

Massachusetts Drought Task Force Meeting NWS Update

National Weather Service

Thursday August 11th, 2016

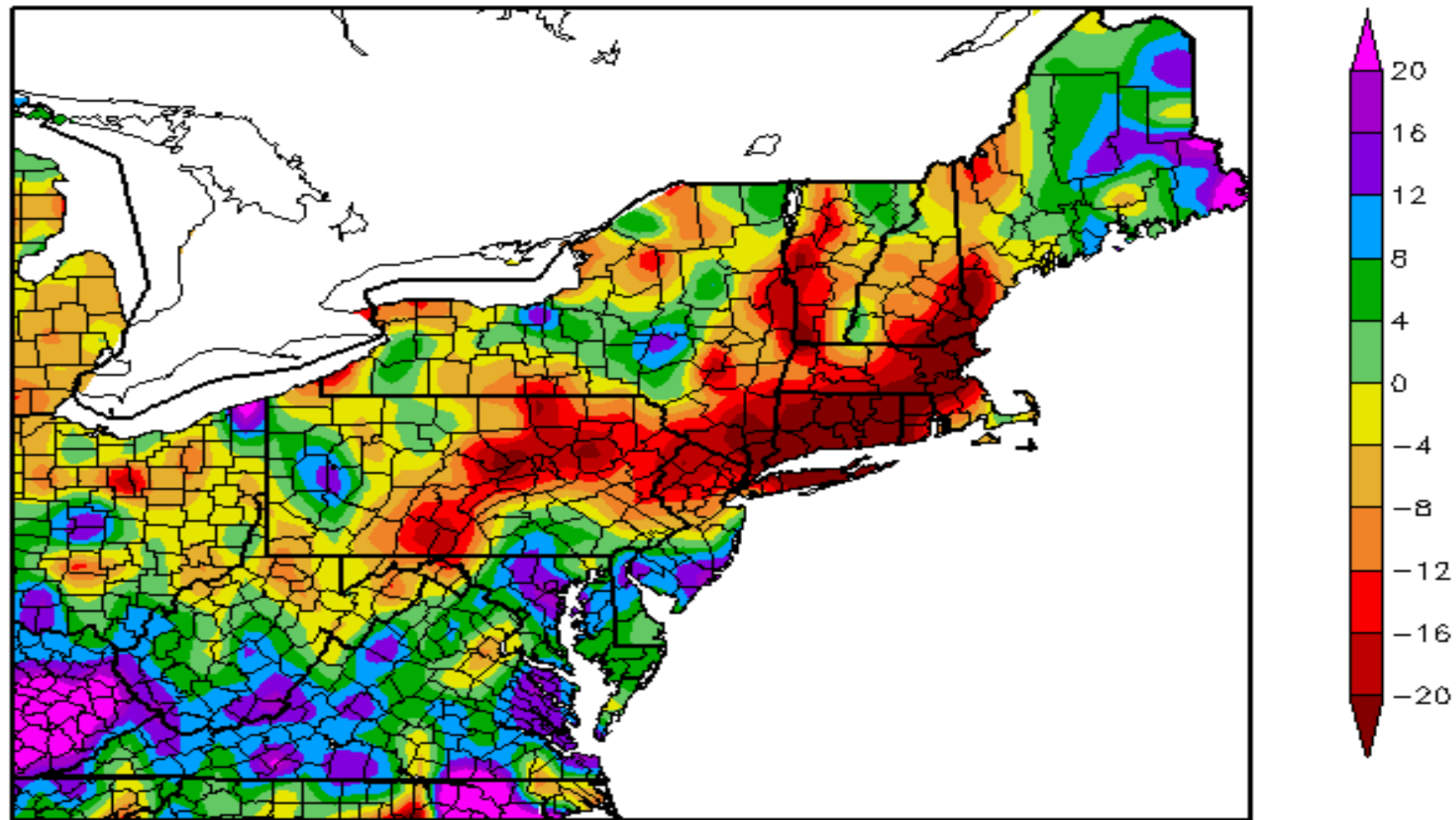
Alan Dunham, Hydrologic Program Leader



**National Weather Service
Boston, MA**

Longer Term Deficits 36 Months

Departure from Normal Precipitation (in)
8/9/2013 – 8/8/2016



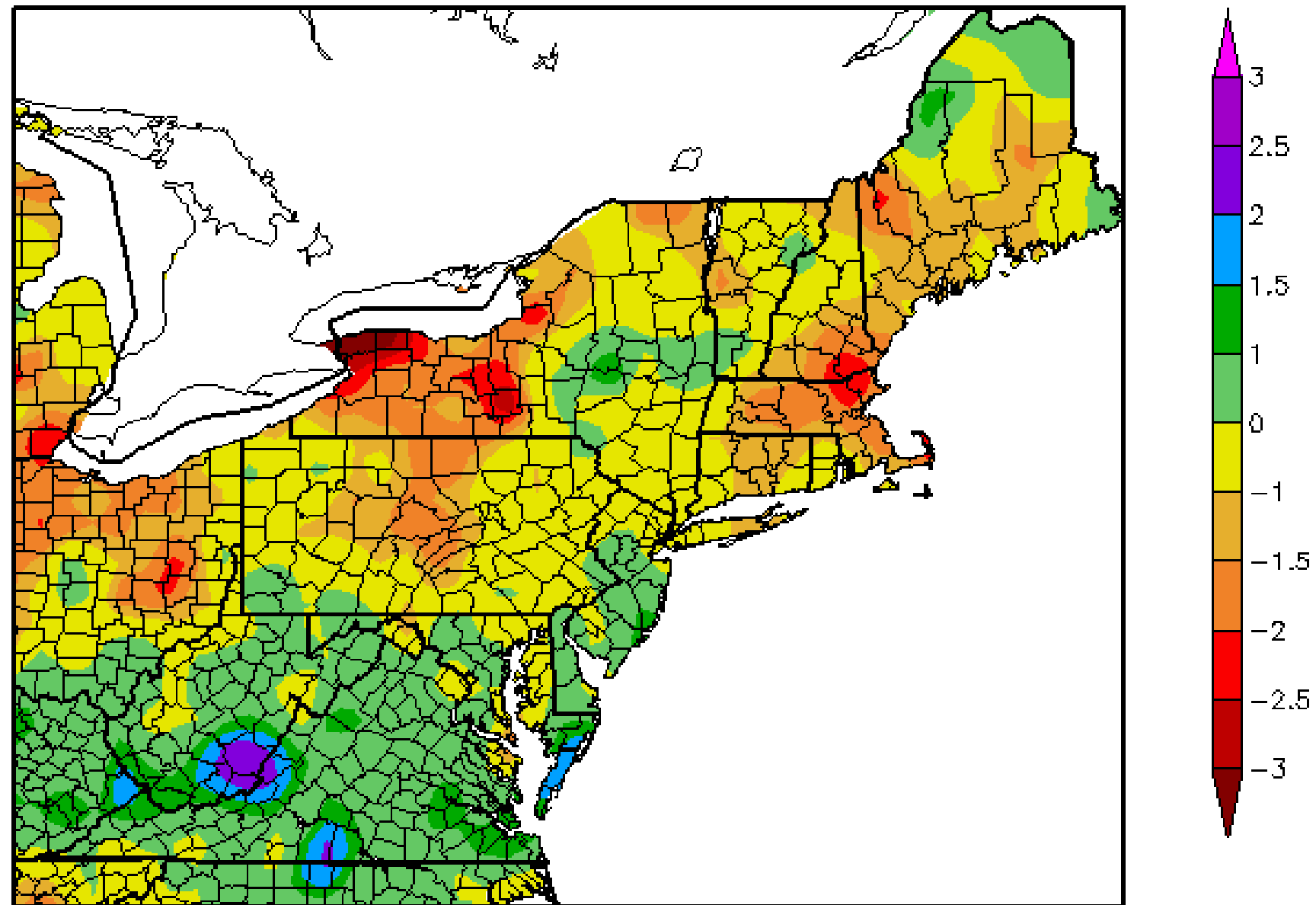
Generated 8/9/2016 at HPRCC using provisional data.

