Midwest and Great Plains Drought and Climate Summary

20 February 2014

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General Information

- **Providing climate services to the Central Region**
  - Collaboration with Wendy Ryan (Colorado Climate Center), Dennis Todey (South Dakota State Climatologist), Doug Kluck and John Eise (NOAA), State Climatologists and the Midwest Regional Climate Center, High Plains Regional Climate Center, NOAAs Climate Prediction Center
  - **Next Climate/Drought Outlook Webinar: March 20th, 2014**
- **Access to past Climate/Drought Webinars and information**
- *http://mrcc.isws.illinois.edu/webinars.htm*
- *http://www.hprcc.unl.edu/webinars.php*
- **To sign up for the next webinar, please visit:**

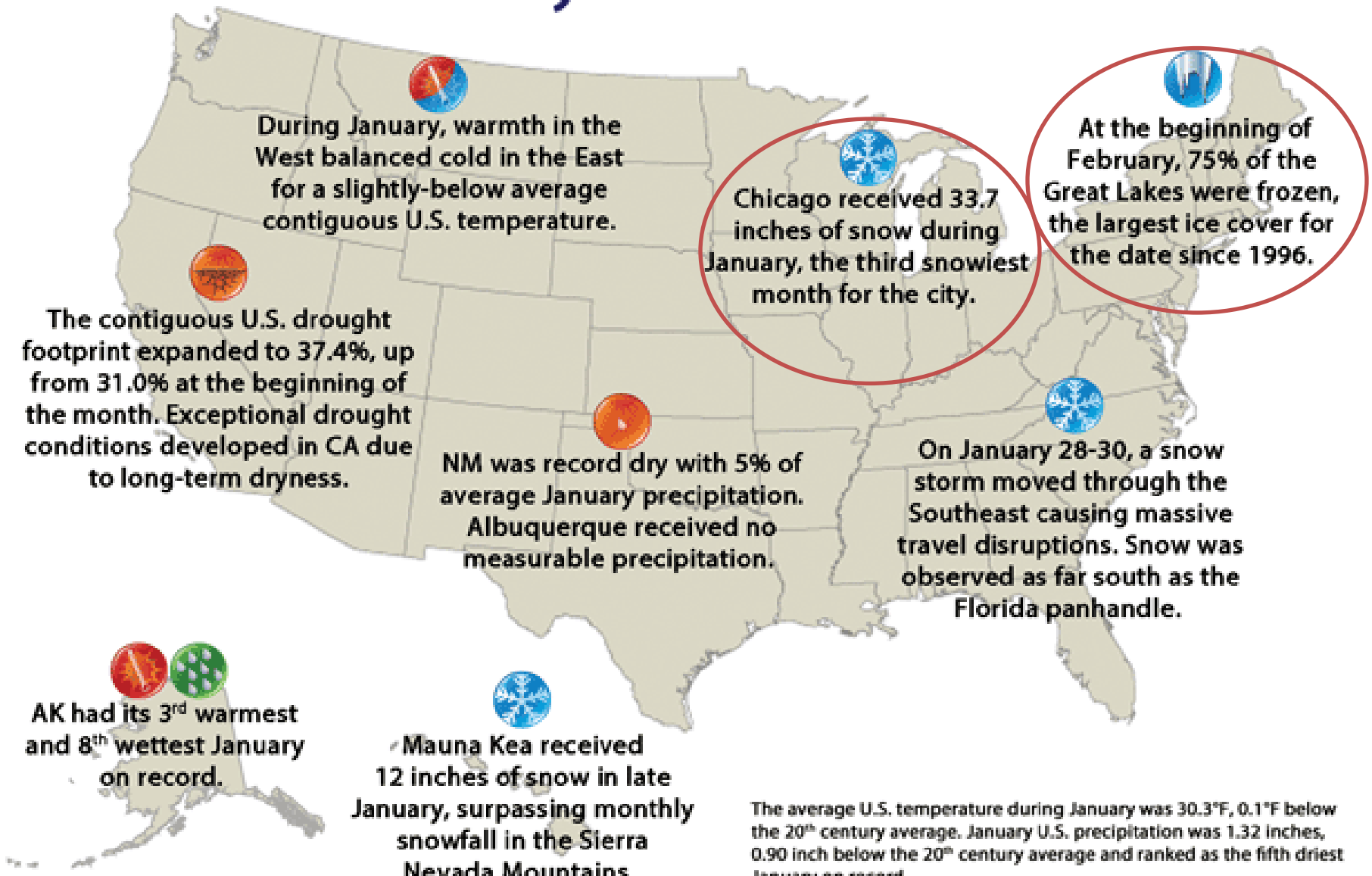
http://drought.gov/drought/content/regional-programs/regional-drought-webinars

Agenda

- Current Conditions
- Agricultural Update
- Regional Impacts
- Outlooks
- Questions/Comments

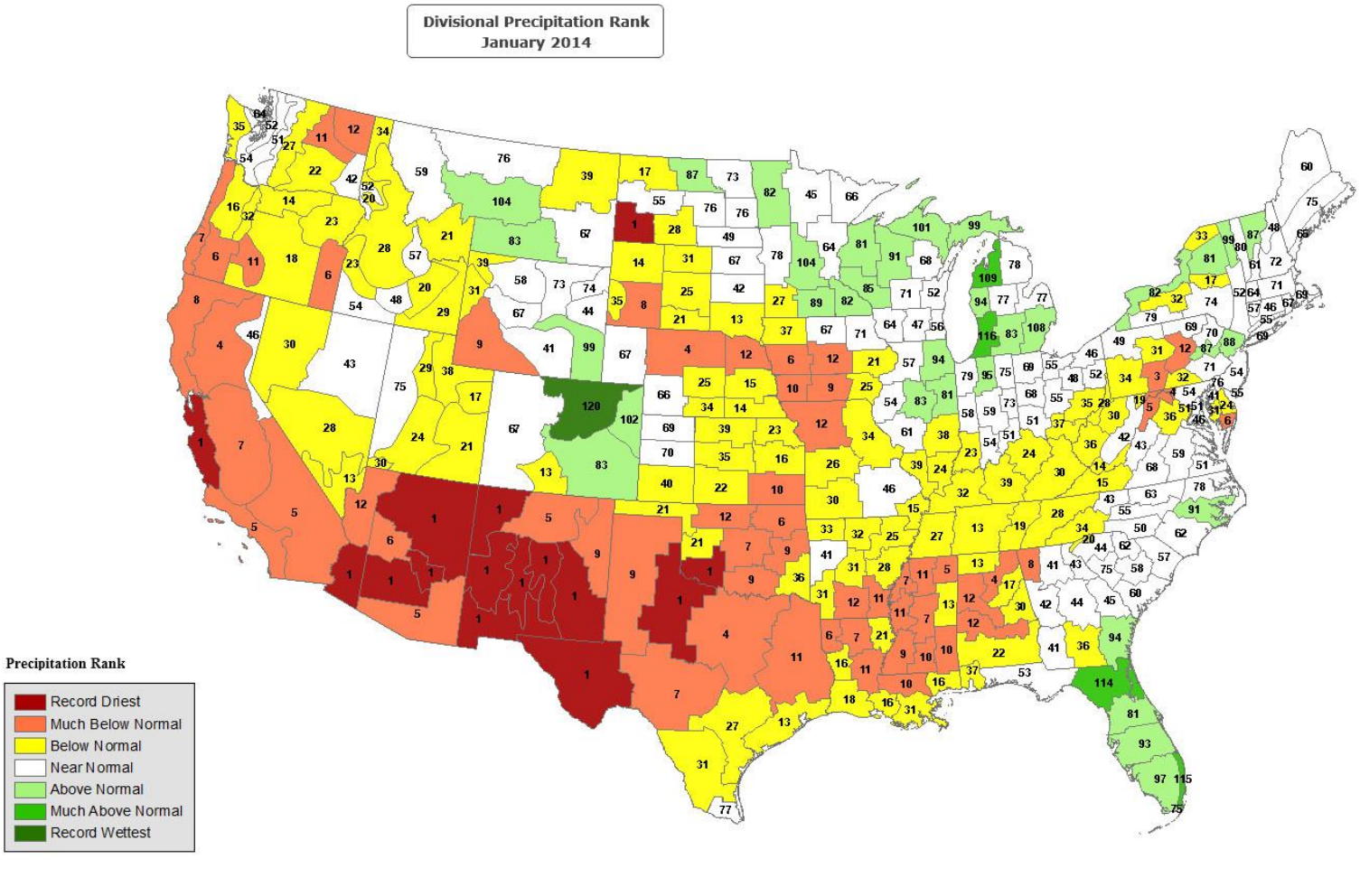
Significant Events for January 2014

NOAA's
National Climatic Data Center



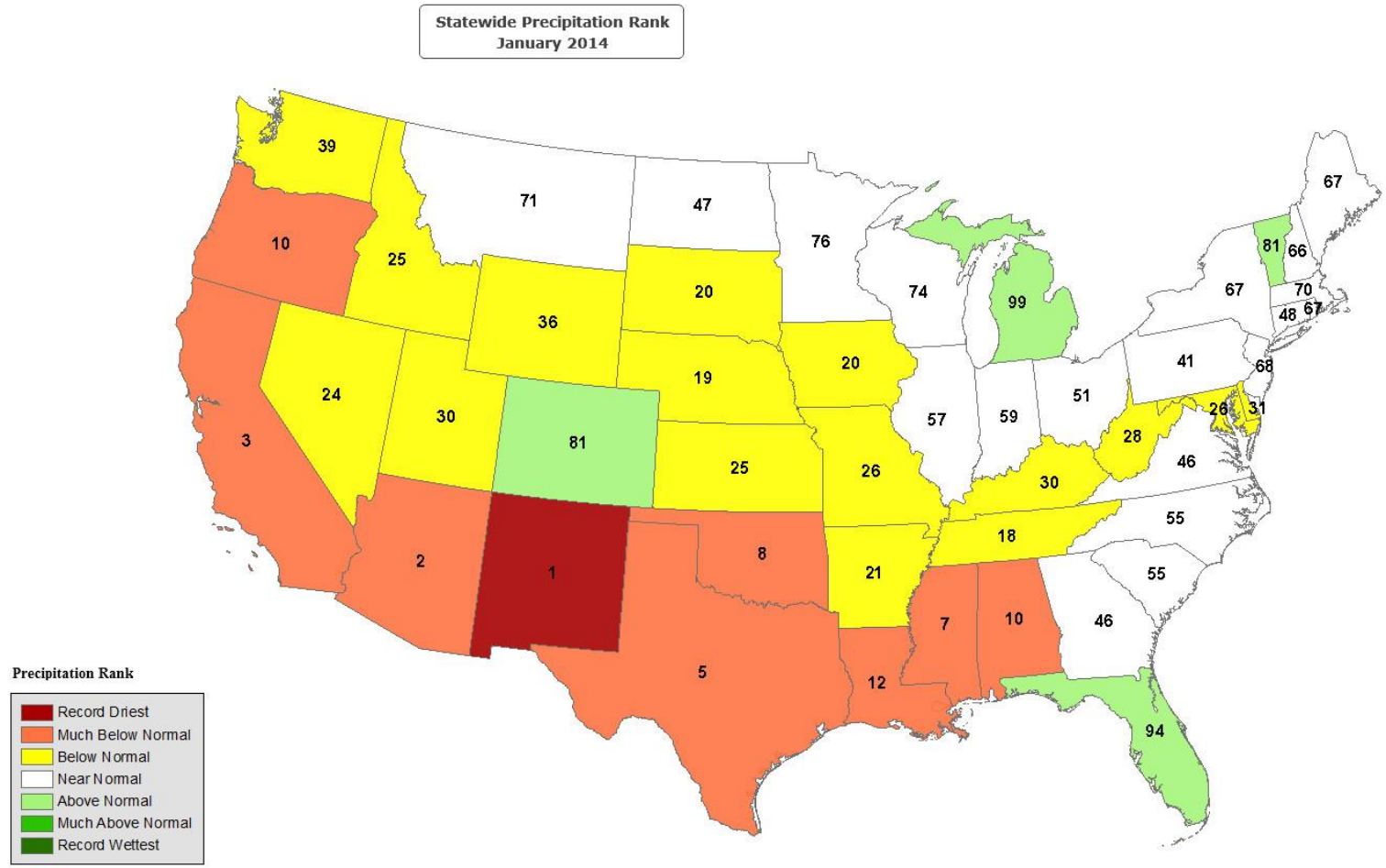
The average U.S. temperature during January was 30.3°F, 0.1°F below the 20th century average. January U.S. precipitation was 1.32 inches, 0.90 inch below the 20th century average and ranked as the fifth driest January on record.

