Spring 2011:
A Season of U.S. Climate and Weather Extremes

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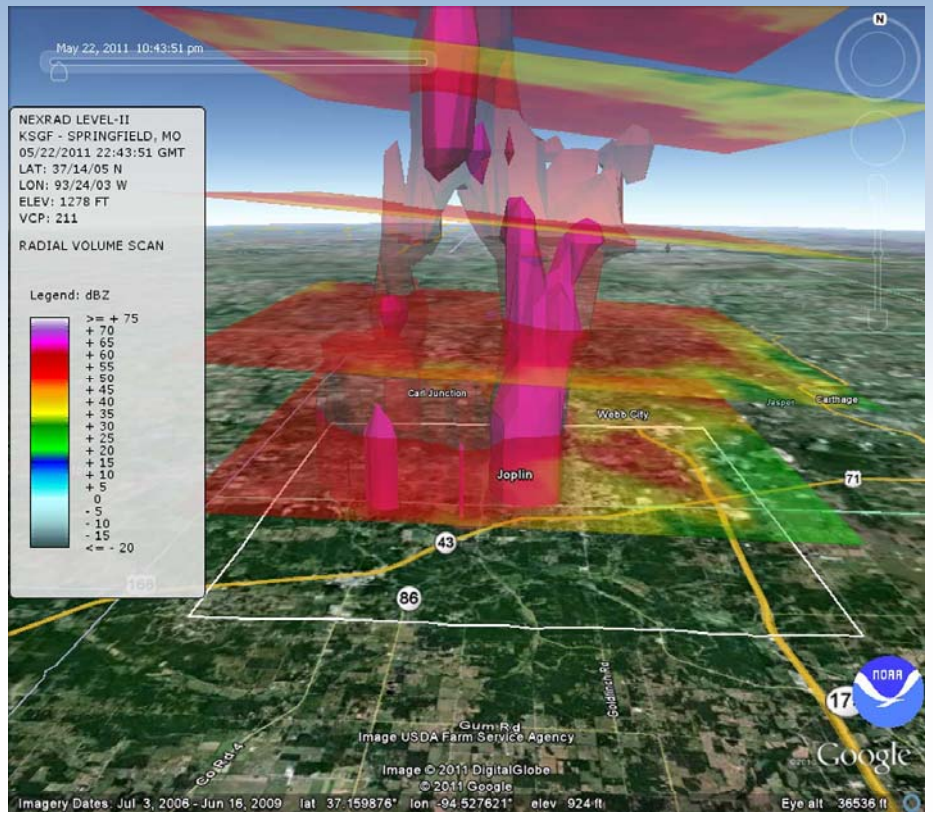
NOAA Climate Webinar Series
June 15, 2011

Spring Extreme Events

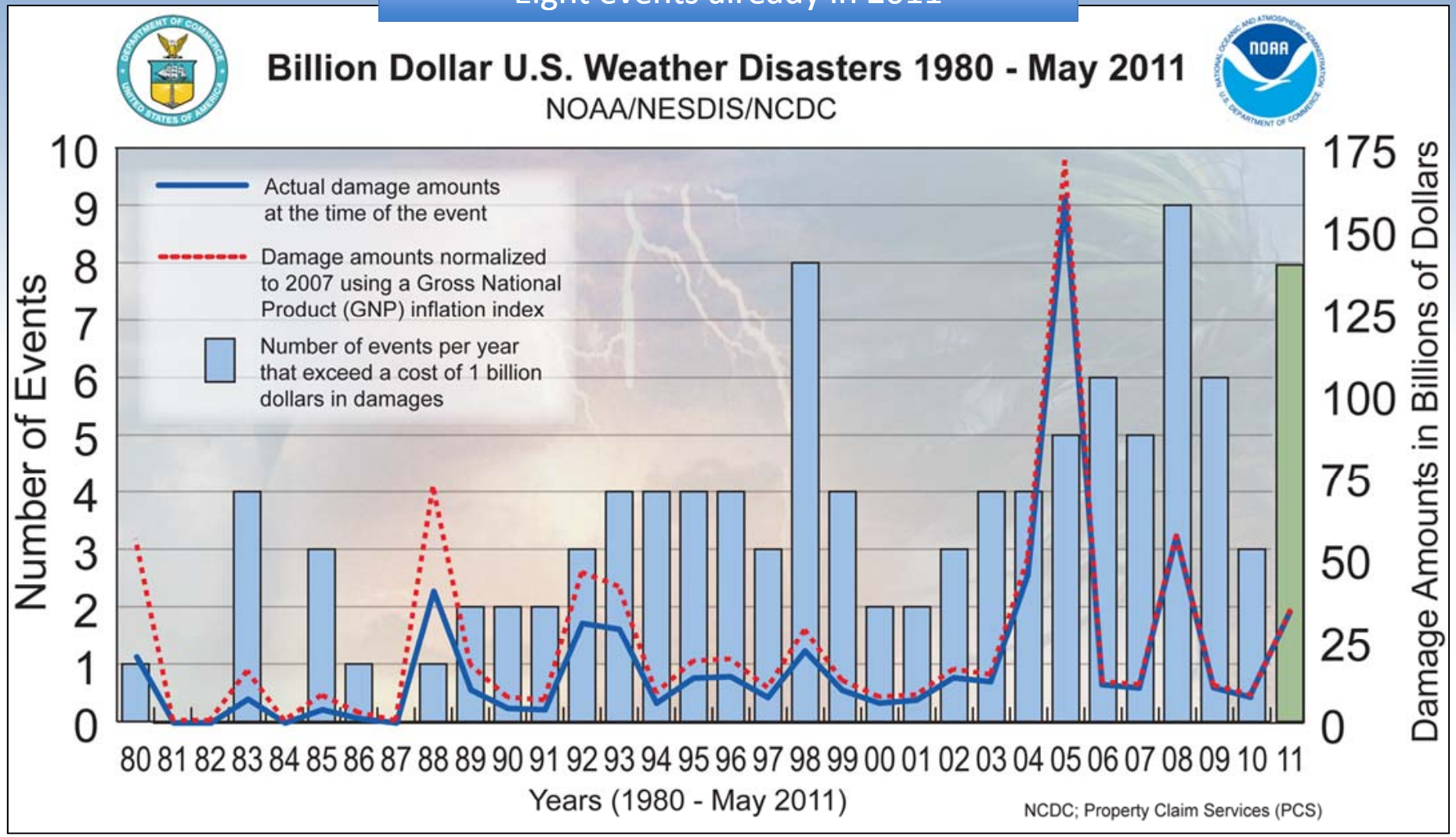
- **Key Spring Extremes**
  - Tornadoes
  - Flooding
  - Drought
- **Climate Extremes Index**
- **Tornadoes and Climate**
- **What to expect this summer?**



