

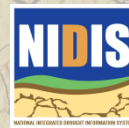
NOAA and Partners Midwest and Great Plains Drought Update Webinar

Brian Fuchs

National Drought Mitigation Center
School of Natural Resources
University of Nebraska-Lincoln



NOAA Webinar Series, December 20, 2012



General Information

- * **Providing climate services to the Central Region**
 - * Collaboration with 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, Iowa State University, National Drought Mitigation Center
- * **Next Climate/Drought Outlook Webinar: [January 17, 2013](#)**
- * **Access to Climate/Drought Webinars and information**
- * <http://mrcc.isws.illinois.edu/webinars.htm>
- * <http://www.hprcc.unl.edu/webinars.php>
- * **Operator Assistance for questions at the end**



Agenda

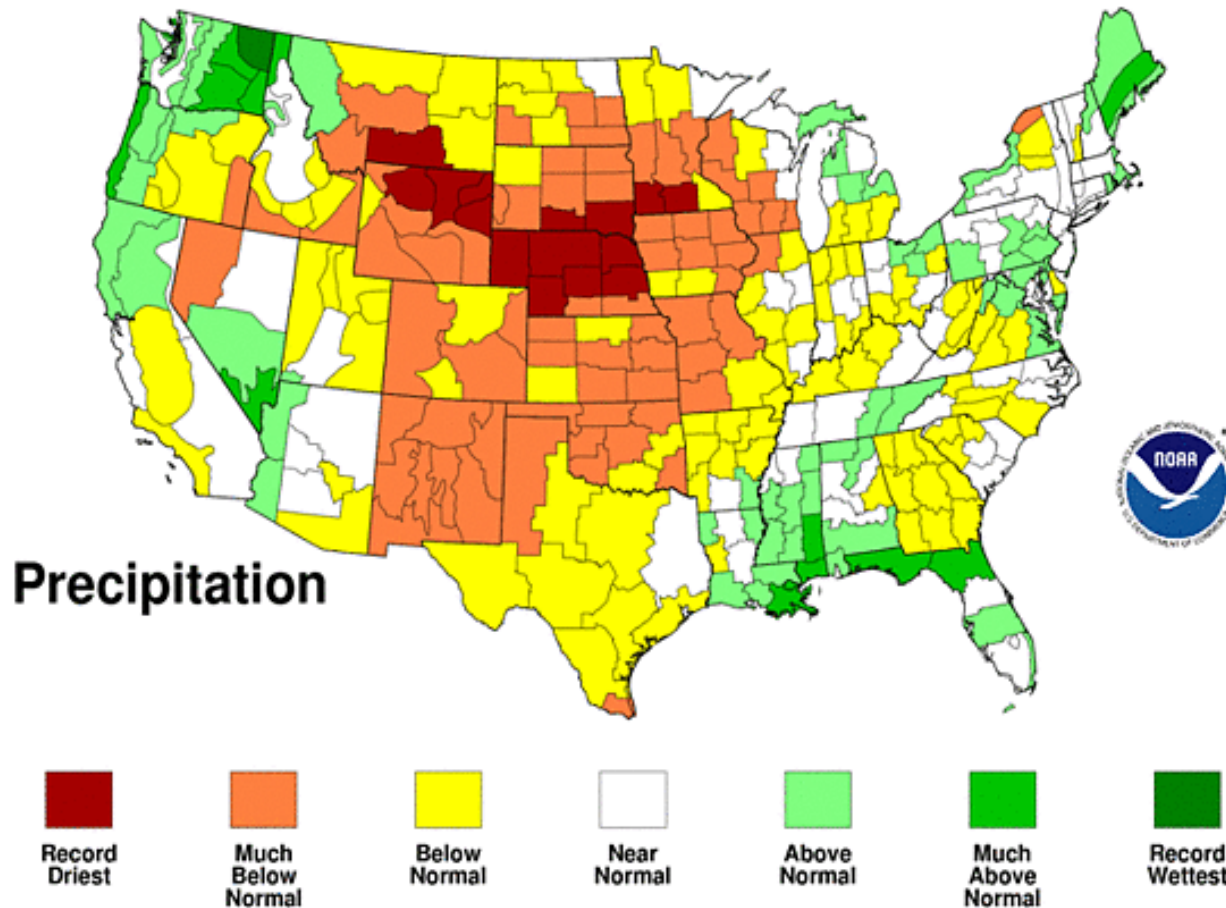
- ▶ Current Conditions
- ▶ Outlooks
- ▶ Drought Impacts
- ▶ Questions/Comments



June-November Rankings

Jun - Nov 2012

National Climatic Data Center/NESDIS/NOAA

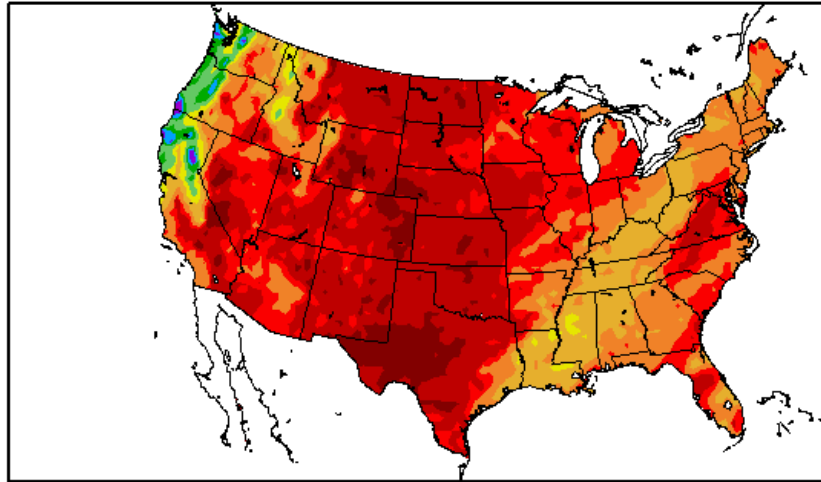


UNIVERSITY OF
Nebraska
Lincoln

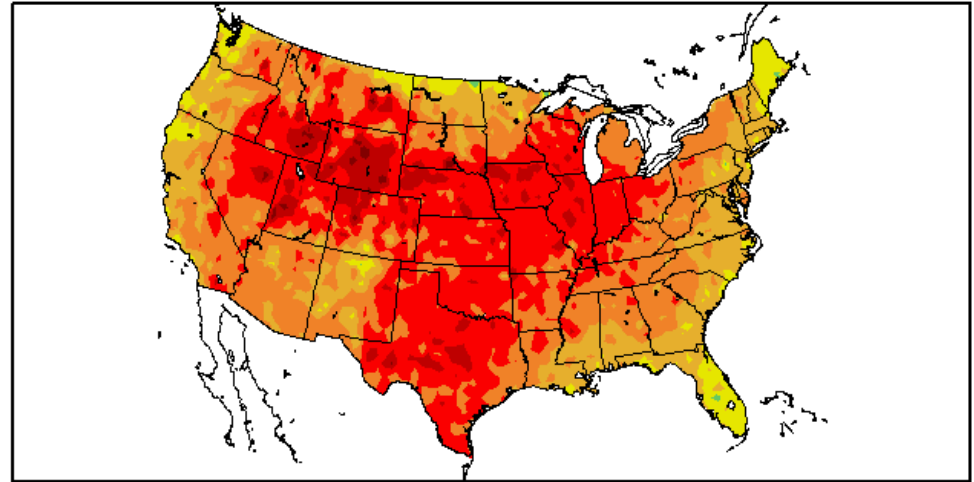


Last 30 Days (ACIS)

Precipitation (in)
11/20/2012 - 12/19/2012



Departure from Normal Temperature (F)
11/20/2012 - 12/19/2012



Generated 12/20/2012 at HPRCC using provisional data.

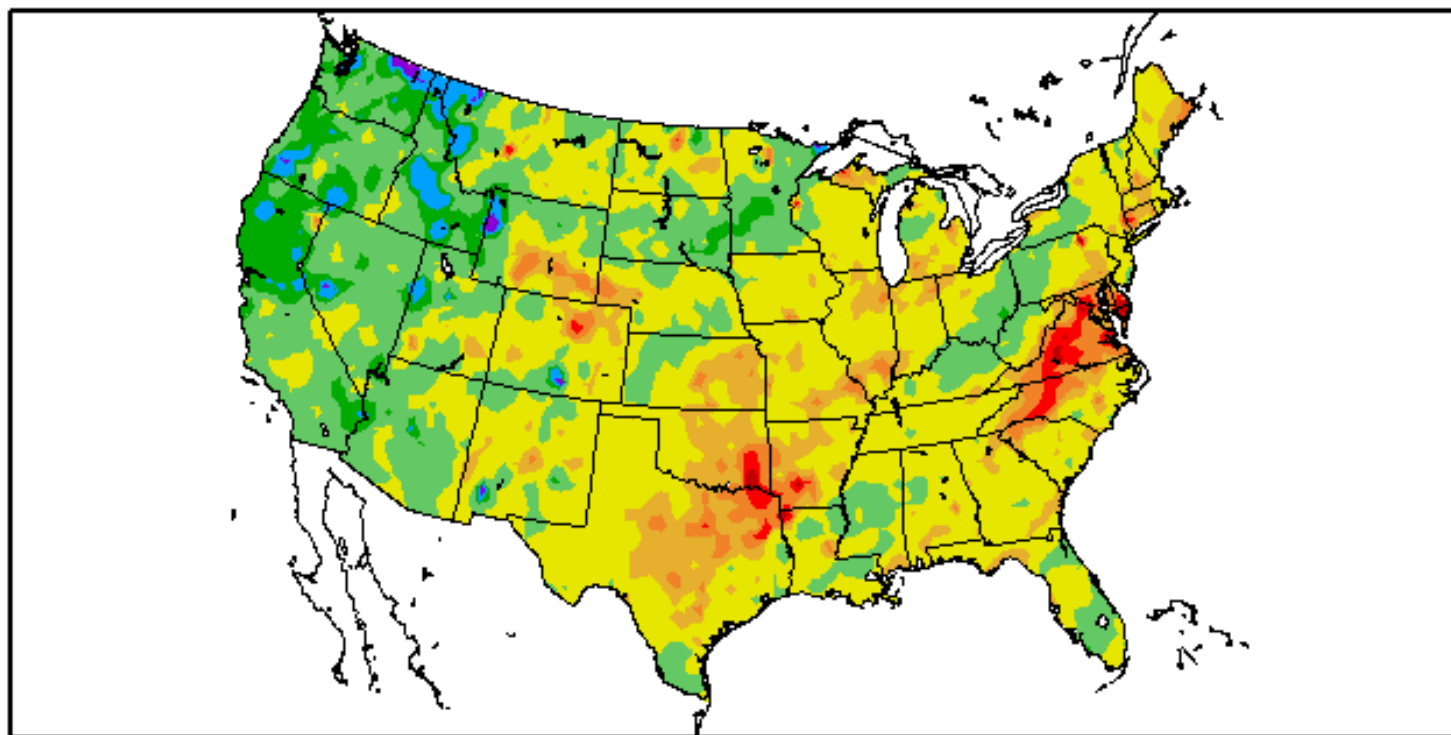
Region Generated 12/20/2012 at HPRCC using provisional data.