January Divisional Precipitation Rank

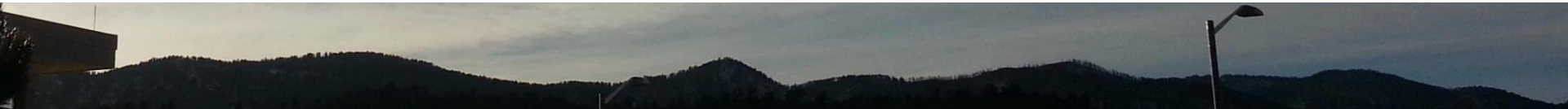


NOAA / NCDC

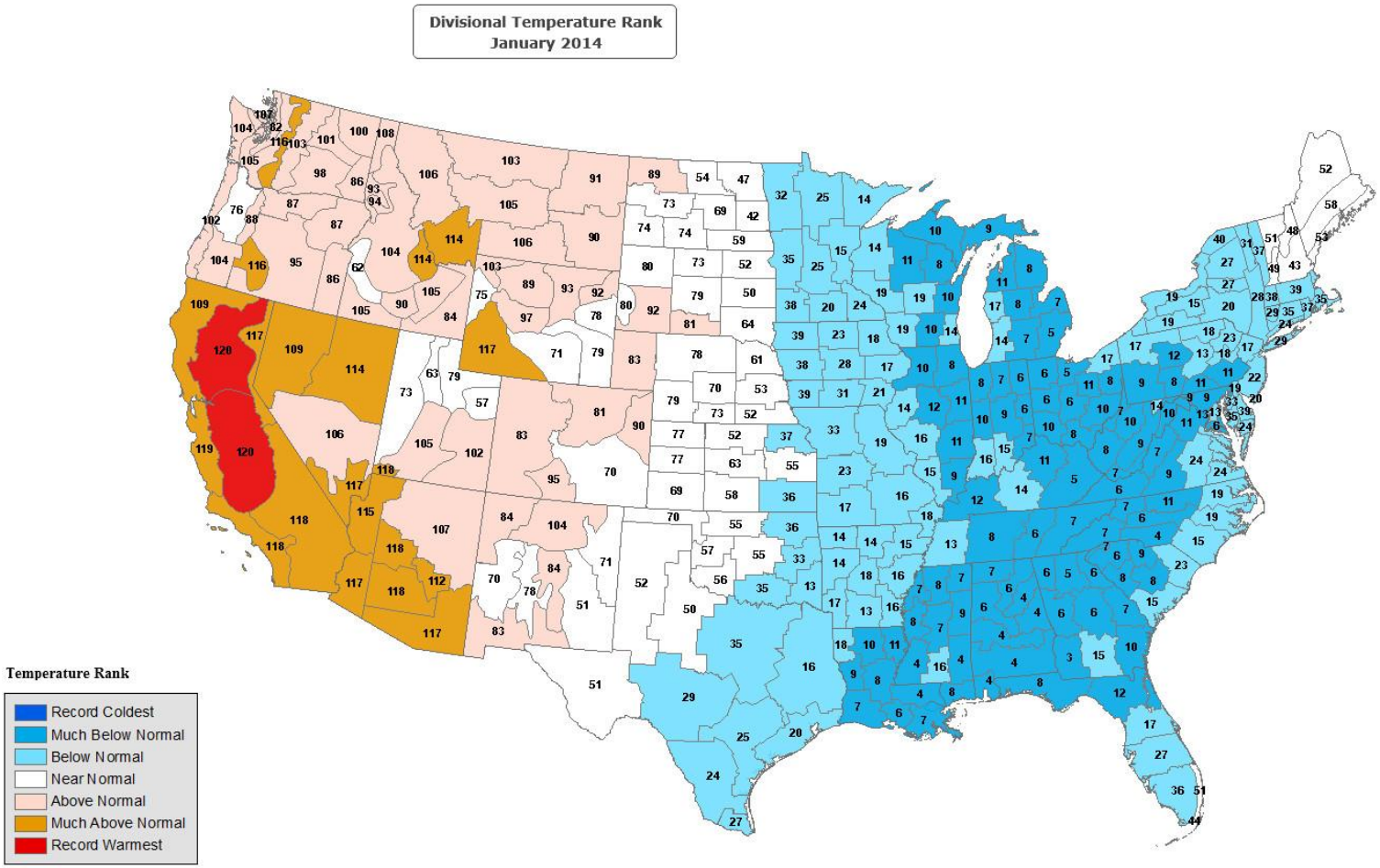
January State Precipitation Rank



NOAA / NCDC

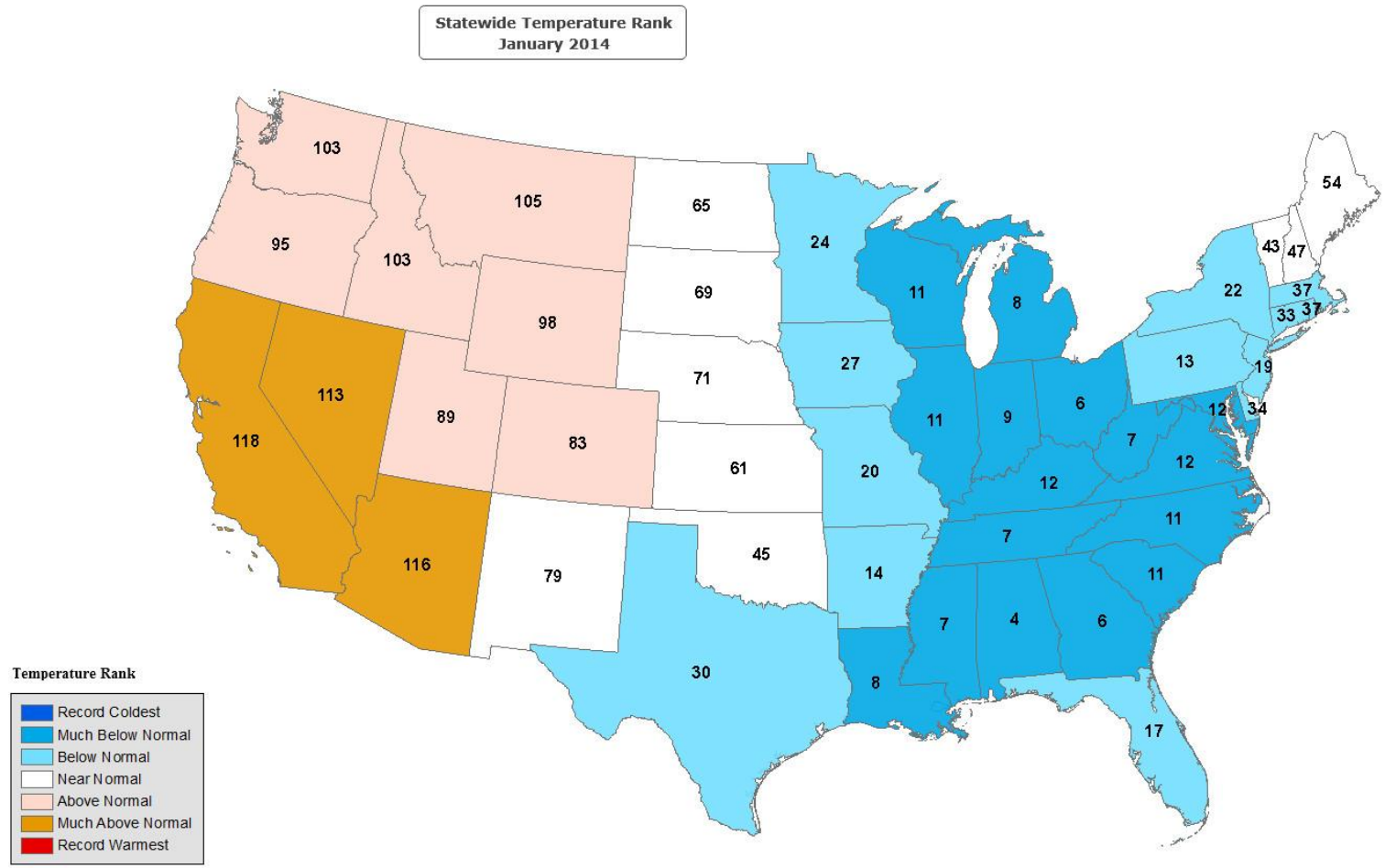


January Divisional Temperature Rank

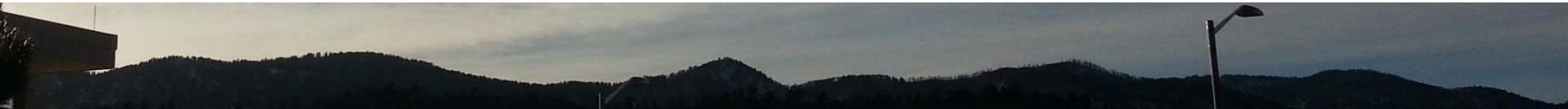


NOAA / NCDC

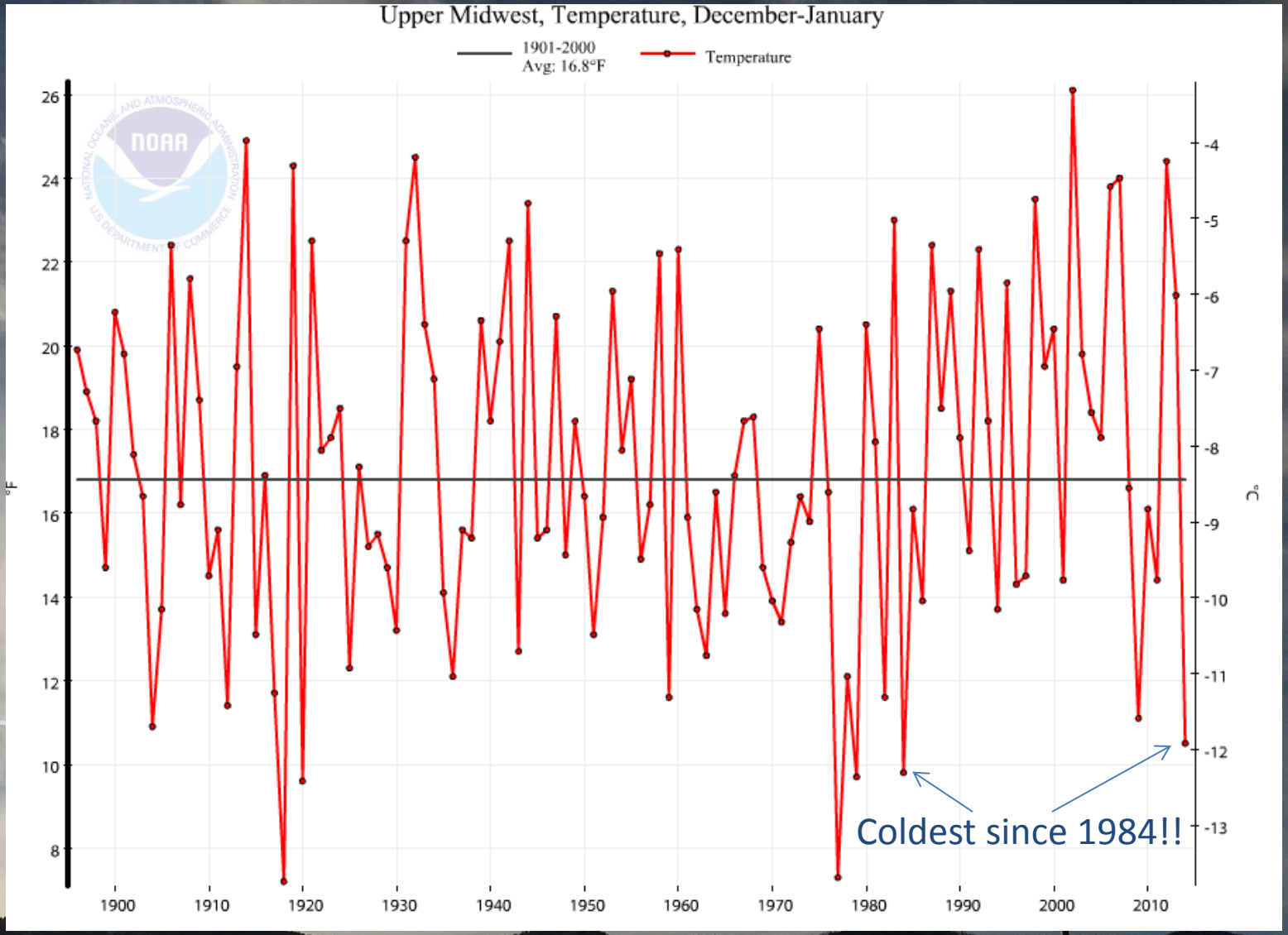
January State Temperature Rank



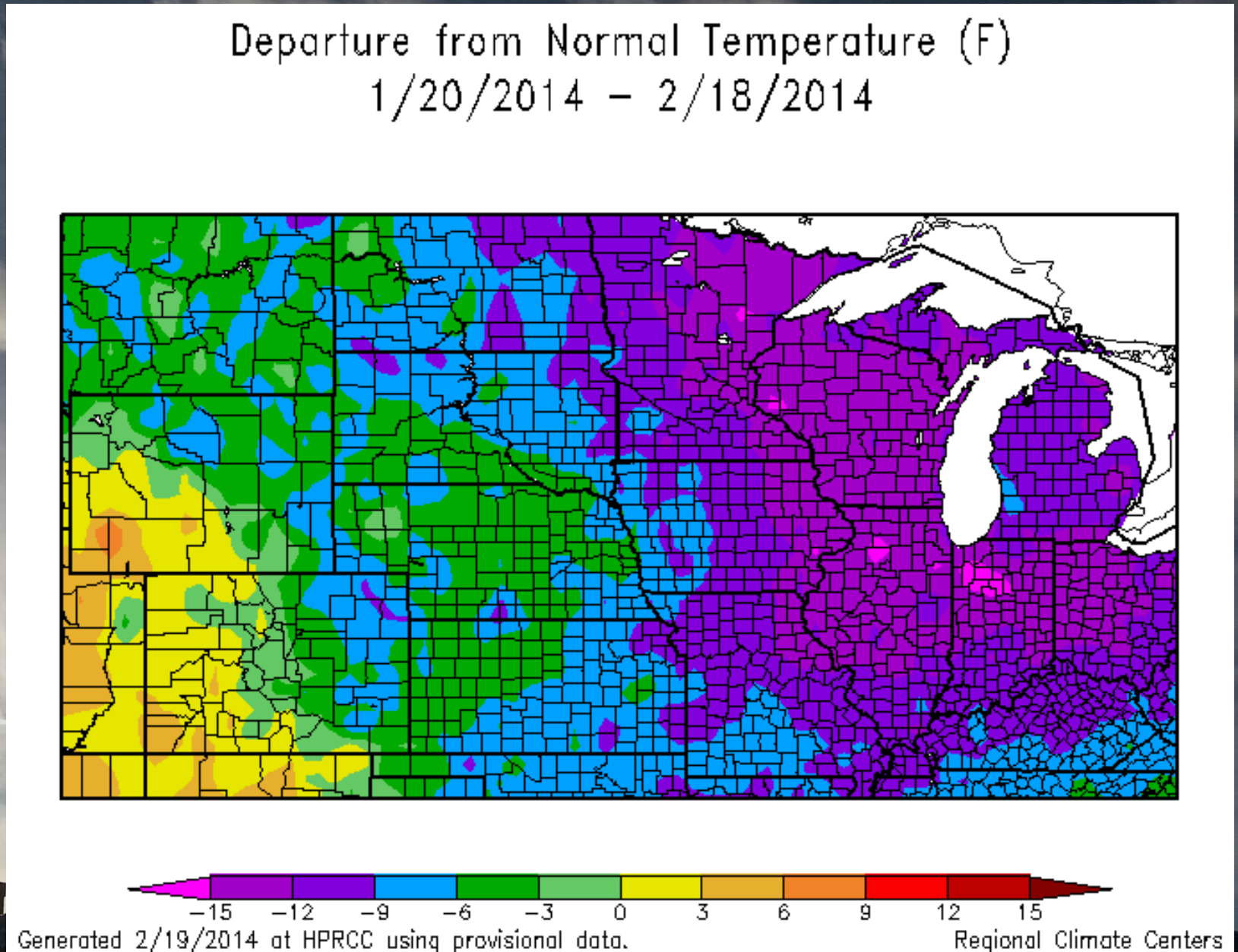
NOAA / NCDC



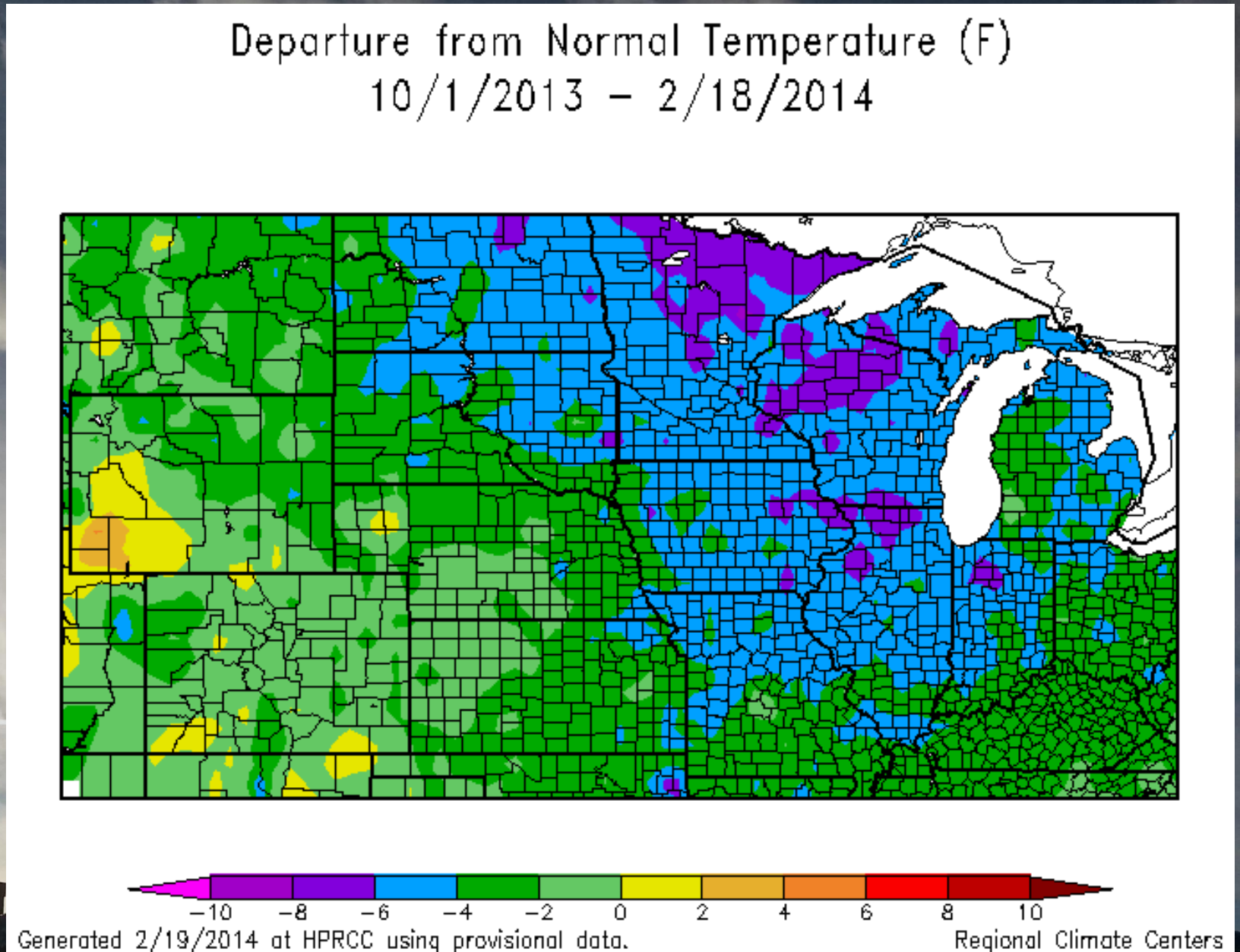
Upper Midwest (MN,IA,WI,MI) Temperature Series (Dec-Jan)
6th coldest on record (1895-2014)



