

Great Plains and Midwest Climate Outlook July 16, 2015

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Drought Risk Management Research Center
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(Austen Leake/Tribune-Star via AP)



General Information

▶ Providing climate services to the Central Region

- Collaboration Activity Between:
- Collaboration with Dennis Todey (South Dakota State Climatologist), Jim Angel (Illinois 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, Brian Fuchs (National Drought Mitigation Center)

▶ Next Climate/Drought Outlook Webinar

- August 20, 2015

▶ Access to Future Climate Webinars and Information

- ▶ <http://www.drought.gov/drought/content/regional-programs/regional-drought-webinars>

▶ Past recorded presentations and slides can be found here:

- ▶ <http://mrcc.isws.illinois.edu/webinars.htm>
- ▶ <http://www.hprcc.unl.edu/webinars.php>

▶ There will be time for questions at the end



Climate and Drought Awareness Webinar for the Upper Missouri Basin

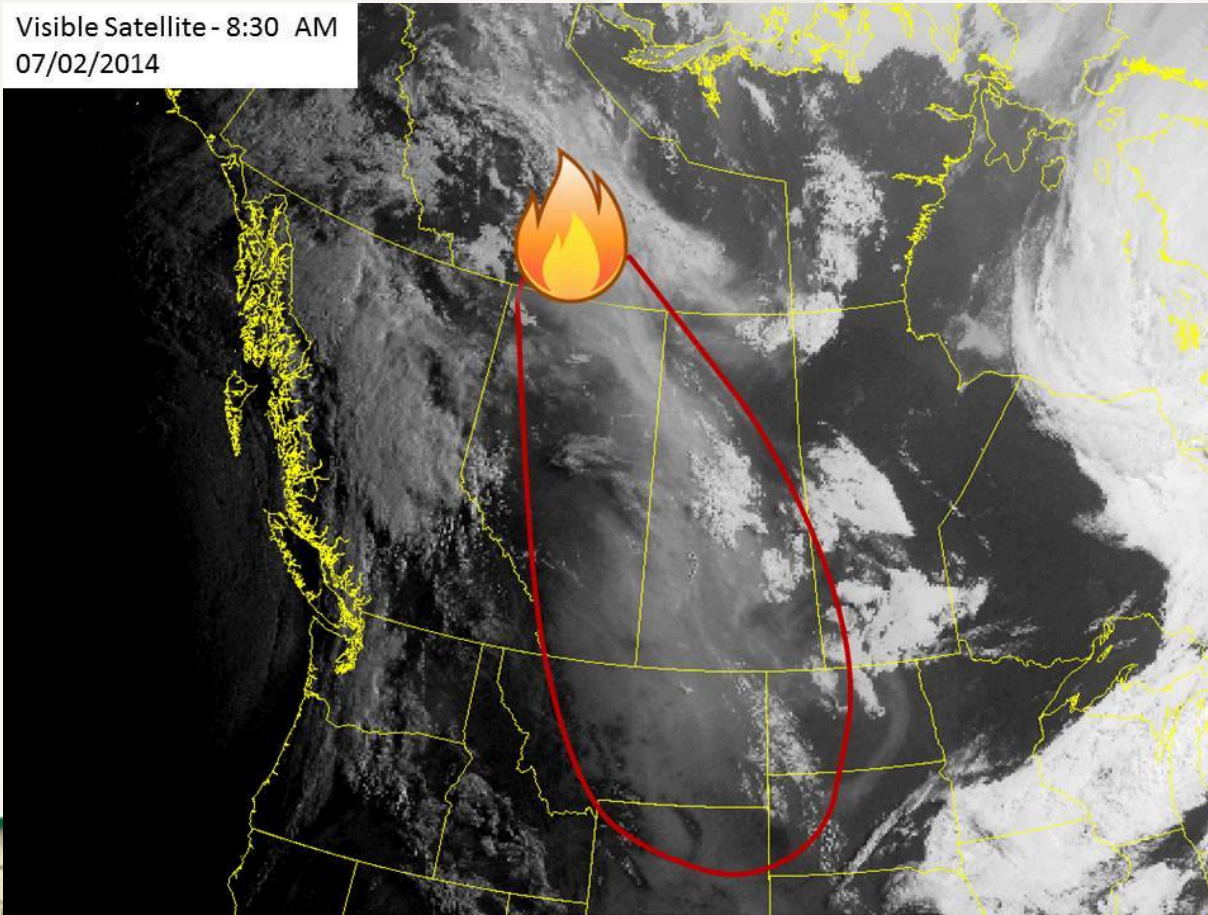
- ▶ The date is **July 30th at 1pm CDT** and sign up here: <https://attendee.gotowebinar.com/register/7915739718441789698>
- ▶ This is an extra webinar we are doing at this time due to the nature of the current situation in the upper basin, the likelihood of El Nino impacts from now through the winter and into spring and so we can get ahead of the situation by building awareness.
- ▶ Due to the potential impacts there may be some stakeholders interested in paying close attention or making specific decisions based on this information.



Agenda

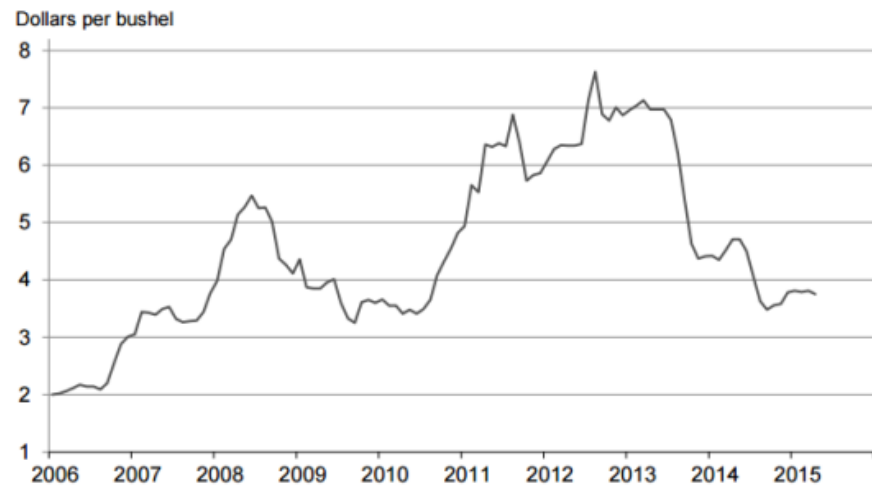
- ▶ Current Conditions
- ▶ Regional Climate Updates
- ▶ Outlooks

Visible Satellite - 8:30 AM
07/02/2014



Current Conditions

Prices Received for Corn by Month – United States

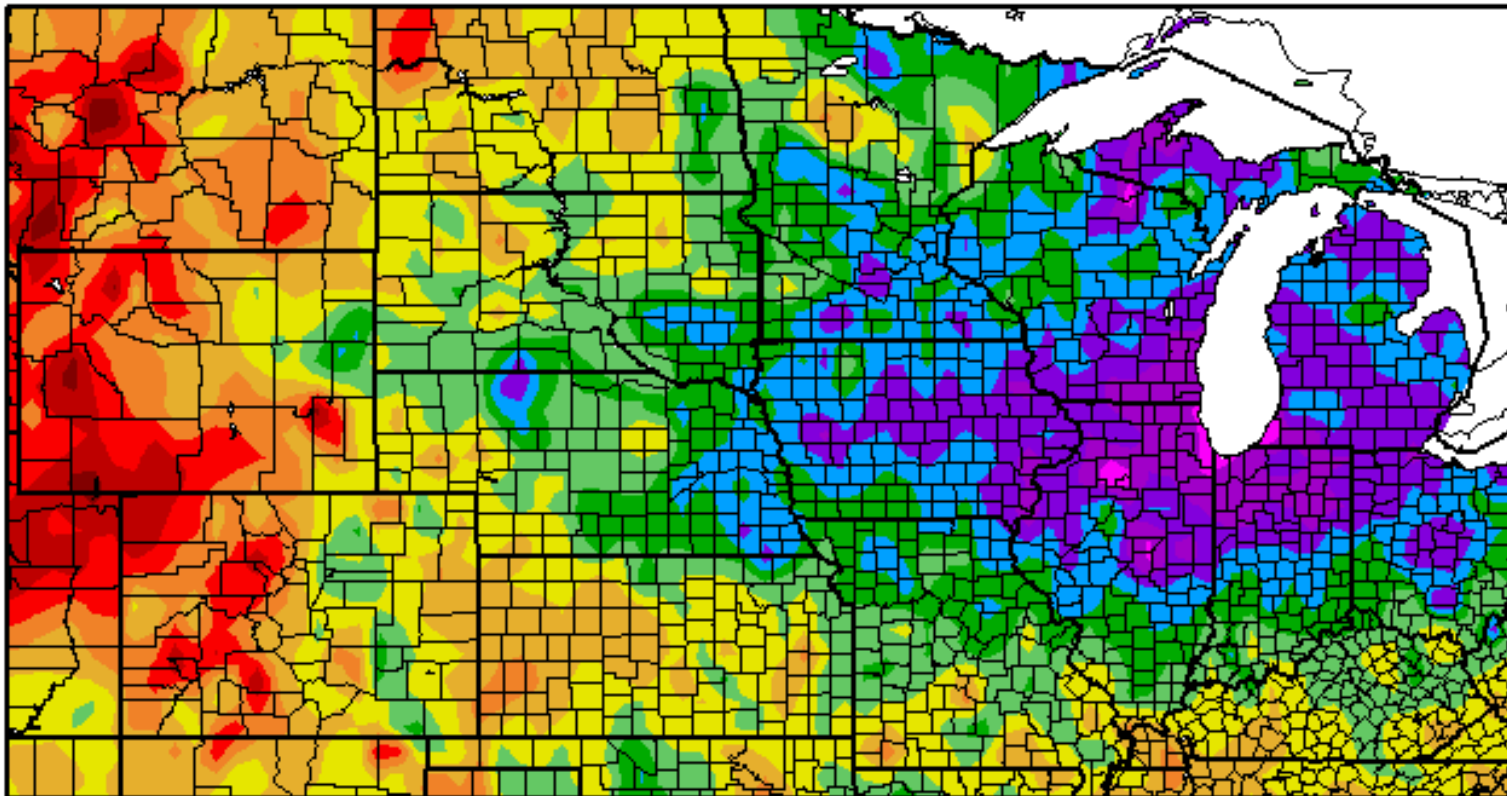


30-Day Temperature Departure

Departure from Normal Temperature (F)

6/16/2015 - 7/15/2015

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



Generated 7/16/2015 at HPRCC using provisional data.

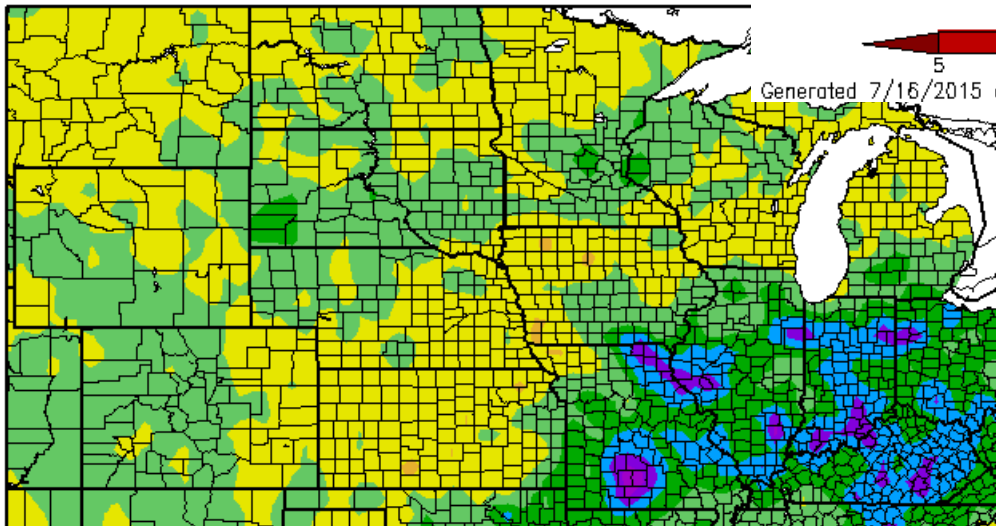
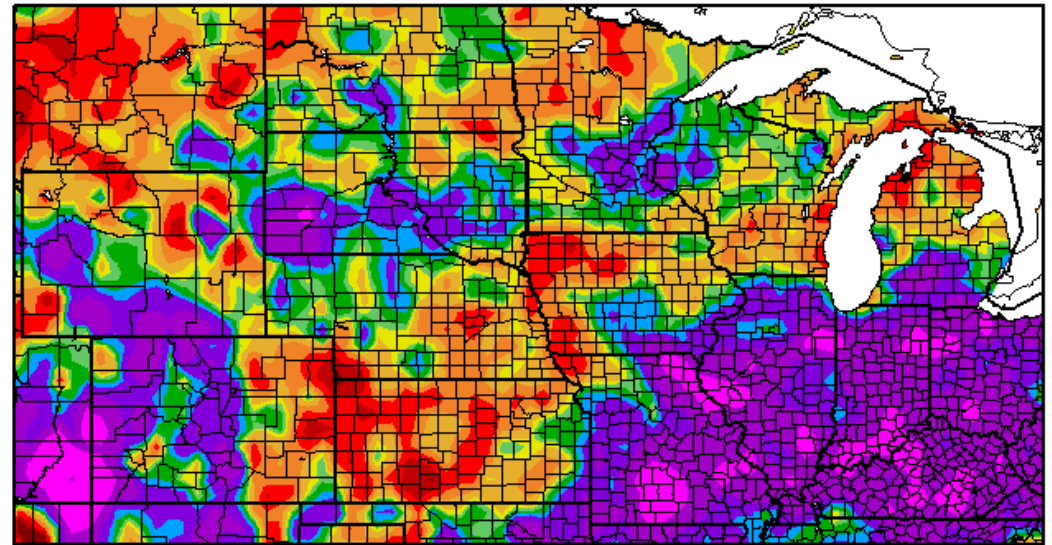
Regional Climate Centers



30-Day Precipitation

Percent of Normal Precipitation (%)
6/16/2015 - 7/15/2015

Departure from Normal Precipitation
6/16/2015 - 7/15/2015



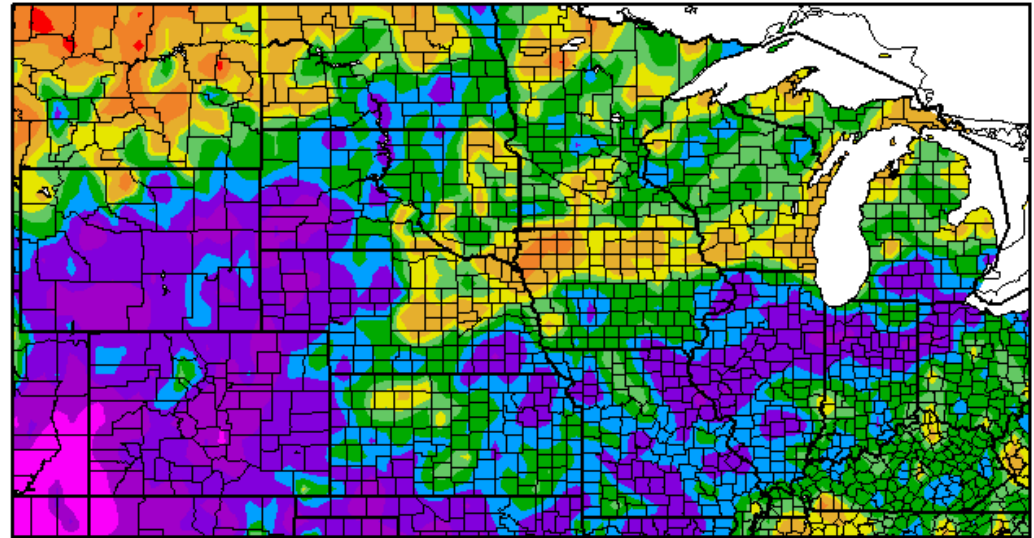
5 25 50 70 90 100 110 130 150 200 300
Generated 7/16/2015 at HPRCC using provisional data. Regional Climate Centers

-15 -12 -9 -6 -3 0 3 6 9 12 15
Generated 7/16/2015 at HPRCC using provisional data. Regional Climate Centers

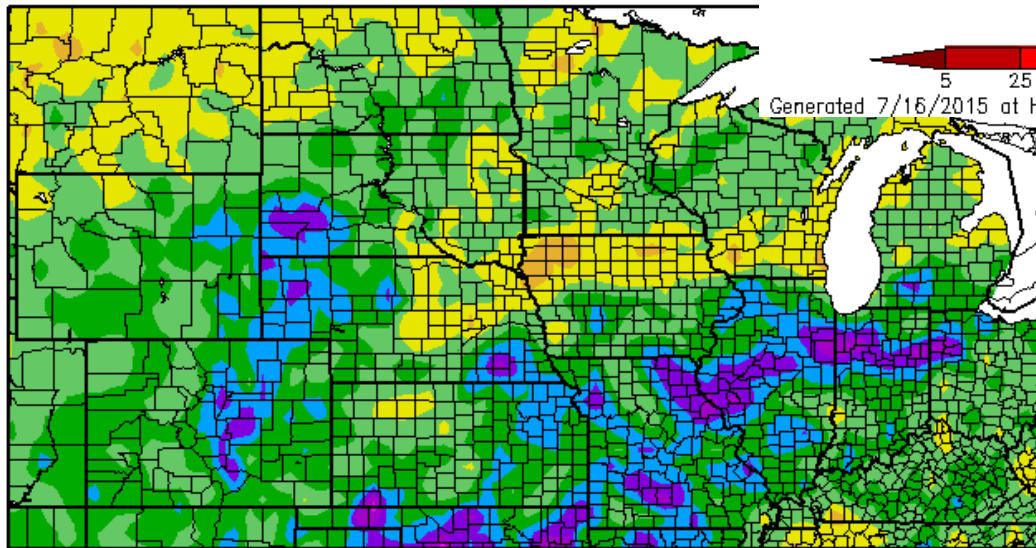


90-Day Precipitation

Percent of Normal Precipitation (%)
4/17/2015 – 7/15/2015

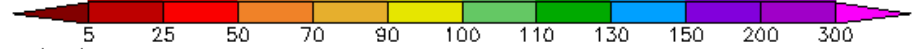


Departure from Normal Precipitation
4/17/2015 – 7/15/2015



Generated 7/16/2015 at HPRCC using provisional data.

