Central Region Drought Outlook
18 April 2013

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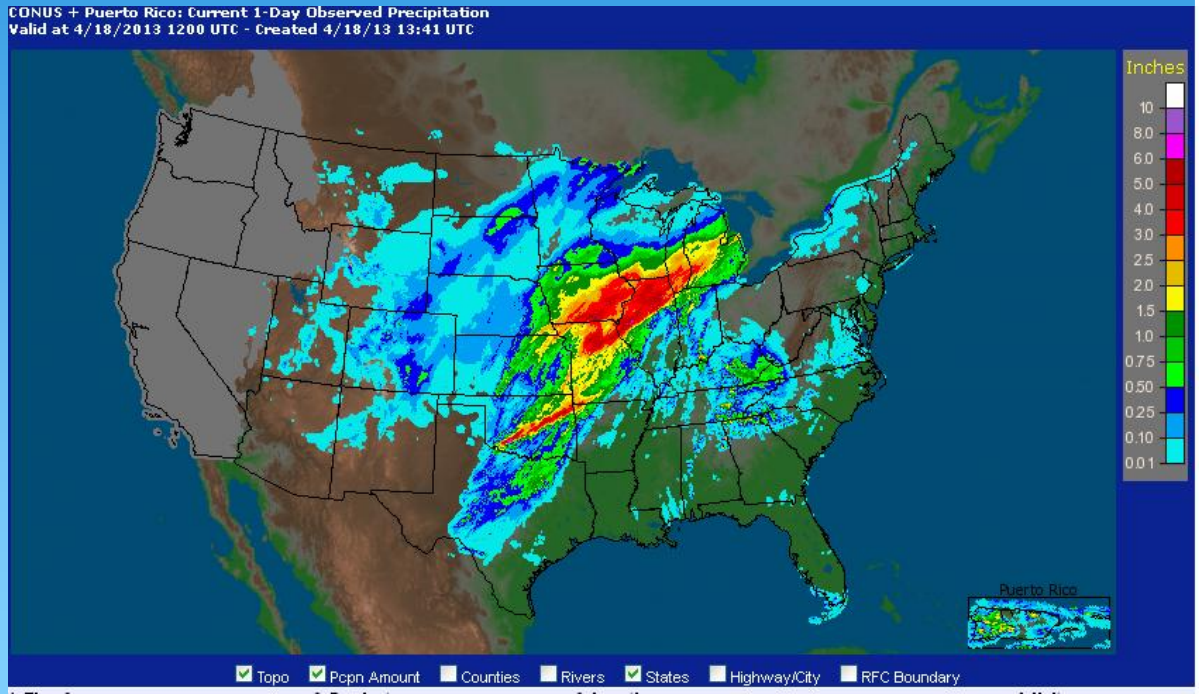


Last 24 hr precipitation from NOAA-AHPS

National Drought Mitigation Center

NOAA National Oceanic and Atmospheric Administration U.S. Department of Commerce

Regional Climate Centers

AASC American Association of State Climatologists

General Information

* **Providing climate services to the Central Region**
  * Collaboration Activity Between:
    * State Climatologists
    * Doug Kluck & John Eise (NOAA)
    * American Association of State Climatologists
    * Midwest and High Plains Regional Climate Centers
    * National Drought Mitigation Center/USDA

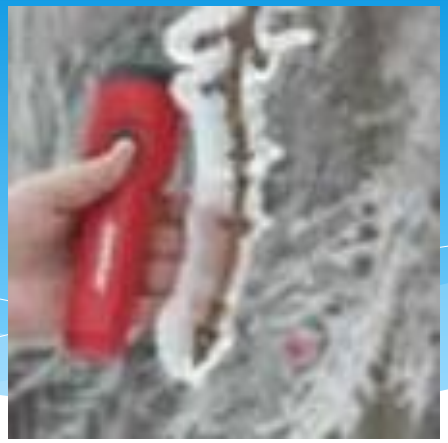
* **Next Climate/Drought Outlook Webinar**
  * May 16, 2013 (1 PM CDT) – will be ongoing

* **Access to Future Climate Webinars and Information**
* http://www.drought.gov/drought/content/regional-programs/regional-drought-webinars

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

Agenda

- Winter (extension) and current conditions
- Current impacts
  - Ag, Water, Fire, etc.
- Outlooks
- Questions/Comments



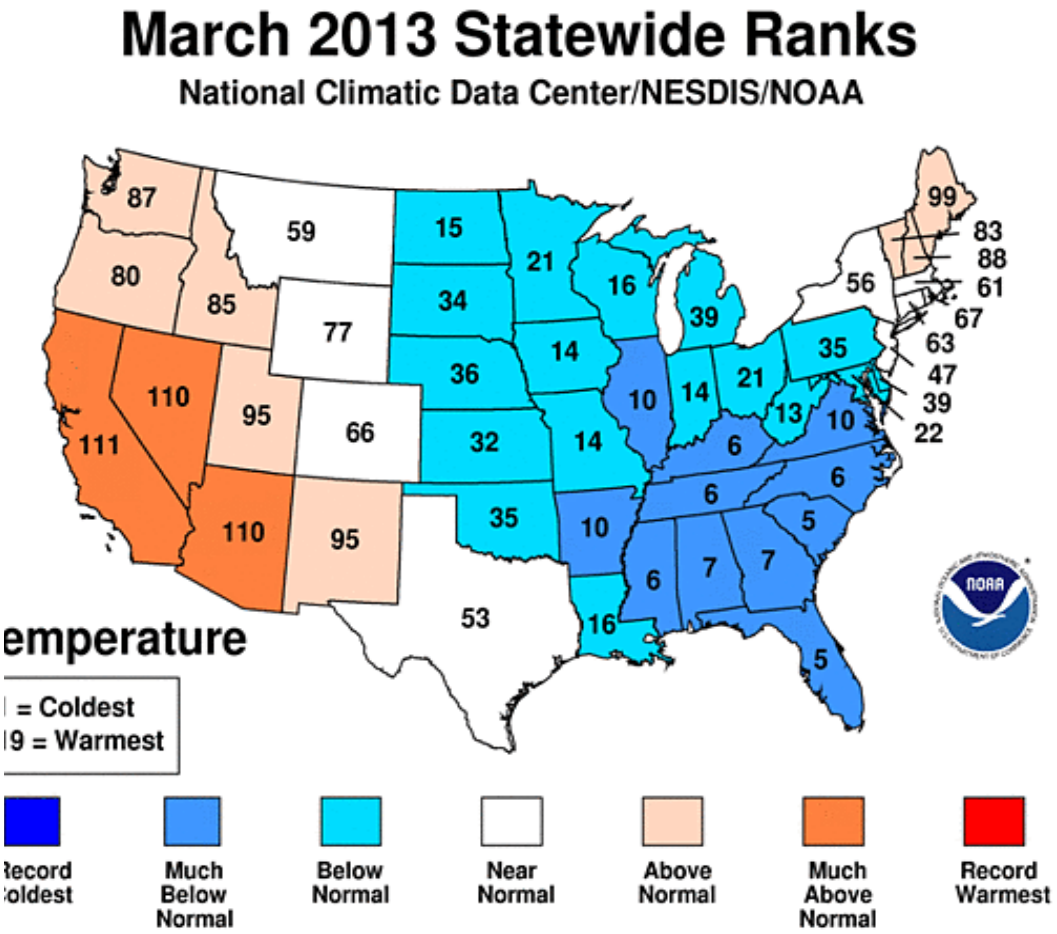
Icing Sioux Falls, SD Last week – Al May

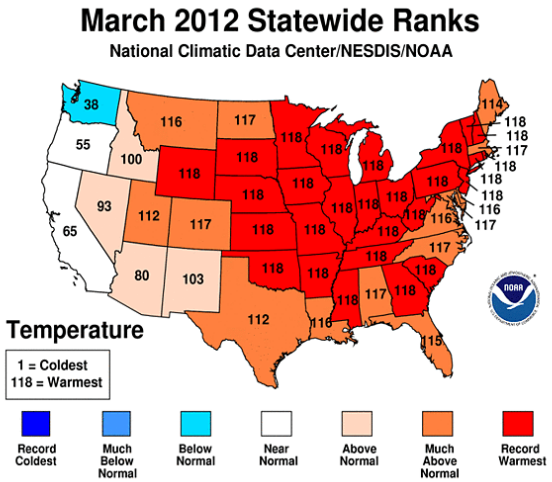
Water near Numa, IA Yesterday- Perry Daugherty

Current image Brookings, SD – Author photo

March Temperature Recap

The pattern shows a clear ridge – trough pattern across the country.

