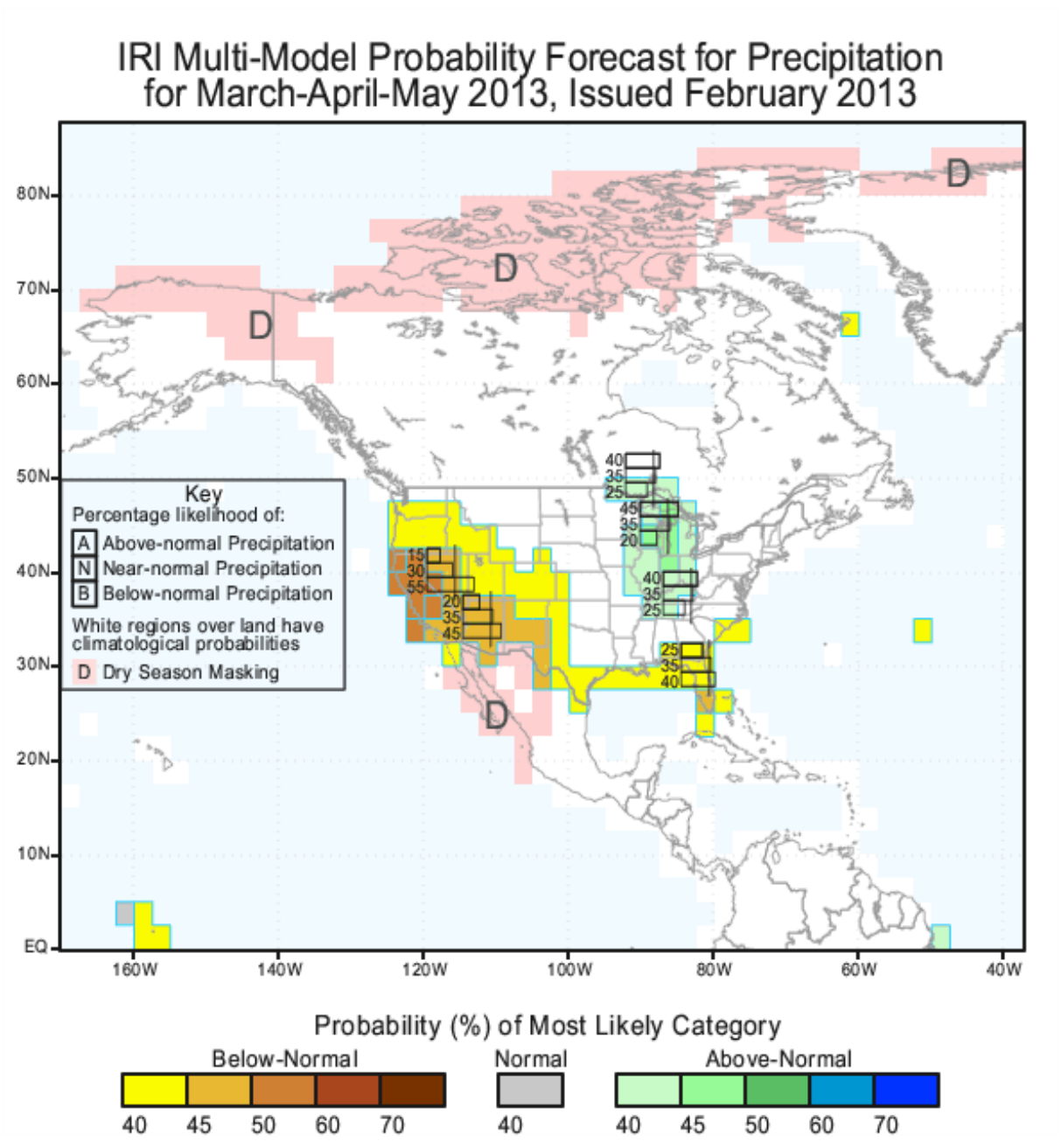

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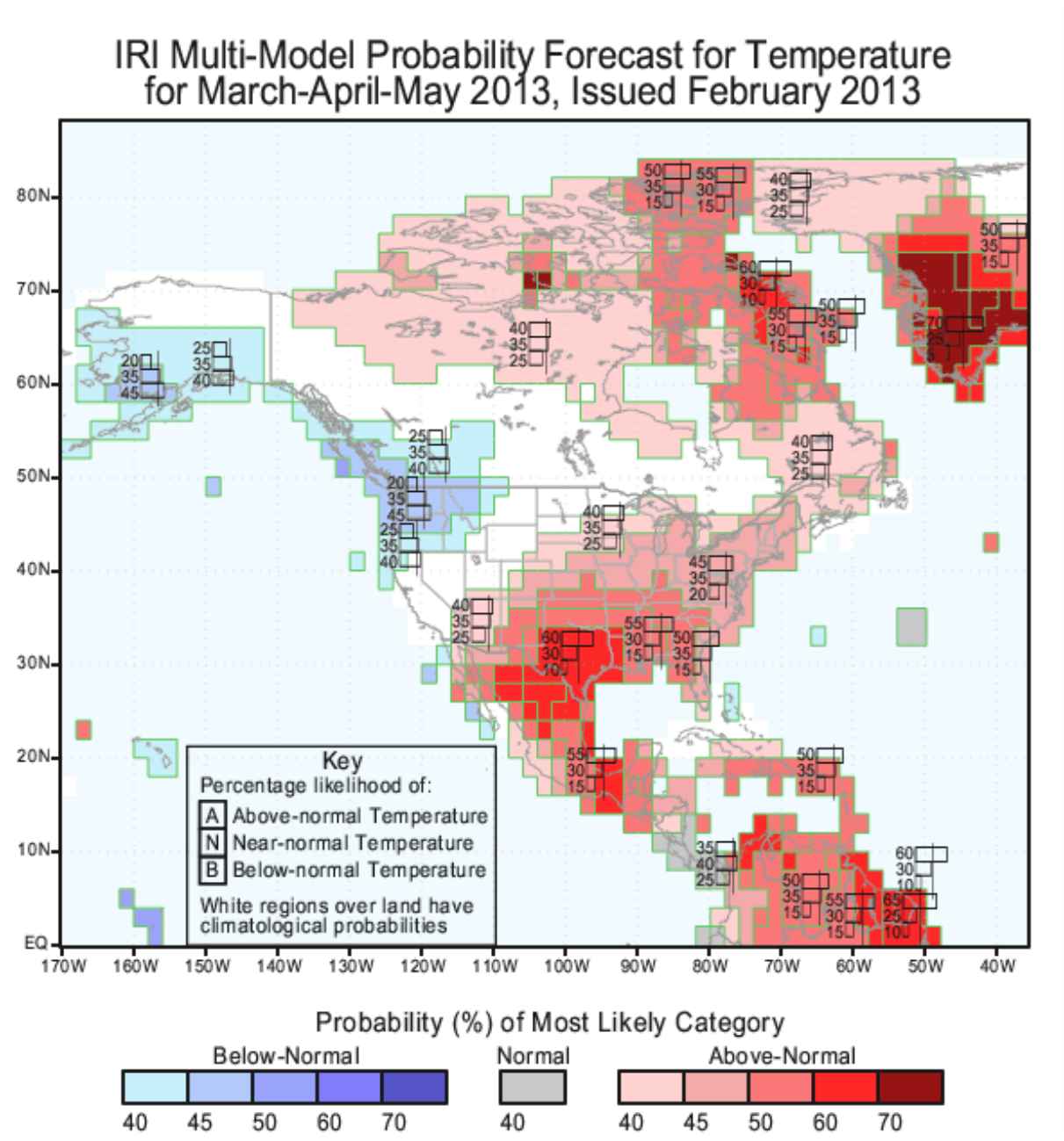

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Forecast Type: Precipitation | Forecast Issue Date: February 2013 | Target Season: June-July-August | Region: North America | Observed Data