Radar Image of Joplin, MS Tornado
May 22, 2011

Billion Dollar Weather Disasters

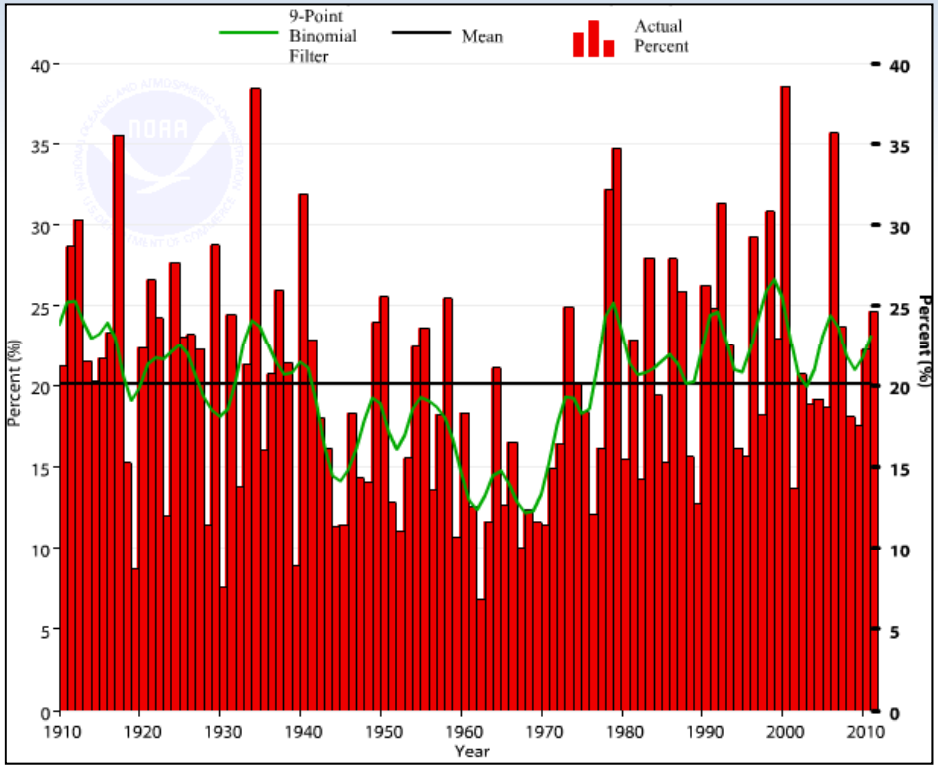
Eight events already in 2011



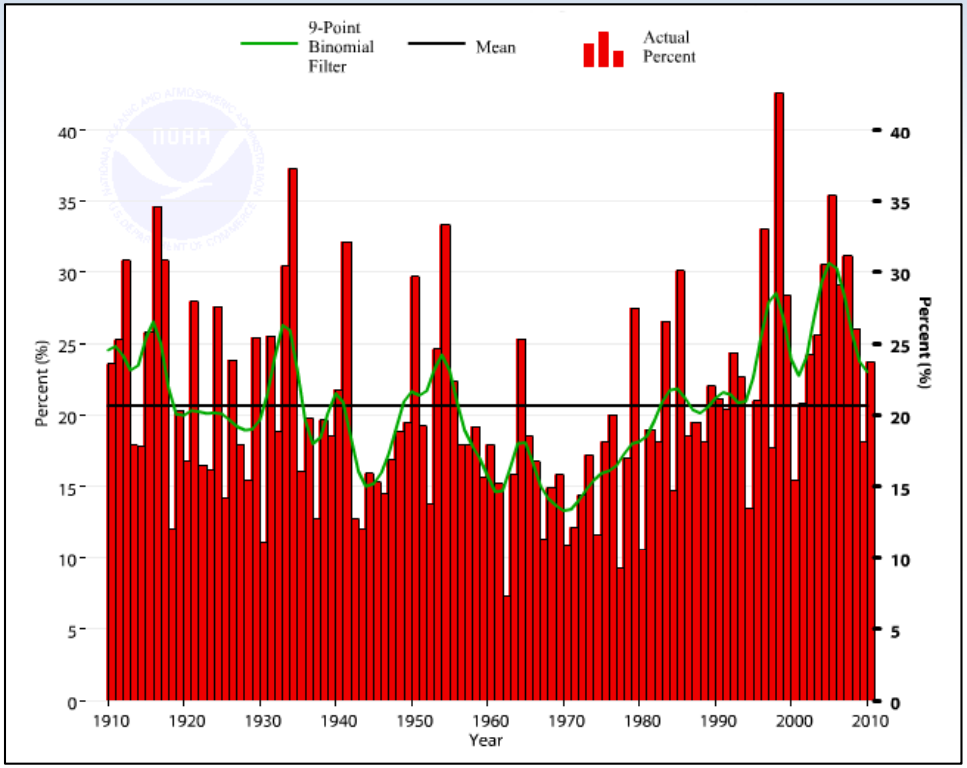
Note: 2011 figures based on preliminary information