Regional Climate Centers



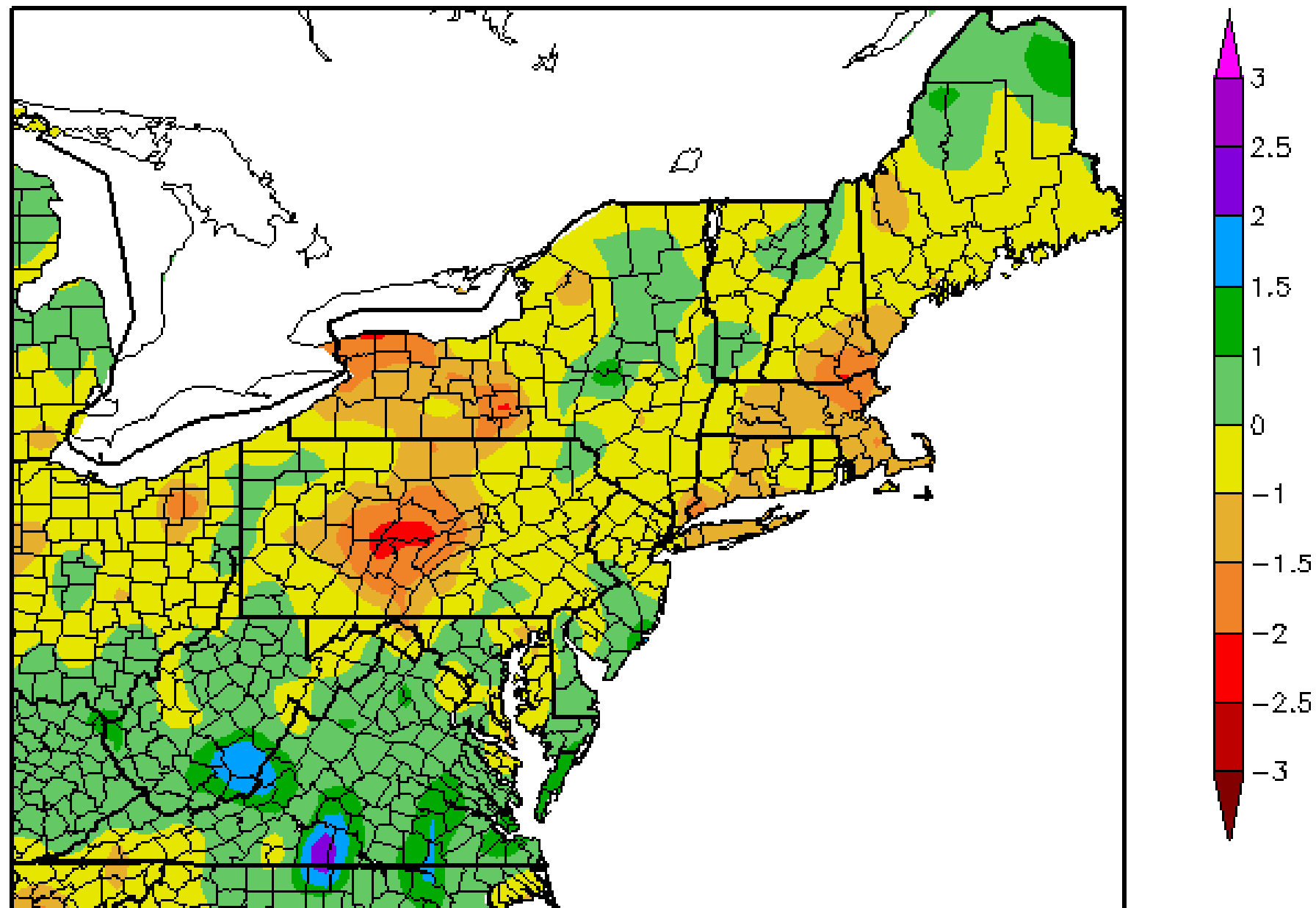
3 Month SPI through 08/9/16

90 Day SPI
5/12/2016 – 8/9/2016



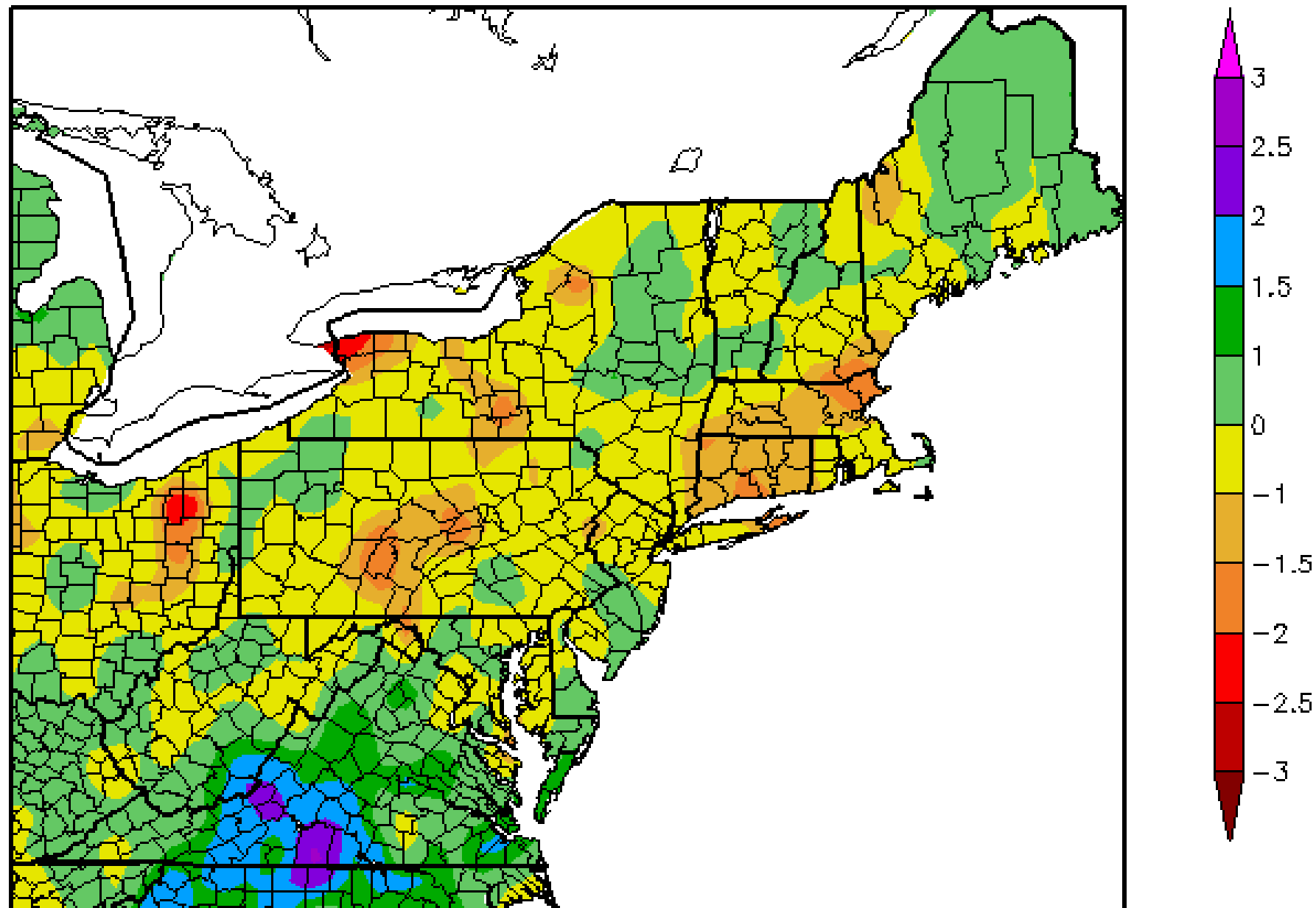
6 Month SPI through 08/9/16

6 Month SPI
2/10/2016 - 8/9/2016



12 Month SPI through 08/9/16

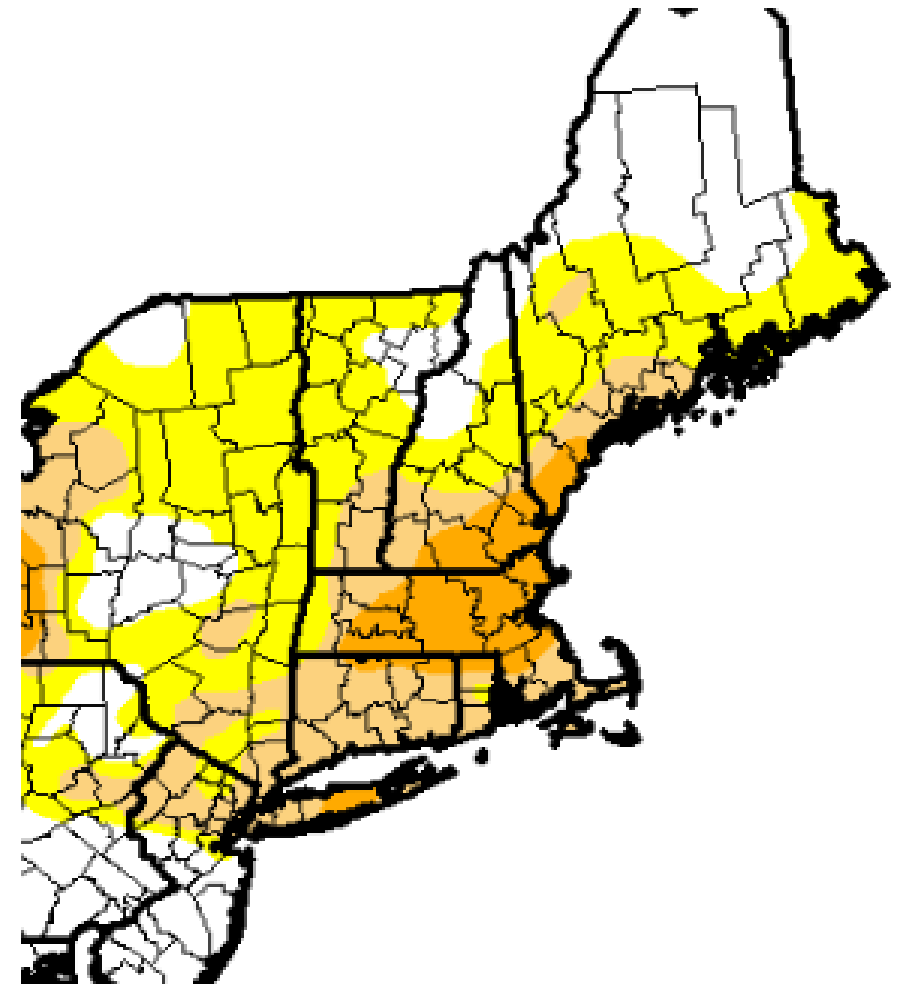
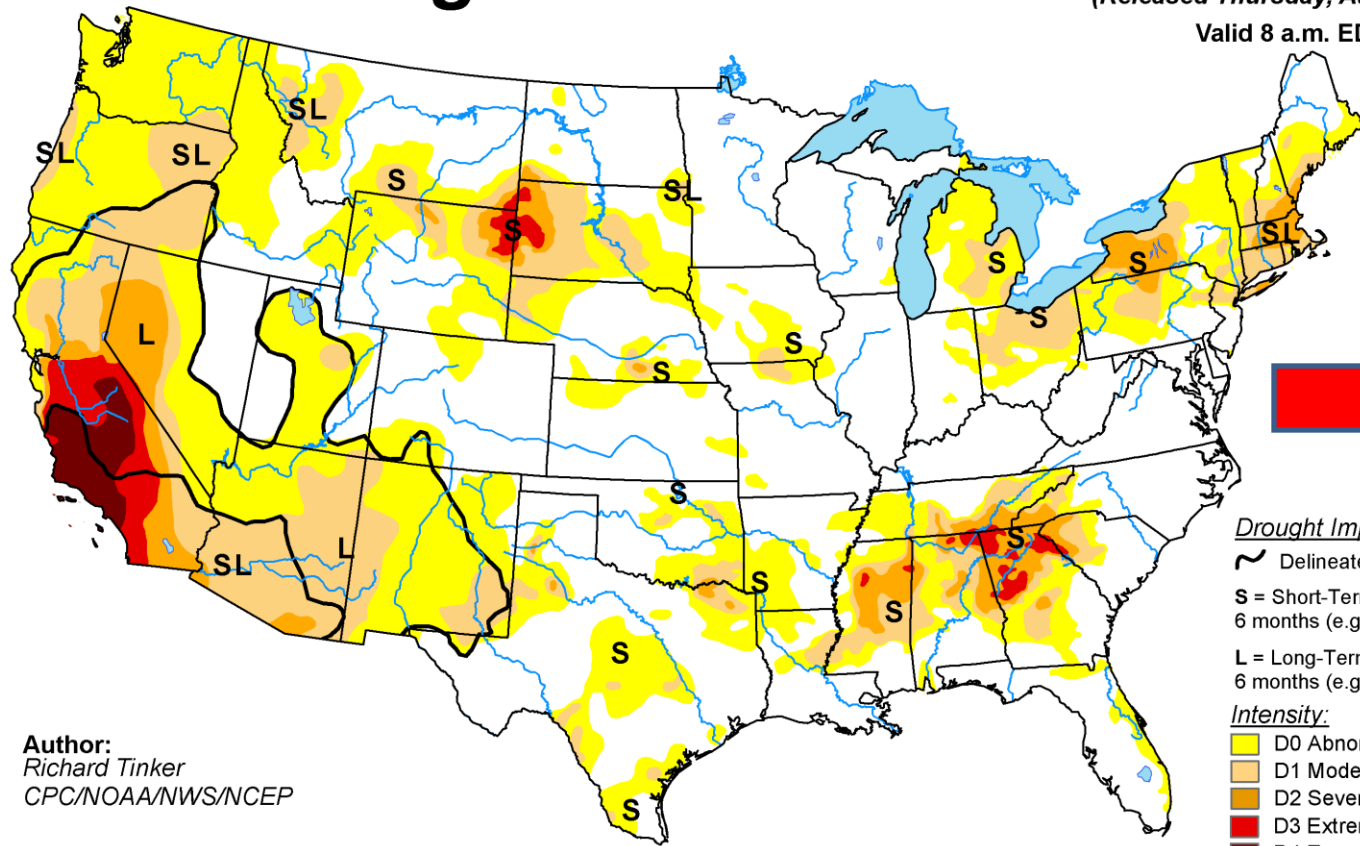
12 Month SPI
8/10/2015 - 8/9/2016



U.S. Drought Monitor 08/02/16

U.S. Drought Monitor

August 2, 2016
 (Released Thursday, Aug. 4, 2016)
 Valid 8 a.m. EDT



Author:
 Richard Tinker
 CPC/NOAA/NWS/NCEP

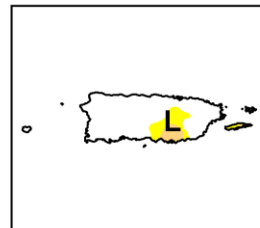
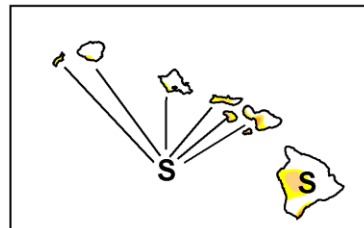
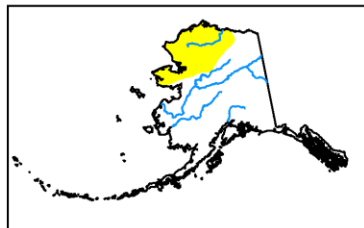
Drought Impact Types:

- ~ 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:

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

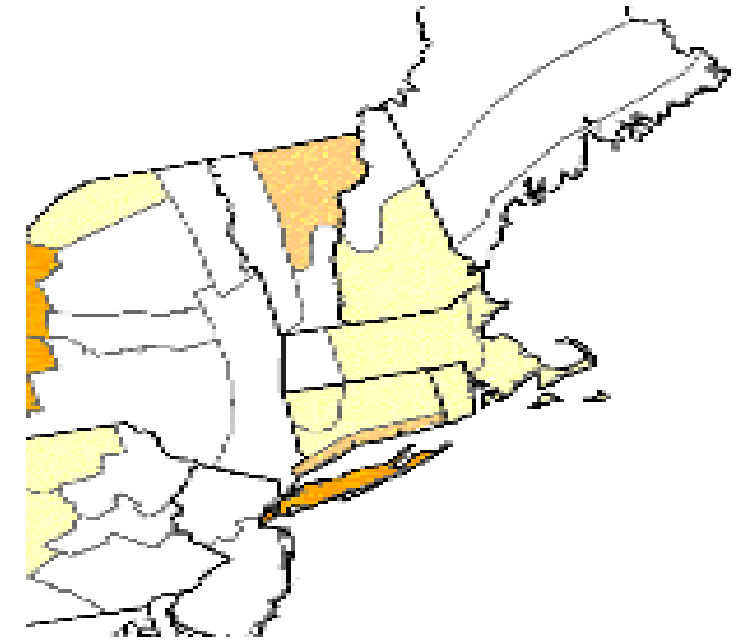
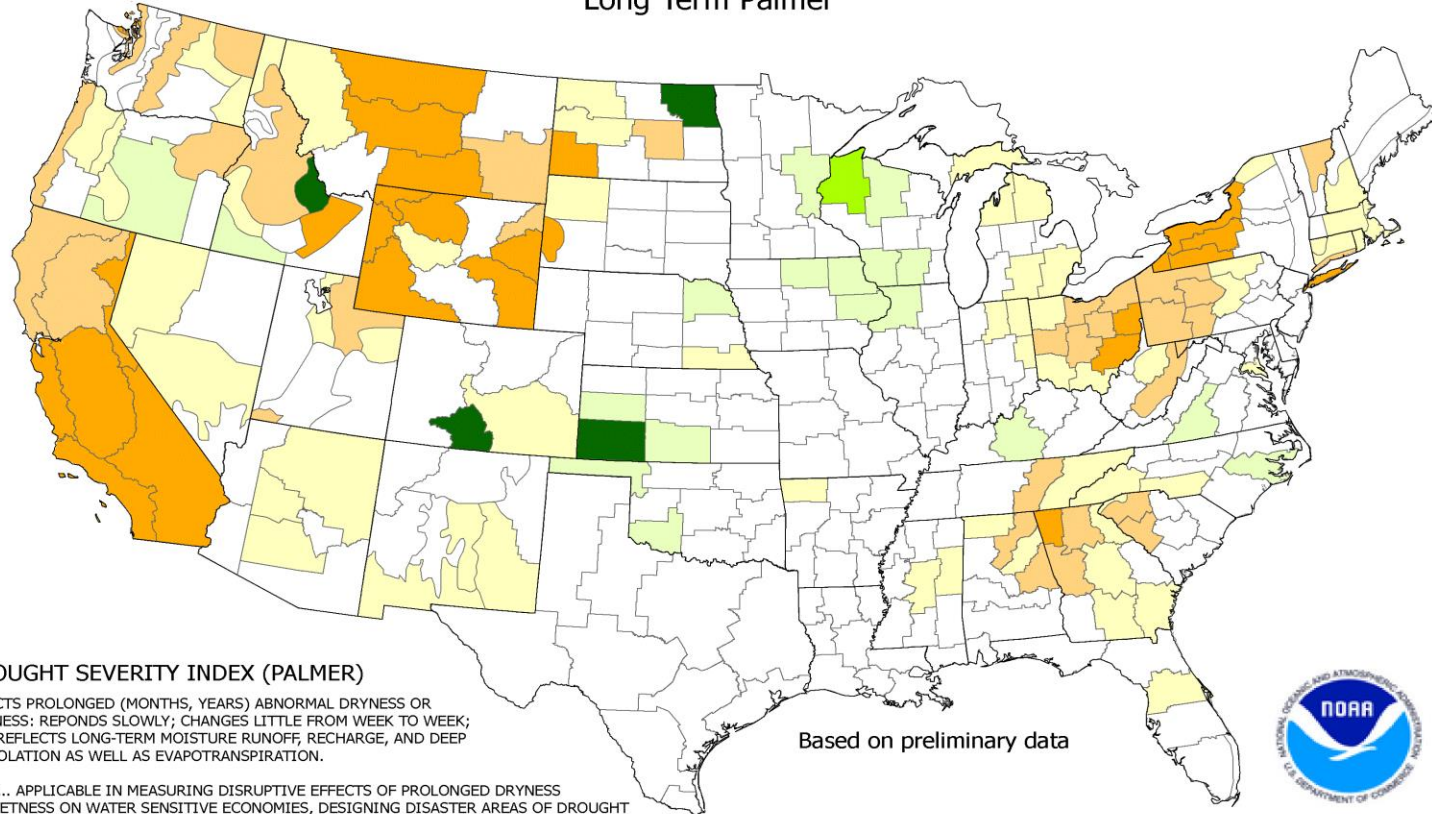
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



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

Palmer Drought Severity Index (PDSI)- Updated 8/06/16

Drought Severity Index by Division
Weekly Value for Period Ending Aug 06, 2016
Long Term Palmer



MA Drought Index: PDSI

Based on preliminary data



- 4.0 or less (Extreme Drought)
- 3.0 to -3.9 (Severe Drought)
- 2.0 to -2.9 (Moderate Drought)
- 1.9 to +1.9 (Near Normal)
- +2.0 to +2.9 (Unusual Moist Spell)
- +3.0 to +3.9 (Very Moist Spell)
- +4.0 and above (Extremely Moist)



- 4.0 or less (Extreme Drought)
- 3.0 to -3.9 (Severe Drought)
- 2.0 to -2.9 (Moderate Drought)
- 1.9 to +1.9 (Near Normal)
- +2.0 to +2.9 (Unusual Moist Spell)
- +3.0 to +3.9 (Very Moist Spell)
- +4.0 and above (Extremely Moist)

DROUGHT SEVERITY INDEX (PALMER)

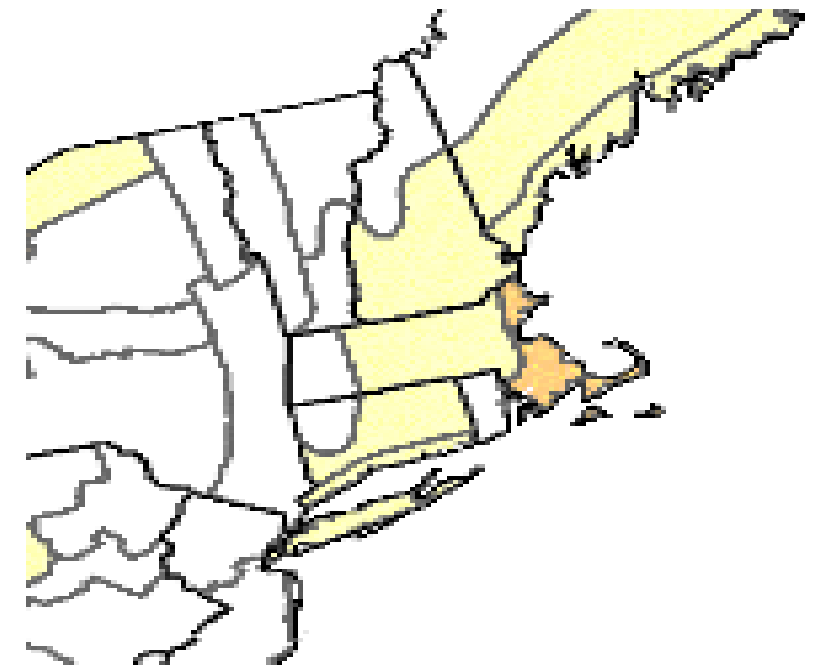
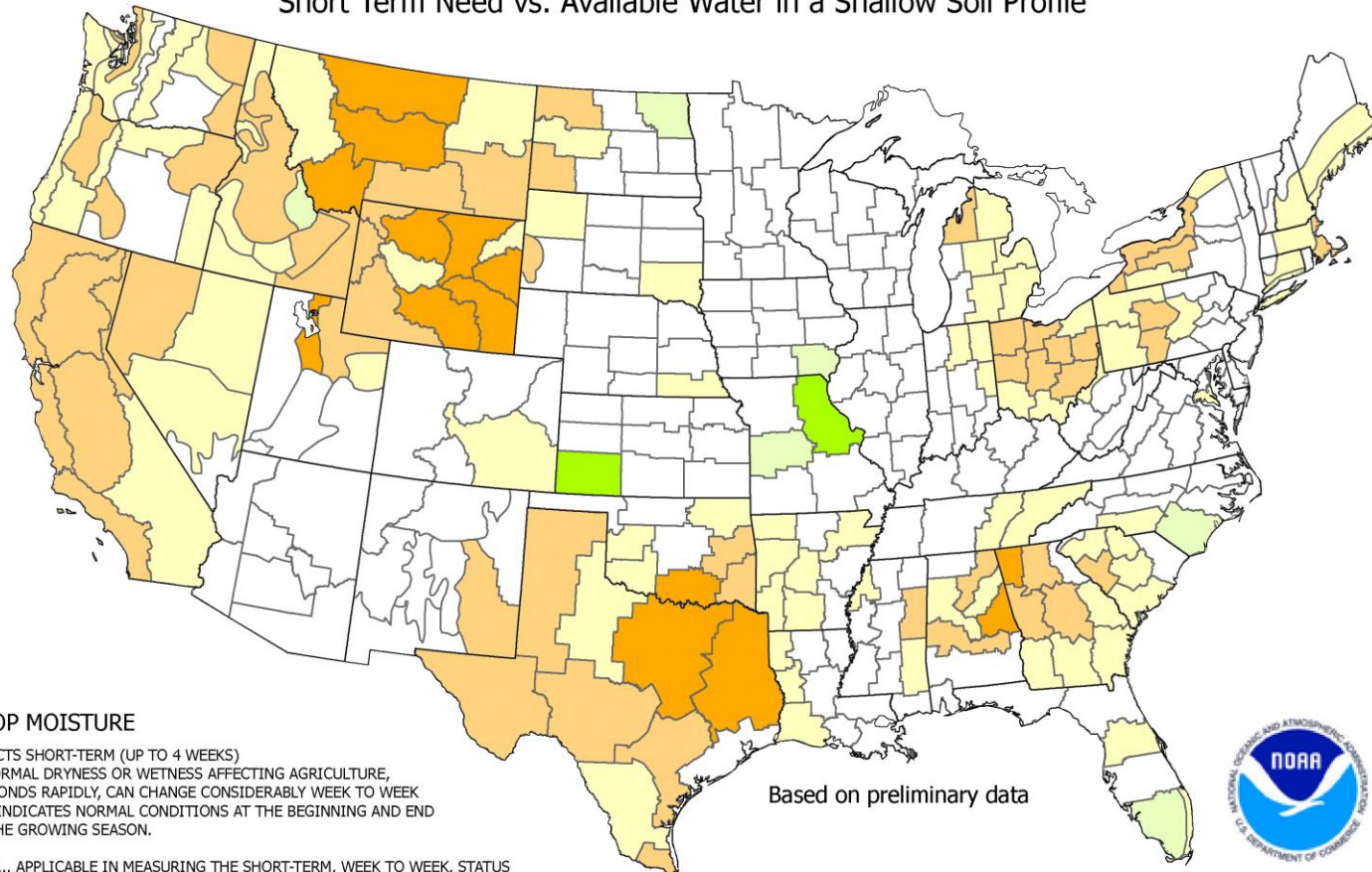
DEPICTS PROLONGED (MONTHS, YEARS) ABNORMAL DRYNESS OR WETNESS; REponds SLOWLY; CHANGES LITTLE FROM WEEK TO WEEK; AND REFLECTS LONG-TERM MOISTURE RUNOFF, RECHARGE, AND DEEP PERCOLATION AS WELL AS EVAPOTRANSPIRATION.