Regional Climate Centers



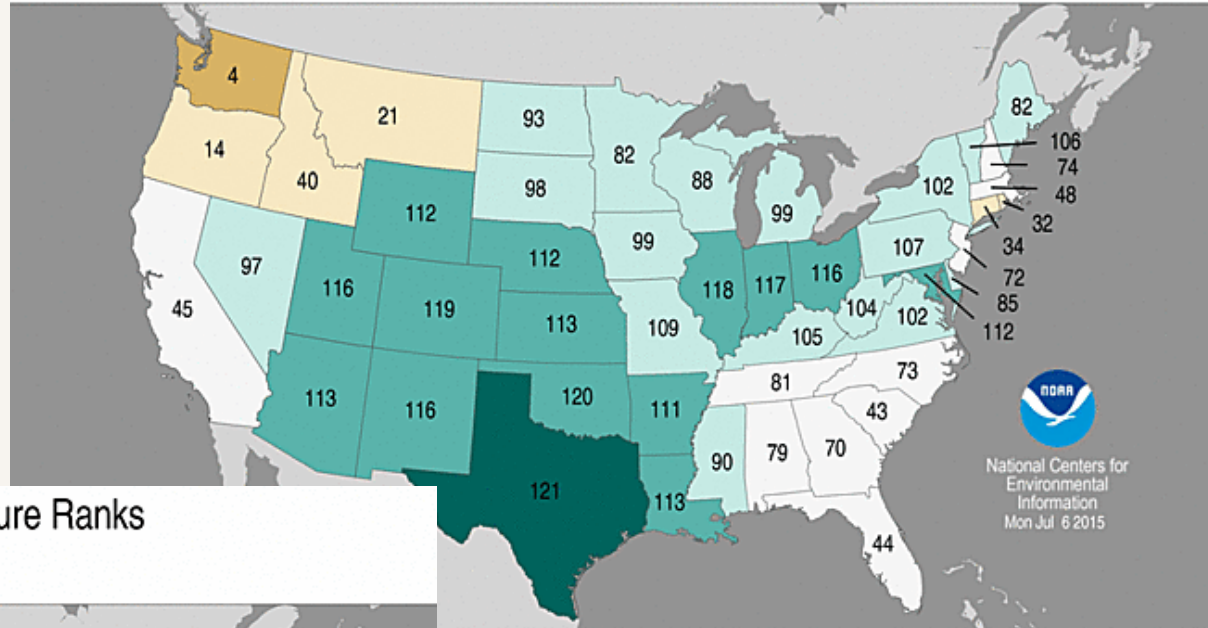
Generated 7/16/2015 at HPRCC using provisional data.

Regional Climate Centers



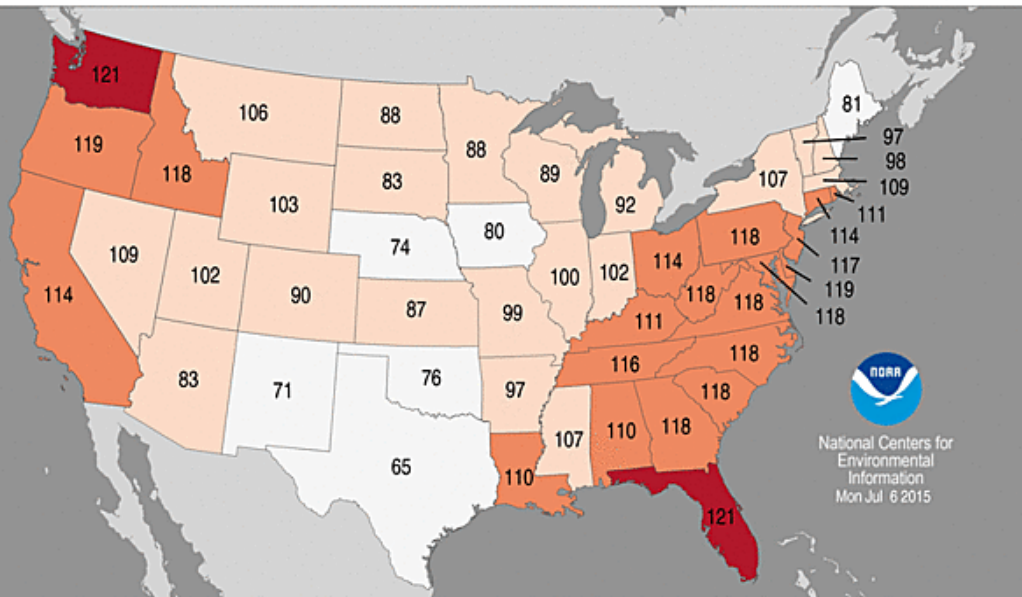
April-June Climate

Statewide Precipitation Ranks
April-June 2015
Period: 1895-2015



National Centers for Environmental Information
Mon Jul 6 2015

Statewide Average Temperature Ranks
April-June 2015
Period: 1895-2015



National Centers for Environmental Information
Mon Jul 6 2015

Below Average Near Average Above Average Much Above Average Record Wettest (121)

Record Coldest (1) Much Below Average Below Average Near Average Above Average Much Above Average Record Warmest (121)

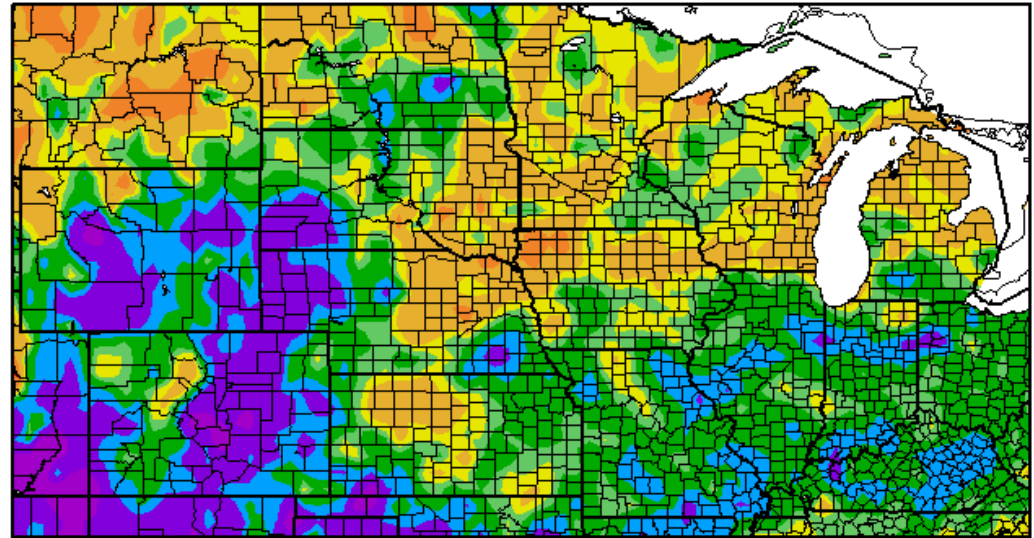


UNIVERSITY OF
Nebraska
Lincoln

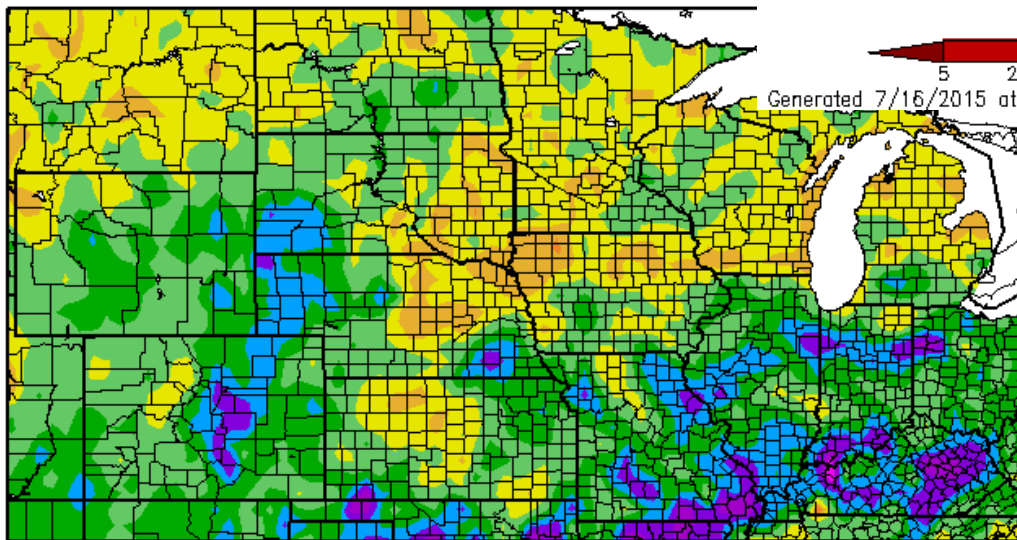


Year to Date Precipitation

Percent of Normal Precipitation (%)
1/1/2015 - 7/15/2015

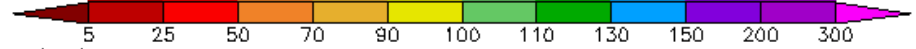


Departure from Normal Precipitation
1/1/2015 - 7/15/2015



Generated 7/16/2015 at HPRCC using provisional data.

Regional Climate Centers



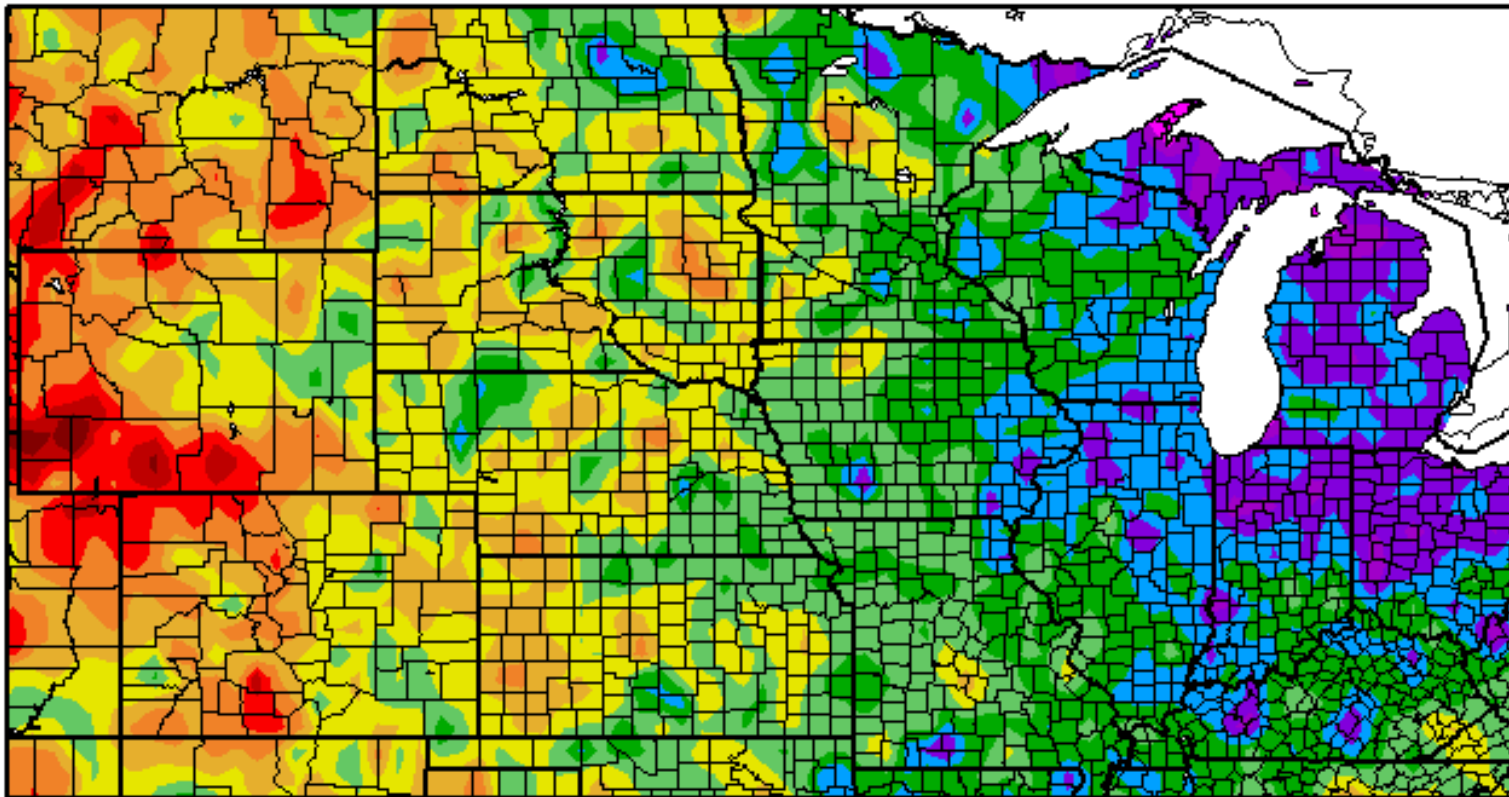
Generated 7/16/2015 at HPRCC using provisional data.

Regional Climate Centers



Year to Date Temperature

Departure from Normal Temperature (F)
1/1/2015 - 7/15/2015



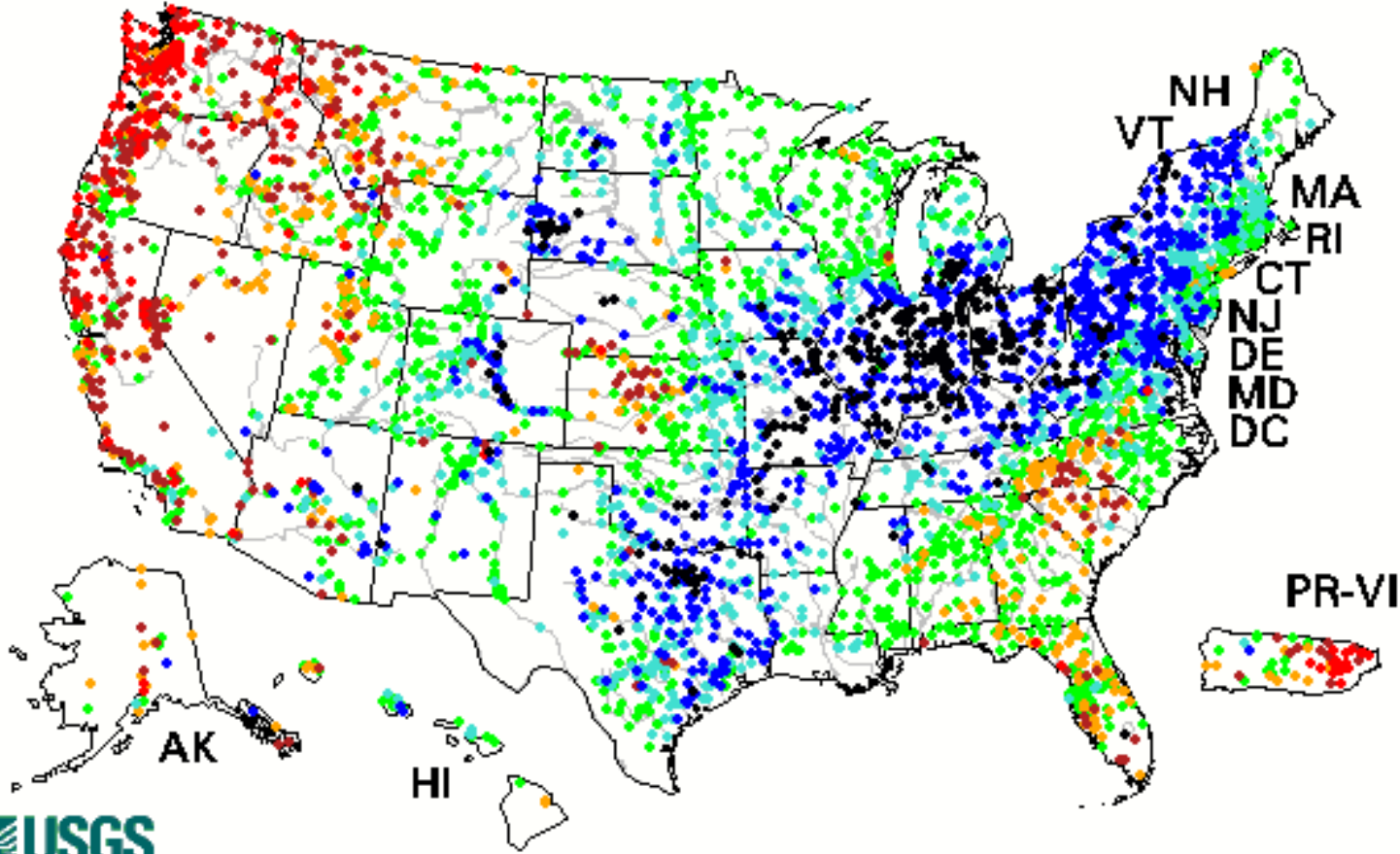
Generated 7/16/2015 at HPRCC using provisional data.

