

NOAA Climate Science & Services

Monthly Climate Update

A look back at October and a preview of Dec. through Feb.



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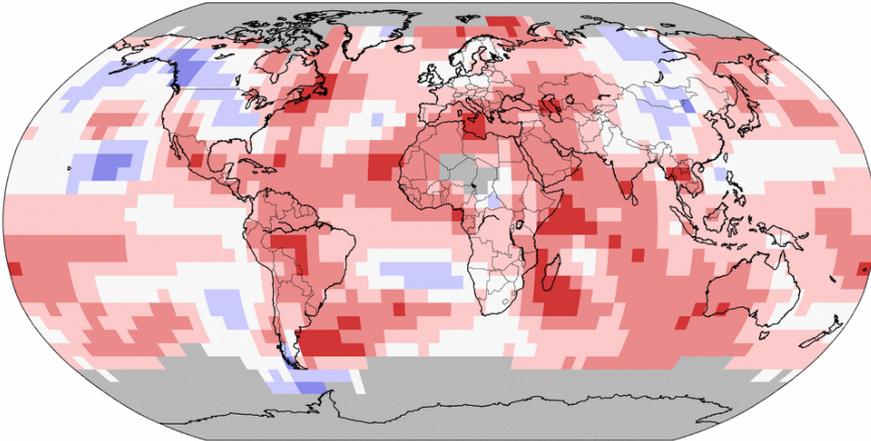
Seasonal Forecaster, Operations Branch
NOAA's Climate Prediction Center

Global Climate Highlights

Land & Ocean Temperature Percentiles Oct 2012

NOAA's National Climatic Data Center

Data Source: GHCN-M version 3.2.0 & ERSST version 3b



October 2012 Temperatures:

- 5th warmest October globally (+0.63°C/+1.13°F)
- Land: 8th warmest; Ocean: 4th warmest
- N. Hemisphere: 7th warmest October
- S. Hemisphere: 2nd warmest October

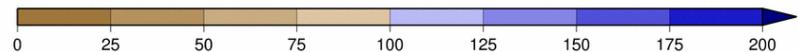
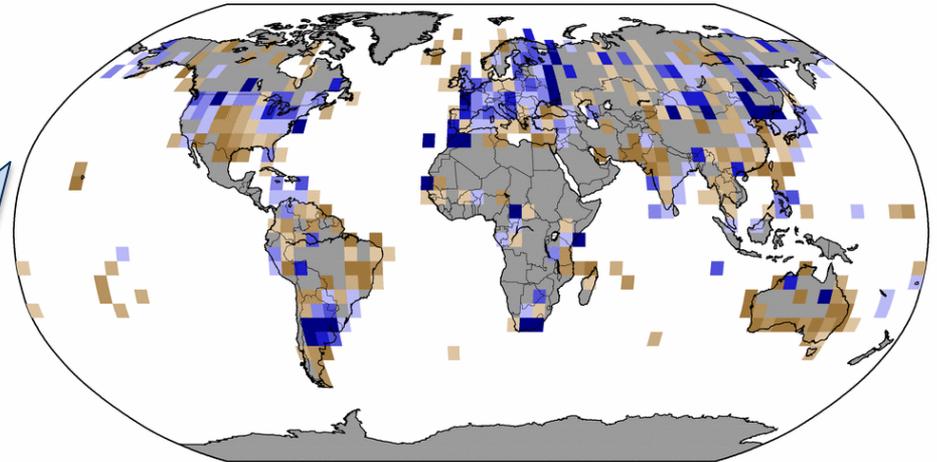
Regional Analysis:

- U.K. experienced coldest Oct. since 2003.
- Western Canada cooler than average.
- Australia and E. Europe warmer than average.

Land-Only Precipitation Percent of Normal Oct 2012

(with respect to a 1961–1990 base period)

Data Source: GHCN-M version 2



NOAA's National Climatic Data Center

Percent

Please Note: Gray areas represent missing data
Map Projection: Robinson

October 2012 Precipitation:

- N. Hemisphere snow cover 8th largest on record.
 - N. America: 7th largest; Eurasia: 11th largest
- W. Finland precipitation twice long-term average.
- Australia experienced 10th driest Oct. on record.