30 Day Temperature Departure



Water Year Temperature Departure from Normal

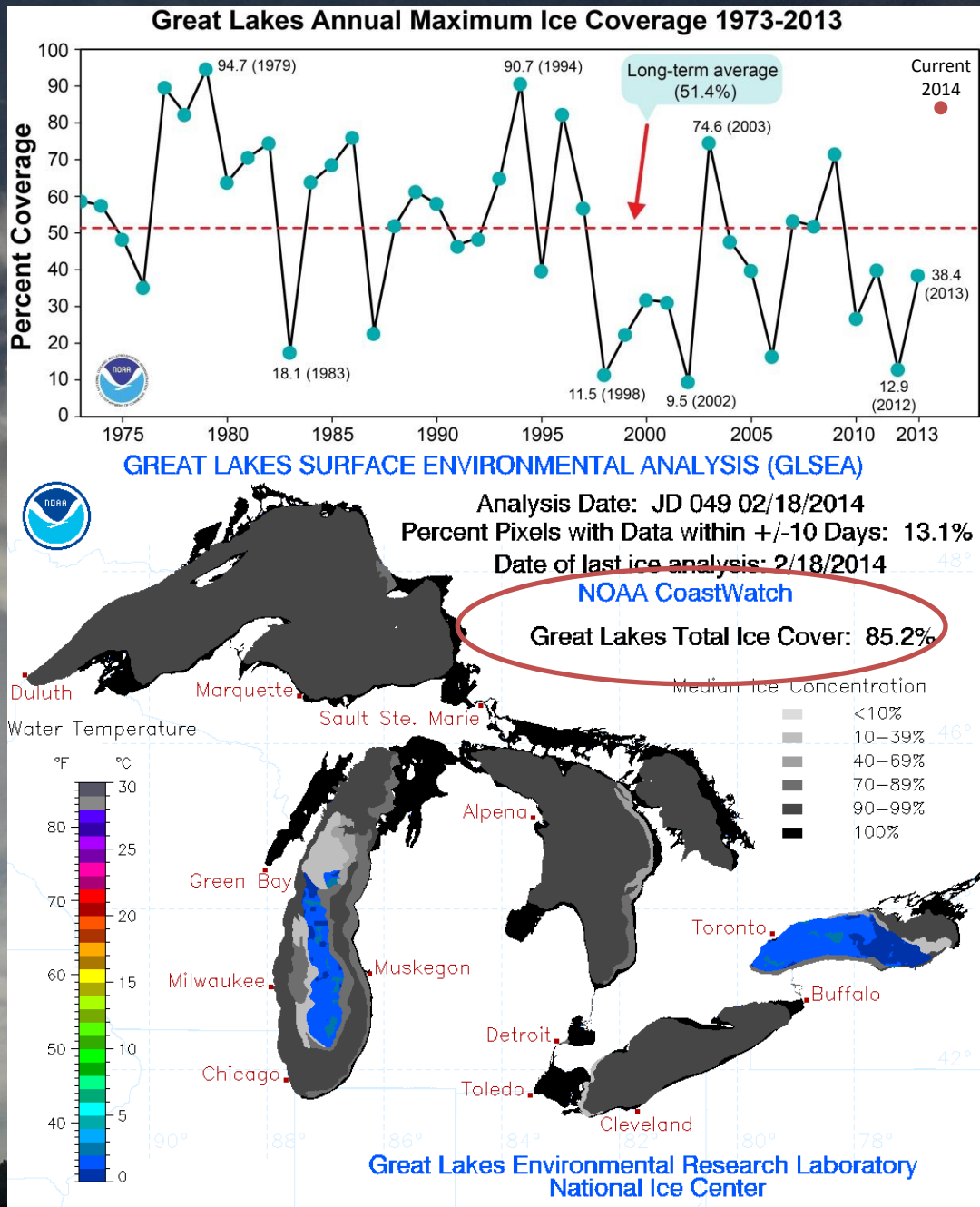


Apostle Island Ice Caves, Lake Superior – Access for the first time since 2009.

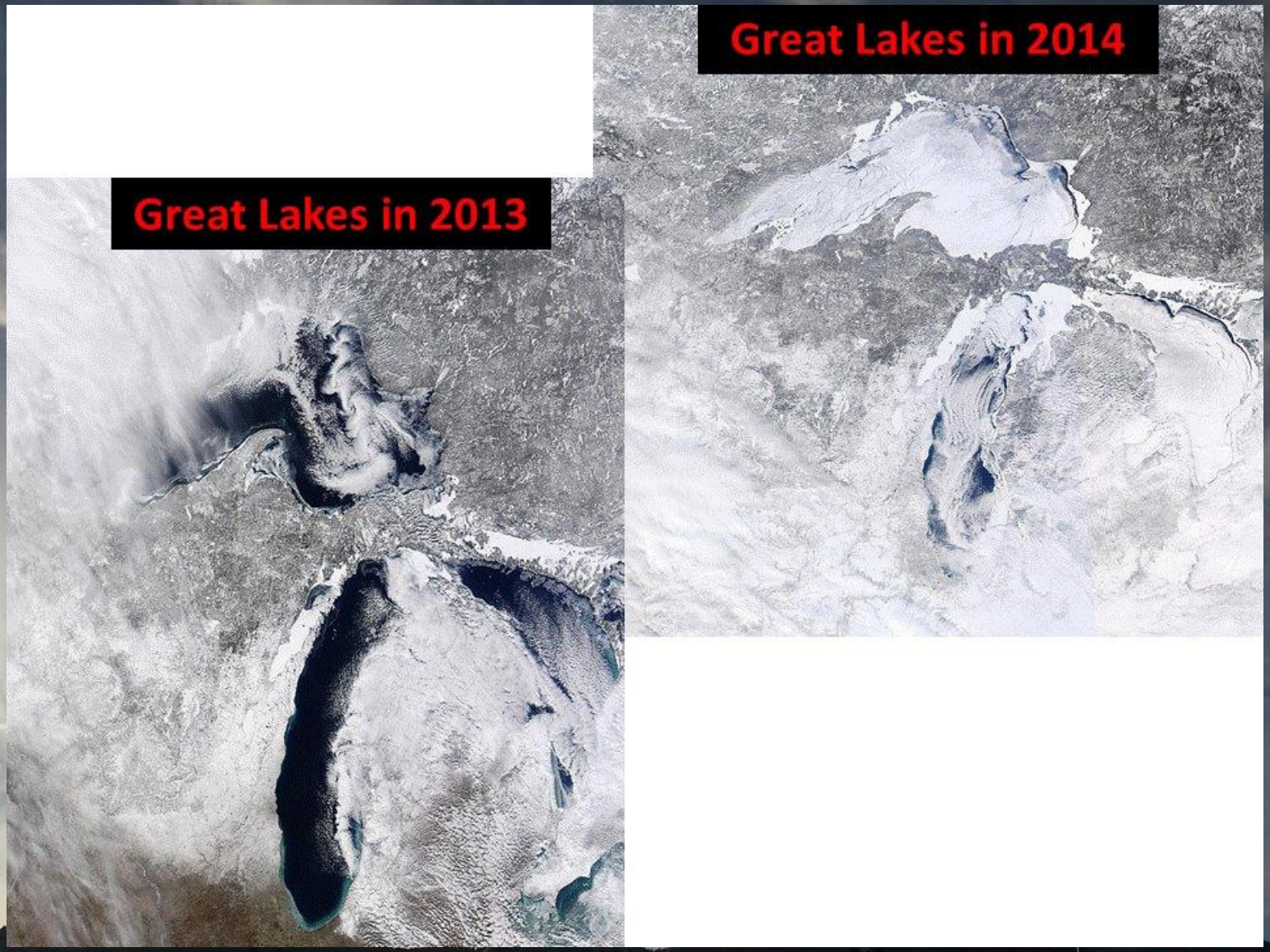
Photos by: REUTERS

Great Lakes Ice Cover

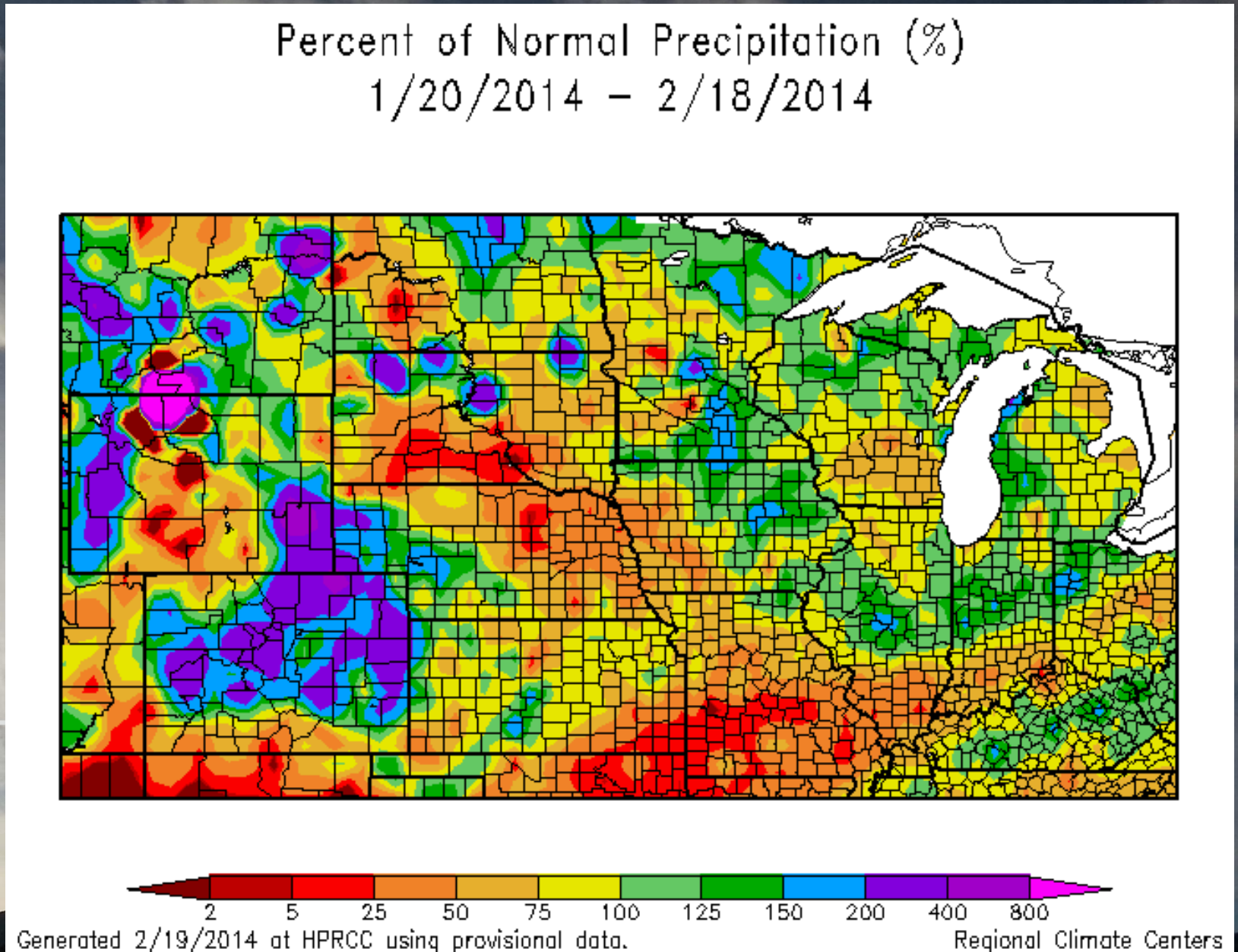
- 2014 is currently 85.2% ice covered
- Highest coverage since 1994.
- First time in 4 years coverage exceeds the long term average.



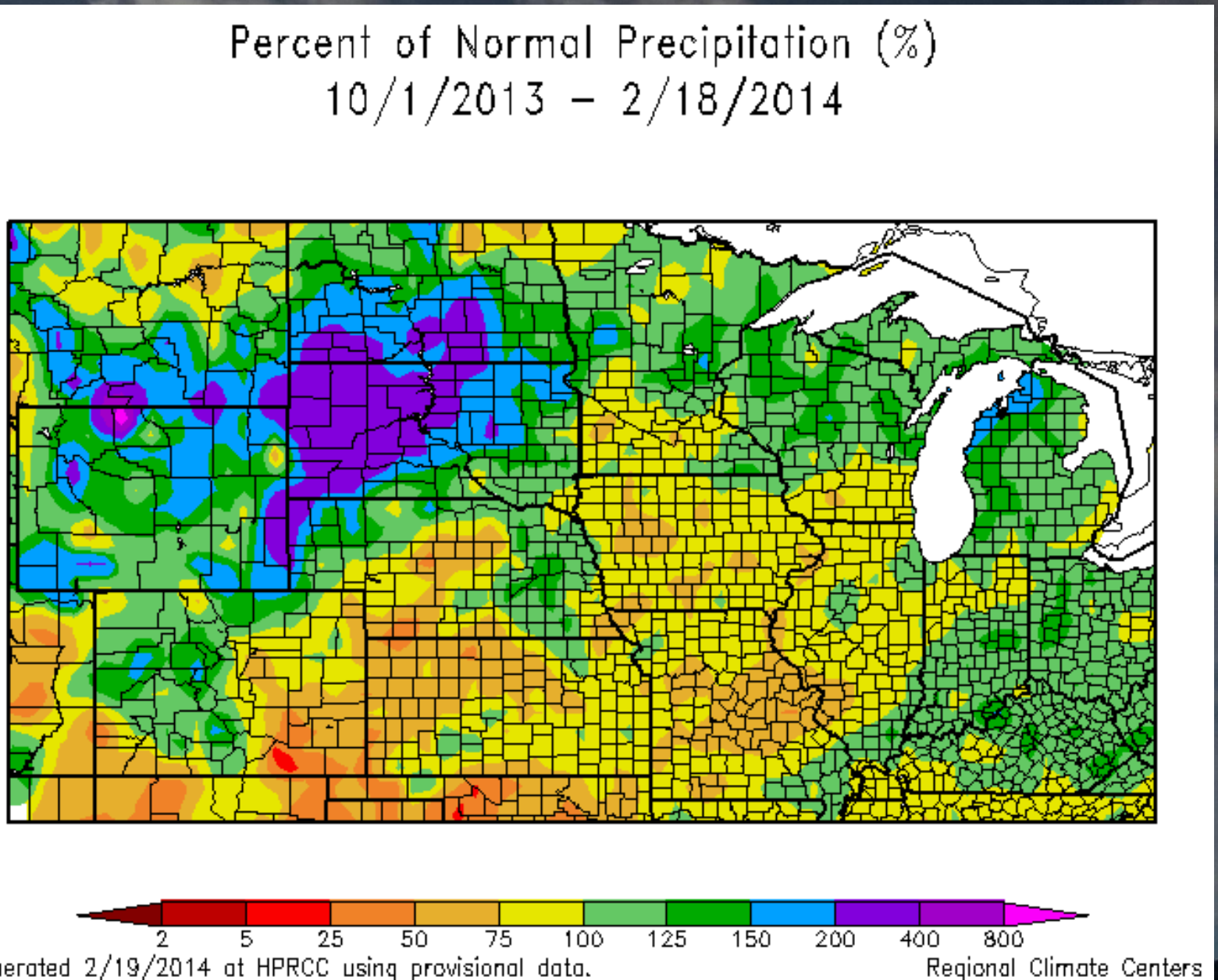
2013 vs 2014 Great Lakes Ice



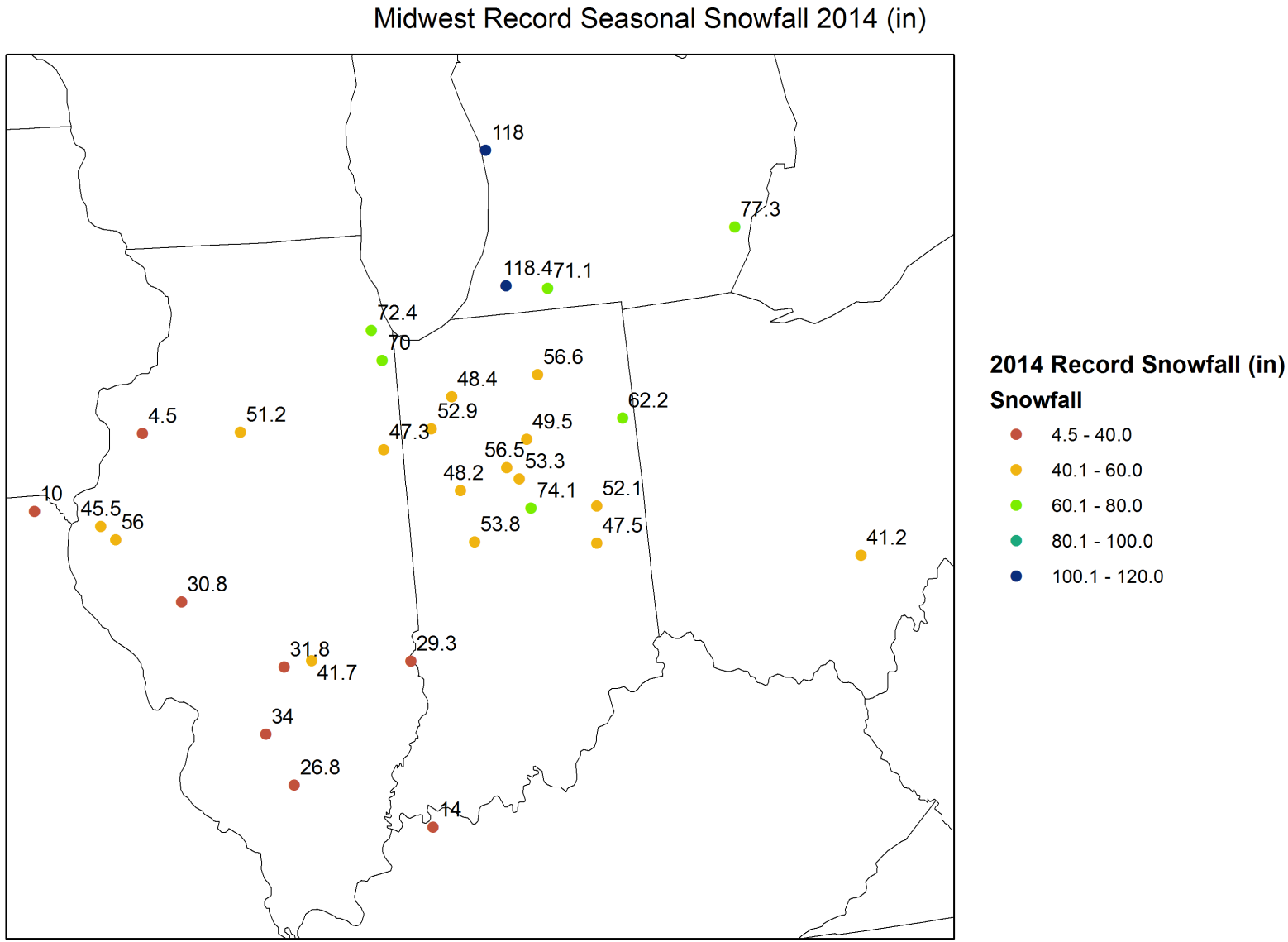
30 Day Precipitation as Percent of Normal