USES... APPLICABLE IN MEASURING DISRUPTIVE EFFECTS OF PROLONGED DRYNESS OR WETNESS ON WATER SENSITIVE ECONOMIES, DESIGNING DISASTER AREAS OF DROUGHT OR WETNESS; AND REFLECTING THE GENERAL LONG-TERM STATUS OF WATER SUPPLIES IN AQUIFERS, RESERVOIRS AND STREAMS.

LIMITATIONS... IS NOT GENERALLY INDICATIVE OFFSHORT-TERM (FEW WEEKS) STATUS OF DROUGHT OR WETNESS SUCH AS FREQUENTLY AFFECTS CROPS AND FIELD OPERATIONS (THIS IS INDICATED BY THE CROP MOISTURE INDEX).

Crop Moisture Index (CMI)- Updated 8/06/16

Crop Moisture Index by Division
 Weekly Value for Period Ending Aug 06, 2016
 Short Term Need vs. Available Water in a Shallow Soil Profile



CROP MOISTURE

DEPICTS SHORT-TERM (UP TO 4 WEEKS) ABNORMAL DRYNESS OR WETNESS AFFECTING AGRICULTURE, RESPONDS RAPIDLY, CAN CHANGE CONSIDERABLY WEEK TO WEEK AND INDICATES NORMAL CONDITIONS AT THE BEGINNING AND END OF THE GROWING SEASON.

USES... APPLICABLE IN MEASURING THE SHORT-TERM, WEEK TO WEEK, STATUS OF DRYNESS OR WETNESS AFFECTING WARM SEASON CROPS AND FIELD OPERATIONS

LIMITATIONS... MAY NOT BE APPLICABLE TO GERMINATING AND SHALLOW ROOTED CROPS WHICH ARE UNABLE TO EXTRACT THE DEEP OR SUBSOIL MOISTURE FROM A SHALLOW SOIL PROFILE, OR FOR COOL SEASON CROPS GROWING WHEN TEMPERATURES ARE AVERAGING BELOW ABOUT 55F. IT IS NOT GENERALLY INDICATIVE OF THE LONG-TERM (MONTHS, YEARS) DROUGHT OR WET SPELLS WHICH ARE DEPICTED BY THE DROUGHT SEVERITY INDEX.



Based on preliminary data



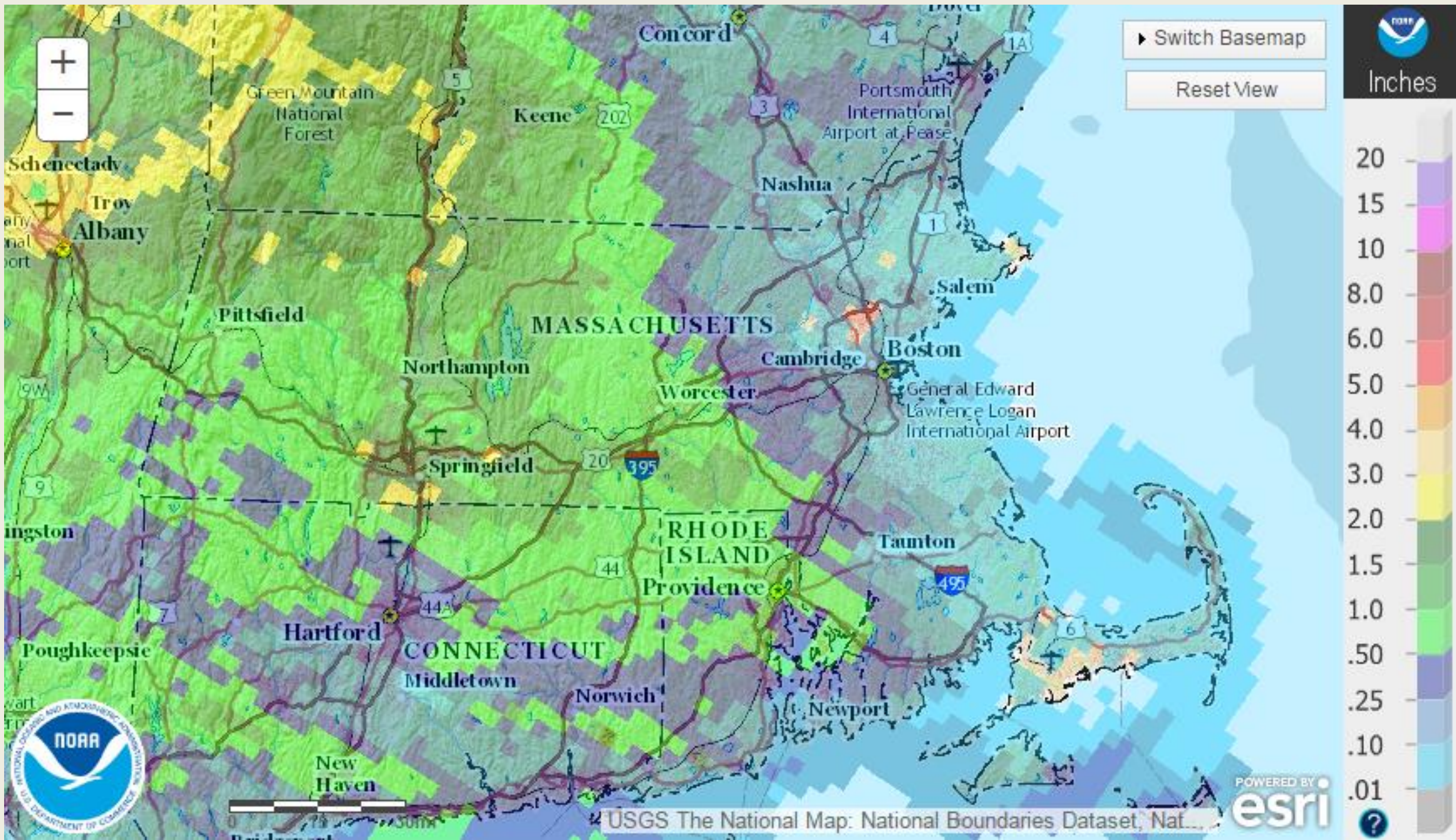
- | | |
|---|---|
|  -3.0 or less (Severely Dry) |  +1.0 to +1.9 (Abnormally Moist) |
|  -2.0 to -2.9 (Excessively Dry) |  +2.0 to +3.0 (Wet) |
|  -1.0 to -1.9 (Abnormally Dry) |  3.0 and above (Excessively Wet) |
|  -0.9 to +0.9 (Slightly Dry/Favorably Moist) | |

MA Secondary Drought Index: CMI



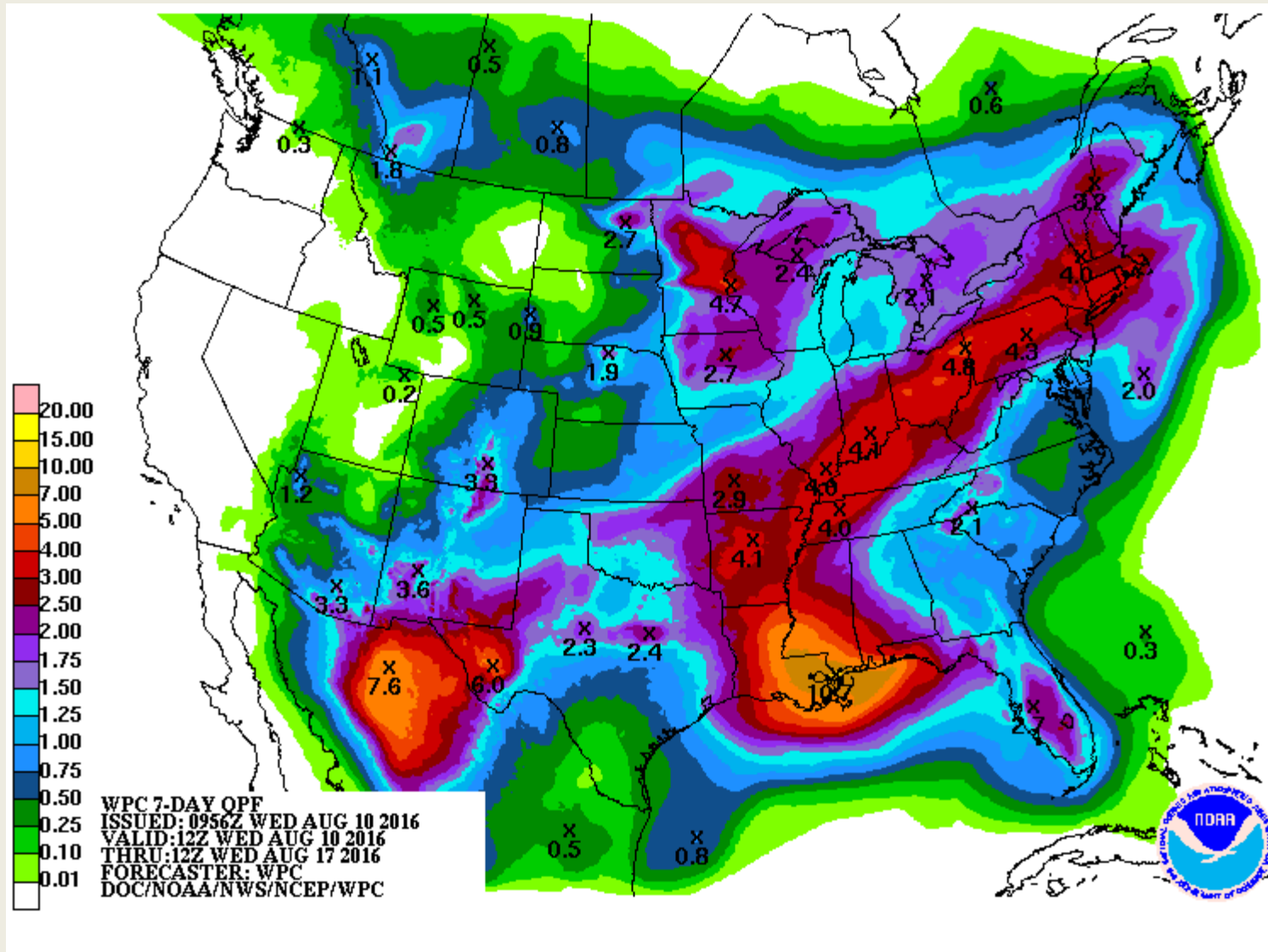
- | | |
|---|---|
|  -3.0 or less (Severely Dry) |  +1.0 to +1.9 (Abnormally Moist) |
|  -2.0 to -2.9 (Excessively Dry) |  +2.0 to +3.0 (Wet) |
|  -1.0 to -1.9 (Abnormally Dry) |  3.0 and above (Excessively Wet) |
|  -0.9 to +0.9 (Slightly Dry/Favorably Moist) | |

August Month-to-Date Rainfall (Thru 8 am 8/10)



