

Midwest and Great Plains Climate and Drought Update



June 20, 2013

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General Information

- **Providing climate services to the Central Region**

- Collaboration Activity Between:

- State Climatologists
- Doug Kluck & John Eise (NOAA)
- American Association of State Climatologists
- Midwestern and High Plains Regional Climate Centers
- National Drought Mitigation Center/USDA

- **Next Climate/Drought Outlook Webinar**

- July 18, 2013 (1 PM CDT)

- **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

- Recent conditions
- Interesting extremes:
cold, wet
- Drought update and
impacts
- Outlooks
- Questions/comments

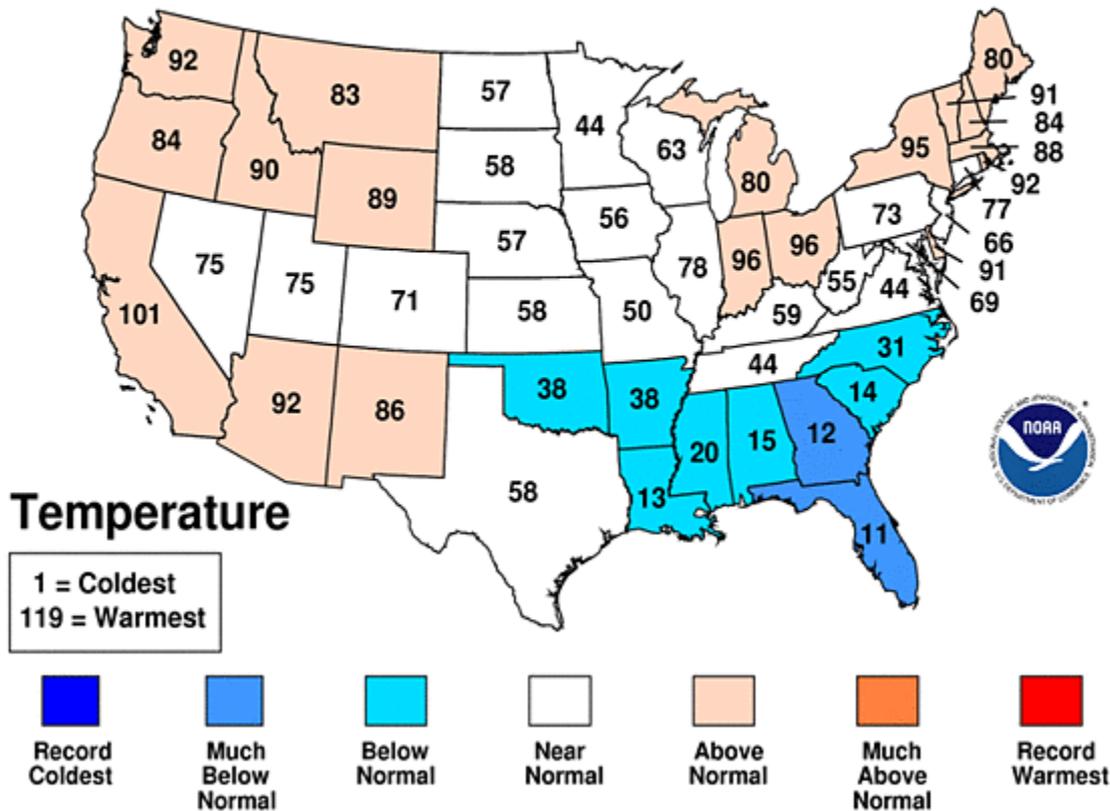


Black Forest Fire, courtesy of Nolan Doesken

May Temperatures

May 2013 Statewide Ranks

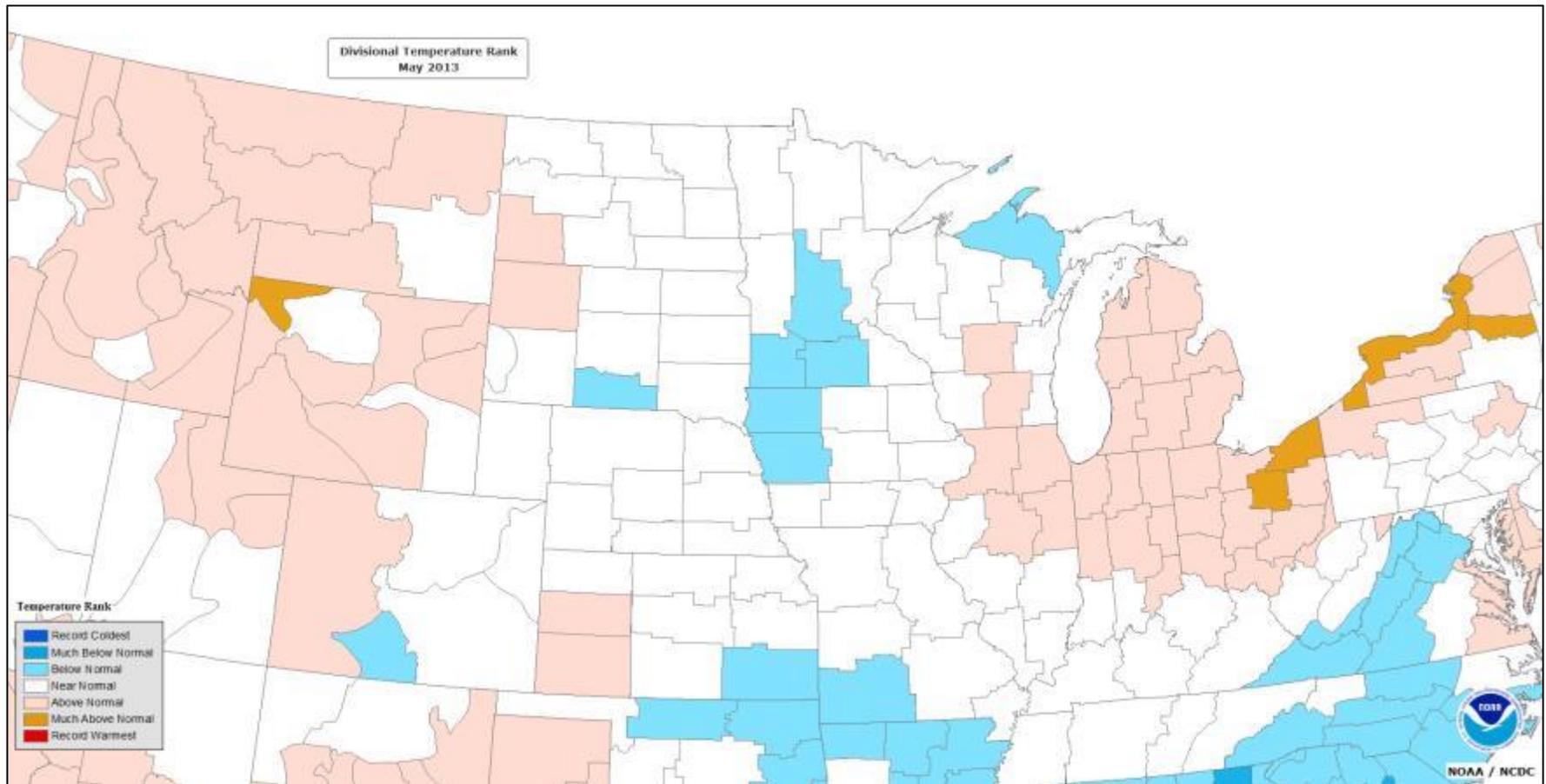
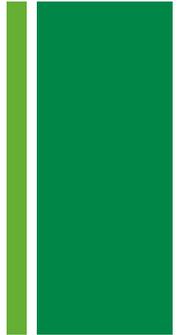
National Climatic Data Center/NESDIS/NOAA



- Near average for most of region

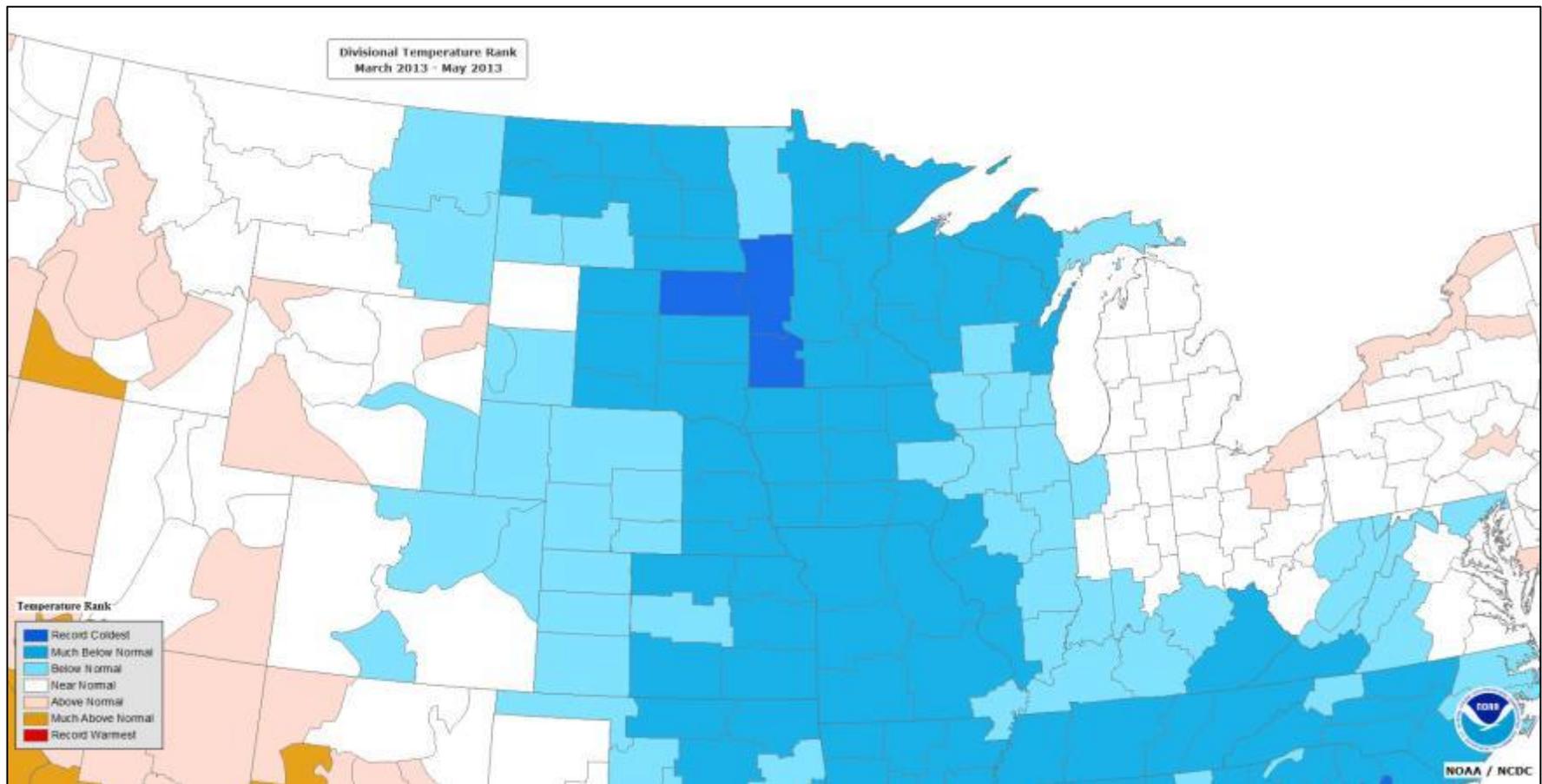
<http://www.ncdc.noaa.gov/sotc/national/2013/5>

