

Missouri Basin Climate Outlook

February 2012

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February 17, 2012
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Flood aftermath (MO/IA) – Fall 2011



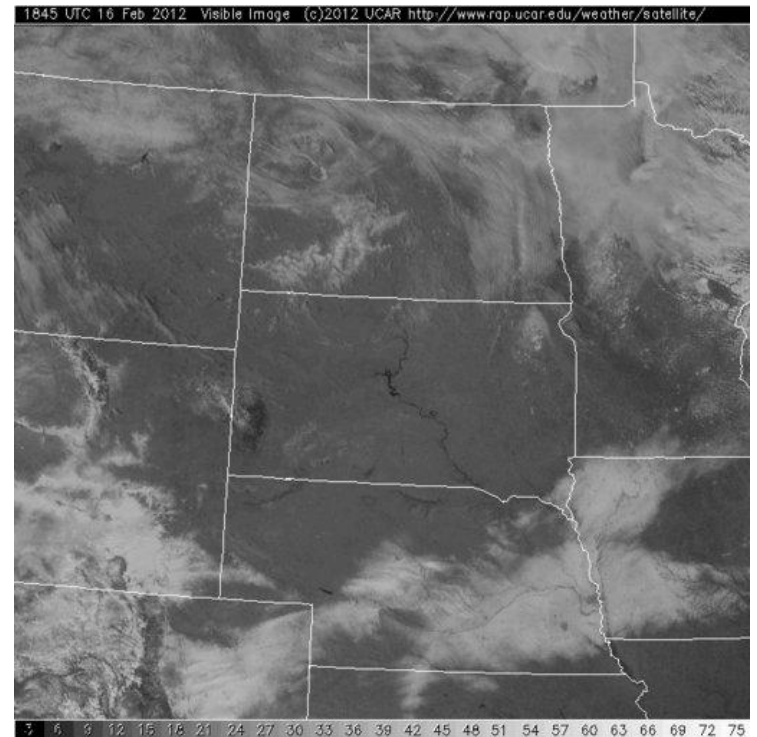
General Information

- * **Providing climate services to the Missouri Basin**
 - * Collaboration with Doug Kluck(NOAA RCSD), Kevin Low (Missouri Basin River Forecast Center) and John Eise (Climate Service Program Manager), State Climatologists and the Regional Climate Center
- * **Spring Flood Outlook Webinar Series next meeting**
 - * March 1st 2012
- * **Next Climate Outlook**
 - * March 16th 2012, next Webinar
- * **Access to previous Missouri Basin Webinars and information**
 - * <http://esrl.noaa.gov/cog/lanina/webinars>
- * Operator Assistance for questions at the end.

Agenda

- * **Current conditions & comparisons to last year**
- * **Predictions**
- * **Drought updates**

Visible satellite from yesterday (Feb. 16) showing plains snow cover.



Key Points

* **Current Conditions**

- * Little Plains snow and less than average mountain snow pack
- * Continuing very warm conditions overall (record)
- * La Nina conditions fading

* **Predictions**

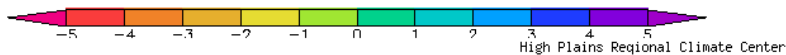
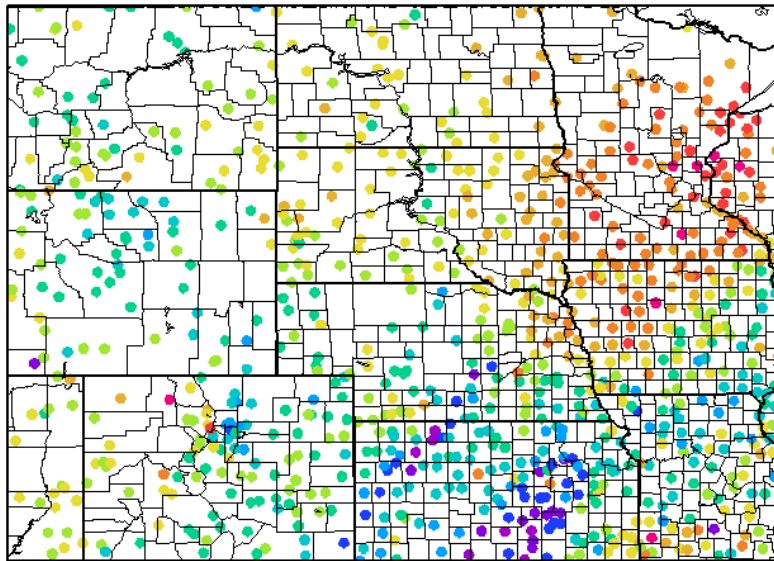
- * Increased chances of warmer conditions
- * Reduced chance of wetter conditions
- * Limited La Nina impact/persisting current conditions

Precipitation Comparison

Departure from Average Since

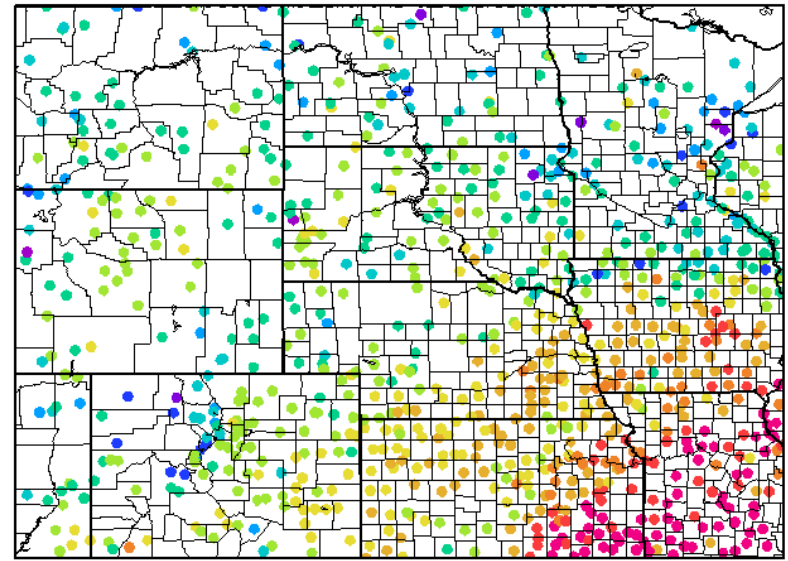
October 1

Dep. from Norm. P (in) 10/1/2011-02/15/2012



2012

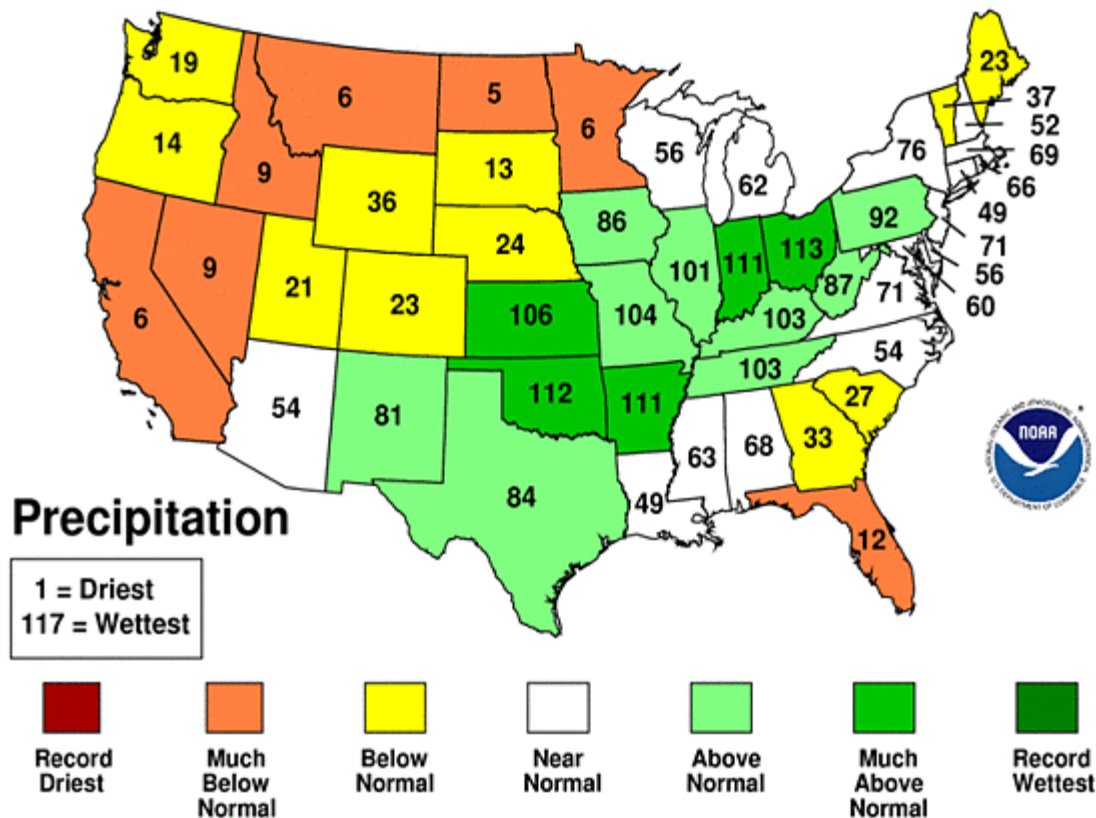
Dep. from Norm. P (in) 10/1/2010-02/15/2011