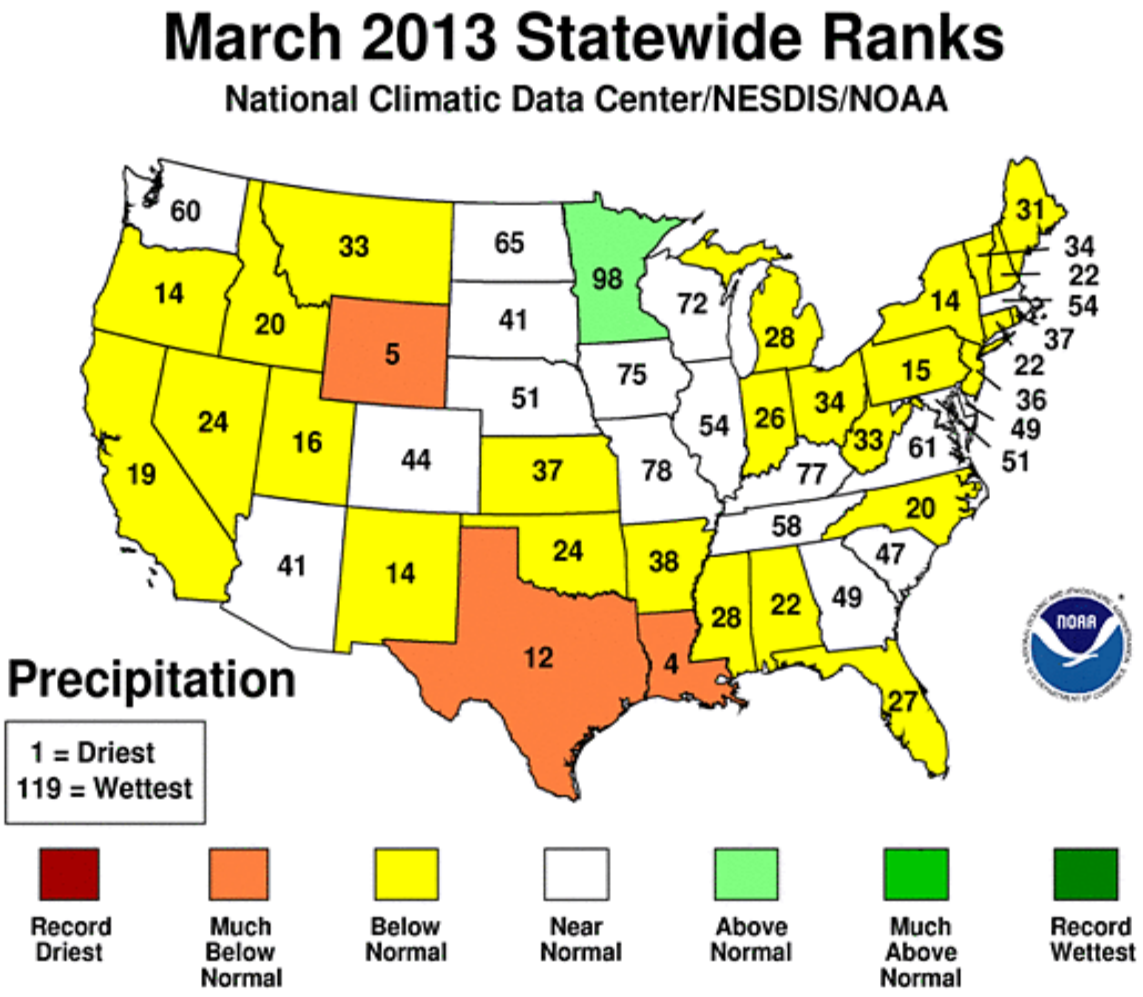




http://www.ncdc.noaa.gov/sotc/service/national/Statewidetrank/201303-201303.gif

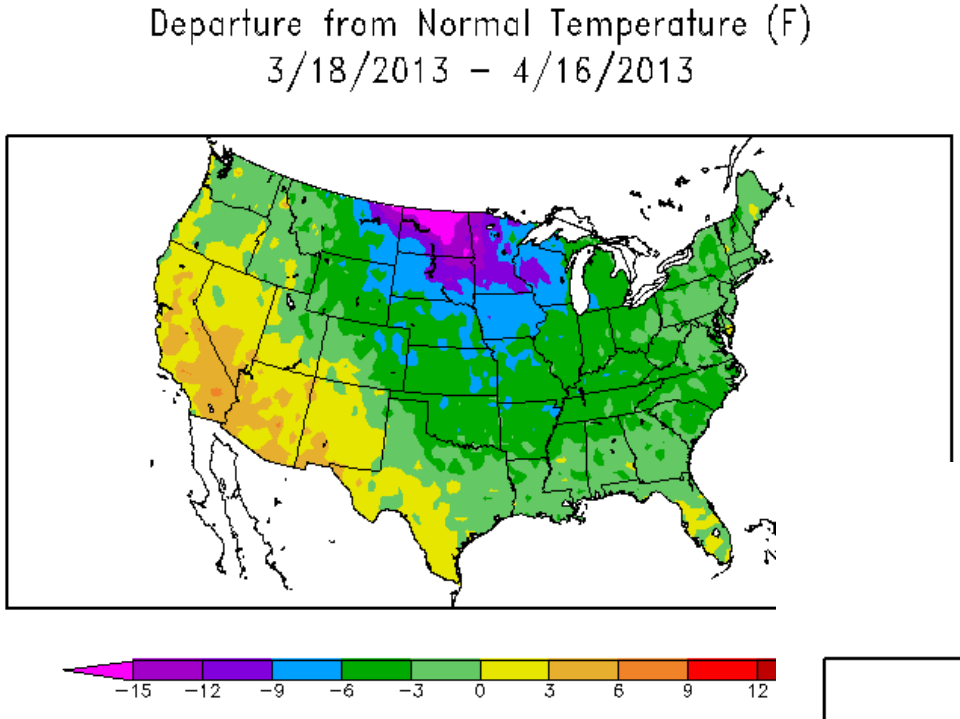
March Precipitation Recap

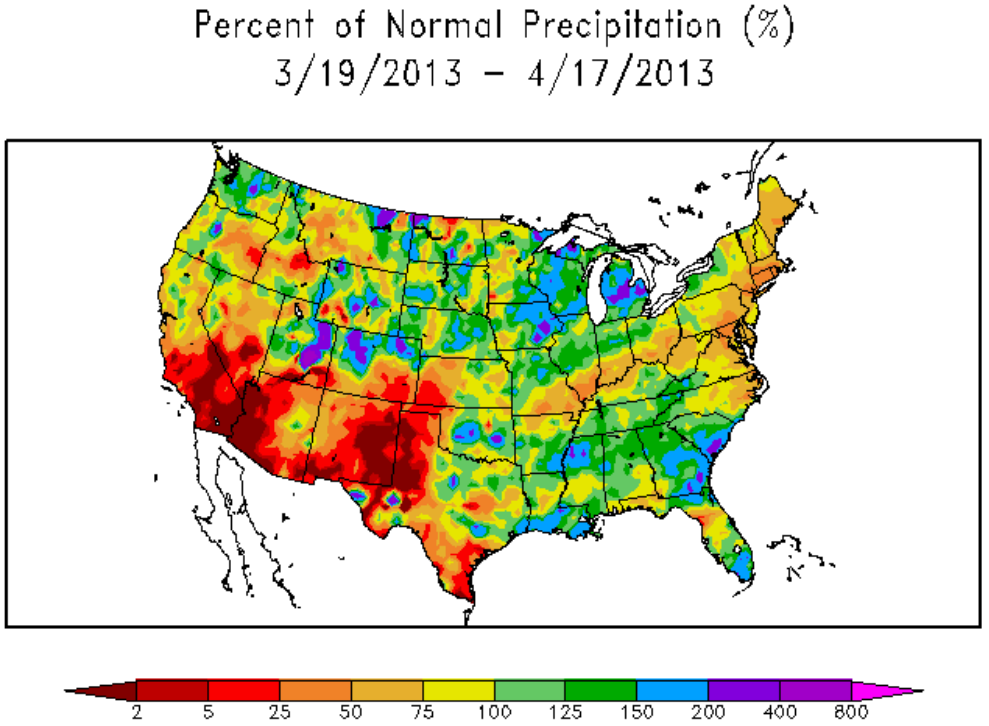
Despite seeming so wet in many places, March was not so wet.



http://www.ncdc.noaa.gov/sotc/service/national/Statewideprank/201212-201302.gif

Most recent 30-day departures



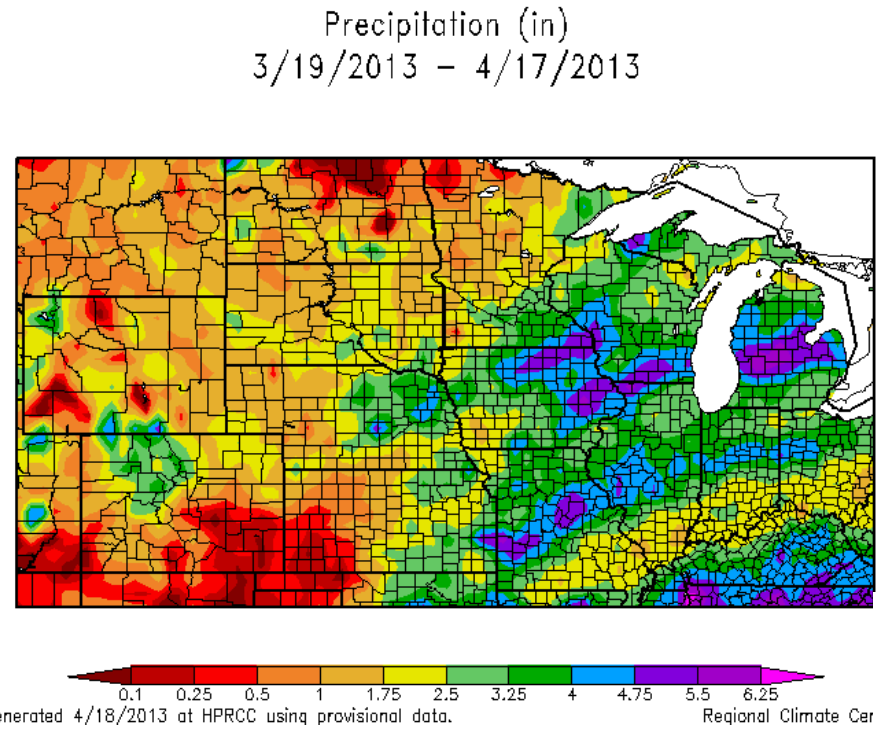


http://www.hprcc.unl.edu/maps/current/

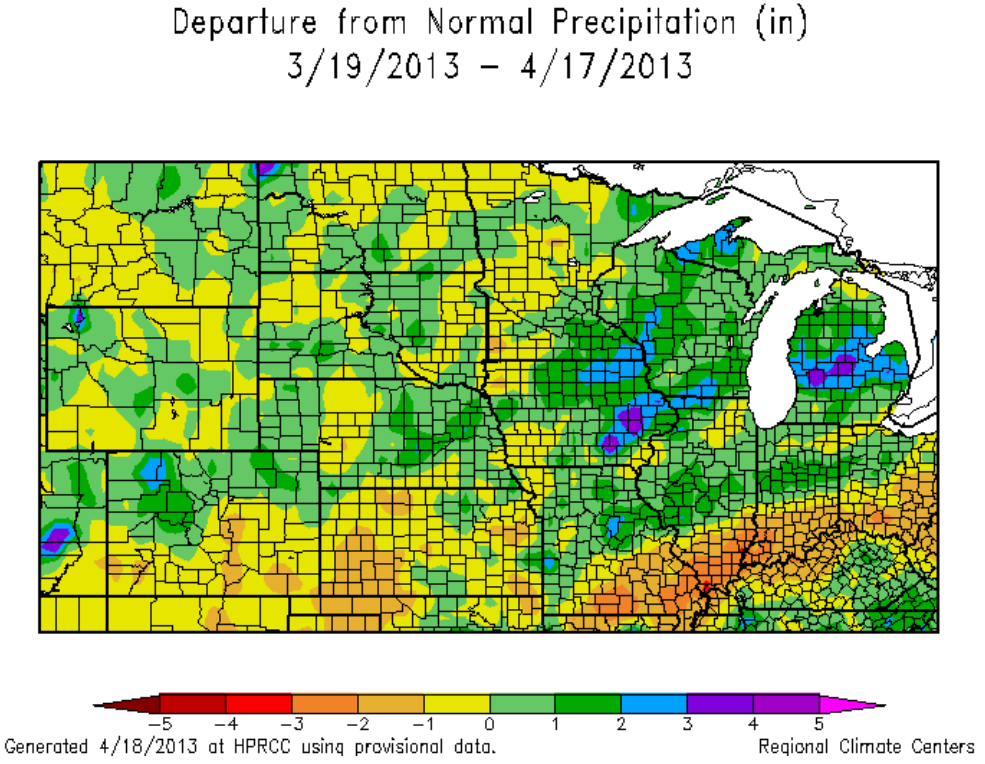
Temperature issues

* Delaying planting – colder soils
* Shortening growing season
* Landscaping – flowers out for purchase

30-day precipitation

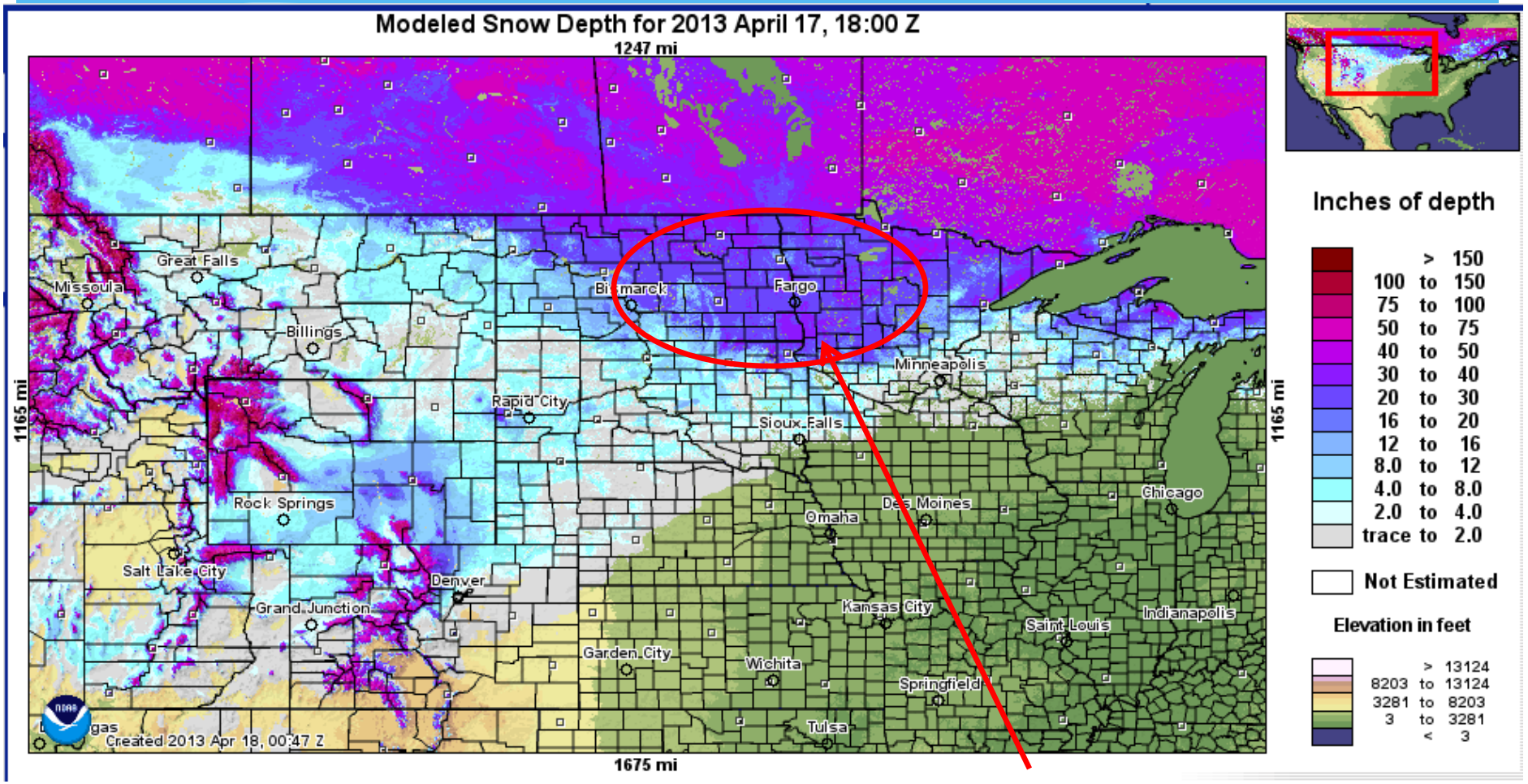


Does not include all of yesterday's data.



http://www.hprcc.unl.edu/maps/current/t

Modeled Snow Depth (in.)
17 April 2013



4 – 8 inches SWE

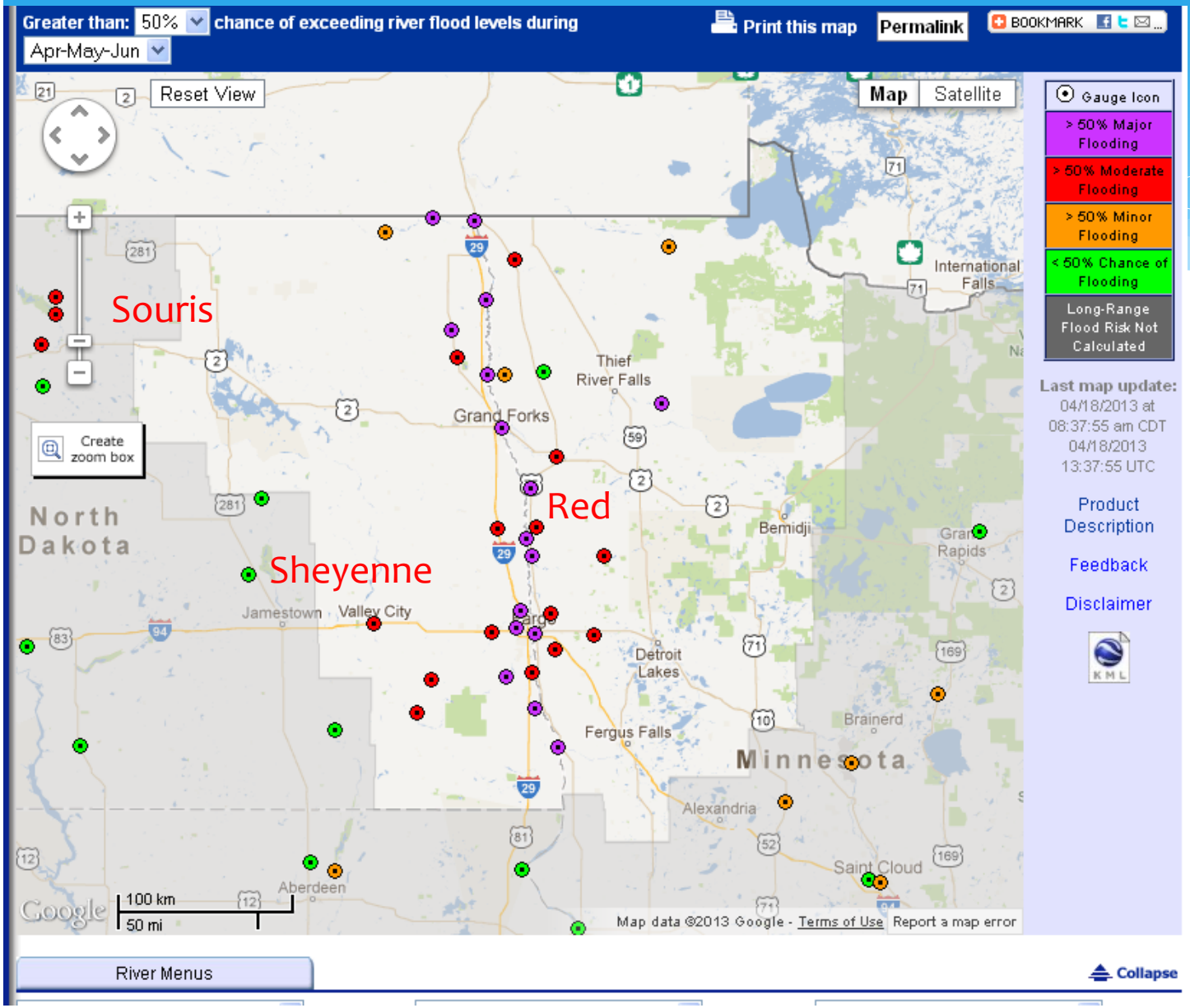
http://www.nohrsc.noaa.gov/nsa/

Snow records

* Rapid City, SD (airport) – snowiest April 34.1”
* Bismarck, ND – snowiest April 21.5”
* Bismarck, ND – snowiest single day ever 17.3” 14 Apr.
  * Numerous daily records
* Aberdeen, SD 3rd snowiest April (still accumulating)