May Temperature Rankings by Climate Division



Spring 2013

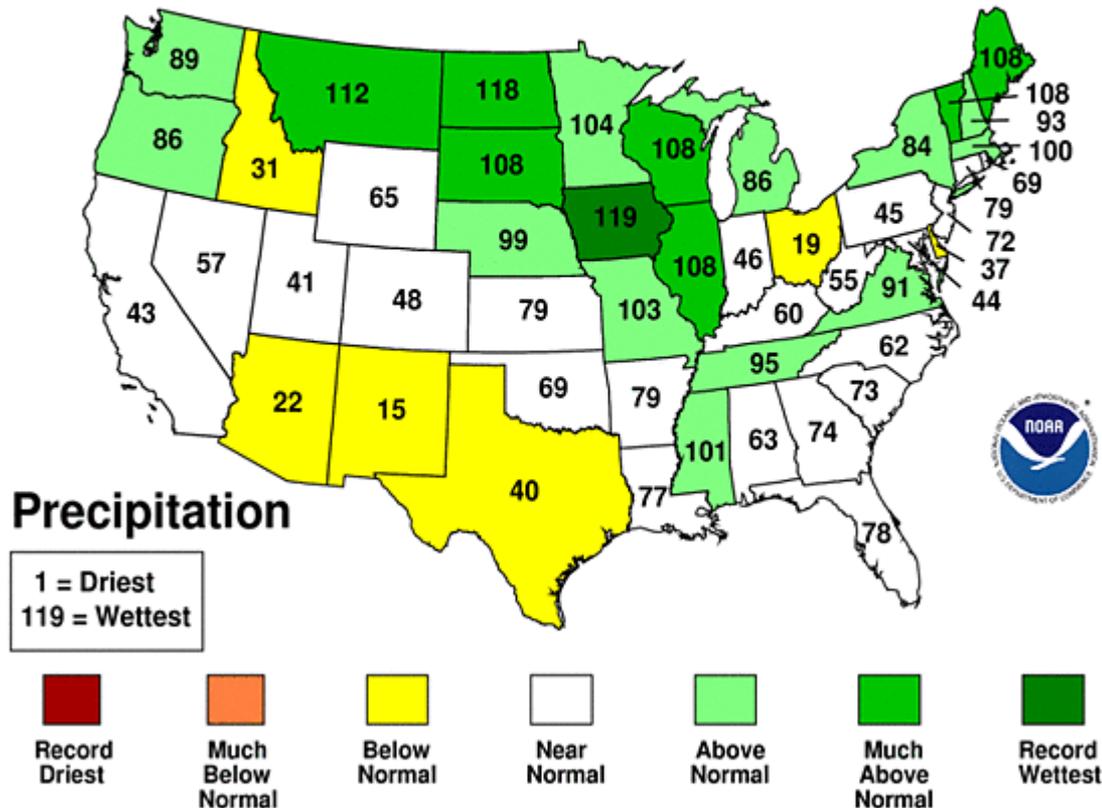
Temperature Ranking by Climate Division



May Precipitation

May 2013 Statewide Ranks

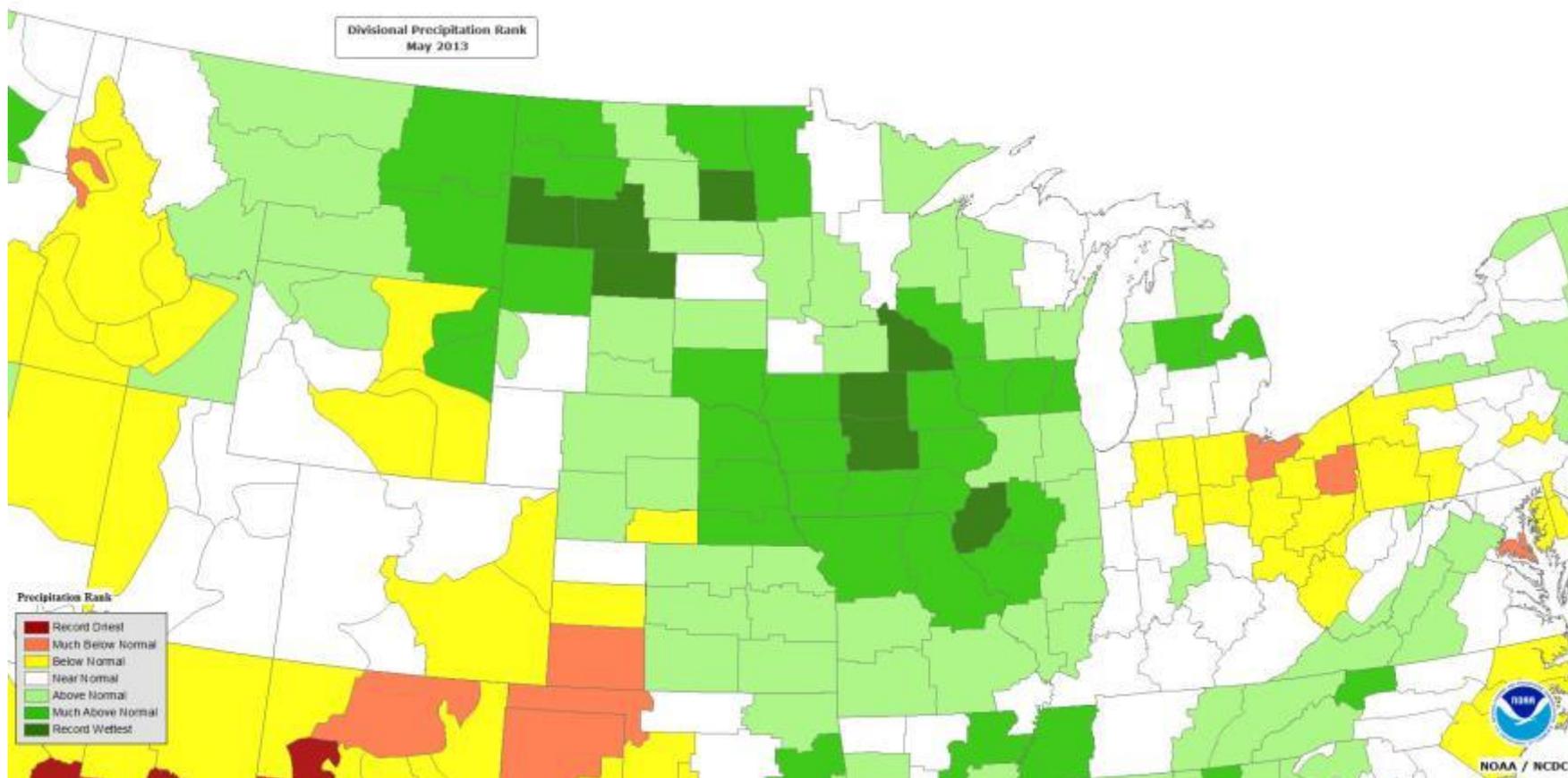
National Climatic Data Center/NESDIS/NOAA



- Record wet for Iowa
- Top 15 wet for ND, SD, MN, WI, IL, MO

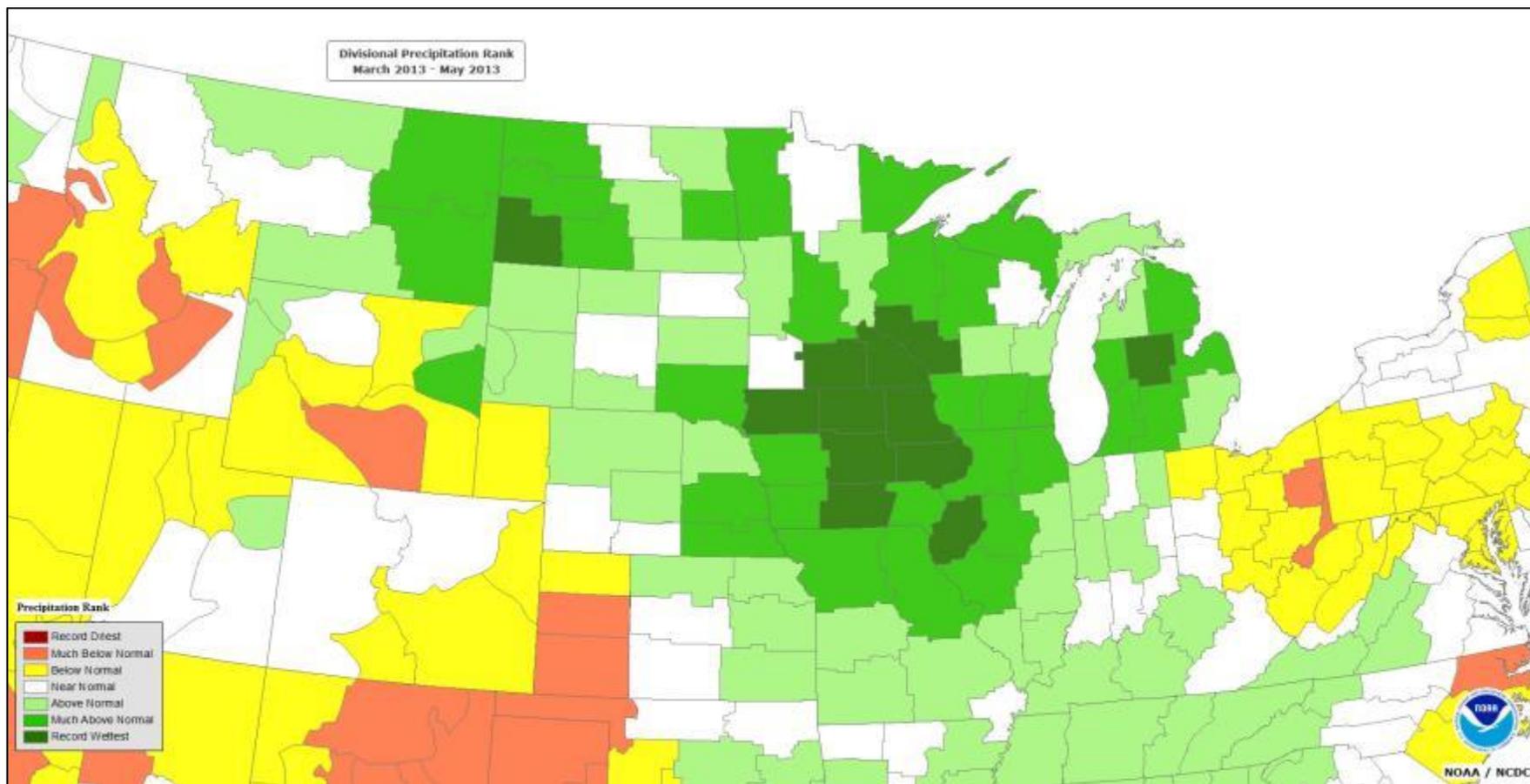
<http://www.ncdc.noaa.gov/sotc/national/2013/5>