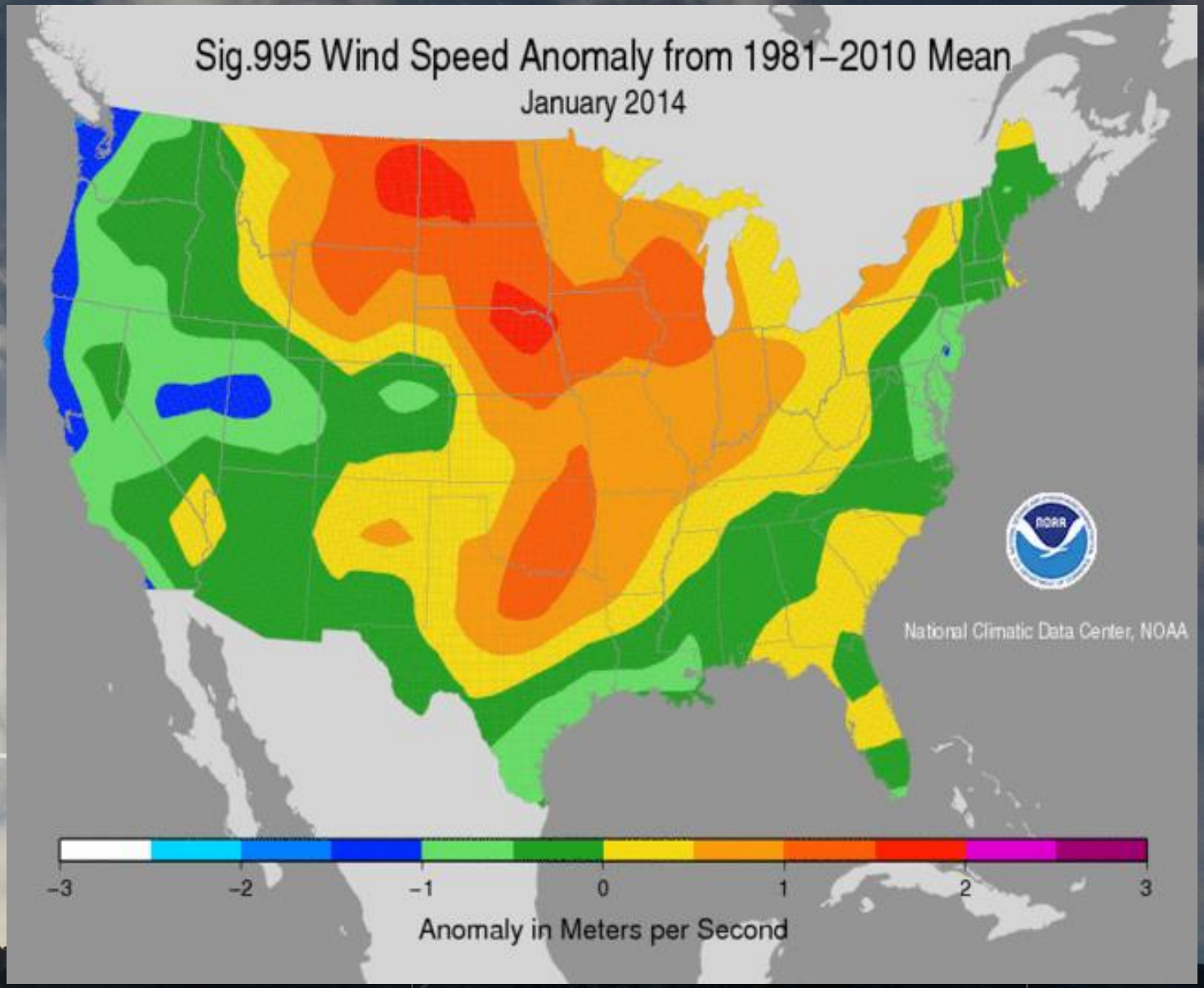
Water Year Precipitation as Percent of Normal