2011

Nov 2011-Jan 2012 Statewide Ranks

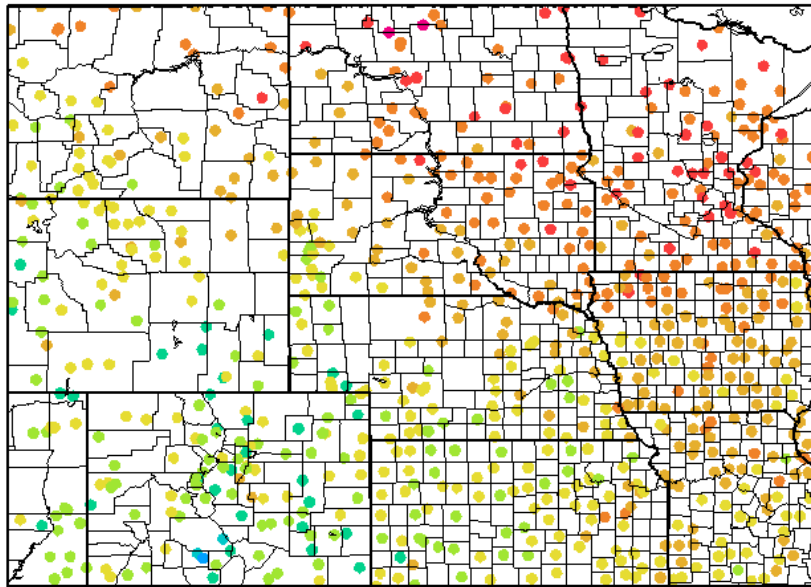
National Climatic Data Center/NESDIS/NOAA



<http://www.ncdc.noaa.gov/sotc/service/national/Statewideprank/201111-201201.gif>

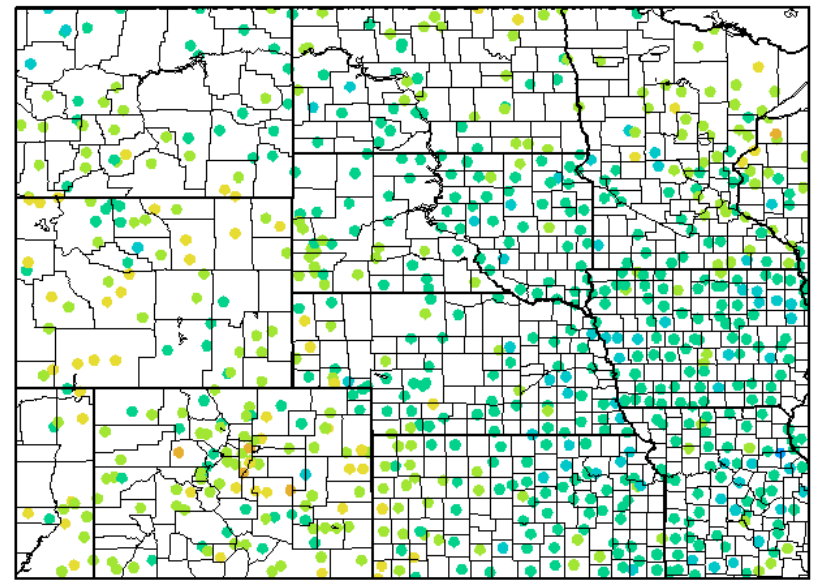
Temperature Comparison Departure from Average Since October 1

Dep. from Norm. T (F) 10/1/2011-02/15/2012



2012

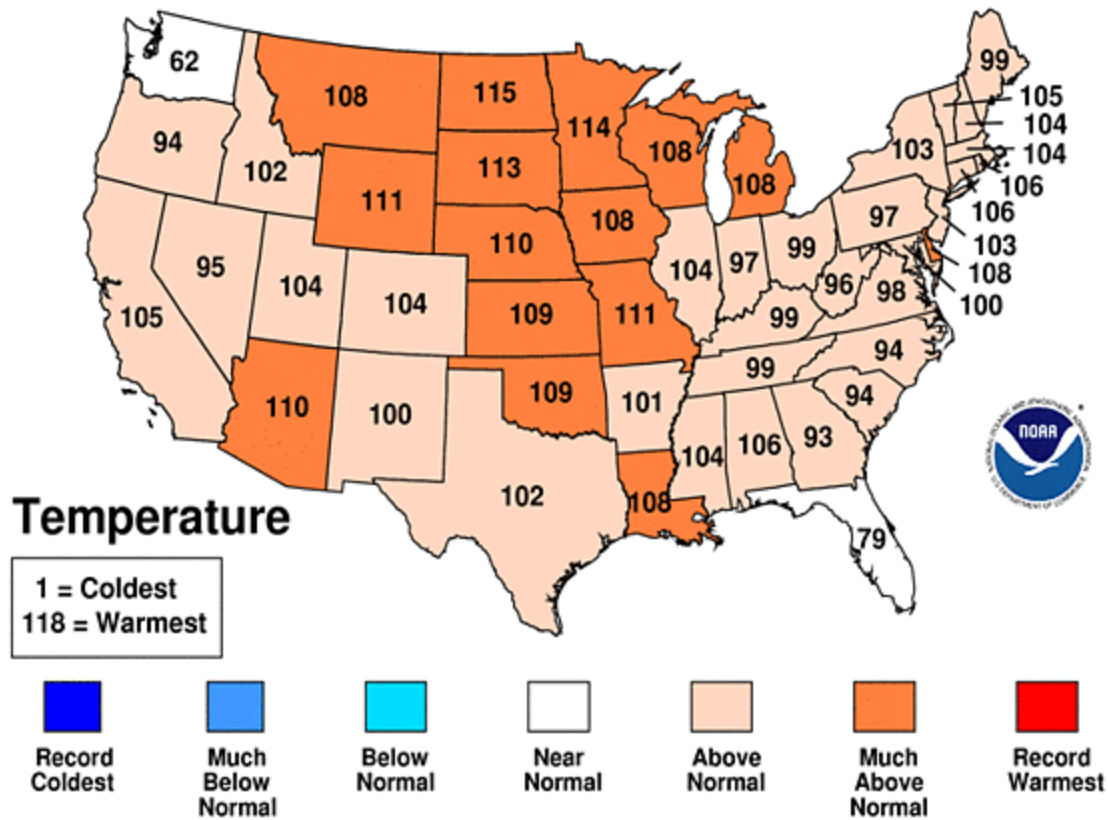
Dep. from Norm. T (F) 10/1/2010-02/15/2011