NOAA's Climate Extremes Index

Without Tropical Cyclone Indicator, January-May 1910-2011

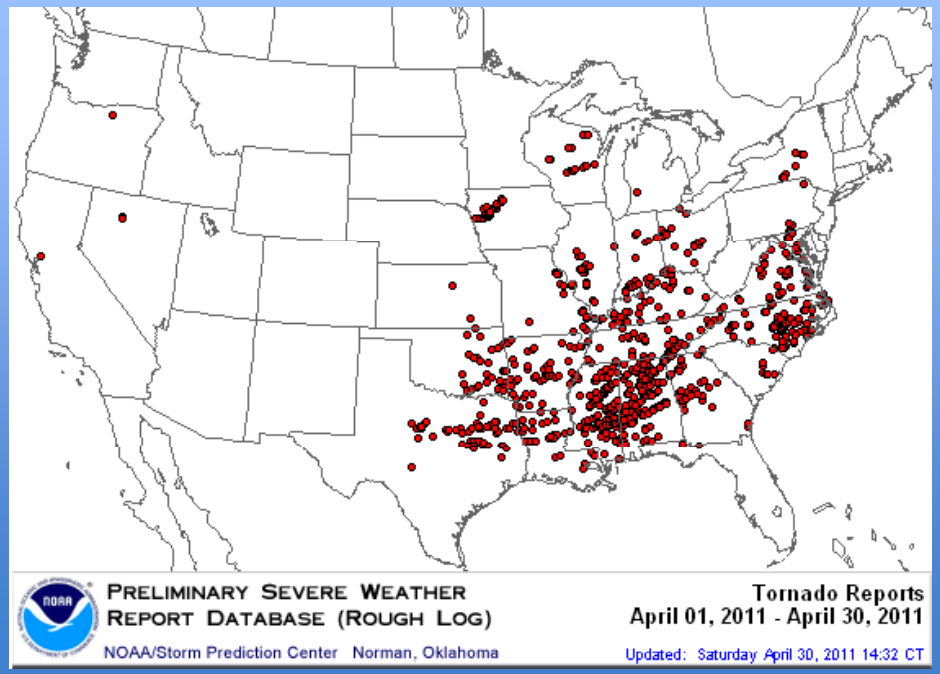


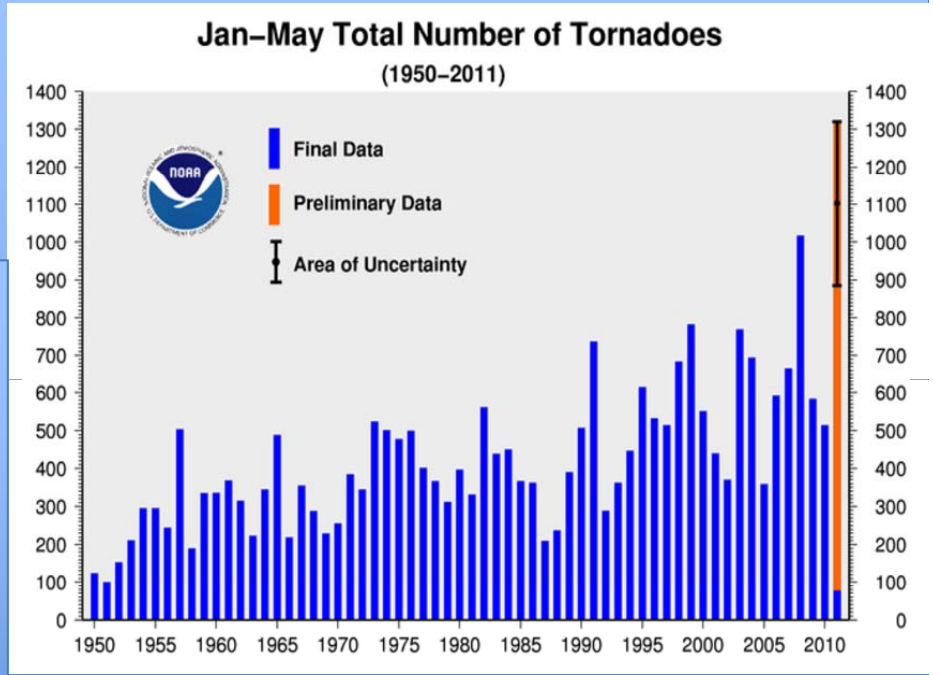
With Tropical Cyclone Indicator, Annual 1910-2011



