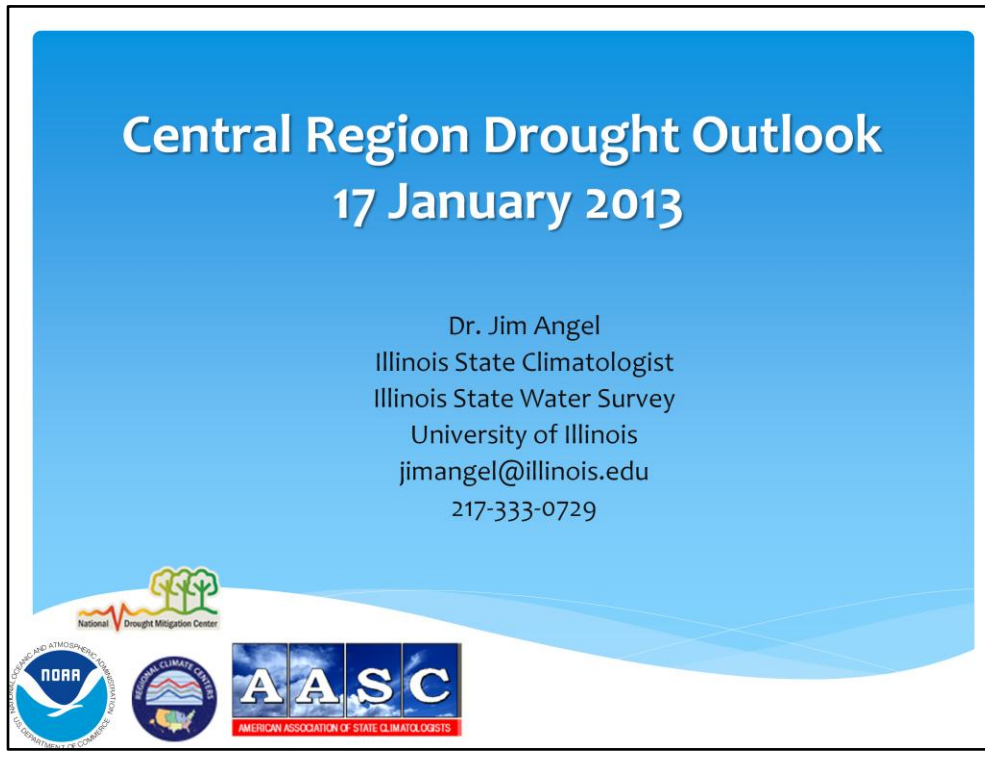


Welcome to the next in the series of central US drought status and outlook webinars through the cooperation of several regional partners including NOAA/USDA/RCCs/SCs and several other partnering groups. These webinars are intended to provide a status update and present what we see as the most like directions weather/climate issues are going from here.

We are taking the opportunity to address some of the longer term weather and climate concerns in the central US to help you all plan a little better in the upcoming months. We hope to deliver information pertinent to your decision making needs. So thanks to those other agencies and organizations for your input to this presentation.

This Webinar is meant to be an overview of the current climate situation and what we may expect in the coming months. It is also meant primarily for stakeholders and partners in other agencies, tribes, state and local governments, universities and various interests from agriculture, water resources, natural resources and ecosystems.

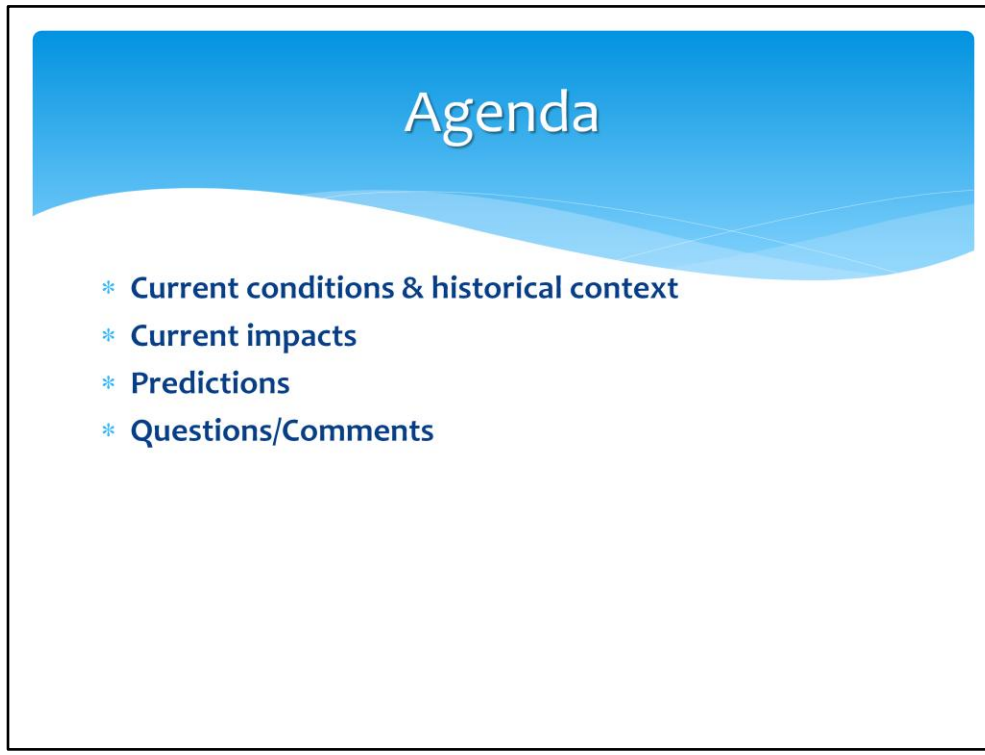
General Information

- **Providing climate services to the Central Region**
  - Collaboration with Jim Angel (Illinois State Climatologist), Doug Kluck (NOAA - RCSD) and John Eise (Climate Service Program Manager), State Climatologists and the Midwest Regional Climate Center, High Plains Regional Climate Center, NOAAs Climate Prediction Center, National Drought Mitigation Center, Iowa State University

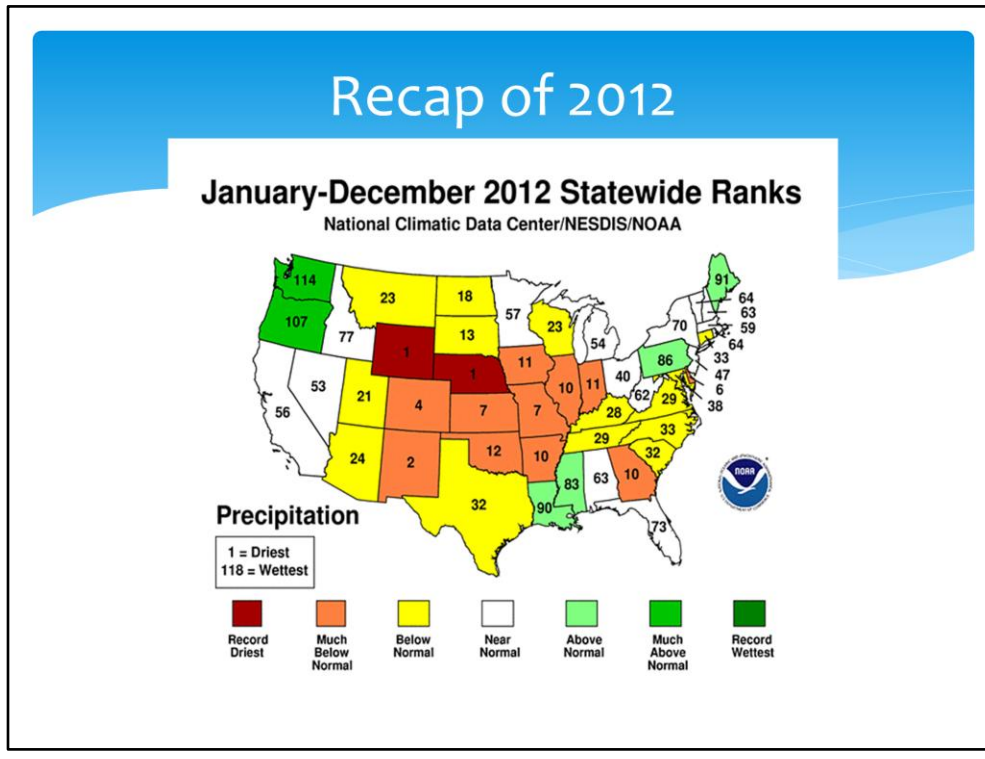
- **Next Climate/Drought Outlook Webinar**
  - February 21, 2013 (1 PM CST)

