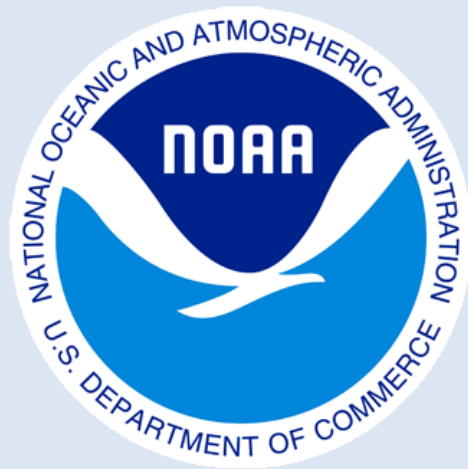


NOAA Climate Science & Services

Monthly Climate Update

A look back at 2012 and a preview of Feb. through Apr.



Jake Crouch

Climate Scientist, Climate Monitoring Branch
NOAA's National Climatic Data Center

Anthony Artusa

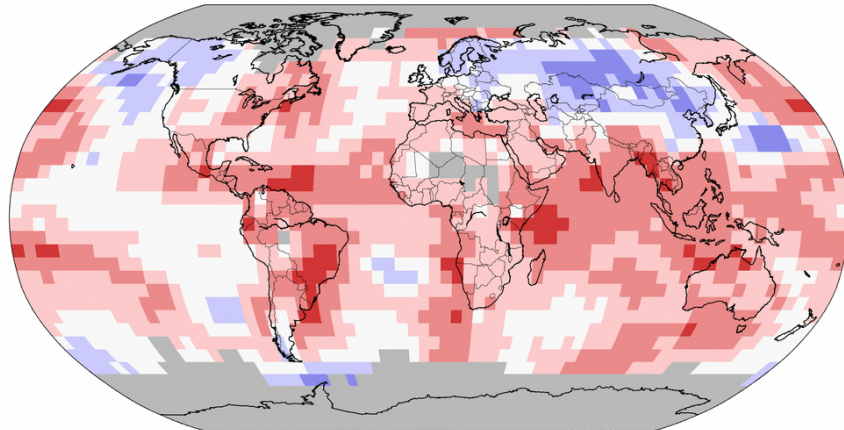
Seasonal Forecaster, Operations Branch
NOAA's Climate Prediction Center

Global Climate Highlights

Land & Ocean Temperature Percentiles Dec 2012

NOAA's National Climatic Data Center

Data Source: GHCN-M version 3.2.0 & ERSST version 3b



December 2012 Temperatures:

- 18th warmest December globally (+0.41°C / 0.74°F)
- Land 49th warmest; Ocean 4th warmest
- N. Hemisphere: 32nd warmest (land below average)
- S. Hemisphere: 6th warmest

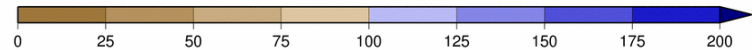
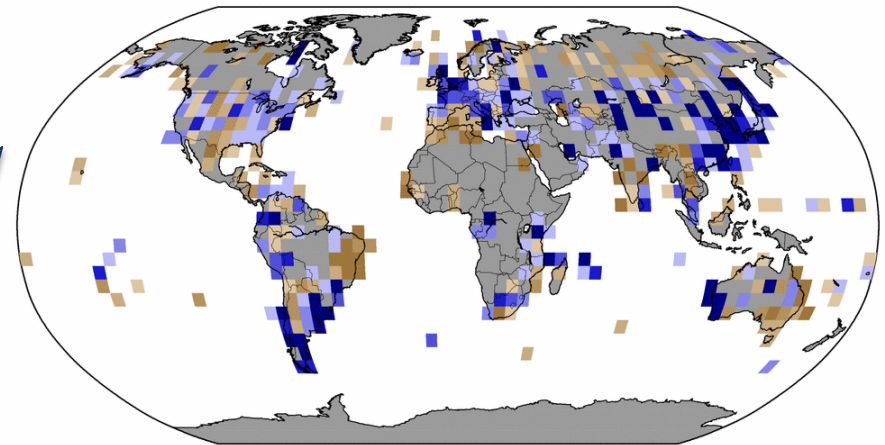
Regional Analysis:

- Many European and Asian countries cold
- Australia and New Zealand warmer than average
- US and South America warmer than average

Land-Only Precipitation Percent of Normal Dec 2012

(with respect to a 1961–1990 base period)

Data Source: GHCN-M version 2



NOAA's National Climatic Data Center

Percent

Please Note: Gray areas represent missing data
Map Projection: Robinson

December 2012 Precipitation:

- N. Hemisphere snow cover largest on record.
 - N. America: 13th largest; Eurasia 2nd largest
- UK has 8th wettest Dec on record
- Bopha hit the Philippines causing major damage

Dry: Brazil, eastern Australia, northern Africa

Wet: Argentina, Europe, eastern Asia, W. Australia

Global Climate Highlights

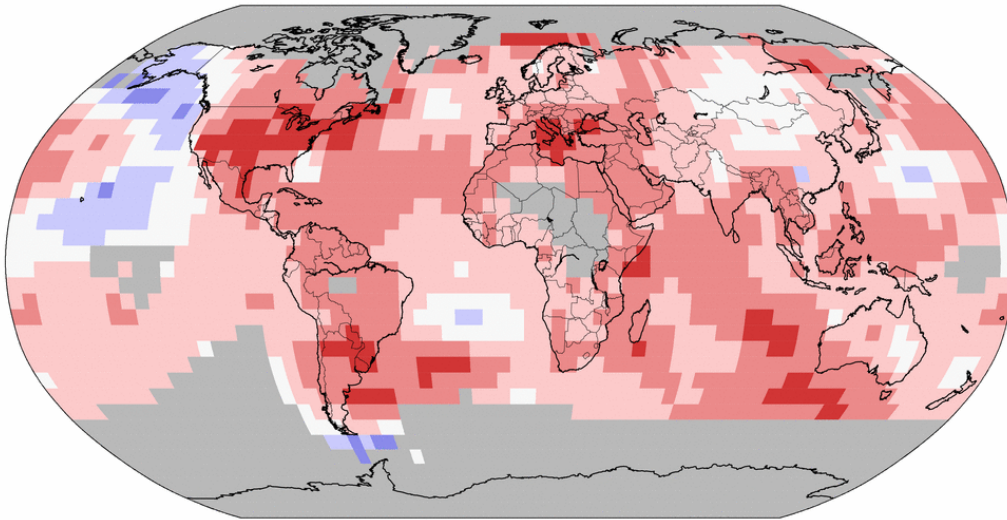
January-December 2012 Temperatures

- 10th warmest year globally (+0.57°C / 1.03°F)
- Land: 7th warmest; Ocean: 10th warmest
- N. Hemisphere: 8th warmest; S. Hemisphere: 9th warmest