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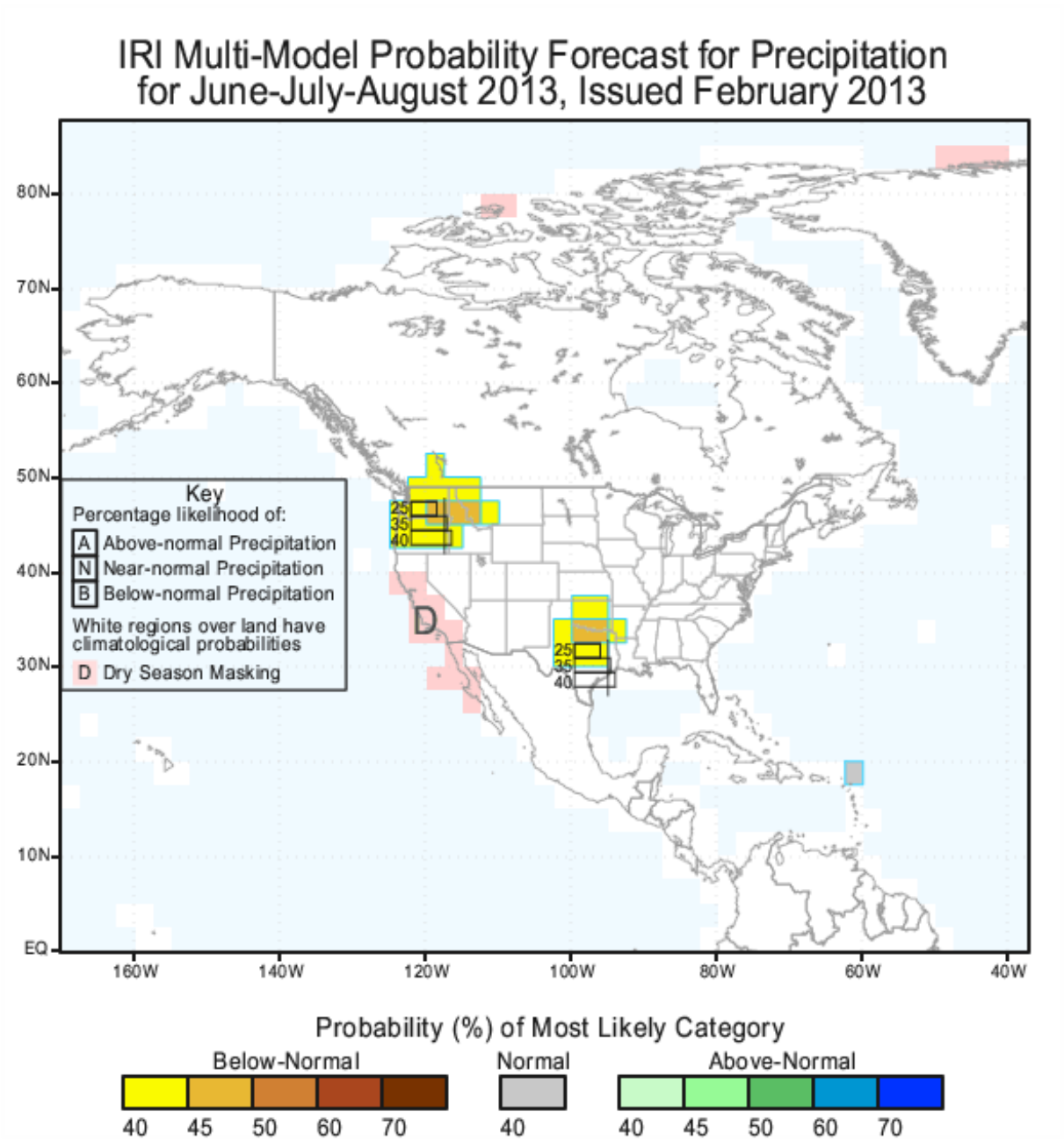