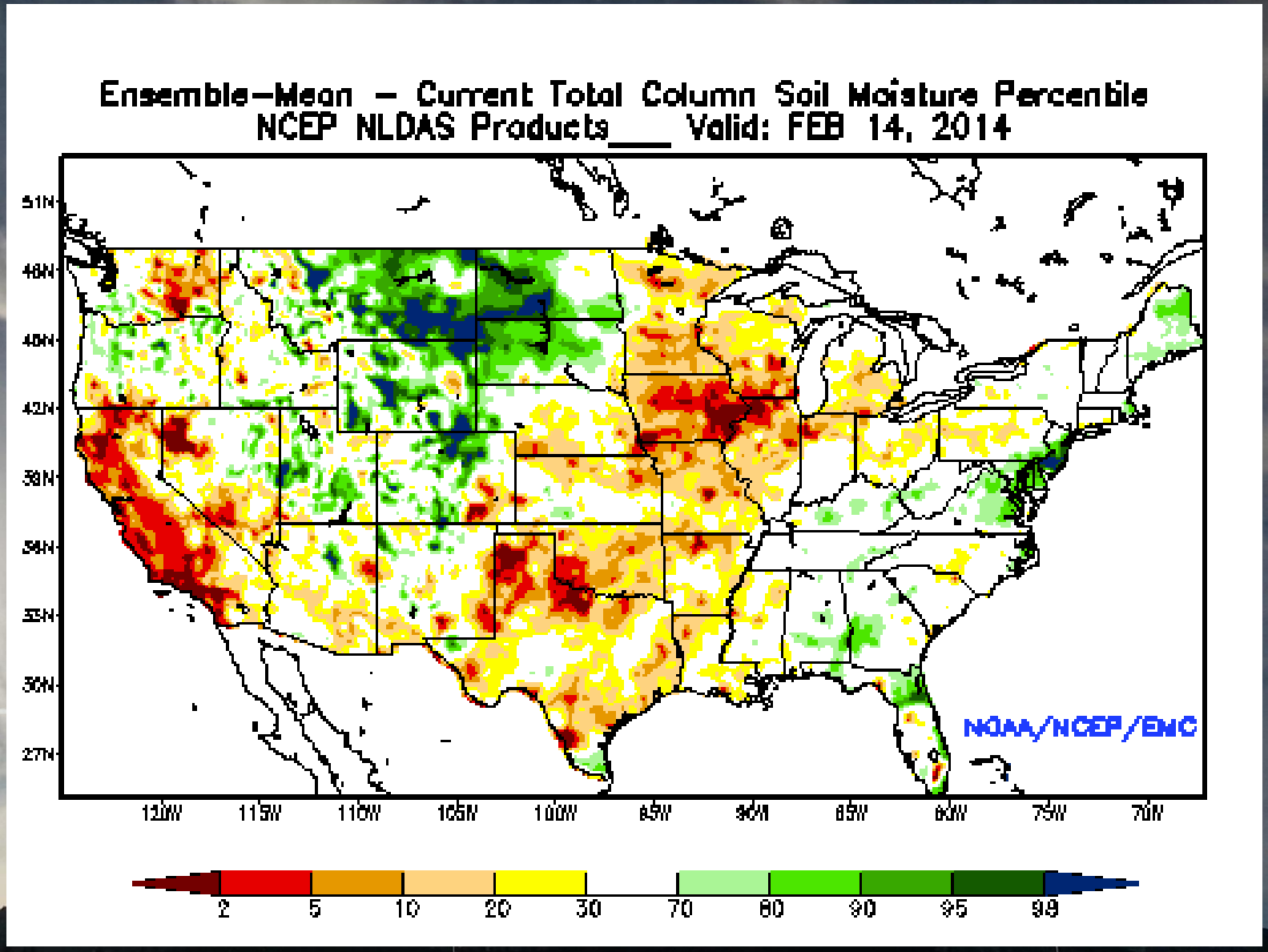
Record Snowfall to Date



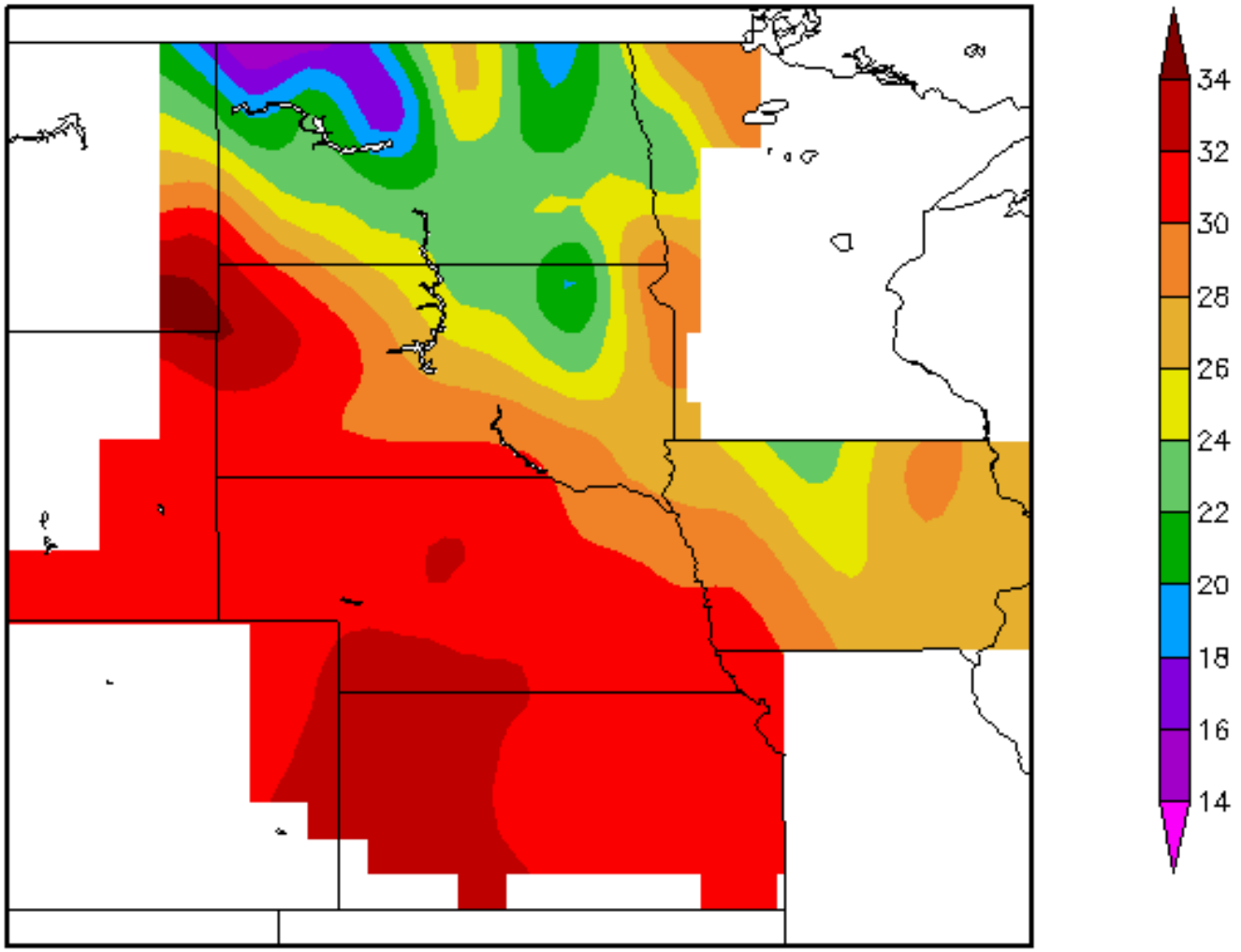
Mean Wind Speed Anomaly



Current Soil Moisture Percentiles

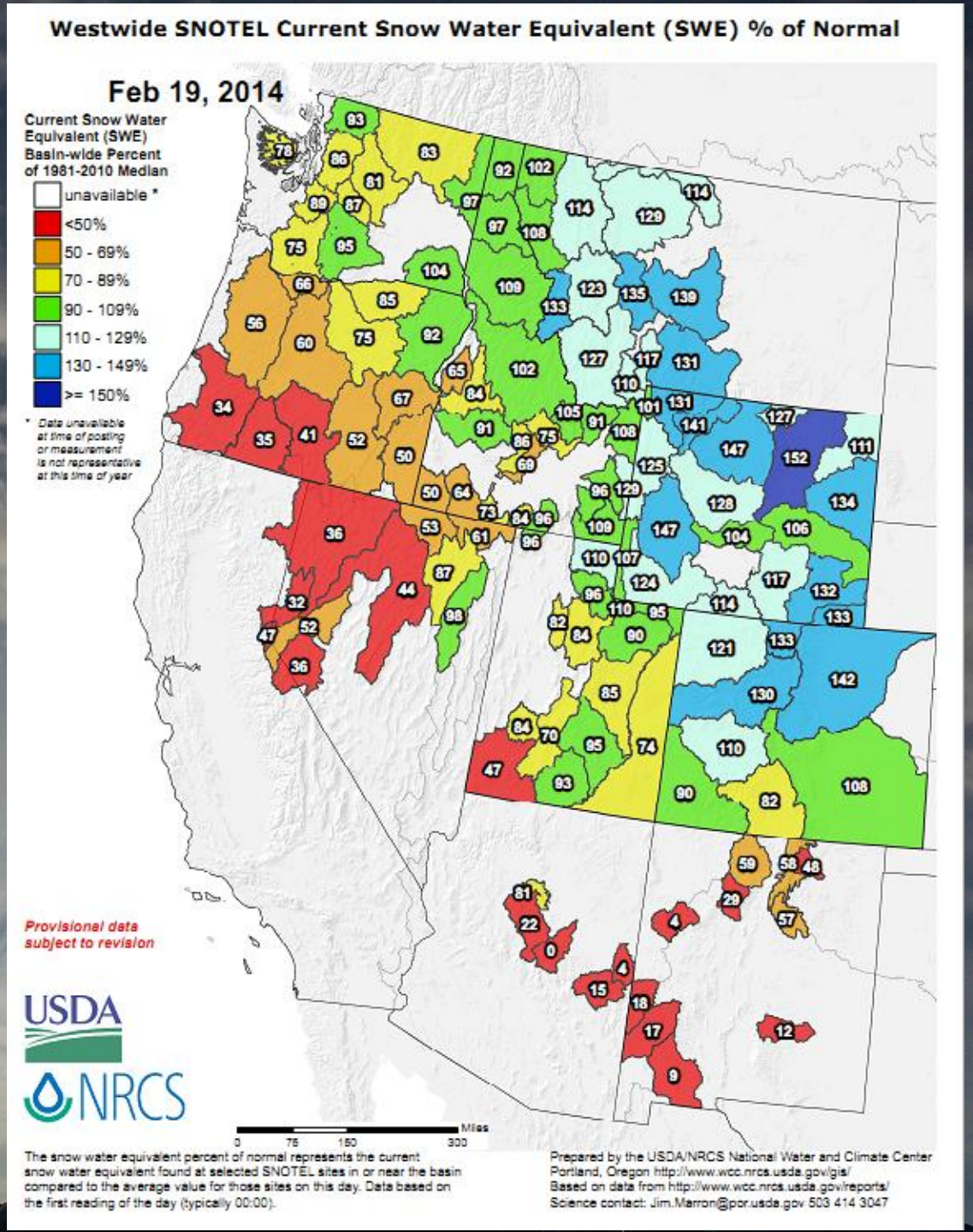


Soil Temperature (F at 4 inches)
2/12/2014 – 2/18/2014

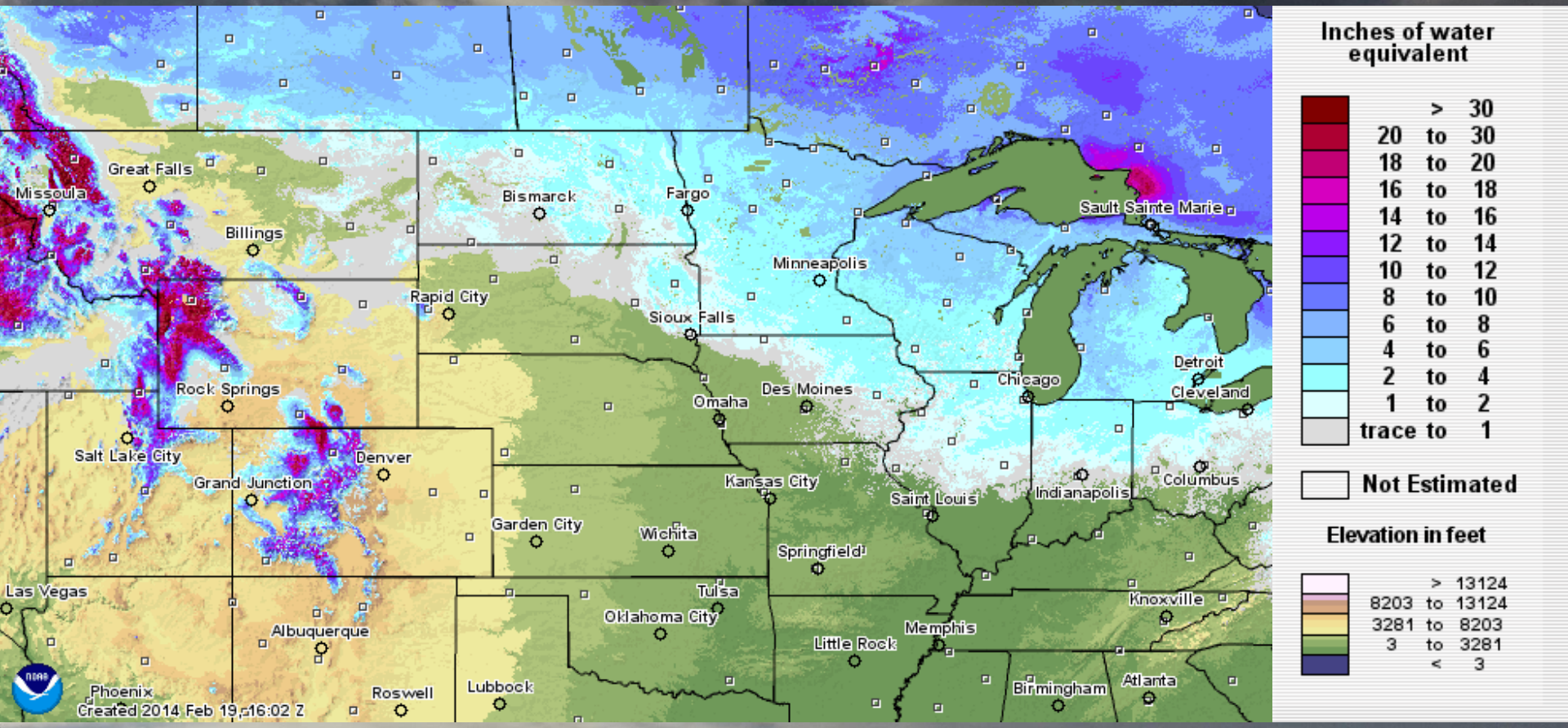


High Plains Regional Climate Center
Generated 2/19/2014 using AWDN data.

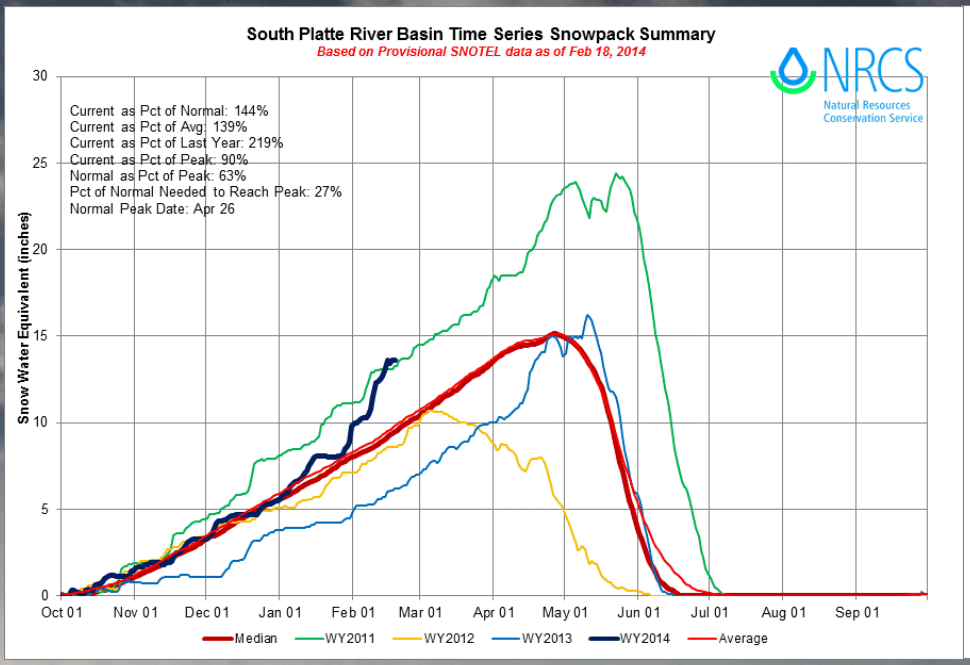
- Most basins are reporting above normal SWE in the Missouri basin as of Feb 19, 2014.

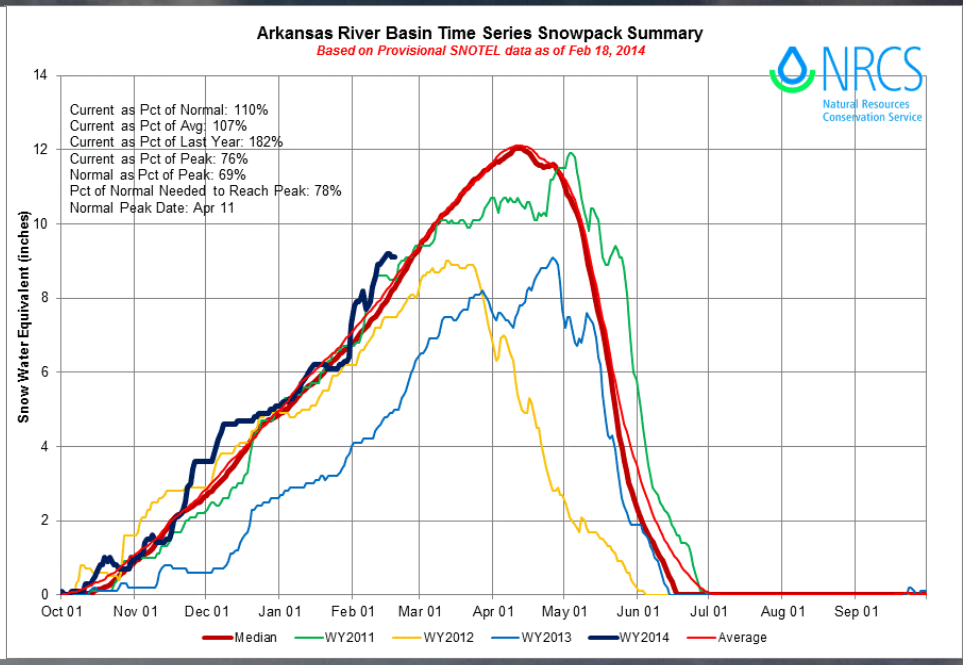


NOHRSC Snow Coverage



Southern Basin Snowpack



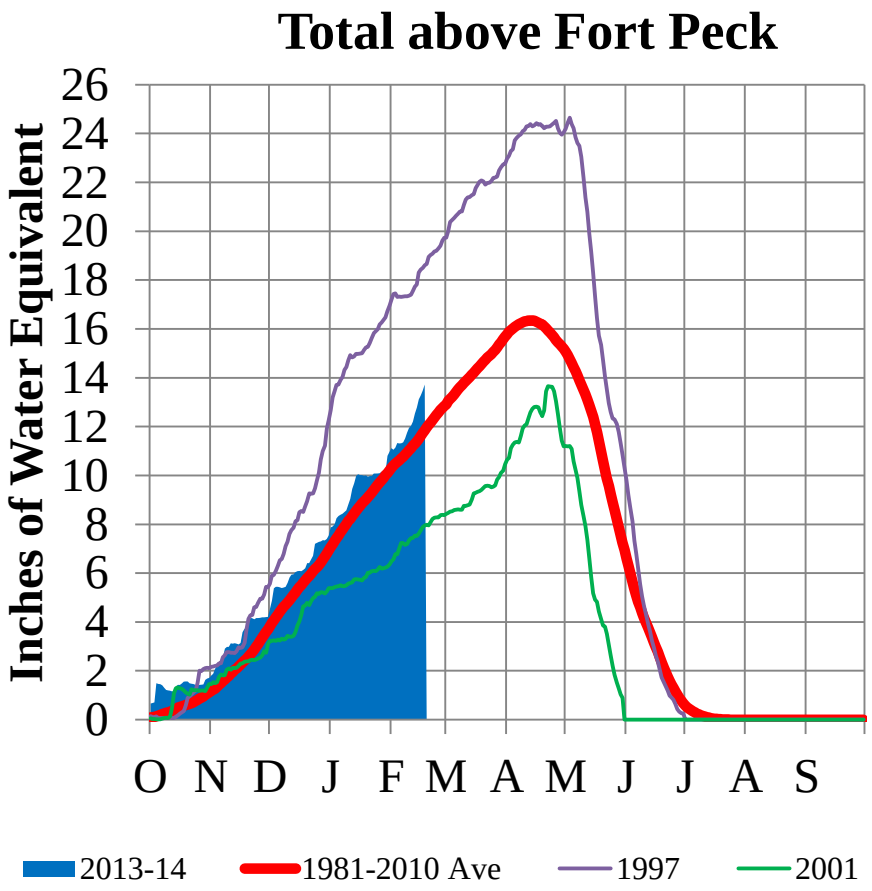


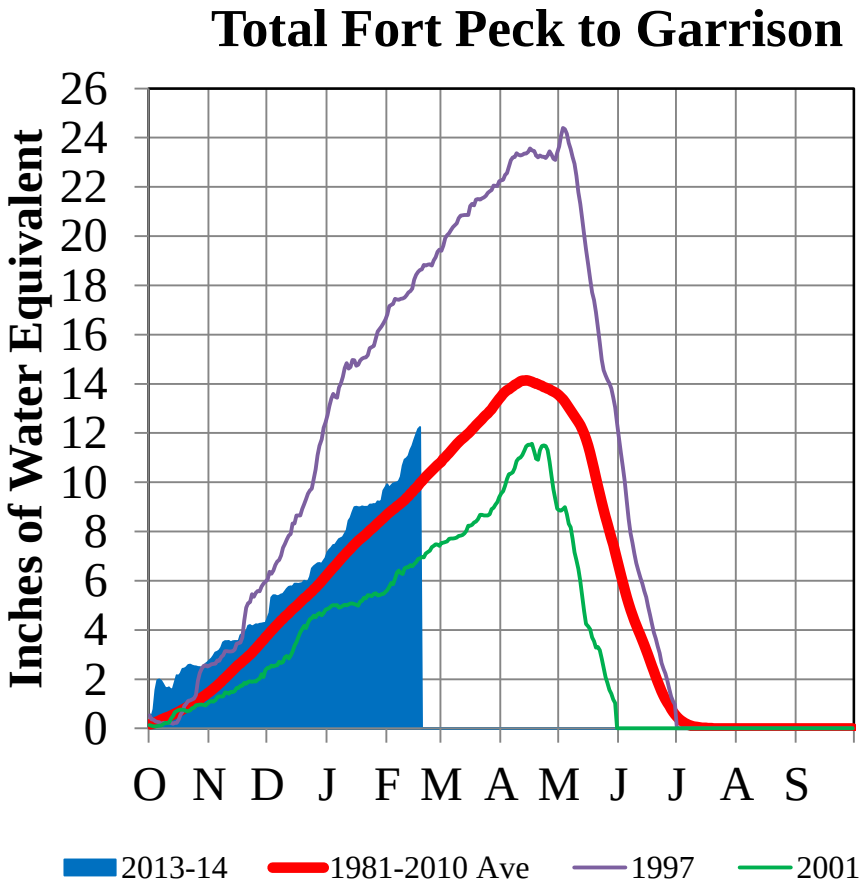
South Platte: 144% Median, already 90% of normal April peak!

Arkansas: 110% of Median, 76% of normal April peak.

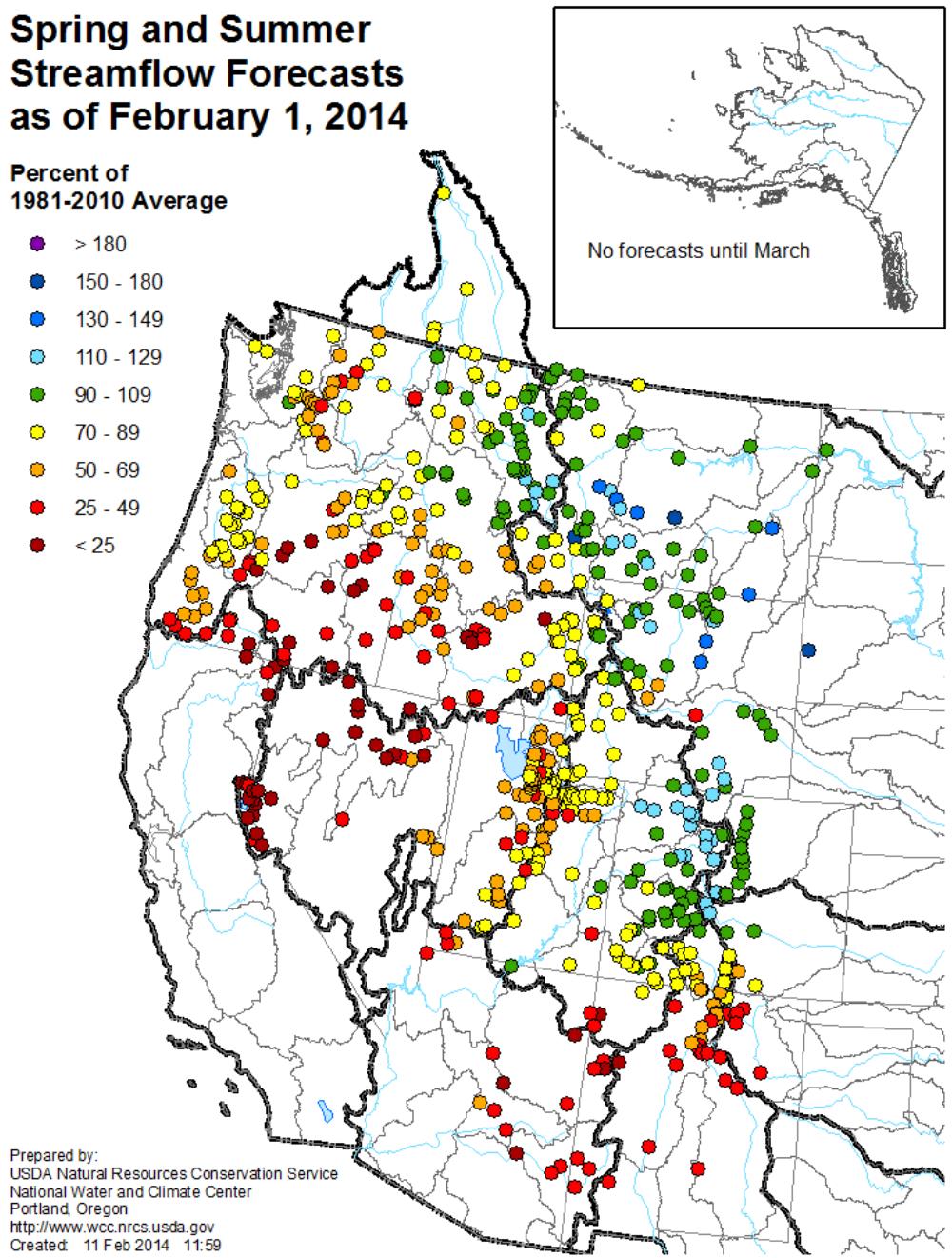
Missouri River Basin – Mountain Snowpack Water Content 2013-2014 with comparison plots from 1997* and 2001*