Land & Ocean Temperature Percentiles Jan–Dec 2012

NOAA's National Climatic Data Center

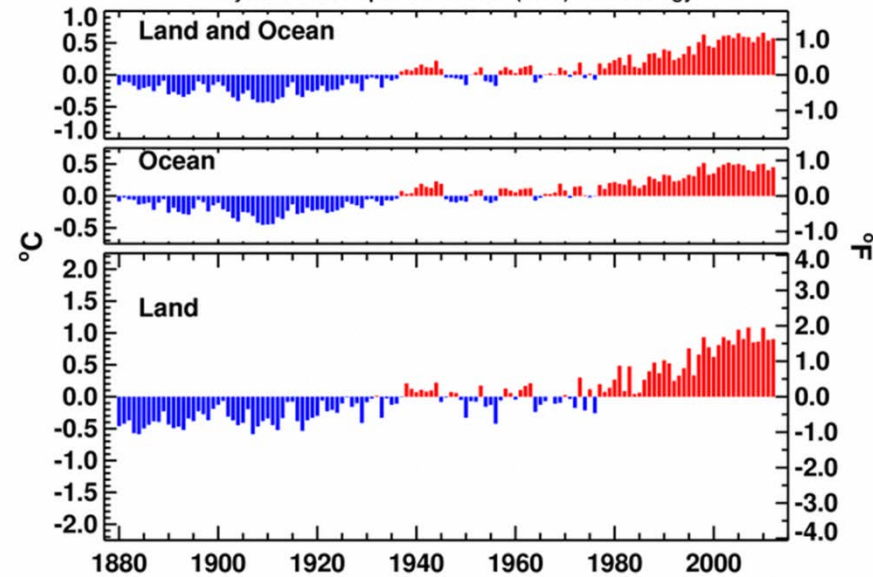
Data Source: GHCN–M version 3.2.0 & ERSST version 3b



Jan-Dec Global Surface Mean Temp Anomalies

NCDC/NESDIS/NOAA

Analysis is based upon Smith et al. (2008) methodology.

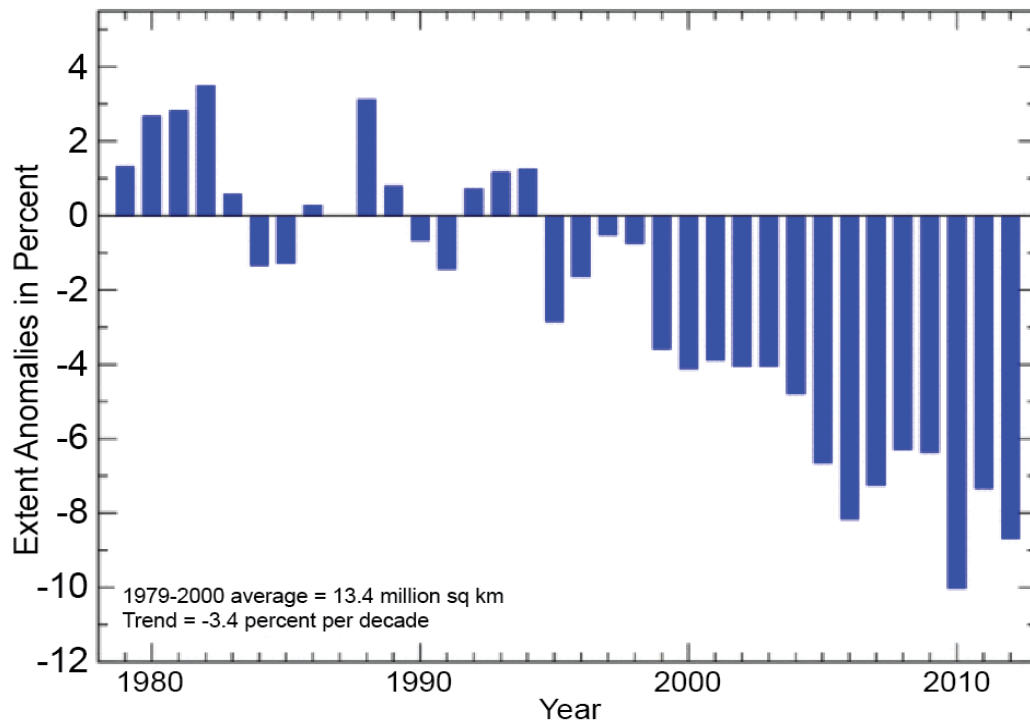


Global Climate Highlights

December Arctic Sea Ice: 2nd smallest on record

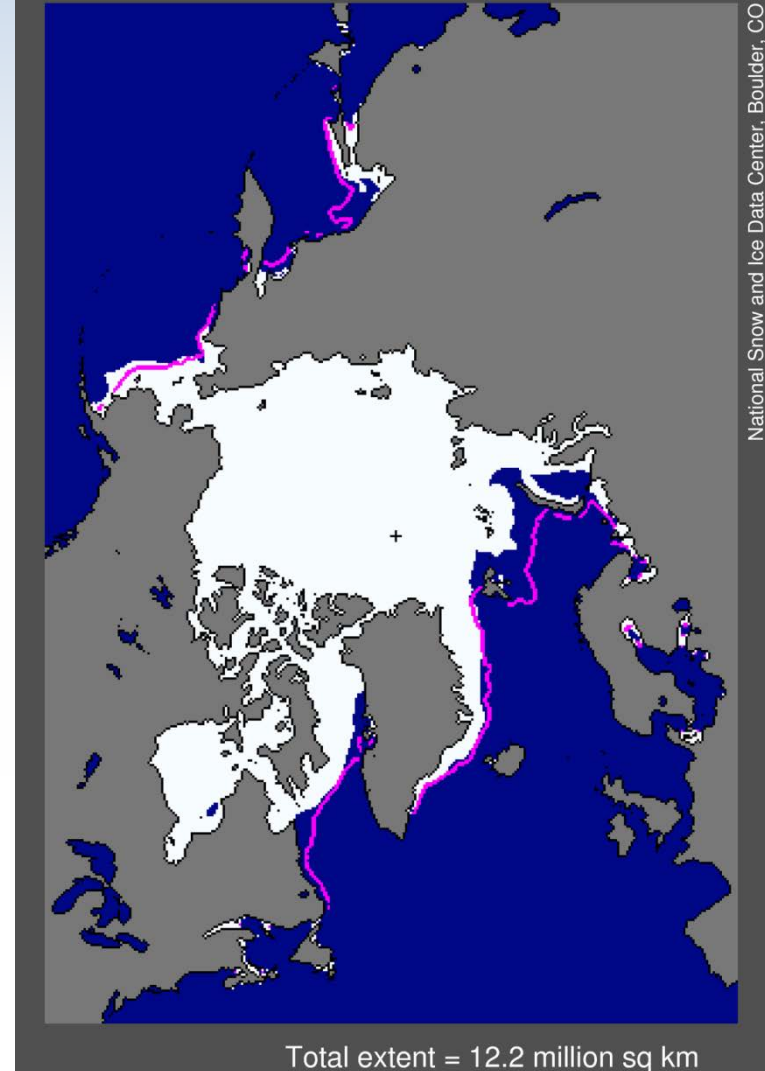
- Arctic sea continued to expand during December
- Below-average ice on Atlantic side of Arctic.
- December 2012 sea ice 8.70 percent below average