May Precipitation Rankings by Climate Division



Spring 2013

Precipitation Ranking by Climate Division

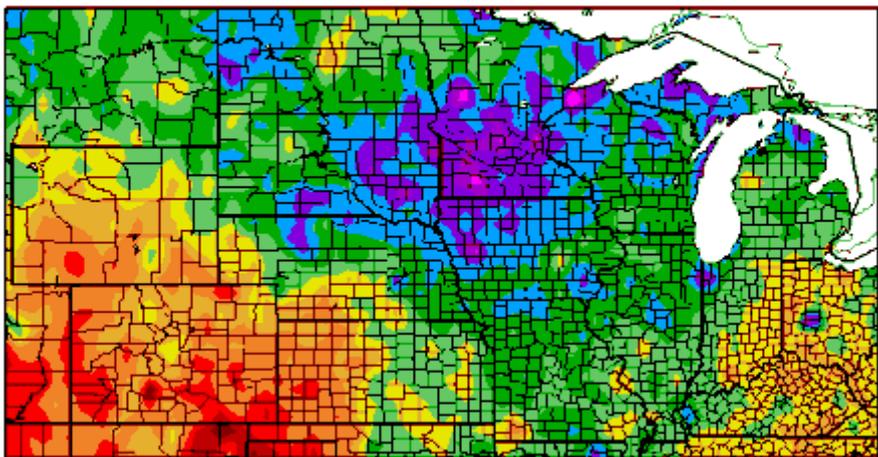


Most Recent 30 days



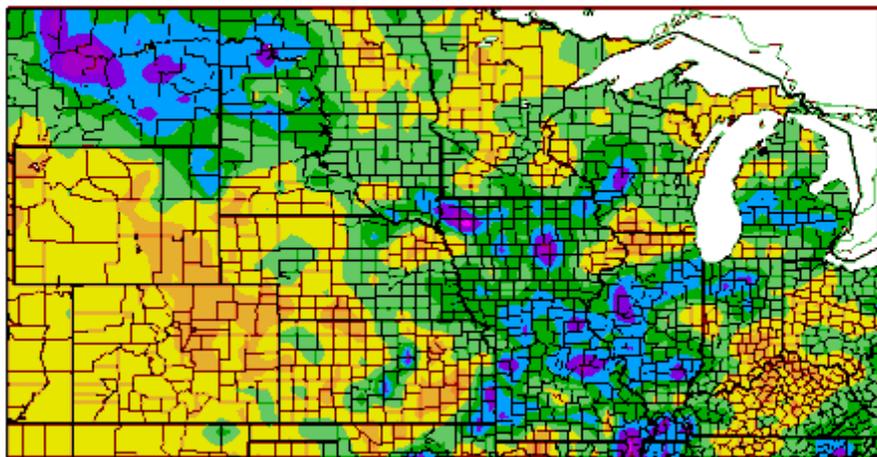
Temperature Departure

Departure from Normal Temperature (F)
5/21/2013 – 6/19/2013



Precipitation Departure

Departure from Normal Precipitation (in)
5/21/2013 – 6/19/2013



Generated 6/20/2013 at HPRCC using provisional data.

Regional Climate Center Generated 6/20/2013 at HPRCC using provisional data.