* Issues – calving/lambing and moisture
* Fire – will help green-up

ND Flood Likelihood



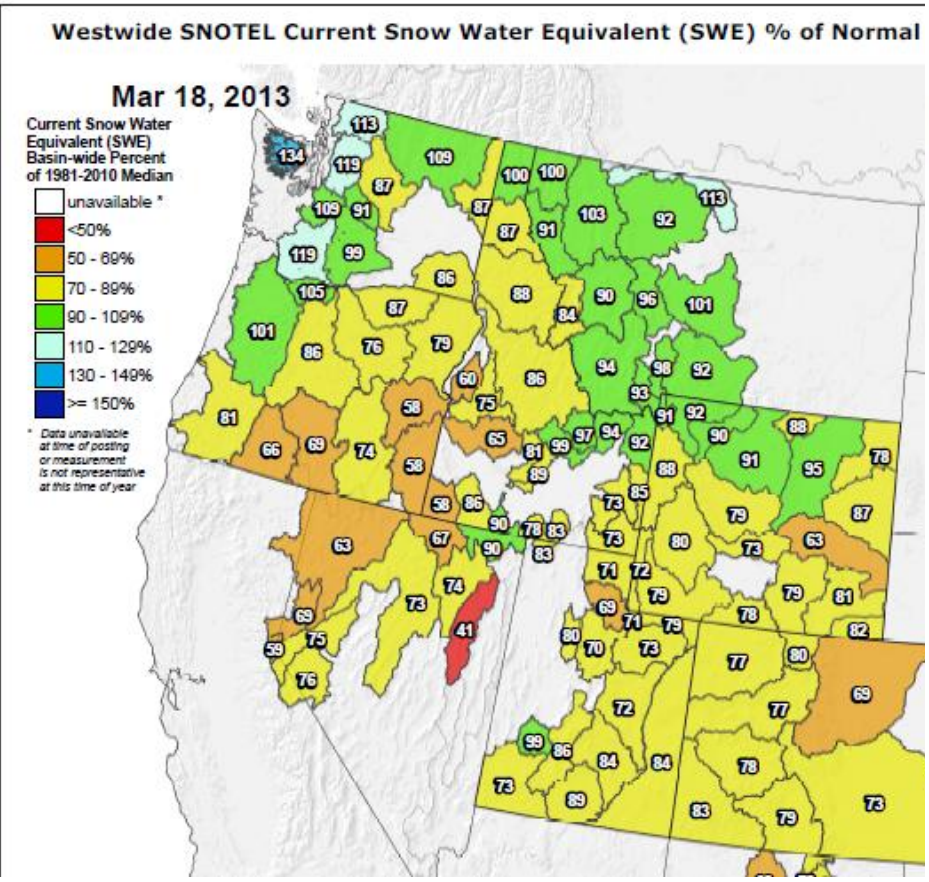
←-----

> 50% chance of major flood

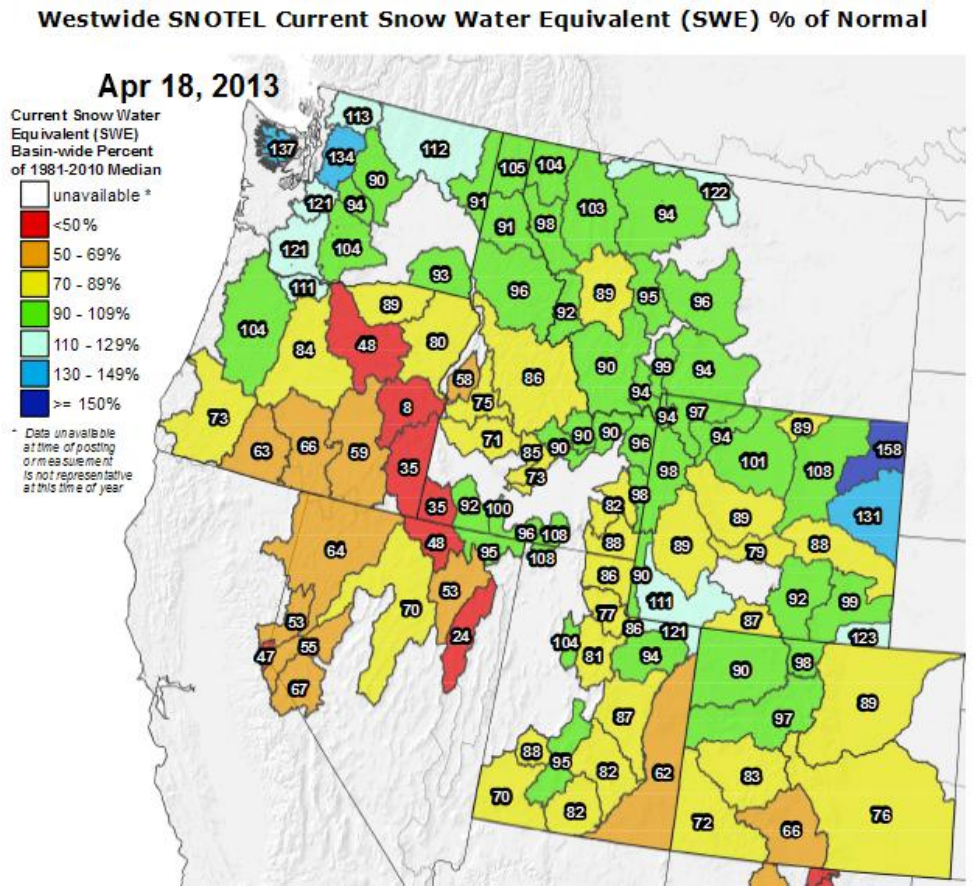
Snow Water Equivalent % of Normal

USDA NRCS

18 March 2013



18 April 2013

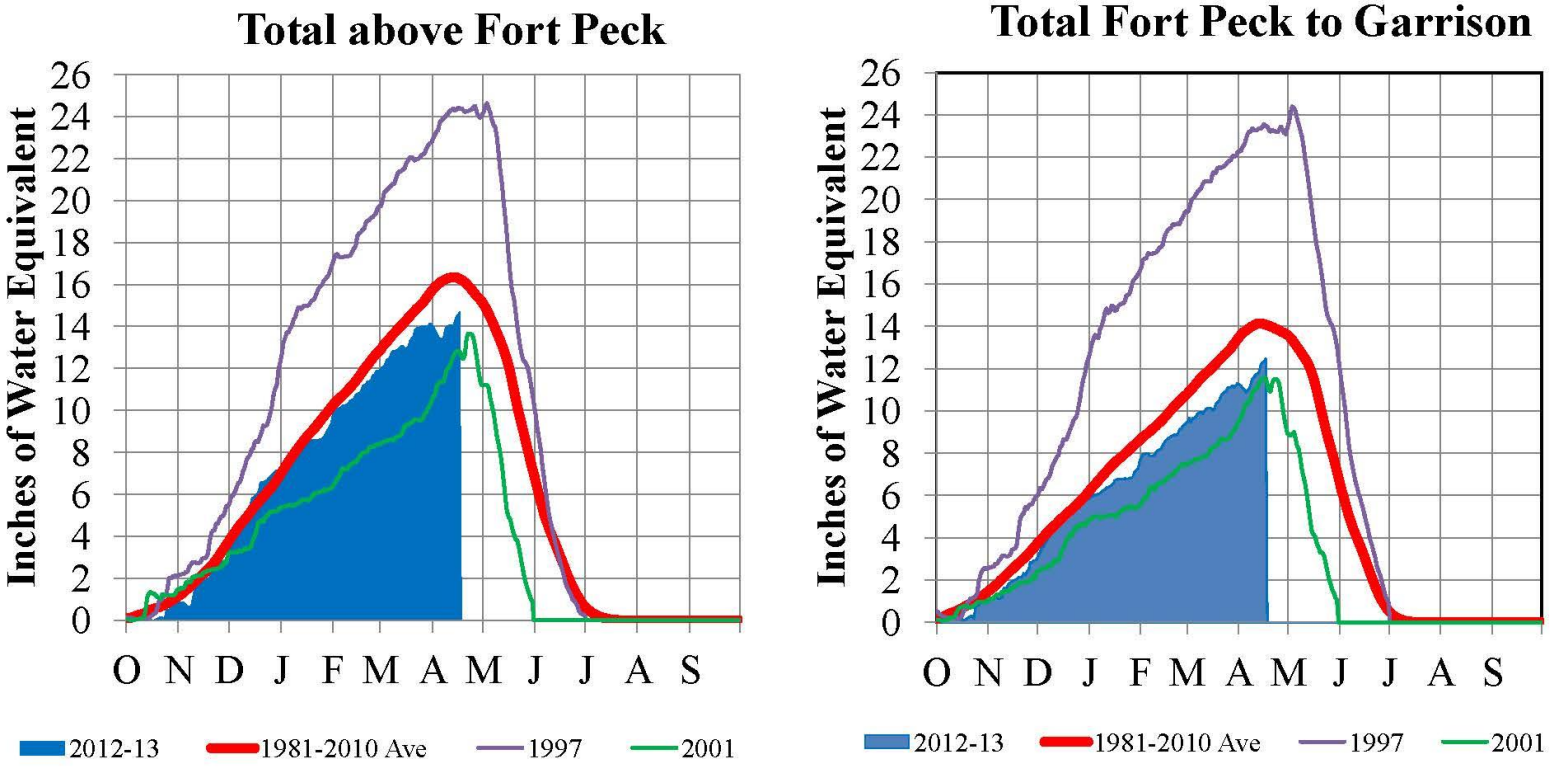


ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/west_swepctnormal_update.pdf /

Missouri River Conditions

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

April 17, 2013



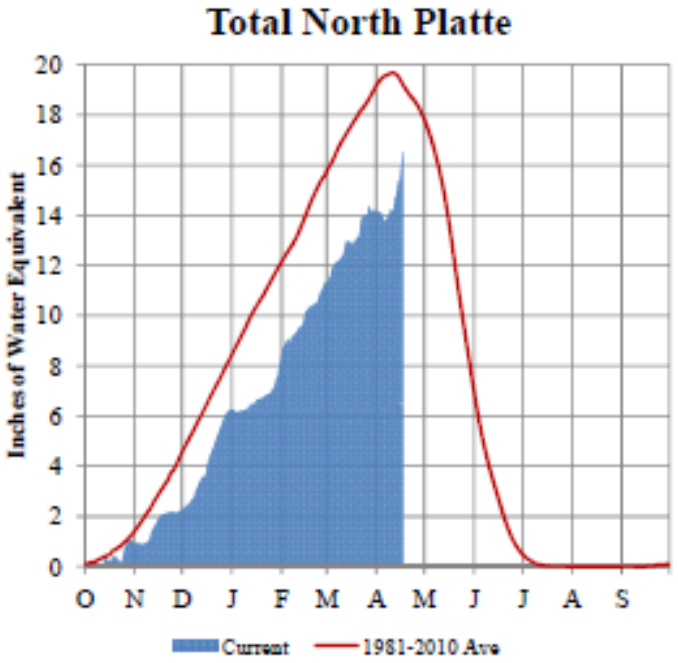
The Missouri River basin mountain snowpack normally peaks near April 15. By April 15, normally 100% of the peak has accumulated. On April 17, 2013 the mountain snowpack SWE in the "Total above Fort Peck" reach is currently 14.7", 91% of average, and 0.4" more than the April 15 total. The mountain snowpack SWE in the "Total Fort Peck to Garrison" reach is currently 12.5", 89% of average, and 0.3" more than the April 15 total.

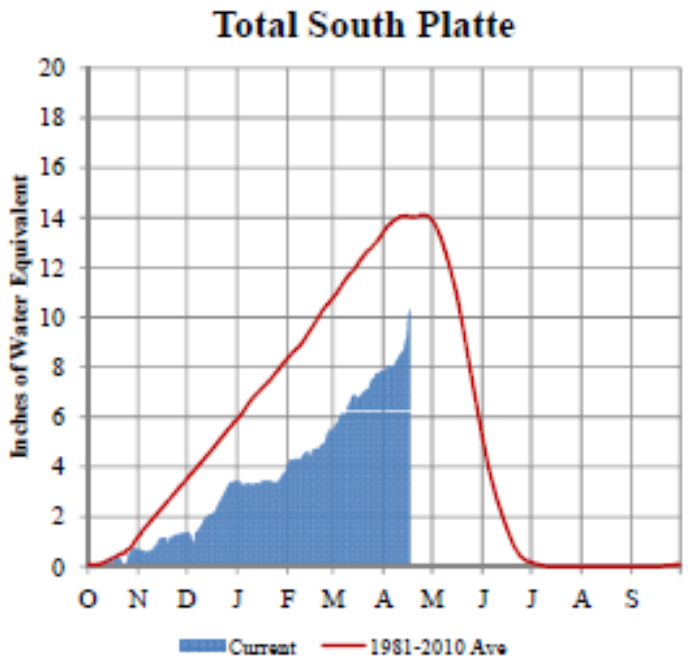
*Generally considered the high and low year of the last 20-year period.