Spring 2011: Tornadoes

Tornadoes in April 2011

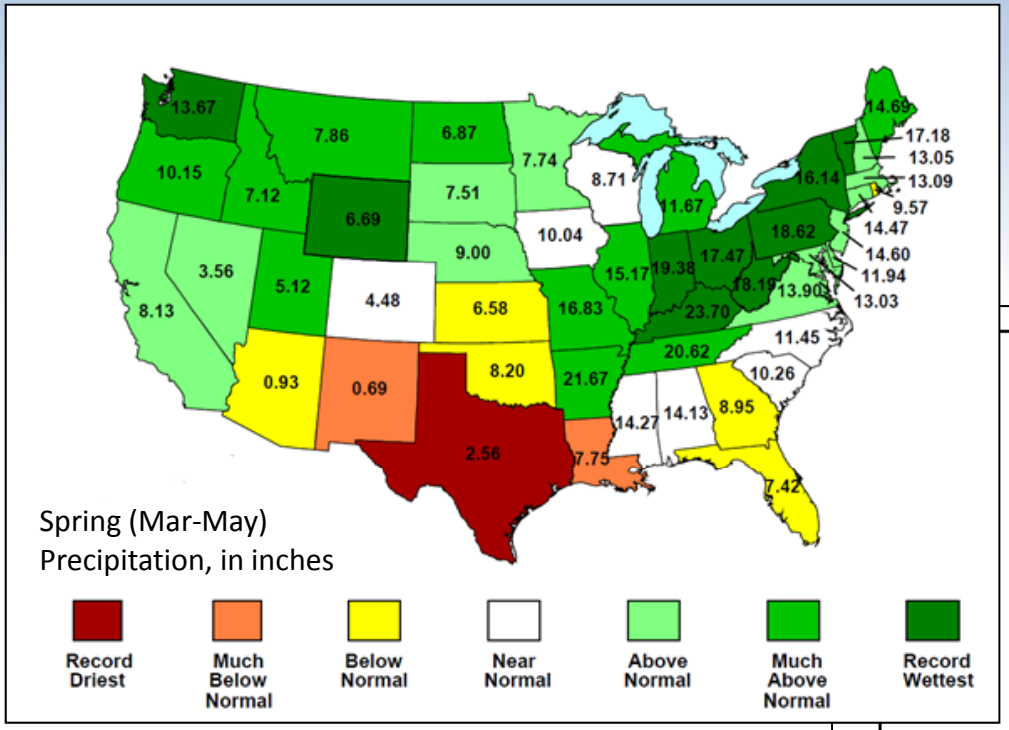




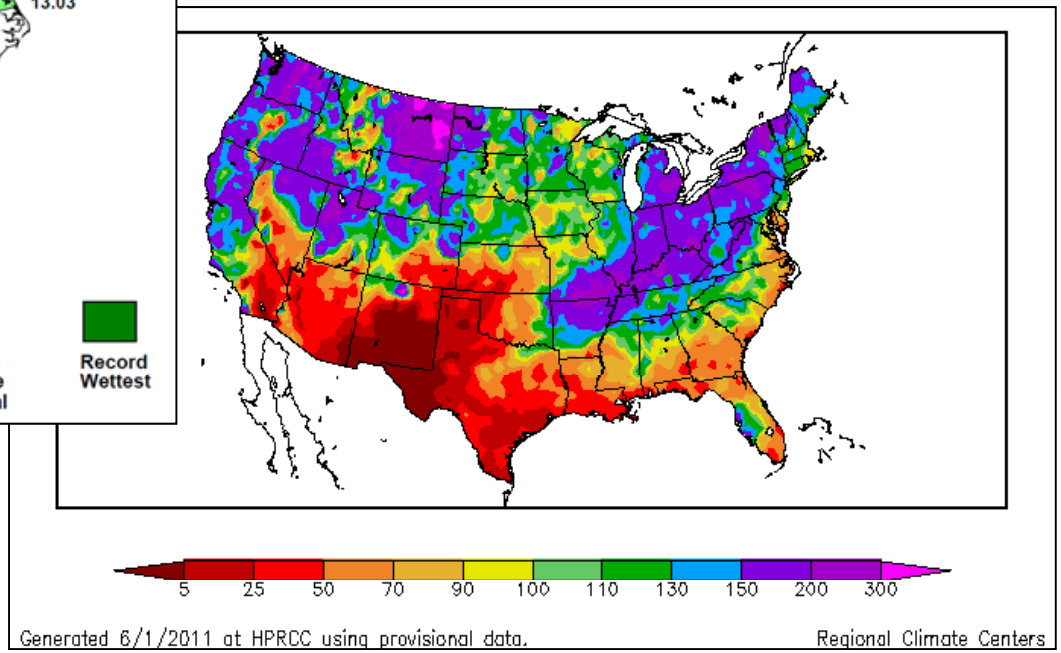
Preliminary numbers indicate 2011 likely to have the highest number of tornadoes on record

Spring 2011: Flooding

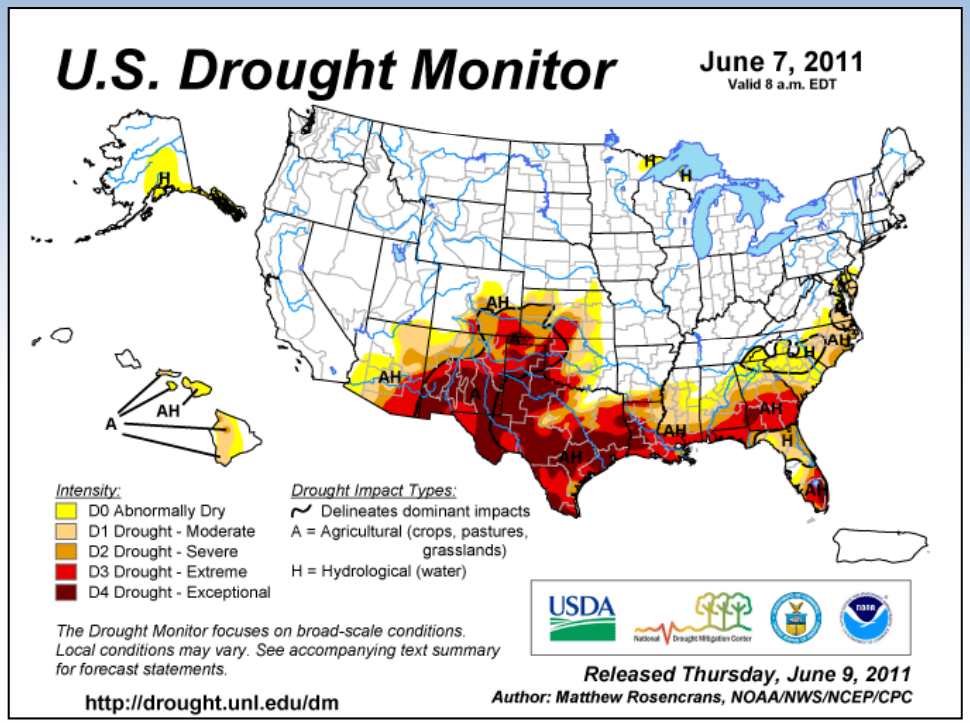
Spring 2011 Precipitation Levels



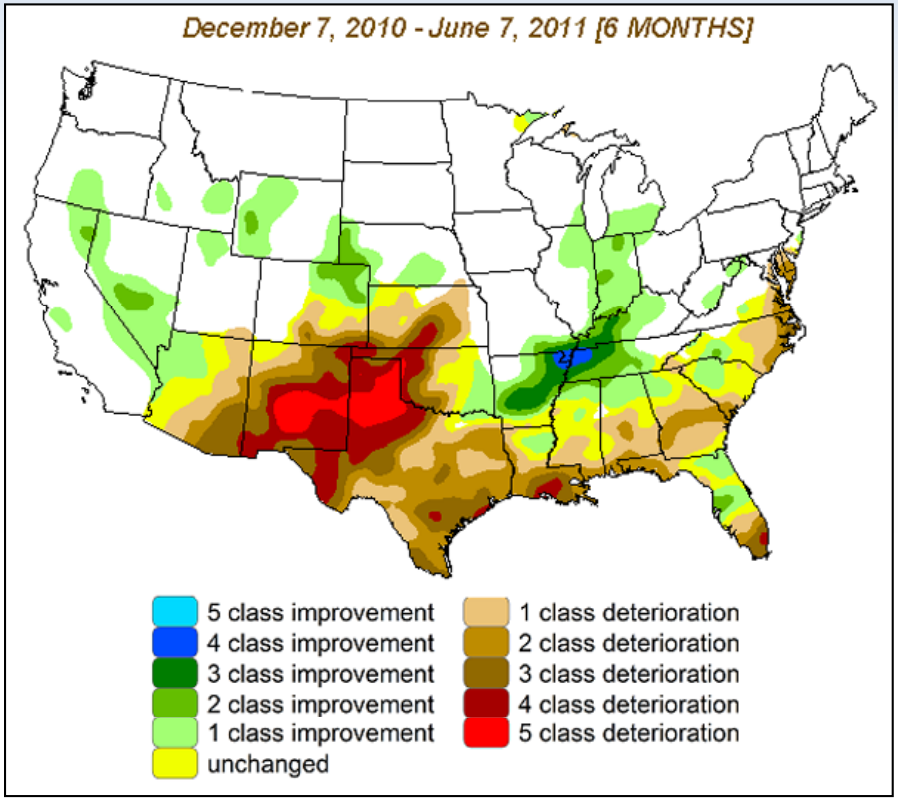
Percent of Normal Precipitation (%)
3/1/2011 – 5/31/2011