Forecast for the Next 7 Days

Rainfall Forecast thru 8 AM Aug 17th

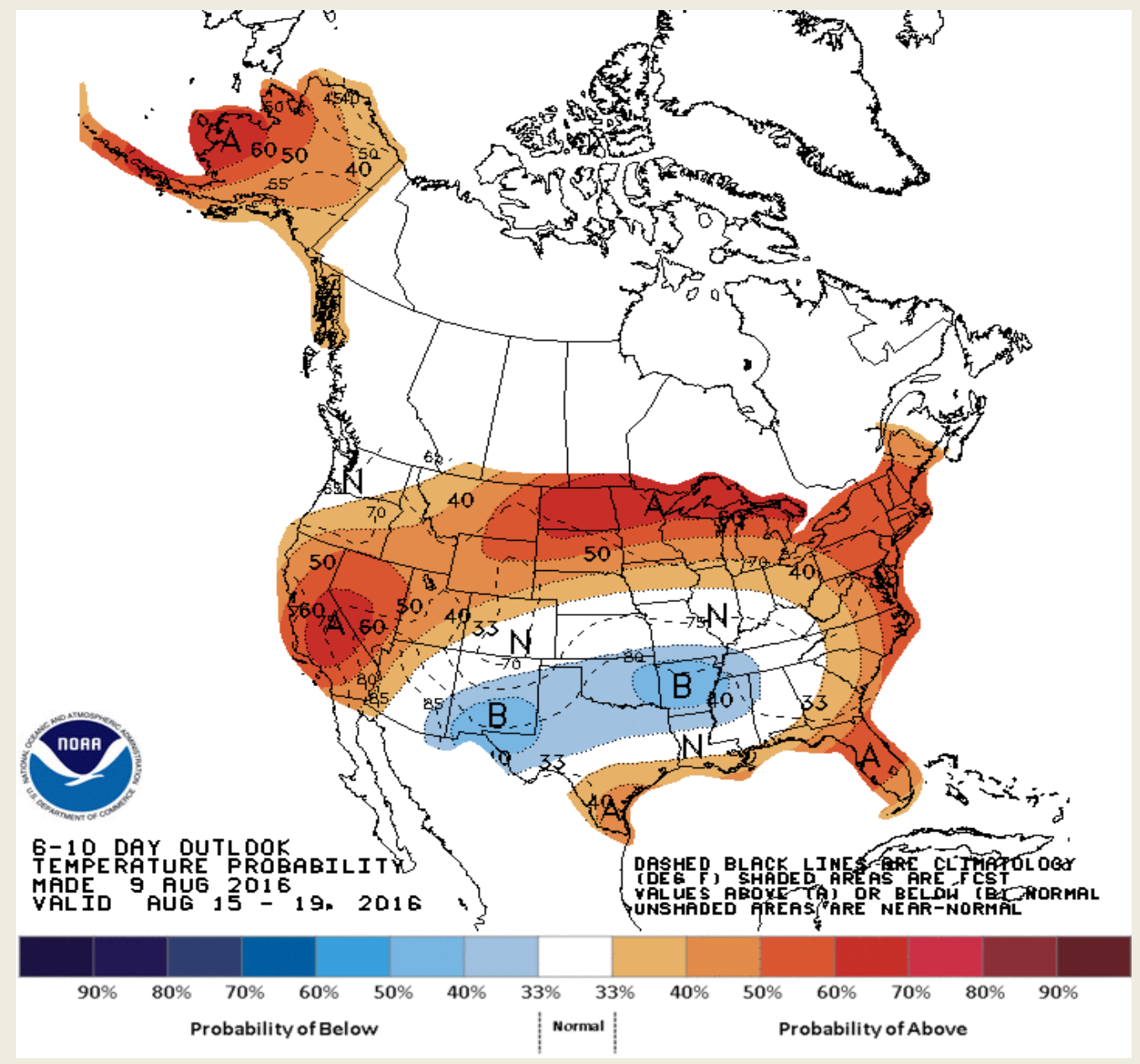
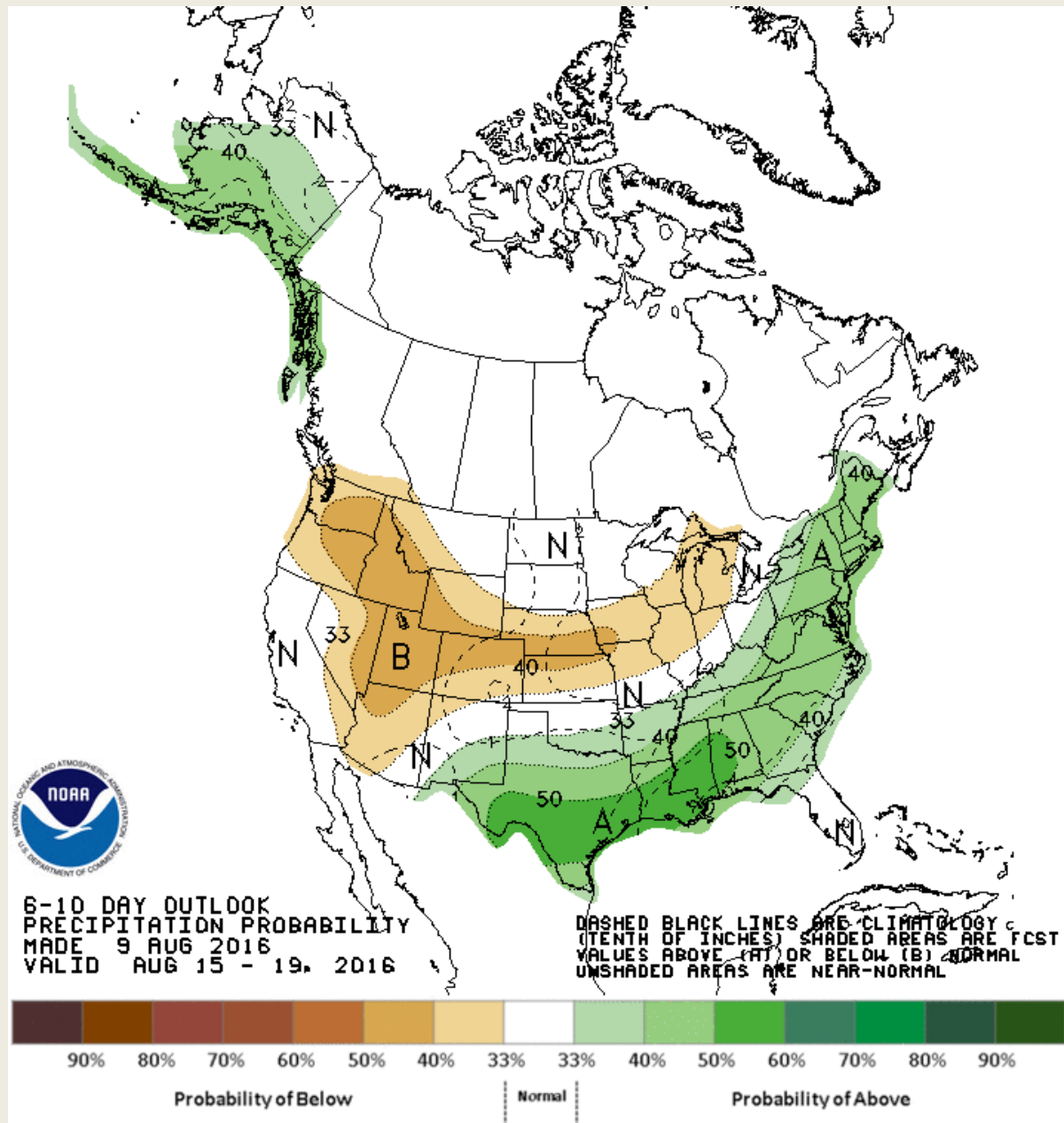


Predominant Pattern:

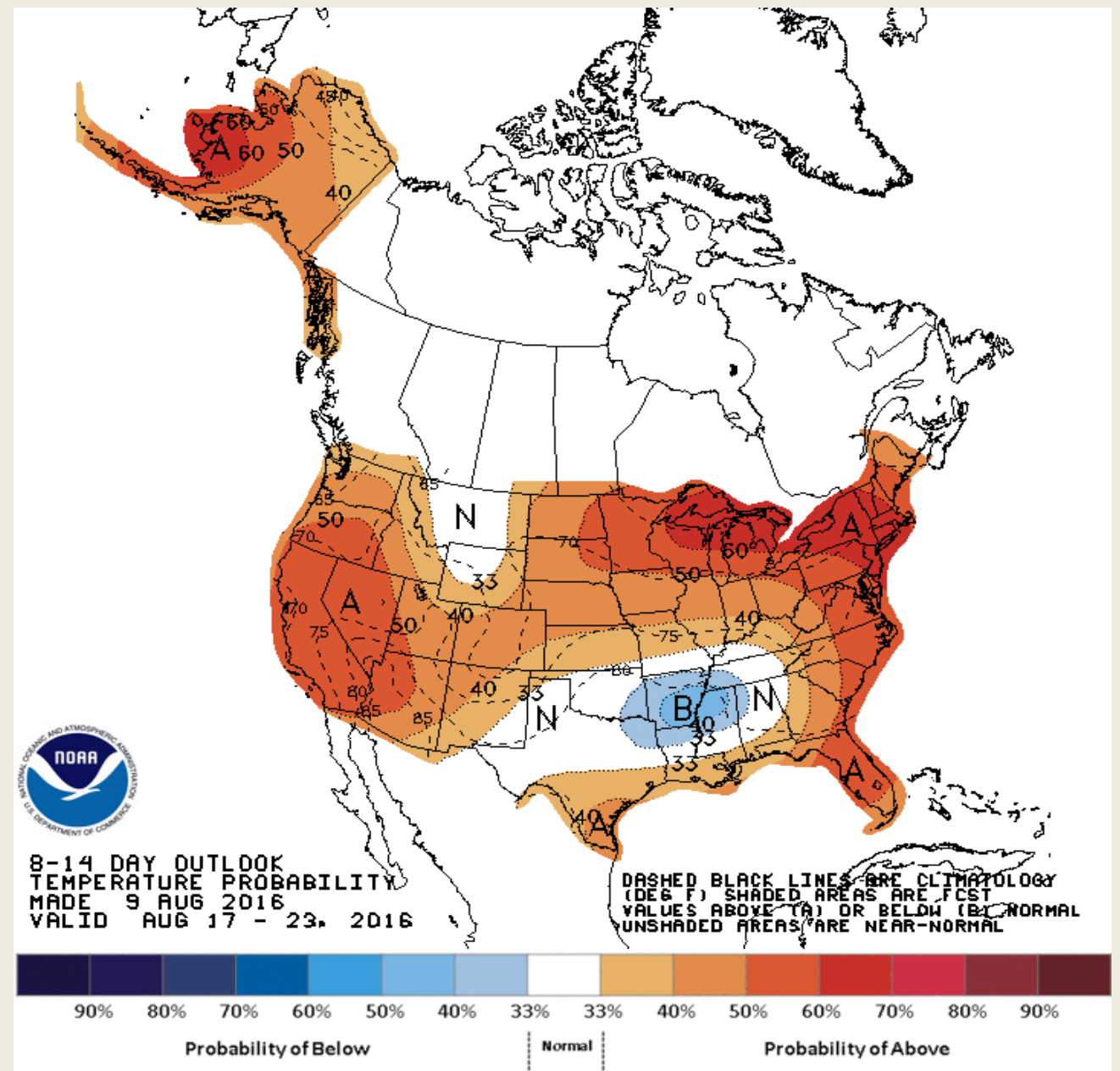
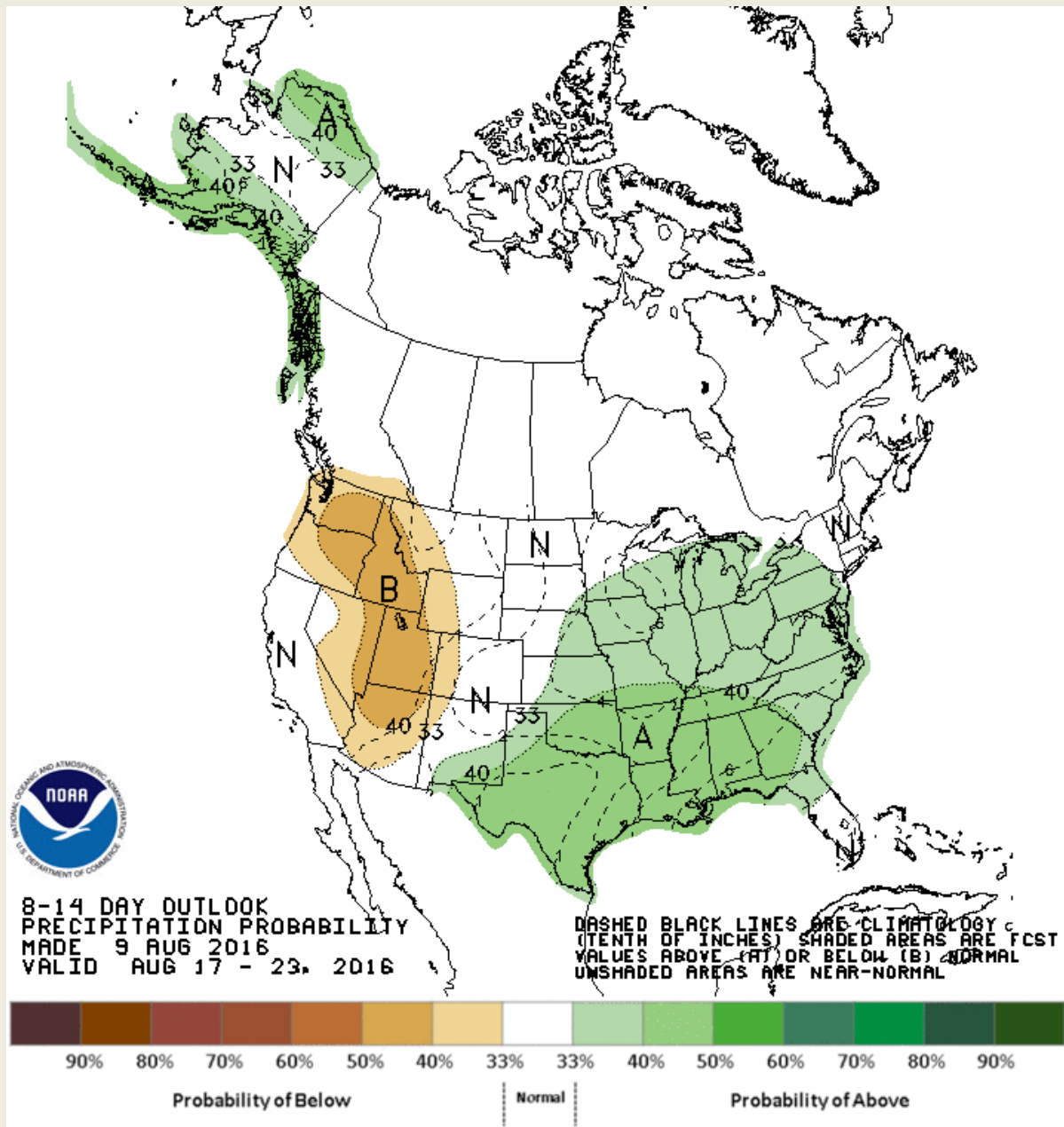
- Slow moving front drops down across the region to bring scattered showers/t-storms
- *Rainfall above normal through the weekend*
- *Temps above normal through Saturday turning cooler Sunday into early next week*
 - Lows in the mid 60s/ mid70s
 - Highs in the mid 80s/mid 90s through Sat. In the 70s Sun into Tues.