Northern Hemisphere Sea Ice Extent
December Anomalies, 1979-2012



Data provided by the National Snow and Ice Data Center (NSIDC)

Sea Ice Extent
Dec 2012



National Snow and Ice Data Center, Boulder, CO

U.S. Climate Highlights

December: warmer and wetter than average nationally

Drought continues for 58.9% of contiguous United States

December Temperature: 3.4°F above average

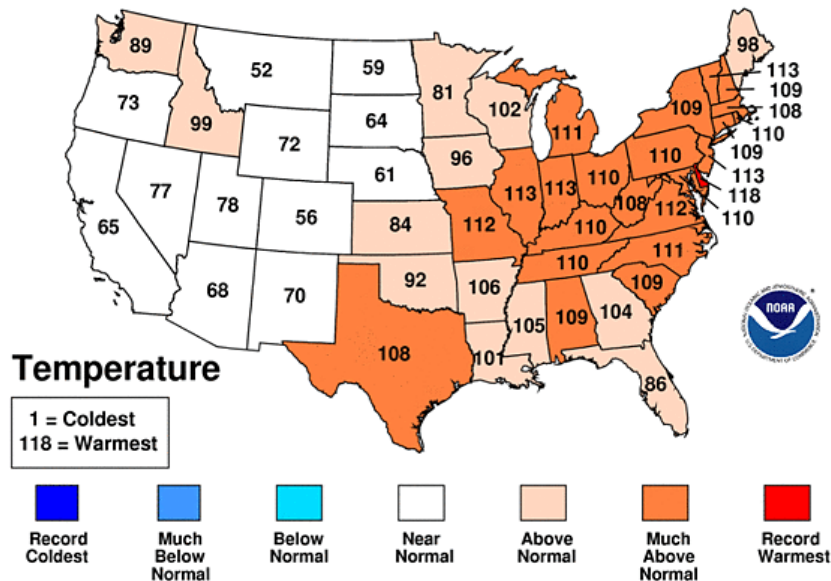
- Warm: Much of the Eastern US. 20 states top ten.
- Near-average: Western US and Northern Plains.

December Precipitation: 0.51" above average

- Wet: Western US, Midwest, Northeast.
- Dry: Southern Plains, where drought intensified.

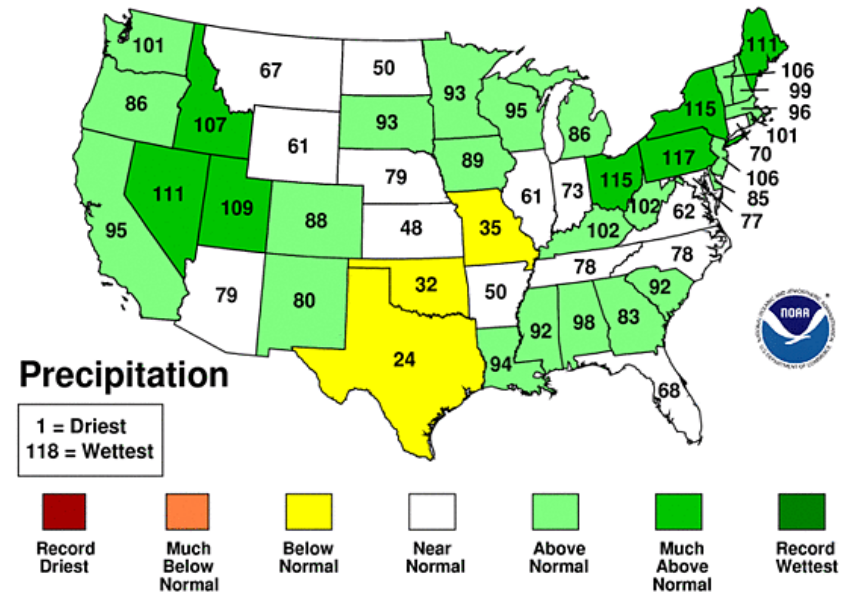
December 2012 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA