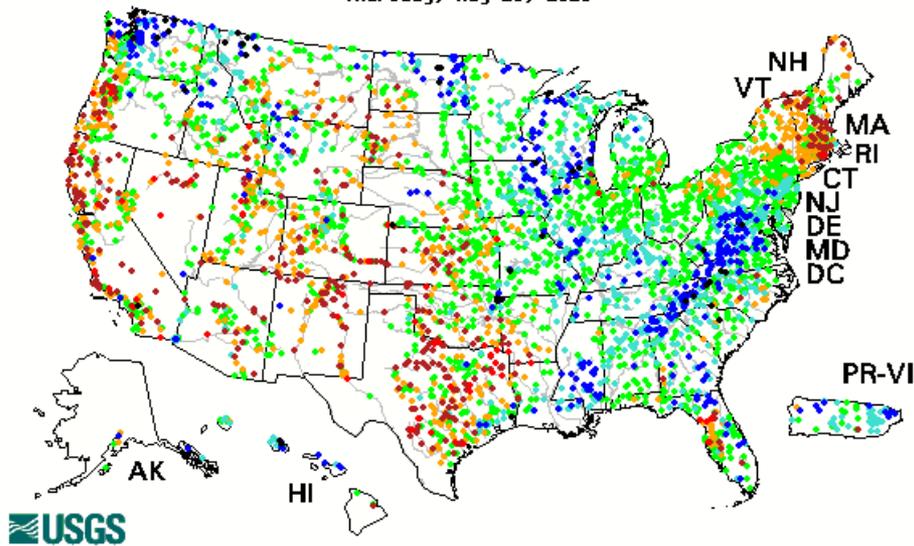


Regional Climate Centers

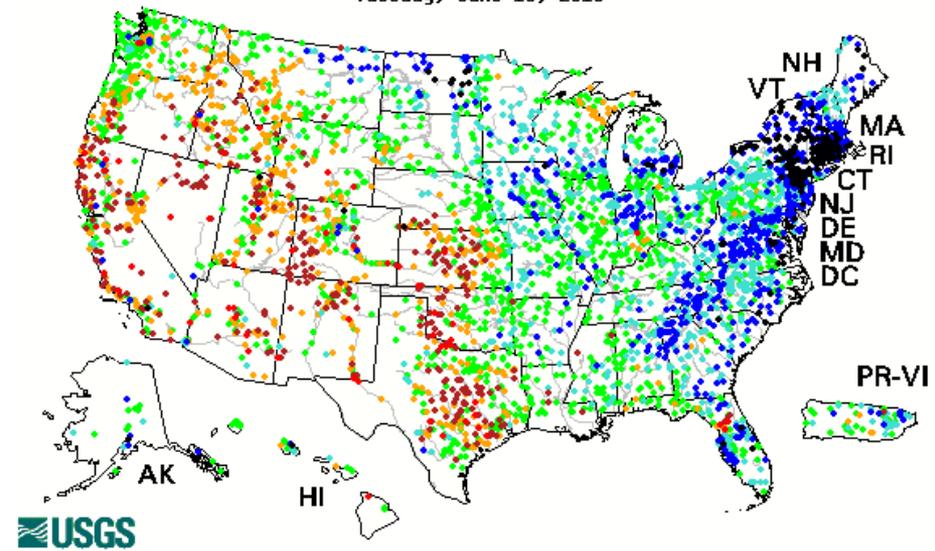
Streamflow 7-day Average



Thursday, May 16, 2013



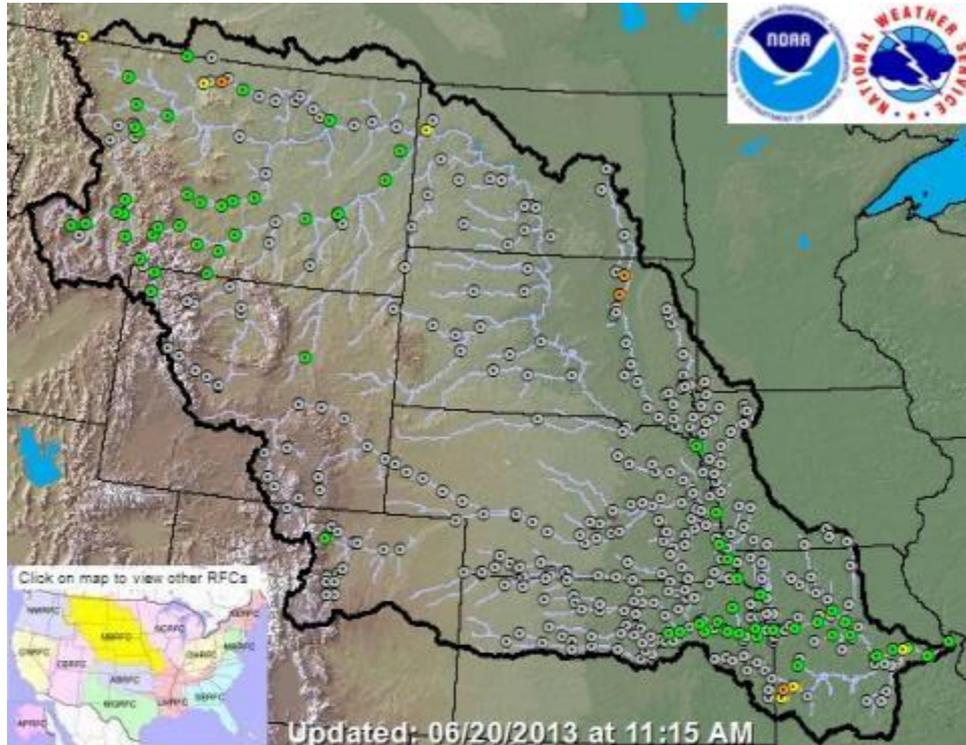
Tuesday, June 18, 2013



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

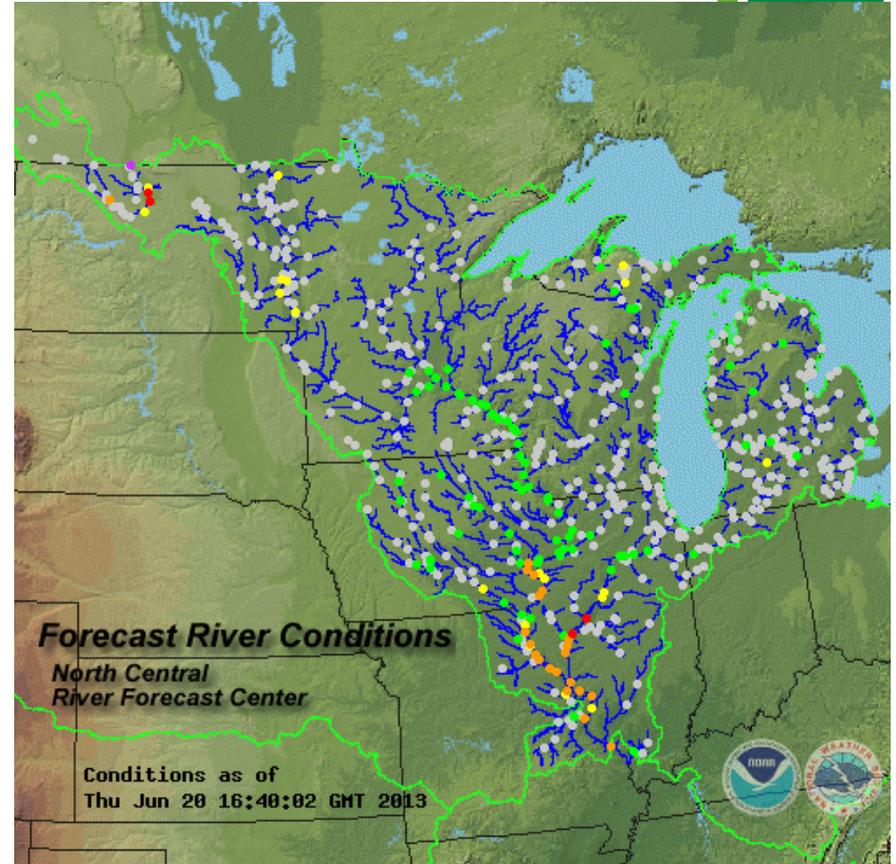
http://waterwatch.usgs.gov/?id=ww_current

Current Rivers in Flood Stage



MBRFC Forecast River Conditions

- Forecast Not Issued
- No Flooding
- Near Flood Stage
- Minor Flooding
- Moderate Flooding
- Major Flooding



- Forecast not available
- Max forecast stage is below flood stage
- Max forecast stage is between action and minor flood stage
- Max forecast stage is between minor and moderate flood stage
- Max forecast stage is between moderate and major flood stage
- Max forecast stage is above major flood stage

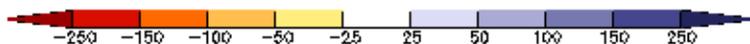
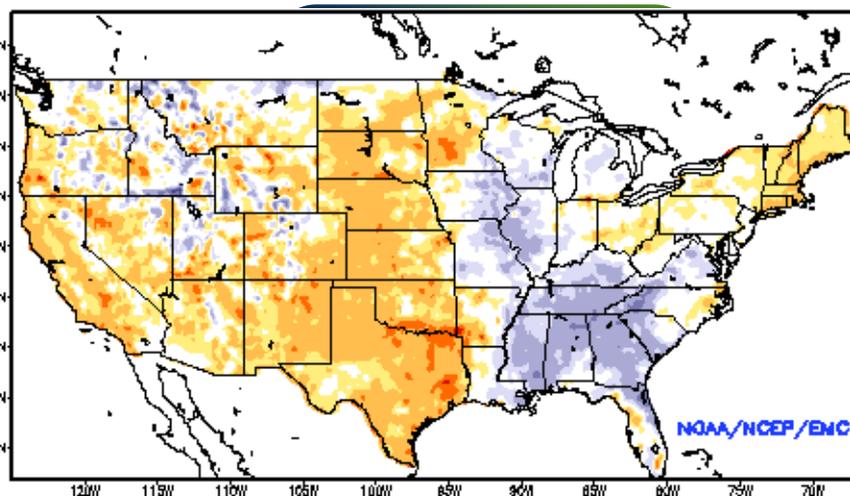
<http://water.weather.gov/ahps/rfc/rfc.php>

<http://water.usgs.gov>



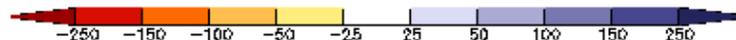
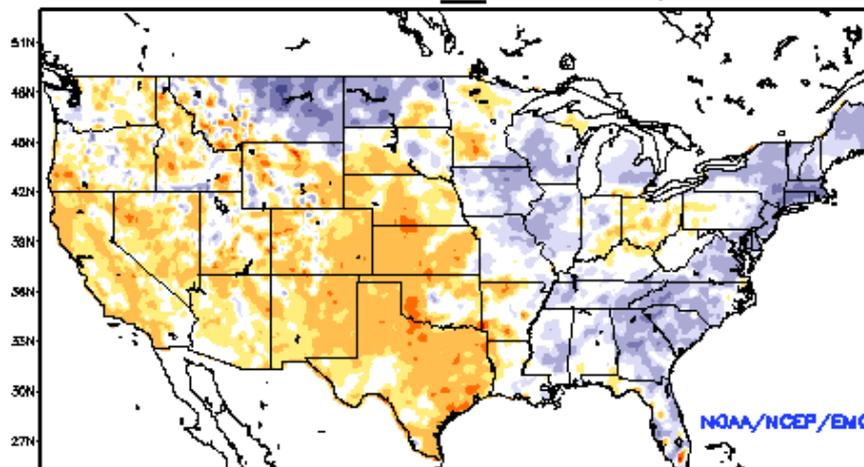
Soil Moisture: Very wet or very dry

14 May 2013



15 June 2013

Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)
NCEP NLDAS Products Valid: JUN 15, 2013



Anomaly in millimeters

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

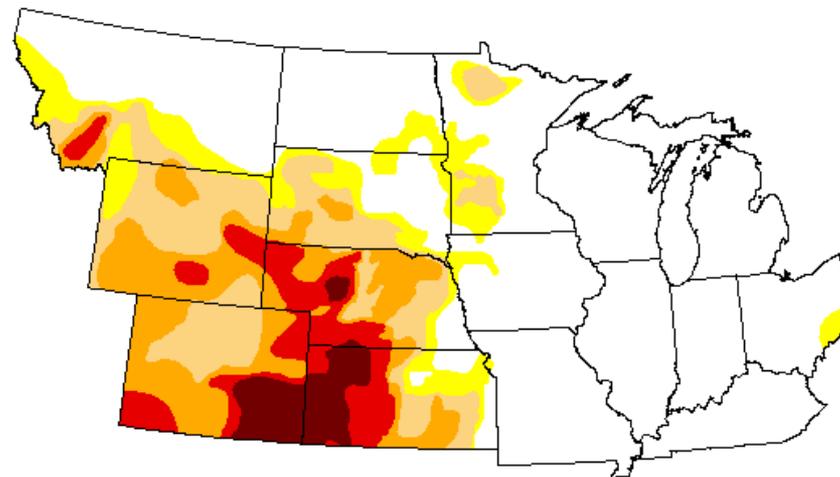
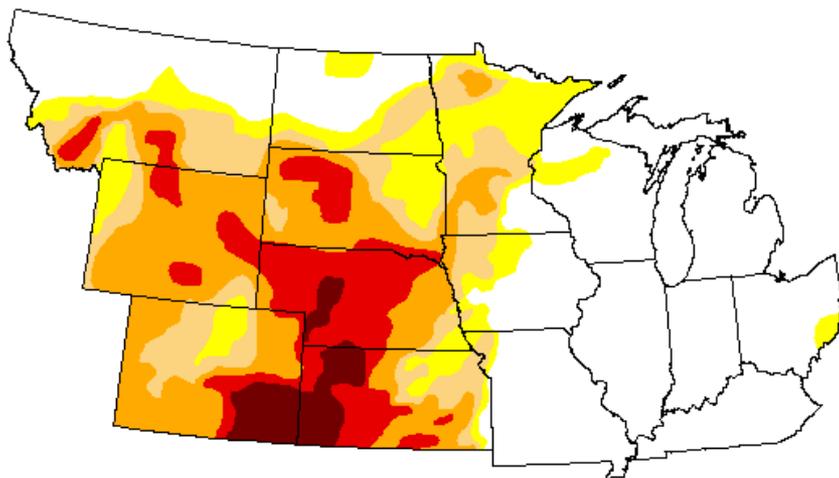
iGrow.org



U.S. Drought Monitor

16 May 2013

18 June 2013



Drought Conditions (Percent Area)

	None	D0 - D4	D1 - D4	D2 - D4	D3 - D4	D4
Current	43.66	56.34	44.35	31.84	13.51	3.47
Last Week (5/7/2013)	39.07	61.37	51.22	37.29	19.89	2.98
3 Months Ago (2/12/2013)	27.16	72.84	64.48	48.98	29.27	12.93
1 Year Ago (5/15/2012)	61.73	38.27	11.19	3.02	0.00	0.00

Intensity:

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

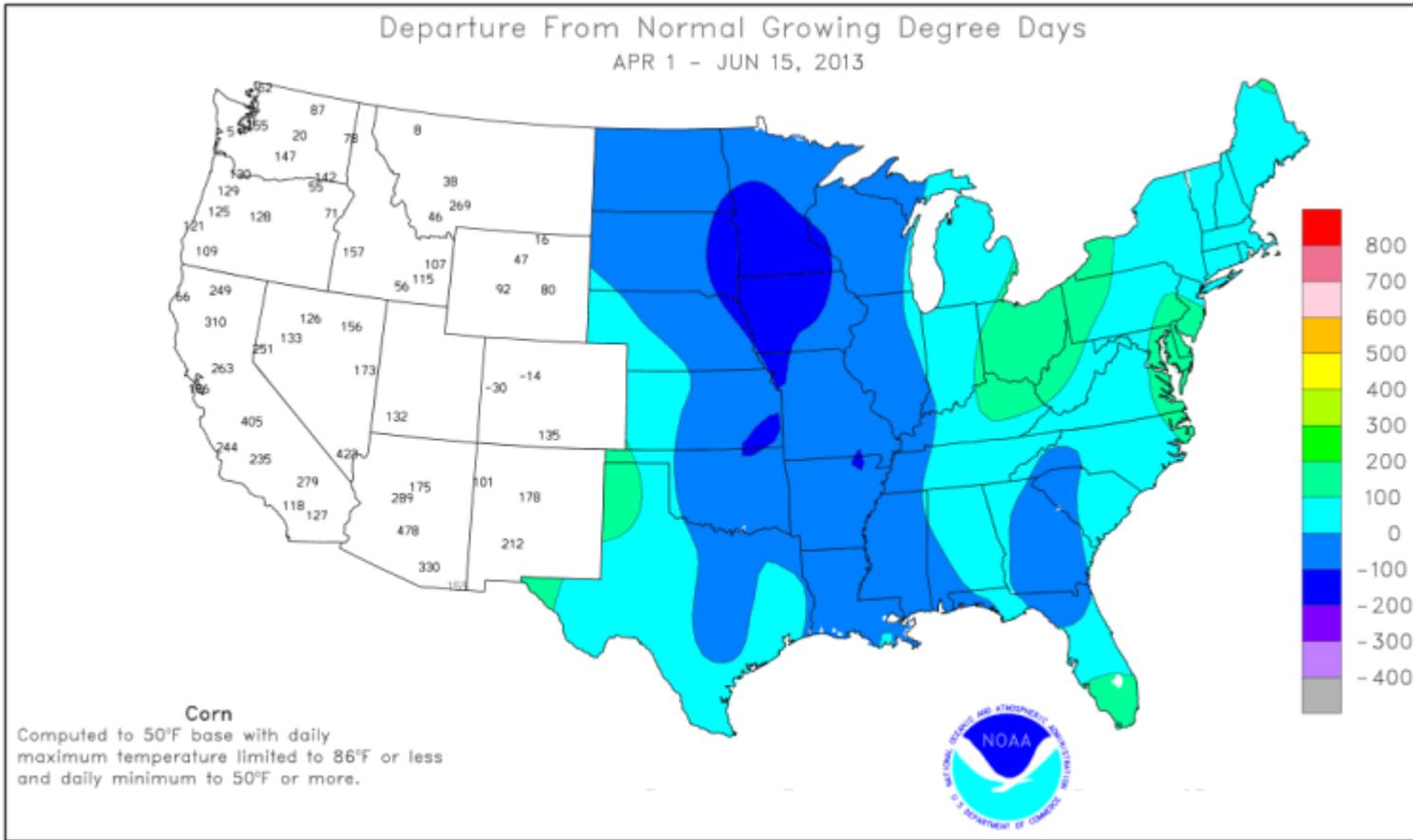
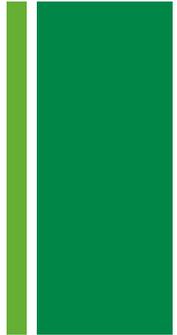
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



Released Thursday, May 16, 2013
Rich Tinker, Climate Prediction Center/NCEP/NWS/NOAA

Growing Degree Days (Corn)

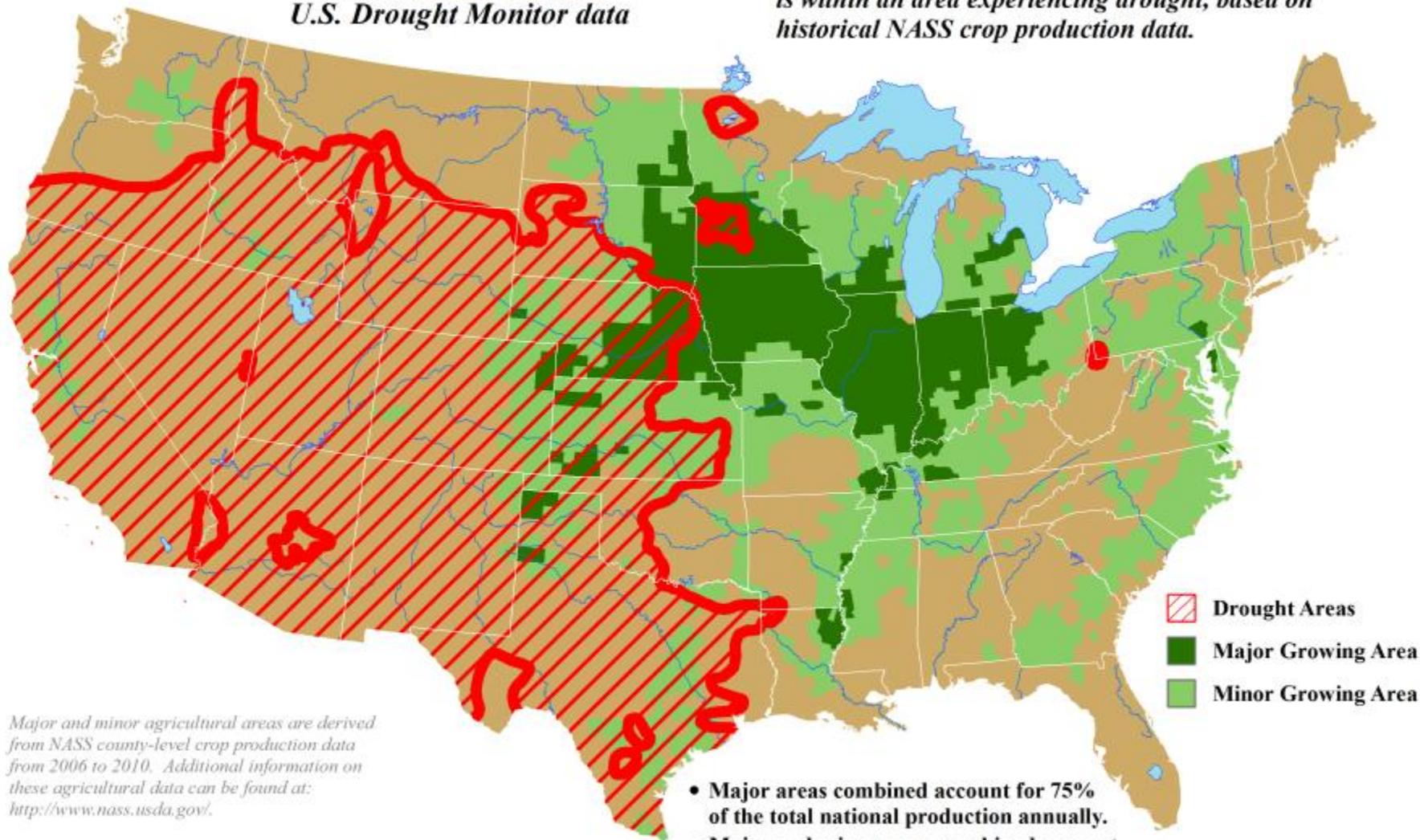


<http://www.usda.gov/oce/weather/pubs/Weekly/Wwcb/wwcb.pdf>

U.S. Corn Areas Experiencing Drought

Reflects June 18, 2013
U.S. Drought Monitor data

Approximately **19%** of the corn grown in the U.S. is within an area experiencing drought, based on historical NASS crop production data.

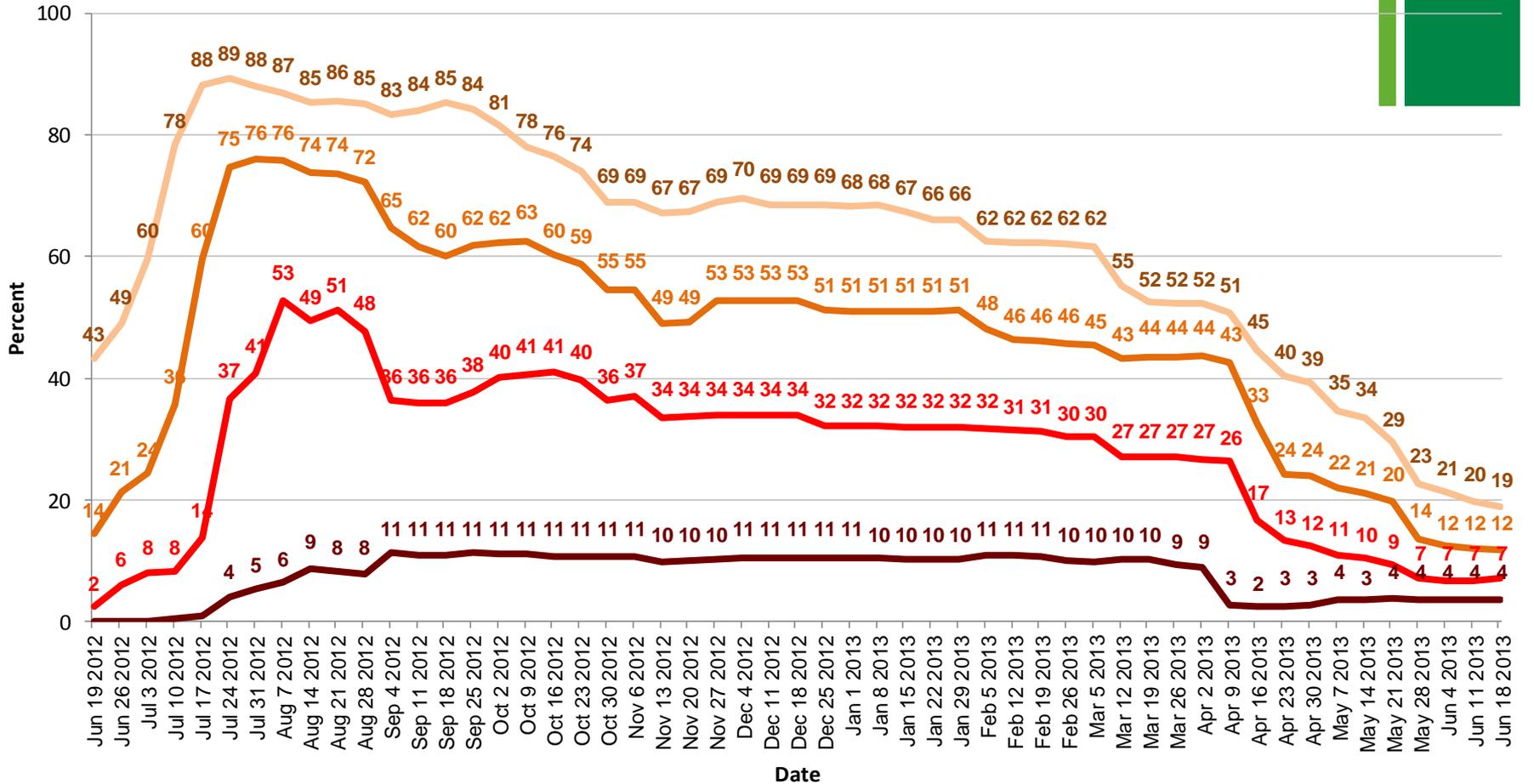


Major and minor agricultural areas are derived from NASS county-level crop production data from 2006 to 2010. Additional information on these agricultural data can be found at: <http://www.nass.usda.gov/>.

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/>.