Regional Climate Centers



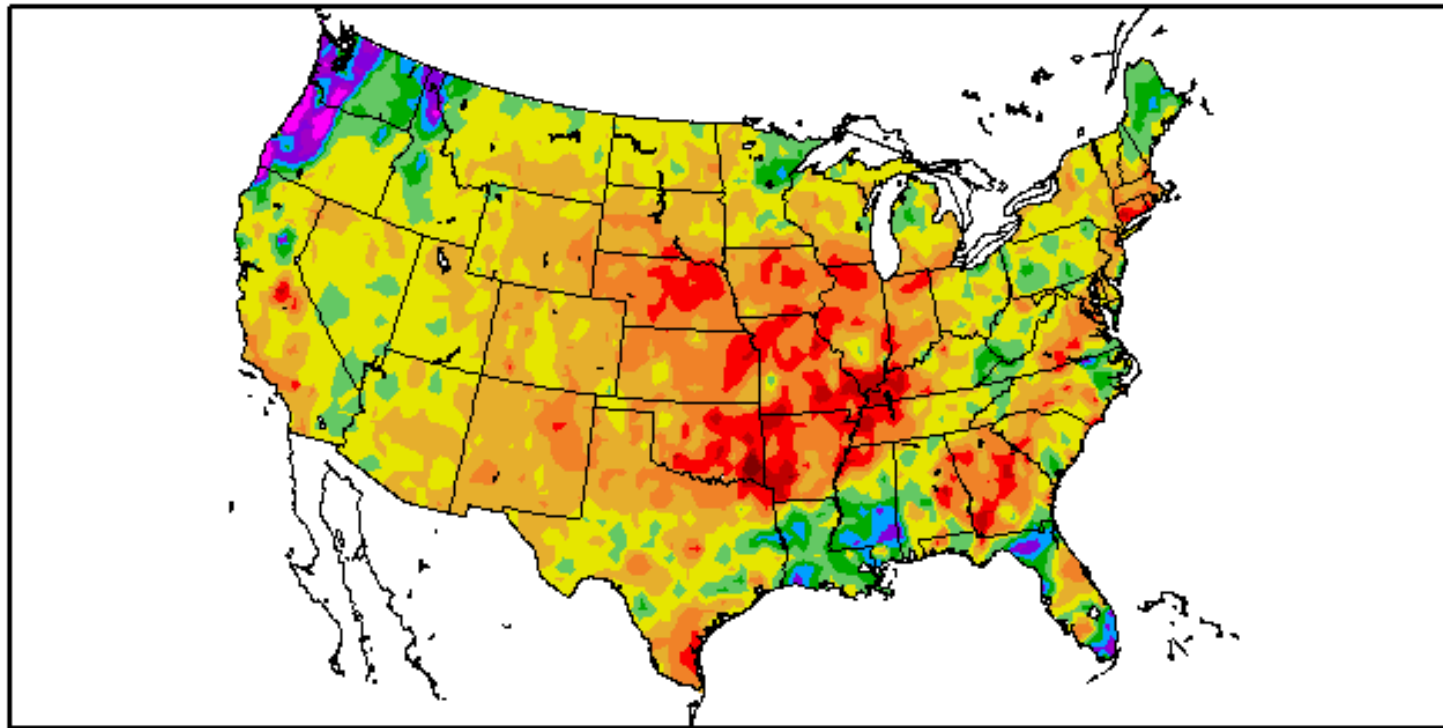
Last 30 Days (ACIS)

30 Day SPI
11/20/2012 - 12/19/2012



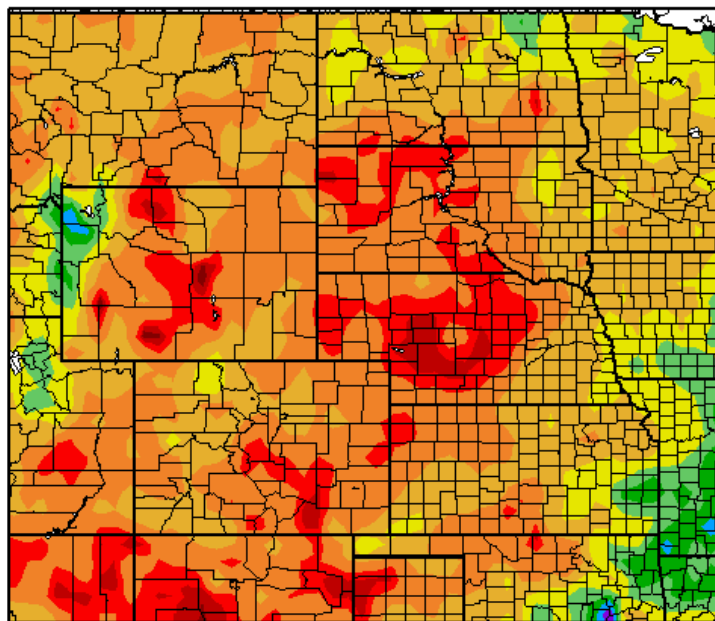
12 Month Departure from Normal

Departure from Normal Precipitation (in)
12/20/2011 – 12/19/2012

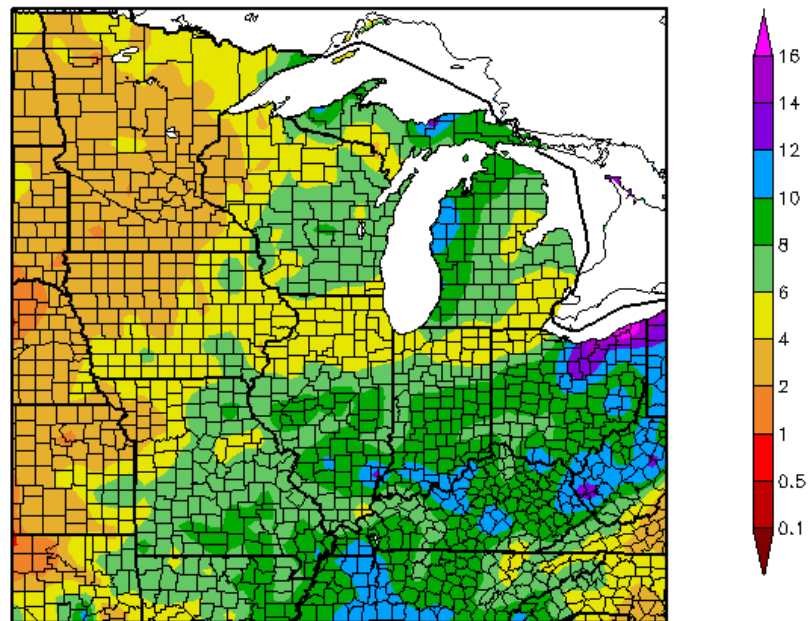


Fall Recharge

Precipitation (in)
9/21/2012 - 12/19/2012



Precipitation (in)
9/21/2012 - 12/19/2012



Generated 12/20/2012 at HPRCC using provisional data.

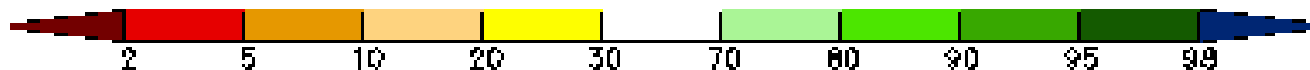
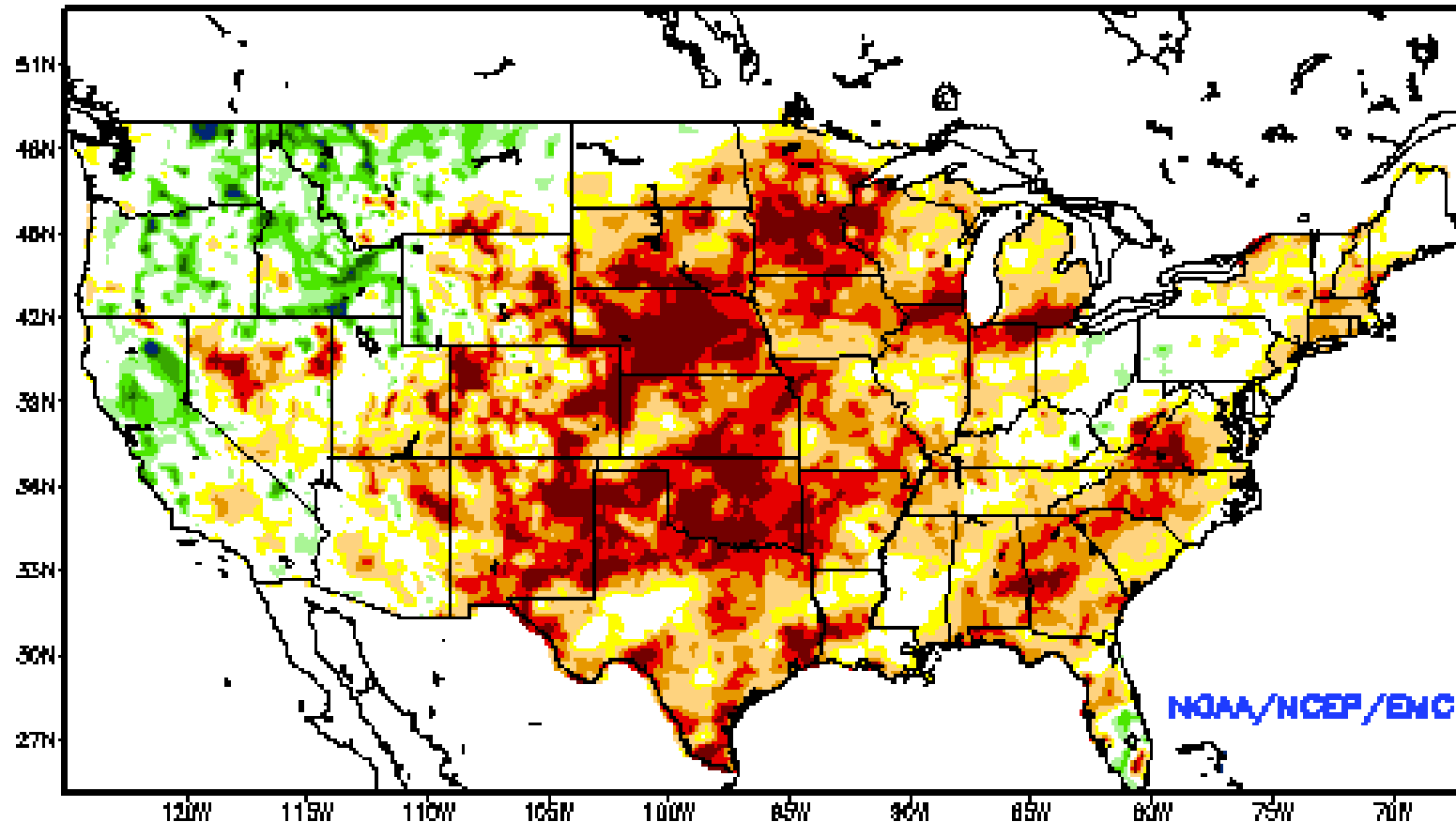
Regional Climate Centers 12/20/2012 at HPRCC using provisional data.