Regional Climate Centers



28-Day Average Streamflow

Wednesday, July 15, 2015



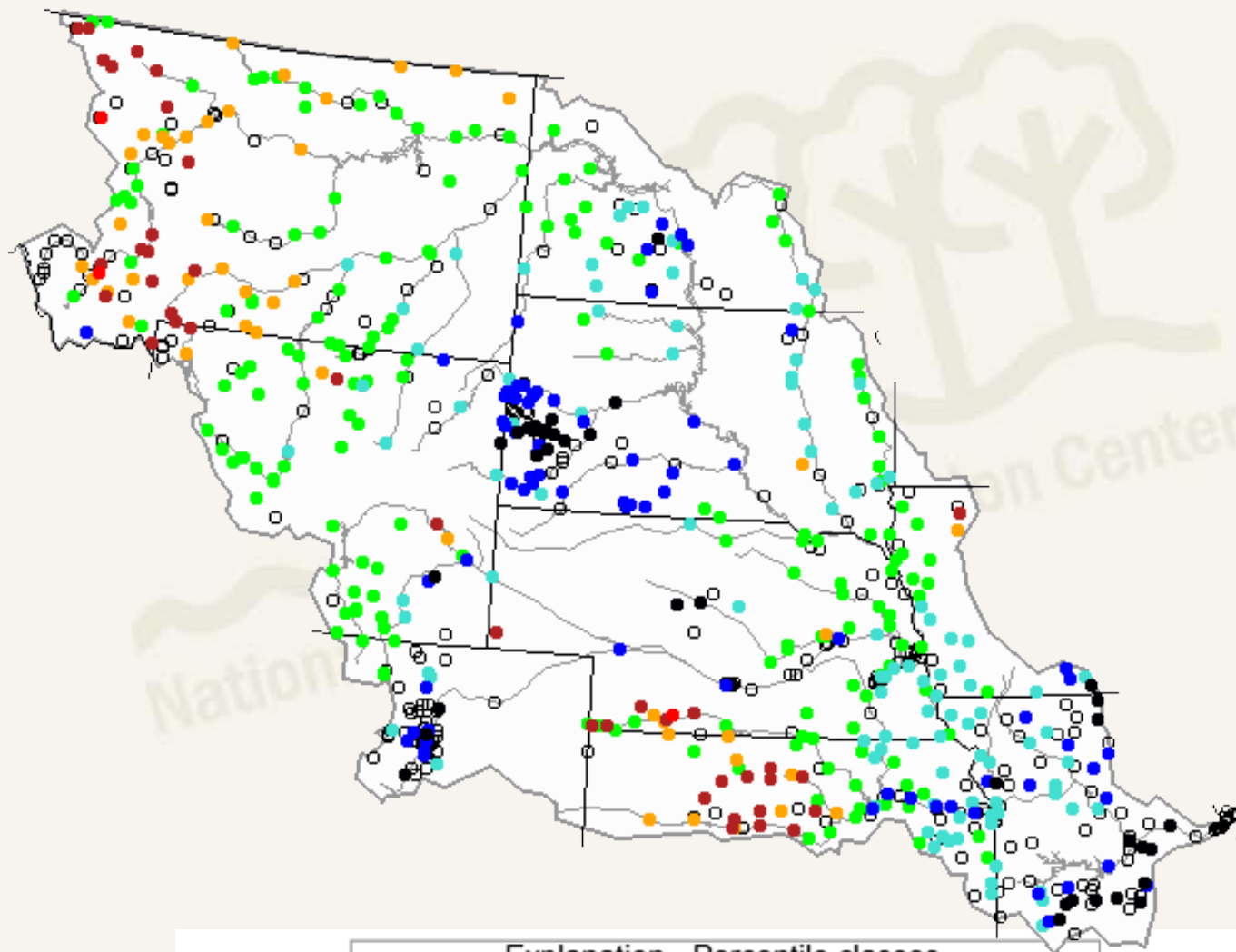
<http://waterwatch.usgs.gov/>

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



28-Day Average Streamflow

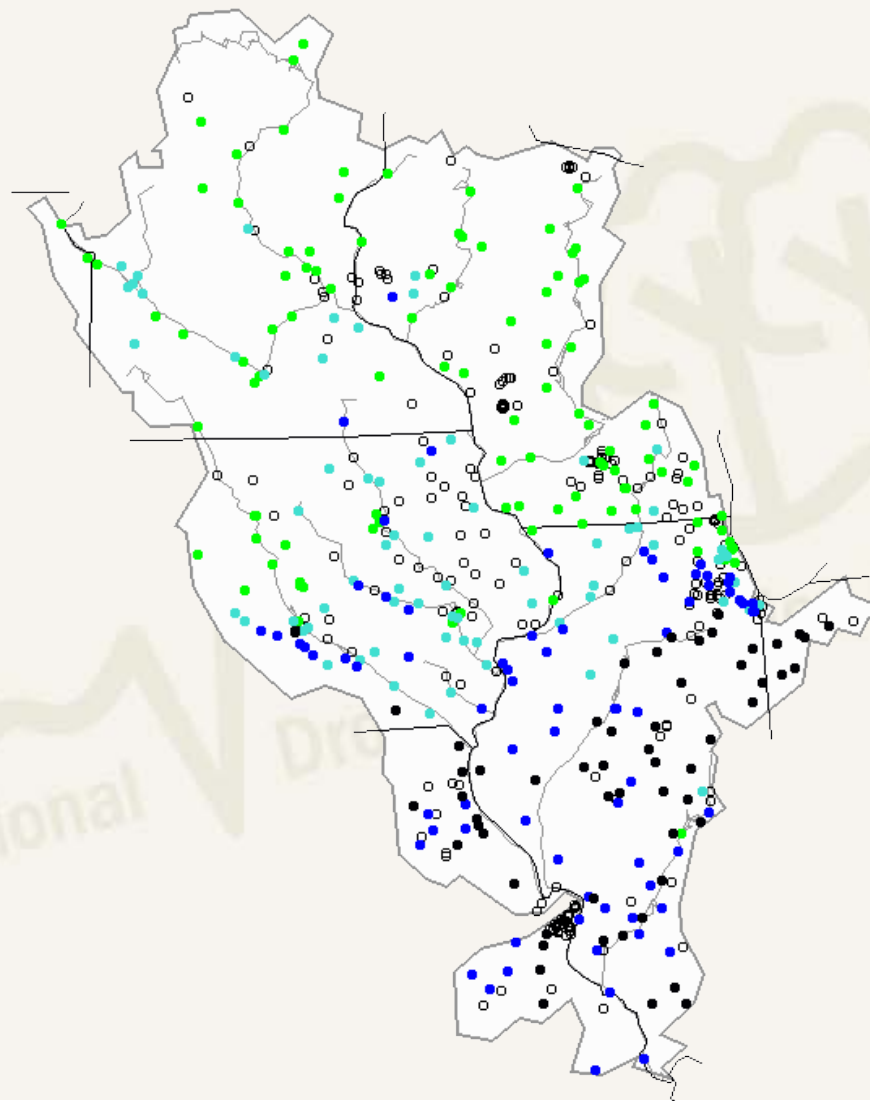
Tuesday, July 14, 2015










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

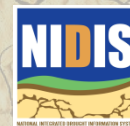
28-Day Average Streamflow

Wednesday, July 15, 2015



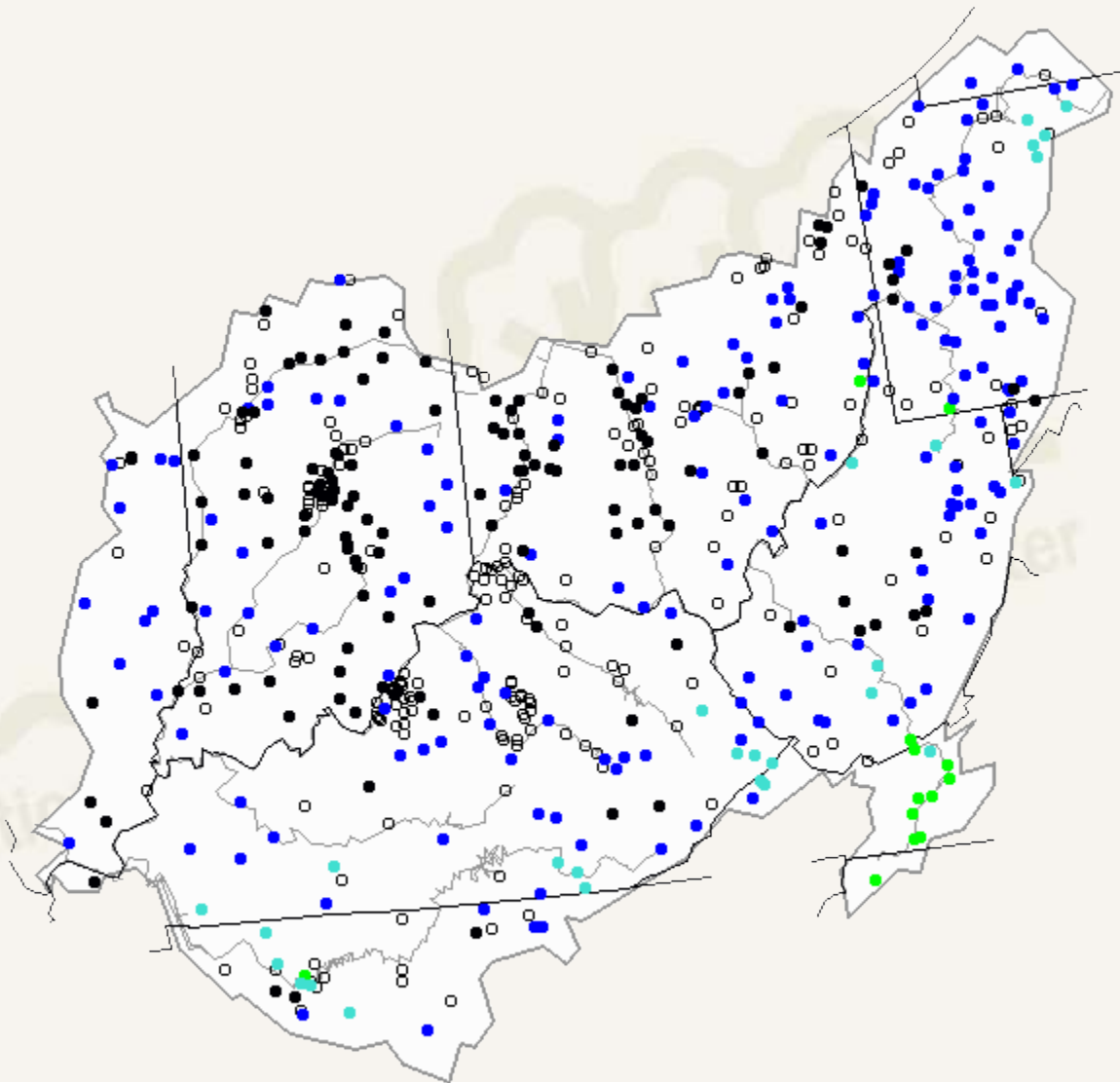
Explanation - Percentile classes

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

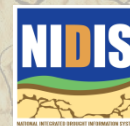


28-Day Average Streamflow

Wednesday, July 15, 2015



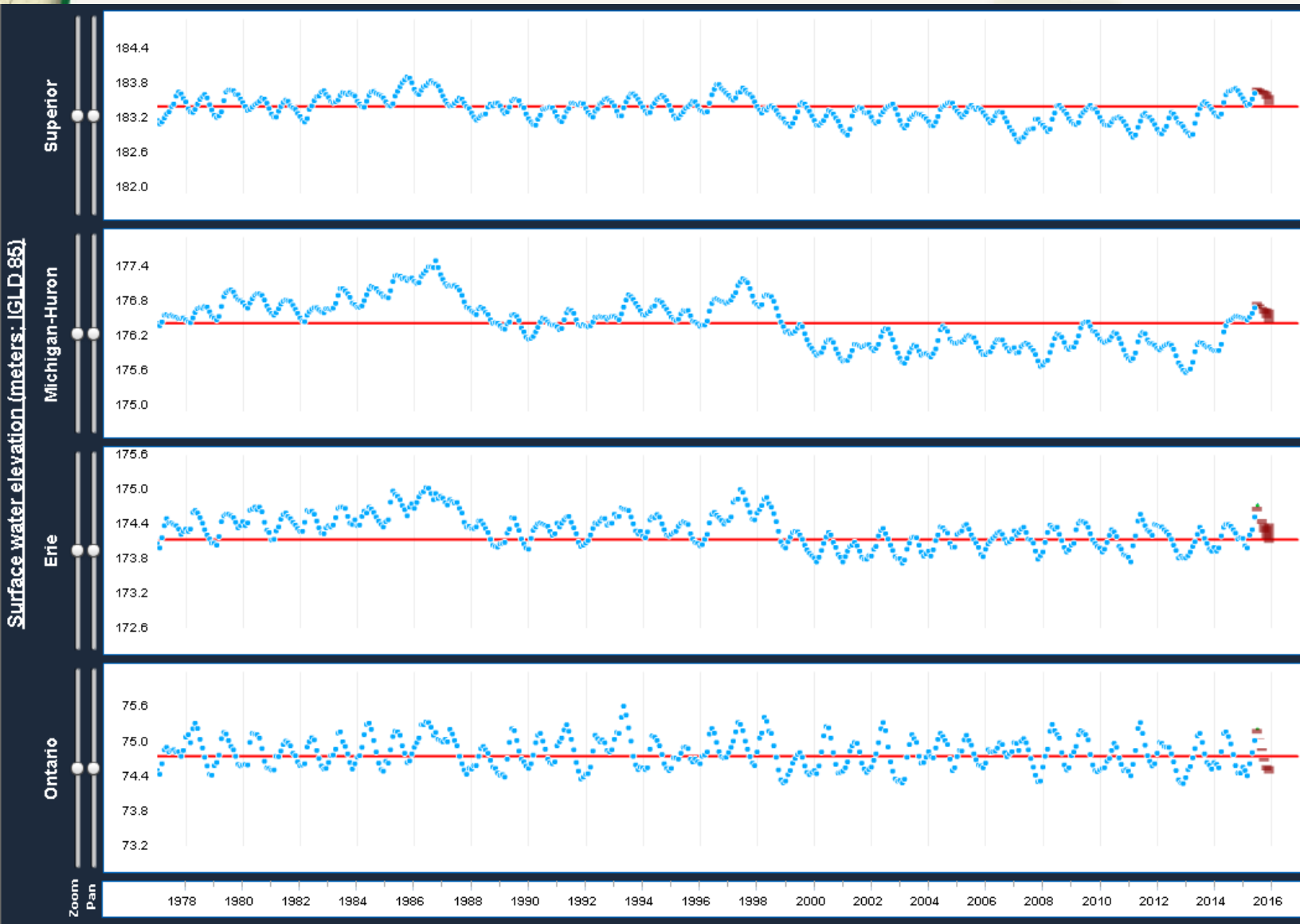
Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	





Great Lakes

<http://www.glerl.noaa.gov/>



GREAT LAKES SURFACE ENVIRONMENTAL ANALYSIS (GLSEA)