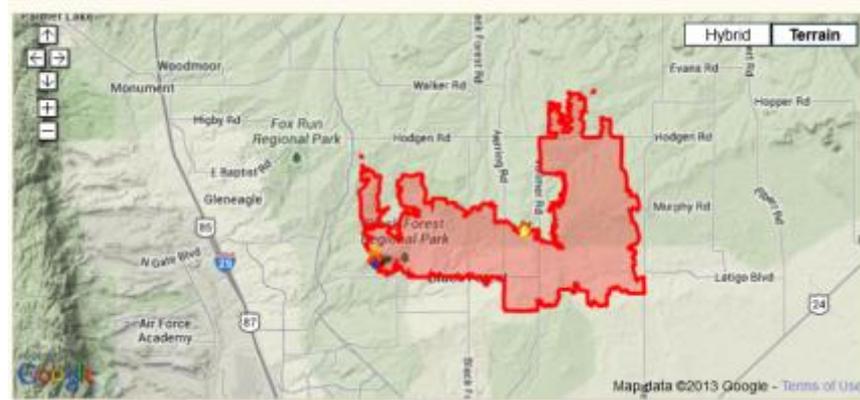
- Major areas combined account for 75% of the total national production annually.
- Major and minor areas combined account for 99% of the total national production annually.

United States Corn Areas Located in Drought



Colorado Fires

- Black Forest fire in El Paso county, ignited June 11. 95% contained.
- Record 14,280 acres burned, cost estimated at \$9.3 million so far.
- Over 500 structures destroyed.



June 12, 2013. Image Credit: U.S. Army photo by Sgt. Jonathan C. Thibault/Fort Carson Public Affairs Office

Regional Wildland Fire

- Acres burned for January 1 – June 19:
 - Rocky Mtn region (CO, WY, NE, SD, KS)
 - 784 total fires
 - 22,124 acres
 - Eastern region (MN, IA, MO, WI, IL, IN, OH, MI, northeastern states)
 - 4,775 fires
 - 42,694 acres
- Nationally, below 10-year average for number of fires and less than $\frac{1}{2}$ of average acres



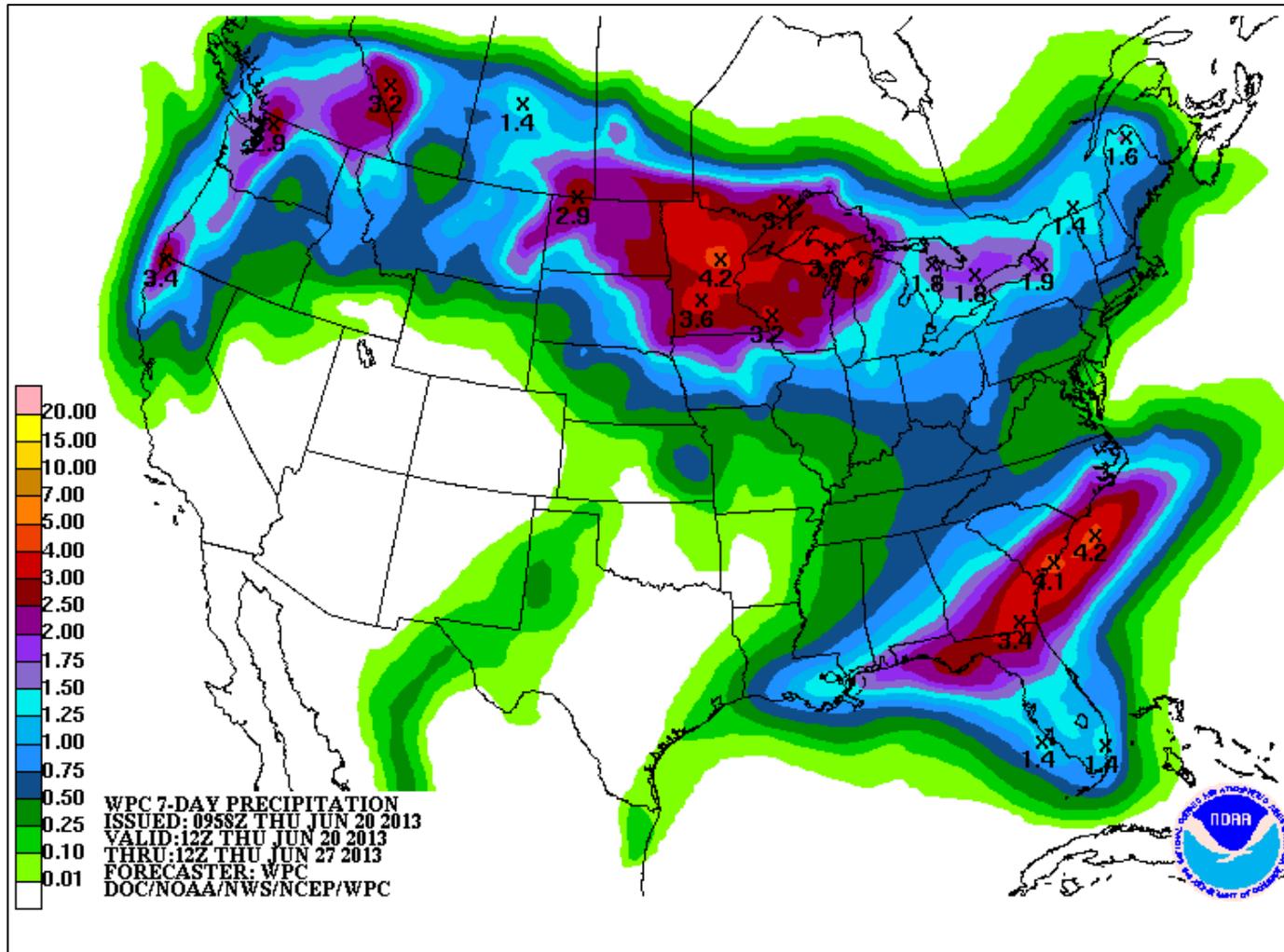
Wildfiretoday.com

Looking Ahead



- 7-day precipitation forecast
- 8-14 day outlook
- July temperature and precipitation
- Late summer (July - September)
- Seasonal Drought and Seasonal Fire Outlooks

7-day Precipitation Forecast (Experimental)