Provisional data. Subject to revision.

Platte River Conditions

Platte River Basin - Mountain Snowpack Water Content
Water Year 2012-2013
4/17/2013



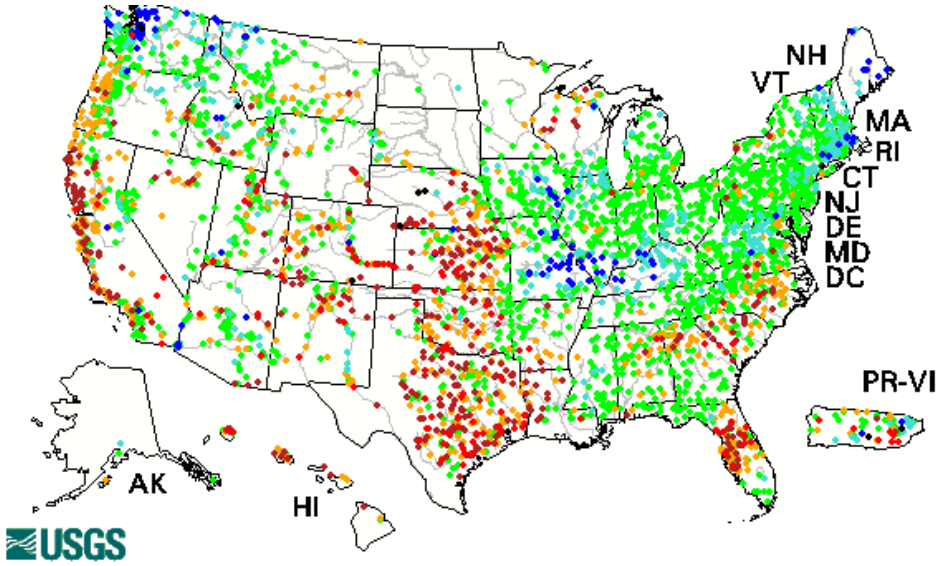


The North and South Platte River Basin mountain snowpacks normally peak near April 15. On April 17, 2013, the mountain snowpack SWE in the "Total North Platte" reach is currently 16.6", 86% of average. The mountain snowpack SWE in the "Total South Platte" reach is currently 10.3", 74% of average.

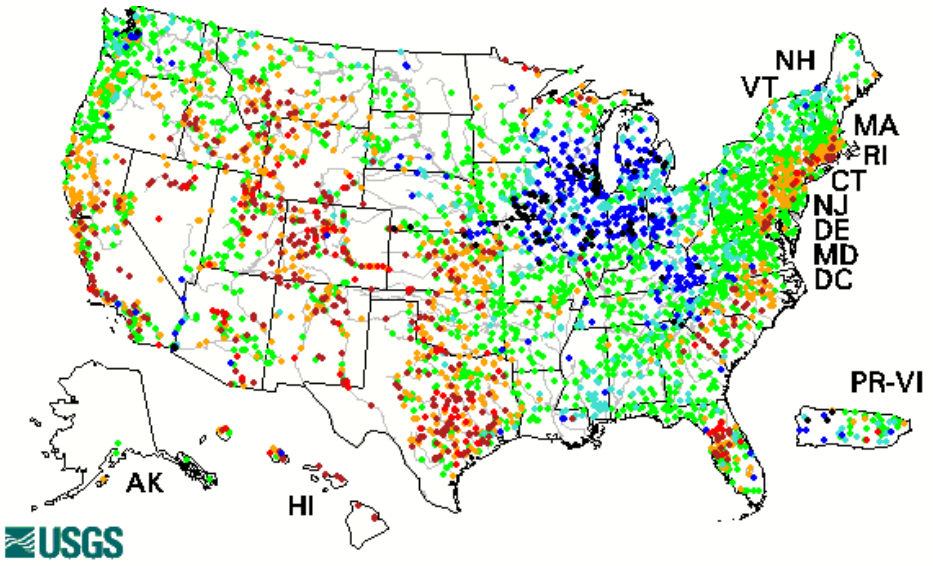
Provisional Data. Subject to Revision

7-Day Average Streamflow

Wednesday, 20 March 2013



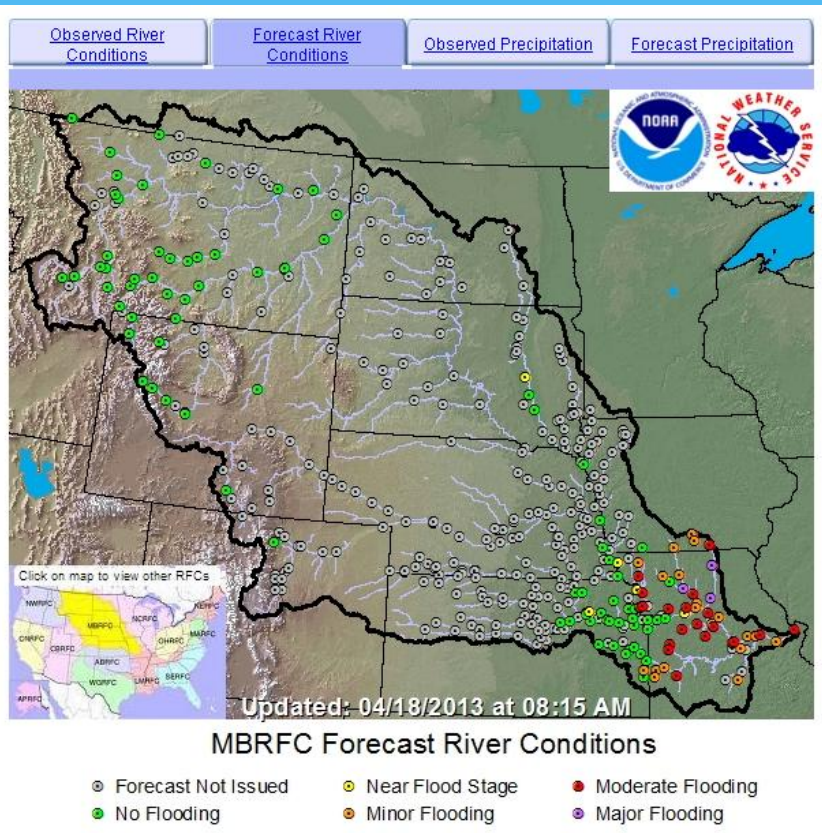
Wednesday, 17 April 2013

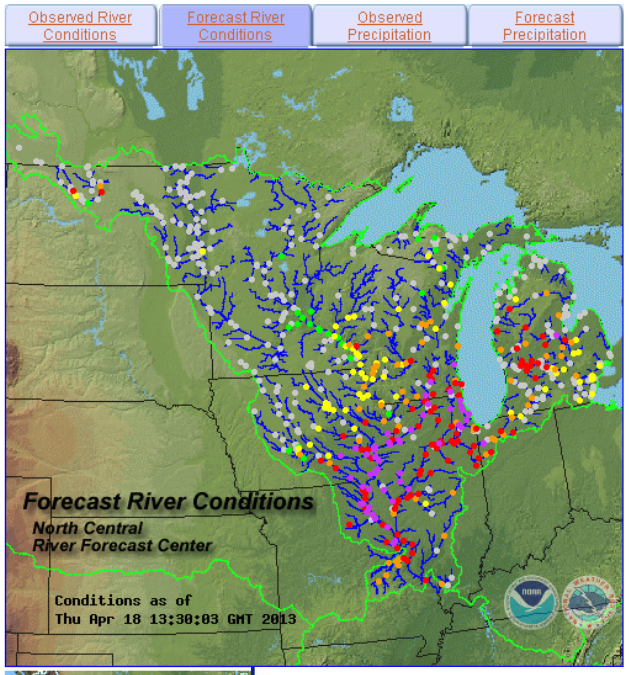


Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

http://waterwatch.usgs.gov/?id=ww_current

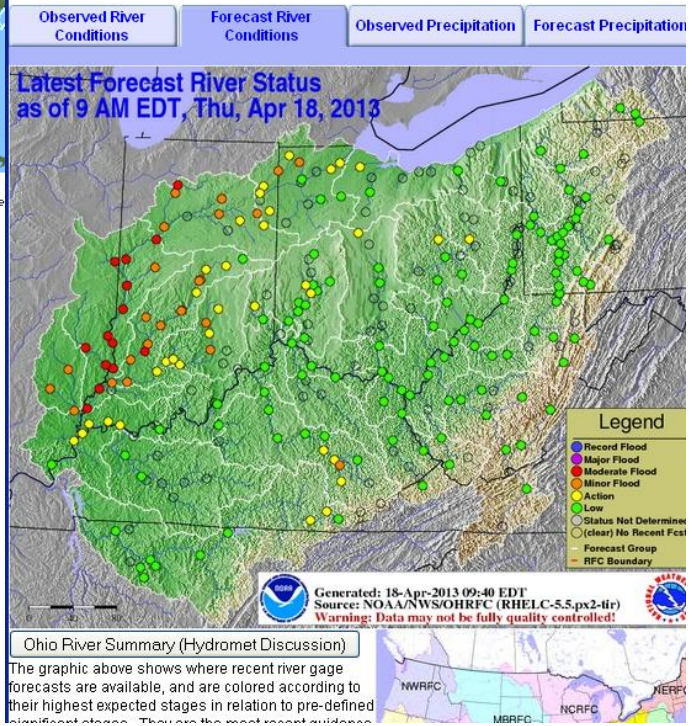
River Projections





Click here for Alaska RFC

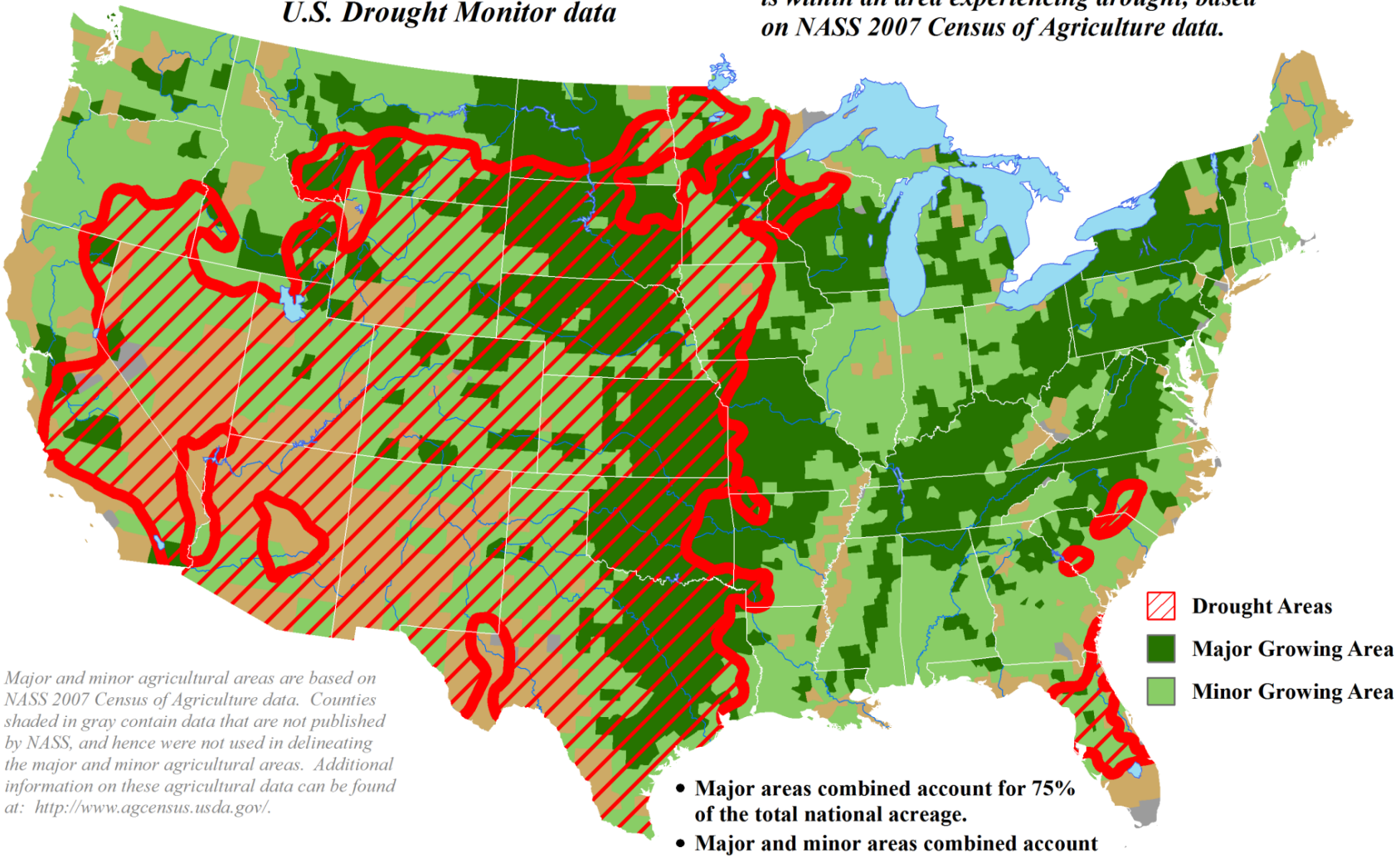
The North Central River Forecast Cente



U.S. Hay Areas Experiencing Drought

Reflects April 16, 2013
U.S. Drought Monitor data

Approximately 46% of the domestic hay acreage is within an area experiencing drought, based on NASS 2007 Census of Agriculture data.



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

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/.