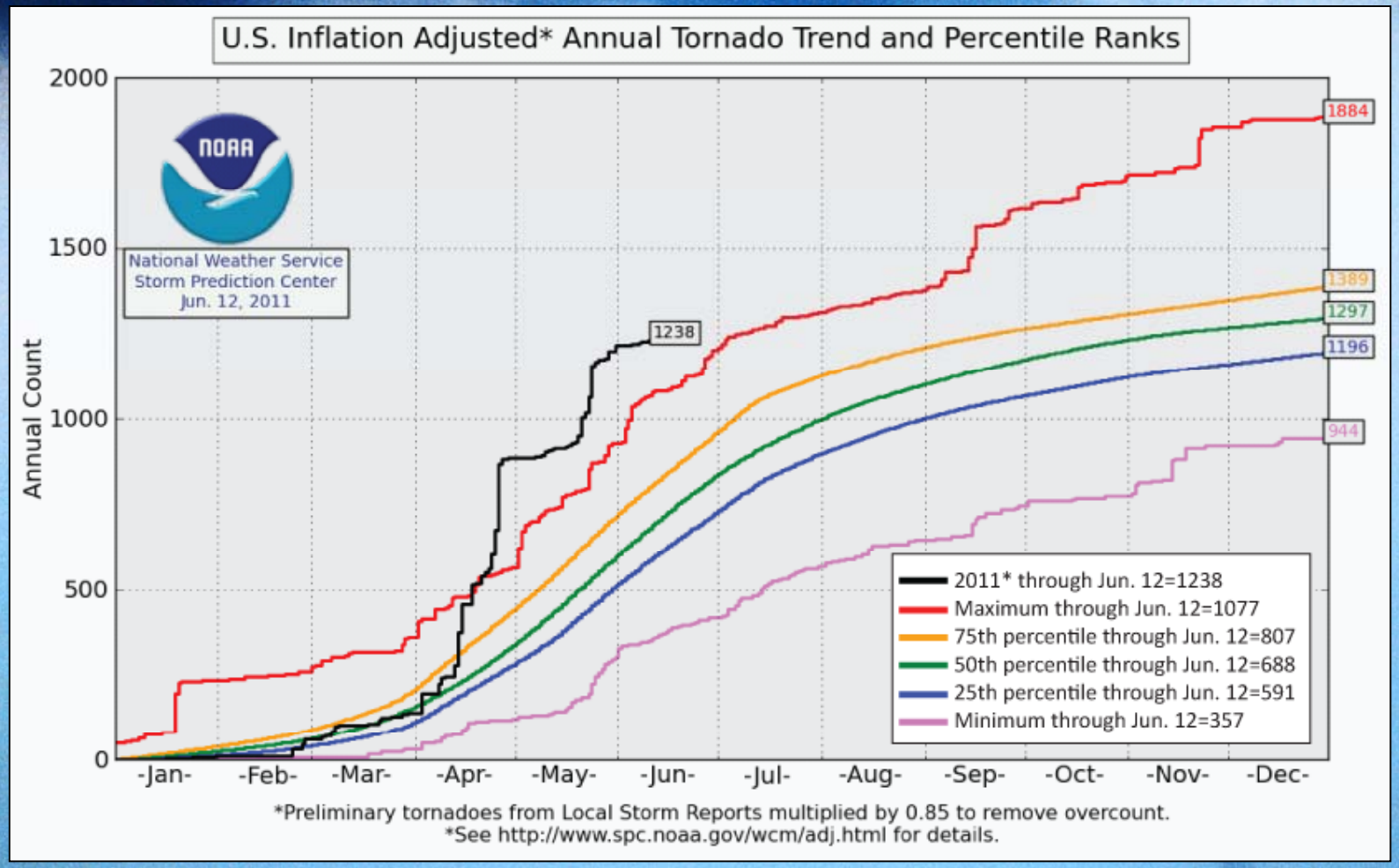
Spring 2011: Drought



Change in drought classification over the past six months



Annual Tornado Trend



Second half of April was incredibly active for tornadoes. Rest of year has been normal or below.

Storms Resulting in Large Number of Tornado Deaths

Single Tornado

RANK	DATE	LOCATION	NO. OF DEATHS
1.	3/18/1925	Tri-State MO-IL-IN	695
2.	5/7/1840	Natchez LA-MS	317
3.	5/27/1896	St. Louis-ESL MO-IL	255
4.	4/5/1936	Tupelo MS	216
5.	4/6/1936	Gainesville GA	203
6.	4/9/1947	Woodward TX-OK	181
7.	5/22/2011	Joplin MO	151*
8.	4/24/1908	Amite LA-Purvis, MS	143
9.	6/12/1899	New Richmond WI	117
10.	6/8/1953	Flint MI	116