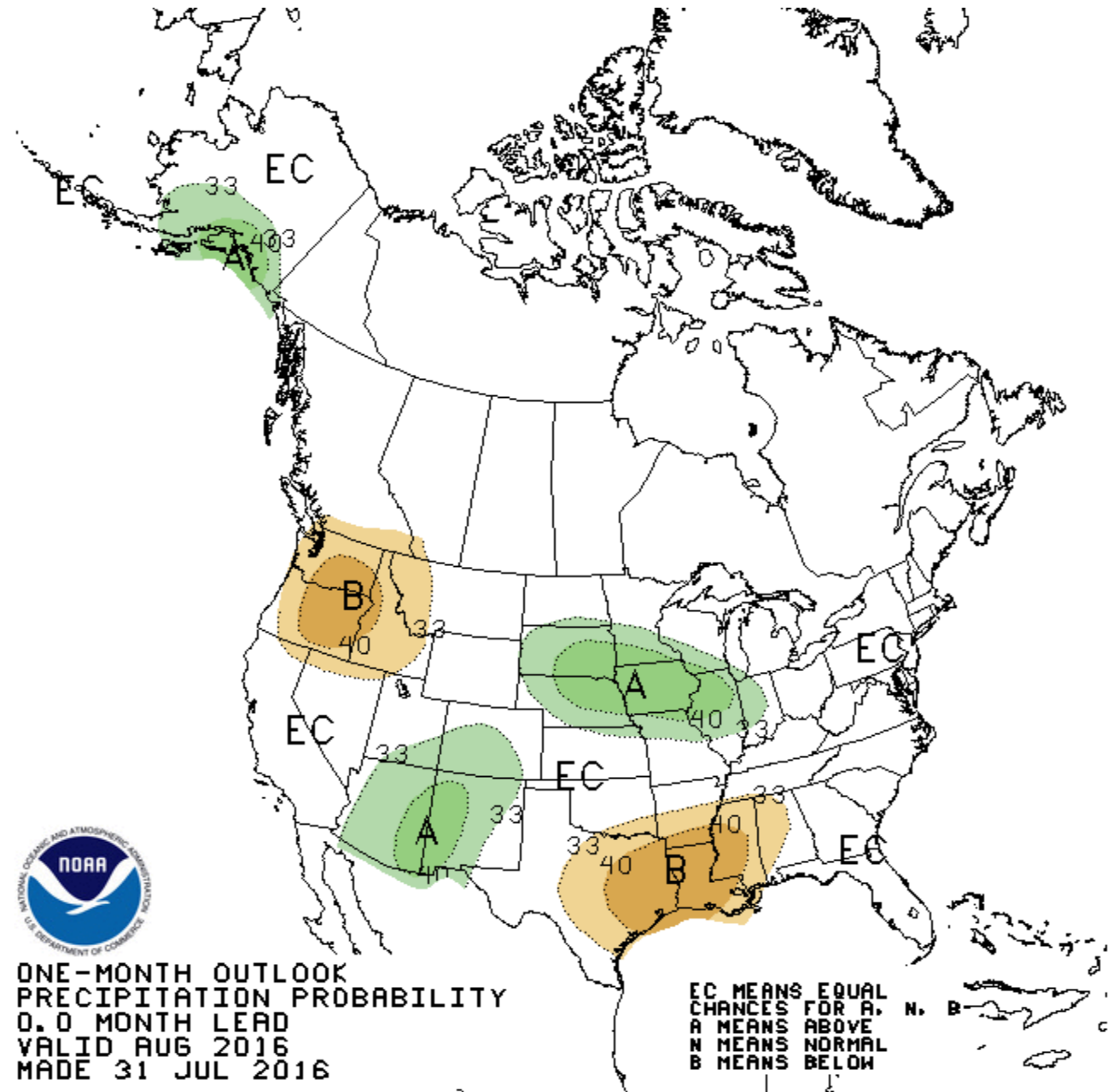
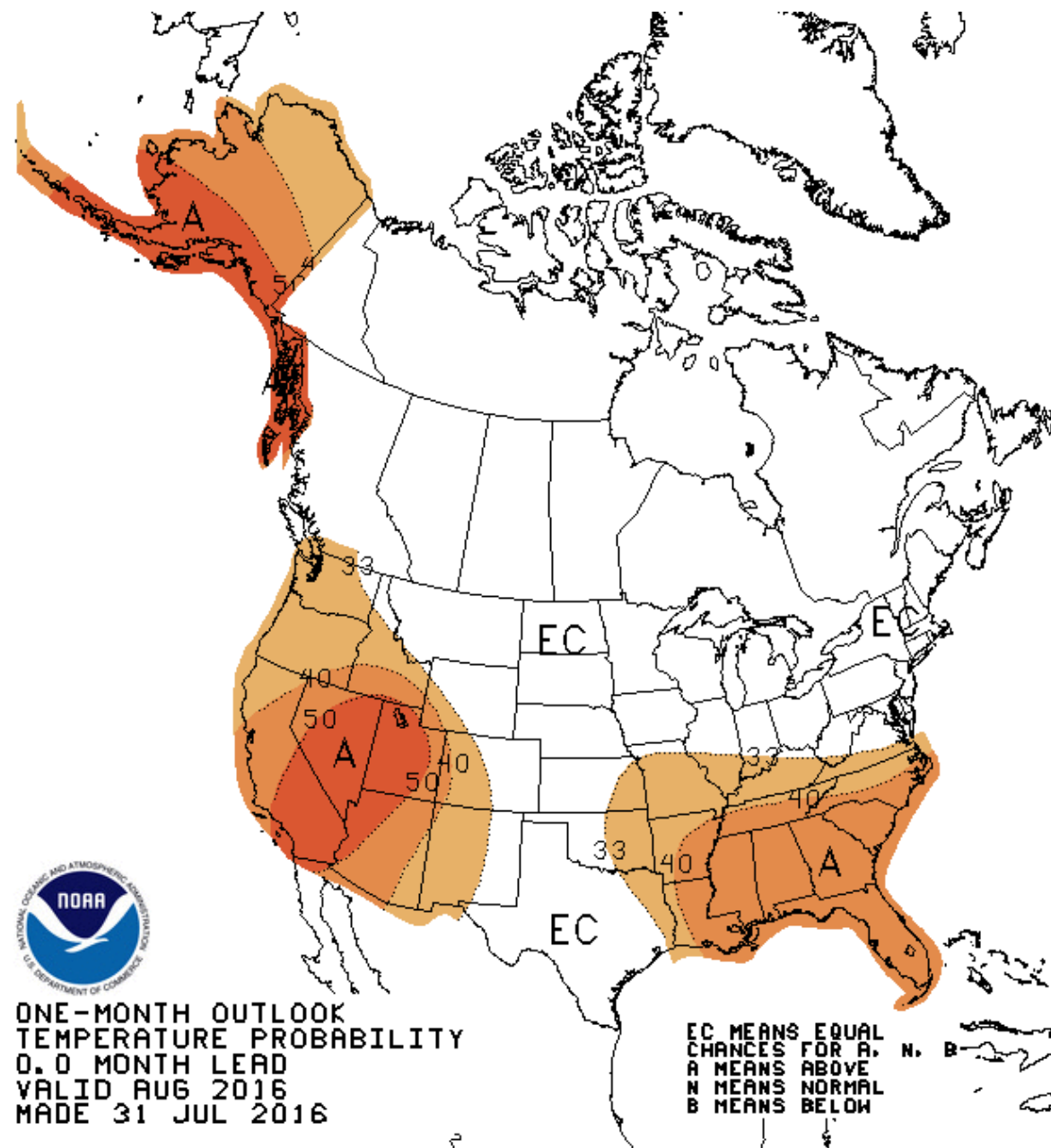
Outlook: August 15th-19th