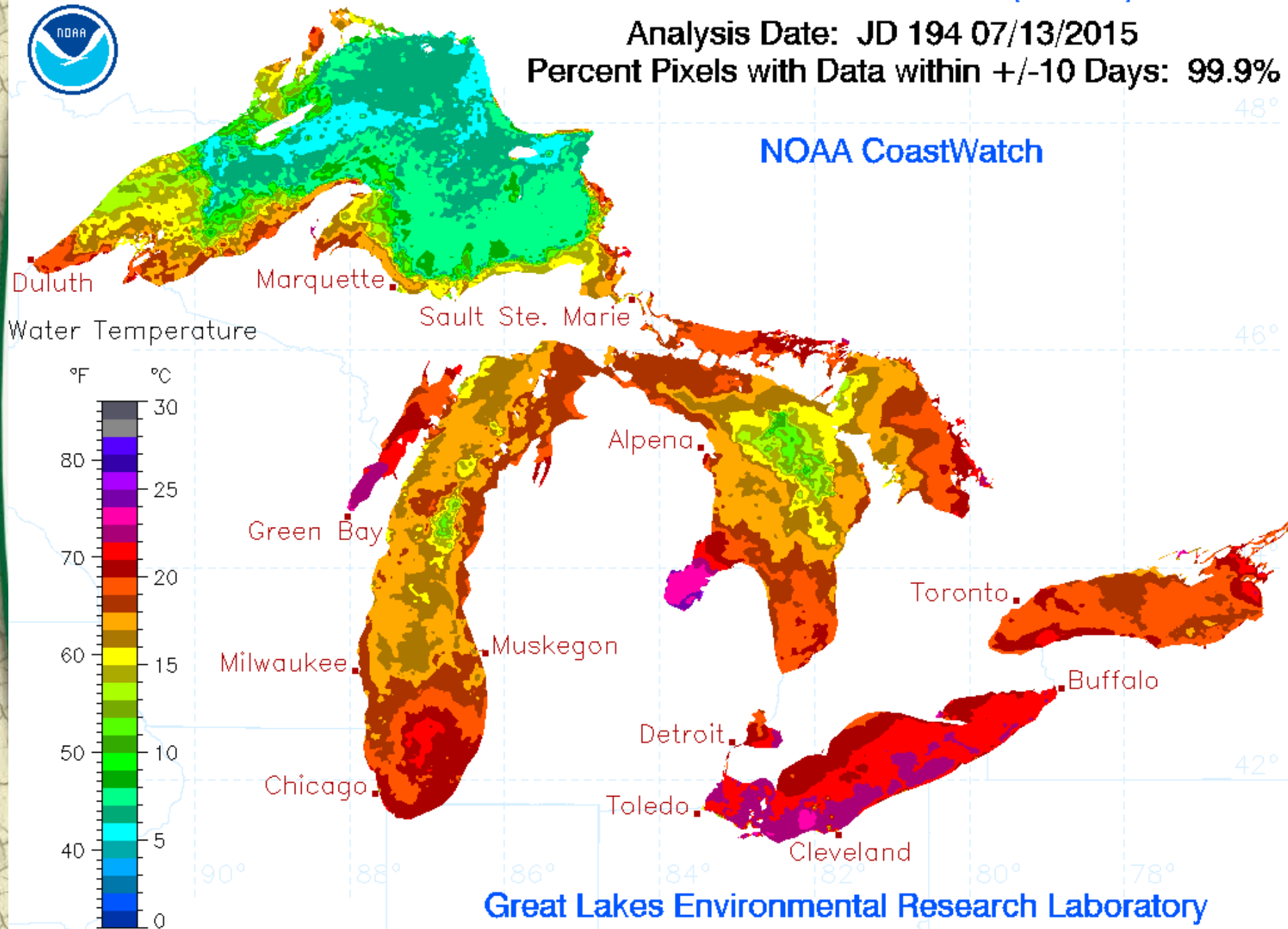
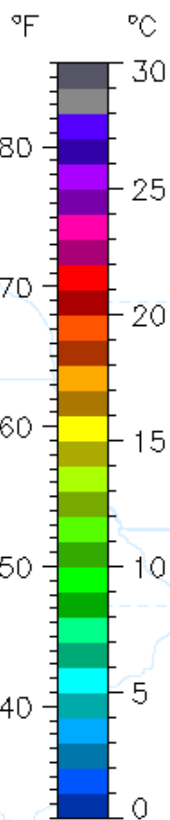


Analysis Date: JD 194 07/13/2015

Percent Pixels with Data within +/-10 Days: 99.9%

NOAA CoastWatch

Water Temperature

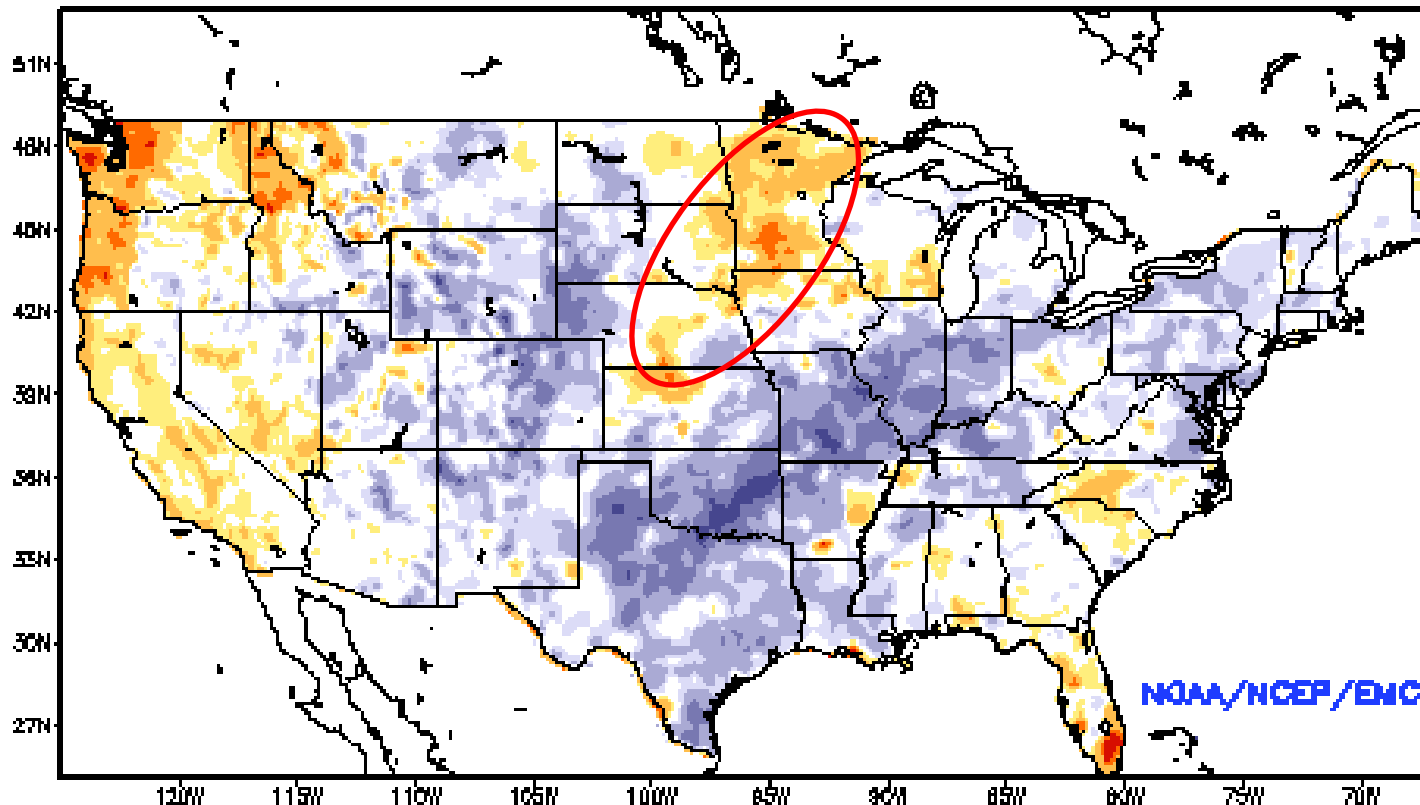


Great Lakes Environmental Research Laboratory

Soil Moisture Anomaly

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

Ensemble-Mean - Current Total Column Soil Moisture Anomaly (mm)
NCEP NLDAS Products ___ Valid: JUL 11, 2015



NASS Soil Moisture Conditions

Topsoil Moisture Condition - Selected States: Week Ending July 12, 2015

State	:Very short	: Short	: Adequate	: Surplus
	percent			
Colorado	1	15	77	7
Illinois	-	1	45	54
Indiana	-	1	39	60
Iowa	-	3	77	20
Kansas	5	23	63	9
Kentucky	-	2	55	43
Michigan	1	12	65	22
Minnesota	-	5	84	11
Missouri	-	-	55	45
Nebraska	4	19	71	6
North Dakota ...:	-	5	80	15
Ohio	-	1	38	61
South Dakota ...:	5	16	73	6
Wisconsin	2	14	75	9
Wyoming	-	19	74	7

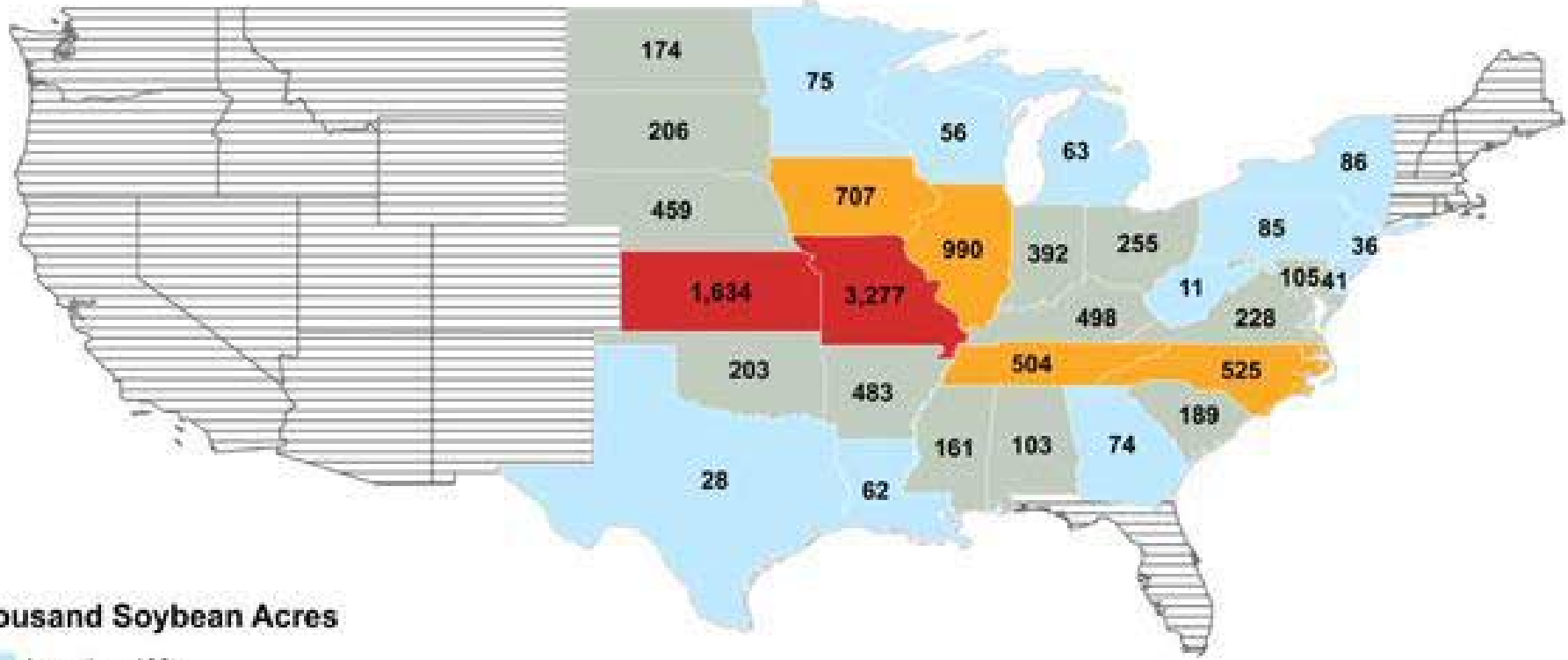
http://www.nass.usda.gov/Statistics_by_State/

Subsoil Moisture Condition - Selected States: Week Ending July 12, 2015

State	:Very short	: Short	: Adequate	: Surplus
	Percent			
Colorado	3	16	79	2
Illinois	-	1	51	48
Indiana	-	1	42	57
Iowa	-	3	78	19
Kansas	7	20	69	4
Kentucky	-	3	67	30
Michigan	-	7	67	26
Minnesota	-	6	88	6
Missouri	-	1	63	36
Nebraska	4	18	73	5
North Dakota ...:	-	6	80	14
Ohio	-	-	44	56
South Dakota ...:	6	19	71	4
Wisconsin	1	10	84	5
Wyoming	-	16	76	8



12 Million Intended Soybean Acres Unplanted As of June 14, 2015



Thousand Soybean Acres

- Less than 100
- 100 to 500
- 500 to 1,000
- Greater than 1,000

Based on USDA NASS March Intentions and Crop Progress data

Prepared By:
@New10_AgEcon



Newton, J. "Crop Progress and Implications for 2015 Prevented Planting in Corn and Soybeans." *farmdoc daily* (5):109, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 12, 2015.

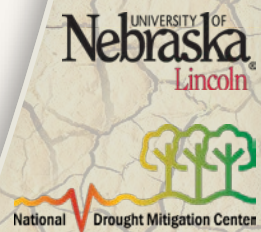
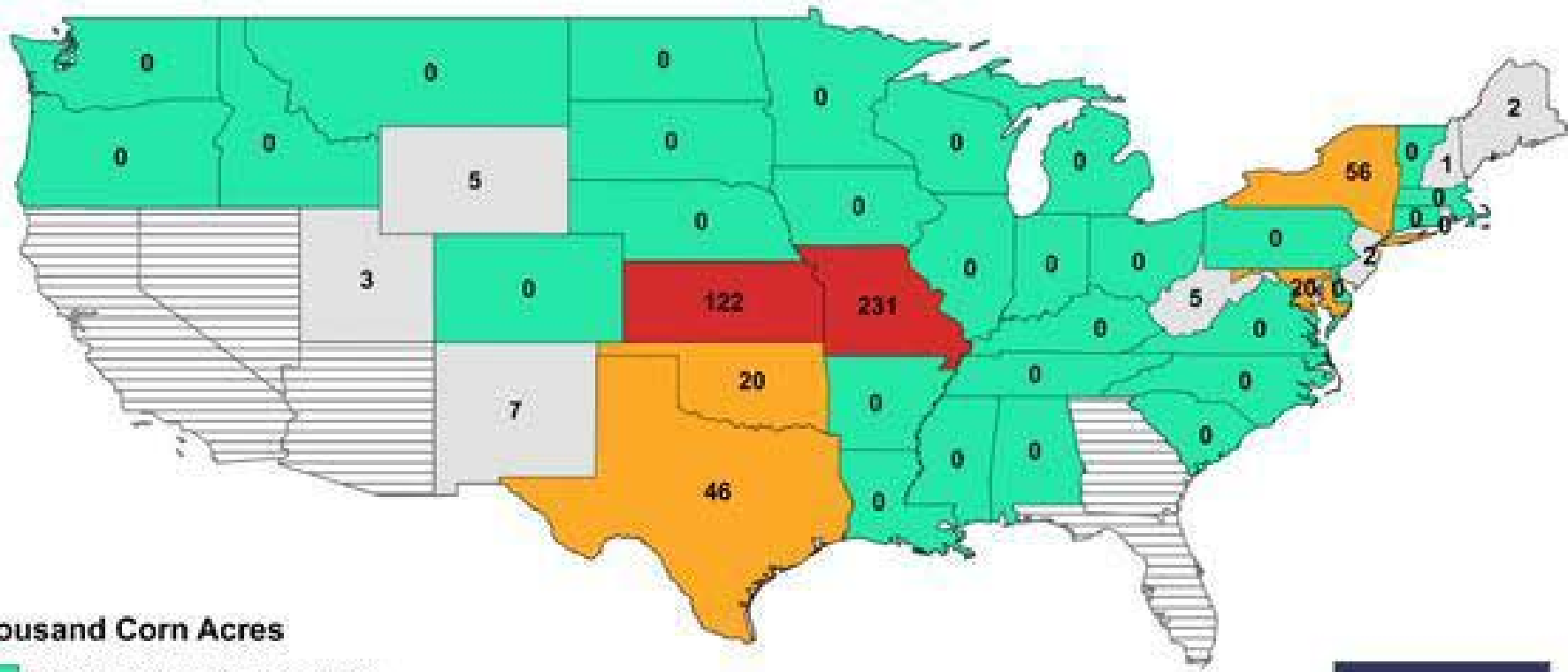


Figure 1. Intended Corn Acres Unplanted As of June 14, 2015



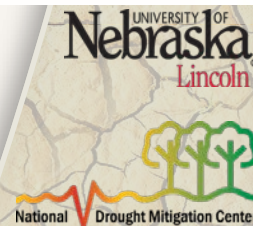
Thousand Corn Acres

- Planting intentions 100% complete
- Less than or equal to 10
- 10.1 to 100
- Greater than 100

Based on USDA NASS March Intentions and June 7 Crop Progress data



Newton, J. "Crop Progress and Implications for 2015 Prevented Planting in Corn and Soybeans." *farmdoc daily* (5):109, Department of Agricultural and Consumer Economics, University of Illinois at Urbana-Champaign, June 12, 2015.