2011

January 2012 Statewide Ranks

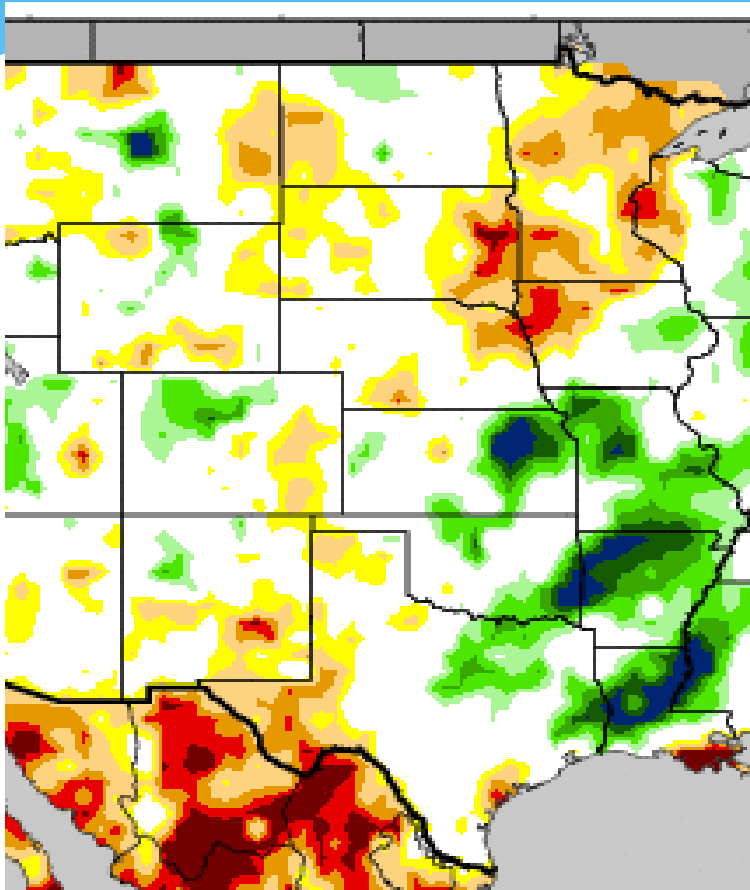
National Climatic Data Center/NESDIS/NOAA



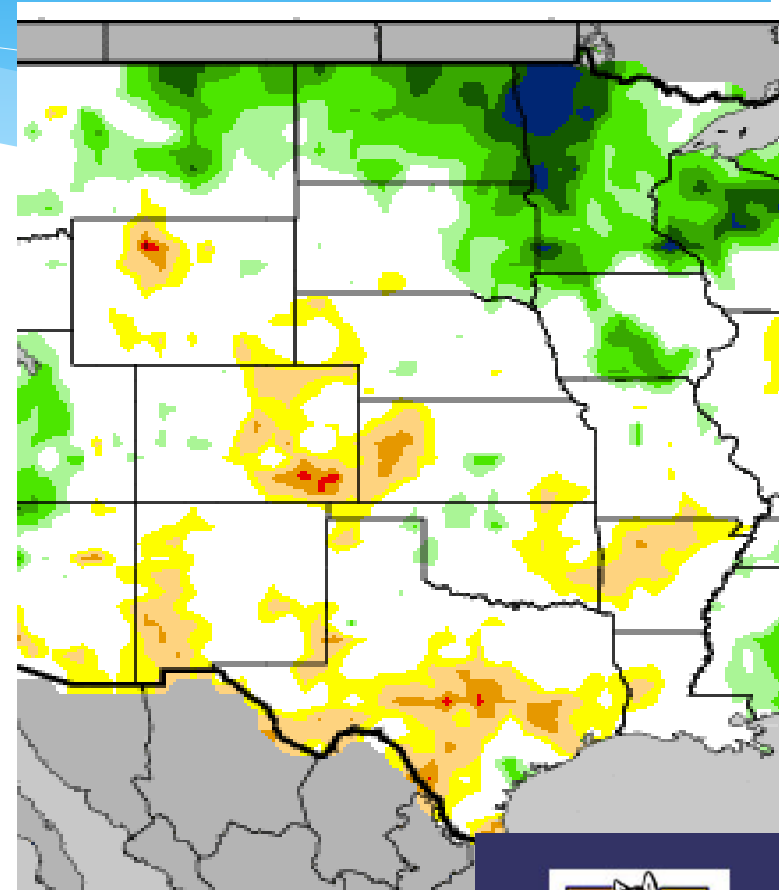
<http://www.ncdc.noaa.gov/sotc/service/national/Statewideprank/201111-201201.gif>

Soil Moisture Comparison

Current



Jan. 2011



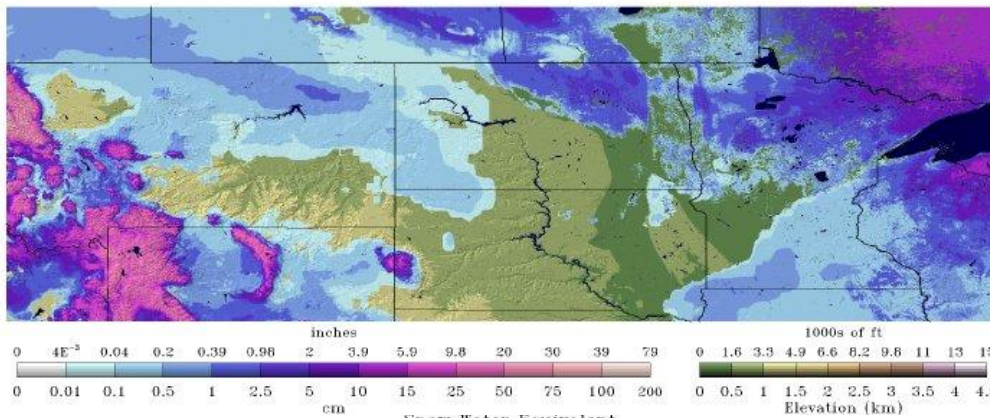
Northern Basin Snow Water Equivalent Comparison

National Snow 2011-
Analysis 2012

National Snow 2011-
Analysis 2012

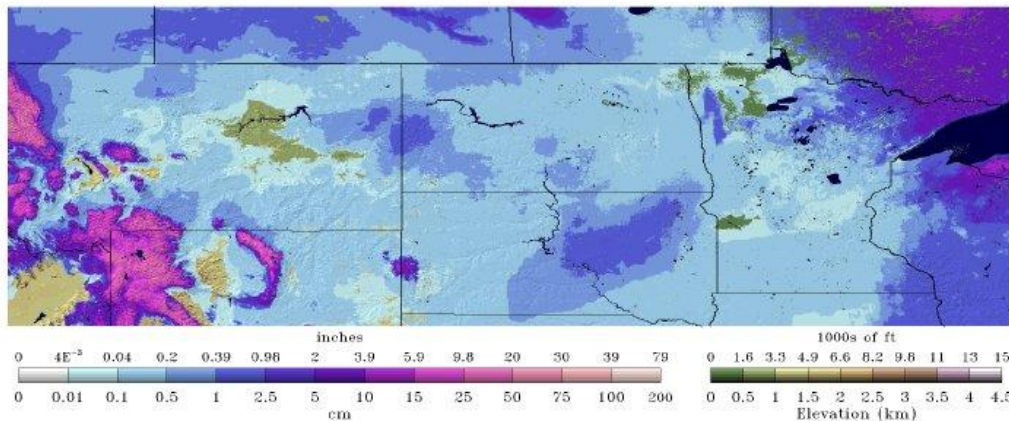
National Snow 2011-
Analysis 2012

Snow Water Equivalent
2012-02-15 06



February 15th, 2012
This month

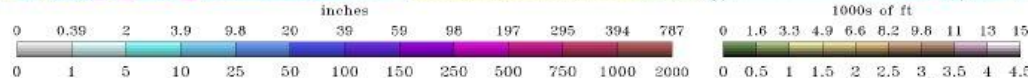
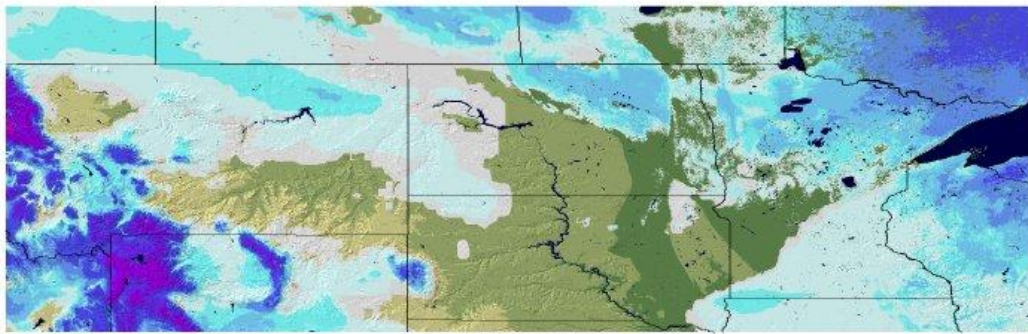
Snow Water Equivalent
2012-01-18 06