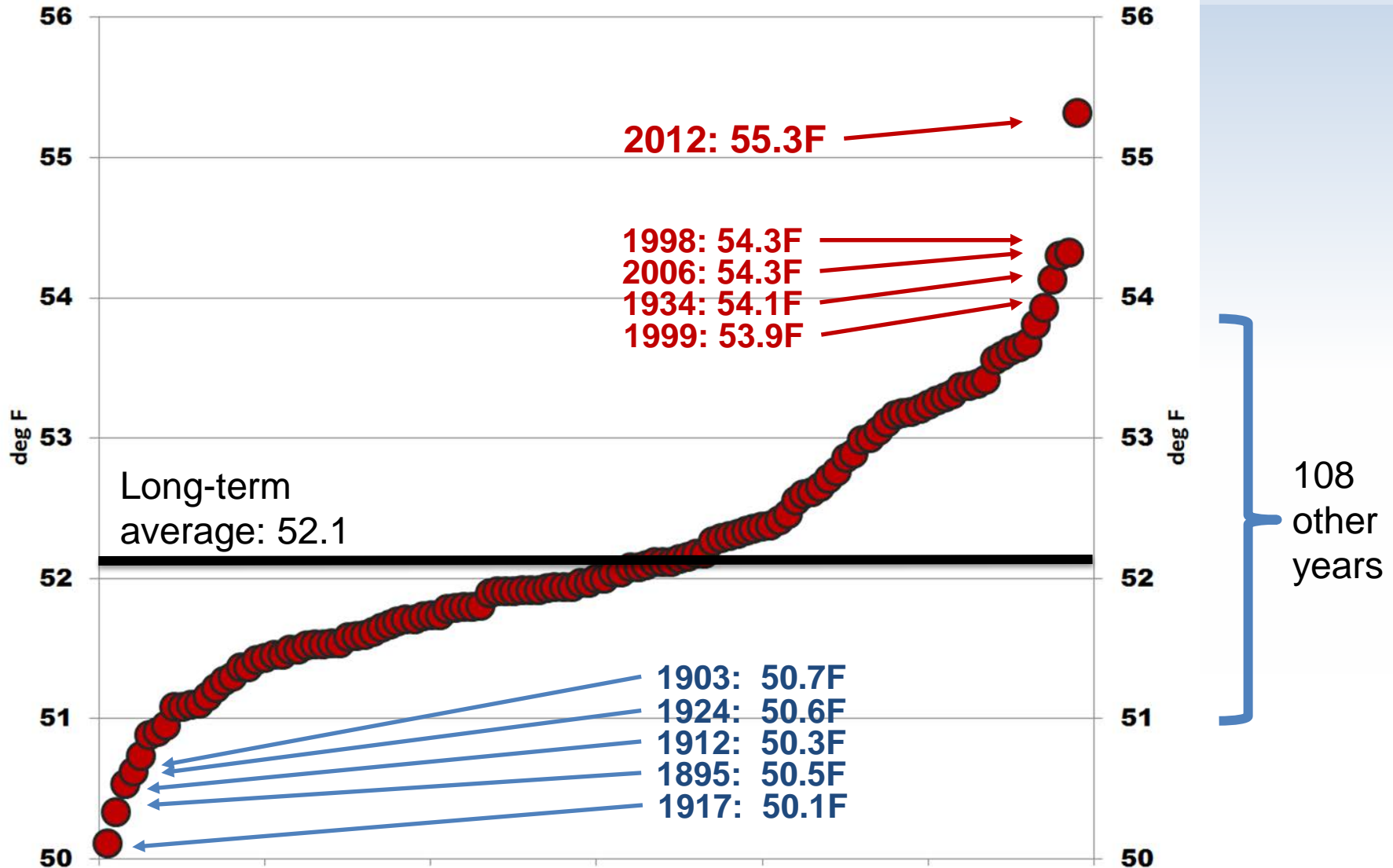


December 2012 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA

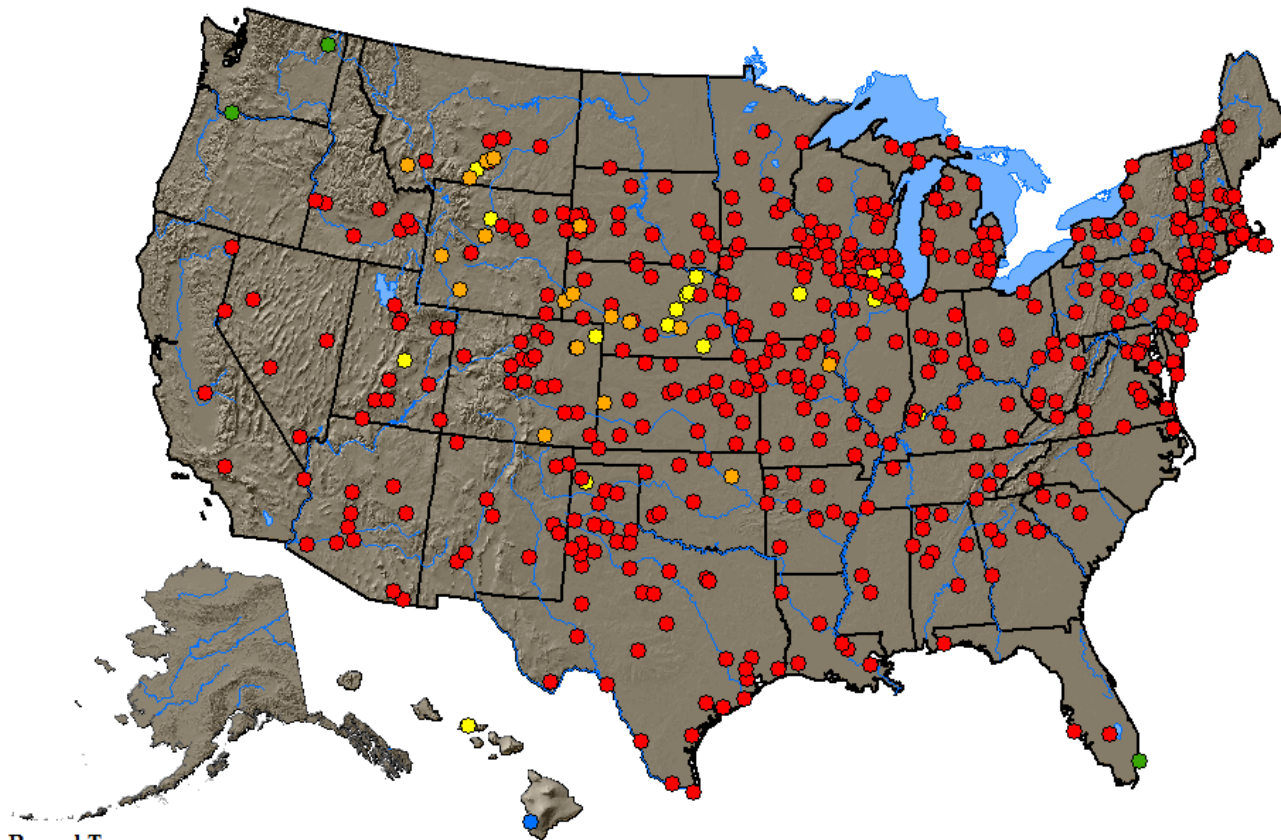


U.S. Climate Highlights



U.S. Climate Highlights

Selected Annual Climate Records for 2012



Record Type

- Wettest
- Driest
- Warmest
- Coldest
- Driest and Warmest

These data are preliminary. A more complete list and map will follow once full quality assurance is complete.

Record Stations: Wettest 3, Driest 20,
Warmest 443, Coldest 1, Driest and Warmest 18