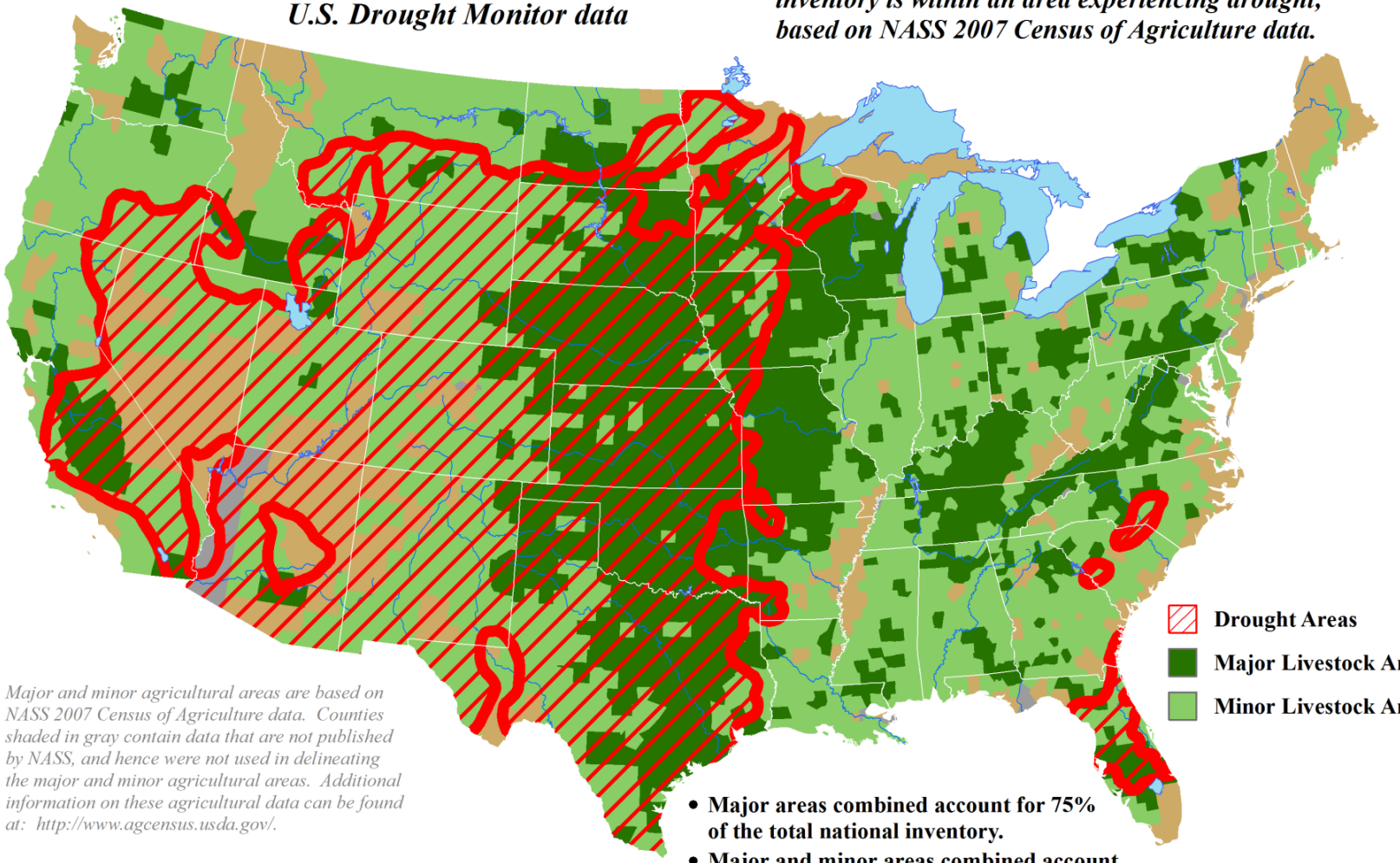
Mapped drought areas are derived from the U.S. Drought Monitor product and do not depict the intensity of drought in any particular location. More information on the Drought Monitor can be found at: http://droughtmonitor.unl.edu/.

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Cattle Areas Experiencing Drought

Reflects April 16, 2013
U.S. Drought Monitor data

Approximately 58% of the domestic cattle inventory is within an area experiencing drought, based on NASS 2007 Census of Agriculture data.



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

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/.

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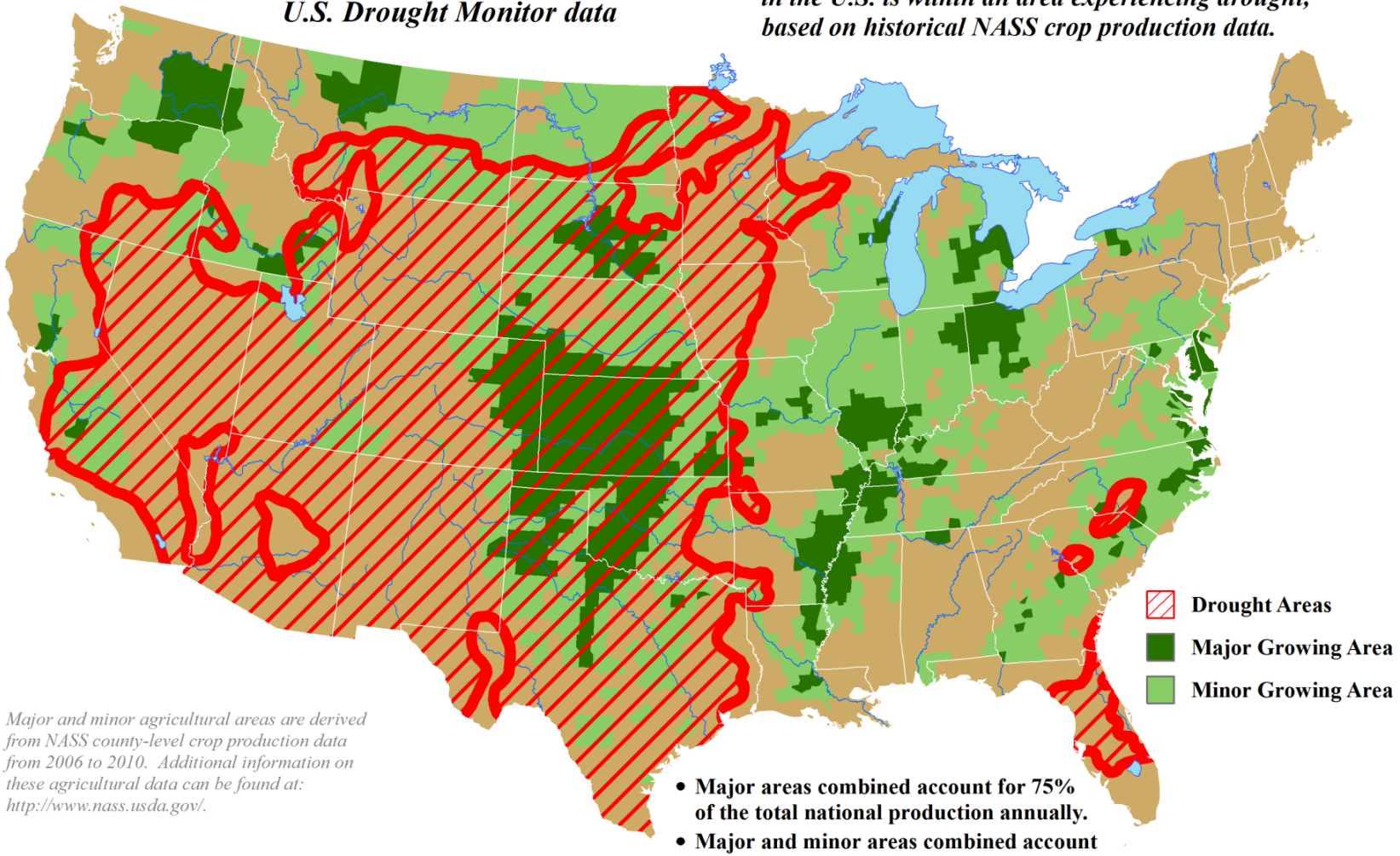
USDA **Agricultural Weather Assessments**
World Agricultural Outlook Board

U.S. Winter Wheat Areas Experiencing Drought

Reflects April 16, 2013
U.S. Drought Monitor data

Approximately 55% 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.**

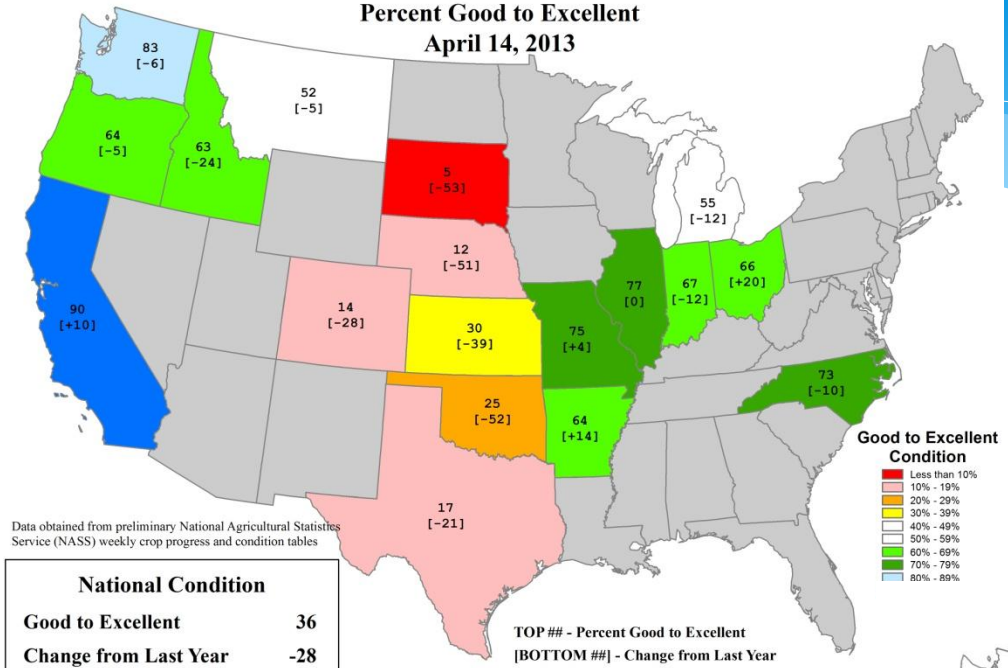
Major and minor agricultural areas are derived from NASS county-level crop production data from 2006 to 2010. Additional information on these agricultural data can be found at: http://www.nass.usda.gov/.

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://droughtmonitor.unl.edu/.

USDA **Agricultural Weather Assessments**
World Agricultural Outlook Board

U.S. Winter Wheat Conditions

Percent Good to Excellent
April 14, 2013



Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

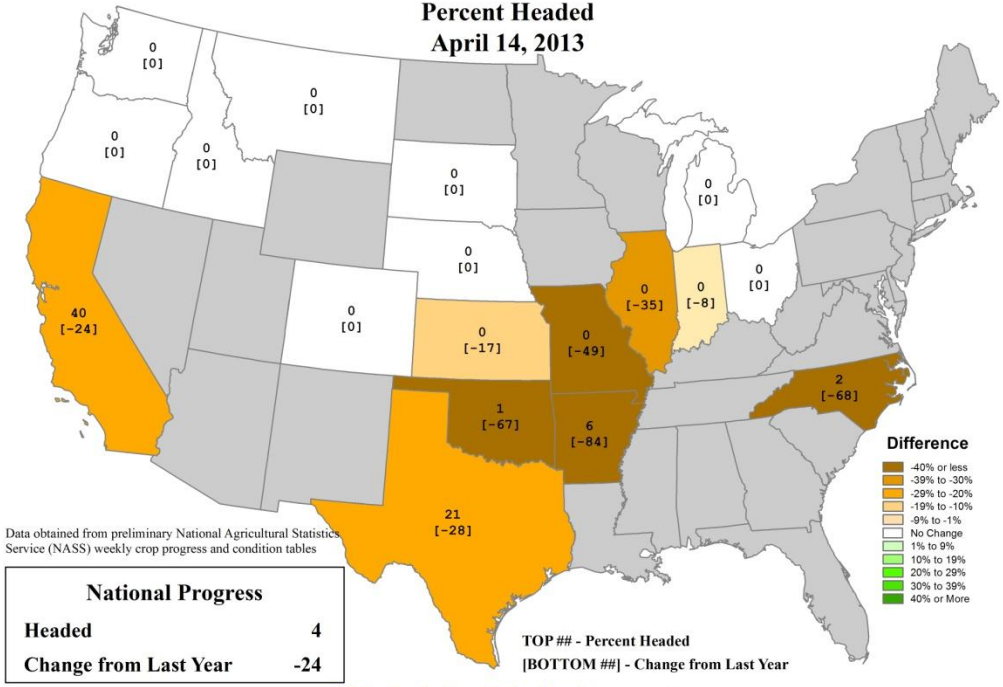
National Condition	
Good to Excellent	36
Change from Last Year	-28

TOP ## - Percent Good to Excellent
[BOTTOM ##] - Change from Last Year

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

U.S. Winter Wheat Progress

Percent Headed
April 14, 2013



Data obtained from preliminary National Agricultural Statistics Service (NASS) weekly crop progress and condition tables