Crop Progress

Corn Silking - Selected States

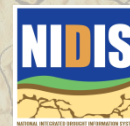
State	Week ending			
	July 12, 2014	July 5, 2015	July 12, 2015	2010-2014 Average
	percent			
Colorado	7	-	11	8
Illinois	57	26	55	54
Indiana	38	8	27	40
Iowa	23	2	17	25
Kansas	53	28	47	48
Kentucky	62	33	54	53
Michigan	8	2	4	16
Minnesota	4	-	7	18
Missouri	74	28	53	59
Nebraska	29	5	22	30
North Dakota	5	4	6	11
Ohio	13	4	20	27
South Dakota	8	1	4	10
Wisconsin	4	-	2	11



Crop Progress

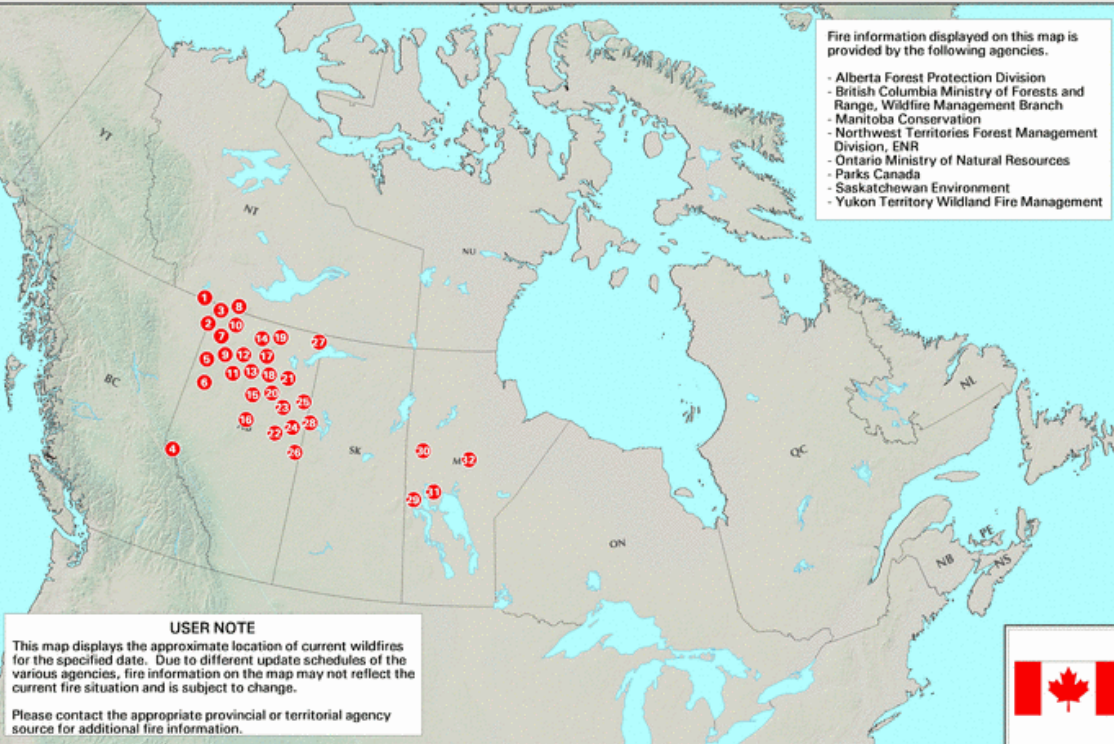
Soybeans Blooming - Selected States

State	Week ending			2010-2014 Average
	July 12, 2014	July 5, 2015	July 12, 2015	
	percent			
Illinois	47	15	33	40
Indiana	51	15	32	40
Iowa	42	20	40	42
Kansas	26	5	17	25
Kentucky	29	10	20	31
Michigan	29	19	33	32
Minnesota	25	33	63	34
Missouri	28	5	11	22
Nebraska	53	29	42	41
North Dakota	23	22	49	33
Ohio	20	11	32	29
South Dakota	54	17	36	41
Wisconsin	21	10	29	20

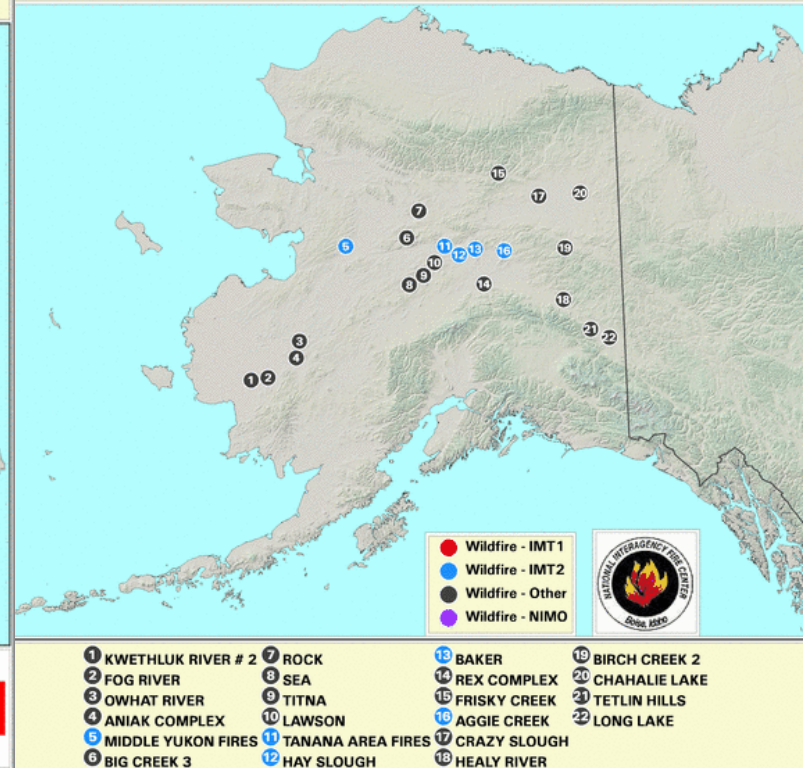


Impact of Smoke ?

Canada Wildfires - July 14, 2015 (Greater Than 2500 Hectares)



Current Large Incidents July 14, 2015



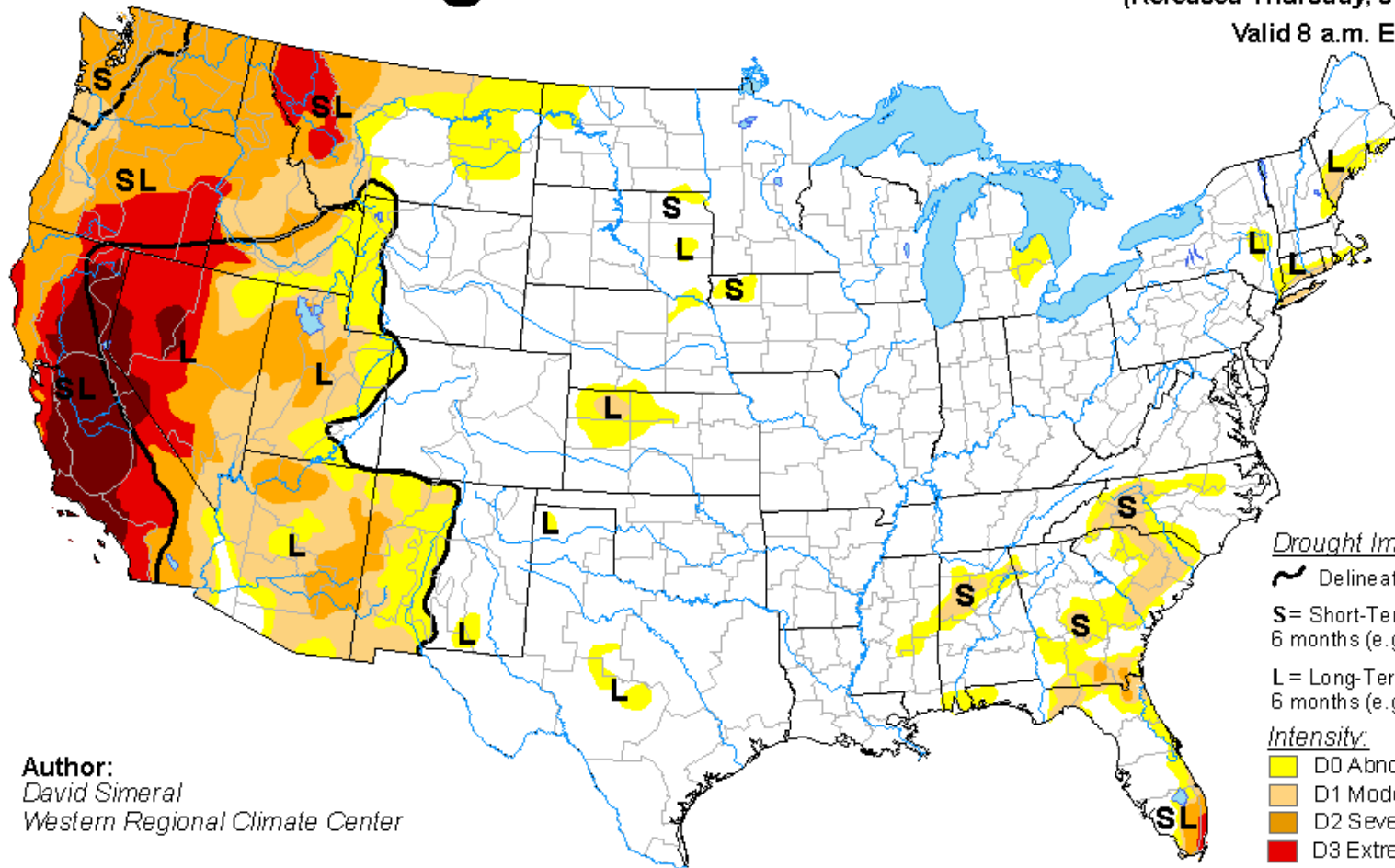
<https://www.nifc.gov/>

U.S. Drought Monitor

July 14, 2015

(Released Thursday, Jul. 16, 2015)

Valid 8 a.m. EDT



Author:
David Simeral
Western Regional Climate Center

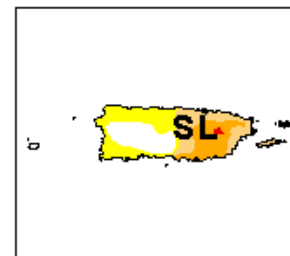
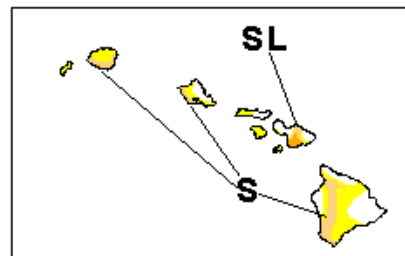
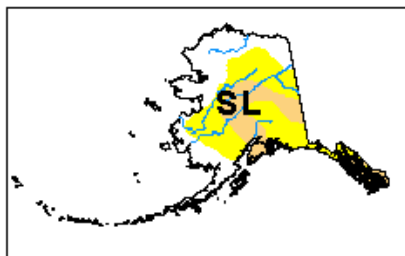
Drought Impact Types:

- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- Yellow: D0 Abnormally Dry
- Light Orange: D1 Moderate Drought
- Dark Orange: D2 Severe Drought
- Red: D3 Extreme Drought
- Dark Red: D4 Exceptional Drought

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



<http://droughtmonitor.unl.edu/>

Drought Condition (Percent Area): United States

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

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2015-07-14	60.60	39.40	25.12	14.64	6.25	2.36
Last Week	2015-07-07	59.47	40.53	24.59	14.35	6.24	2.39
3 Months Ago	2015-04-14	46.90	53.10	31.34	15.99	7.59	2.97
Start of Calendar Year	2014-12-30	60.84	39.16	23.96	14.14	7.49	2.12
Start of Water Year	2014-09-30	59.89	40.11	25.54	15.59	7.86	3.22
One Year Ago	2014-07-15	61.98	38.02	28.55	20.15	9.92	2.39

Conditions for the Contiguous U.S.

Week	Date	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2015-07-14	64.79	35.21	25.97	17.49	7.48	2.83
Last Week	2015-07-07	63.45	36.55	25.94	17.15	7.47	2.86
3 Months Ago	2015-04-14	41.23	58.77	37.46	19.14	9.09	3.55
Start of Calendar Year	2014-12-30	53.20	46.80	28.68	16.93	8.96	2.54
Start of Water Year	2014-09-30	52.22	47.78	30.57	18.66	9.41	3.85
One Year Ago	2014-07-15	54.61	45.39	34.16	24.12	11.87	2.86

As of 7/14/15 just over **76,400,000** people are being impacted by drought in the CONUS.



U.S. Drought Monitor NWS Central Region

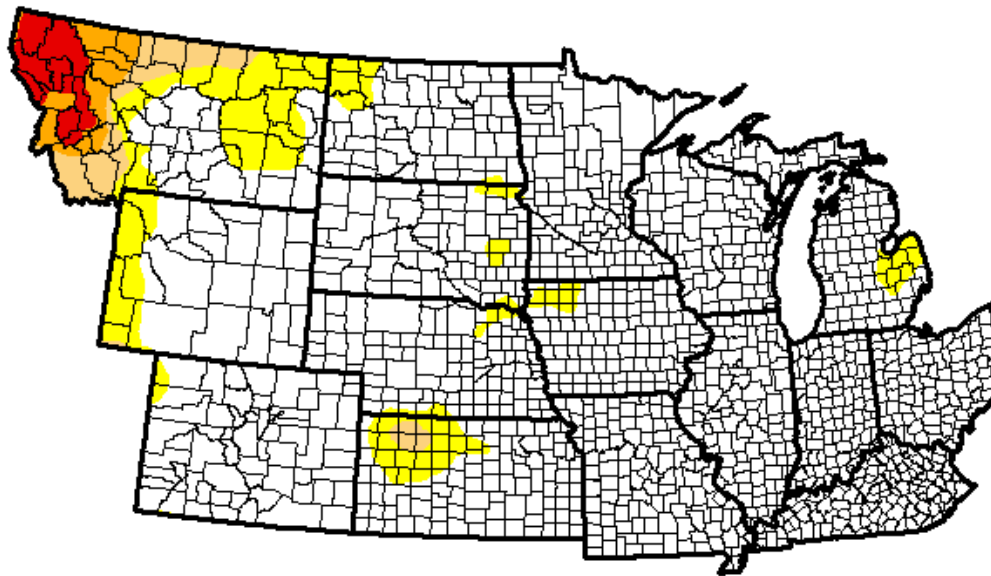
July 14, 2015

(Released Thursday, Jul. 16, 2015)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	85.59	14.41	5.68	3.30	1.73	0.00
Last Week <i>7/7/2015</i>	83.98	16.02	5.68	3.30	1.73	0.00
3 Months Ago <i>4/14/2015</i>	46.59	53.41	27.50	5.65	0.35	0.00
Start of Calendar Year <i>12/30/2014</i>	74.67	25.33	5.02	2.41	0.16	0.00
Start of Water Year <i>9/30/2014</i>	85.60	14.40	5.68	2.64	0.38	0.00
One Year Ago <i>7/15/2014</i>	82.36	17.64	9.80	4.14	1.21	0.08



Intensity:



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

Author:

David Simeral

Western Regional Climate Center



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor

Missouri Watershed

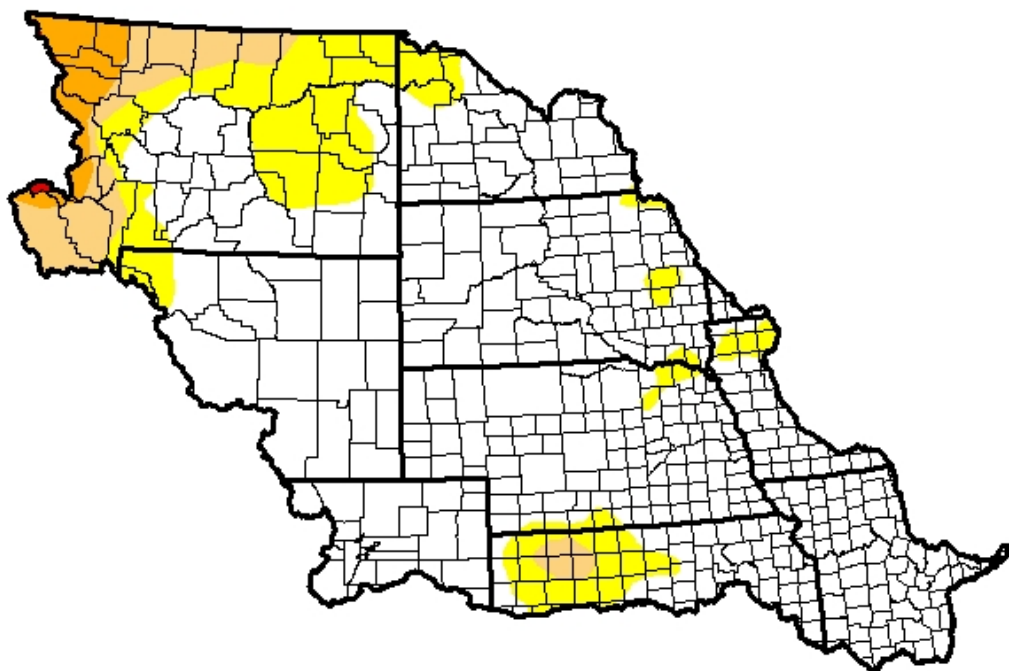
July 14, 2015

(Released Thursday, Jul. 16, 2015)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	77.65	22.35	7.83	2.60	0.11	0.00
Last Week <i>7/7/2015</i>	79.69	20.31	7.83	2.60	0.11	0.00
3 Months Ago <i>4/14/2015</i>	51.19	48.81	18.09	0.72	0.00	0.00
Start of Calendar Year <i>12/30/2014</i>	77.56	22.44	2.00	0.72	0.00	0.00
Start of Water Year <i>9/30/2014</i>	90.62	9.38	2.27	0.89	0.00	0.00
One Year Ago <i>7/15/2014</i>	83.72	16.28	7.88	1.04	0.57	0.00