Outlook: August 17th-23rd



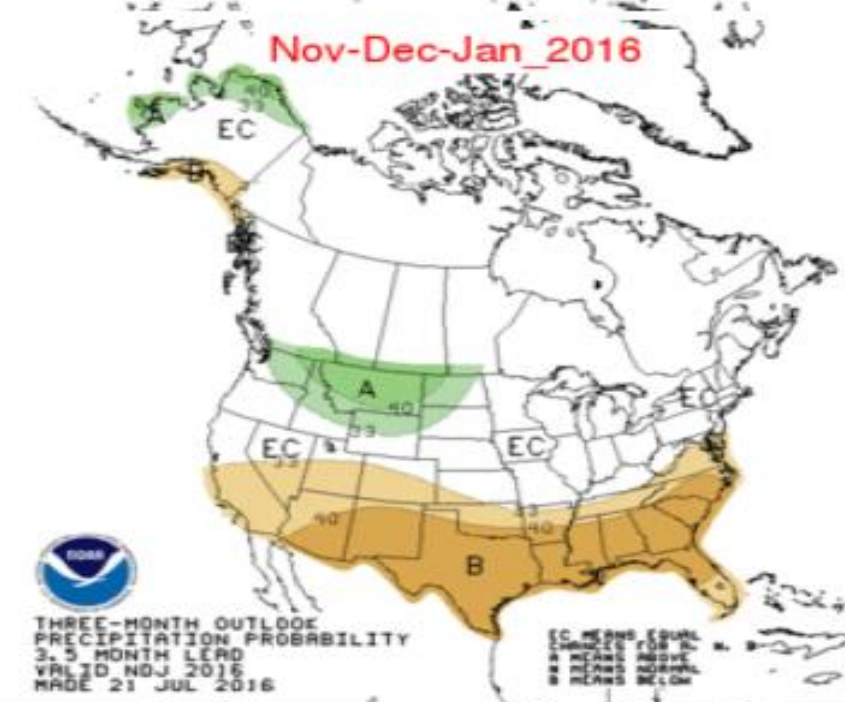
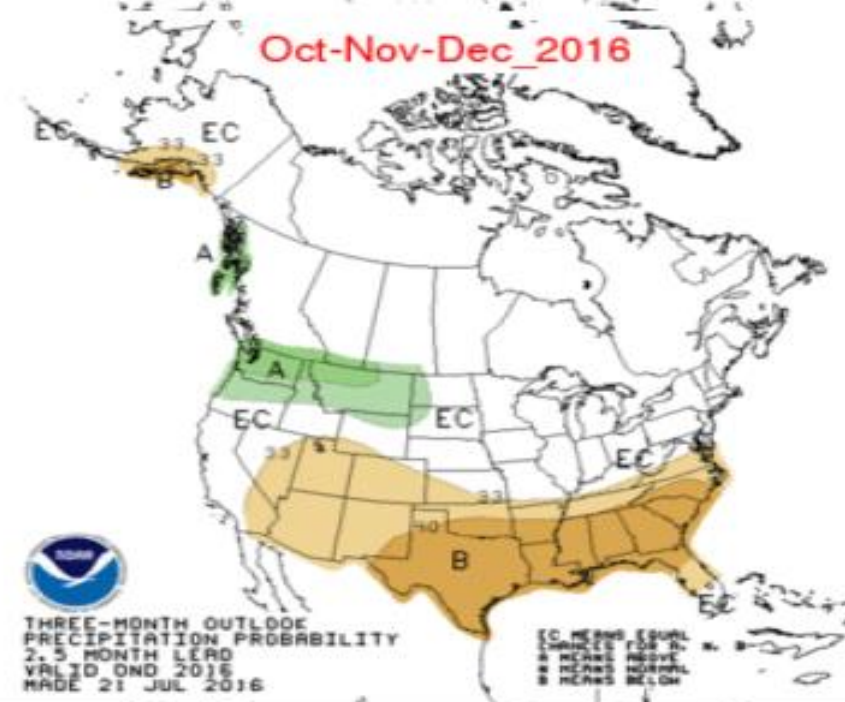
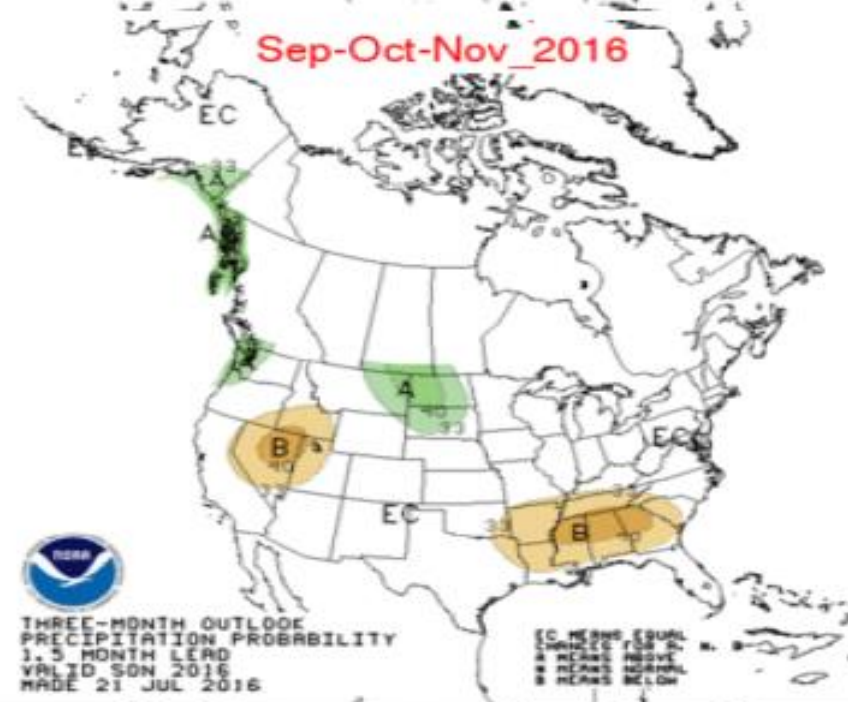
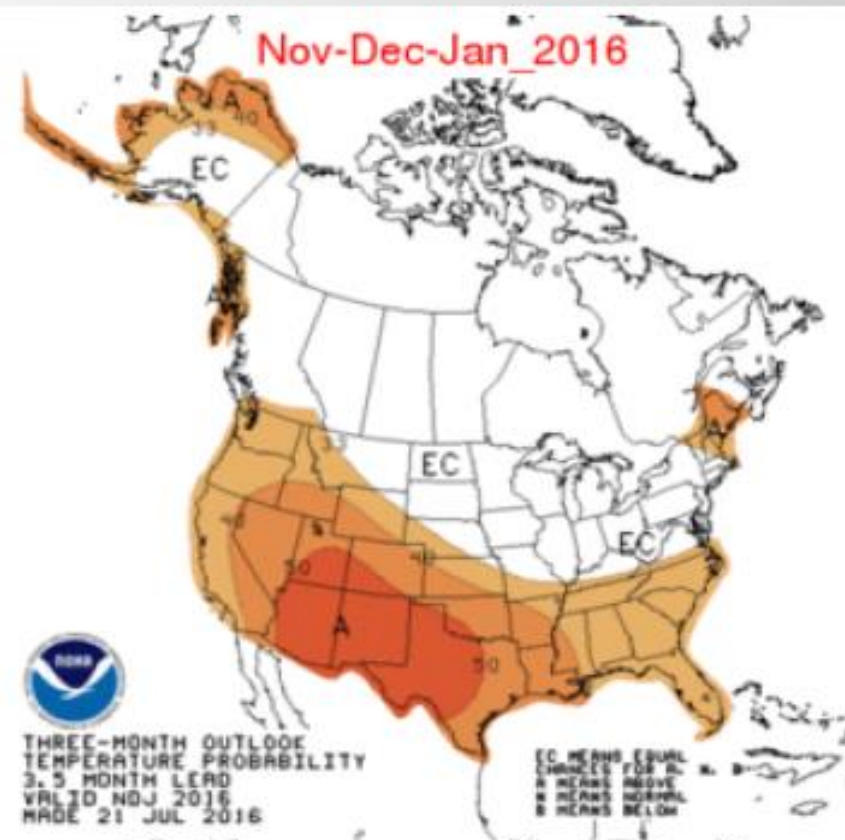
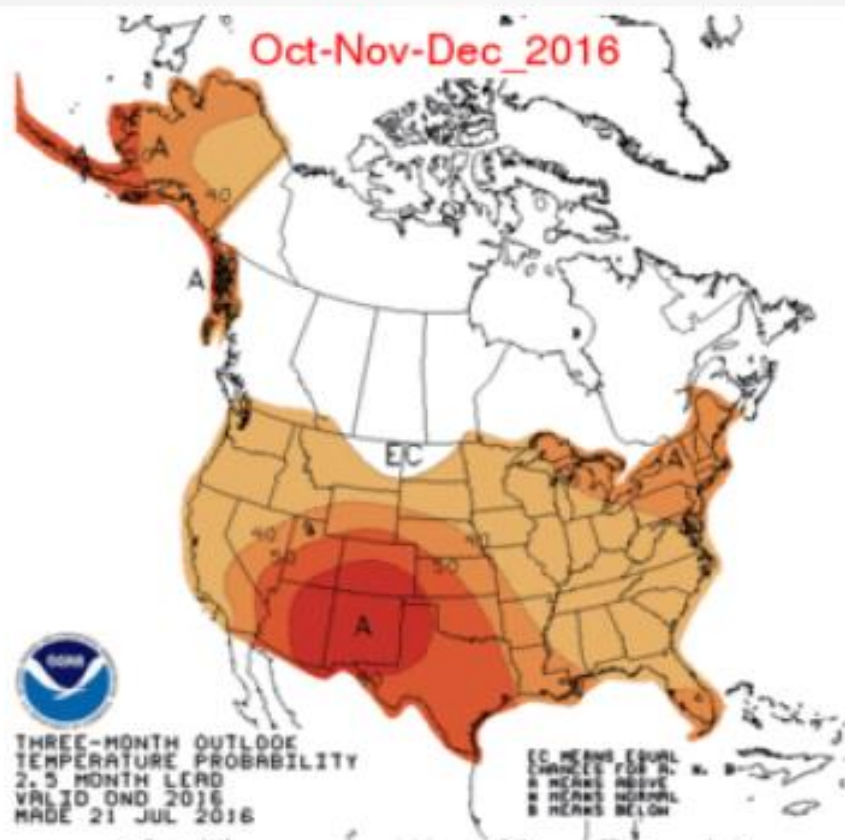
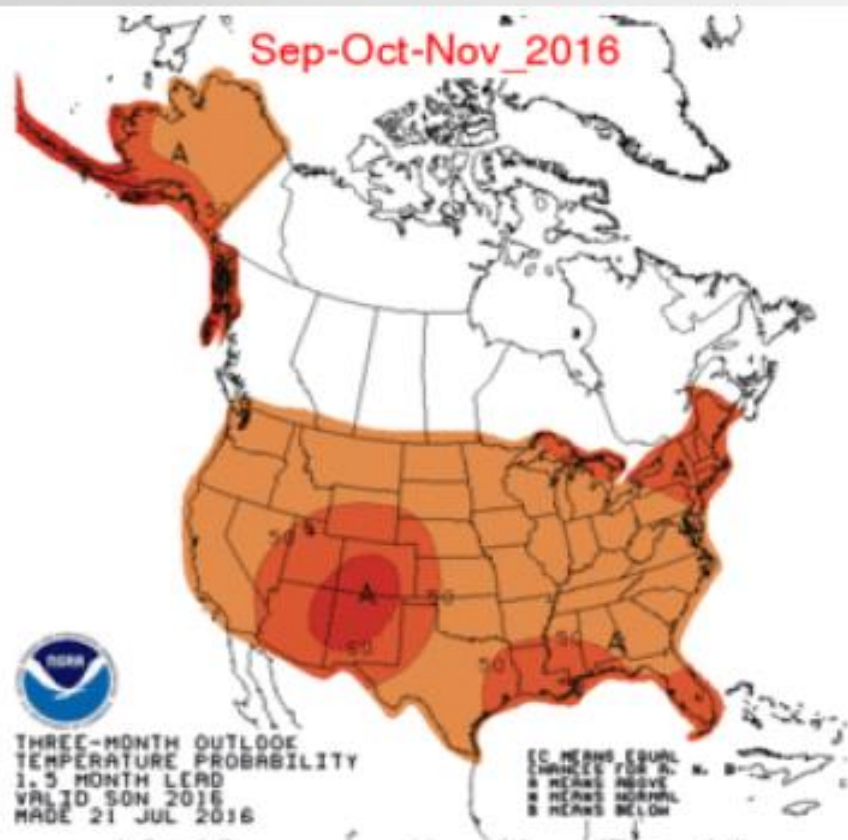
CPC 1 Month Outlook for Aug