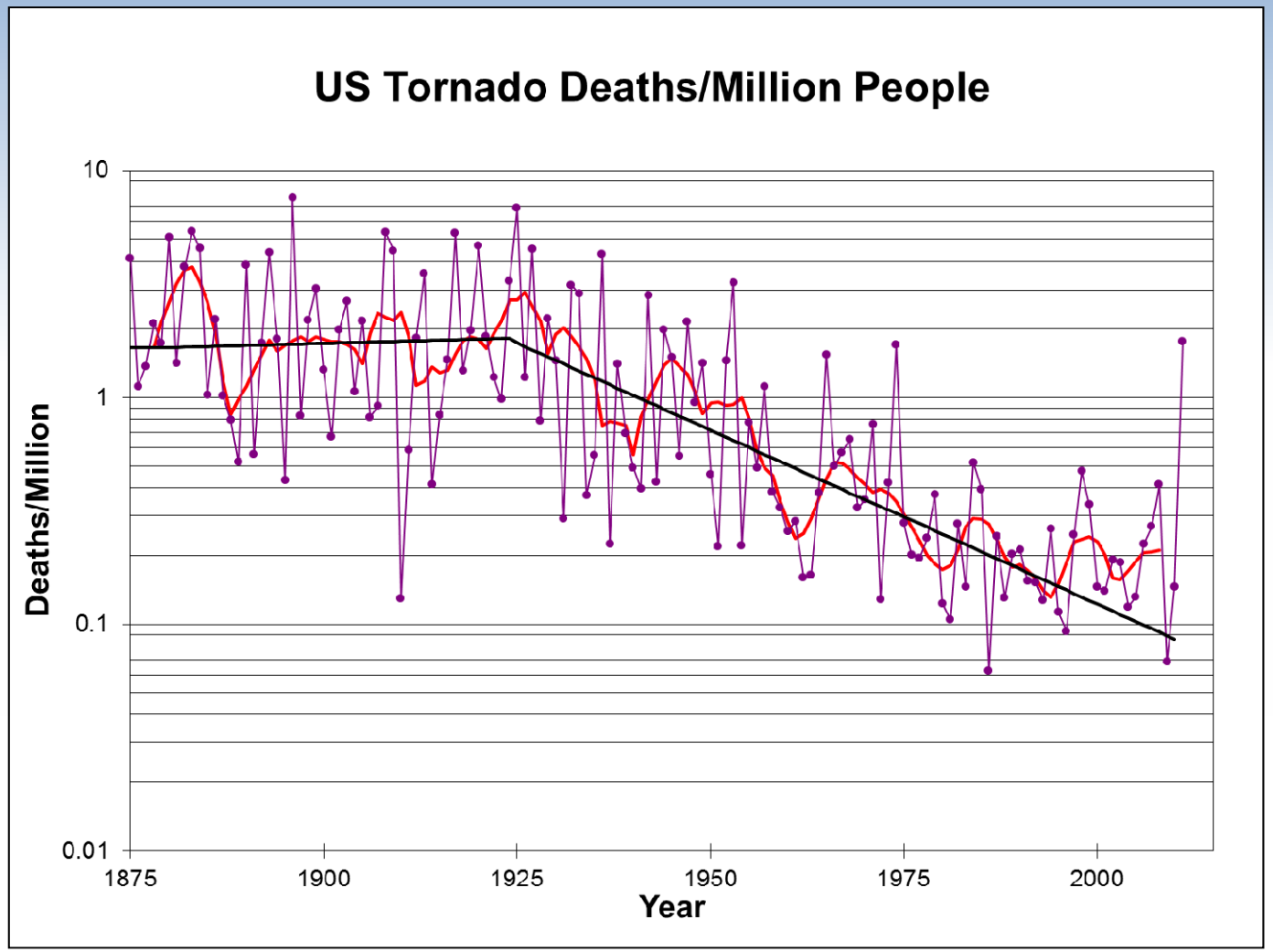
Calendar Year

RANK	DATE	NO. OF DEATHS
1.	1925	794
2.	1936	552
3.	1917	551
4.	1927	540
5.	1896	537
6.	2011	536*
7.	1953	519
8.	1920	499
9.	1908	477
10.	1909	404

*Preliminary information

Number of Tornado Deaths Per Million of People

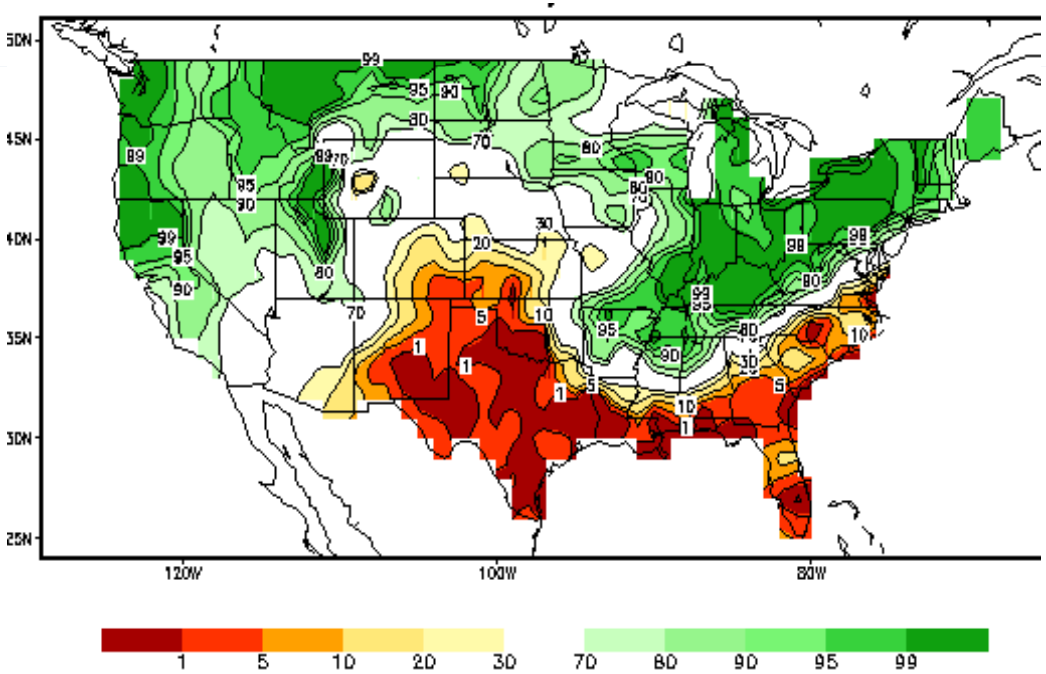
Death Rate this year is comparable to an average year from pre-1925 era.