Intensity:



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Author:

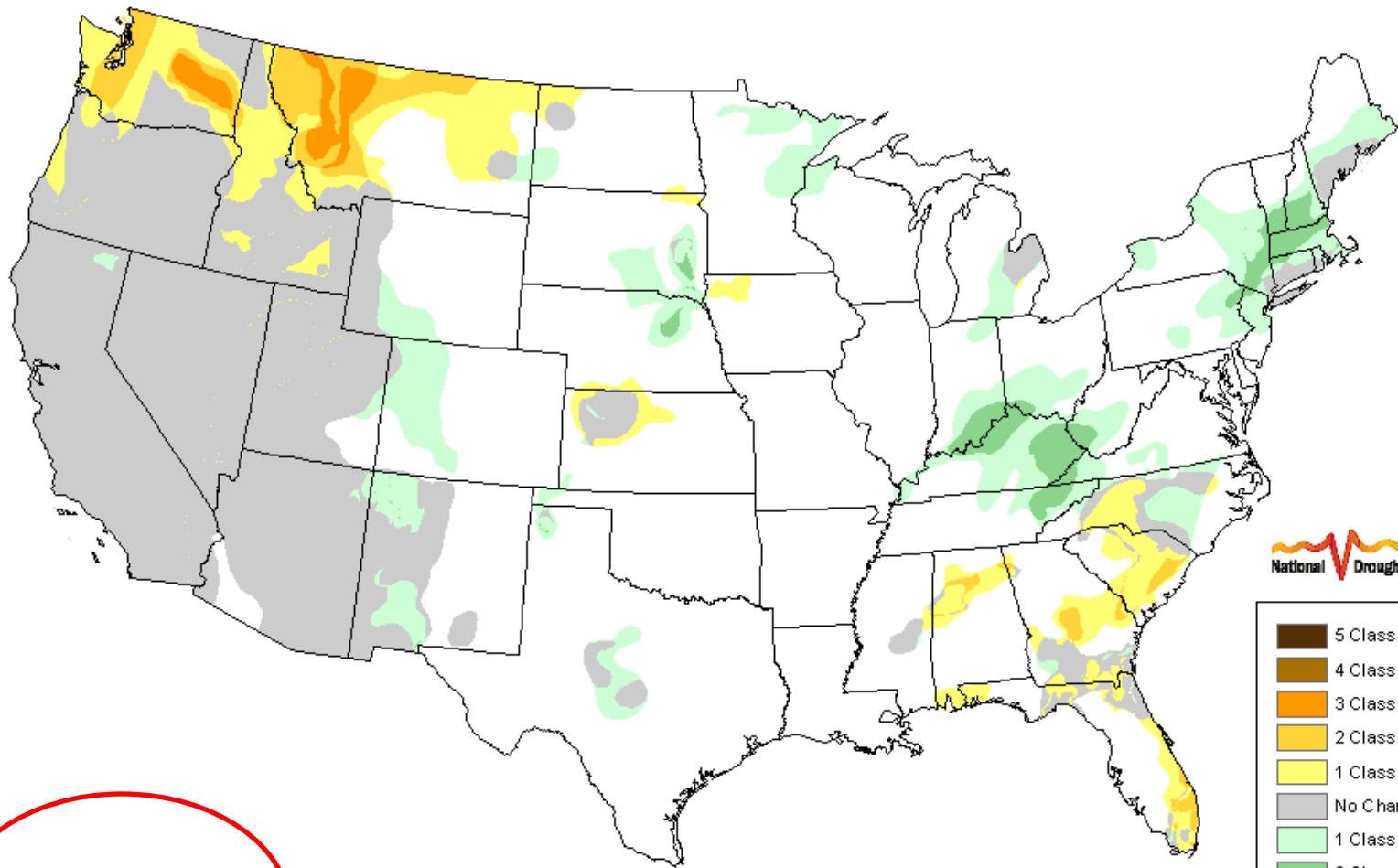
David Simeral

Western Regional Climate Center



<http://droughtmonitor.unl.edu/>

U.S. Drought Monitor Class Change 1 Month



National Drought Mitigation Center

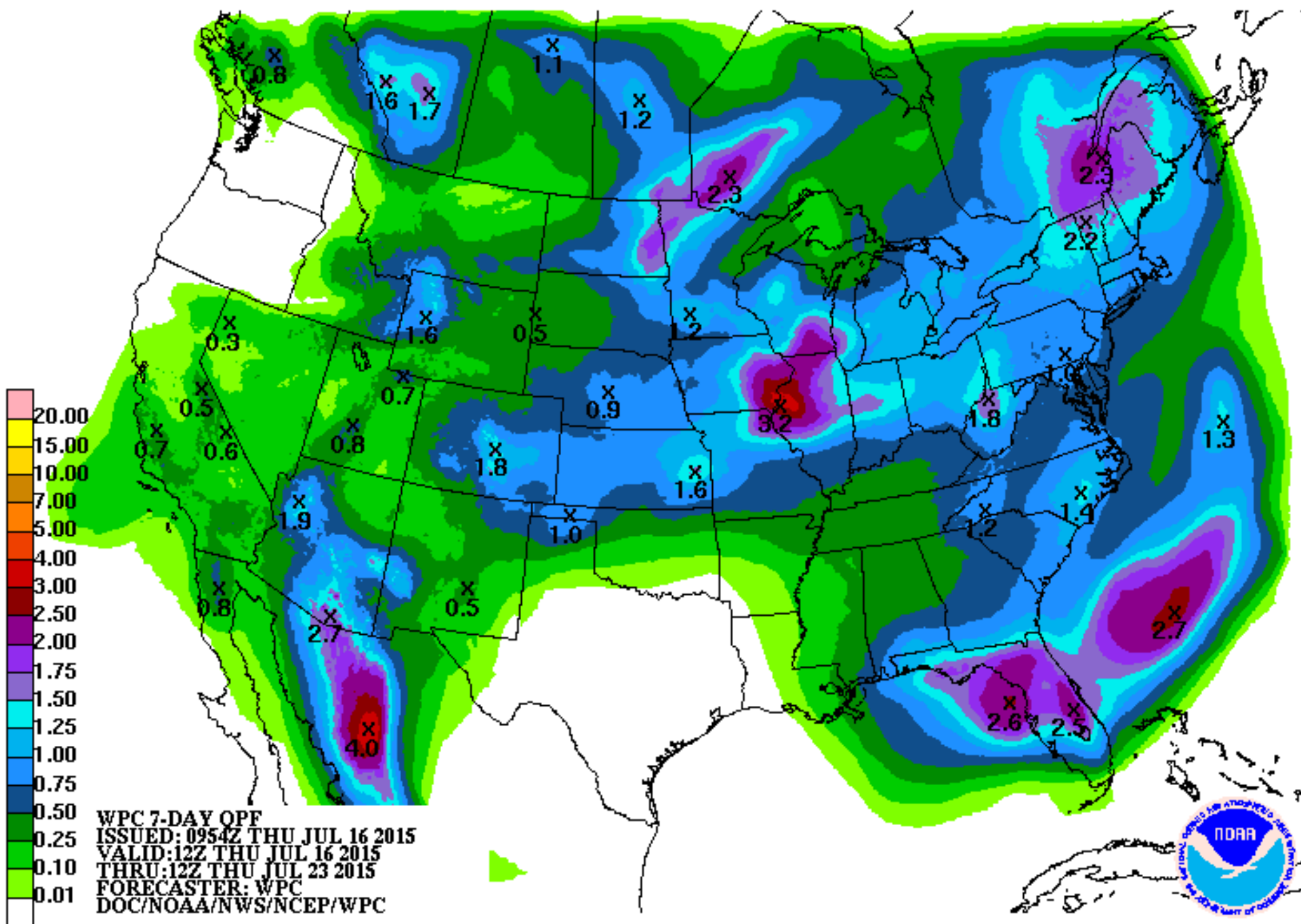
- 5 Class Degradation
- 4 Class Degradation
- 3 Class Degradation
- 2 Class Degradation
- 1 Class Degradation
- No Change
- 1 Class Improvement
- 2 Class Improvement
- 3 Class Improvement
- 4 Class Improvement
- 5 Class Improvement

July 14, 2015
compared to
June 16, 2015

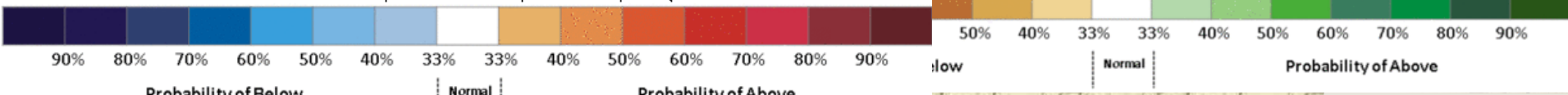
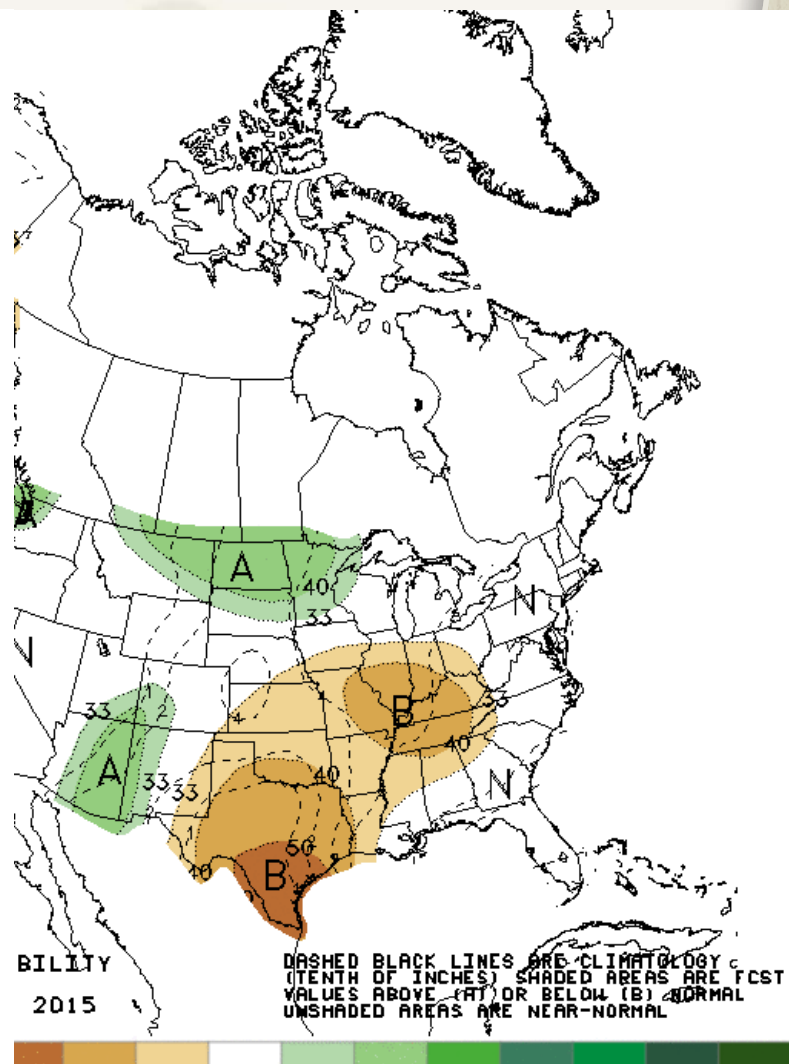
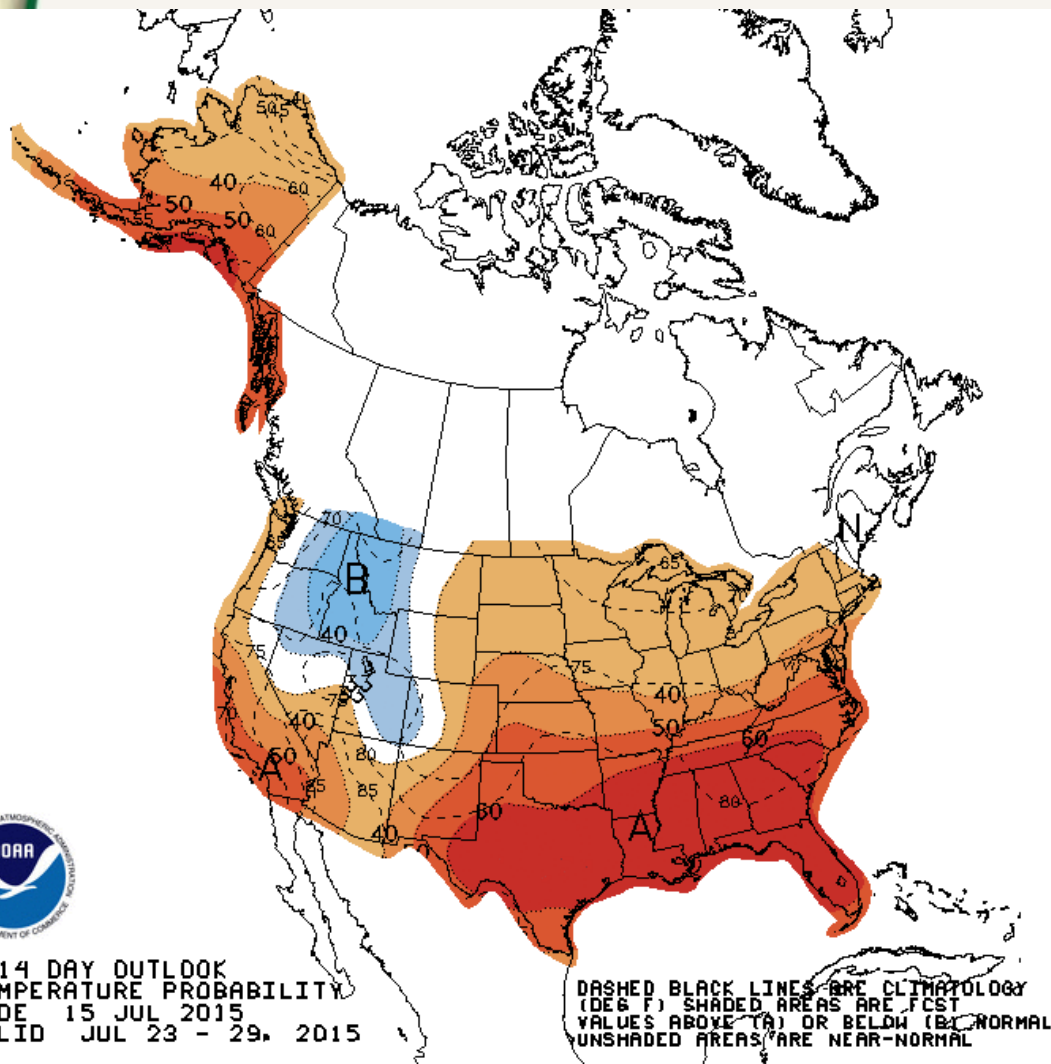
Climate Outlooks

- **7-day precipitation forecast**
- **8-14 day outlook**
- **ENSO Outlook**
- **Monthly/Seasonal**
- **Autumn Outlook (Sep-Oct)**
- **Winter Outlook (Dec-Feb)**
- **Spring Outlook (Mar-May)**
- **Seasonal Drought Outlook**