Dry: Central US, Brazil, Pakistan, Australia

Wet: Northeast US, Argentina, much of Europe.

Global Climate Highlights

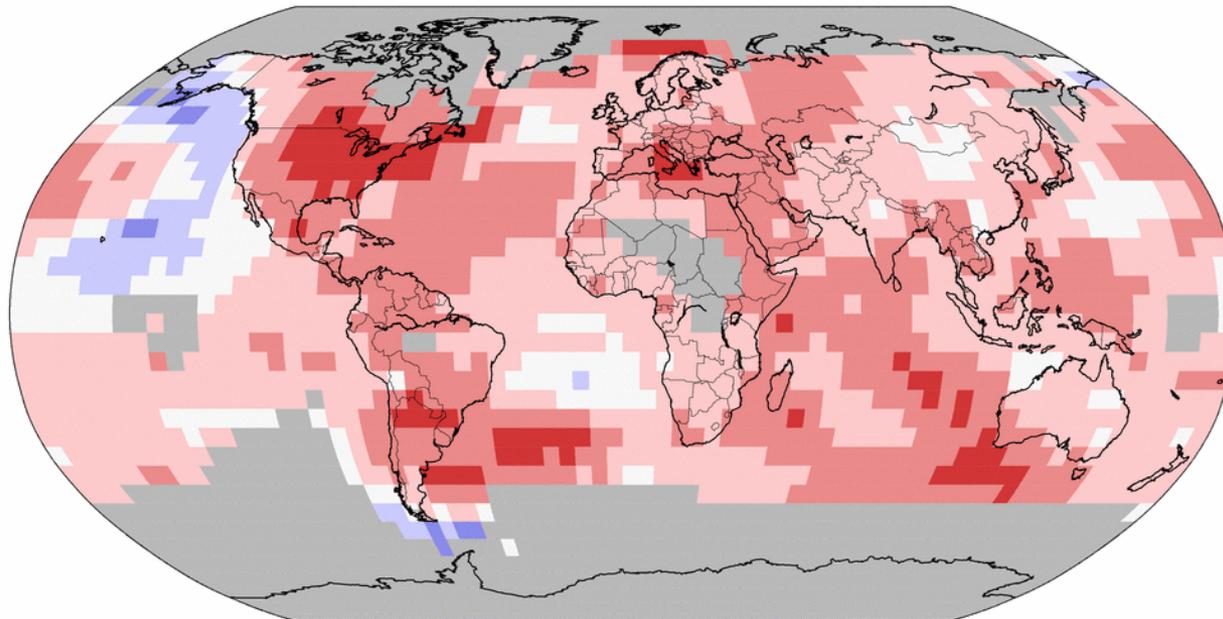
January-October 2012 Temperatures

- 8th warmest year-to-date (+0.58°C/+1.04°F).
- Land: 6th warmest; Ocean: 10th warmest.
- N. Hemisphere: 6th warmest; S. Hemisphere: 9nd warmest