- **Access to Climate/Drought Webinars and information**
- *http://mrcc.isws.illinois.edu/webinars.htm*
- *http://www.hprcc.unl.edu*

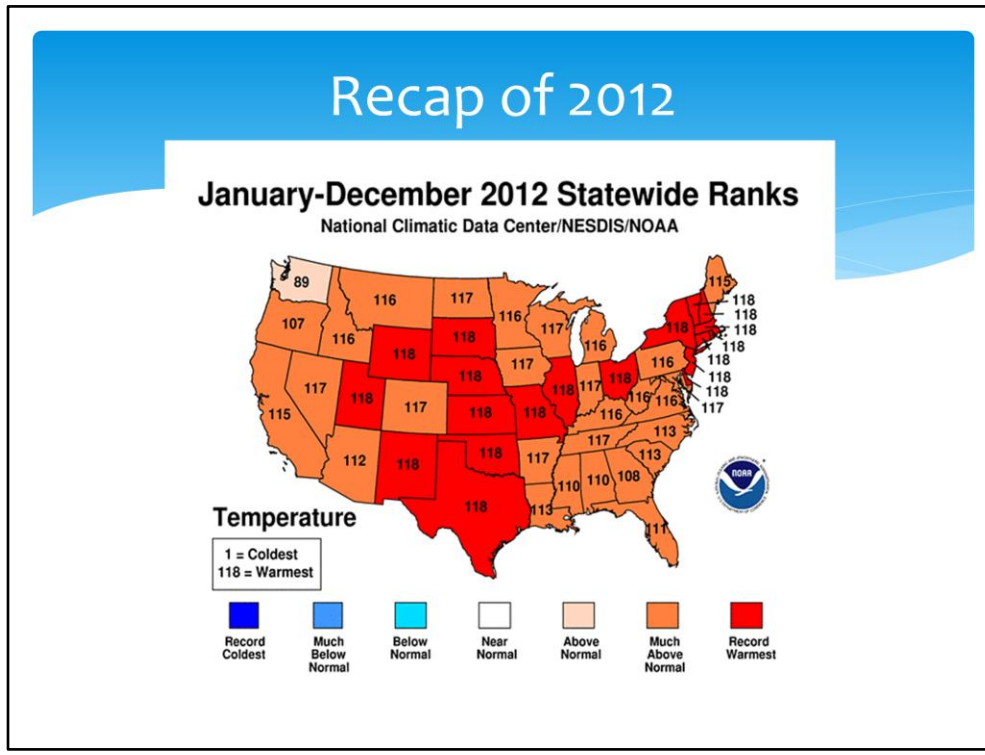
- **Operator Assistance for questions at the end**



The structure of the webinars is to review current climate conditions and put them in some historical context. We will look back at what has led up to the situation we are in and then look ahead using the Climate Prediction Center Outlooks and Drought Monitor Outlooks.

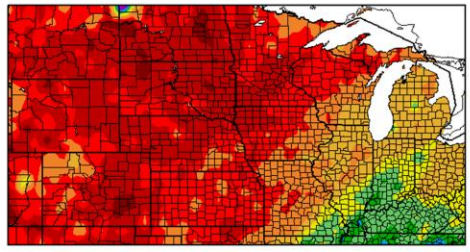


Precipitation averaged across the CONUS in 2012 was 26.57 inches, which is 2.57 inches below the 20th century average. Precipitation totals in 2012 ranked as the 15th driest year on record.

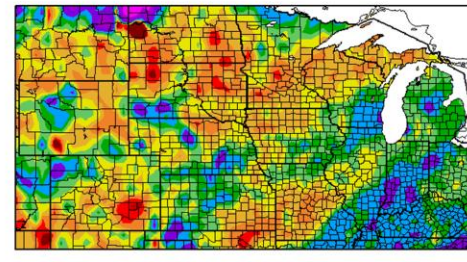


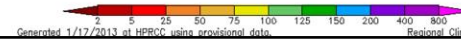
In 2012, the contiguous United States (CONUS) average annual temperature of 55.3°F was 3.2°F above the 20th century average, and was the warmest year in the 1895-2012 period of record for the nation. The 2012 annual temperature was 1.0°F warmer than the previous record warm year of 1998.

Precipitation (in)
12/18/2012 – 1/16/2013



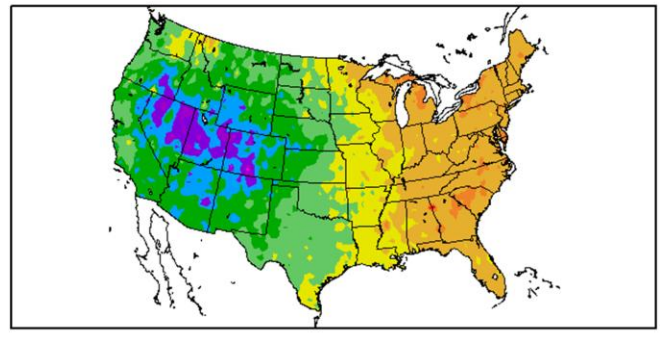
Percent of Normal Precipitation (%)
12/18/2012 – 1/16/2013





Last 30 days Precipitation and Percent of Normal

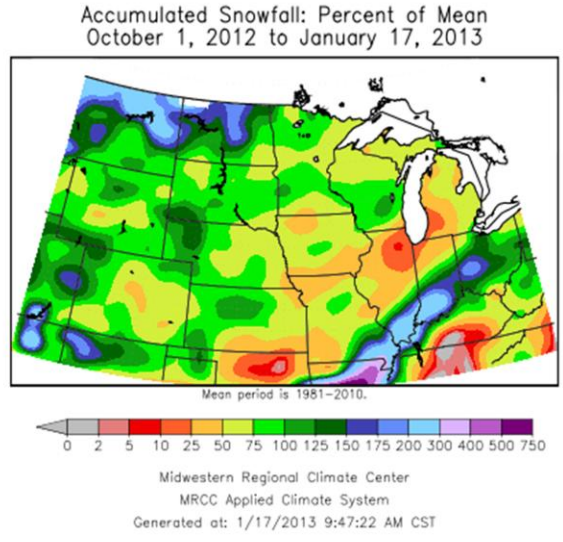
Departure from Normal Temperature (F)
12/17/2012 – 1/15/2013