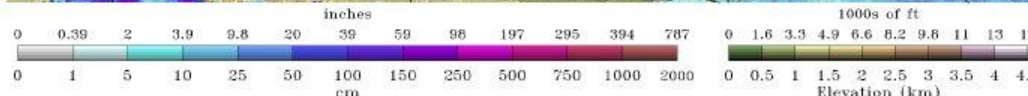
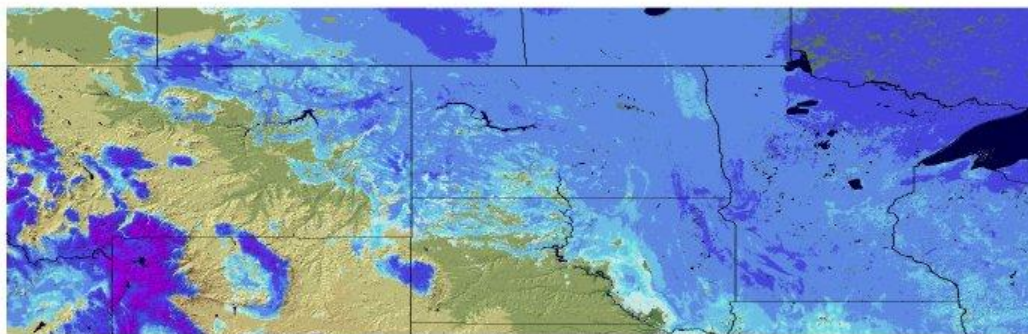
January 18th, 2012
Last month

Northern Basin Snow Cover Comparison

Snow Depth
2012-02-15 06



Snow Depth
2011-02-15 06



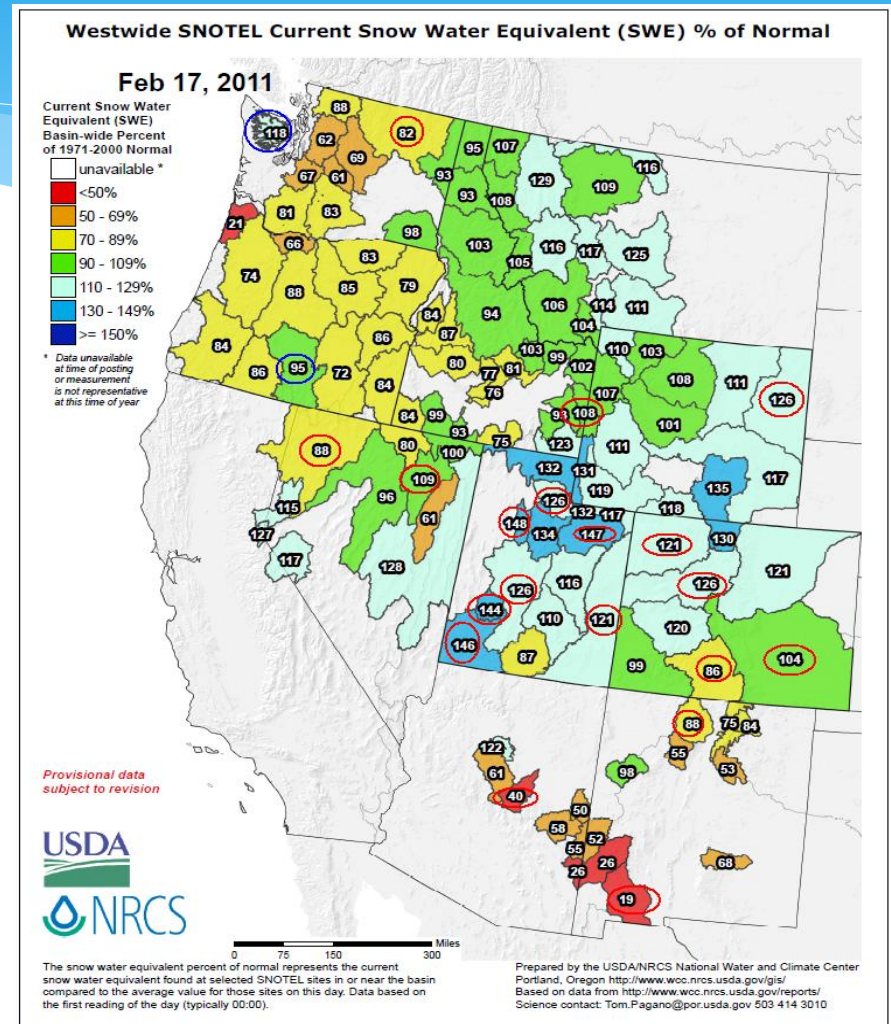
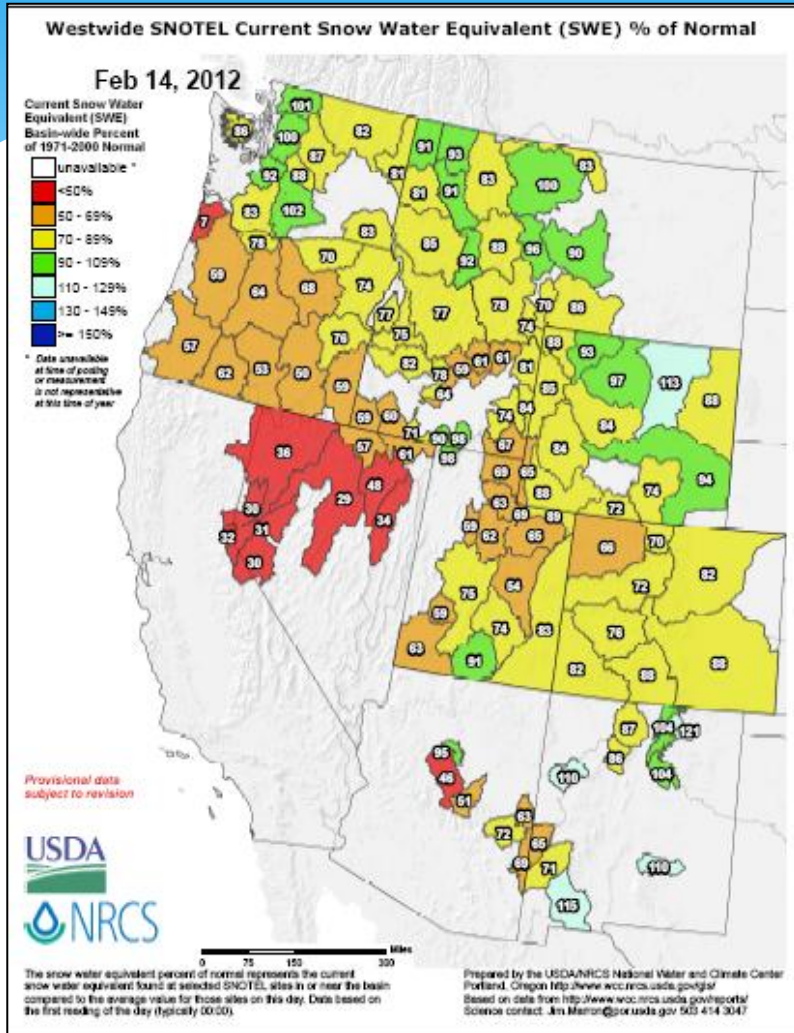
February 15th, 2012
This year

Current data:
48% snow covered
Average snow depth 1.1''