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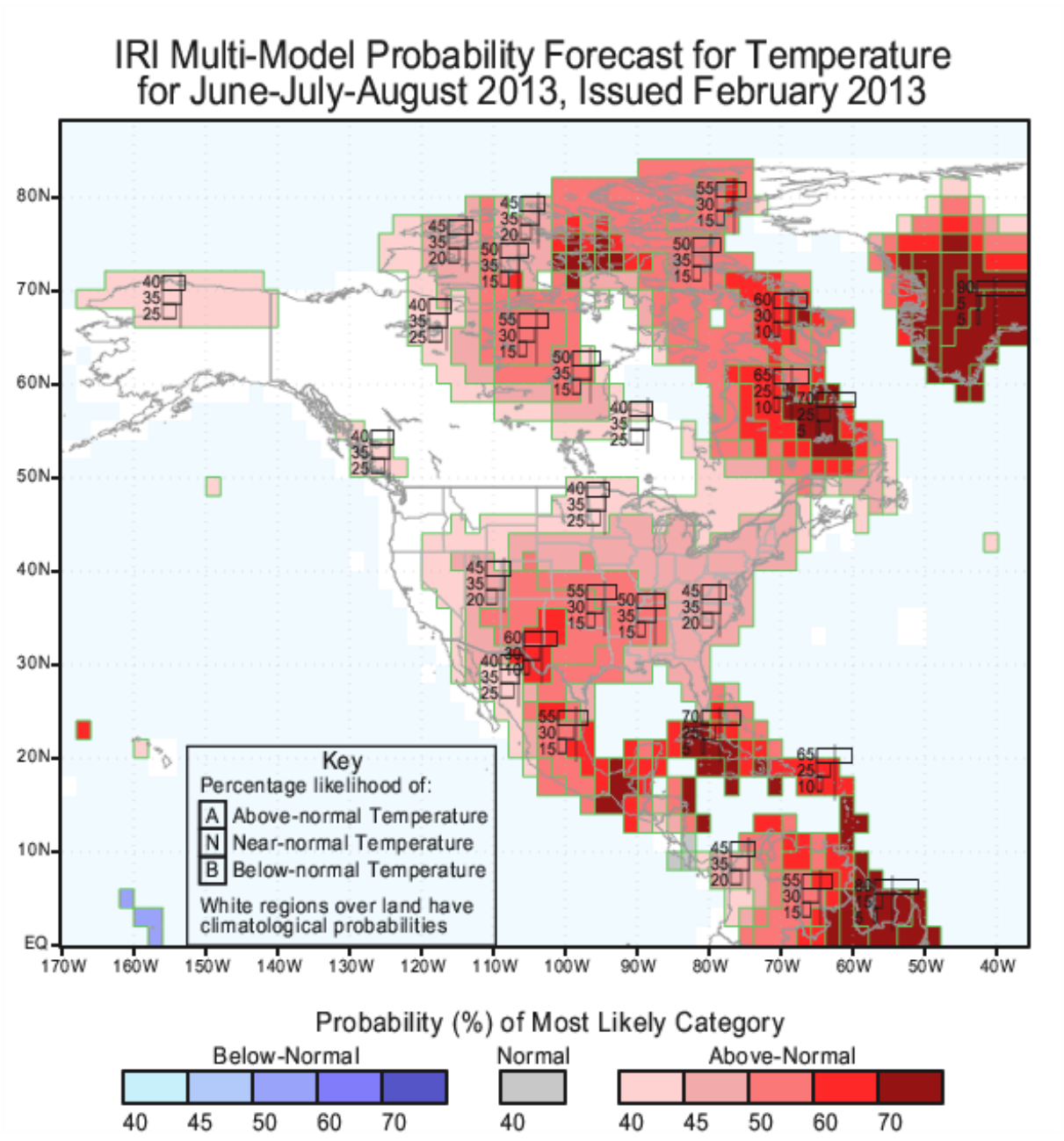