Regional Climate Centers



Current Soil Moisture

Ensemble-Mean - Current Total Column Soil Moisture Percentile
NCEP NLDAS Products Valid: DEC 15, 2012

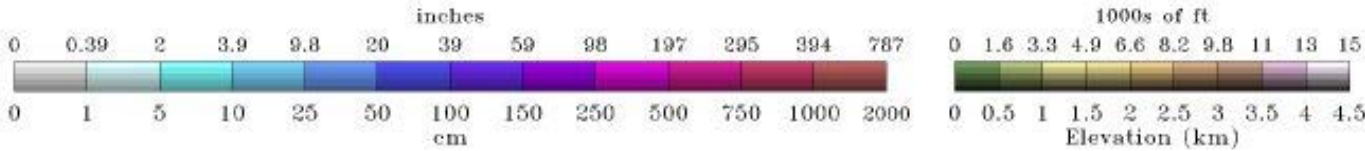
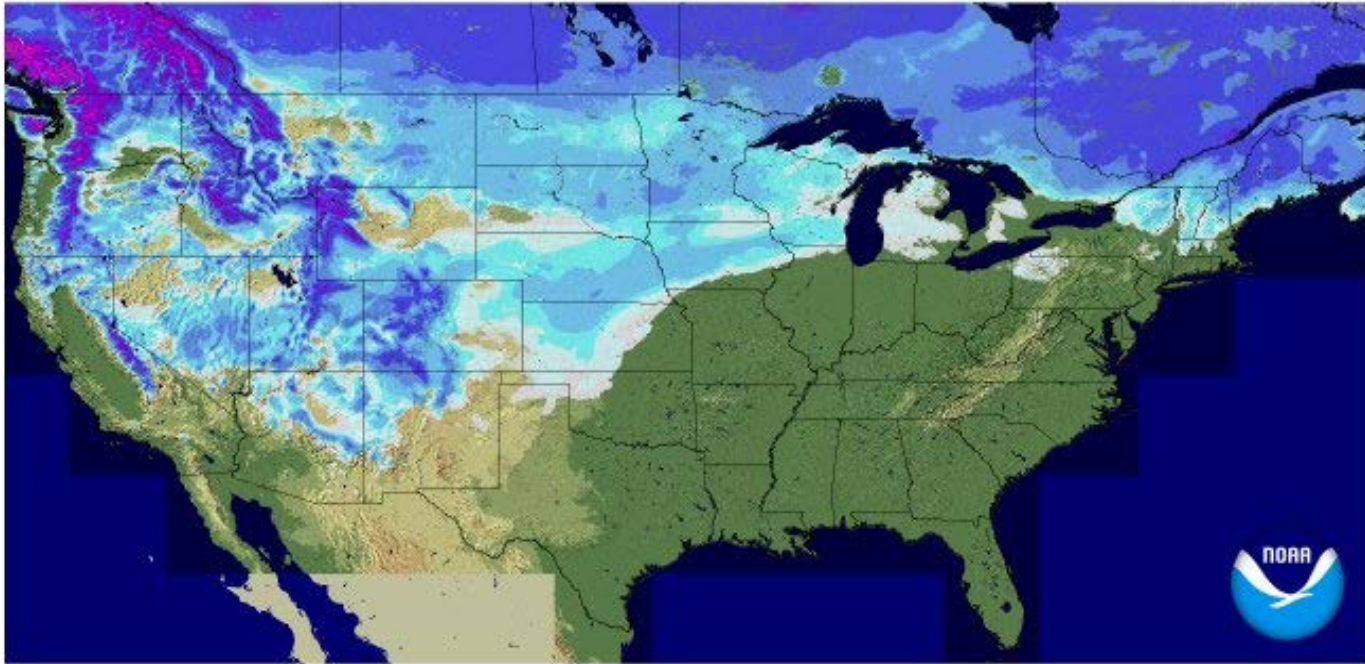


Current Snow Cover

NATIONAL SNOW 2012-
ANALYSIS 2013

Snow Depth

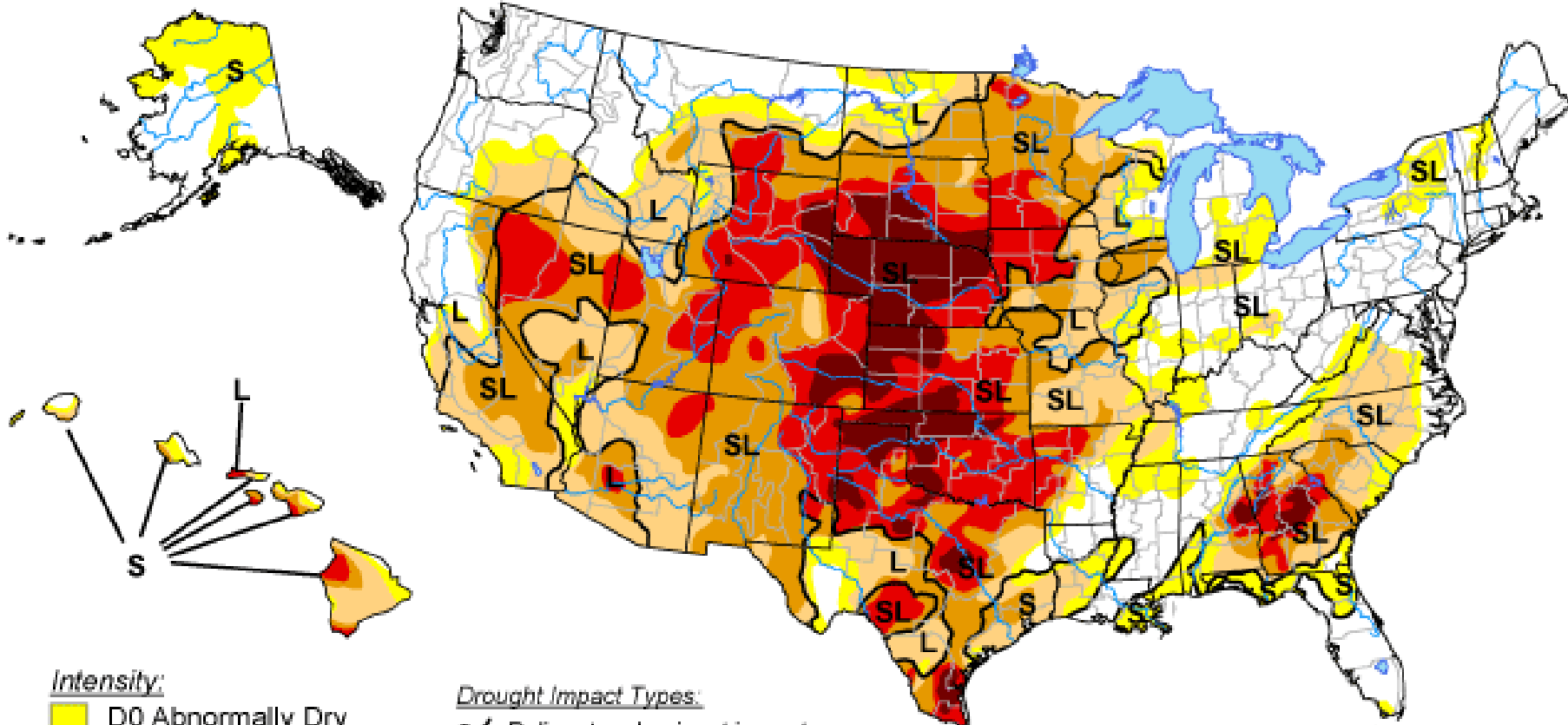
2012-12-20 06








U.S. Drought Monitor

December 18, 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, December 20, 2012

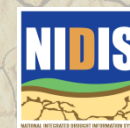
Author: Brian Fuchs, National Drought Mitigation Center

Conditions for the U.S., including Alaska, Hawaii and Puerto Rico

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
One Year Ago	12/13/11	64.07	35.93	23.52	17.47	10.75	3.83
Start of Water Year	09/25/12	31.11	68.89	54.77	35.24	17.97	5.12
Start of Calendar Year	12/27/11	58.88	41.12	23.89	15.88	8.37	2.76
3 Months Ago	09/18/12	29.80	70.20	54.25	34.35	17.35	4.98
Last Week	12/11/12	30.57	69.43	51.82	35.62	17.62	5.43
Current	12/18/12	30.66	69.34	51.74	35.56	18.12	5.54

Conditions for the Contiguous U.S.