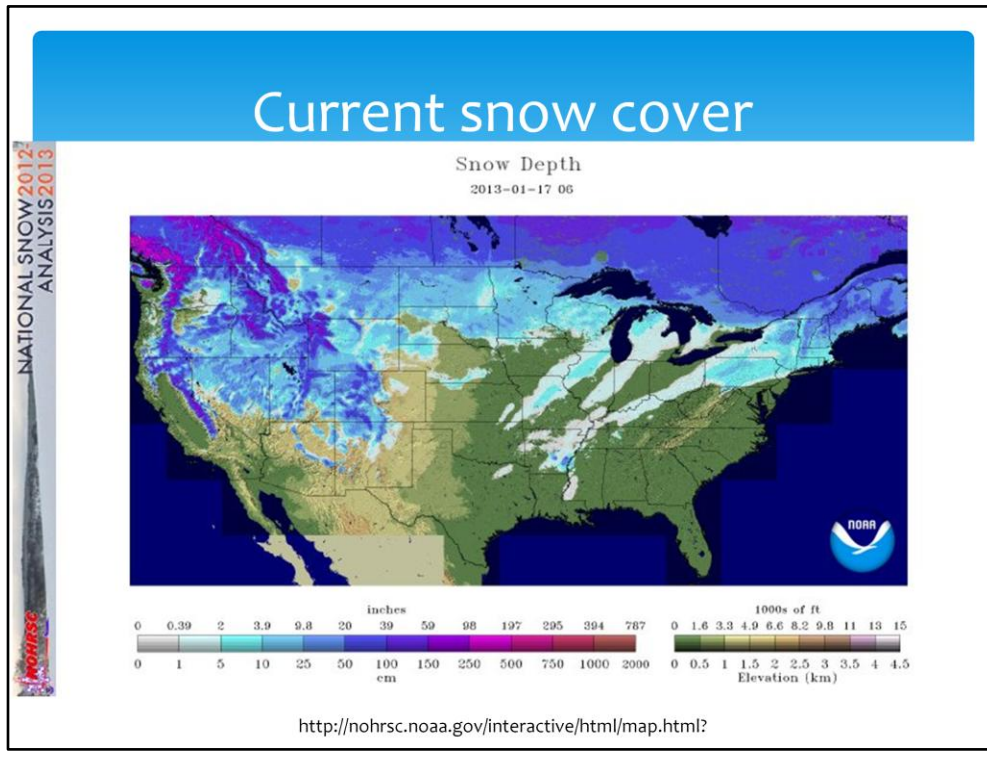


Generated 1/16/2013 at HPRCC using provisional data.

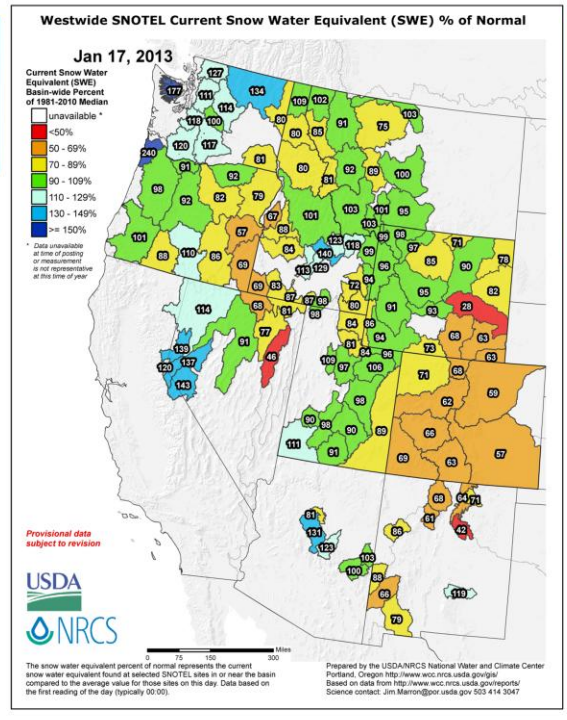
Regional Climate Centers

Snowfall – Percent of Average

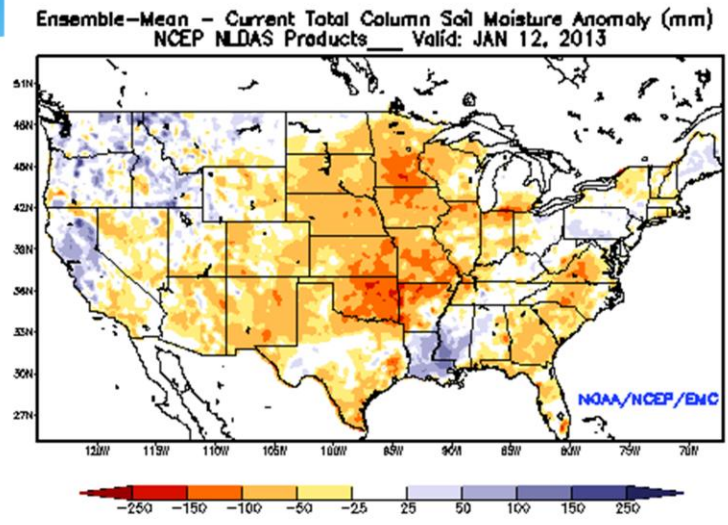




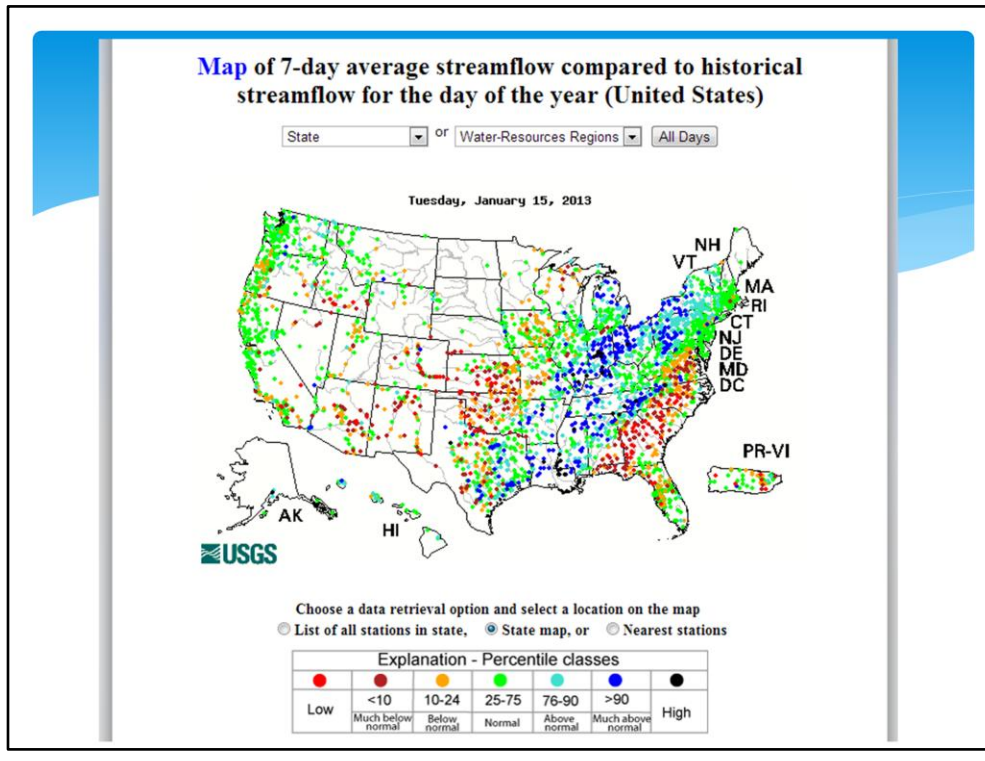
This plot is created by the NOAA group NOHRSC which uses various inputs (surface measurements, satellites, airplane flights and other information) to create this map.