Land & Ocean Temperature Percentiles Jan–Oct 2012

NOAA's National Climatic Data Center

Data Source: GHCN–M version 3.2.0 & ERSST version 3b



Record Coldest

Much Cooler than Average

Cooler than Average

Near Average

Warmer than Average

Much Warmer than Average

Record Warmest

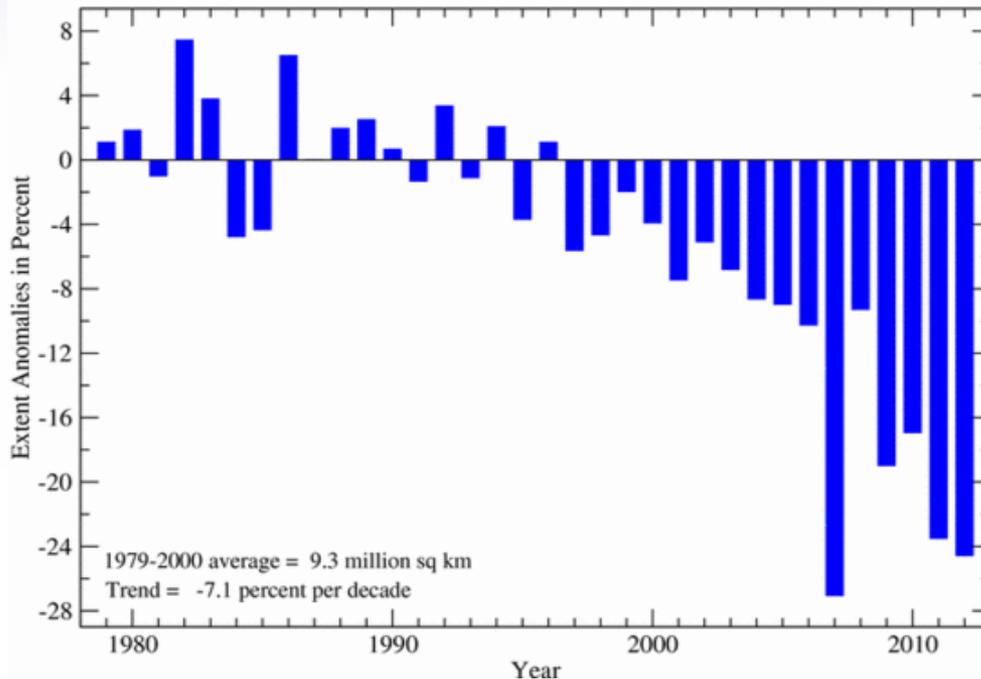


Global Climate Highlights

October Arctic Sea Ice: 2nd smallest on record

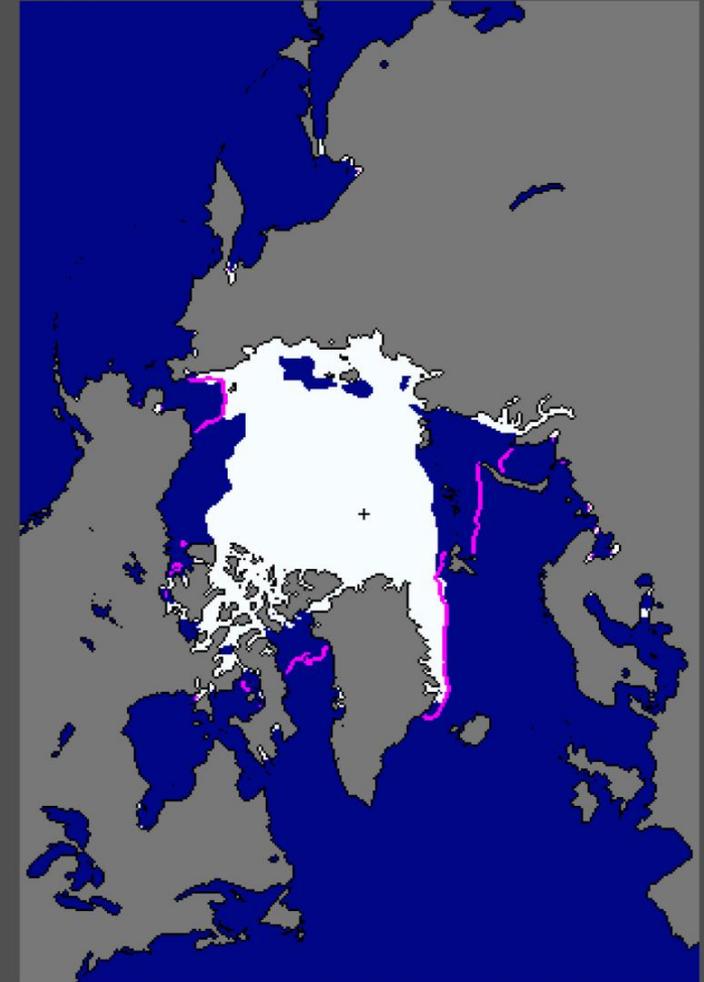
- Arctic sea ice extent rapidly expanded in October.
- Sea ice doubled in size during the month.
- October 2012 sea ice 24.6 percent below average.