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
One Year Ago	12/13/11	57.13	42.87	28.04	20.85	12.86	4.59
Start of Water Year	09/25/12	23.41	76.59	65.45	42.12	21.48	6.12
Start of Calendar Year	12/27/11	50.89	49.11	28.49	18.95	10.01	3.31
3 Months Ago	09/18/12	21.85	78.15	64.82	41.07	20.74	5.96
Last Week	12/11/12	26.12	73.88	61.87	42.59	21.07	6.49
Current	12/18/12	26.21	73.79	61.79	42.51	21.67	6.64



U.S. Drought Monitor

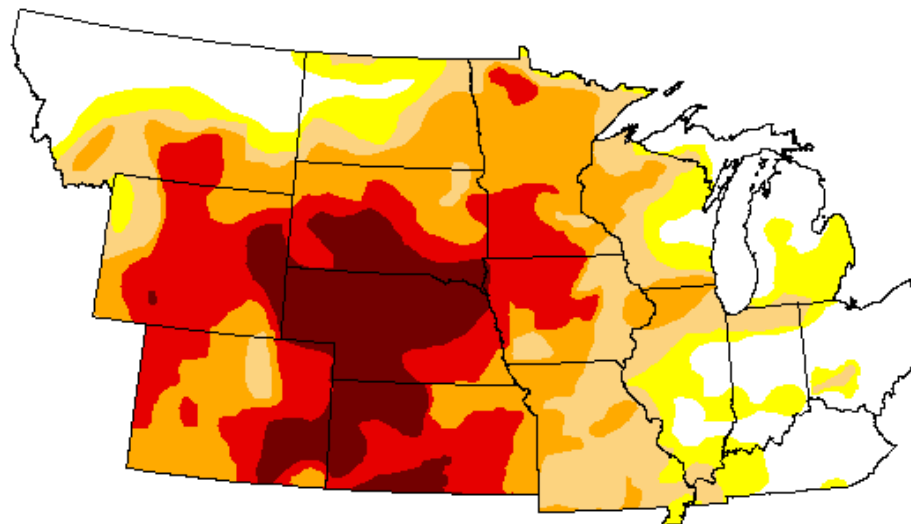
December 18, 2012

Valid 7 a.m. EST

Central Region

Drought Conditions (Percent Area)

	None	D0 - D4	D1 - D4	D2 - D4	D3 - D4	D4
Current	19.44	80.56	69.04	53.39	31.20	11.96
Last Week (12/11/2012)	19.58	80.42	68.83	53.57	30.19	11.92
3 Months Ago (9/18/2012)	5.09	94.91	79.41	57.16	32.52	10.57
1 Year Ago (12/20/2011)	69.84	30.16	13.92	6.29	0.91	0.11



Intensity:



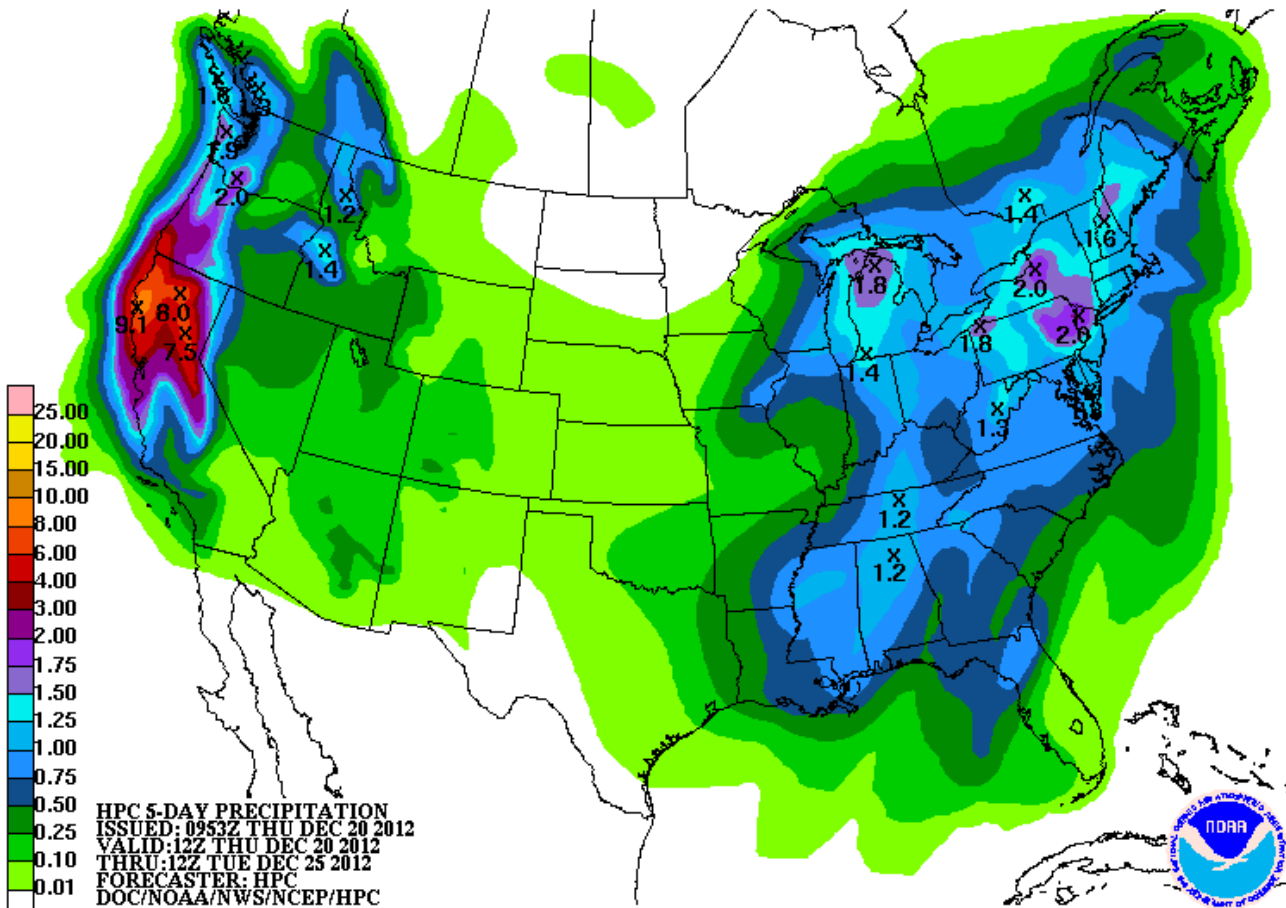
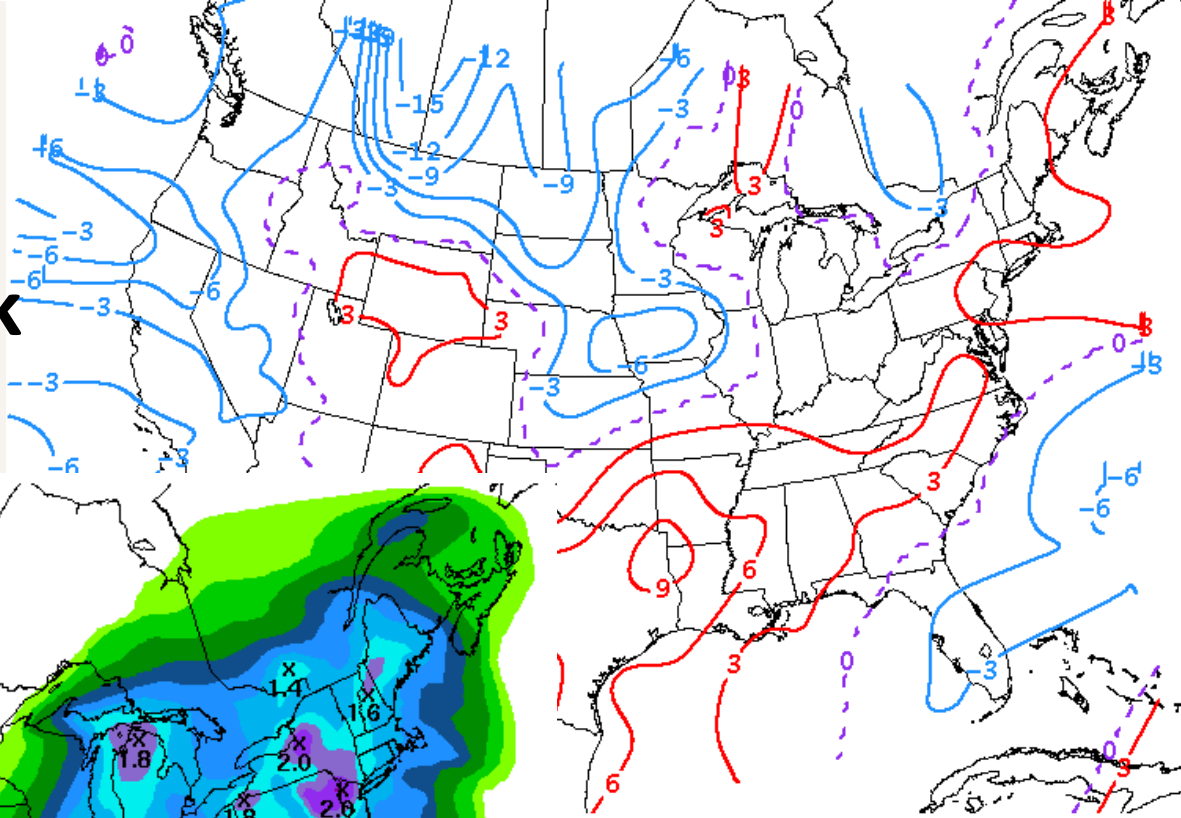
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



Released Thursday, December 20, 2012
Brian Fuchs, National Drought Mitigation Center