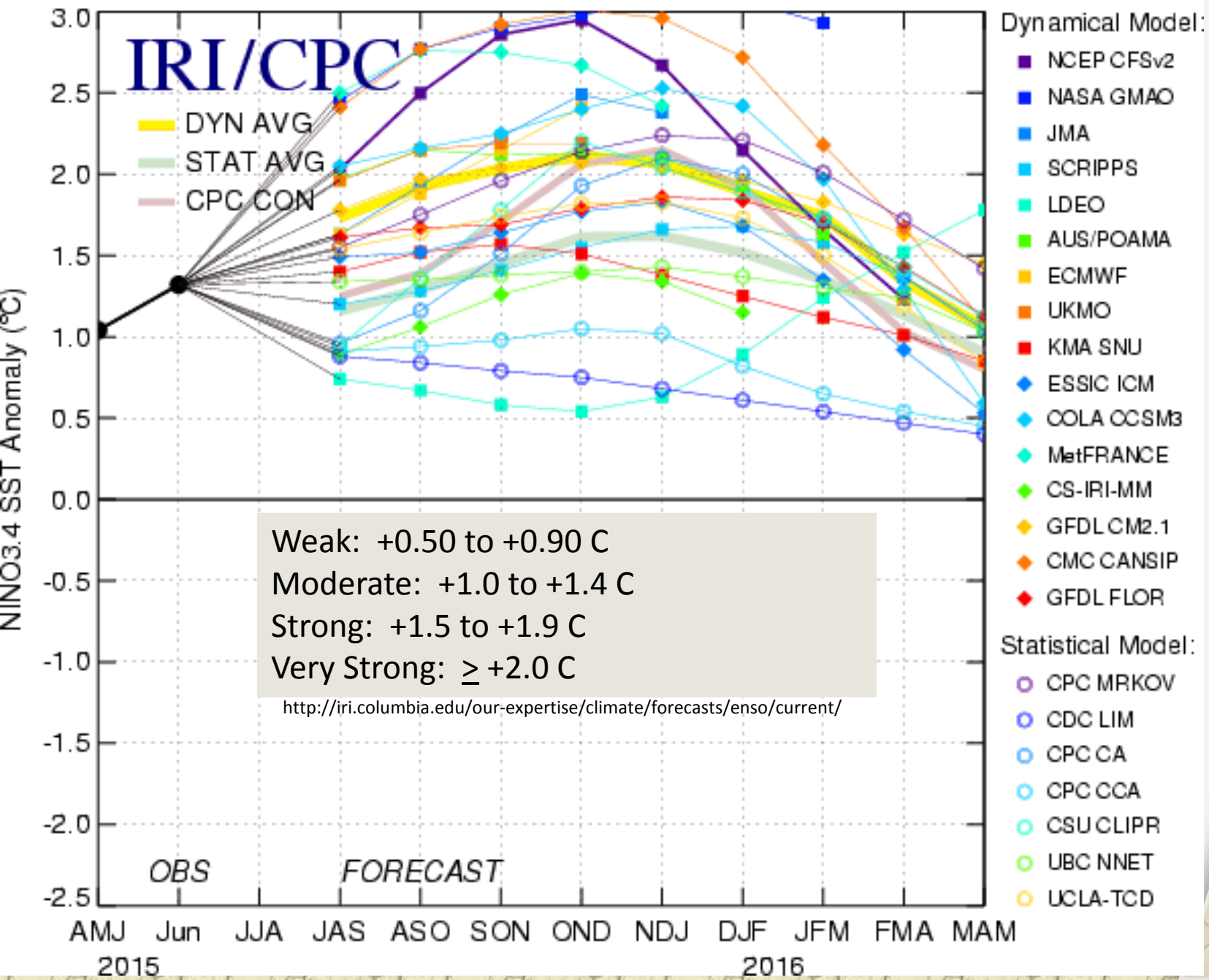




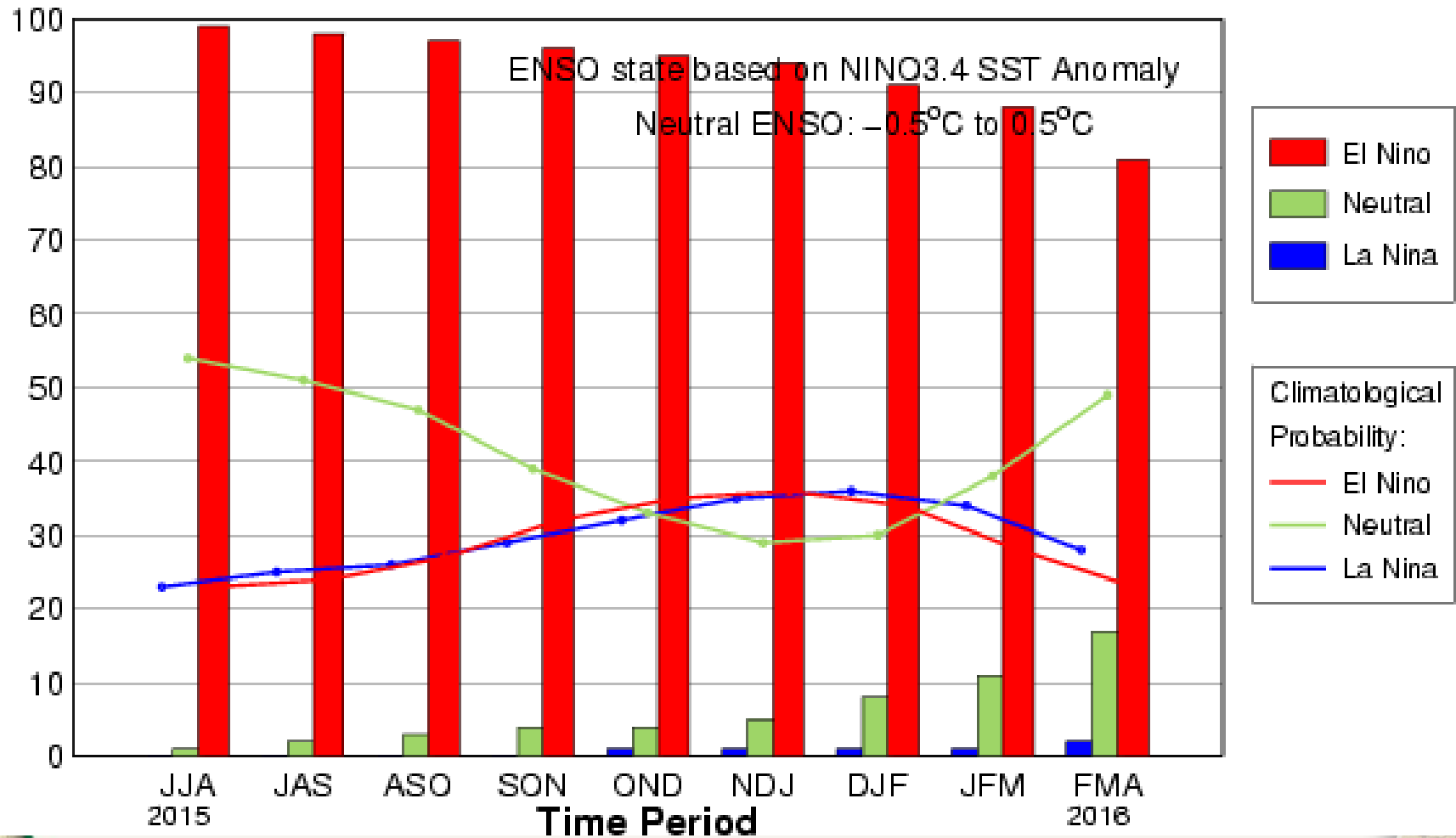
8-14 day Outlook



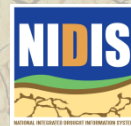
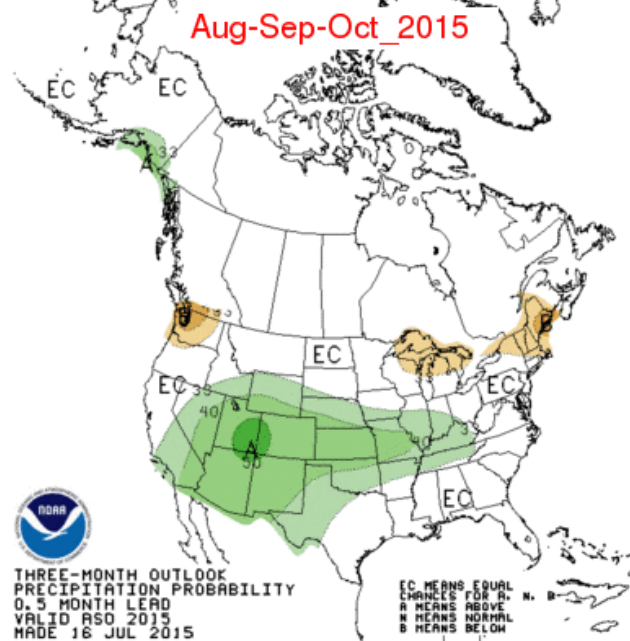
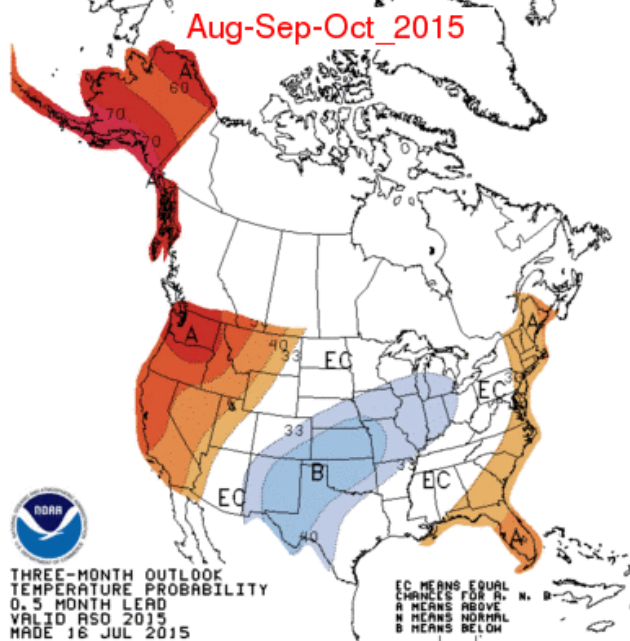
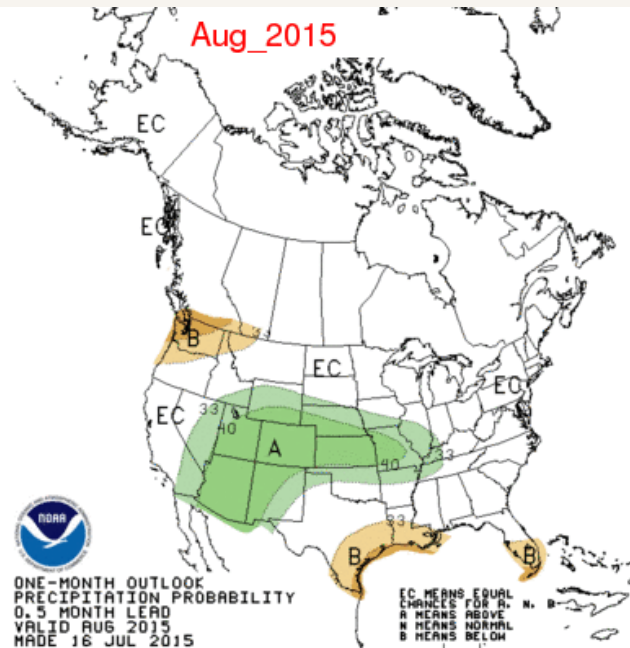
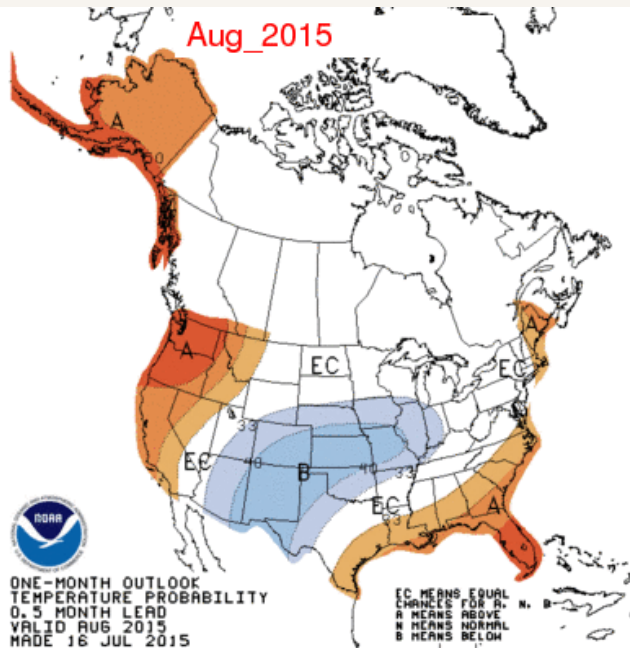
Mid-Jul 2015 Plume of Model ENSO Predictions



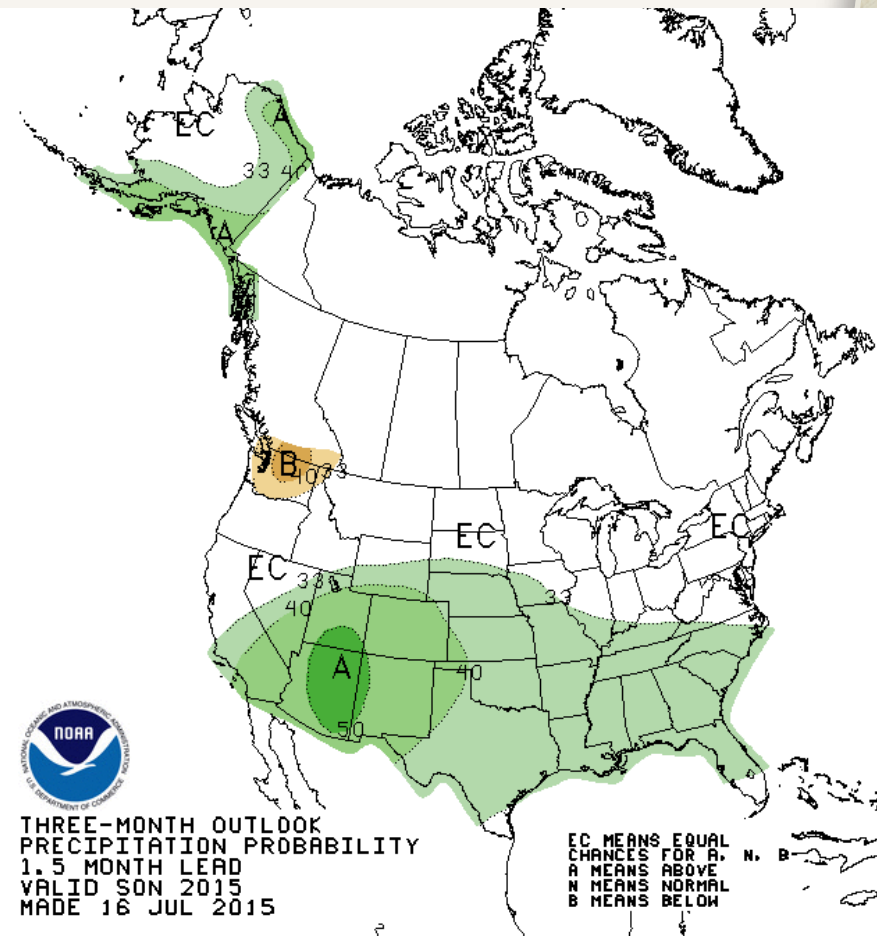
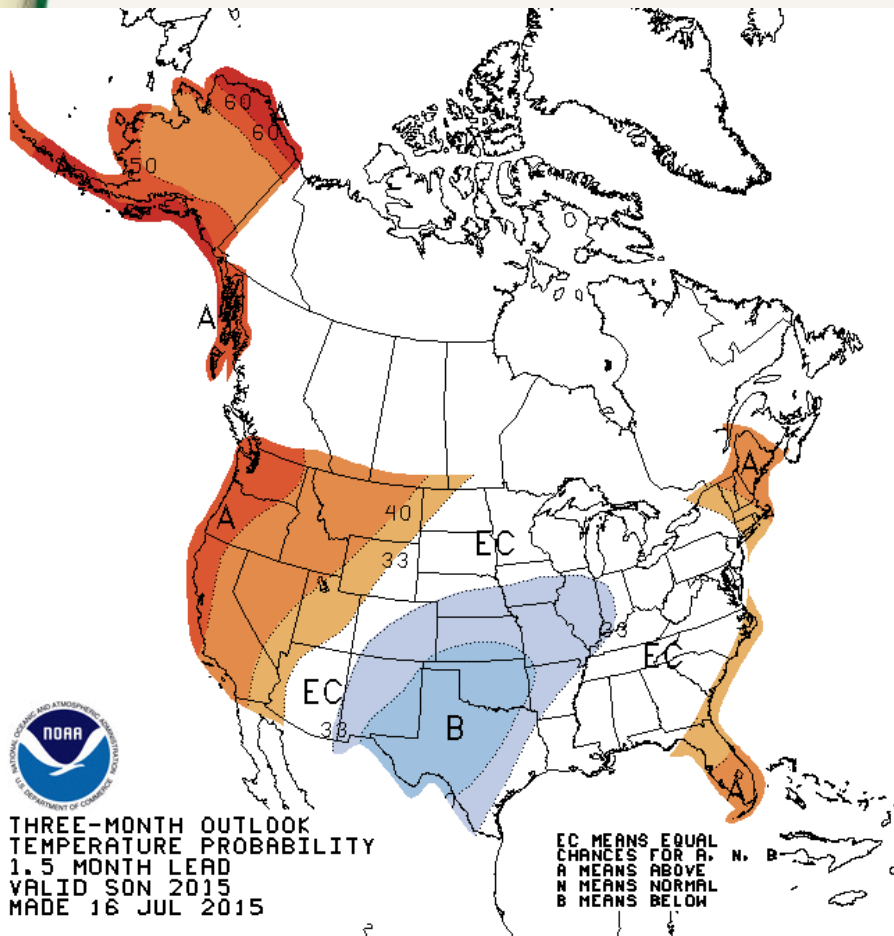
Early-Jul CPC/IRI Consensus Probabilistic ENSO Forecast