February 15th, 2011
Last year

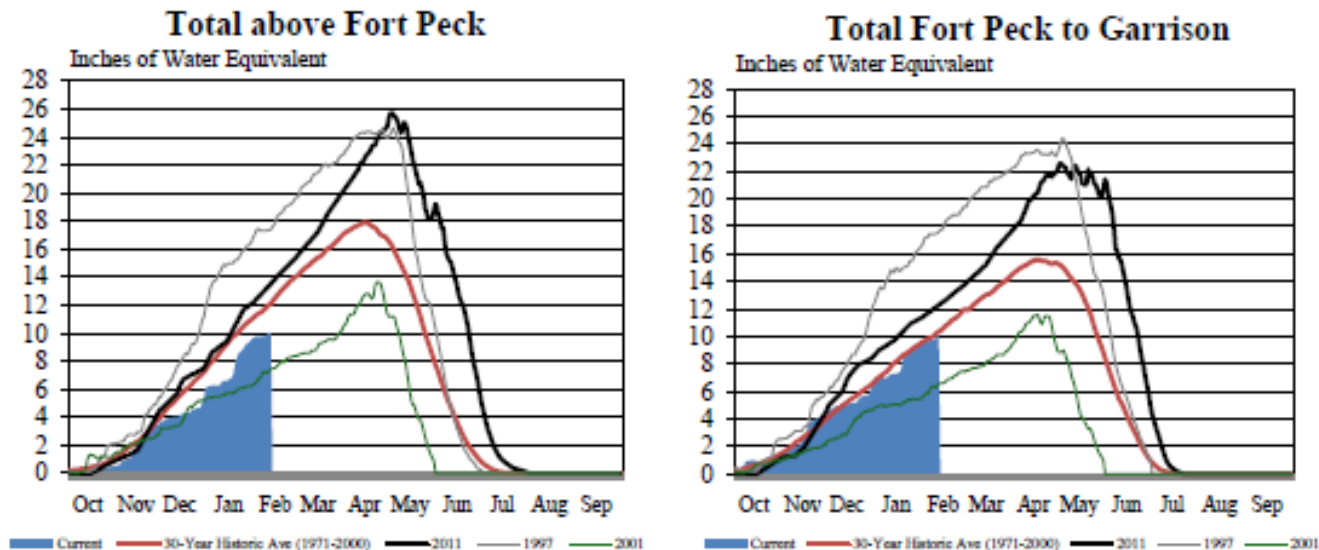
Mountain Snow Comparison

2012 (left) vs 2011 (right)



Missouri River Snow Pack

Missouri River Basin Mountain Snowpack Water Content 2011-2012 with comparison plots from 1997*, 2001* and 2011



The Missouri River Basin mountain snowpack normally peaks near April 15. Normally, 70 percent of the peak accumulation has occurred by February 15. On February 11, the mountain snowpack in the "Total above Fort Peck" reach is currently 83 percent of normal and the "Total Fort Peck to Garrison" reach is currently 94 percent of normal.

* Generally considered the high and low years of the last 20-year period.
February 11, 2012

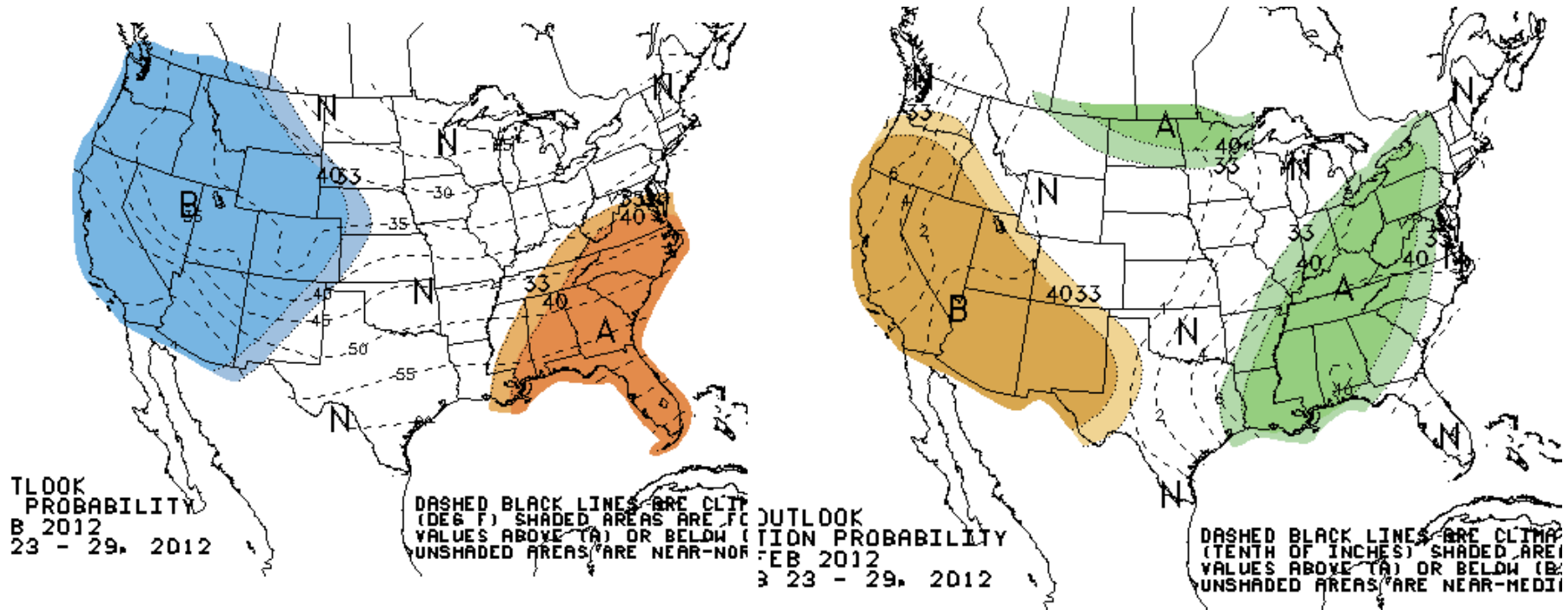
Provisional data. Subject to revision.

Climate Outlooks

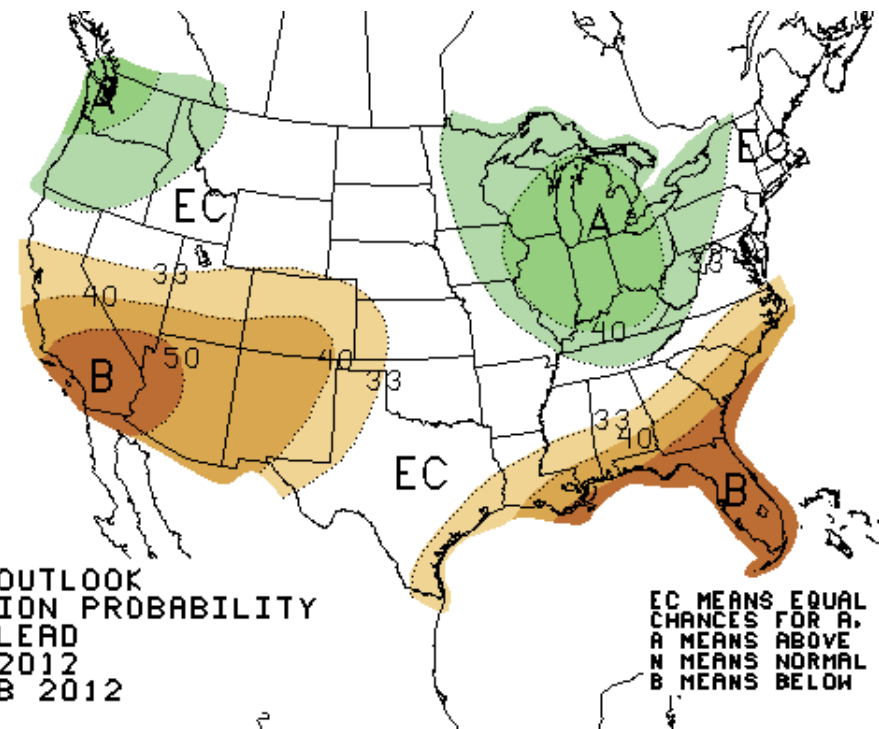
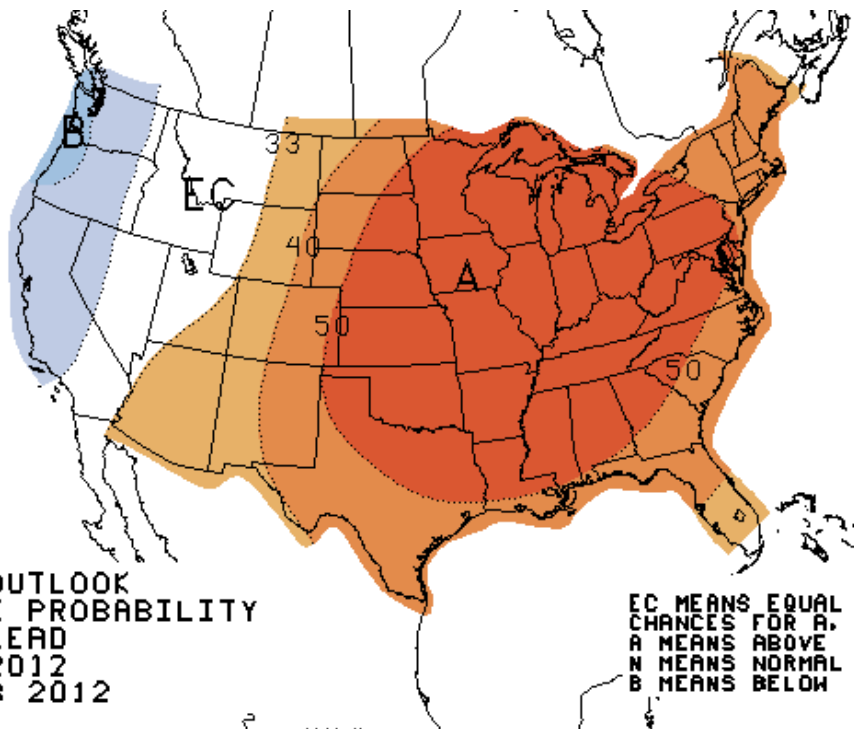
- * **2 weeks out (8-14 days)**
- * **March**
- * **3 Months (March – April – May)**
- * **3 Months (April – May – June)**
- * www.cpc.ncep.noaa.gov