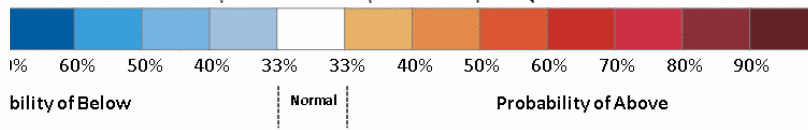
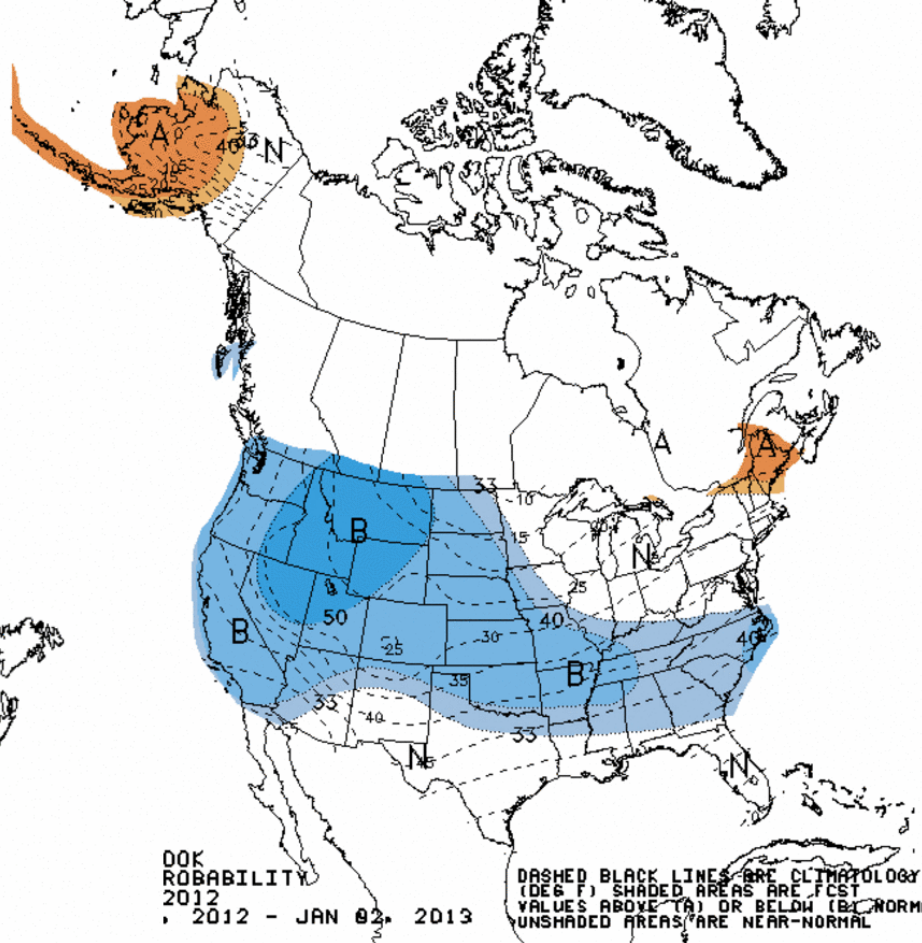
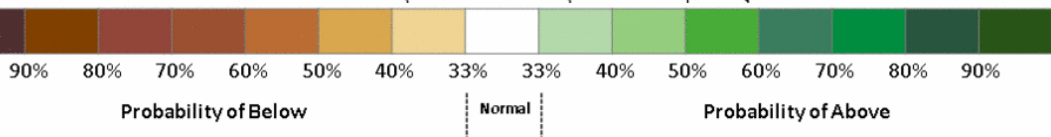
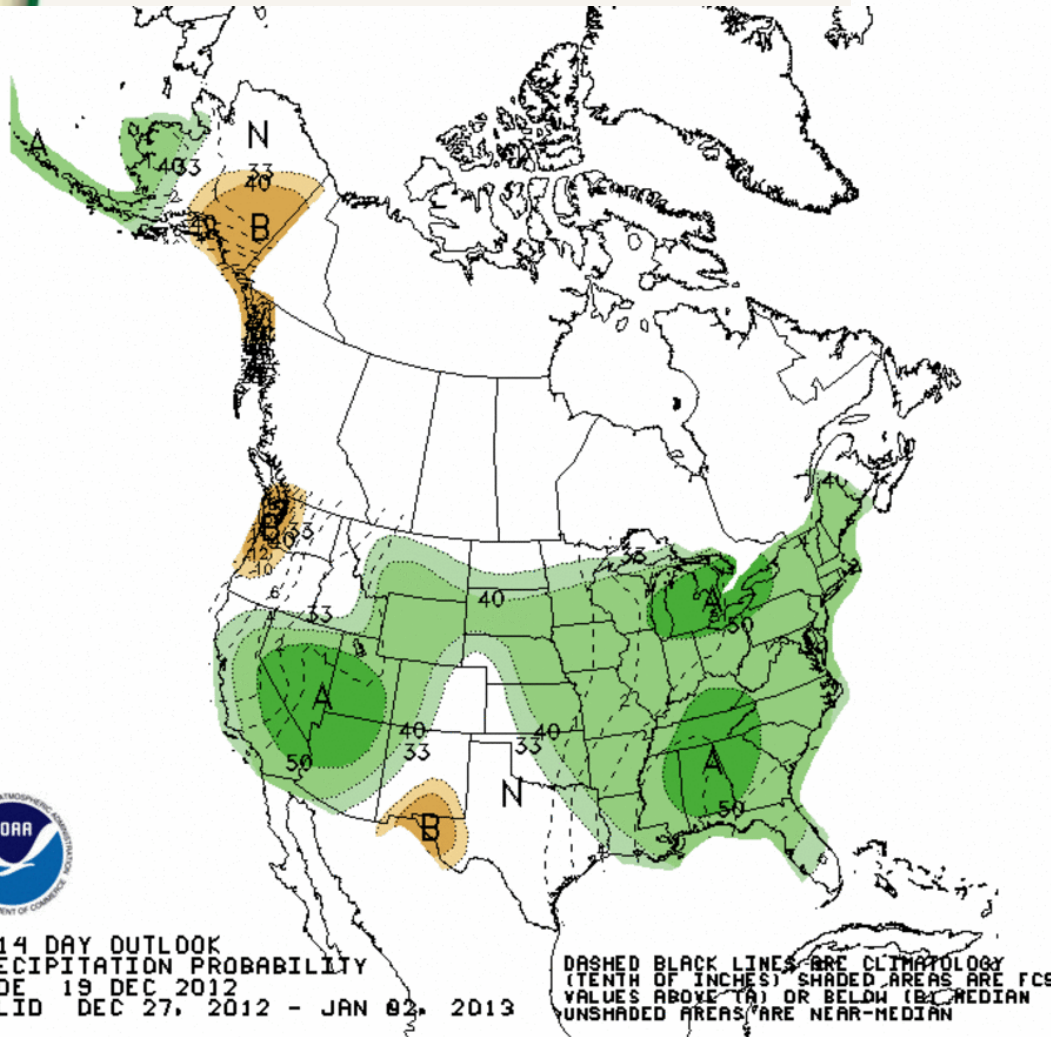
HPC 5-Day Outlook



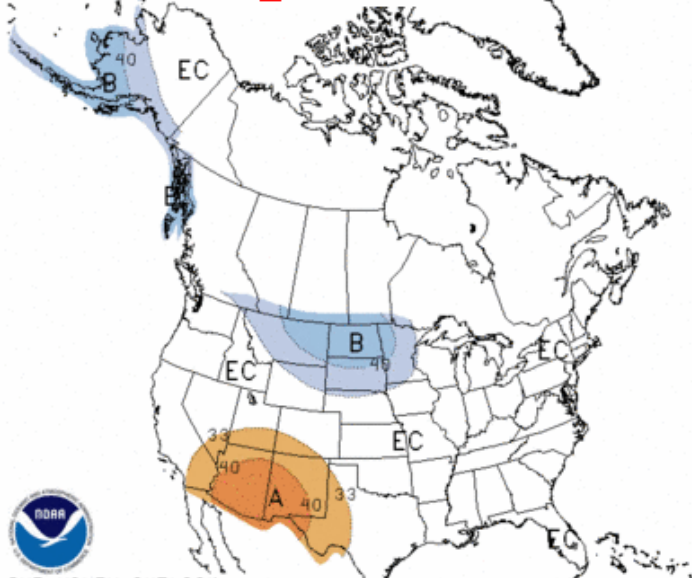
HPC 5-DAY PRECIPITATION
 ISSUED: 0953Z THU DEC 20 2012
 VALID: 12Z THU DEC 20 2012
 THRU: 12Z TUE DEC 25 2012
 FORECASTER: HPC
 DOC/NOAA/NWS/NCEP/HPC



CPC 8-14-Day Outlooks



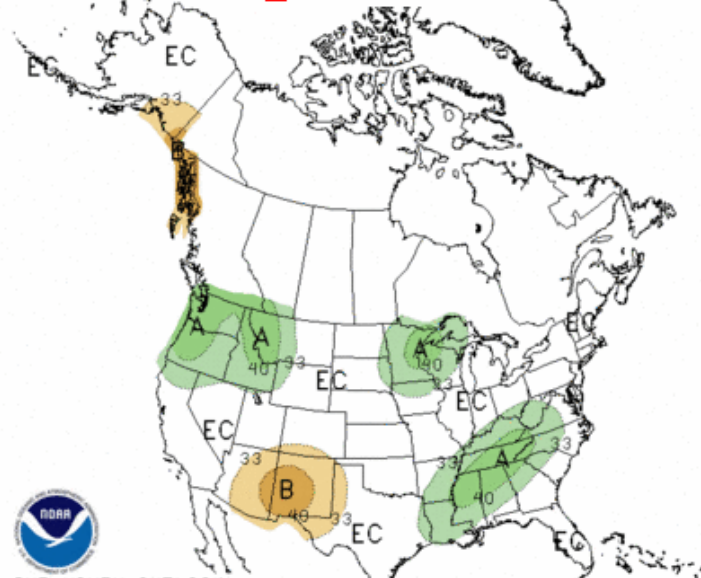
Jan_2013



ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID JAN 2013
MADE 20 DEC 2012

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

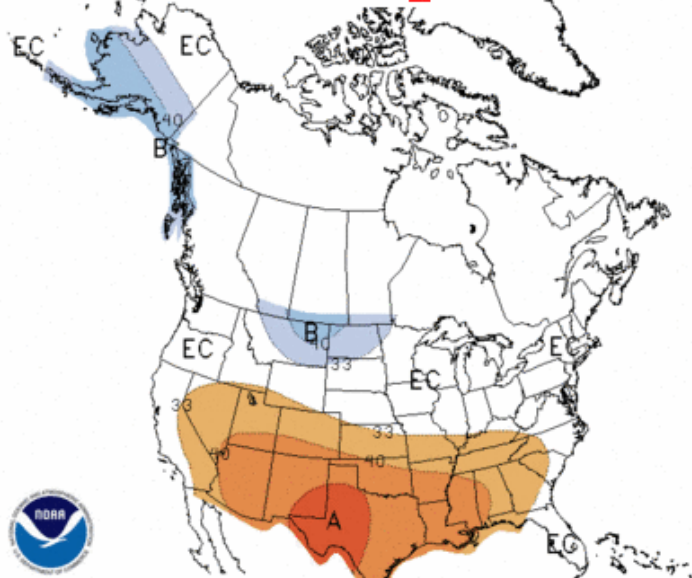
Jan_2013



ONE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID JAN 2013
MADE 20 DEC 2012