Northern Hemisphere Sea Ice Extent
October Anomalies, 1979-2012



Data provided by the National Snow and Ice Data Center (NSIDC)

Sea Ice Extent
Oct 2012



Total extent = 7.0 million sq km

National Snow and Ice Data Center, Boulder, CO



U.S. Climate Highlights

Nationally: 44th coldest and 52nd wettest October: near-average month

Drought continues for 58.3% of contiguous United States

October Temperature: 0.3°F below average -- ends 16-month streak

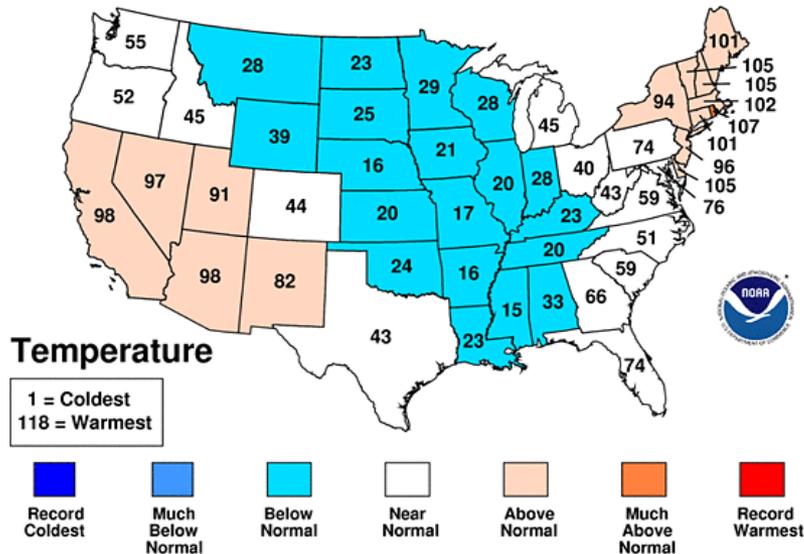
- Warm: The Southwest and Northeast
- Cool: From the Canadian border to Gulf Coast

October Precipitation: 0.08" above average

- Wet: The Pacific Northwest and Midwest. Sandy brought heavy precipitation to Northeast.
- Dry: The Plains. TX had 9th driest October.

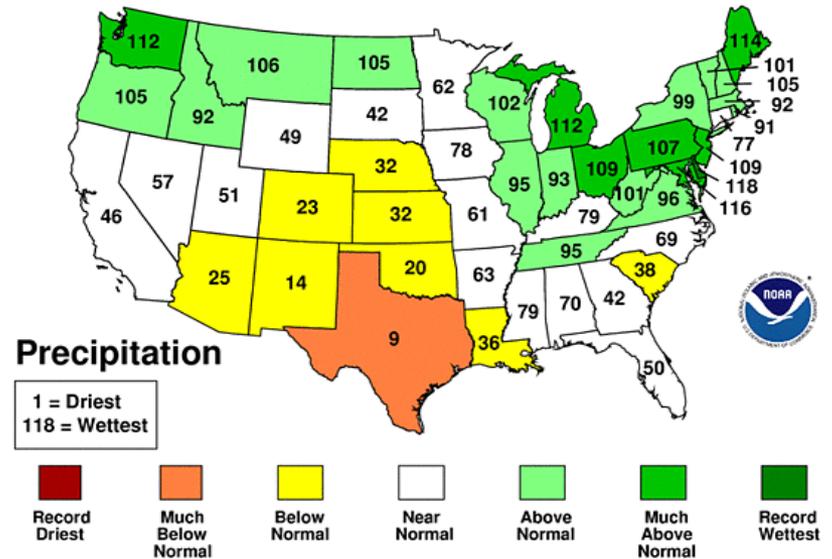
October 2012 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA