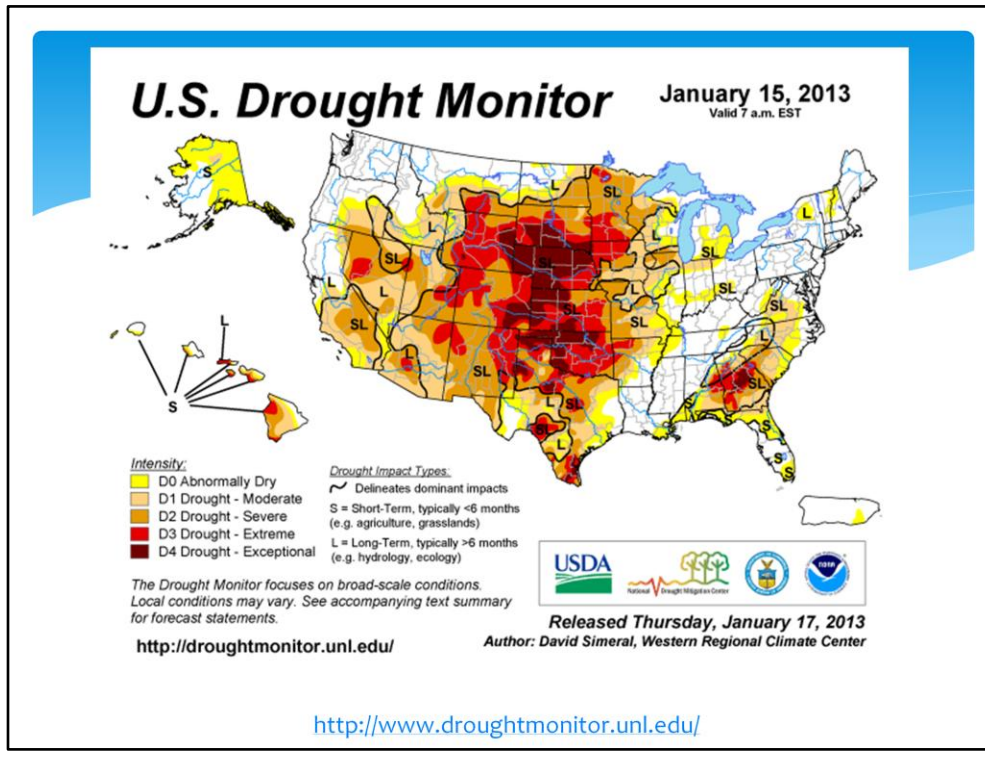

Westwide SNOTEL Current Snow Water Equivalent (SWE) % of Normal
Jan 17, 2013
Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median
unavailable *
<50%
50 - 69%
70 - 89%
90 - 109%
110 - 129%
130 - 149%
>= 150%
* Data unavailable at time of posting or measurement is not representative at this time of year
Provisional data subject to revision
USDA
NRCS
0 75 150 300 Miles
The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).
Prepared by the USDA/NRCS National Water and Climate Center
Portland, Oregon http://www.wcc.nrcs.usda.gov/gis/
Based on data from http://www.wcc.nrcs.usda.gov/reports/
Science contact: Jim.Marron@por.usda.gov 503 414 3047

Current Soil Moisture

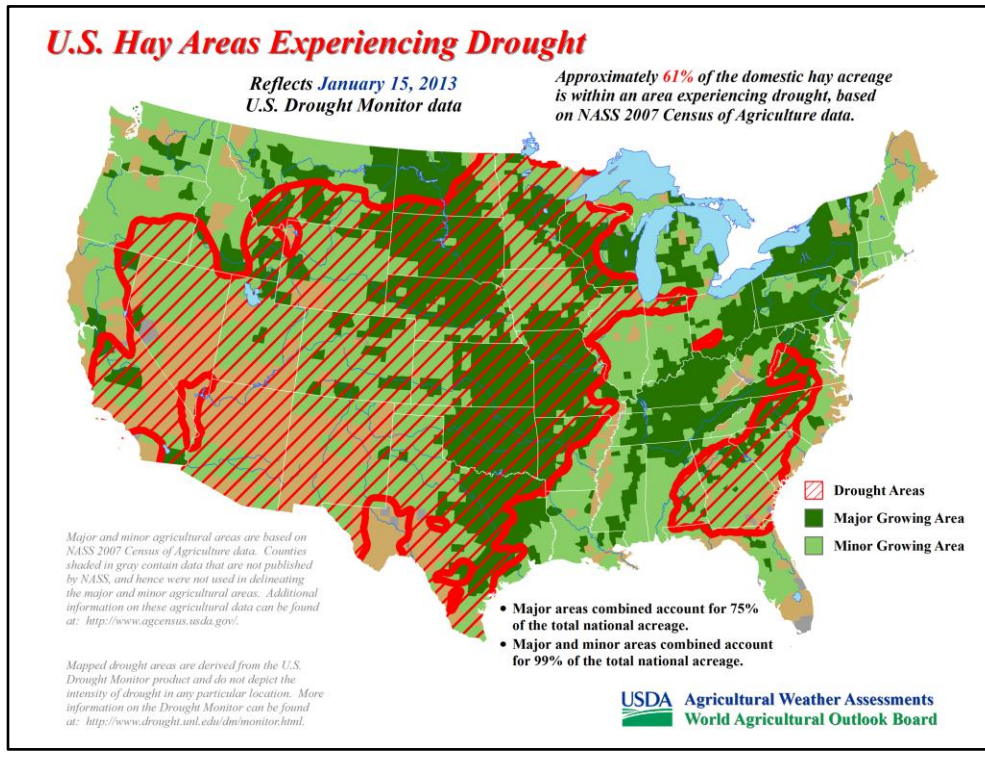


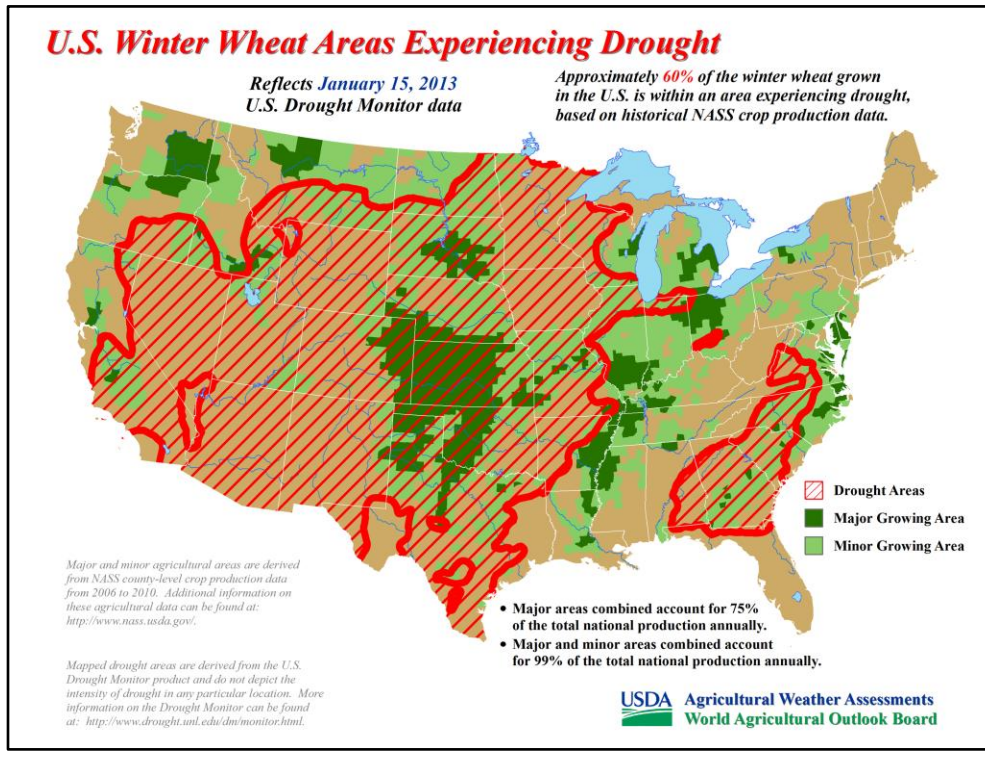
http://www.emc.ncep.noaa.gov/mmb/nldas/drought/