February 18, 2014



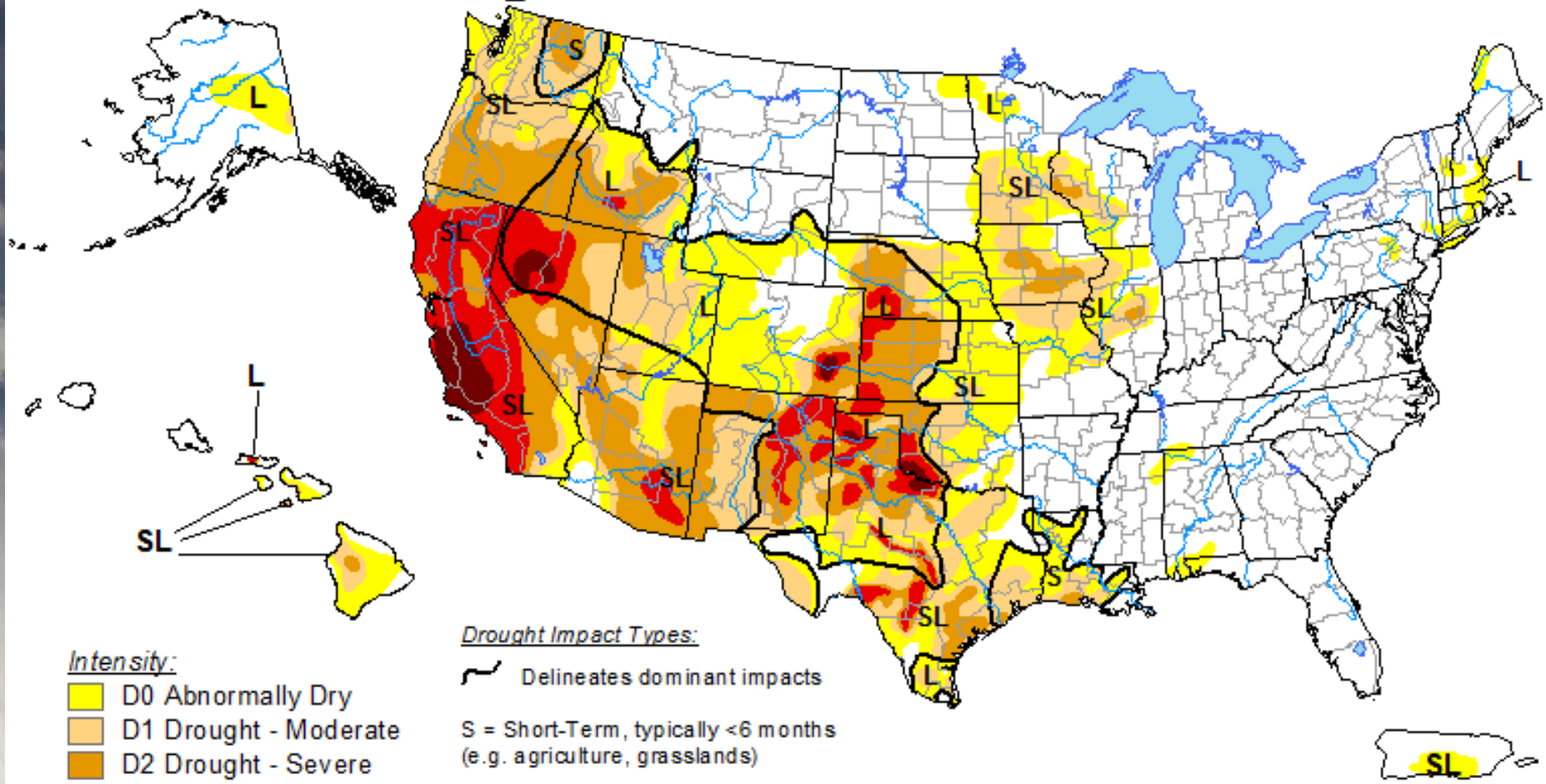


- Streamflow forecasts for the Missouri basin are above normal.
- Farther south in the lower Arkansas basin forecasts deteriorate to <50% of average.



U.S. Drought Monitor

February 18, 2014
Valid 7 a.m. E ST



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.

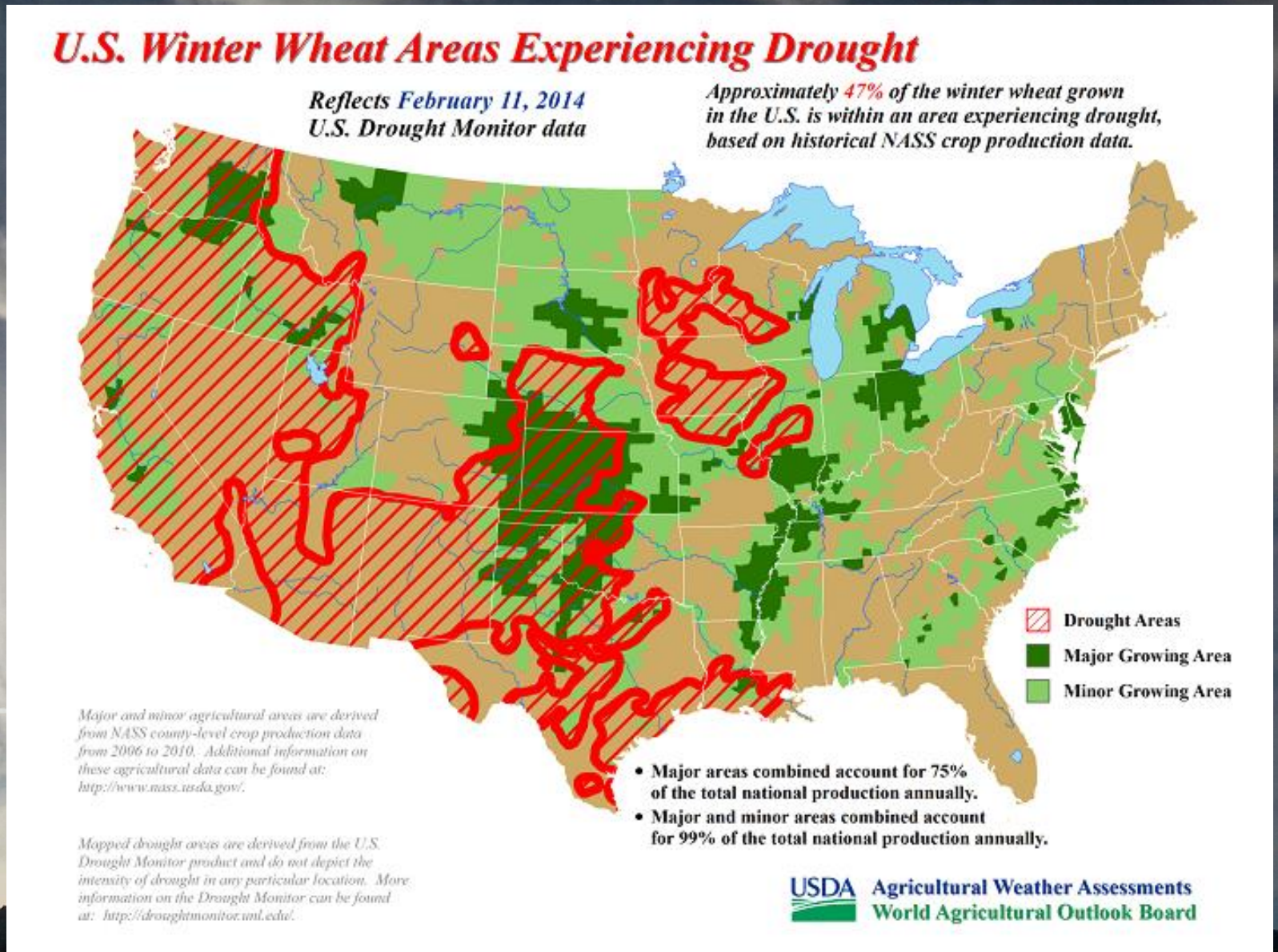
http://droughtmonitor.unl.edu/

USDA National Drought Mitigation Center

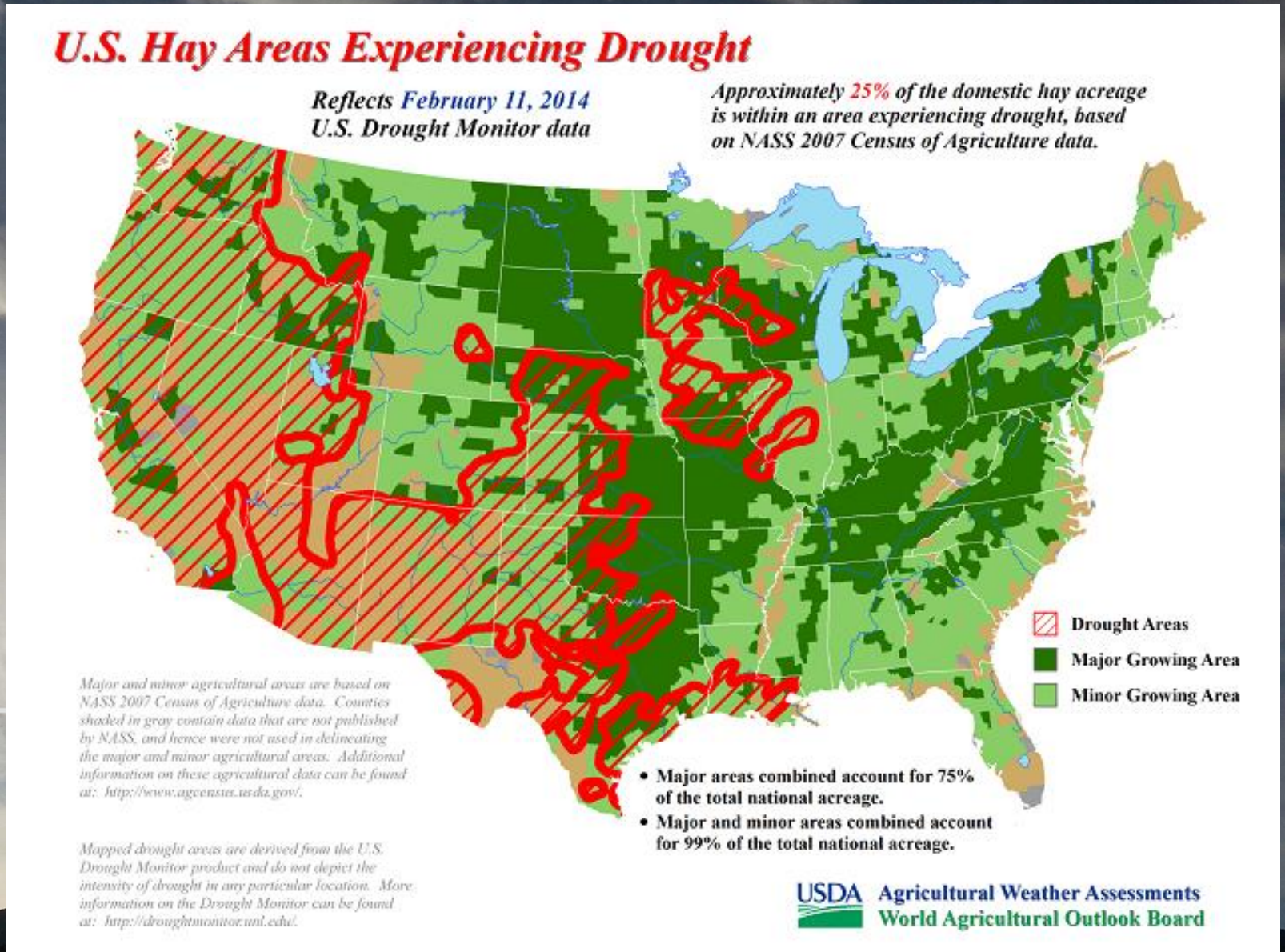
Released Thursday, February 20, 2014

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

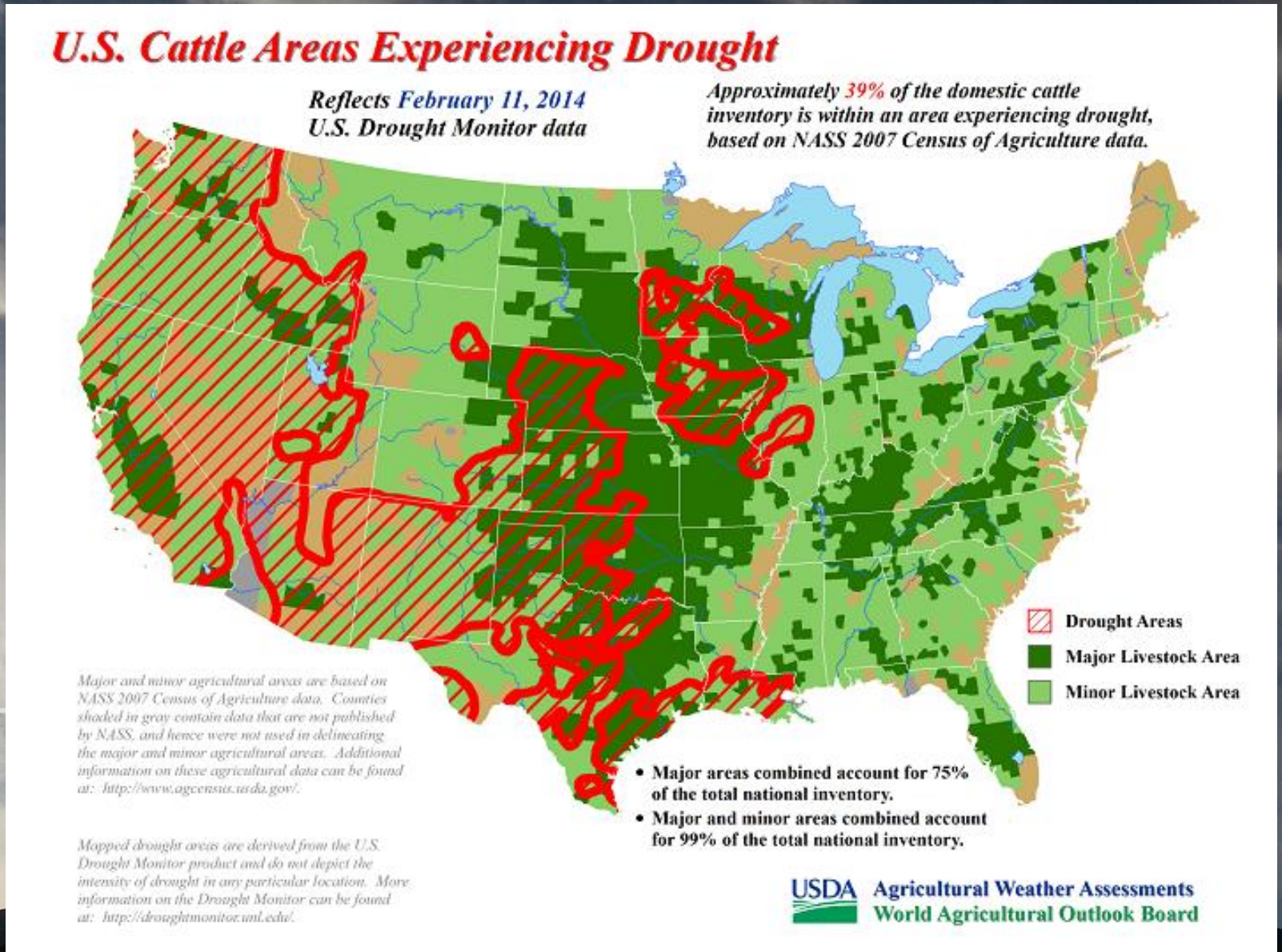
Winter Wheat in Drought – 47%



Hay in Drought – 25%



Cattle Area in Drought – 39%



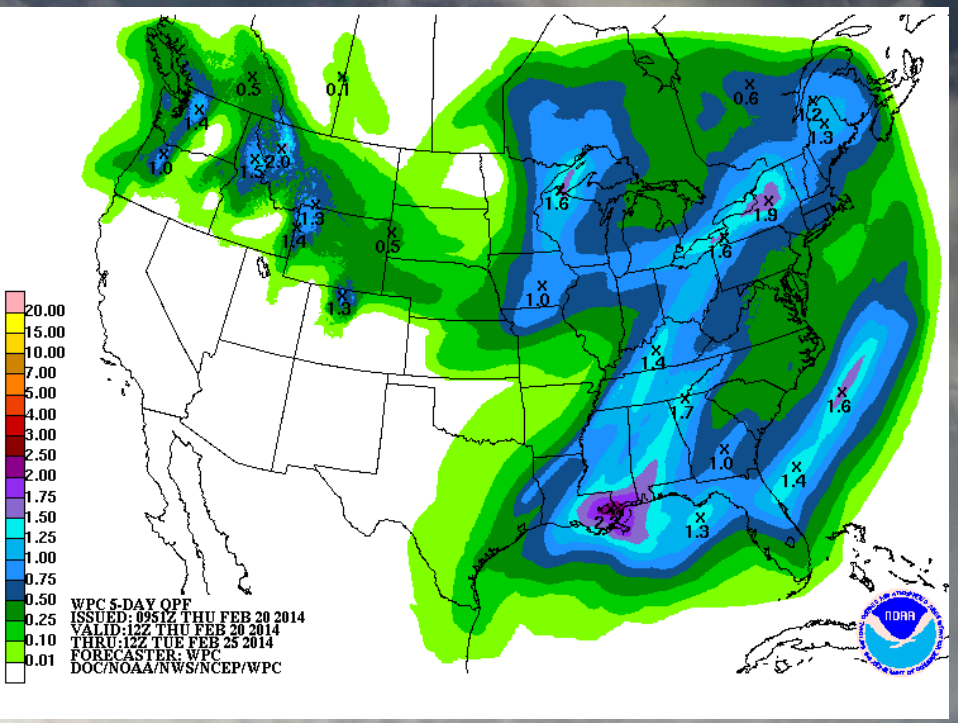
Regional Impacts

- COLD!
  - Potential winter wheat kill due to high winds, extreme cold and lack of protective snow cover.
  - Deep frost depths (up to 4 feet in some areas) can potentially enhance runoff due to lack of infiltration.
- Flooding?
  - Will depend on the nature in which snow melts and soils thaw. Spring temperatures, precipitation and snowmelt will be closely monitored.
  - Spring weather dominates snowpack runoff behavior in the lower MO basin (Platte).