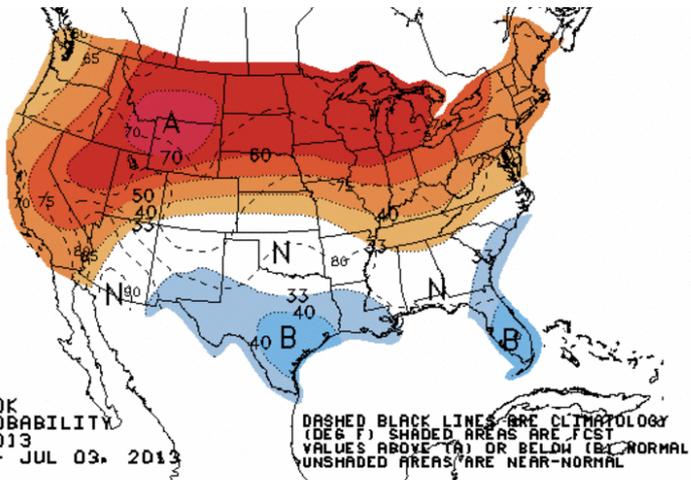


<http://www.wpc.ncep.noaa.gov/qpf/day1-7.shtml>

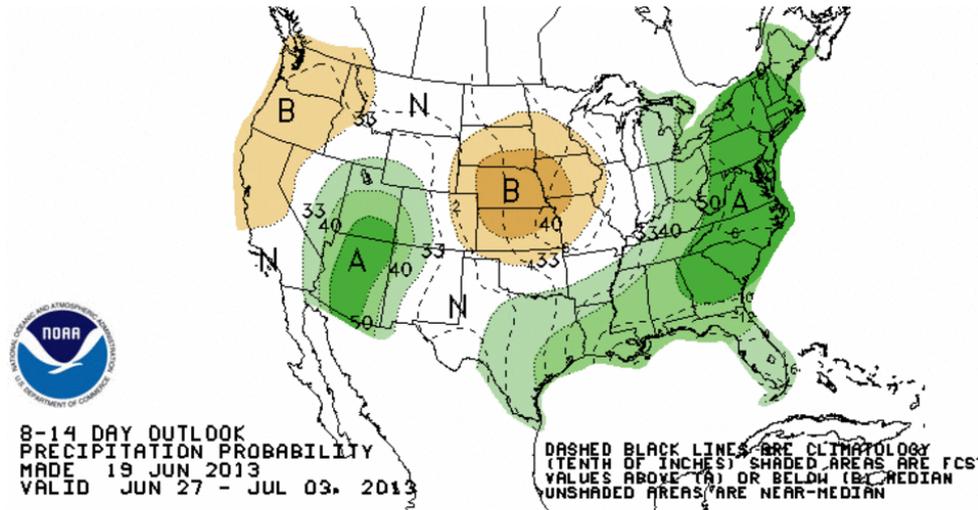
iGrow.org

8-14 Day Outlook

27 June-3 July 2013



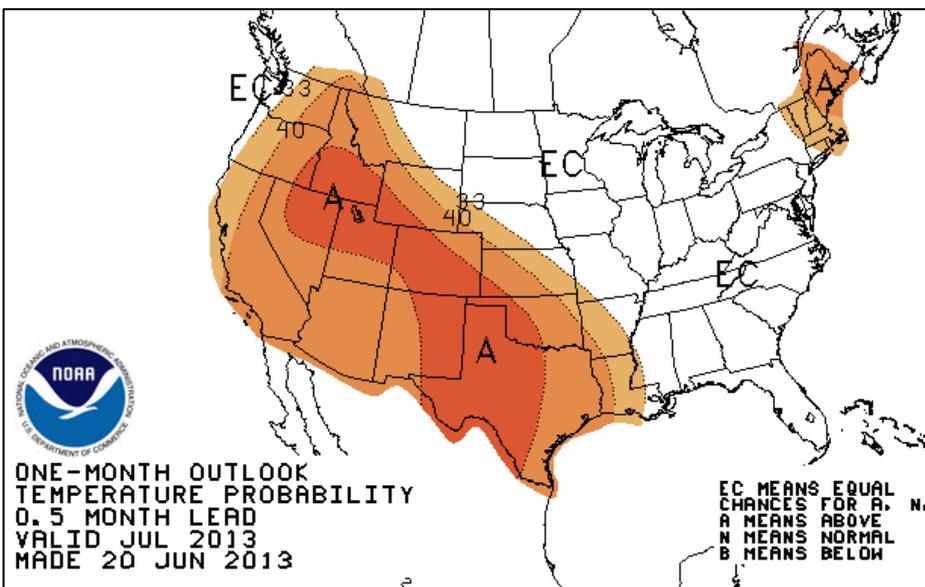
Temperature



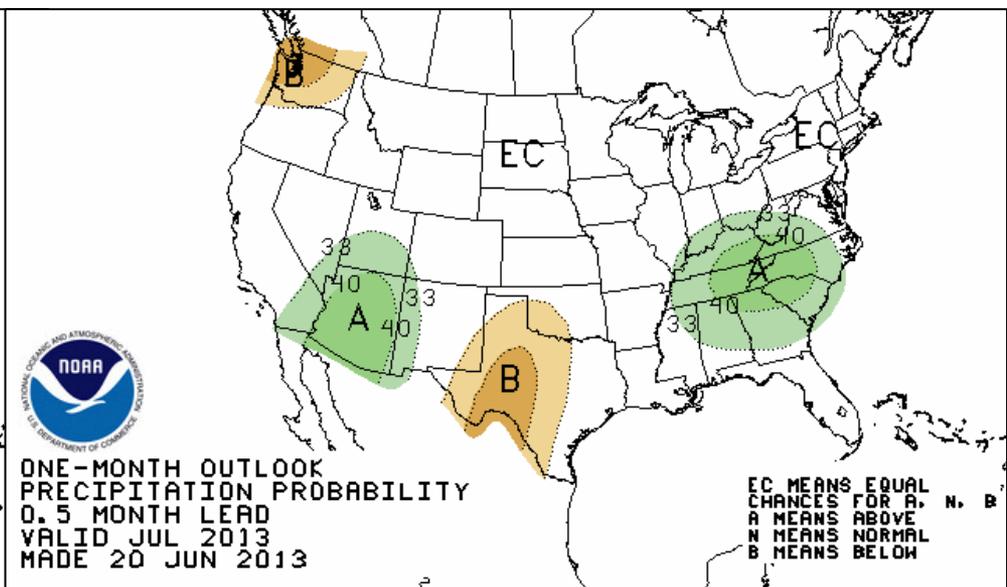
Precipitation

July 2013

Temperature and Precipitation Probabilities



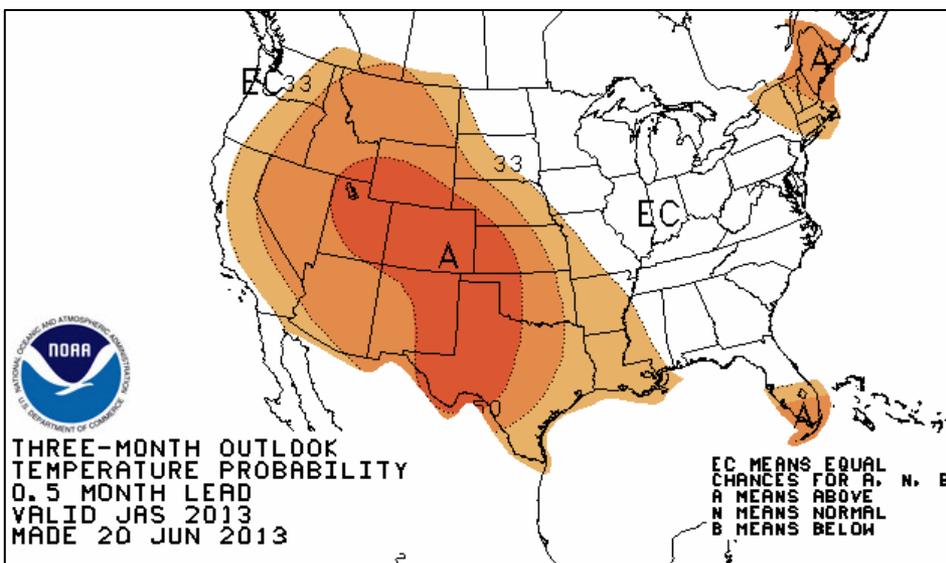
Temperature



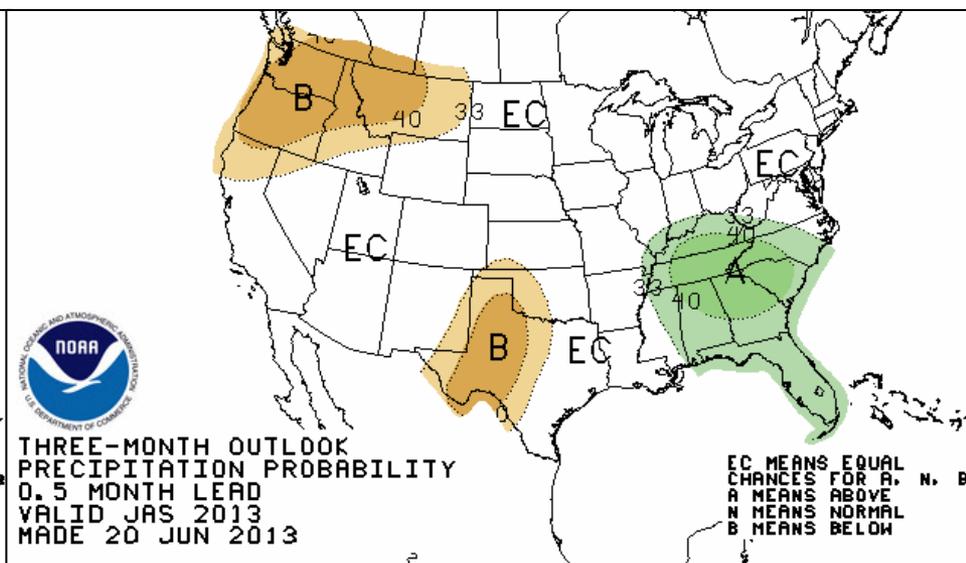
Precipitation

July – September 2013

Temperature and Precipitation Probabilities



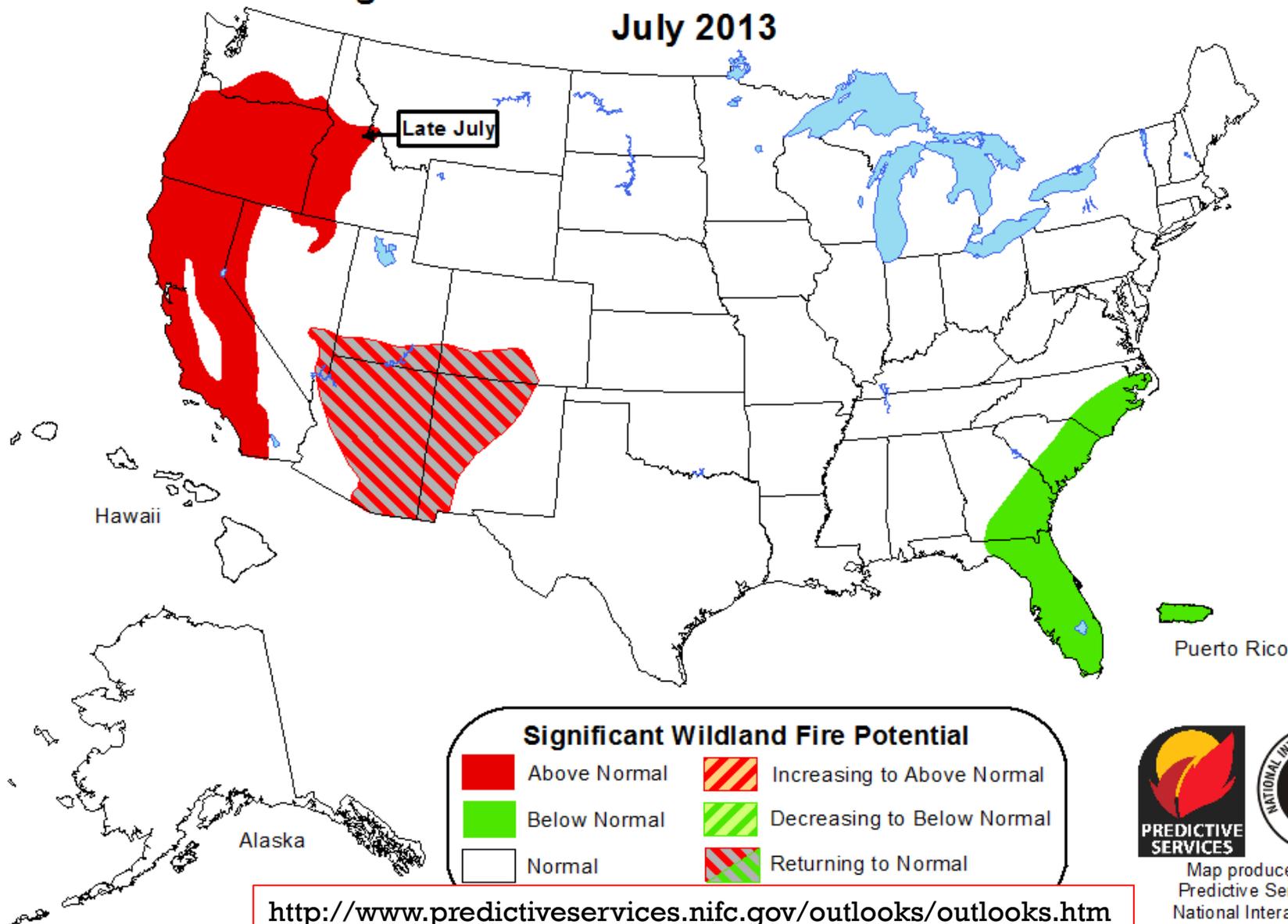
Temperature



Precipitation

<http://www.cpc.ncep.noaa.gov/products/predictions/90day/>

Significant Wildland Fire Potential Outlook July 2013



Significant Wildland Fire Potential

	Above Normal		Increasing to Above Normal
	Below Normal		Decreasing to Below Normal
	Normal		Returning to Normal

<http://www.predictiveservices.nifc.gov/outlooks/outlooks.htm>

Above normal significant wildland fire potential indicates a higher than usual likelihood that wildland fires will occur and/or become significant events. Wildland fires are still expected to occur during forecasted normal conditions as would usually be expected during the outlook period. Significant wildland fires are still possible but less likely than usual during forecasted below normal periods.