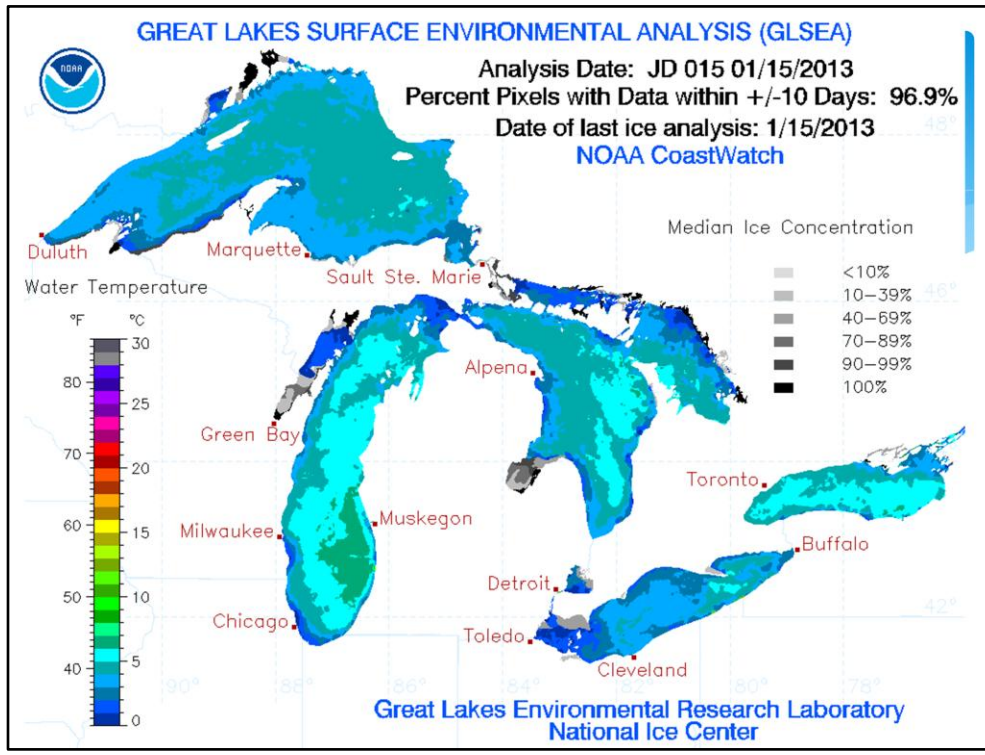

Map of 7-day average streamflow compared to historical streamflow for the day of the year (United States)
State
or
Water-Resources Regions
All Days
Tuesday, January 15, 2013
NH
VT
MA
RI
CT
NJ
DE
MD
DC
PR-VI
AK
HI
USGS
Choose a data retrieval option and select a location on the map
List of all stations in state,
State map, or
Nearest stations
Explanation - Percentile classes
Low
<10
Much below normal
10-24
Below normal
25-75
Normal
76-90
Above normal
>90
Much above normal
High



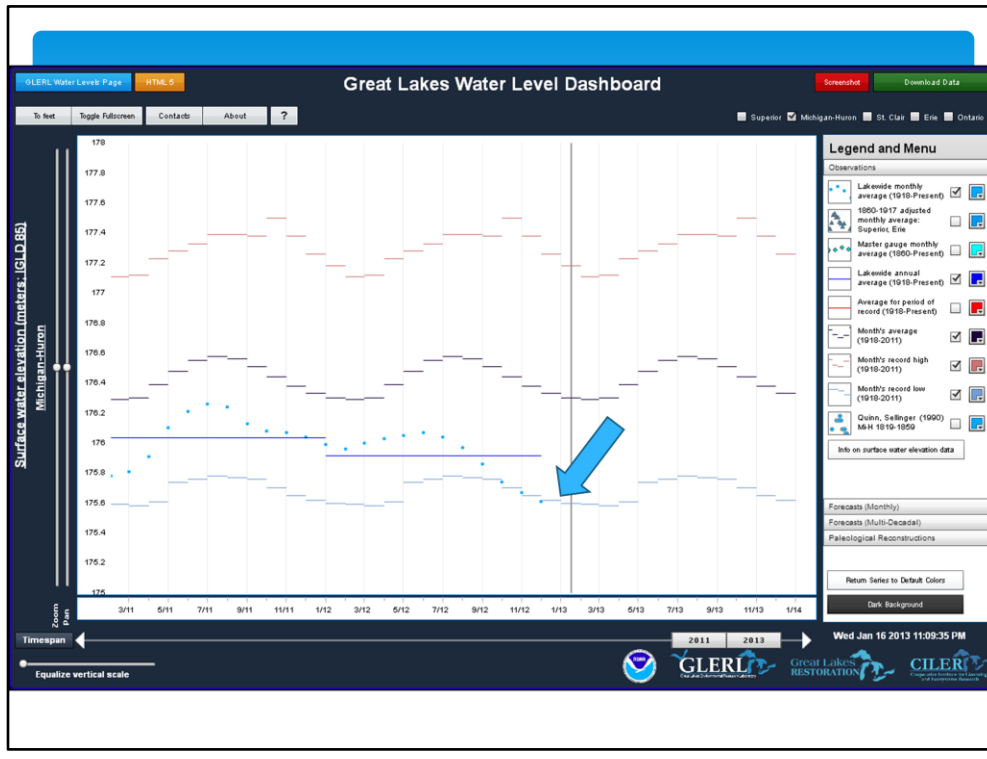
http://www.droughtmonitor.unl.edu/


U.S. Hay Areas Experiencing Drought
Reflects January 15, 2013
U.S. Drought Monitor data
Approximately 61% of the domestic hay acreage is within an area experiencing drought, based on NASS 2007 Census of Agriculture data.
Drought Areas
Major Growing Area
Minor Growing Area
Major and minor agricultural areas are based on NASS 2007 Census of Agriculture data. Counties shaded in gray contain data that are not published by NASS, and hence were not used in delineating the major and minor agricultural areas. Additional information on these agricultural data can be found at: http://www.agcensus.usda.gov/.
• Major areas combined account for 75% of the total national acreage.
• Major and minor areas combined account for 99% of the total national acreage.
Mapped drought areas are derived from the U.S. Drought Monitor product and do not depict the intensity of drought in any particular location. More information on the Drought Monitor can be found at: http://www.drought.unl.edu/dm/monitor.html.
USDA Agricultural Weather Assessments
World Agricultural Outlook Board