National Progress	
Headed	4
Change from Last Year	-24

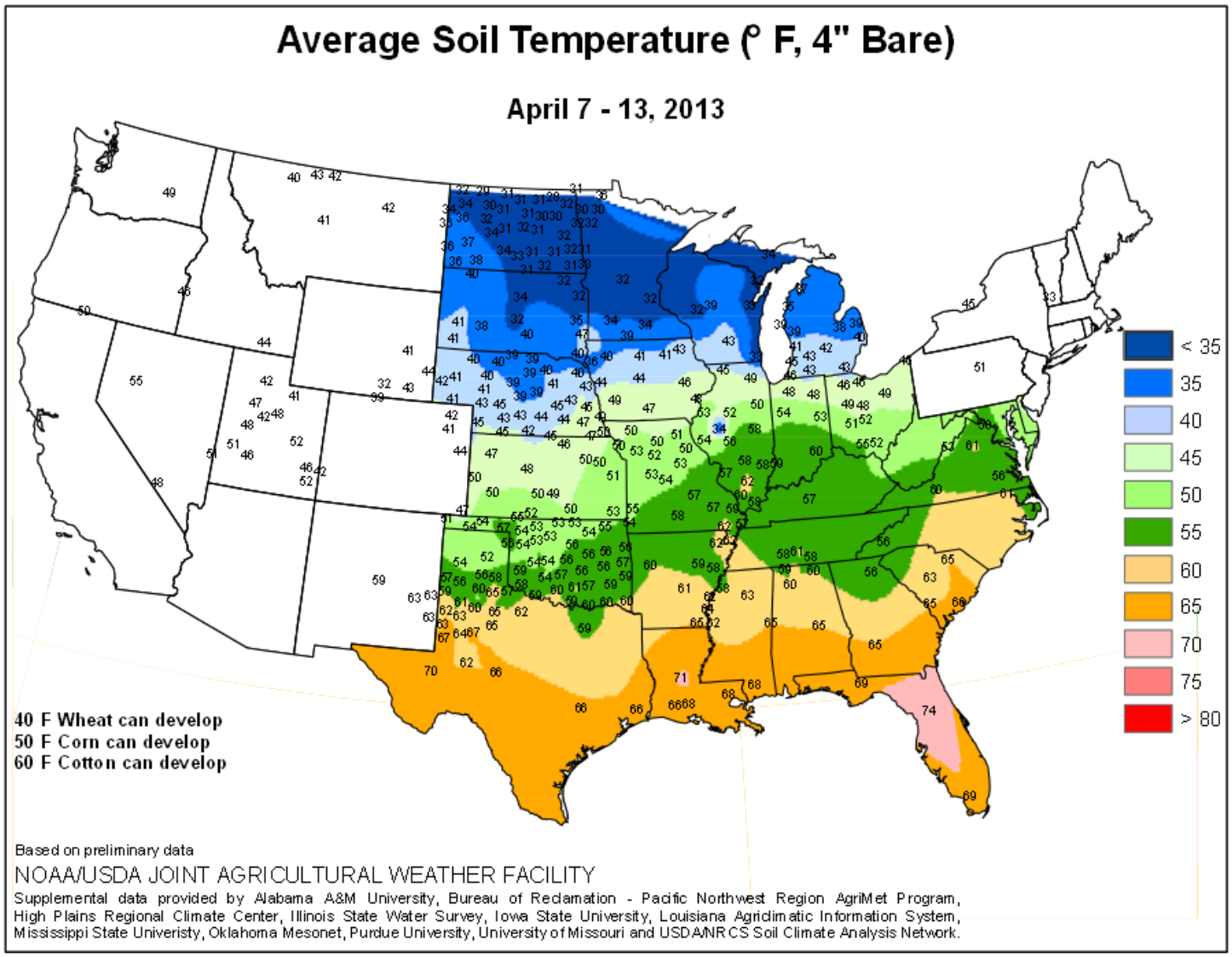
TOP ## - Percent Headed
[BOTTOM ##] - Change from Last Year

USDA Agricultural Weather Assessments
World Agricultural Outlook Board

Other crops - progress

* Corn – US -2%
  * TX – 56%, NC – 28%, TN- 11%
* Spring Wheat US -13%
  * MT – 6%, SD – 6%
* Oats
  * IA – 51%
  * MN – 26%
  * NE – 51%
  * ND – 5%
  * OH – 31%
  * SD – 24%
  * WI – 23%

Soil Temperature (°F) at 4”under bare soil



Weekly Weather and Crop Bulletin, Vol. 100, No. 12

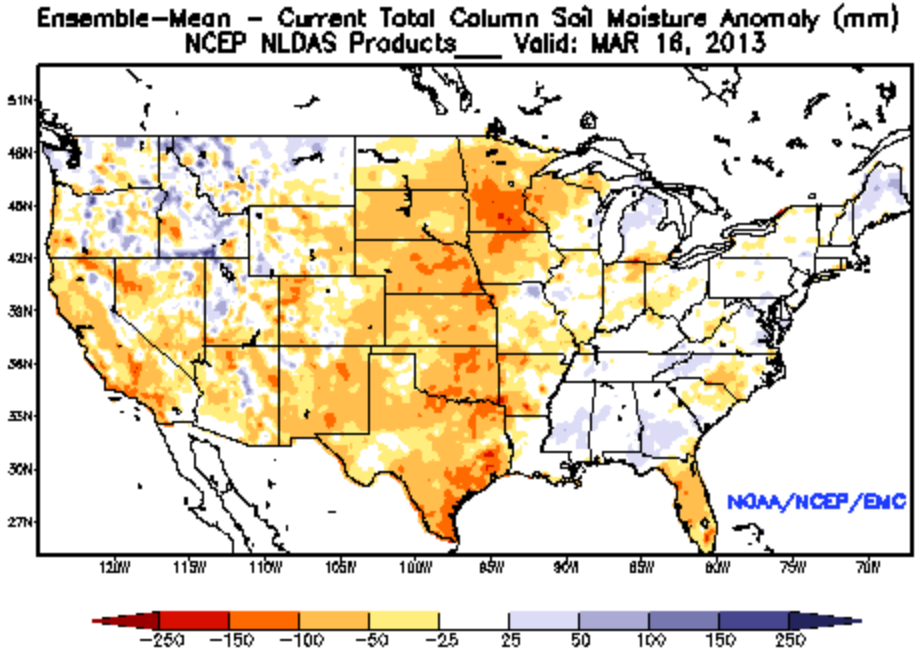
http://www.usda.gov/oce/weather/pubs/Weekly/Wwcb/wwcb.pdf

NOAA/USDA/JAWF

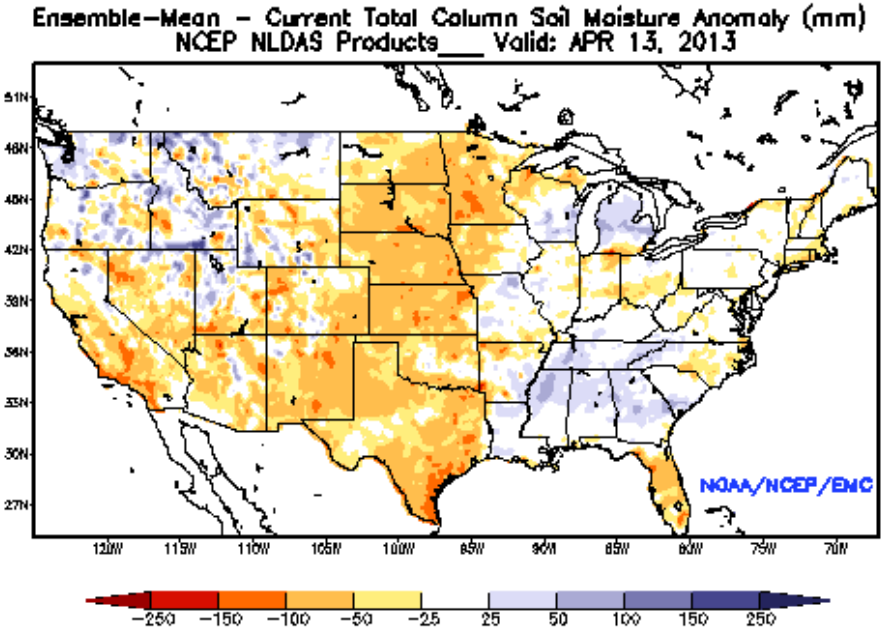
Soil Moisture and Recovery

Soil Moisture Anomaly in millimeters

18 March 2013



13 April 2013

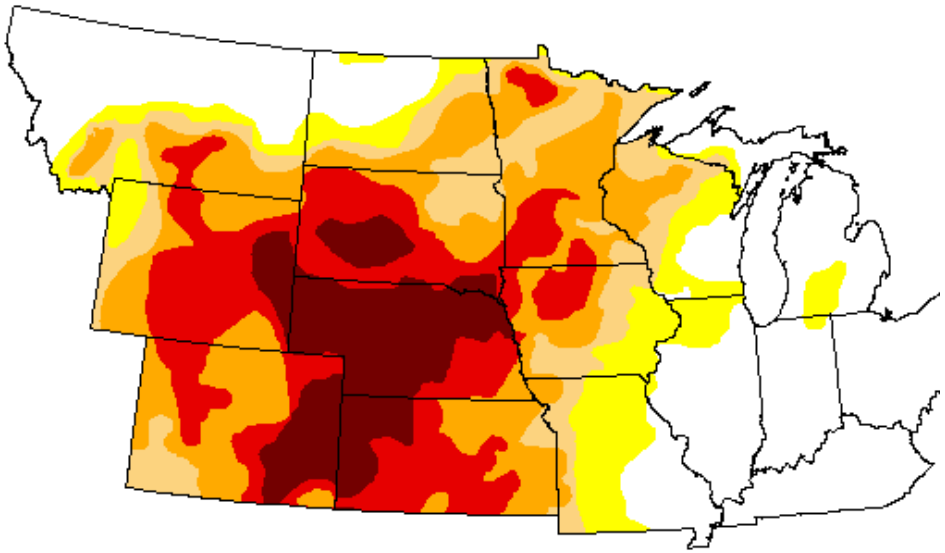


Snow helping soil moisture northern plains

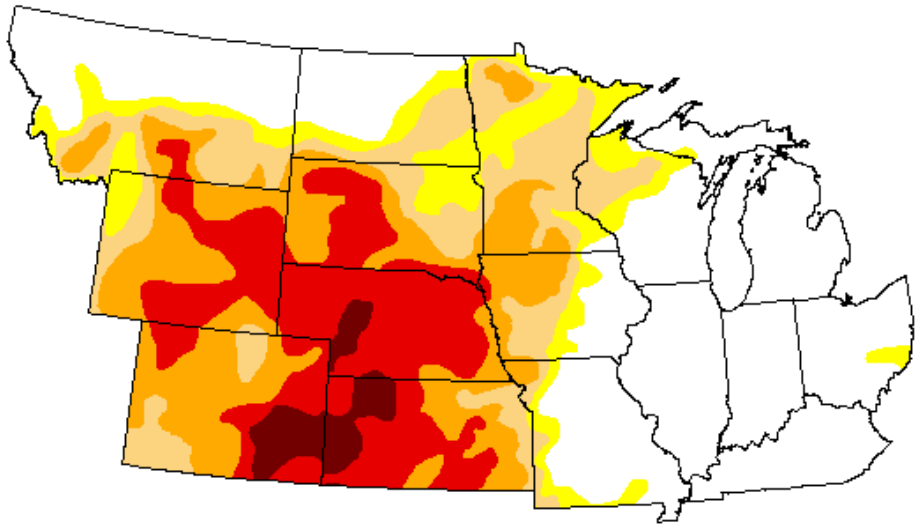
http://www.emc.ncep.noaa.gov/mmb/nldas/drought/

U.S. Drought Monitor Central Region

19 March 2013



16 April 2013



Intensity:

- D0 - Abnormally Dry
- D1 - Drought Moderate
- D2 - Drought Severe
- D3 - Drought Extreme
- D4 - Drought Exceptional

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

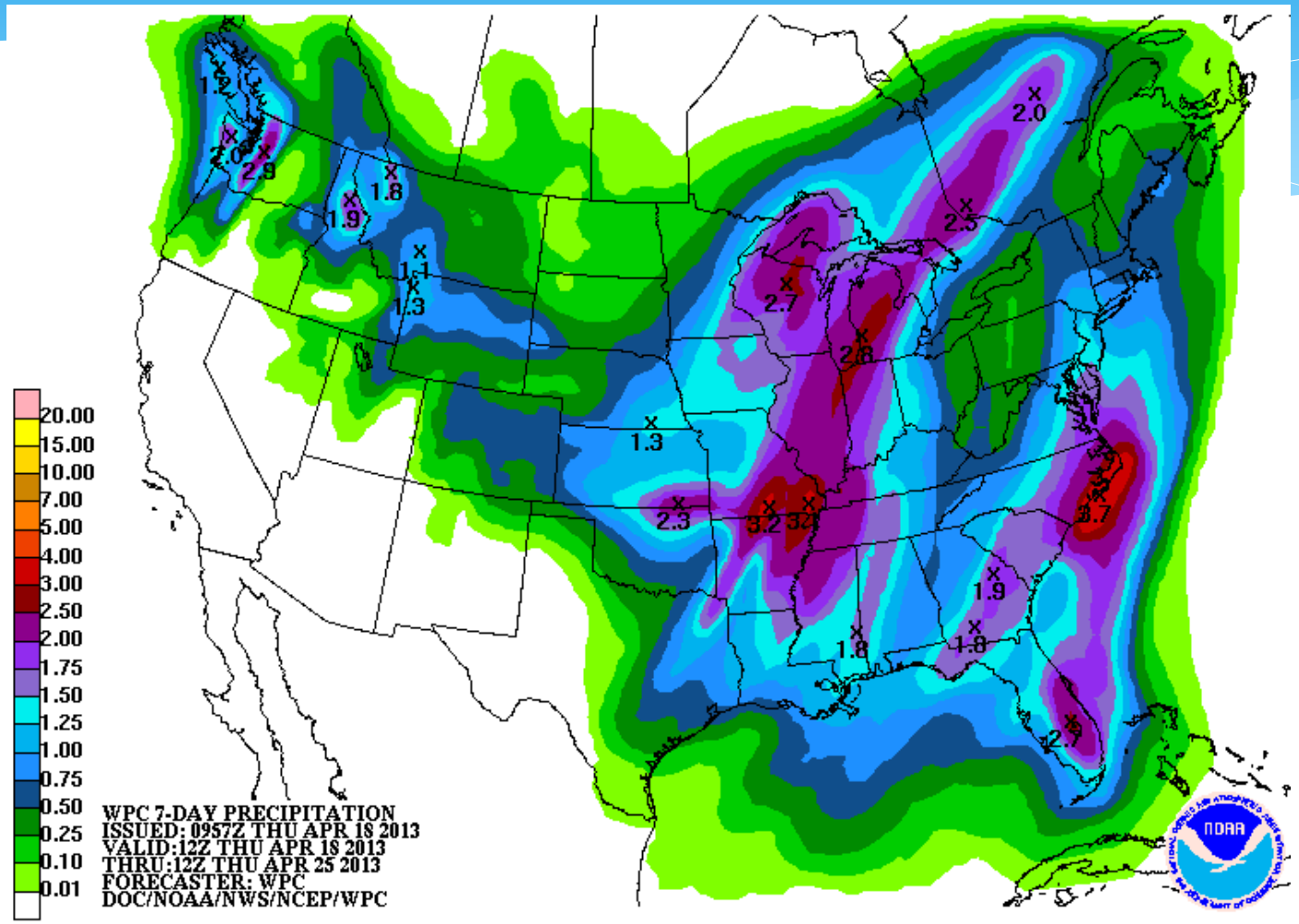
http://droughtmonitor.unl.edu

Released Thursday, March 3, 2013
Matthew Rosencrans, NOAA/NWS/NCEP/Climate Prediction Center