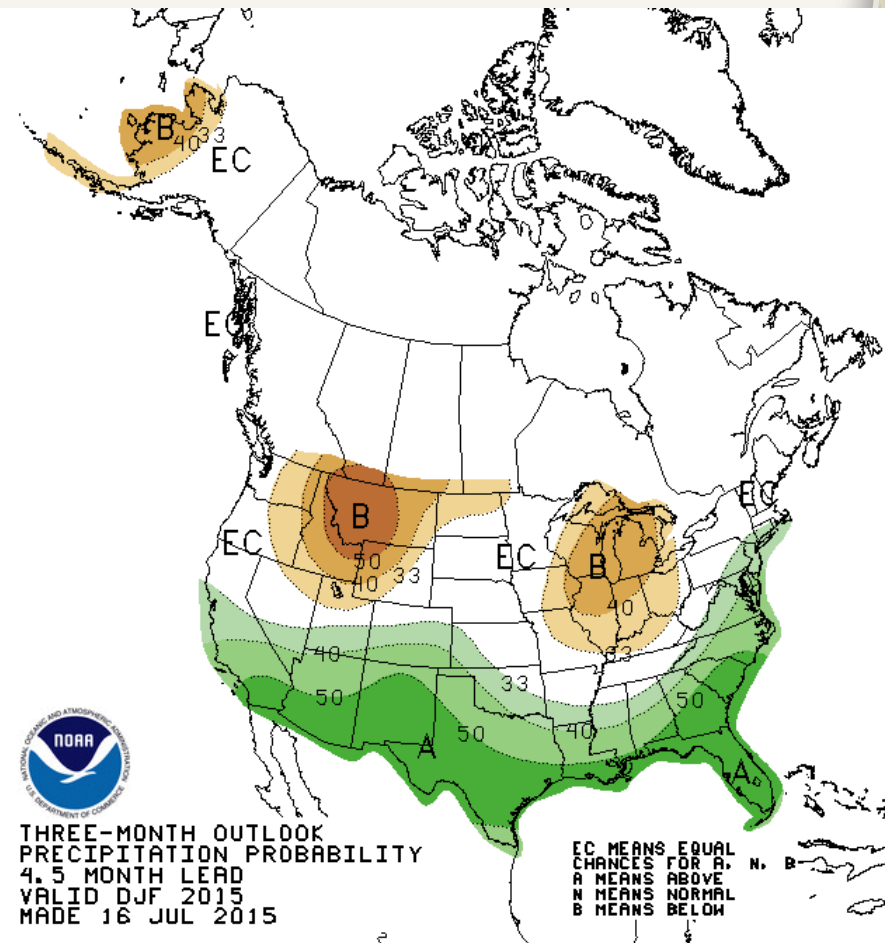
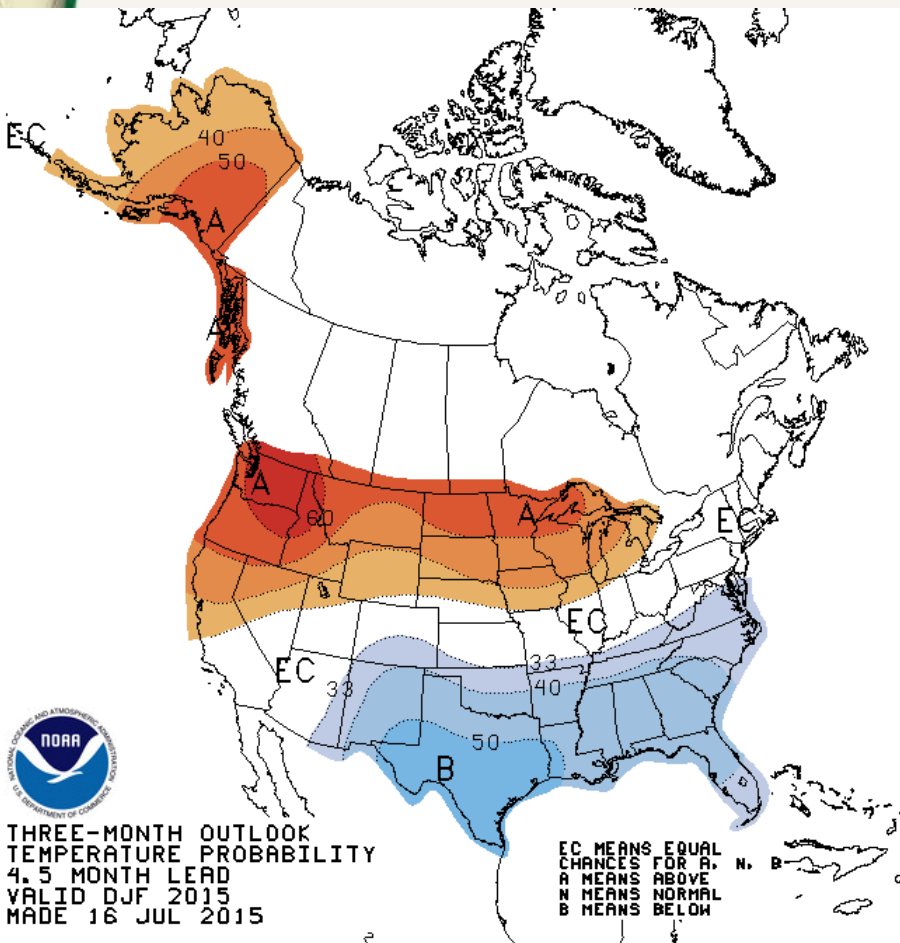
Monthly and Seasonal Outlook



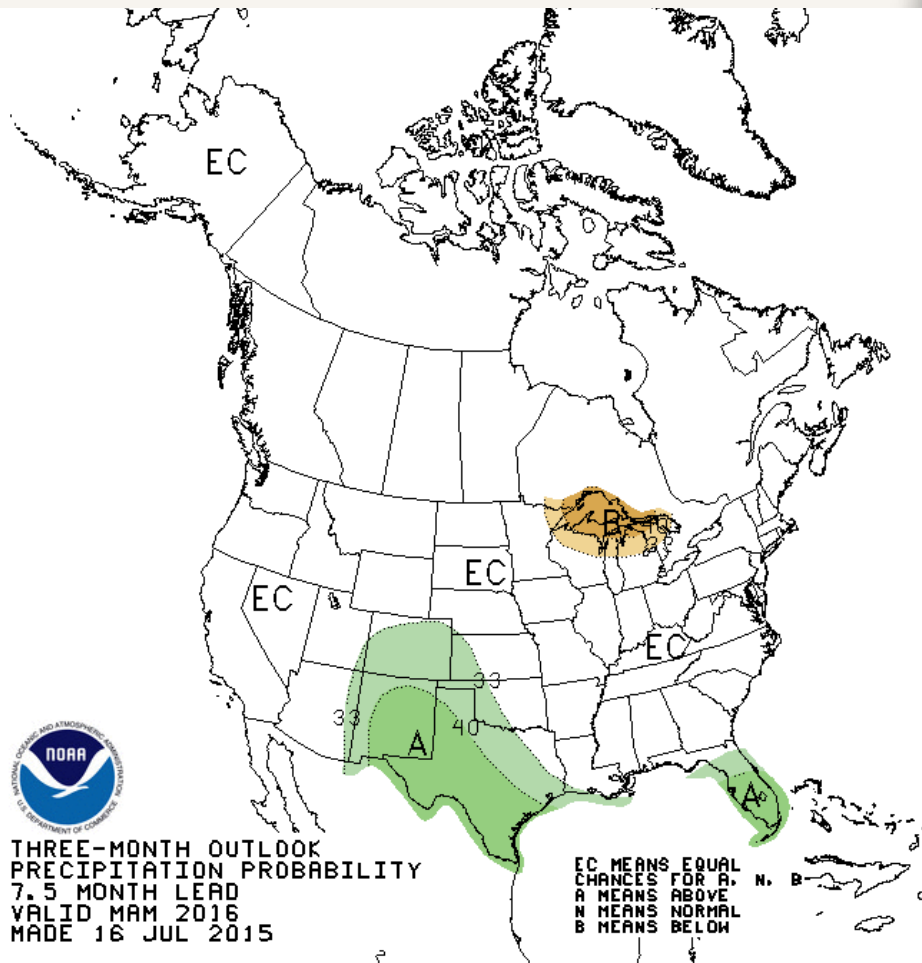
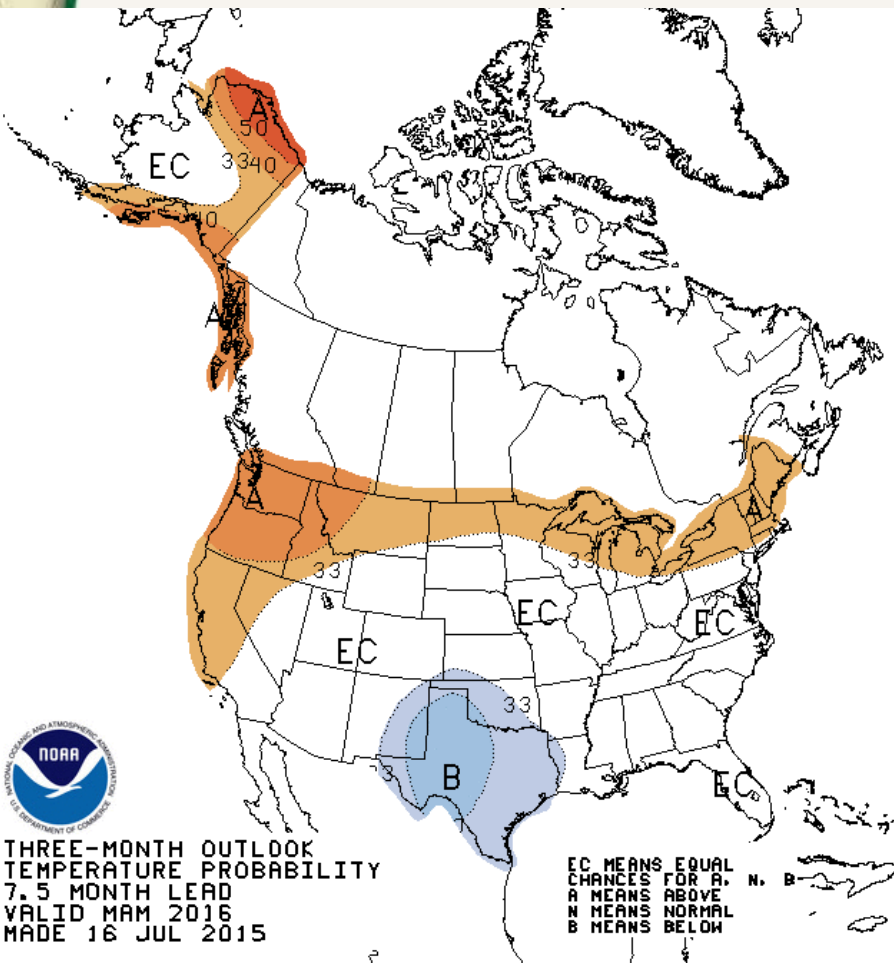
Autumn Outlook SON



Winter Outlook DJF



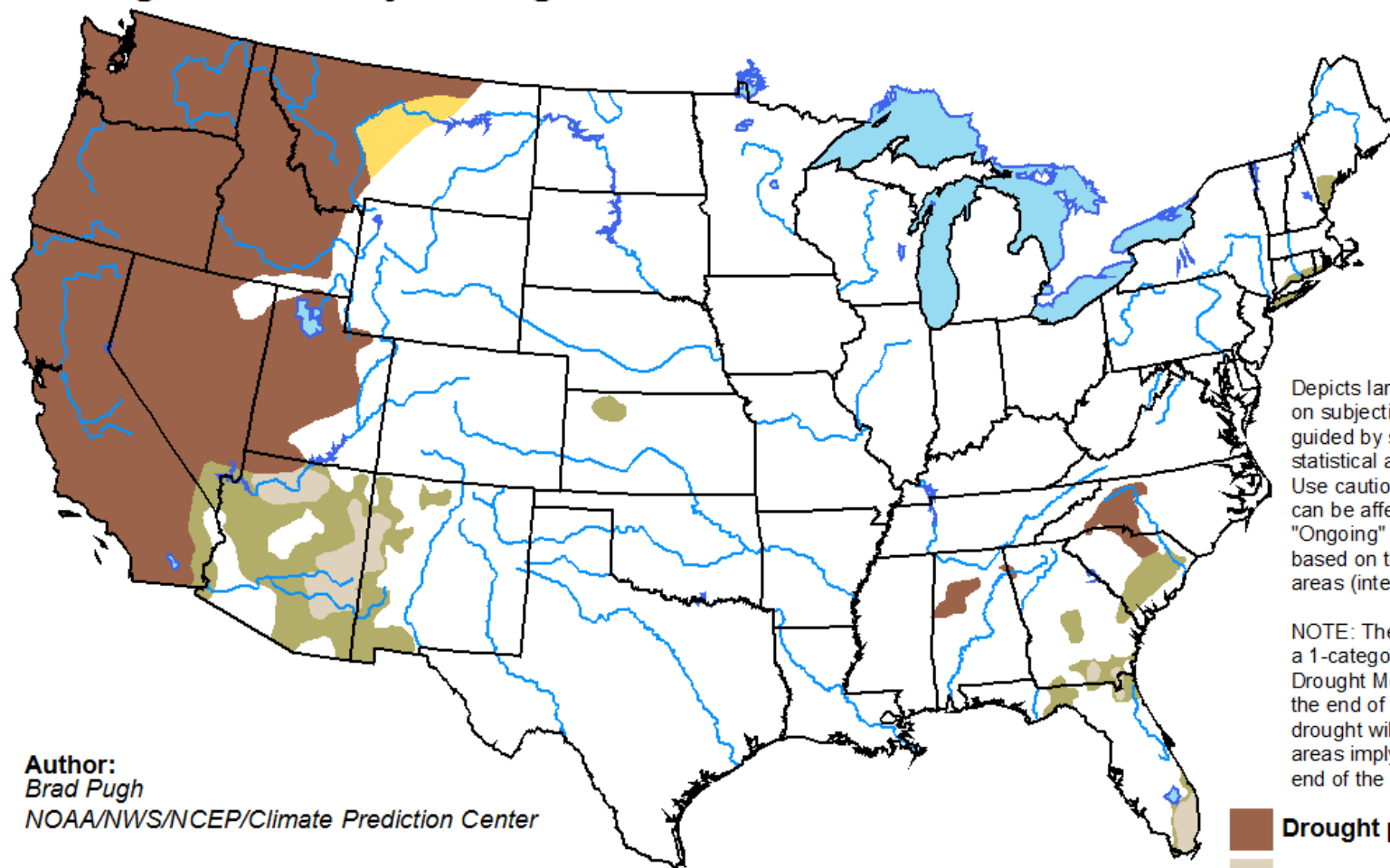
Spring Outlook MAM



U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period





Valid for July 16 - October 31, 2015
Released July 16, 2015

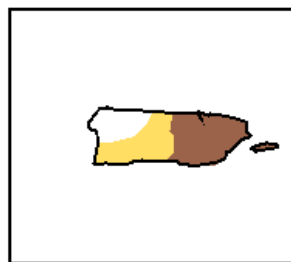
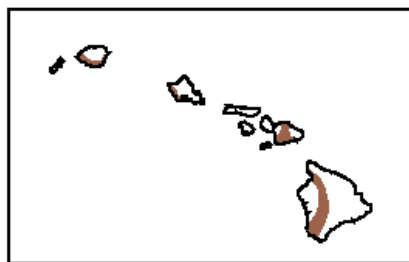
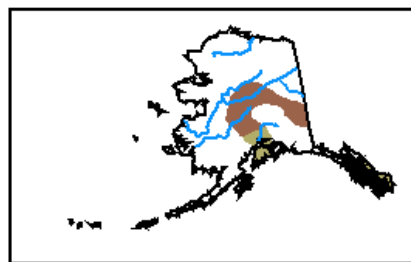


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan 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).

Author:
Brad Pugh
NOAA/NWS/NCEP/Climate Prediction Center

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



<http://go.usa.gov/hHTe>

Summary

- ▶ Most of the region has been cooler than normal and wetter than normal over the last month.
- ▶ A quiet fire season so far for the lower 48, not so much to the north.
 - Smokey/Hazy skies and air quality issues over the region from these fires.
- ▶ Drought is not an issue in the region, nor is it anticipated to develop this summer.
- ▶ El Nino will continue to intensify, maybe becoming a strong El Nino (+1.5 C over 3 months)



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?

▣ Questions:

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