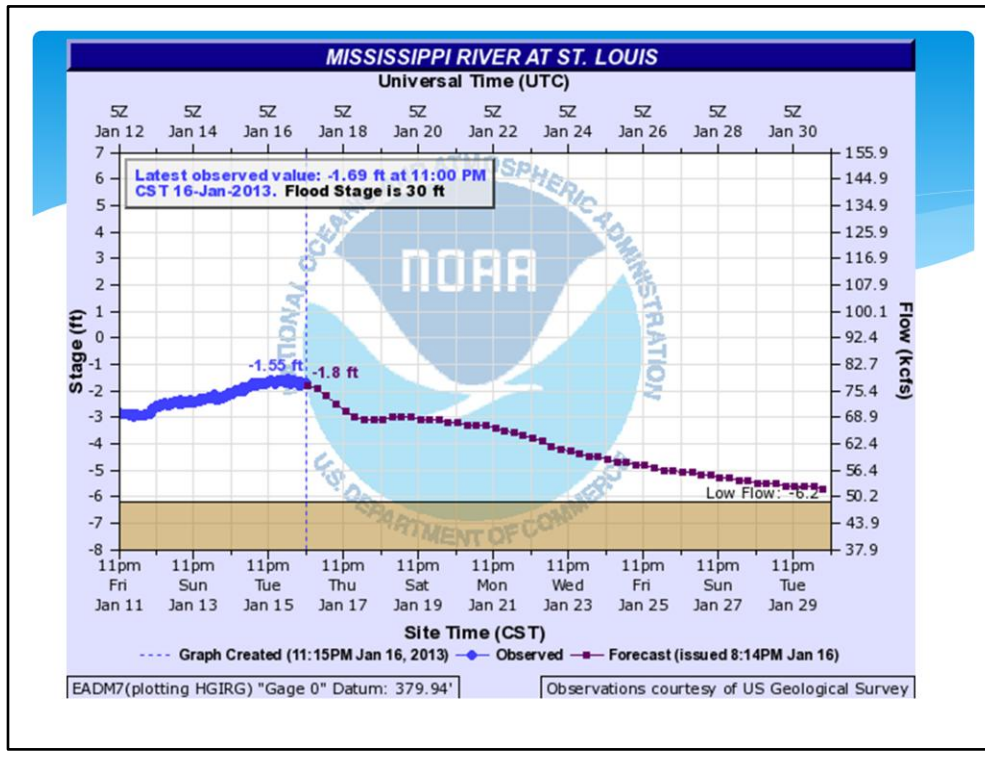

U.S. Winter Wheat Areas Experiencing Drought
Reflects January 15, 2013
U.S. Drought Monitor data
Approximately 60% of the winter wheat grown in the U.S. is within an area experiencing drought, based on historical NASS crop production data.
Drought Areas
Major Growing Area
Minor Growing Area
Major and minor agricultural areas are derived from NASS county-level crop production data from 2006 to 2010. Additional information on these agricultural data can be found at: http://www.nass.usda.gov/.
• 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.
Mapped drought areas are derived from the U.S. Drought Monitor product and do not depict the intensity of drought in any particular location. More information on the Drought Monitor can be found at: http://www.drought.unl.edu/dm/monitor.html.
USDA Agricultural Weather Assessments
World Agricultural Outlook Board



http://coastwatch.glerl.noaa.gov/cwdata/lct/glsea.png



http://www.glerl.noaa.gov/data/now/wlevels/dbd/

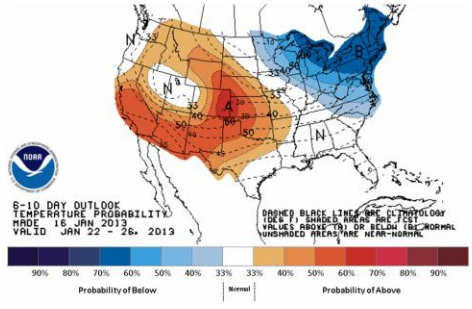

MISSISSIPPI RIVER AT ST. LOUIS
Universal Time (UTC)
5Z Jan 12
5Z Jan 14
5Z Jan 16
5Z Jan 18
5Z Jan 20
5Z Jan 22
5Z Jan 24
5Z Jan 26
5Z Jan 28
5Z Jan 30
Latest observed value: -1.69 ft at 11:00 PM CST 16-Jan-2013. Flood Stage is 30 ft
Stage (ft)
Flow (kcfs)
7 6 5 4 3 2 1 0 -1 -2 -3 -4 -5 -6 -7 -8
155.9 144.9 134.9 125.9 116.9 107.9 100.1 92.4 82.7 75.4 68.9 62.4 56.4 50.2 43.9 37.9
-1.55 ft
-1.8 ft
Low Flow: -6.2
11pm Fri Jan 11
11pm Sun Jan 13
11pm Tue Jan 15
11pm Thu Jan 17
11pm Sat Jan 19
11pm Mon Jan 21
11pm Wed Jan 23
11pm Fri Jan 25
11pm Sun Jan 27
11pm Tue Jan 29
Site Time (CST)
Graph Created (11:15PM Jan 16, 2013)
Observed
Forecast (issued 8:14PM Jan 16)
EADM7(plotting HGIRG) "Gage 0" Datum: 379.94'
Observations courtesy of US Geological Survey

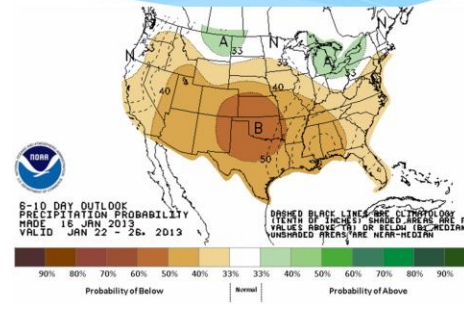
Climate Outlooks

* **6-10 and 8-14 days out**
* **February**
* **3 Months (February - April)**
* www.cpc.ncep.noaa.gov
* Drought Monitor Outlook

* Released Thursday 1/17/2013

Temperature and Precipitation Probabilities for Jan 22-26

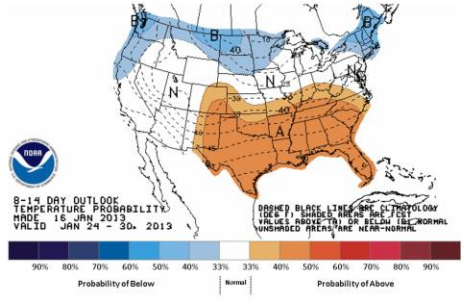


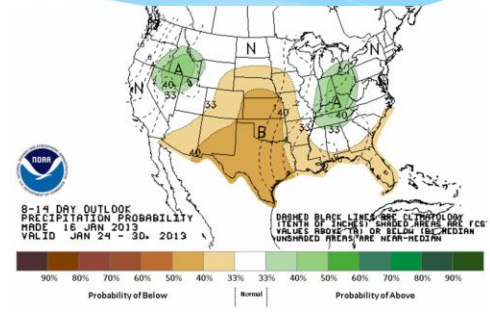


Temperature **Precipitation**

http://www.cpc.ncep.noaa.gov/products/predictions/610day/index.php

Temperature and Precipitation Probabilities for Jan 24-30

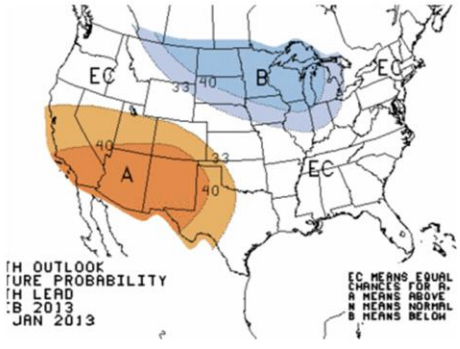


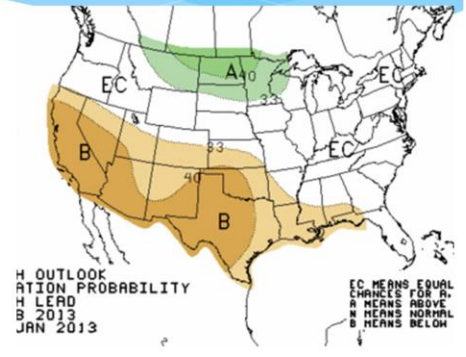


Temperature **Precipitation**

http://www.cpc.ncep.noaa.gov/products/predictions/610day/index.php

February Temperature and Precipitation Probabilities



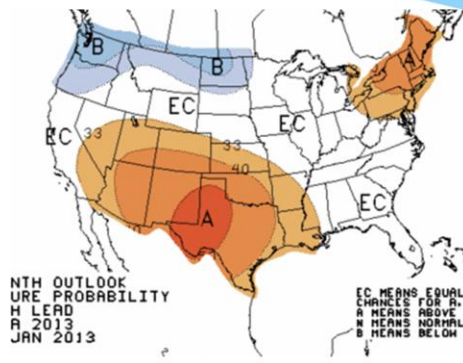


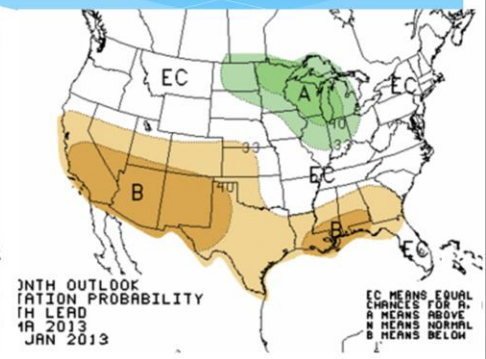
Temperature **Precipitation**

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

3 Month Temperature and Precipitation Probabilities

(February-April)