Climate Outlooks

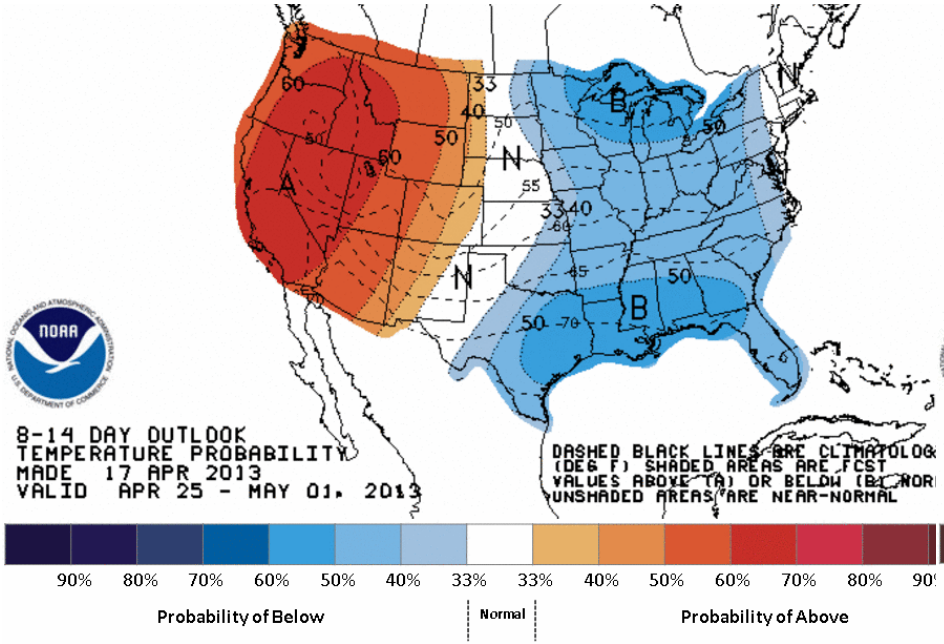
* 7-day precipitation forecast
* 8-14 day outlook
* May
* 3 Months (May - July)
* Seasonal Drought and Seasonal Flood Outlooks

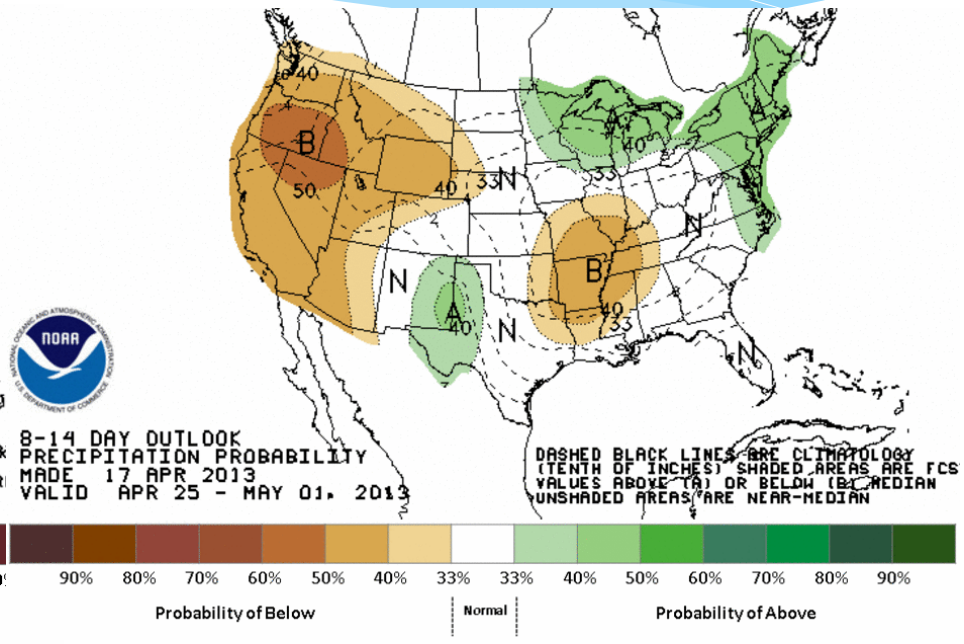
7-day Quantitative Precipitation Forecast Valid: 12z Thu 18 Apr – 12z Thu 25 Apr



http://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml

Temperature and Precipitation Probabilities for 25 Apr. – 1 May 2013

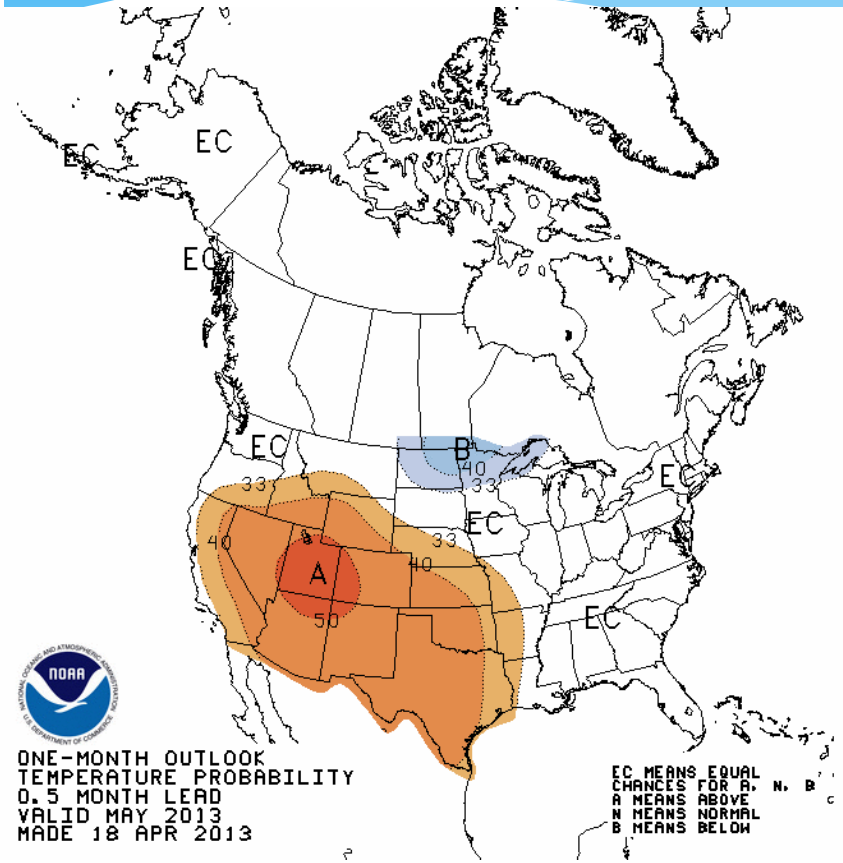




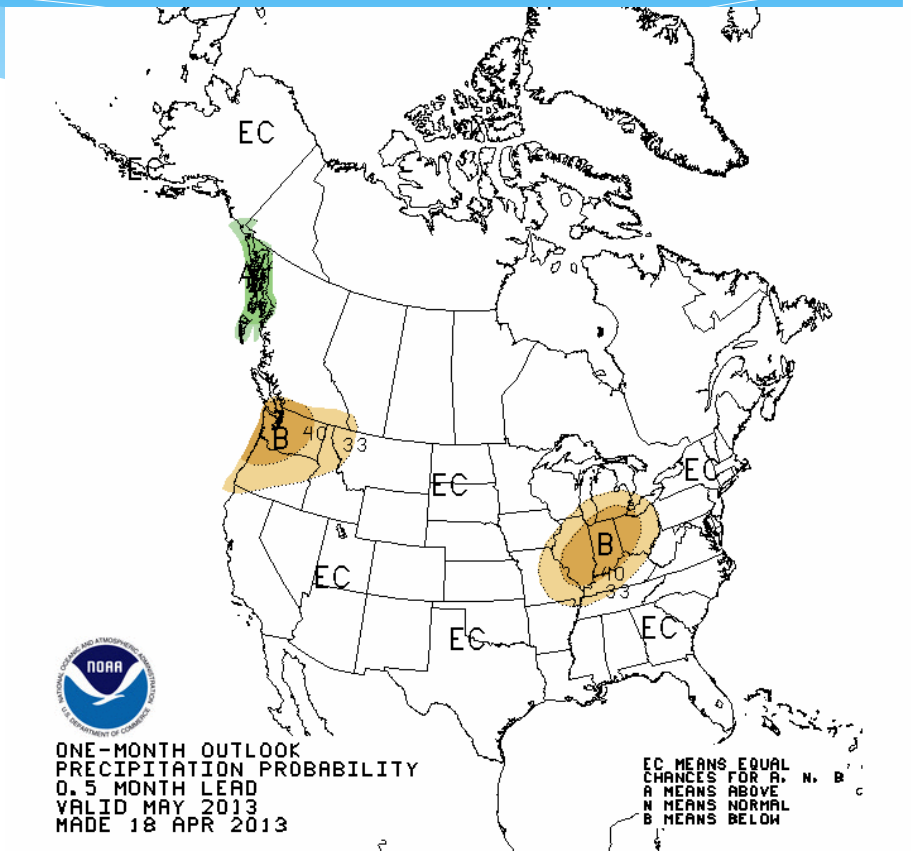
Temperature **Precipitation**

http://www.cpc.ncep.noaa.gov/products/predictions/814day/index.php

May Temperature and Precipitation Probabilities



Temperature

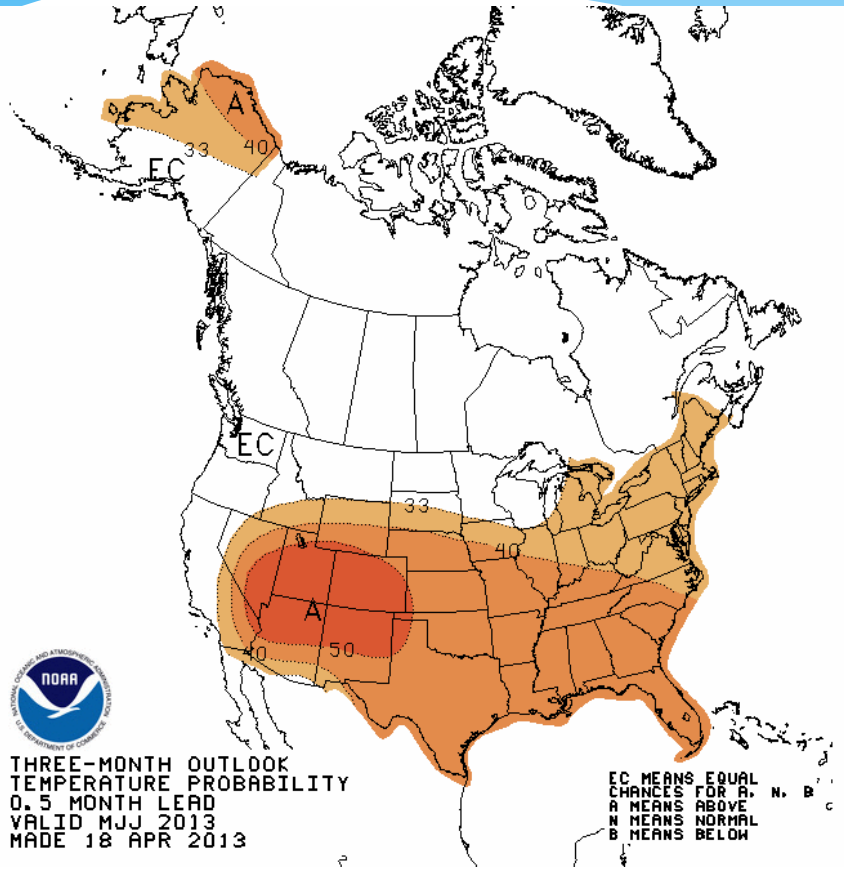


Precipitation

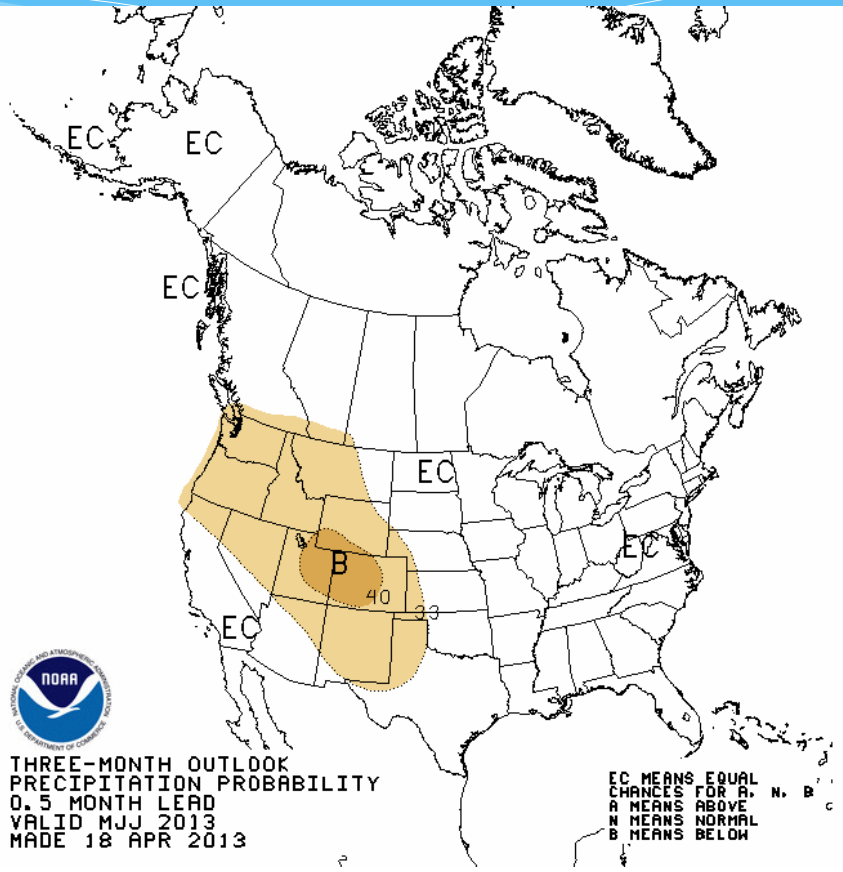
http://www.cpc.ncep.noaa.gov/products/predictions/30day/