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

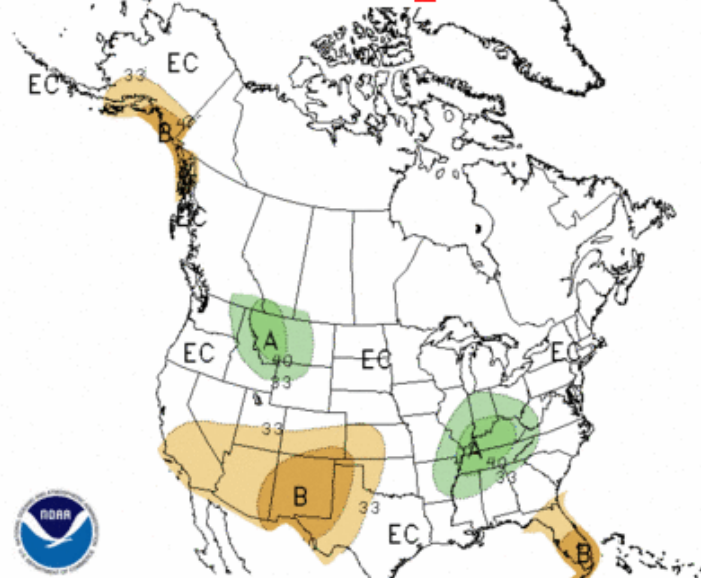
Jan-Feb-Mar_2013



THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID JFM 2013
MADE 20 DEC 2012

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

Jan-Feb-Mar_2013

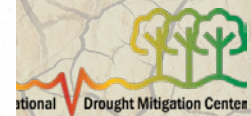


THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
0.5 MONTH LEAD
VALID JFM 2013
MADE 20 DEC 2012

EC MEANS EQUAL
CHANCES FOR A, N, B
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW



UNIVERSITY OF
Nebraska
Lincoln



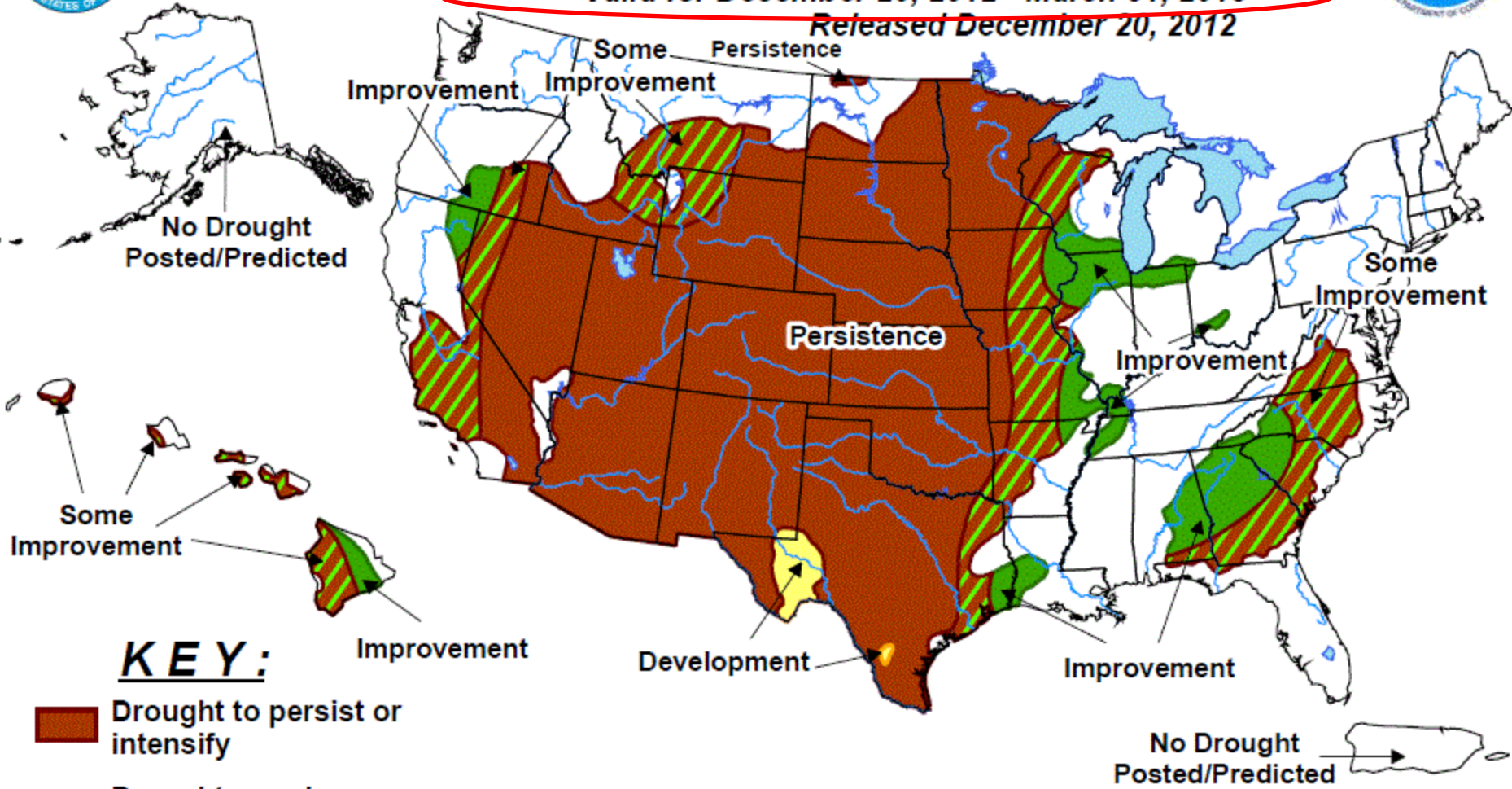
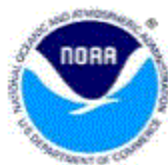


U.S. Seasonal Drought Outlook





Drought Tendency During the Valid Period

Valid for December 20, 2012 - March 31, 2013

Released December 20, 2012



KEY:

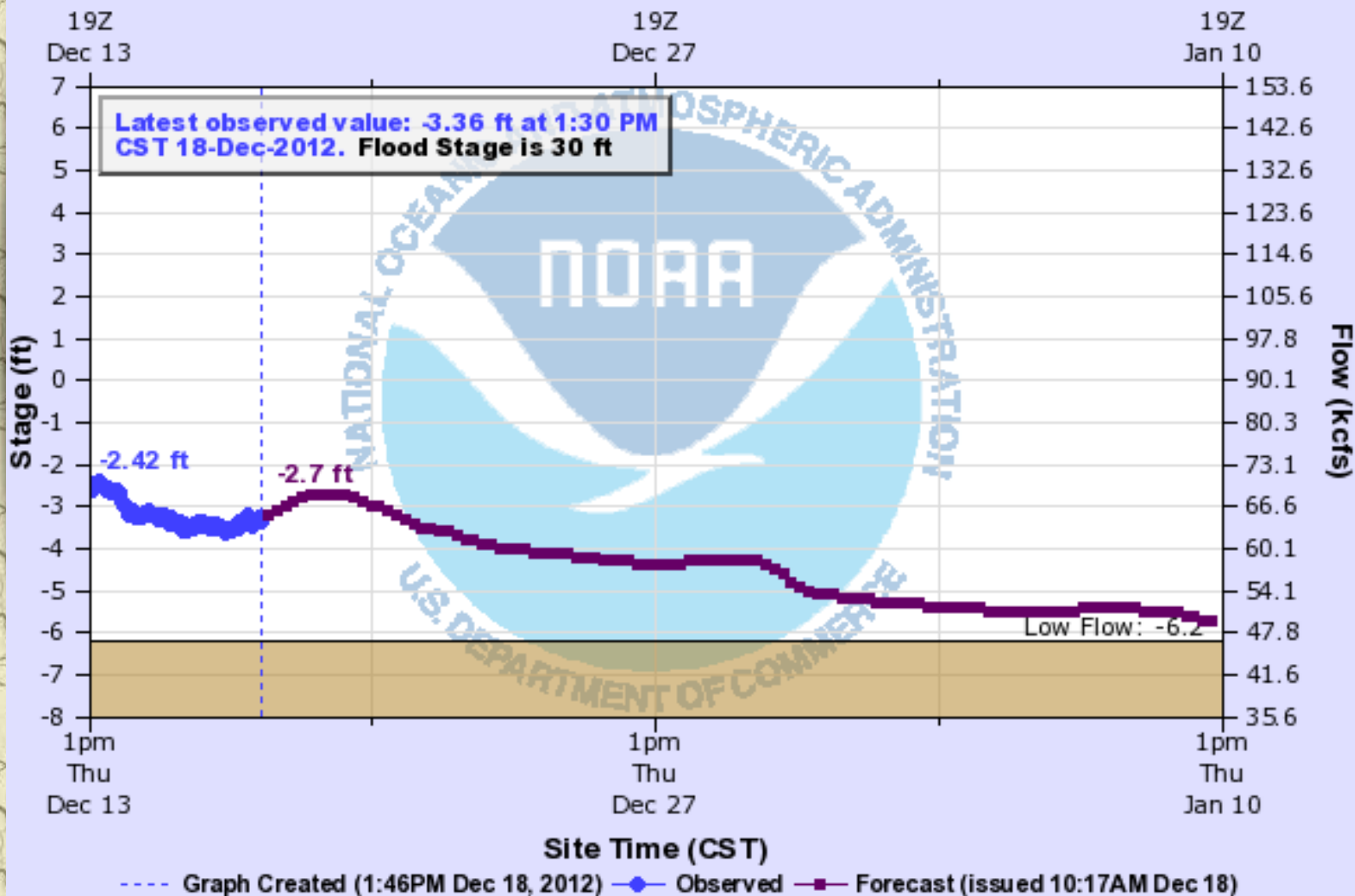
-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

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.