Source: GHCN-D

Last updated: January 7, 2013

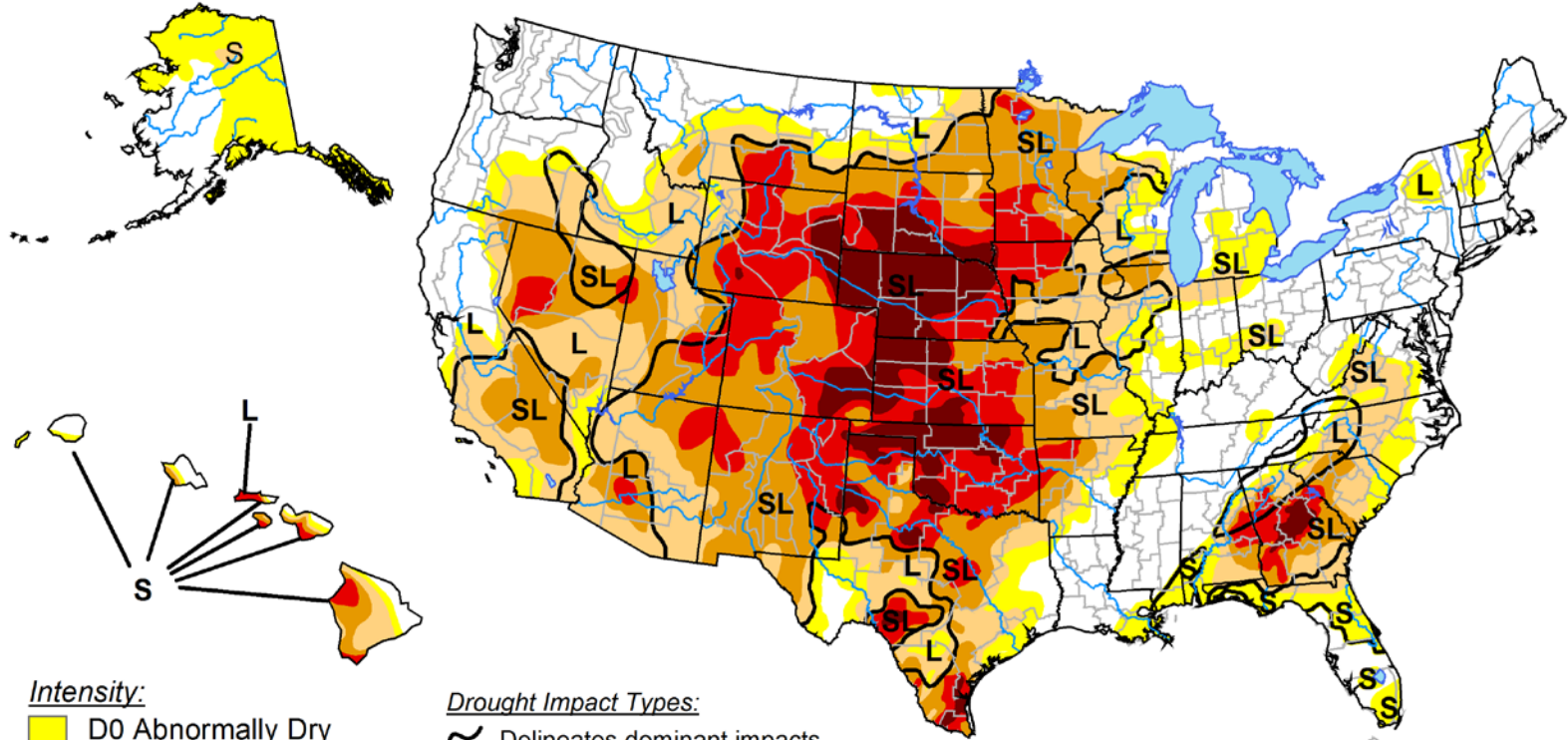


NOAA's
National Climate Data Center

US Drought Monitor

U.S. Drought Monitor

January 15, 2013
Valid 7 a.m. EST



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.



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

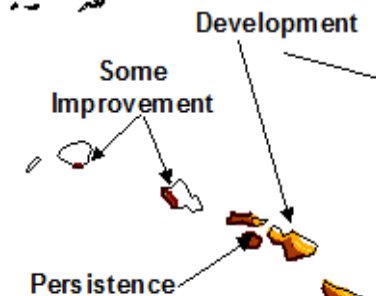
Released Thursday, January 17, 2013
Author: David Simeral, Western Regional Climate Center

U.S. Drought Outlook

3-month forecast



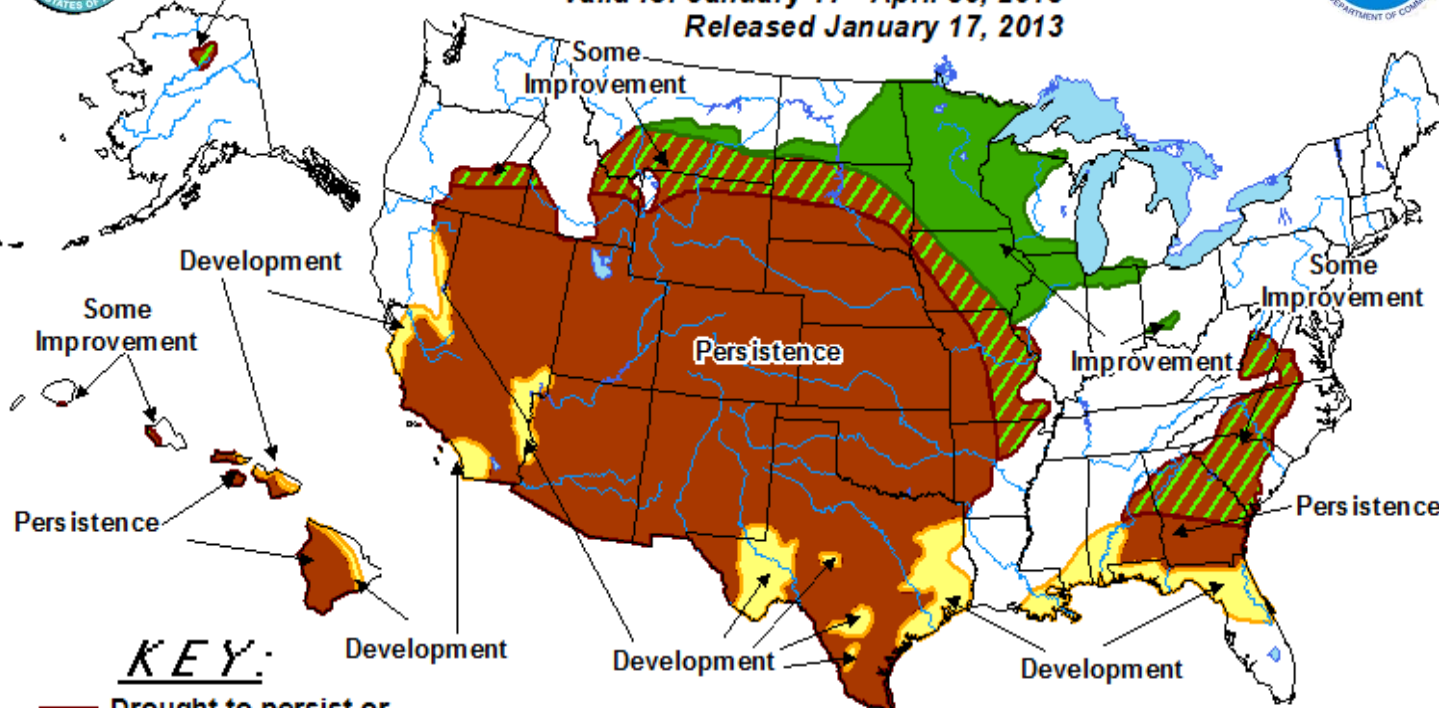
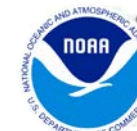
Some Improvement