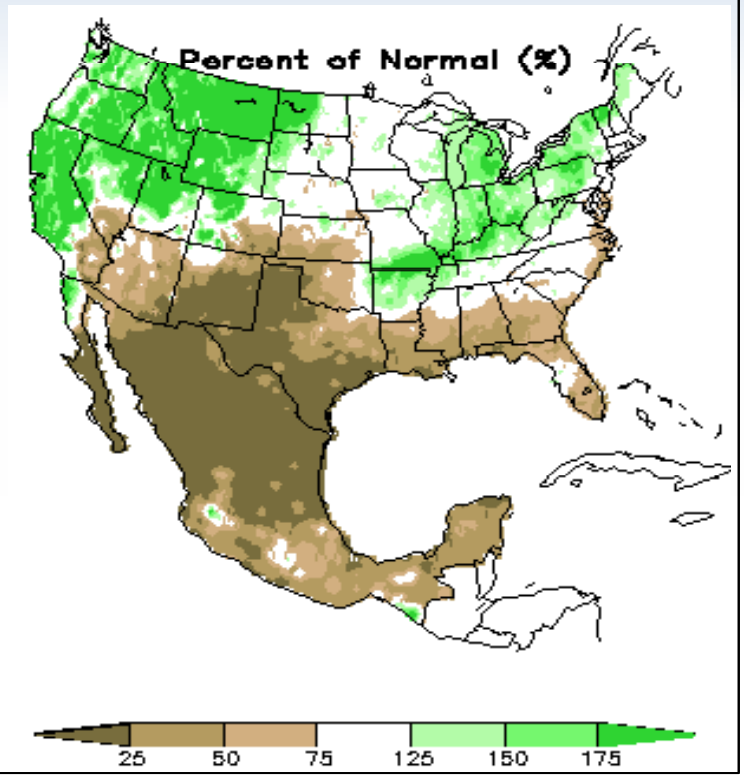
Current Climate Status, Forecasts, Impacts

Spring 2011 Precipitation, Soils, Drought: Legacy of La Nina Winter

Calculated Soil Moisture Ranking Percentile
June 12, 2011



Precipitation % of Normal for the
90 Days Ending June 13, 2011



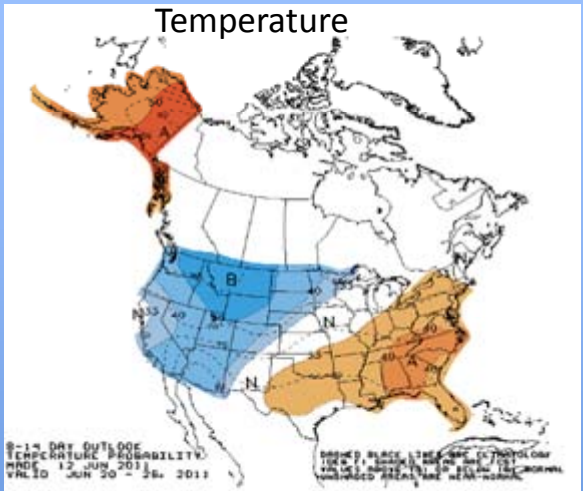
Official Forecasts: Week 2, 1-Month, 3-Months