Hydrologic Impacts

MISSISSIPPI RIVER AT ST. LOUIS

Universal Time (UTC)



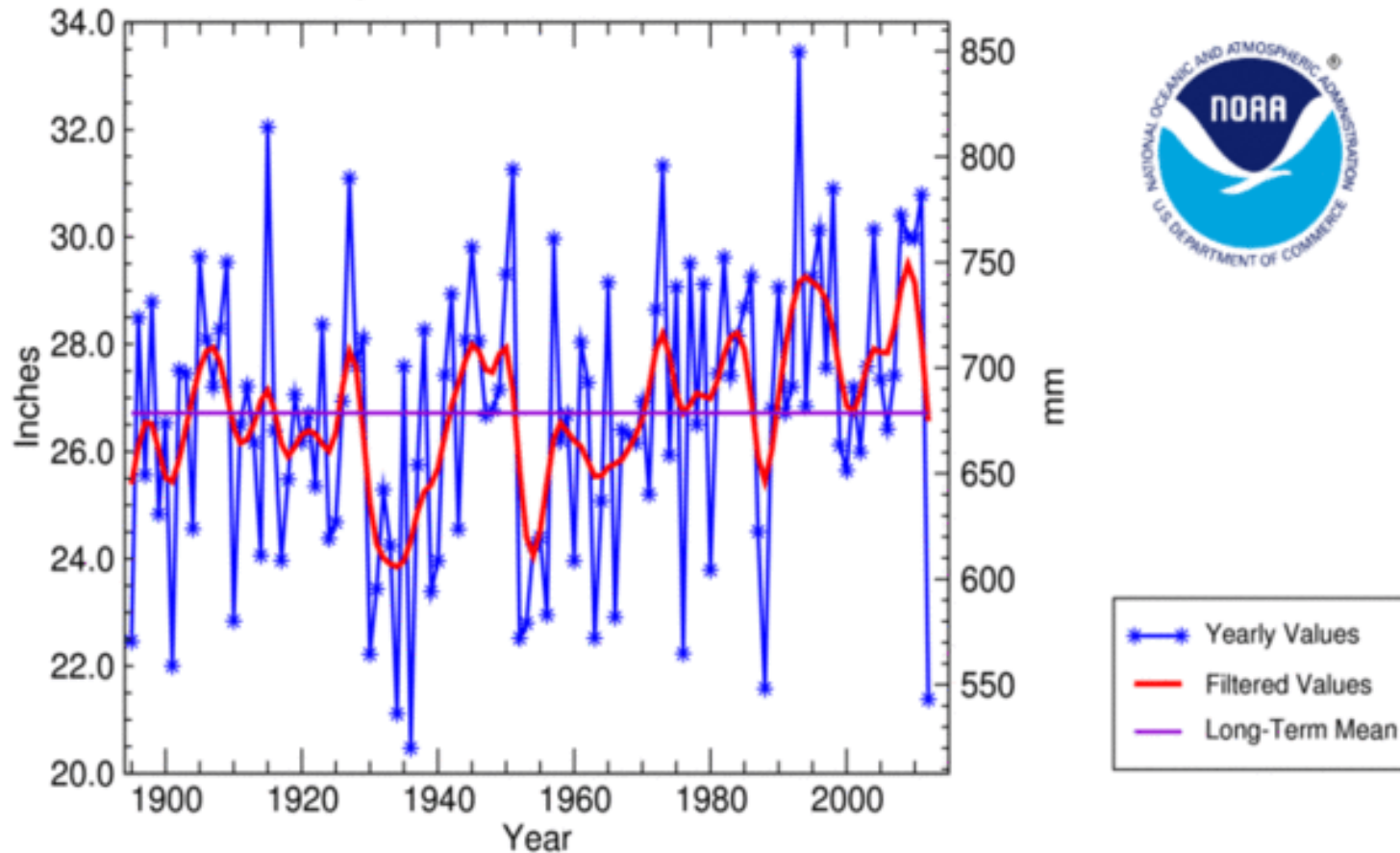
Low Water Records for Mississippi River at St. Louis

- (1) -6.20 ft. on 01/16/1940*
- (2) -5.70 ft. on 01/26/1963*
- (2) -5.70 ft. on 01/15/2013 (forecast)
- (3) -5.60 ft. on 01/01/1964*
- (4) -5.32 ft. on 12/26/1989
- (5) -5.00 ft. on 12/12/1937
- (6) -4.60 ft. on 12/29/1933
- (7) -4.50 ft. on 01/16/2003
- (8) -3.80 ft. on 01/01/1990
- (9) -3.53 ft. on 12/08/2005
- (10) -3.20 ft. on 12/18/1988

- * Pre Regulation values prior to 1967



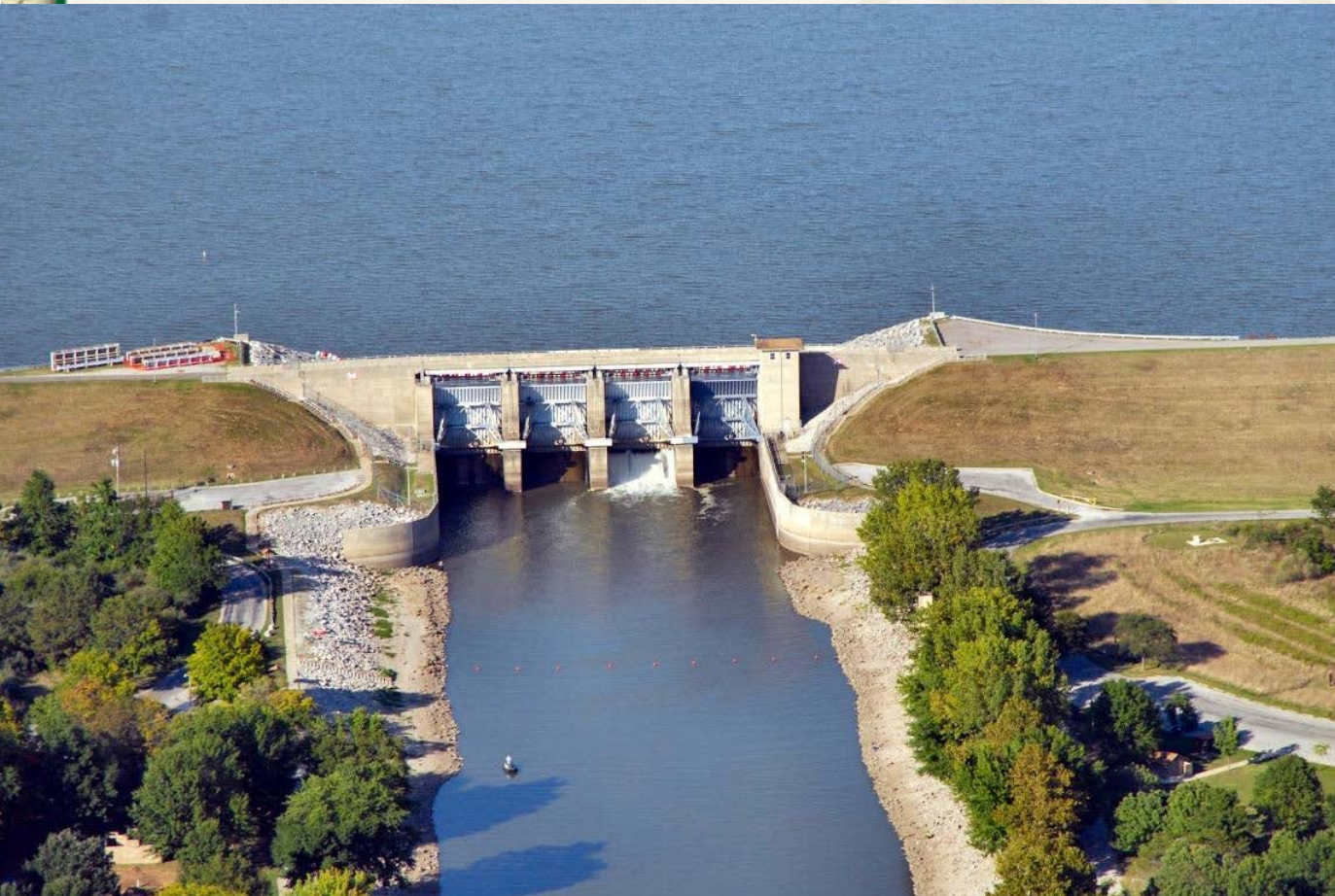
Mississippi River (N. of Memphis) Precipitation January - November, 1895 - 2012



