**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 20\textsuperscript{th}, 2014

* Access to past Climate/Drought Webinars and information
  * [http://mrcc.isws.illinois.edu/webinars.htm](http://mrcc.isws.illinois.edu/webinars.htm)
  * [http://www.hprcc.unl.edu/webinars.php](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](http://drought.gov/drought/content/regional-programs/regional-drought-webinars)
Agenda

- Current Conditions
- Agricultural Update
- Regional Impacts
- Outlooks
- Questions/Comments
During January, warmth in the West balanced cold in the East for a slightly-below average contiguous U.S. temperature.

The contiguous U.S. drought footprint expanded to 37.4%, up from 31.0% at the beginning of the month. Exceptional drought conditions developed in CA due to long-term dryness.

NM was record dry with 5% of average January precipitation. Albuquerque received no measurable precipitation.

On January 28-30, a snow storm moved through the Southeast causing massive travel disruptions. Snow was observed as far south as the Florida panhandle.

Chicago received 33.7 inches of snow during January, the third snowiest month for the city.

AK had its 3rd warmest and 8th wettest January on record.

Mauna Kea received 12 inches of snow in late January, surpassing monthly snowfall in the Sierra Nevada Mountains.

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 State Precipitation Rank
January Divisional Temperature Rank

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

Coldest since 1984!!
30 Day Temperature Departure

Departure from Normal Temperature (F)
1/20/2014 – 2/18/2014

Generated 2/19/2014 at HPRCC using provisional data.
Water Year Temperature Departure from Normal

Departure from Normal Temperature (°F)
10/1/2013 – 2/18/2014

Generated 2/19/2014 at HPRCC using provisional data.
Apostle Island Ice Caves, Lake Superior – Access for the first time since 2009.
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

Percent of Normal Precipitation (%)  
1/20/2014 - 2/18/2014

Generated 2/19/2014 at HPRCC using provisional data.
Water Year Precipitation as Percent of Normal

Percent of Normal Precipitation (%)
10/1/2013 – 2/18/2014

Generated 2/19/2014 at HPRCC using provisional data.
Mean Wind Speed Anomaly

Sig.995 Wind Speed Anomaly from 1981–2010 Mean
January 2014

National Climatic Data Center, NOAA

Anomaly in Meters per Second

-3 -2 -1 0 1 2 3
Current Soil Moisture Percentiles
• 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.
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu/
Winter Wheat in Drought – 47%

U.S. Winter Wheat Areas Experiencing Drought

Reflects February 11, 2014
U.S. Drought Monitor data

Approximately 47% of the winter wheat grown in the U.S. is within an area experiencing drought, based on historical NASS crop production data.

- Major areas combined account for 75% of the total national production annually.
- Major and minor areas combined account for 99% of the total national production annually.

USDA Agricultural Weather Assessments
World Agricultural Outlook Board
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.
Seasonal Drought Outlook

U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid for February 20 - May 31, 2014
Released February 20, 2014

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

Author: Adam Allgood, Climate Prediction Center, NOAA

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 tan area 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).
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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