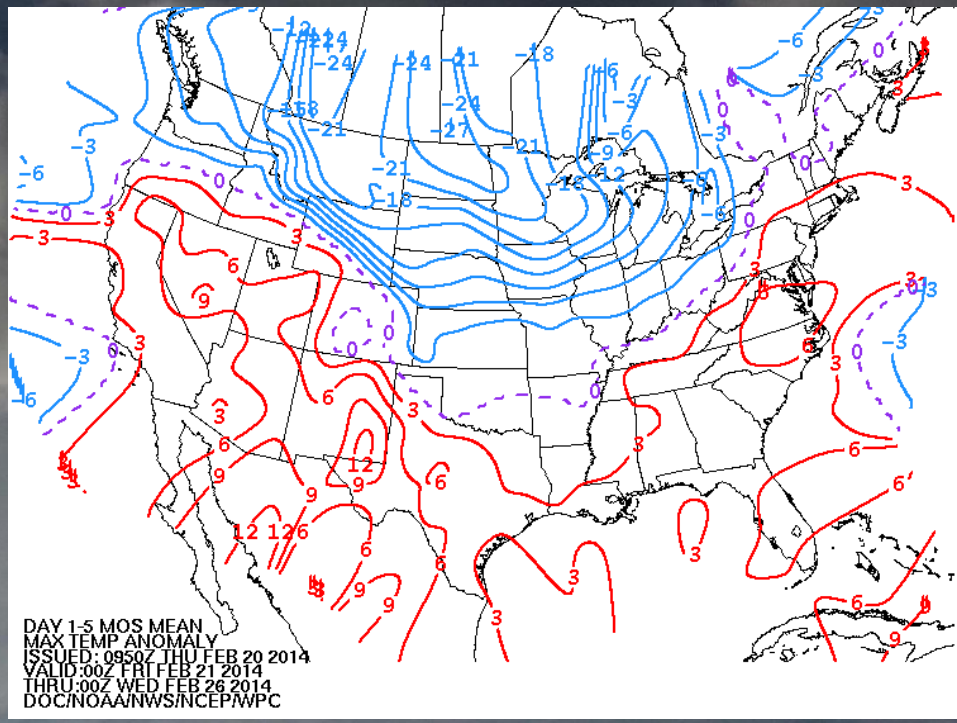
Regional Impacts

- Tumbleweed bumper crop in SE Colorado
- Late summer moisture grew thistle (native grasses in bad shape)
- No cattle to graze on emerging thistle led rapid growth.
- County roads and irrigation ditches are FULL of tumbleweeds.