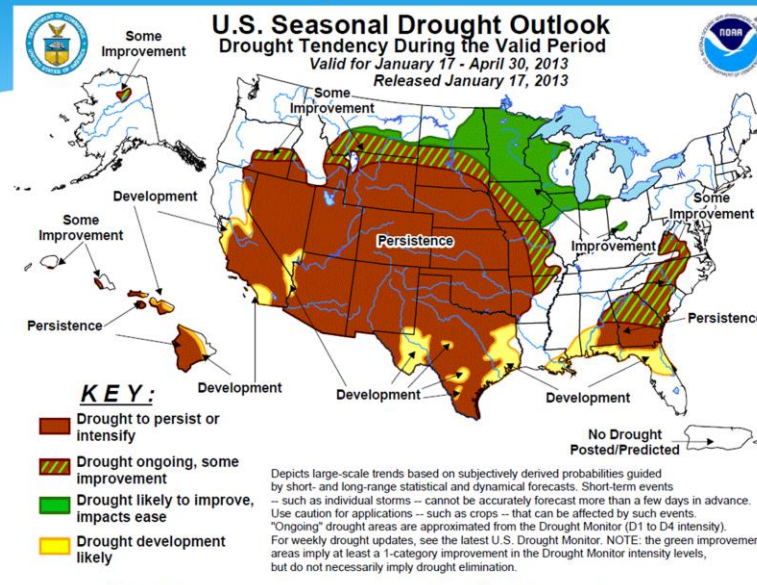




Temperature **Precipitation**

http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

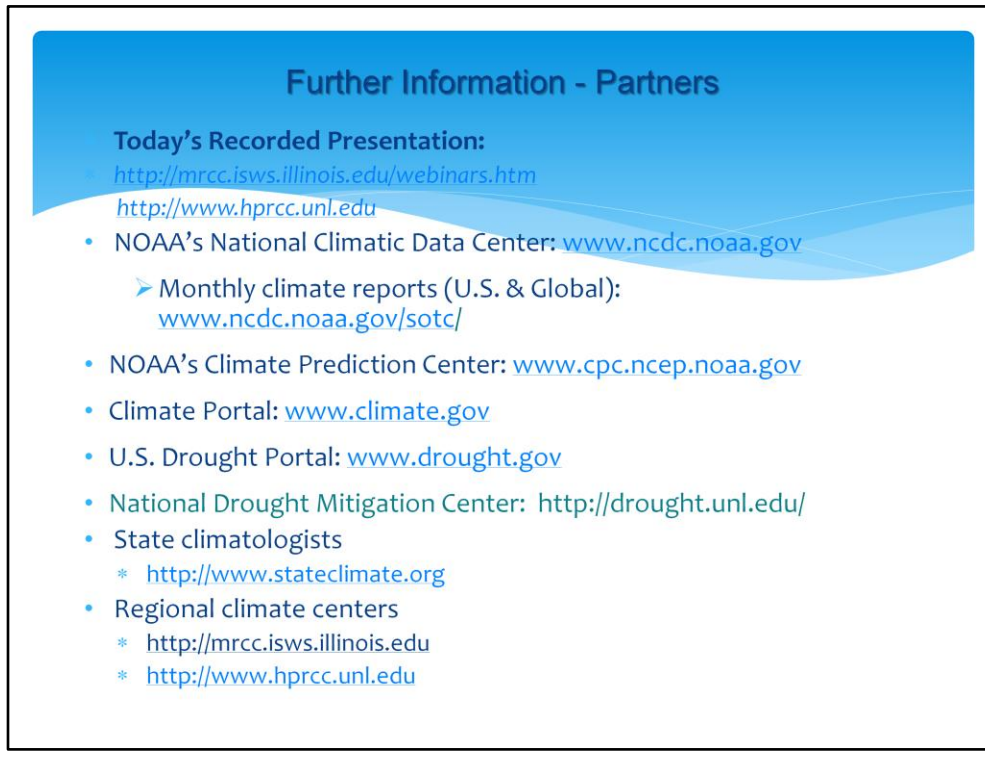
Drought Outlook



http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif/

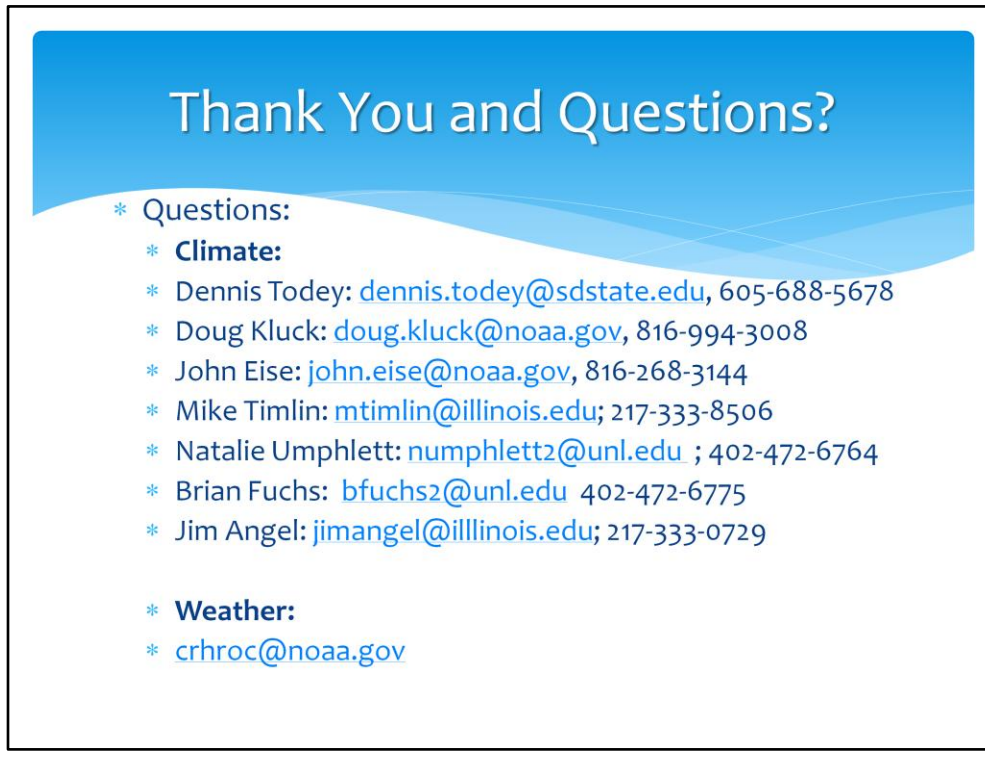
Summary

- **Current Conditions**
  - Improved conditions in the eastern half of Corn Belt
  - Lack of recovery still in the Plains generally
  - Snow drought in some Plains and Midwestern states
- **Predictions**
  - February – colder and wetter in the upper Plains
  - 3-month – colder in Dakotas and Montana, warmer in Colorado and Kansas
  - 3-month – wetter in upper Midwest/Great Lakes region
  - Drought improvement in IL, IA, WI, MN, ND; persist in MO, KS, NE, CO, WY



We will load the recorded Webinar as quickly as we can at the web site mentioned on this slide.

Several other links are included here as were emailed after the webinar last month.



Thank you for coming everyone. What questions do you have at this point?