- * Released Thursday 2/16/2012

Temperature and Precipitation Probabilities for 2/23- 2/29/12

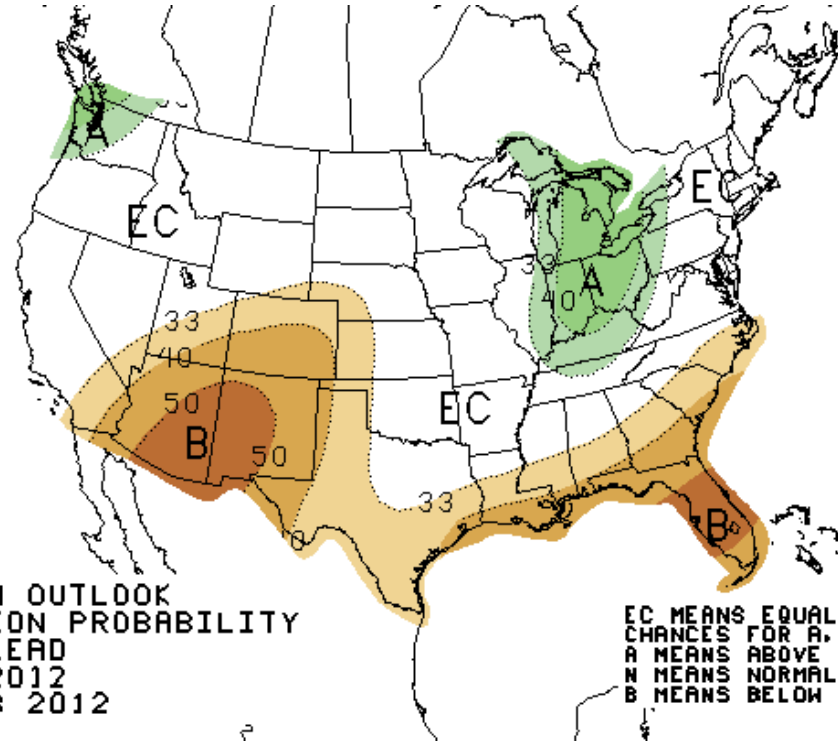
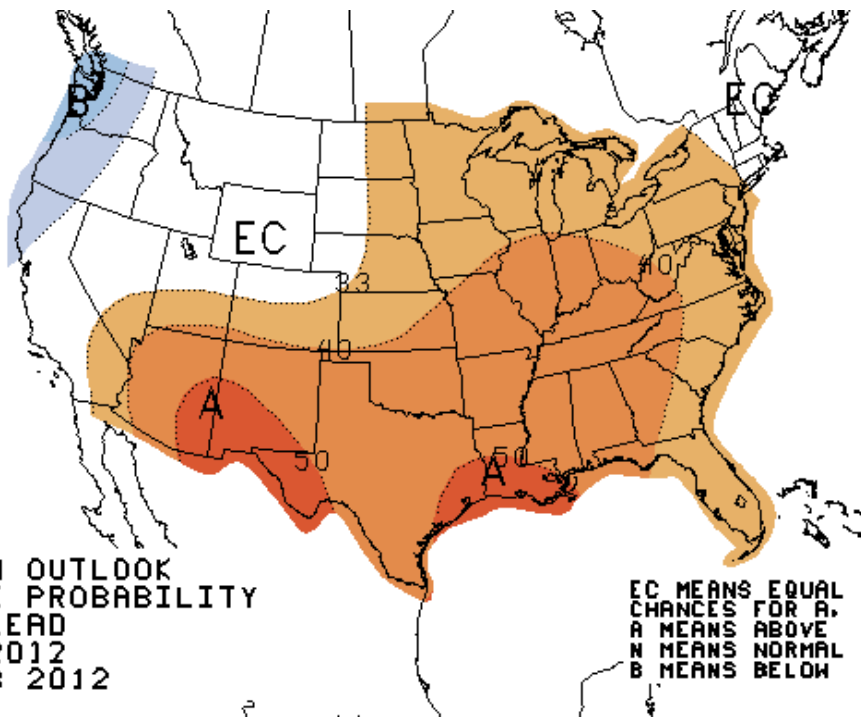