CPC -- 3-monthly Outlooks

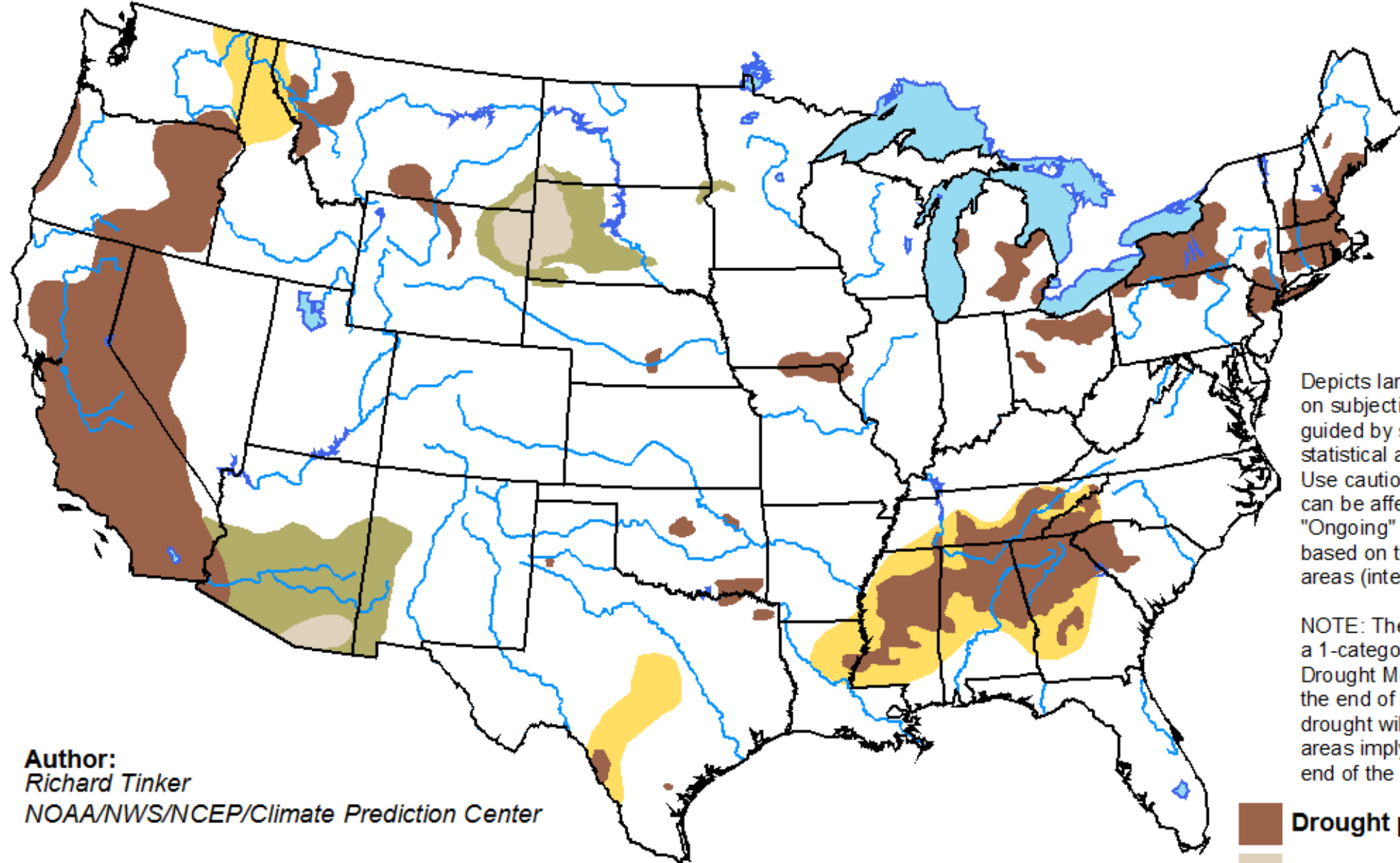
Warm with Normal Precipitation



U.S. Seasonal Drought Outlook




Drought Tendency During the Valid Period

Valid for July 21 - October 31, 2016
Released July 21, 2016

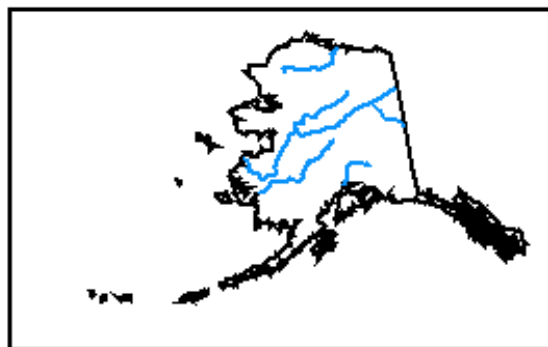


Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to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

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

Author:
Richard Tinker
NOAA/NWS/NCEP/Climate Prediction Center



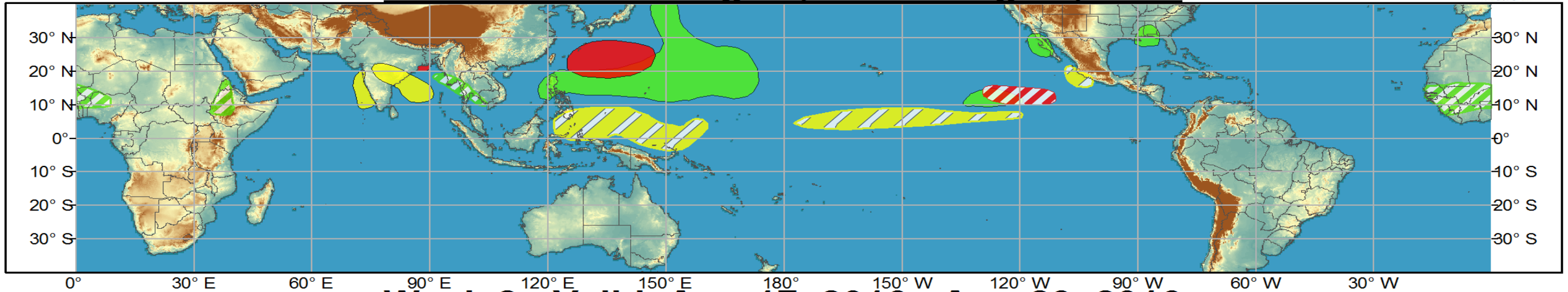
<http://go.usa.gov/3eZ73>



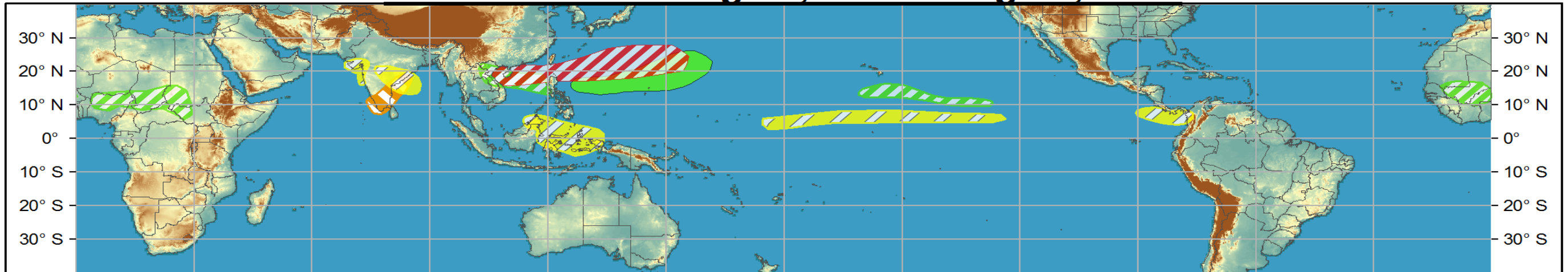
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Aug 10, 2016 - Aug 16, 2016



Week 2 - Valid: Aug 17, 2016 - Aug 23, 2016



Produced: 08/09/2016

Forecaster: Rosencrans

Confidence		
High	Moderate	
		Tropical Cyclone Formation Development of a tropical cyclone (tropical depression - TD, or greater strength).
		Above-average rainfall Weekly total rainfall in the upper third of the historical range.
		Below-average rainfall Weekly total rainfall in the lower third of the historical range.
		Above-normal temperatures 7-day mean temperatures in the upper third of the historical range.
		Below-normal temperatures 7-day mean temperatures in the lower third of the historical range.

Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.





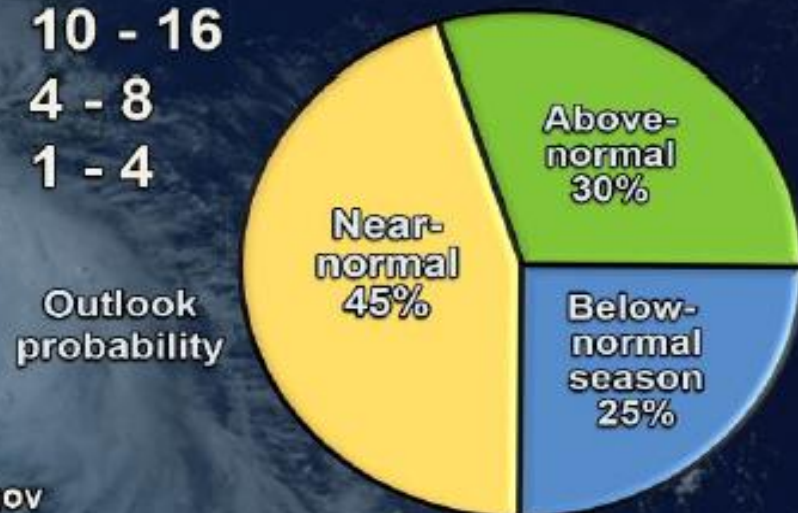
2016 Hurricane Season



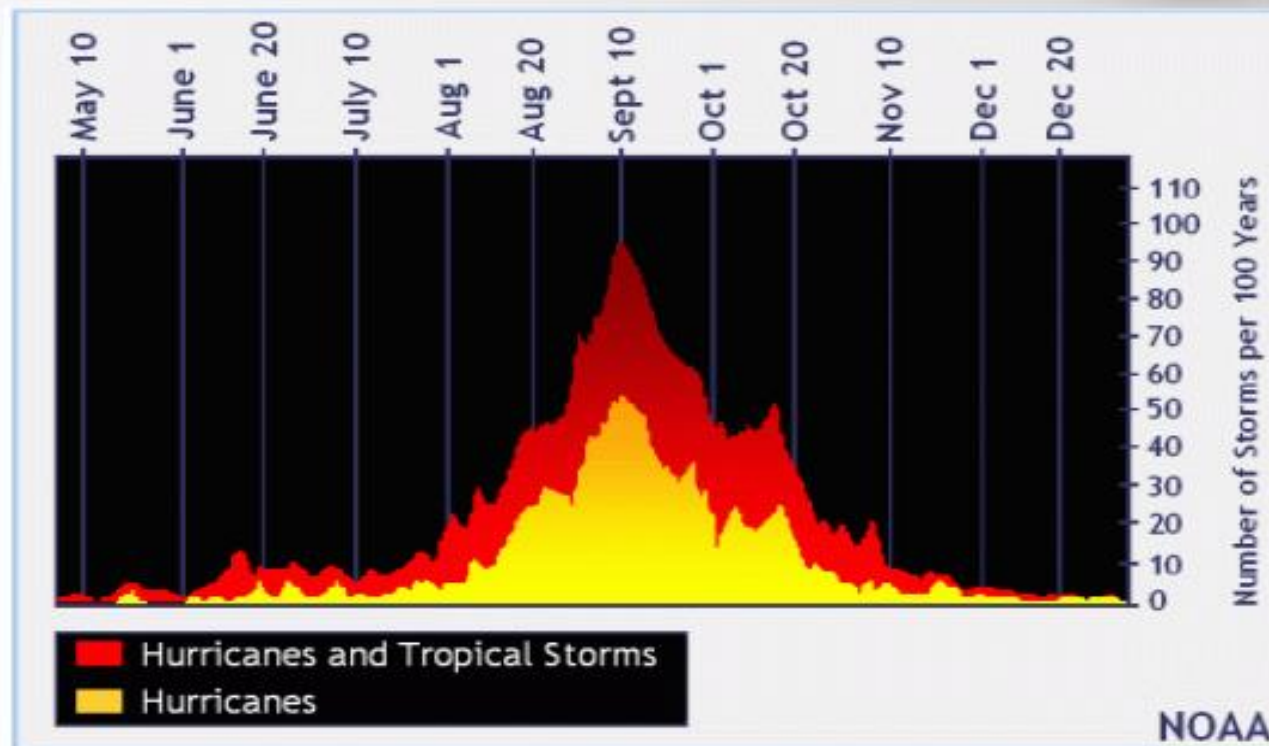
Climatologic Height of Season...Late Aug-Late Sept

2016 Atlantic Hurricane Season Outlook

Named storms: 10 - 16
 Hurricanes: 4 - 8
 Major hurricanes: 1 - 4



Be prepared: Visit hurricanes.gov and follow @NWS and @NHC_Atlantic on Twitter



2016 Atlantic Tropical Cyclone Names

- | | | |
|---------------------|---------|----------|
| Alex | Hermine | Otto |
| Bonnie | Ian | Paula |
| Colin | Julia | Richard |
| Danielle | Karl | Shary |
| Earl | Lisa | Tobias |
| Fiona | Matthew | Virginie |
| Gaston | Nicole | Walter |



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