National Climatic Data Center / NESDIS / NOAA



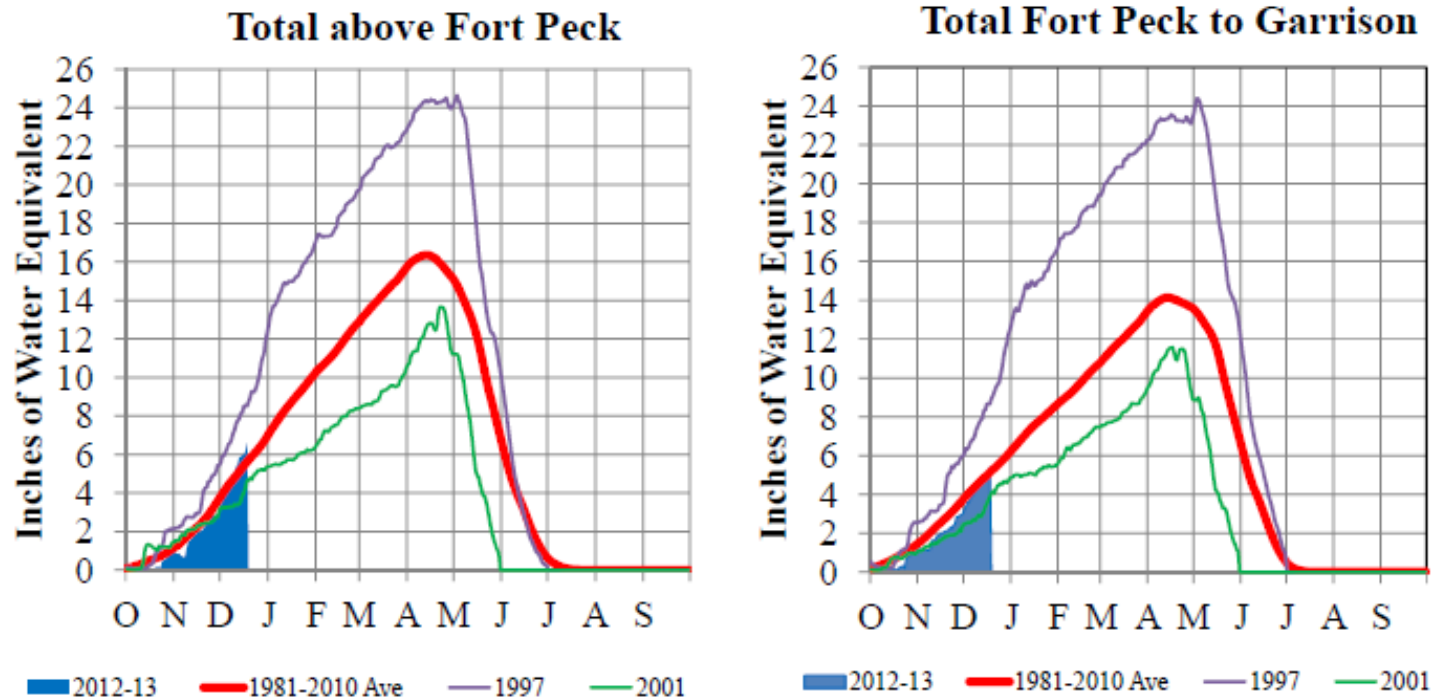
**The U.S. Army Corps of Engineers
St. Louis District began increasing
releases from Carlyle Lake
yesterday (12/19/12) in support of
safe navigation on the Mississippi
River.**



Missouri River Basin

Missouri River Basin – Mountain Snowpack Water Content 2012-2013 with comparison plots from 1997* and 2001*

Dec 18, 2012



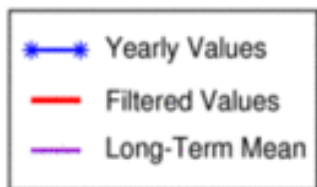
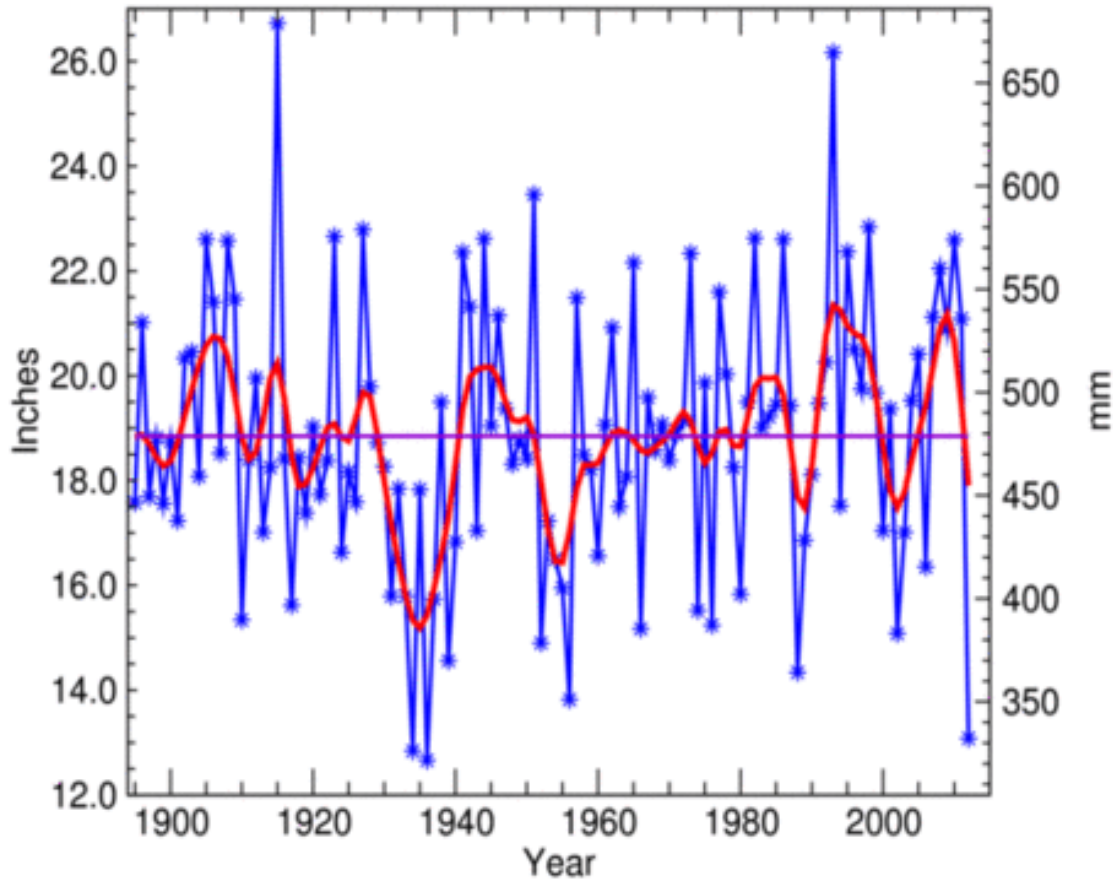
The Missouri River basin mountain snowpack normally peaks near April 15. By December 15, normally 34% of the peak has accumulated. On December 18, 2012 the mountain snowpack SWE in the “Total above Fort Peck” reach is currently 6.6”, 115% of average. The mountain snowpack SWE in the “Total Fort Peck to Garrison” reach is currently 5.4”, 103% of average.

*Generally considered the high and low year of the last 20-year period.

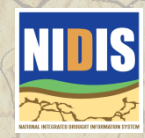
Provisional data. Subject to revision.



Missouri River Basin Precipitation January - November, 1895 - 2012

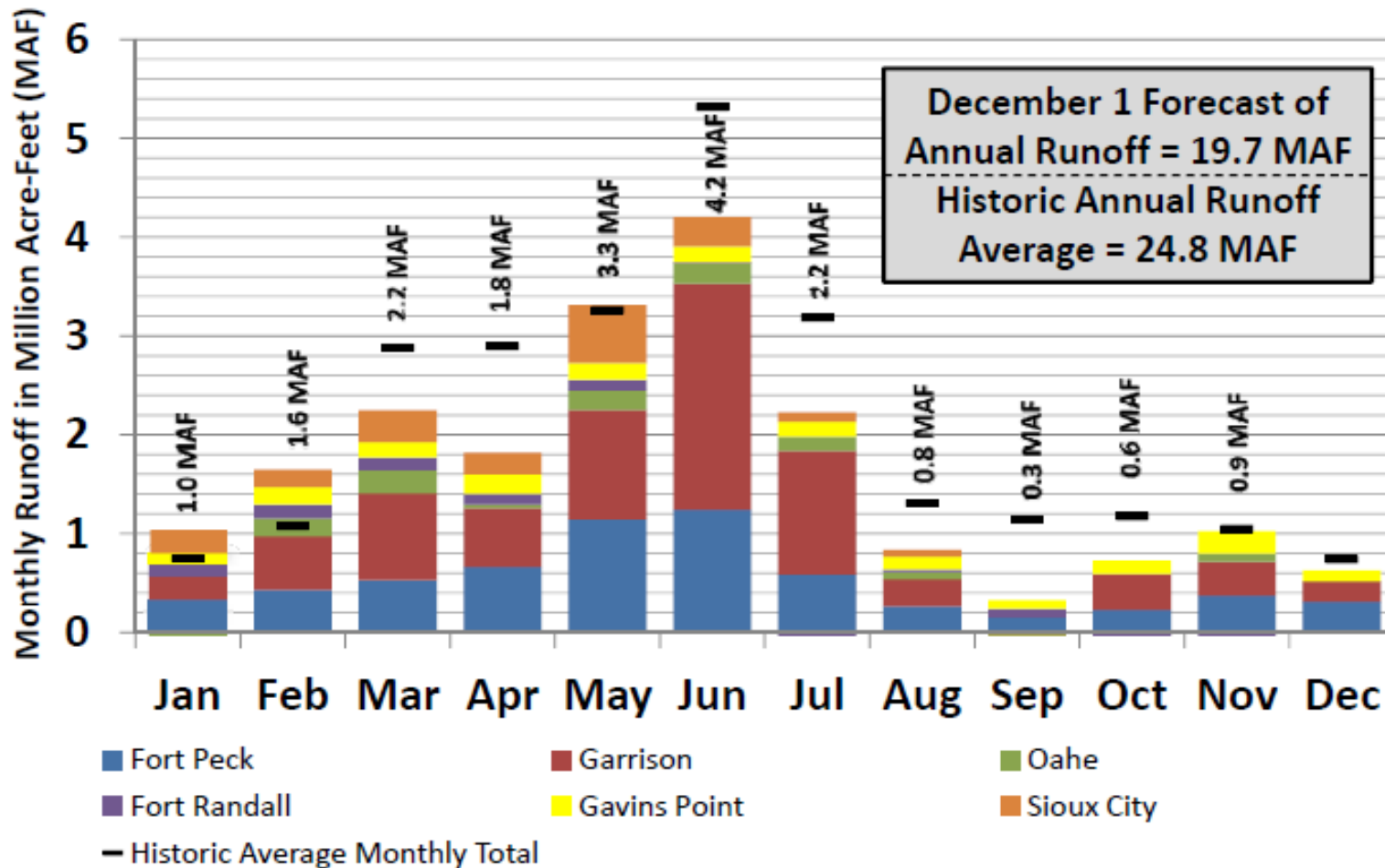


National Climatic Data Center / NESDIS / NOAA



Missouri River Basin

2012 Runoff Forecast above Sioux City*



* Forecast as of December 1, 2012



Summary

- ▶ Drought conditions will persist through the region over the next 3 months.
- ▶ As we go into winter, hydrologic impacts will continue
- ▶ Near record low flows will continue on the Missouri and Mississippi Rivers
- ▶ No indications in the seasonal forecasts of any significant pattern changes through the winter



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>



Contact Information:

Brian Fuchs

bfuchs2@unl.edu

402-472-6775

National Drought Mitigation Center
School of Natural Resources
University of Nebraska-Lincoln