Looking Ahead-5 Days

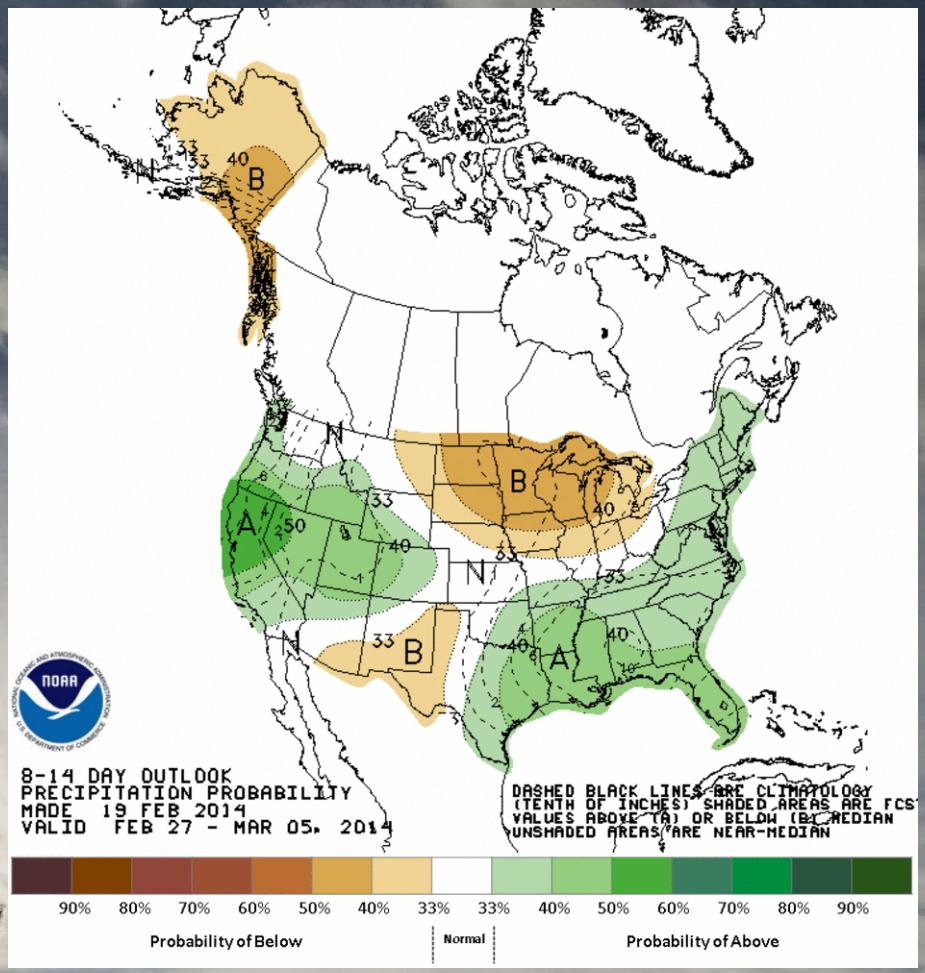


Precipitation

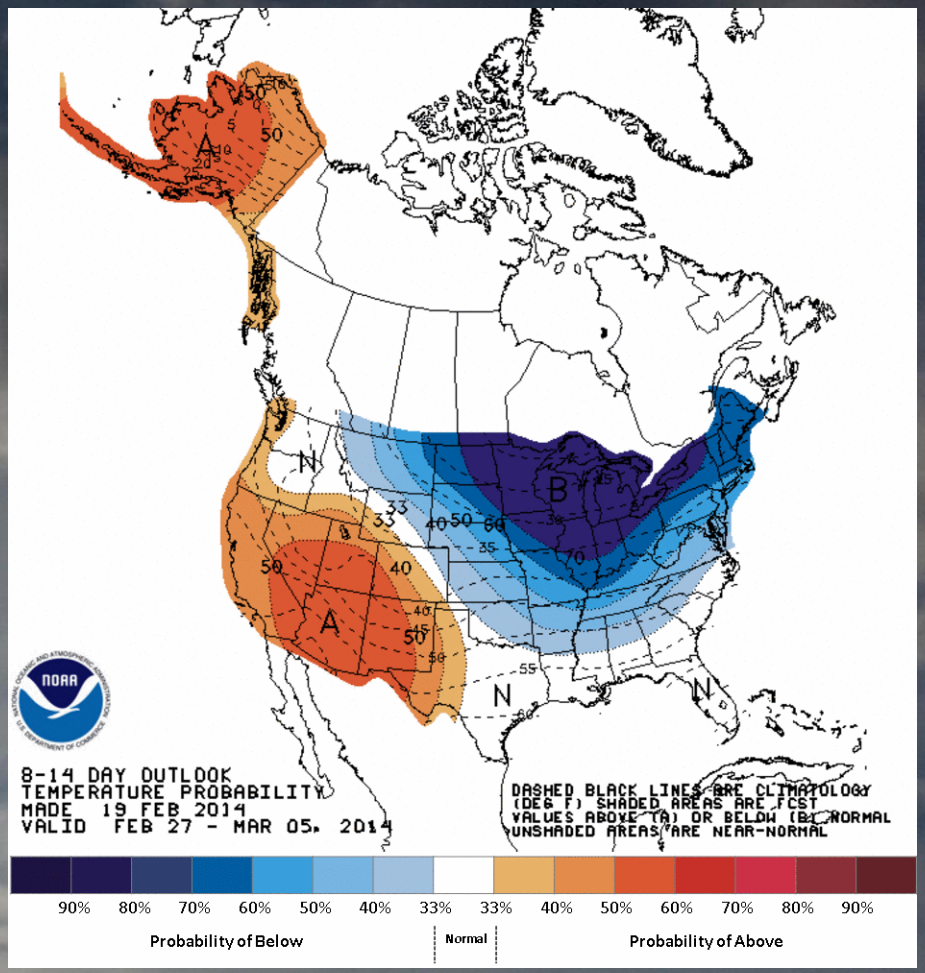


Temperature

8-14 Day Outlooks

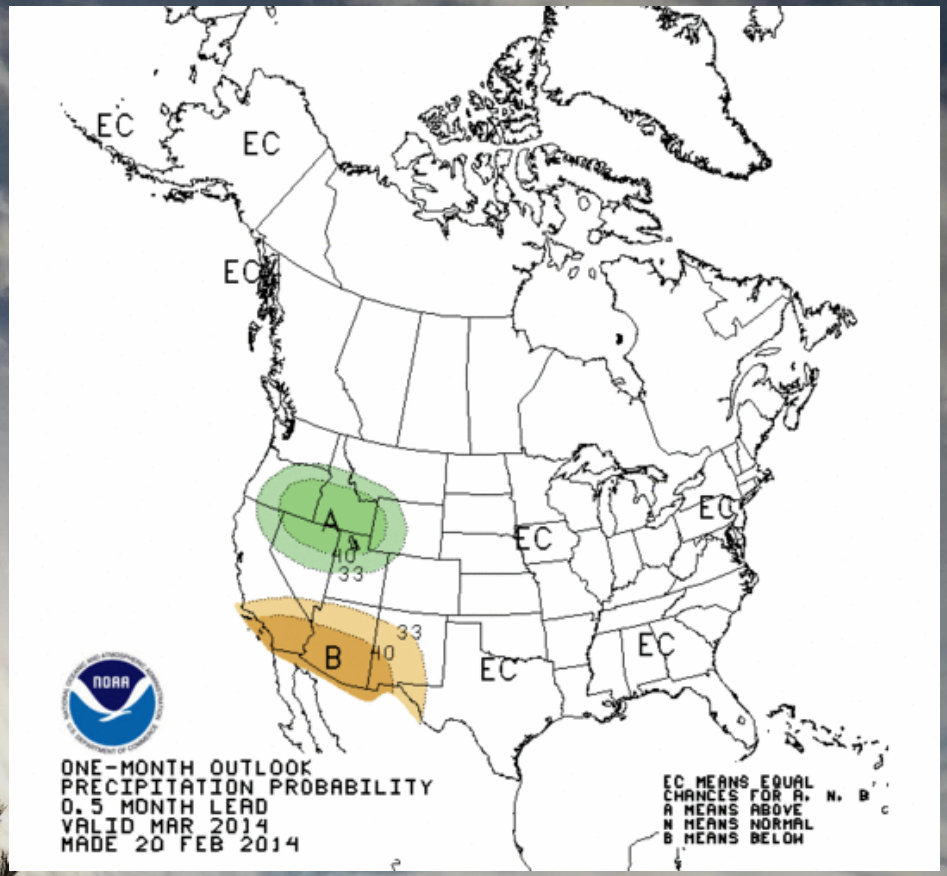


Precipitation

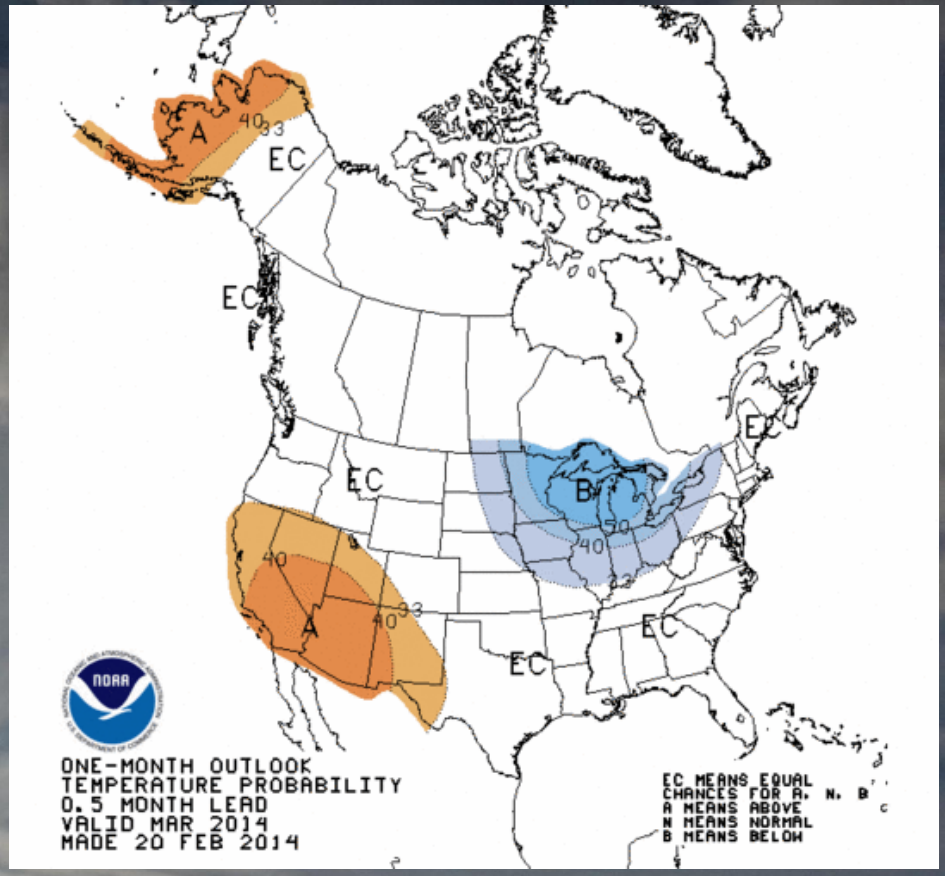


Temperature

One Month Outlook

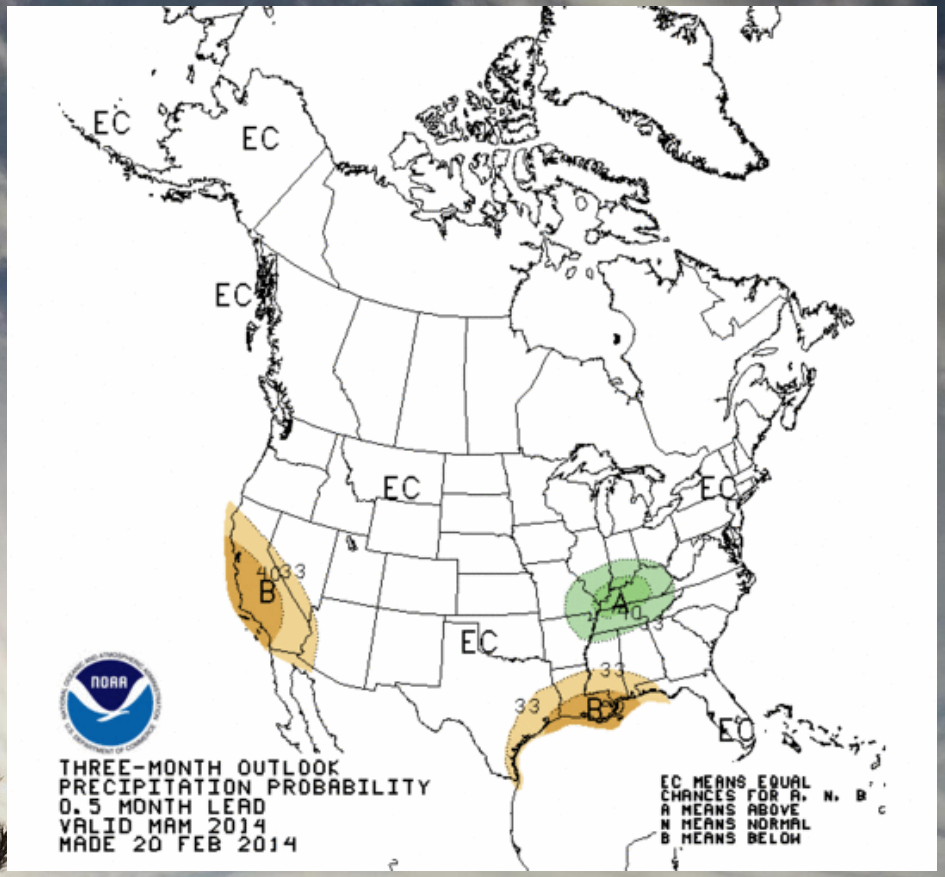


Precipitation

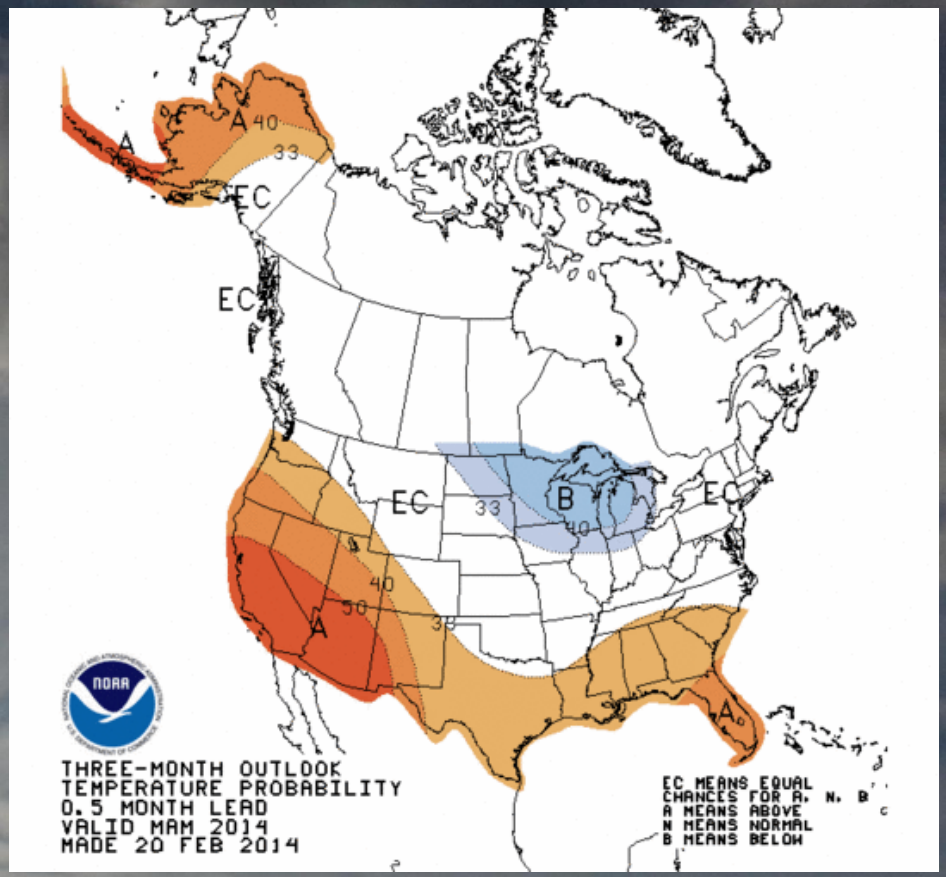


Temperature

3 Month Outlook



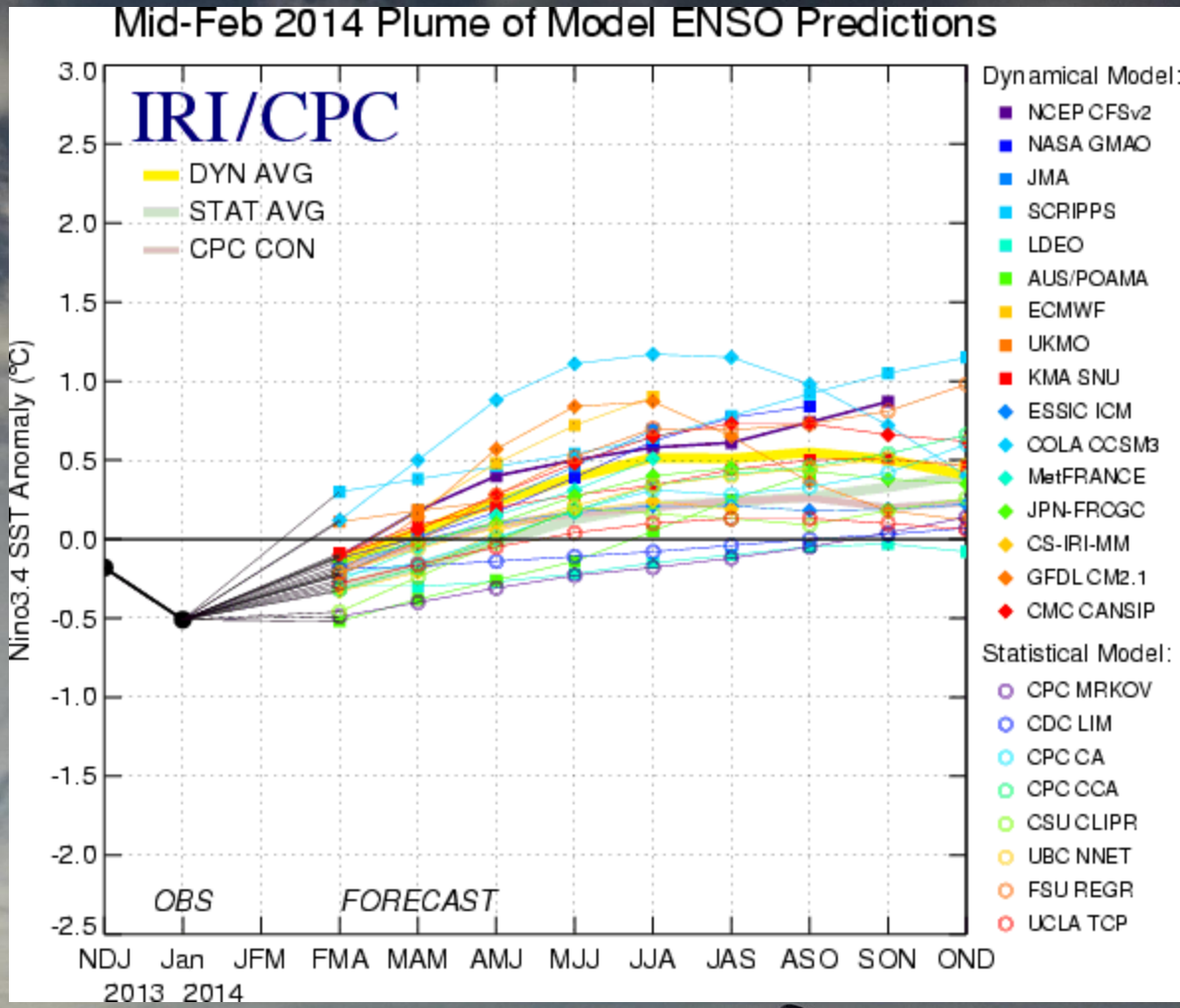
Precipitation



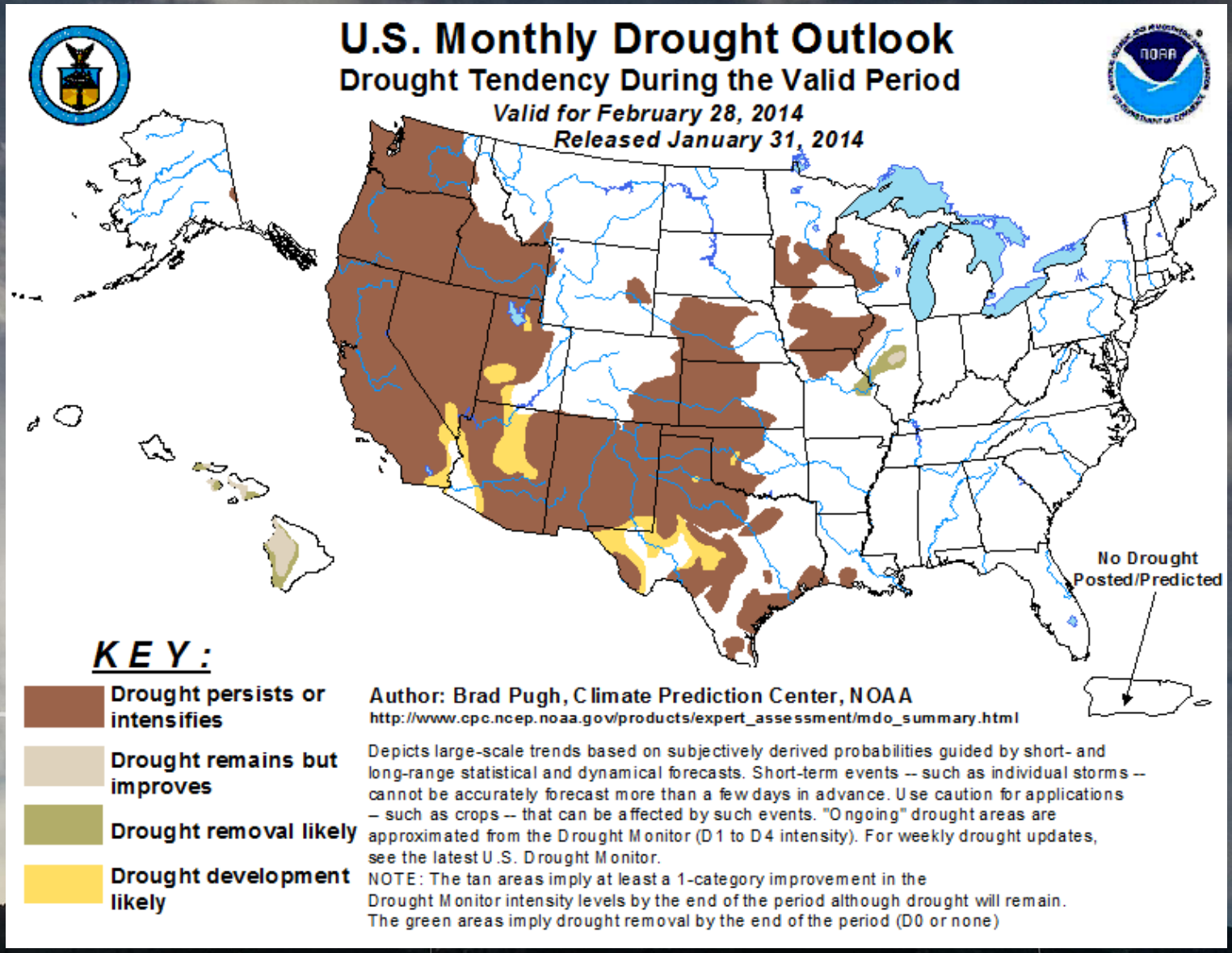
Temperature

ENSO Forecast

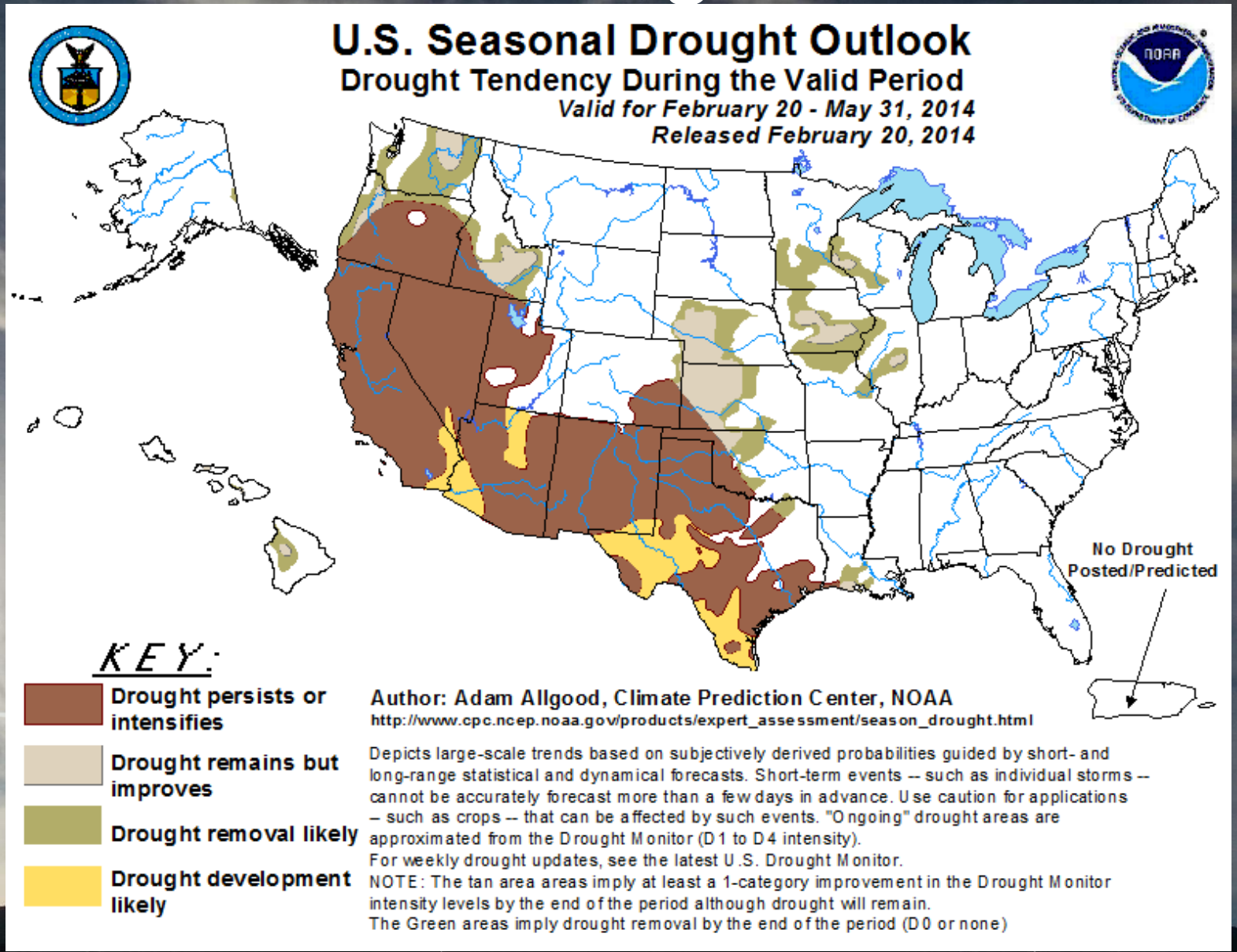
- A weak El Nino is looking more likely by summer.
- El Nino *tends* to bring productive growing years.



Monthly Drought Outlook



Seasonal Drought Outlook



Summary

- Above normal mountain snowpack throughout the region forecast to yield normal to above runoff.
- Frozen soils from cold temperatures and lack of snowcover throughout the region.
  - This can lead to enhanced runoff with Spring rains.
  - Temperatures will control timing of snowmelt and potential for runoff vs. infiltration into soils.
  - Frost heaving causing problems with broken water lines and road damage.
- Ice jams are a real threat on Midwest rivers due to the cold temperatures.

Summary

- Extensive ice cover on the Great Lakes may keep temperatures near the lakes below normal through early Summer.
- Winter wheat conditions won’t be fully known until it emerges from dormancy.

Further Information

Today's Recorded Presentation:

- *http://mrcc.isws.illinois.edu/webinars.htm*
  http://www.hprcc.unl.edu

- 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.droughtmonitor.unl.edu
- National Drought Mitigation Center: www.drought.unl.edu
- Drought Impact Reporter: www.droughtreporter.unl.edu
- NIDIS Drought Portal: www.drought.gov
- State climatologists
  - http://www.stateclimate.org
- Regional climate centers
  - http://mrcc.isws.illinois.edu
  - http://www.hprcc.unl.edu

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COLORADO CLIMATE CENTER

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