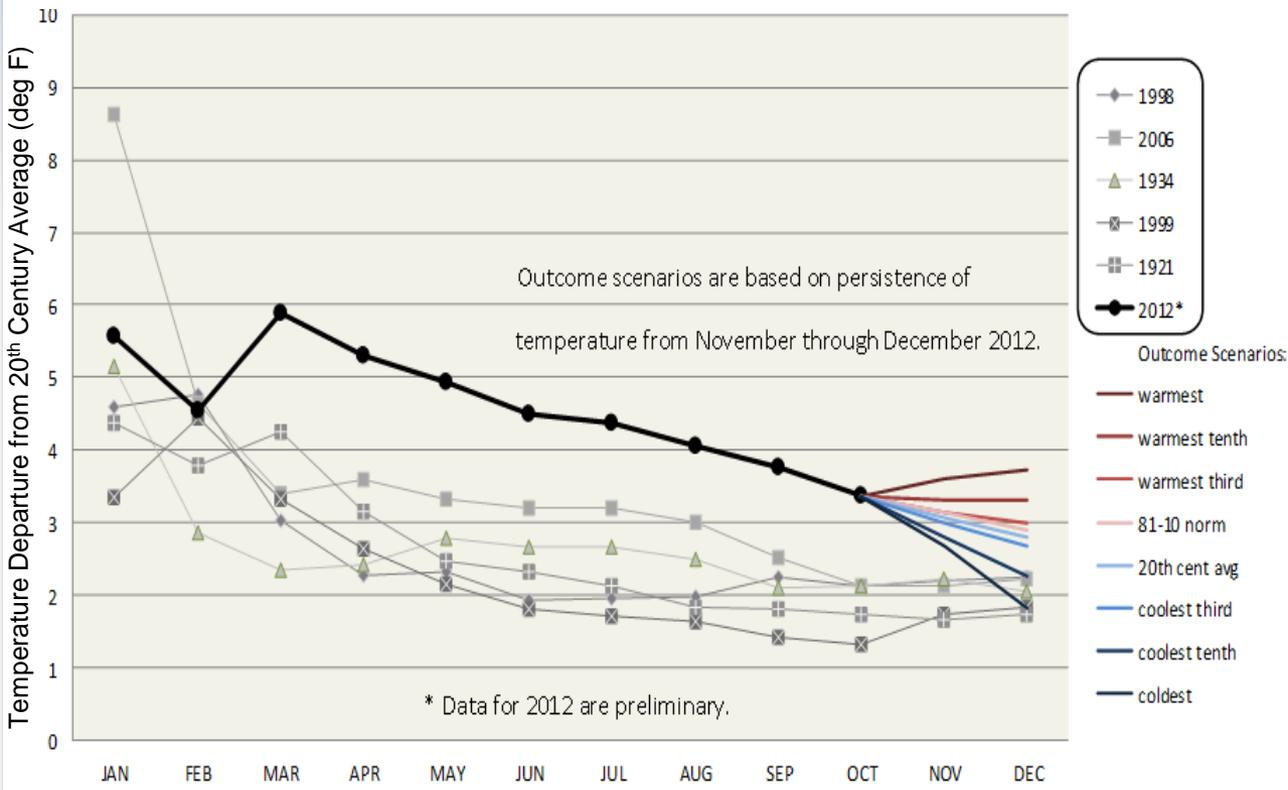
October 2012 Statewide Ranks

National Climatic Data Center/NESDIS/NOAA



U.S. Climate Highlights

Year-to-Date Temperature Anomalies for Contiguous U.S. – 5 Warmest Years with 2012 Outcomes Based on Historical Values

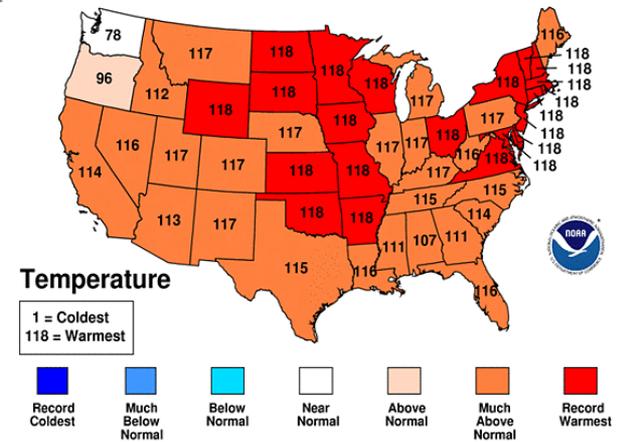


January-October: Record warm

- Jan-Oct 1.1°F warmer than previous record, 3.4°F above average.
- November-December would have to be much cooler than average for 2012 *not* to be record warm year for lower 48.