3 Month Temperature and Precipitation Probabilities

(May - July)



Temperature



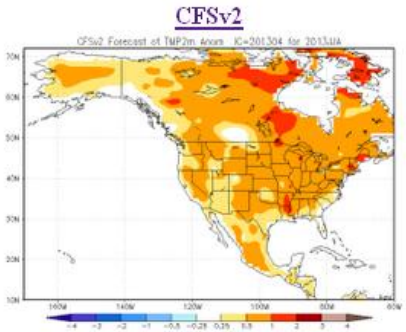
Precipitation

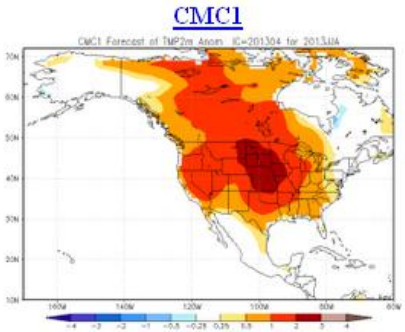
http://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=1

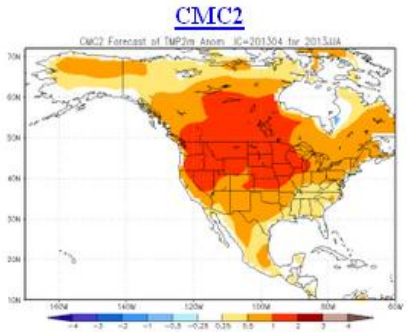
Season 2 tmp2m forecast

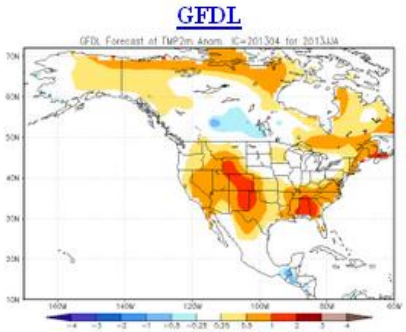
Dynamic model outlook for JJA Temperatures

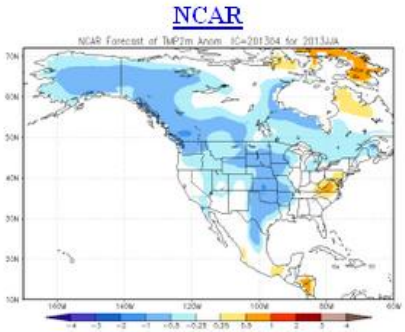
Consistent message across models

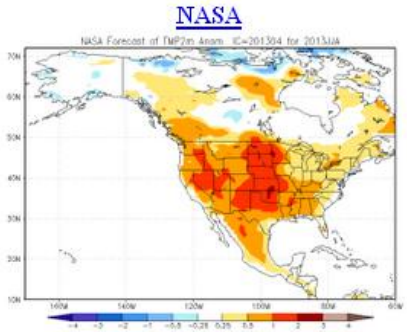


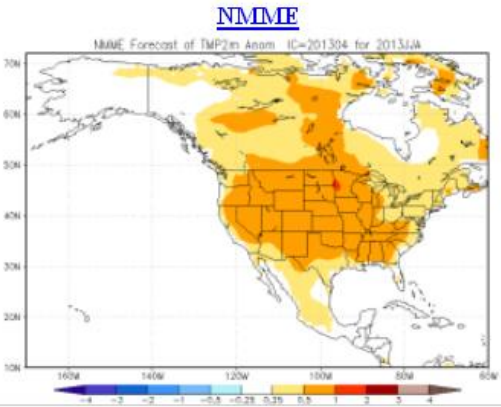


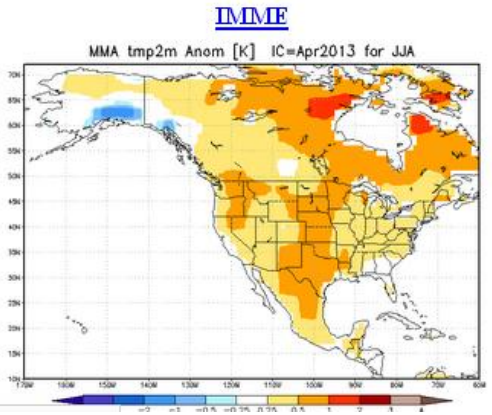




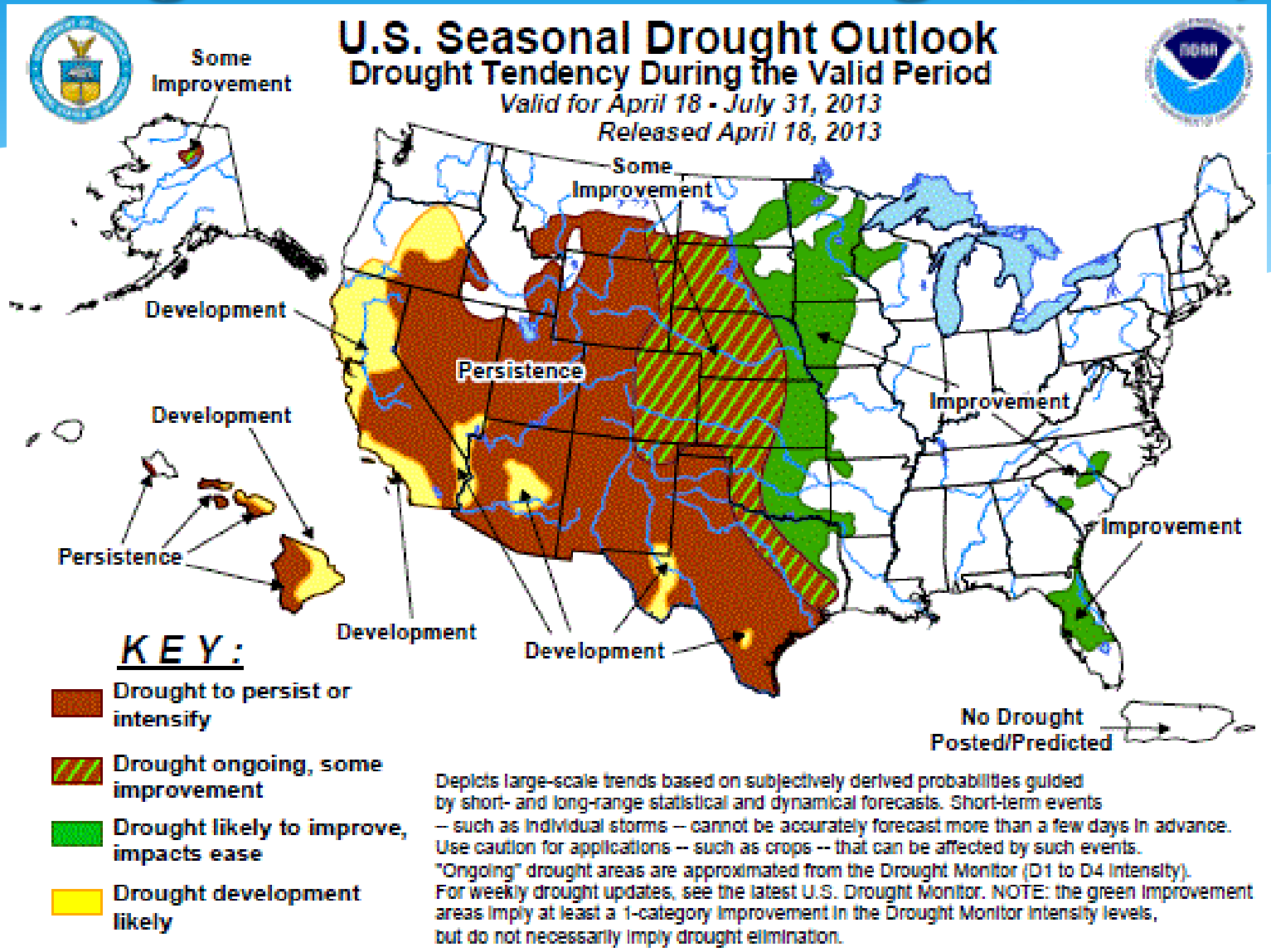






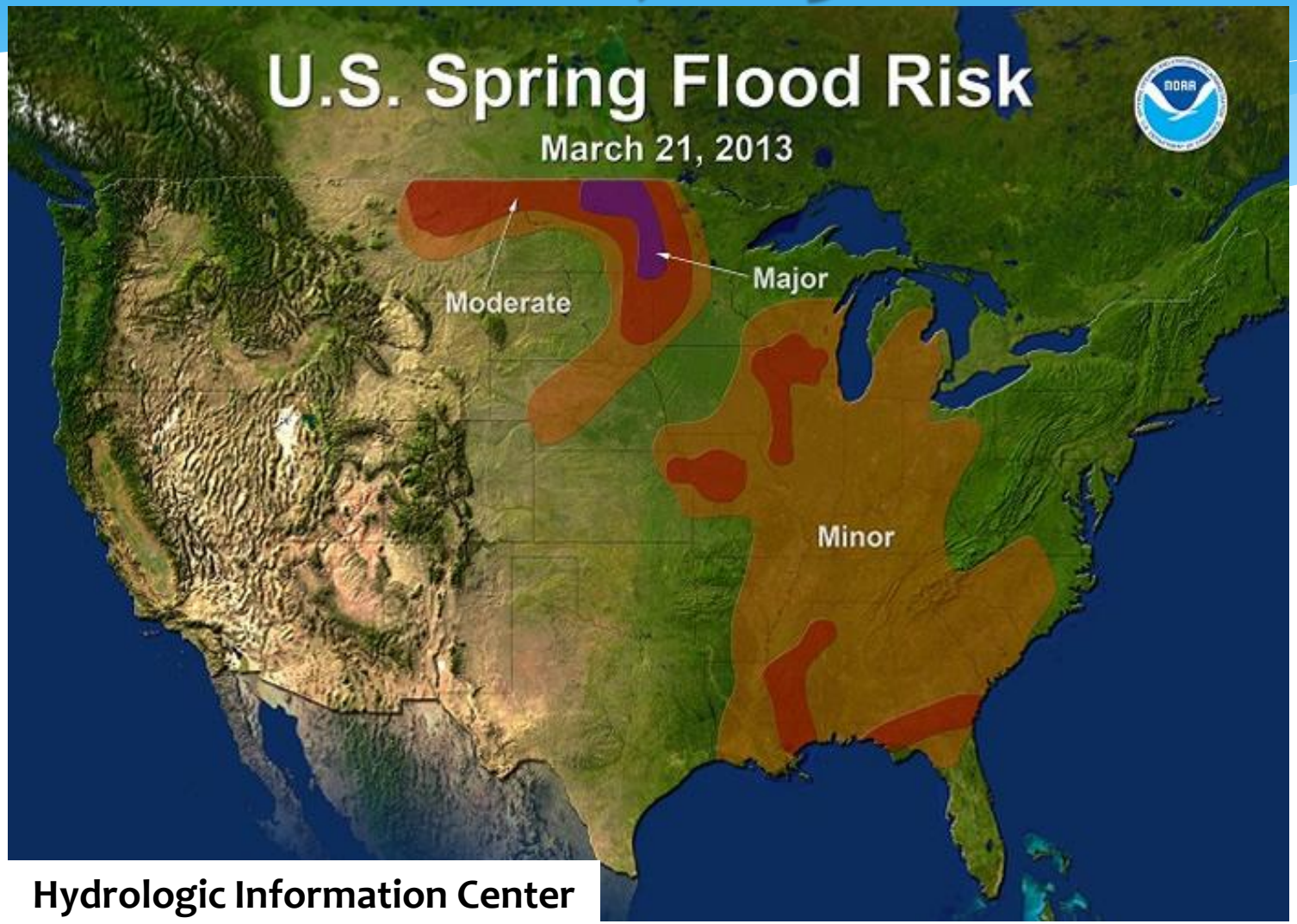


Drought Outlook through 31 July



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

U.S. Spring Flood Outlook
Mar 21, 2013



Hydrologic Information Center

http://www.nws.noaa.gov/hic/nho/ /

Summary

* **Recent Conditions**
  * Recent heavy precipitation reversing drought conditions in mid-corn belt
  * Heavy late season snows have had multiple impacts
    * Slowed ag, helped fire – will lead to more flooding (Red, Souris, James).
  * Fire issues are damped temporarily – green-up – wait for seasonal changes
  * Flipped the Mississippi River conditions, small improvements in the upper Missouri River Basin.
  * Ag is slowed by wet conditions east and cold conditions overall – moisture welcome in the plains areas. Field work will continue to be delayed except for central plains possibly
  * Hort issues – sellers – some carry-over drought issues

Summary

* **Outlooks**
  * ENSO neutral conditions are forecast through Fall 2013
  * Drought conditions will continue in western areas – ease in central - north.
  * Spring flood potential exist along the Red River Basin, Lower Missouri River Basin, Mississippi River Basin and Ohio River Basin.
  * Outlooks sticking with likely warmer than average conditions into late spring/summer – have to watch closely
  * Dryness May – east. Will continue to watch for summer.

Further Information - Partners

- **Today's and Past Recorded Presentations and :**
- *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 Portal: www.drought.gov
- National Drought Mitigation Center: http://drought.unl.edu/
- State climatologists
  - http://www.stateclimate.org
- Regional climate centers
  - http://mrcc.isws.illinois.edu
  - http://www.hprcc.unl.edu

Thank You and Questions?

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