March Temperature and Precipitation Probabilities

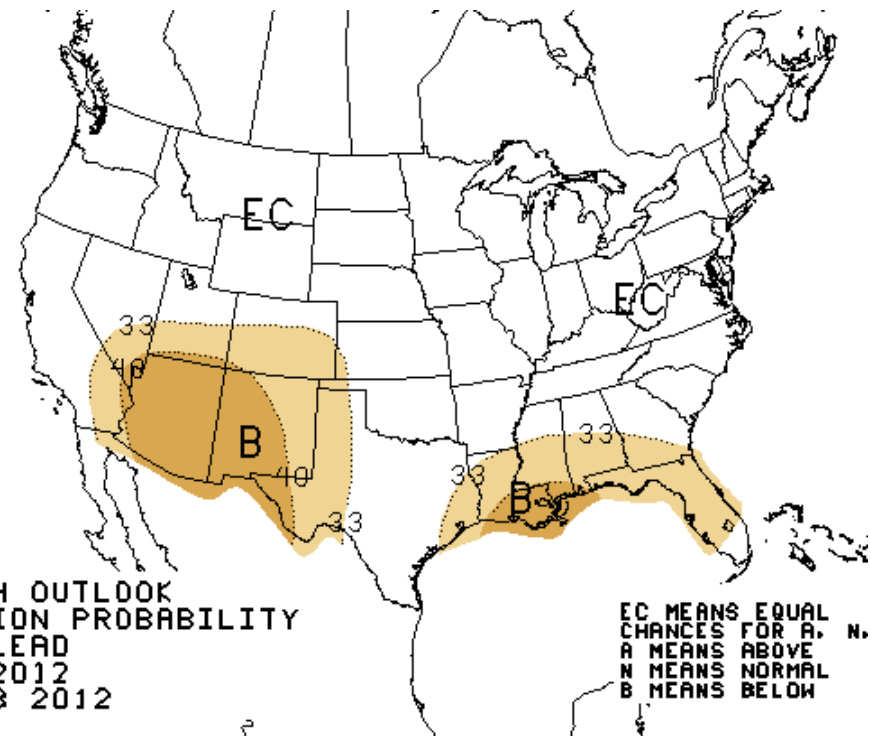
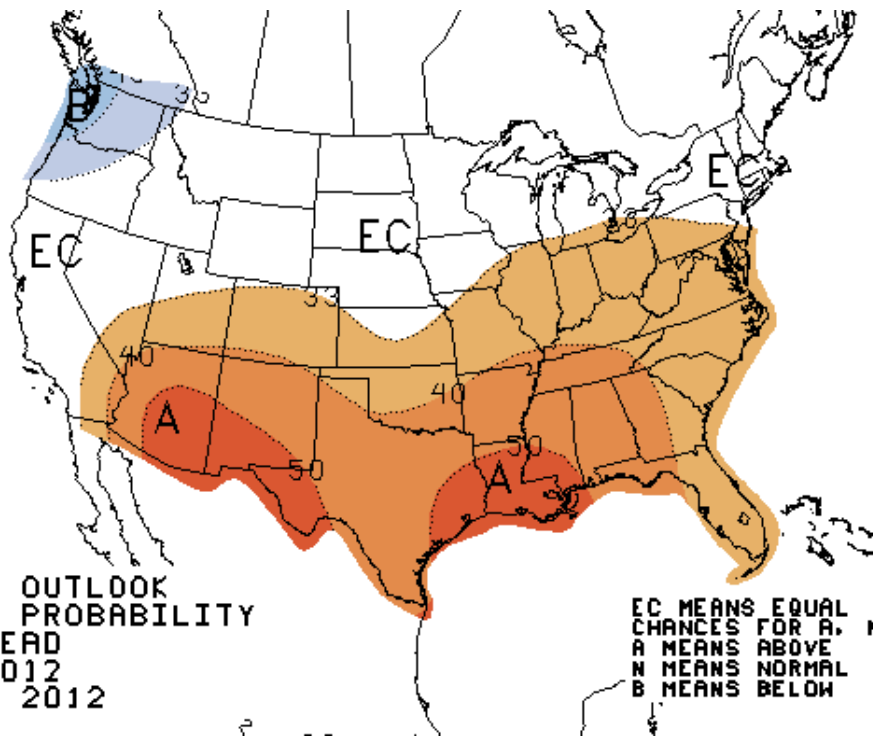


<http://www.cpc.ncep.noaa.gov/products/predictions/30day/>

3 Month Temperature and Precipitation Probabilities (March – April - May)



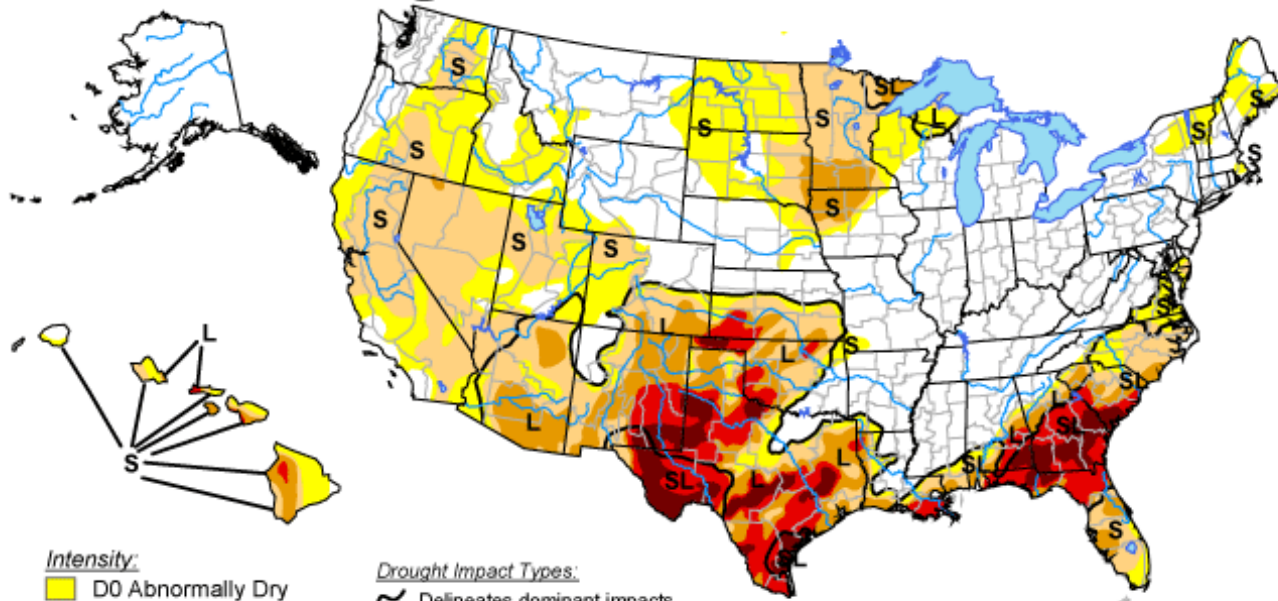
3 Month Temperature and Precipitation Probabilities (April – May - June)








Drought Update

U.S. Drought Monitor


February 14, 2012
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/>

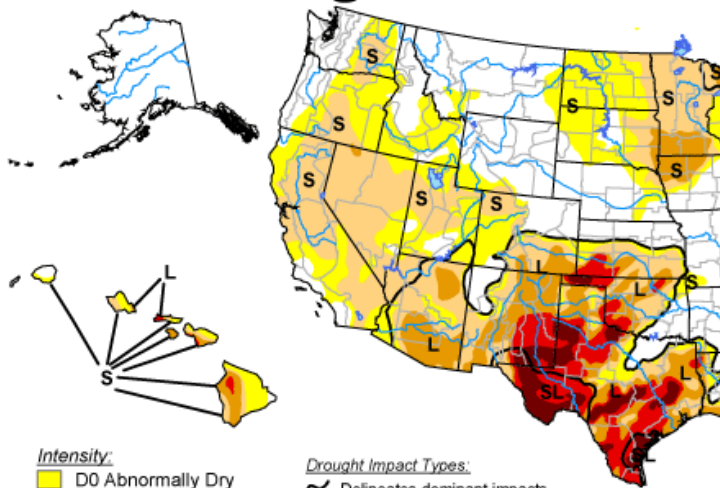


Released Thursday, February 16, 2012
Author: Rich Tinker, NOAA/NWS/NCEP/CPC

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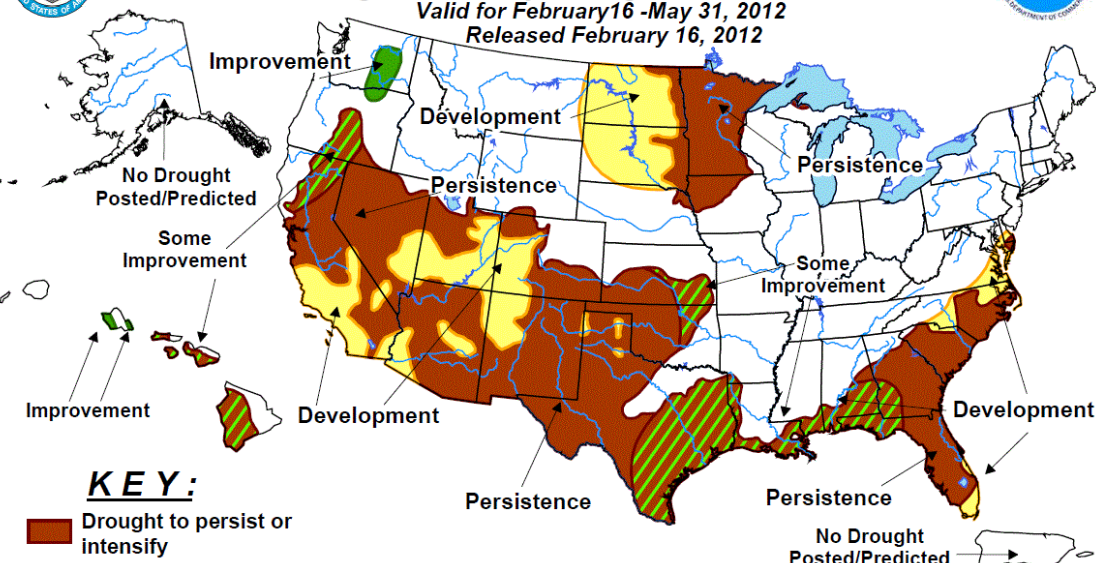
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<http://droughtmonitor.unl.edu/>



Released T.
Author: Ricl

U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period Valid for February 16 - May 31, 2012 Released February 16, 2012



KEY:

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

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.