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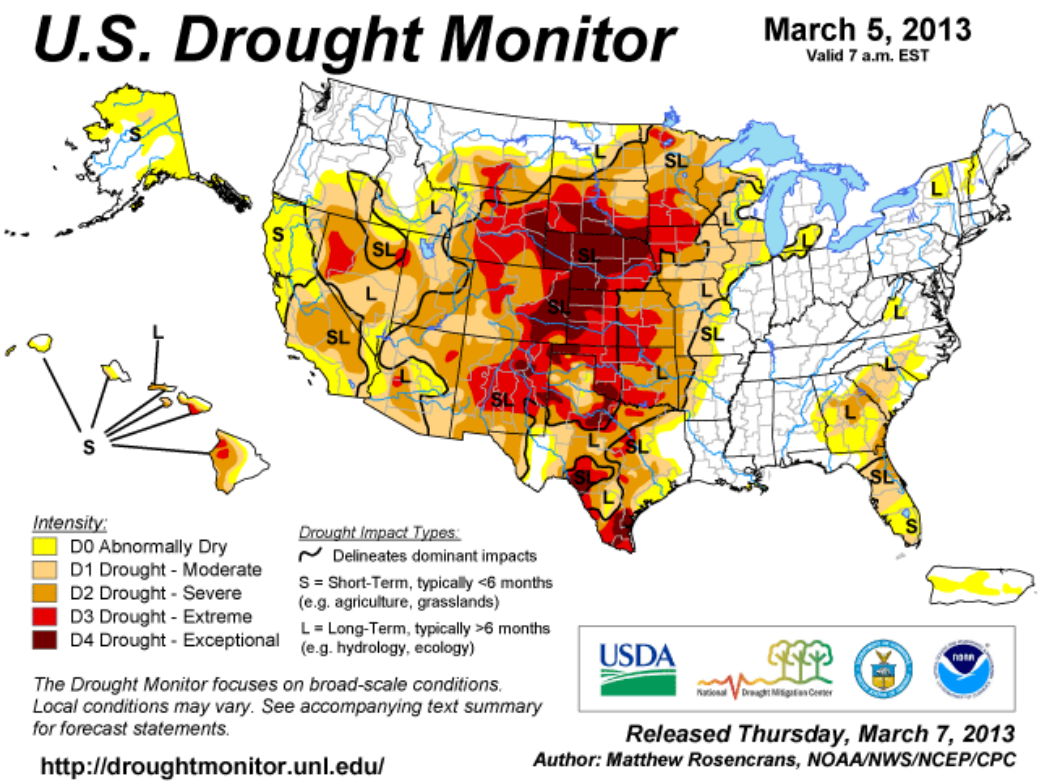
Contact Information: Tony Barnston

Current U.S. Drought Monitor

The data cutoff for Drought Monitor maps is Tuesday at 7 a.m. Eastern Standard Time. The maps, which are based on analysis of the data, are released each Thursday at 8:30 a.m. Eastern Time.

NOTE: To view regional drought conditions, click on map below. State maps can be accessed from regional maps.



The U.S. Drought Monitor is produced in partnership between the National Drought Mitigation Center at the University of Nebraska-Lincoln, the United States Department of Agriculture, and the National Oceanic and Atmospheric Administration.

UPDATE: The links have been moved into the menu bars below.

PDF | Last Week | Tabular Statistics | Archived Tabular Statistics | USDM Change Maps | Annual Animations | Contact People

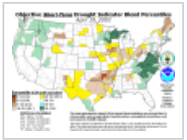
NDMC's Drought Impact Reporter

6-week animation

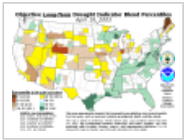
12-week animation

Custom DM animation

short-term drought indicator blends



long-term drought indicator blends



About the DIR | Experimental Drought Blends | Classification Scheme | Historical Weather Data | North American Drought Monitor

For local details and impacts, please contact your State Climatologist or Regional Climate Center.

National Drought Summary -- March 5, 2013

The discussion in the Looking Ahead section is simply a description of what the official national guidance from the National Weather Service (NWS) National Centers for Environmental Prediction is depicting for current areas of dryness and drought. The NWS forecast products utilized include the HPC 5-day QPF and 5-day Mean Temperature progs, the 6-10 Day Outlooks of Temperature and Precipitation Probability, and the 8-14 Day Outlooks of Temperature and Precipitation Probability, valid as of late Wednesday afternoon of the USDM release week. The NWS forecast web page used for this section is: http://www.cpc.ncep.noaa.gov/products/forecasts/.

Weather Summary: The past week featured generally dry conditions across most of the western half of the contiguous 48 states with a deep trough over the eastern half. The deep low-pressure system over the eastern half of the contiguous 48 states yielded widespread precipitation, with rainfall totals generally less than 3.0 inches from the Ohio Valley to the Northeast, and across portions of the Mid-Atlantic. The Pacific Northwest was another stormy region, with multiple reports of more than 4 inches of precipitation during the past week. Isolated reports of 0.5-1.5 inches of precipitation came in from stations across the Central Rockies. Elsewhere, precipitation amounts were less than 0.5 inch.