Map produced by
Predictive Services,
National Interagency
Coordination Center
Boise, Idaho

Issued June 1, 2013
Next issuance July 1, 2013

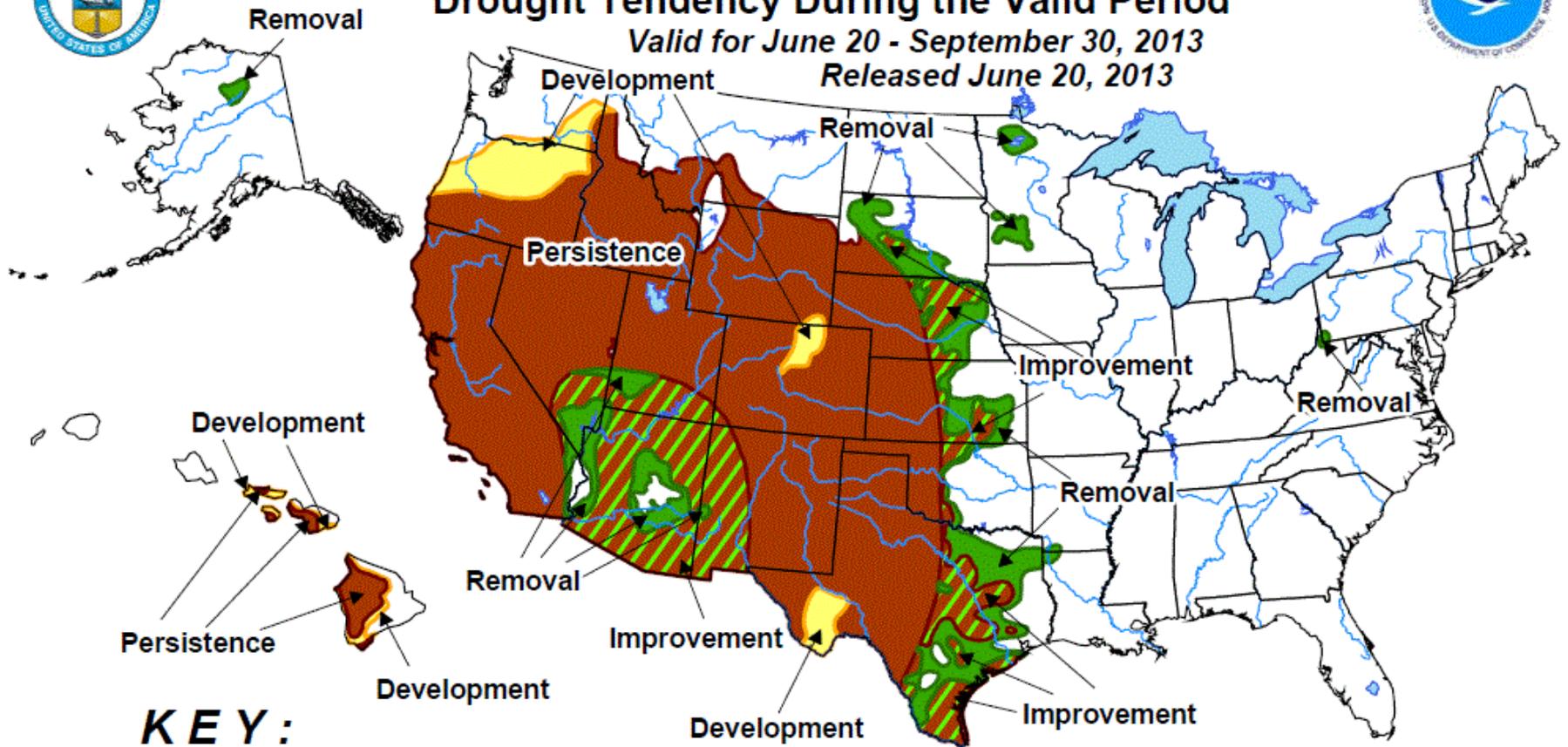


U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for June 20 - September 30, 2013

Released June 20, 2013



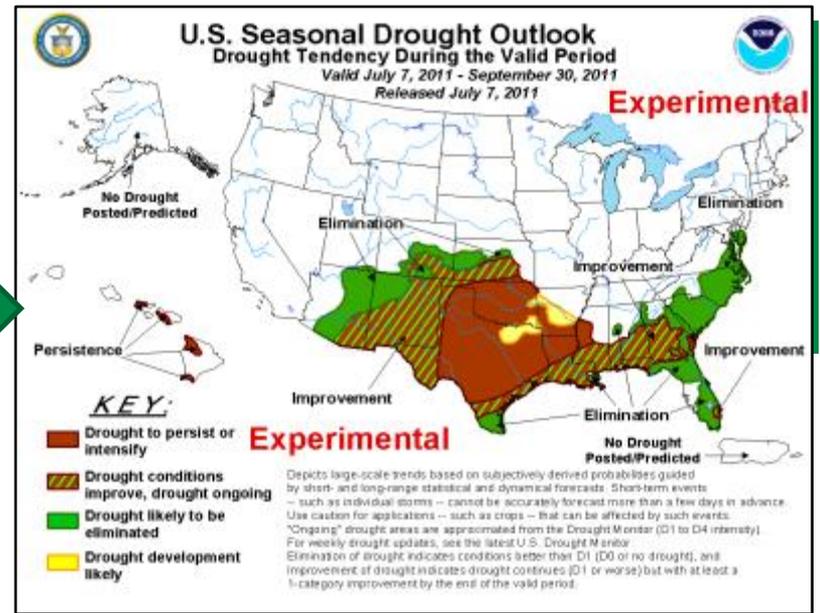
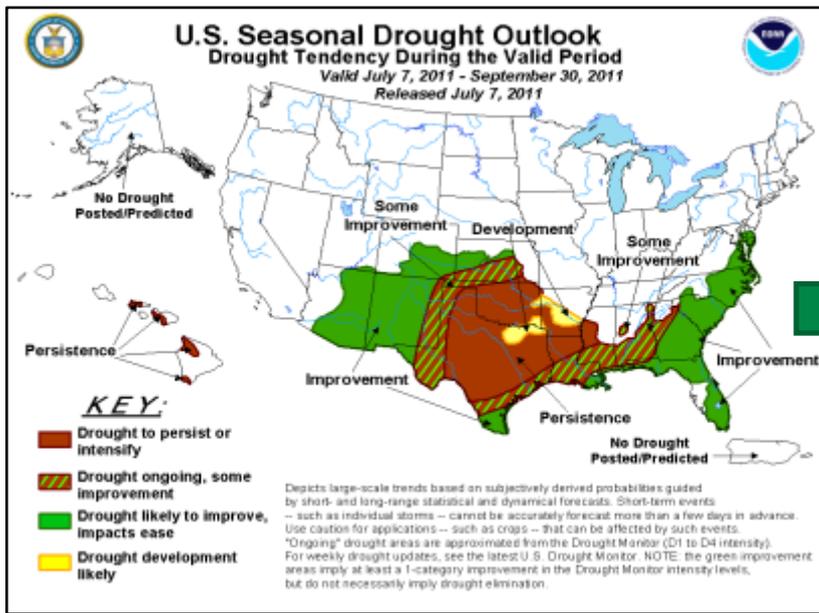
KEY:

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

No Drought Posted/Predicted 

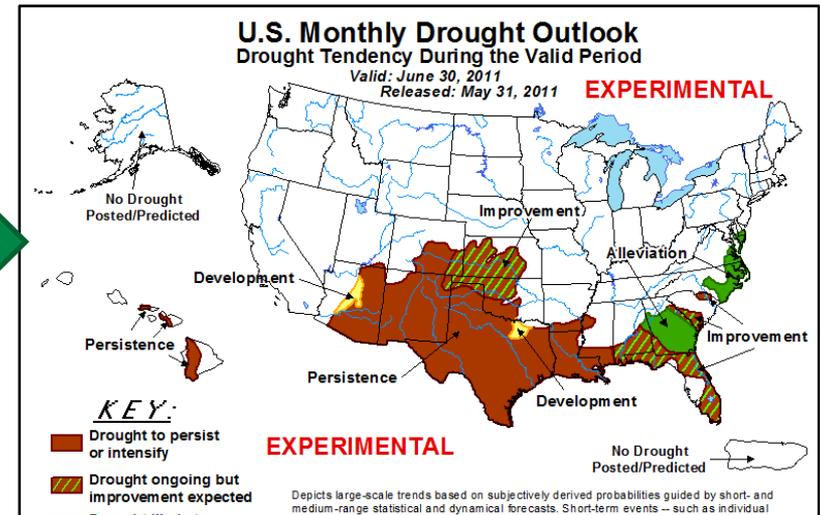
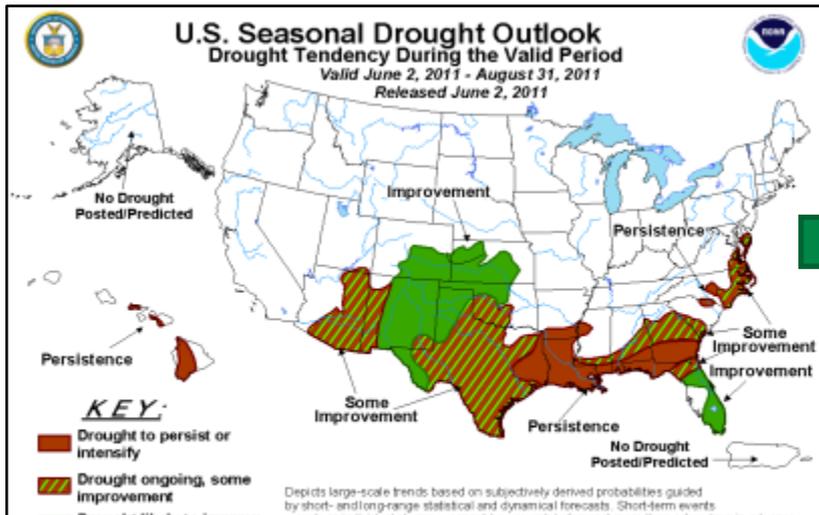
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- 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 and Brown hatched 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)



Current USDO: Initial 3-Month (Top) & Updated 3-Month (Below)

New USDO: 3-Month (Top) & 1-Month (Below)



For more details:

http://www.cpc.ncep.noaa.gov/products/expert_assessment/DO-changes.shtml

Summary of Current Conditions



Hail near Ft. Morgan, CO, 6/17/13

- Very wet May in northern Plains & upper Mississippi valley, record wet spring
- Near average May temperatures overall, slightly warmer in eastern states
- Soil moisture is adequate to surplus in north and east, dry in NE, KS, CO, WY
- Winter wheat poor due to drought, corn and soybeans have too much water

Summary of Outlooks



- ENSO neutral forecast through summer season
- Drought conditions likely to improve on eastern fringe of current drought area, persisting in west
- Short-term forecast shows wet for a week or so, then turning drier and warmer. Humidity could rise.
- July outlook shows equal chances of above average, near average, or below average temperature and rainfall
- July-September outlook shows higher likelihood of warmer in west and southwest states

Further Information -- Partners

- ❑ Today's and Past Recorded Presentations:
<http://mrcc.isws.illinois.edu/webinars.htm>
<http://www.hprcc.unl.edu/webinars.php>
- ❑ 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!



Questions?

■ Climate:

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- Mike Timlin: mtimlin@illinois.edu 217-333-8506
- Natalie Umphlett: numphlett2@unl.edu 402-472-6764
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