Key Points - reiterated

* **Current Conditions**

- * Little Plains snow and less than average mountain snow pack
- * Continuing very warm conditions overall
- * La Nina conditions fading

* **Predictions**

- * Increased chances of warmer conditions
- * Reduced chance of wetter conditions
- * Limited La Nina impact

Further Information

<http://esrl.noaa.gov/cog/lanina>

* **Today's Recorded Presentation:**

- * <http://esrl.noaa.gov/cog/lanina/webinars>
- * 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
- Climate Portal: www.climate.gov
- U.S. Drought Monitor: www.drought.gov
- NRCS National Water & Climate Center:
<http://www.wcc.nrcs.usda.gov/>
- USGS WaterWatch: <http://waterwatch.usgs.gov/new/>

Thank You and Questions?

- * Questions:

- * **Climate:**

- * Doug Kluck: doug.kluck@noaa.gov, 816-994-3008

- * Dennis Todey: dennis.todey@sdstate.edu, 605-688-5678

- * John Eise: john.eise@noaa.gov, 816-268-3144

- * **Weather:**

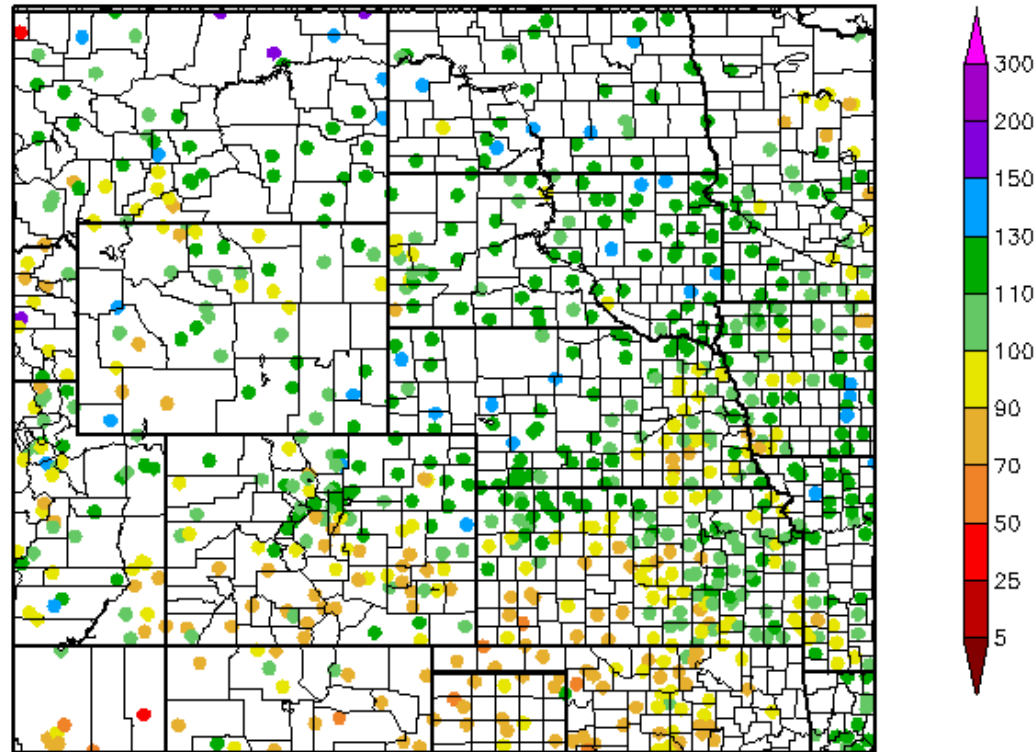
- * crhroc@noaa.gov

- * **Hydrology/River Flow:**

- * Missouri Basin River Forecast Center, Kevin Low,
kevin.low@noaa.gov 816-540-5151

Three year precipitation percentage

Percent of Normal Precipitation (%)
2/17/2009 – 2/16/2012

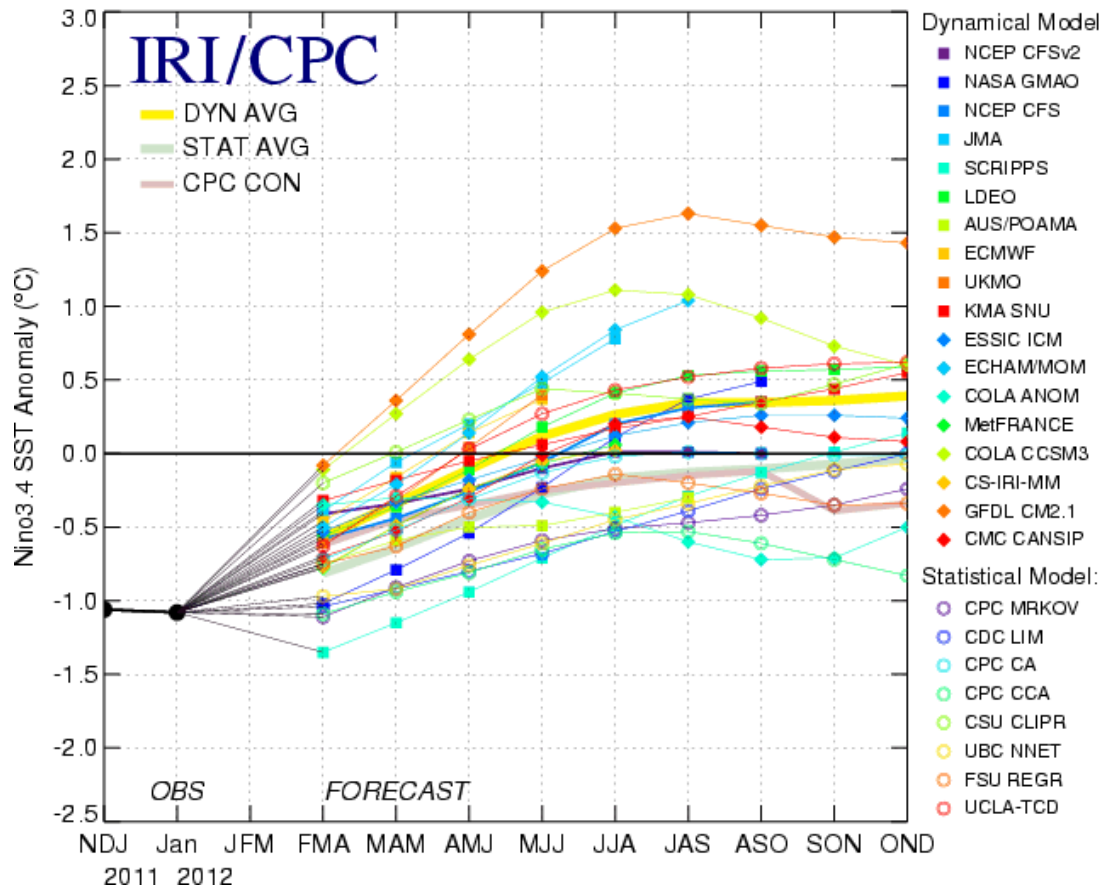


Generated 2/17/2012 at HPRCC using provisional data.

Regional Climate Centers

ENSO Outlook

Mid-Feb 2012 Plume of Model ENSO Predictions



A majority of the ENSO prediction models call for weak La Niña conditions during the February-March period, transitioning to neutral conditions during the March-May period with the most likely time of dissipation occurring in early April.

http://iri.columbia.edu/climate/ENSO/currentinfo/ENSO_Quick_Look.pdf;
http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/