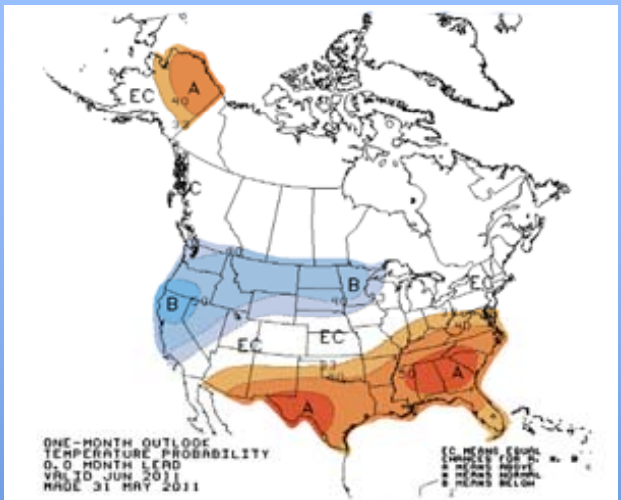
Week 2: 06/20-06/26

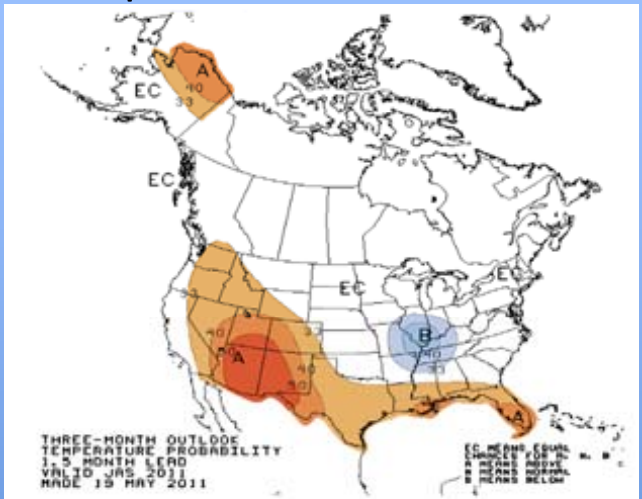
June 2011

3-Month: July, August, September 2011

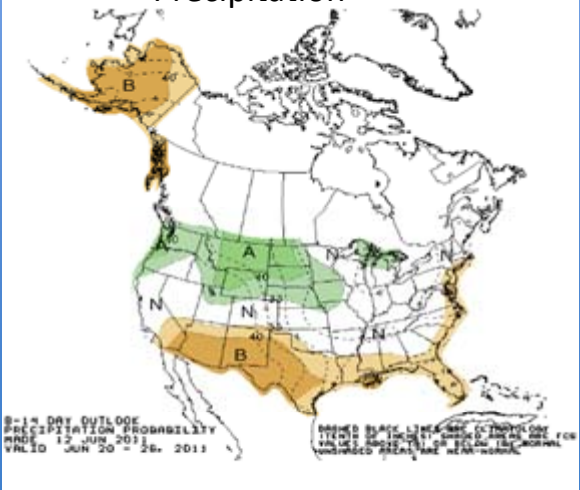
Temperature

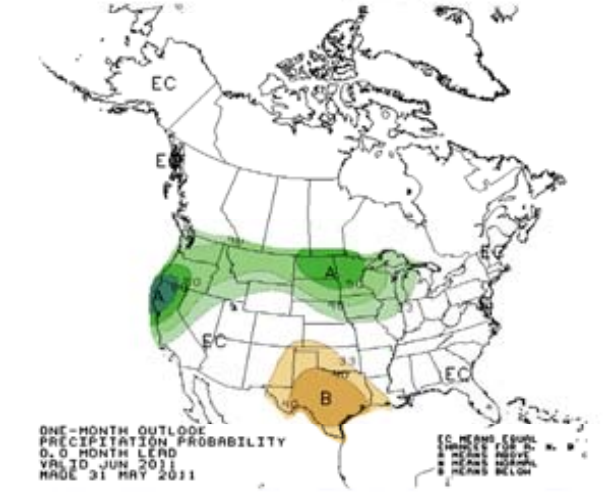


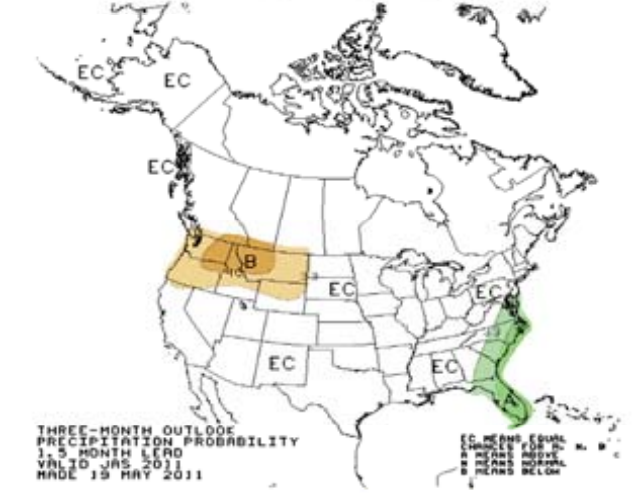




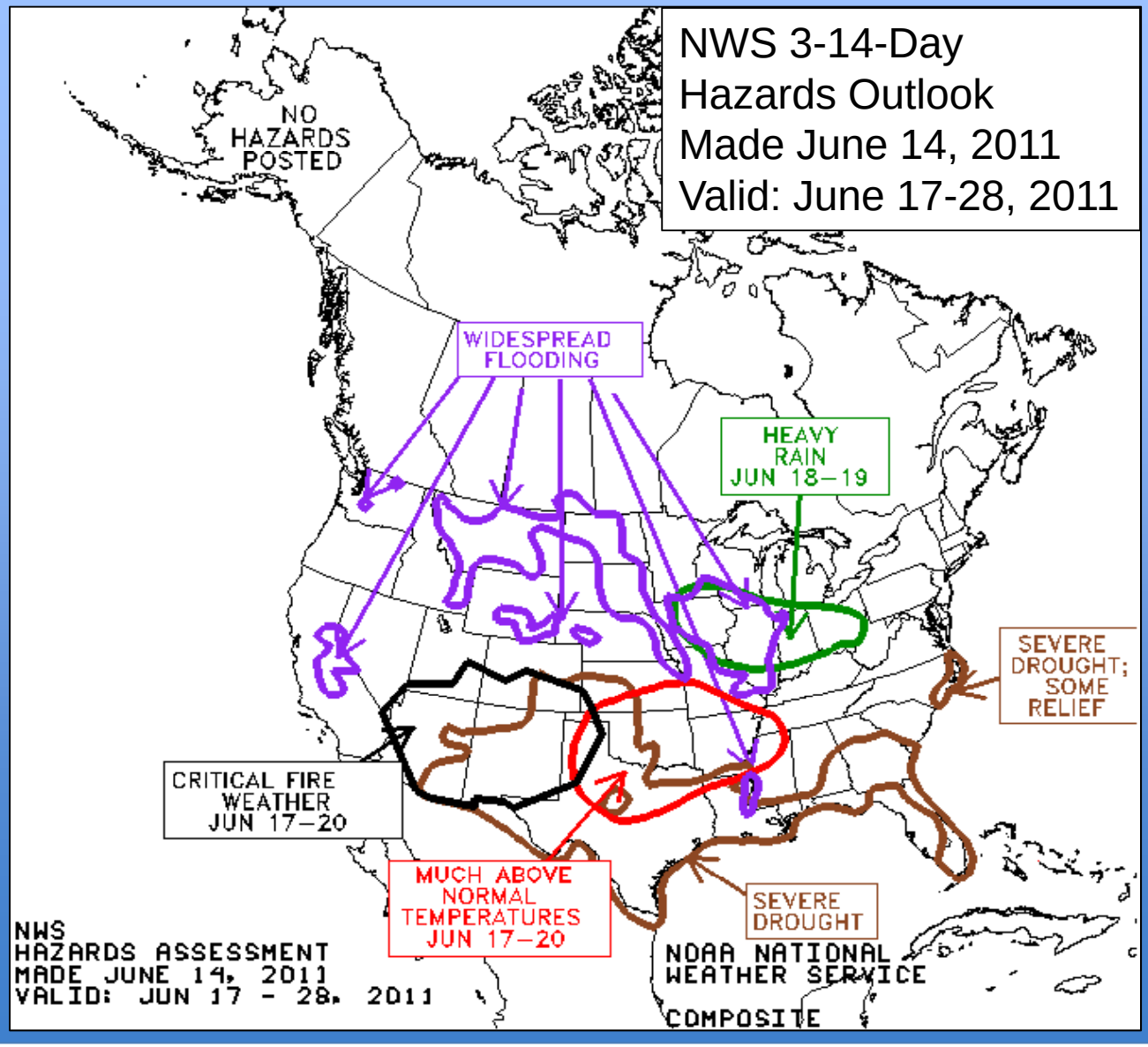
Precipitation







Impacts of Persistent Climate Anomalies: Likely to Continue Thru Summer



For More Information

- Climate.gov
- NOAA's National Climatic Data Center: www.ncdc.noaa.gov
  - Special Spring Extremes Report: www.ncdc.noaa.gov/special-reports/2011-spring-extremes/
- NOAA's Climate Prediction Center: www.cpc.ncep.noaa.gov
- NOAA's National Severe Storms Lab: www.nssl.noaa.gov
- NOAA's Storm Prediction Center: www.spc.noaa.gov
- NOAA's River Forecast Center: water.weather.gov/ahps/
- U.S. Drought Monitor: www.drought.gov