U.S. Seasonal Drought Outlook

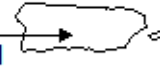
Drought Tendency During the Valid Period

Valid for January 17 - April 30, 2013
Released January 17, 2013



KEY:

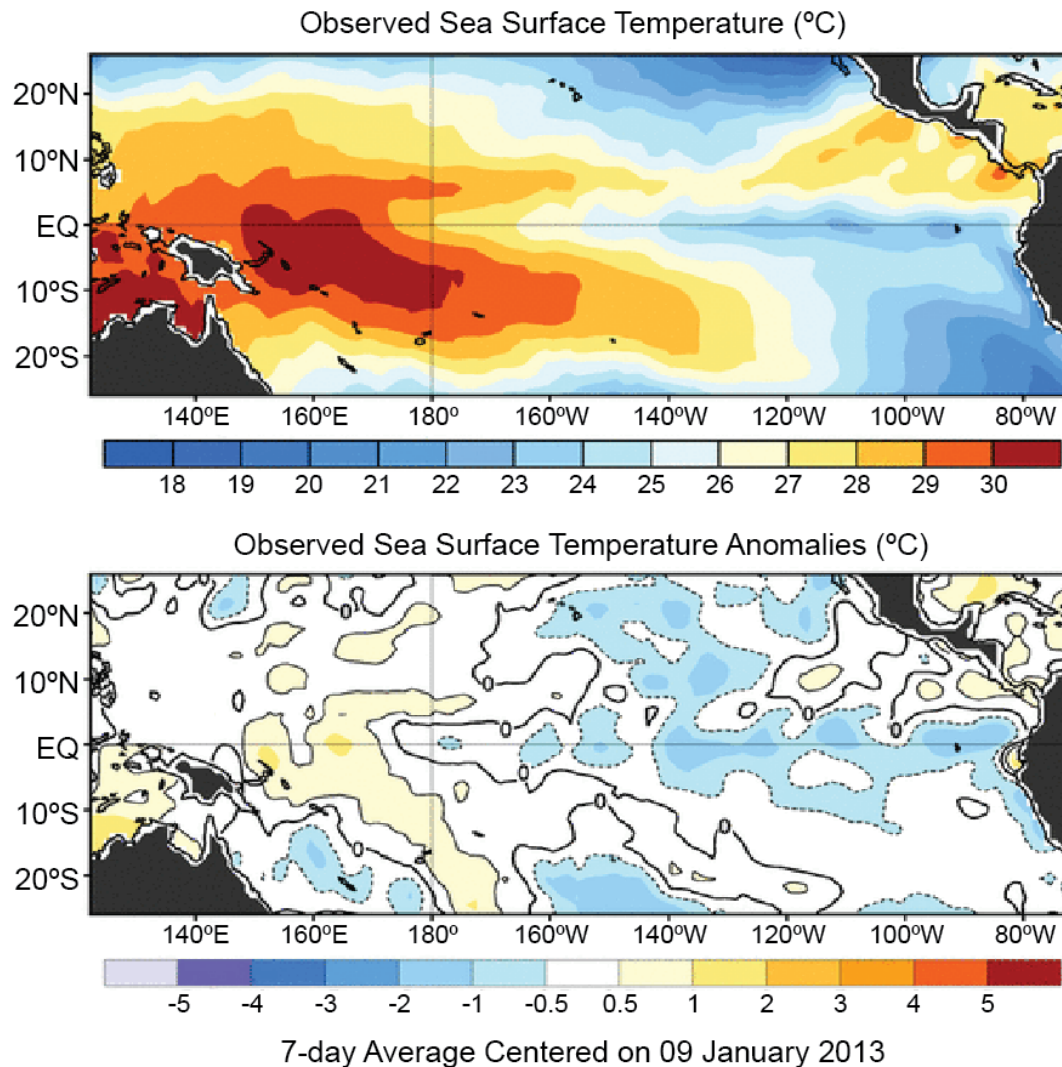
-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

No Drought Posted/Predicted 

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 improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

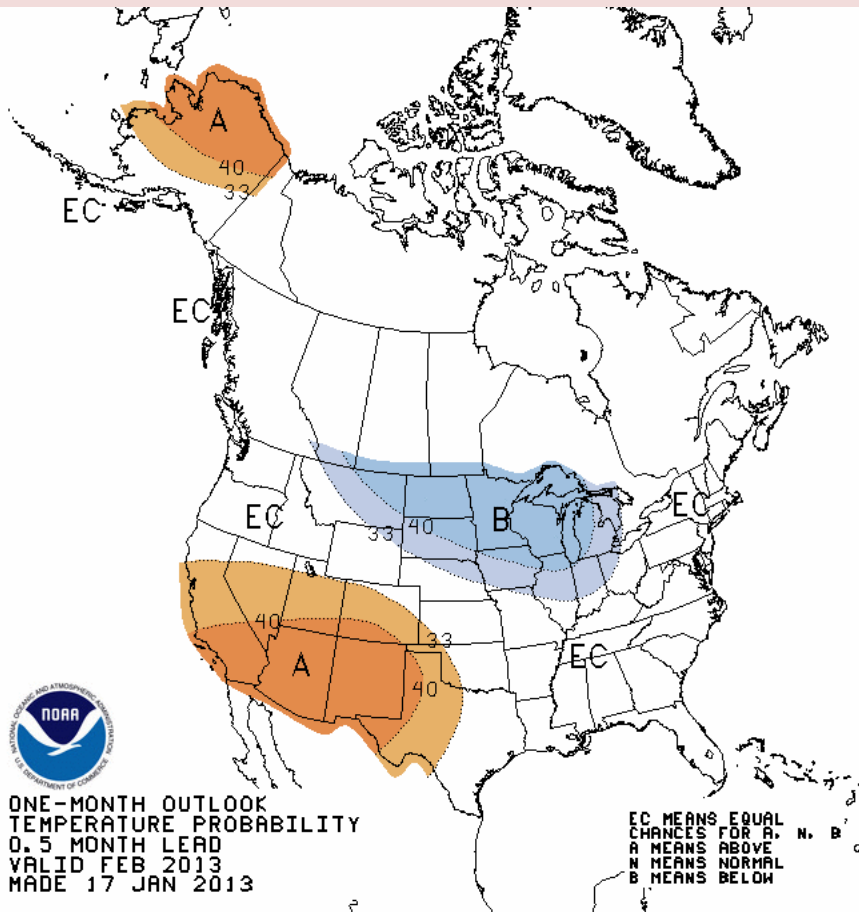
El Niño/La Niña Southern Oscillation (ENSO) Sea Surface Temperature Update