I/We would like your feedback on the Webinar and it's worth to you. Please do not hesitate to email your suggestions or questions to me at dennis.todey@sdstate.edu or doug.kluck@noaa.gov. We will be doing a more formal survey and evaluation. That is in process currently.

We will now open it up to questions

National Disaster Recovery Framework

✓Collaboration
✓Coordination
✓Communication

Strengthening Disaster Recovery for the Nation
September 2011

FEMA

October 9 – Omaha, NE
October 15 – Pueblo, CO
October 17 – Pine Bluffs, AR
November 9 – Tribal Call
November 27- Archbold, OH

Sec. Vilsack: "Resources are limited, so we will have to be smart."

while keeping some of their own identities.

See Ashford: Page 2

Drought is here, so how do we deal with it?

Tom Vilsack advises conserving resources and working with the feds.

By Nancy Gaarder

With no sign that the drought will abate soon, federal officials and representatives from five states met Tuesday in Omaha to look for ways to ease the blows that could be coming.

"Resources are limited, so we will have to be smart," U.S. Secretary of Agriculture Tom Vilsack told the approximately 200 people gathered at the City-County Building.

Vilsack said the cost of this year's drought won't be known until next year.

Mark Svoboda, a climatologist with

told the group that the tally from this drought will very likely be worse than the 1988 drought, considered the costliest drought in modern U.S. history.

The intensity of the drought during the 2012 growing season was worse than any single year of the Dust Bowl era, he said.

The Omaha meeting was the first of at least four such sessions nationwide. Represented were the states of Nebraska, Iowa, Kansas, South Dakota and North Dakota. Other meetings will be held in Colorado, Arkansas and Ohio, and additional regional groups could be established, Vilsack said.

The goal of the regional meetings is to make sure the full resources of the federal government are brought to bear — from commerce to agriculture — and that communication isn't a barrier and that any program waivers that are needed are given consideration

Drought Monitor

JAMES R. BURNETT/THE WORLD-HERALD

ary of Agriculture Tom Vilsack speaks in

- ✓ **The goal of the this new framework <u>and these meetings</u> is to make sure the full resources of the federal government are brought to bear…(from A to V) from Agriculture to Veterans Affairs…and that communication isn't a barrier.**

Issue Subjects from the Drought Meetings:

- ✓ Community Planning
- ✓ Economic
- ✓ Federal Government
- ✓ Fire Management
- ✓ Forecasting
- ✓ Natural Resources Management
- ✓ Policy
- ✓ Public Health
- ✓ Research and Education
- ✓ Transportation

5 Main Focus Areas

- ✓ Water
- ✓ Research
- ✓ Regulations
- ✓ Forecasting
- ✓ Policy

“If we think *Creatively* and *Comprehensively*, there isn’t a problem we can’t solve.”

-Secretary of Agriculture, Tom Vilsack

HOME PAGE | TODAY'S PAPER | VIDEO | MOST POPULAR | U.S. Edition

The New York Times

U.S.

WORLD | U.S. | N.Y. / REGION | BUSINESS | TECHNOLOGY | SCIENCE | HEALTH | SPORTS | OPINION

POLITICS | EDUCATION | TEXAS

Drought Leaves Cracks in Way of Life

Dilip Vishwanat for The New York Time

For Wayne Boschert and his wife, the drought has meant no room for luxury. They have canceled the trip to St. Martin that they take every January.

By JOHN ELIGON

Published: October 3, 2012

- ✓Adapt
- ✓Adopt
- ✓Accept Change

“We must take Change by the hand, for if we don’t, it most assuredly will take us by the throat.”
–Winston Churchill

Actions In Action

- ✓ Pilot Program by NRCS
  ...to remove sediments from ponds to help provide more water for livestock or irrigation (Kansas & Colorado)

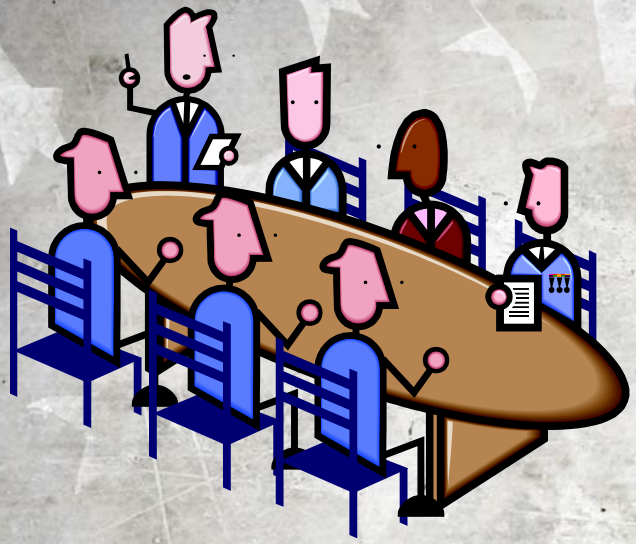
- ✓ MOU with Department of Commerce (NOAA)
  ...to improve sharing of data and expertise, monitoring networks and drought forecasting efforts


HUD
EPA
HHS
SBA
USDA

Recovery Support Functions (RSF) created within the National Disaster Recovery Framework:

- ✓ Community Planning & Capacity Building (FEMA)
- ✓ Economic (EDA)
- ✓ Health & Social Services (HHS)
- ✓ Housing (HUD)
- ✓ Infrastructure (Army Corps)
- ✓ Natural & Cultural Resources (DOI)

The RSFs bring together the Federal departments & agencies & other supporting organizations- including those not active in emergency response-to focus on recovery needs.



- ✓Agriculture
- ✓Commerce
- ✓Defense
- ✓Education
- ✓Energy
- ✓HUD
- ✓Homeland Security
- ✓Interior
- ✓Labor
- ✓State
- ✓Transportation
- ✓Treasury

National Disaster Recovery Framework

Strengthening Disaster Recovery for the Nation
September 2011

✓Collaboration
✓Coordination
✓Communication

FEMA

Wanted: Water

Without sufficient precipitation over winter, drought will be an issue in spring

RON JOHNSON/JOURNAL STAR FILE PHOTO

BY STEVE TARTER
OF THE JOURNAL STAR

Although memories of the hot, dry summer are fading, for farmers the drought is not over.

"We need subsoil moisture. Our drought really started in the fall of 2011," said Richard Burns, a regional sales manager for Burrus Seed who lives in Kickapoo with wife, Colleen Callahan, Illinois director for USDA's Rural Development agency. "We have 2,400 counties in this country that suffered drought conditions this year. That's out of 3,300 nationally."

Patrick Kirchhofer, manager of the Peoria County au, is also looking for rain. "It's still dry in many areas

This year's hot, dry summer produced what one farmer called the worst year for corn since 1988.

Mississippi River depth a concern

Corps continues to deny requests to add water from Missouri River

BY JIM SUHR AND JIM SALTER
OF THE ASSOCIATED PRESS

ST. LOUIS — The Army Corps of Engineers has turned back requests by federal lawmakers and the barge operators to release more water from the Missouri River, believing the drought-starved Mississippi River it feeds still will remain open to shipping. The industry, however, warns that the situation is growing increasingly dire. Army Assistant Secretary Jo-Ellen Darcy, in a

steward, independent any consequences for Mississippi.

"She believes releas water could threaten Missouri River navigat in 2013. That's her tec cal conclusion, whic not good news for us river," Durbin told Th sociated Press.

Durbin said he seek another meetin week with Darcy, barge operators an Mississippi-depende dustries to attend s can "spell out to the much detail as poss vision of getting this challenge serious disruptio economy."

The Mississipp St. Louis was arou Friday — about

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This photo provided on Wednesday by The U.S. Coast Guard shows activity in the port of Saint Louis, one of America's busiest ports, which sees large amounts of coal, petroleum products, and agricultural goods. In a letter obtained by The Assistant Secretary Jo-El-

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