- ENSO-neutral conditions continue
- Equatorial sea surface temps; near-average over western & central Pacific; below average across eastern Pacific
- Atmospheric circulation over tropical Pacific is near average
- ENSO-neutral favored through the N. Hemisphere winter and into the spring of 2013

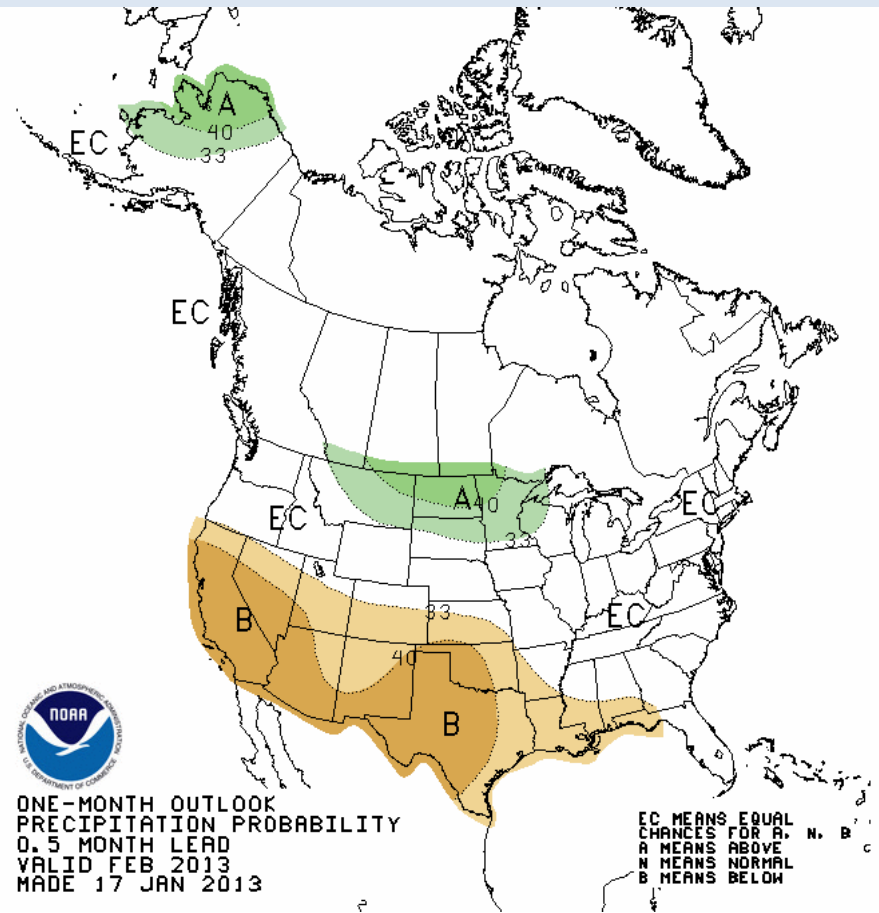


February Monthly Forecast

February Average Temperature Probability

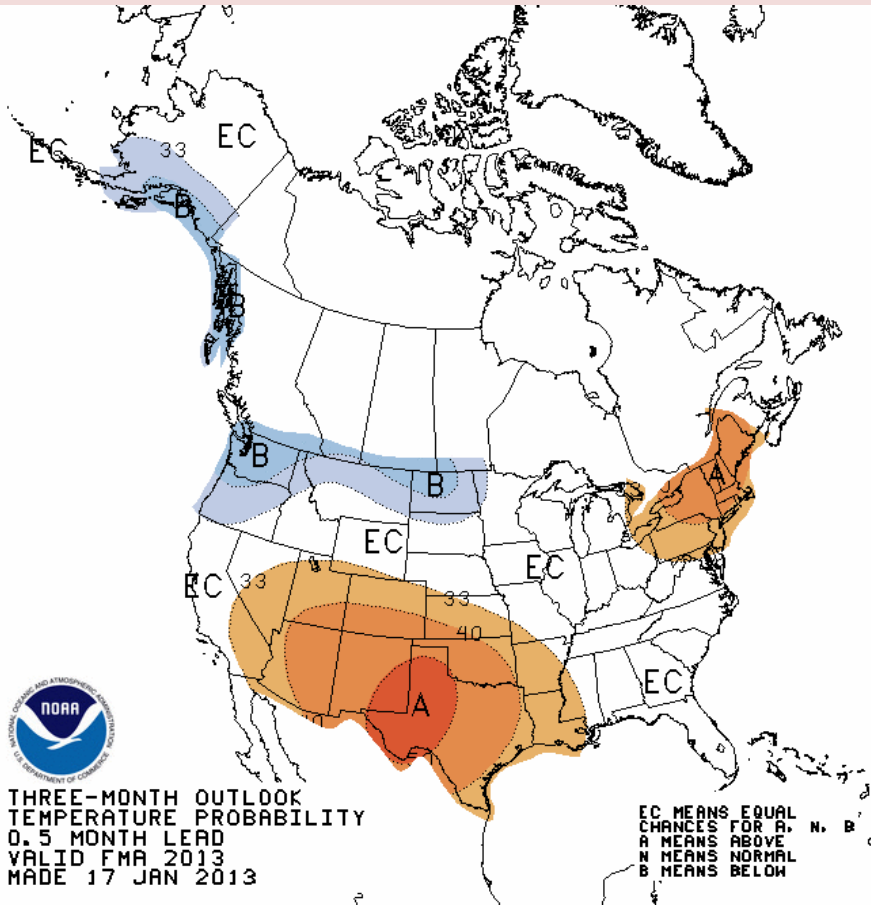


February Total Precipitation Probability

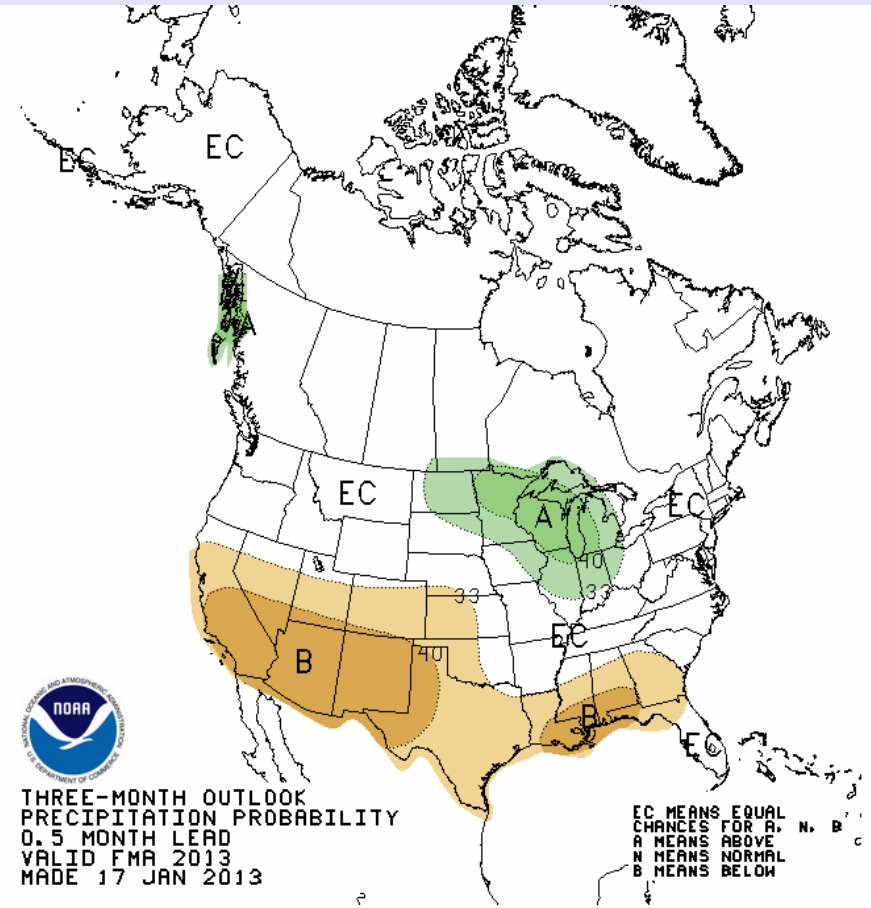


Feb-Mar-Apr Seasonal Forecast

Feb-Mar-Apr Average Temperature Probability



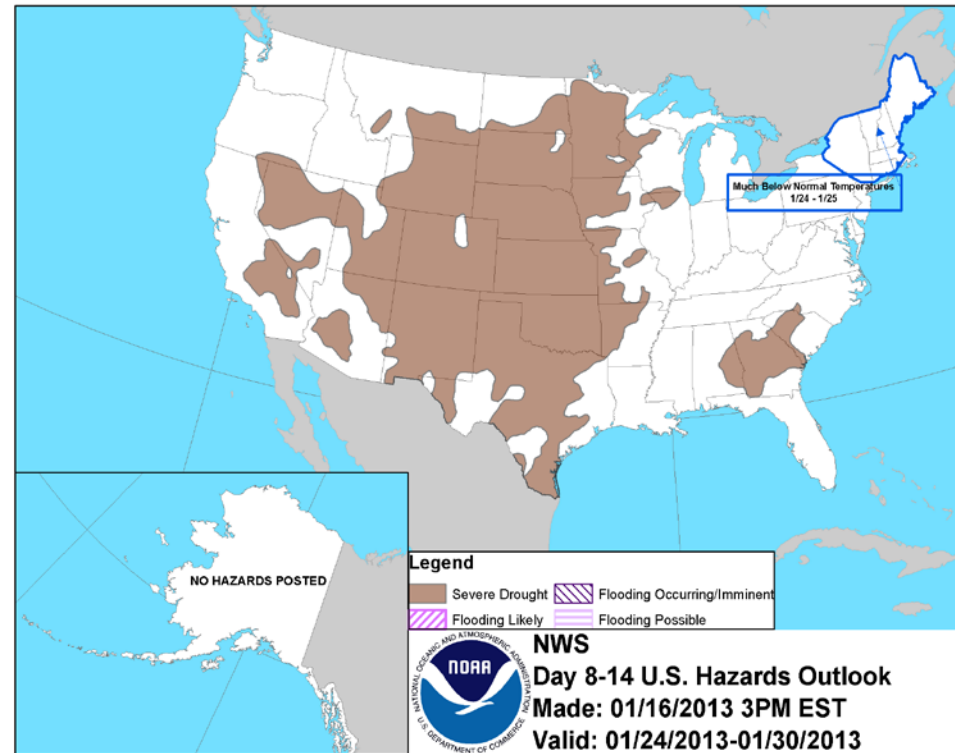
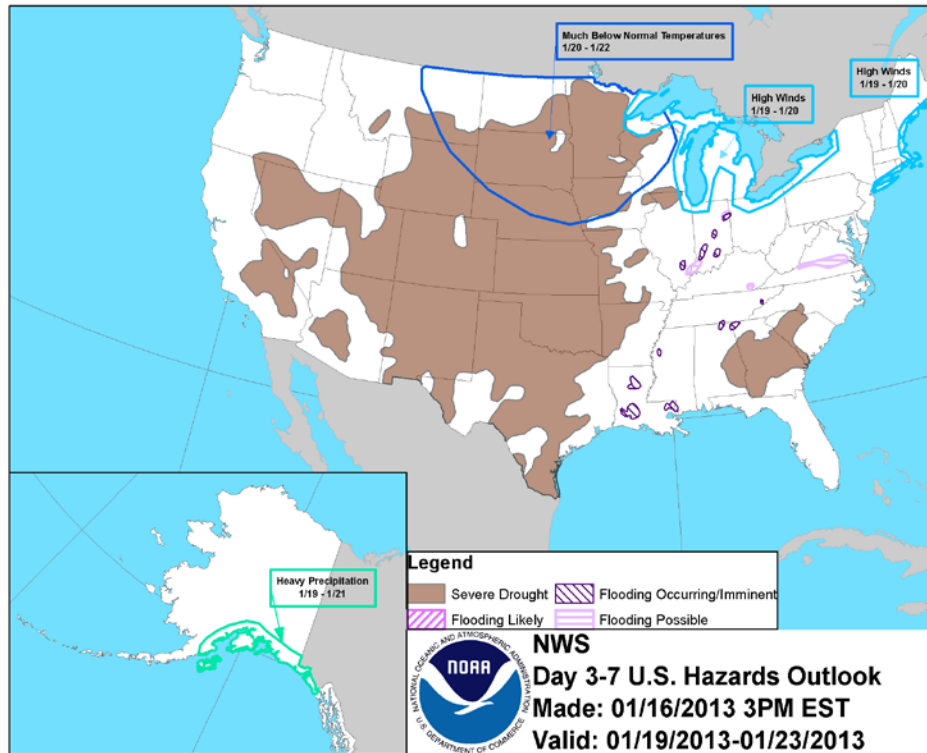
Feb-Mar-Apr Total Precipitation Probability



U.S. Hazards Outlook

Valid January 19-23

Valid January 24-30



For More Information



Today's Presentation:

- <http://www.ncdc.noaa.gov/sotc/briefings>

NOAA's National Climatic Data Center: www.ncdc.noaa.gov

- Monthly climate reports (U.S. & Global): www.ncdc.noaa.gov/sotc/

NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov

U.S. Drought Monitor: <http://droughtmonitor.unl.edu/>

Climate Portal: www.climate.gov

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- Katy.Vincent@noaa.gov, 828-257-3136 (NOAA/NCDC)