January-October 2012 Statewide Ranks

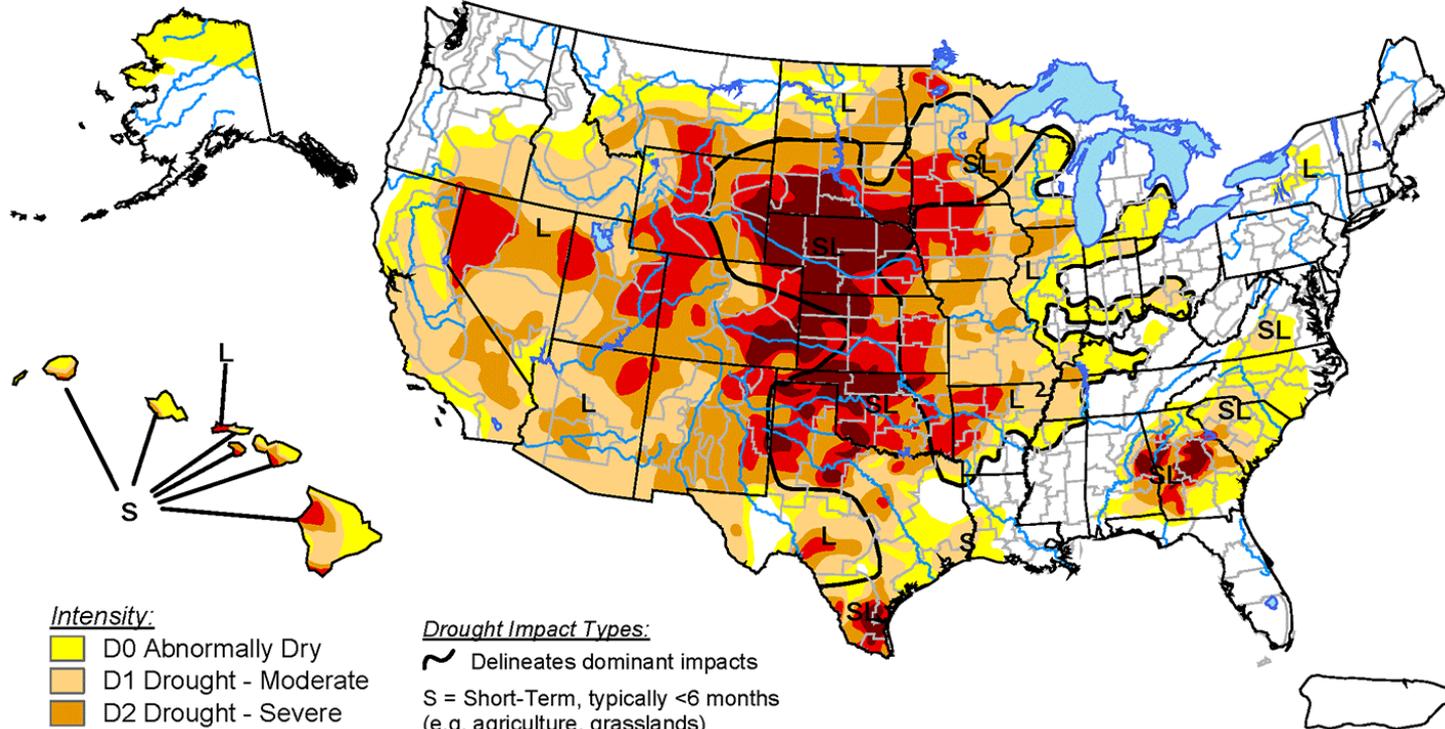
National Climatic Data Center/NESDIS/NOAA



Drought Impacts

U.S. Drought Monitor

November 13, 2012
Valid 7 a.m. EST



Intensity:

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

Drought Impact Types:

-  Delineates dominant impacts
- S = Short-Term, typically <6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically >6 months (e.g. hydrology, ecology)

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, November 15, 2012

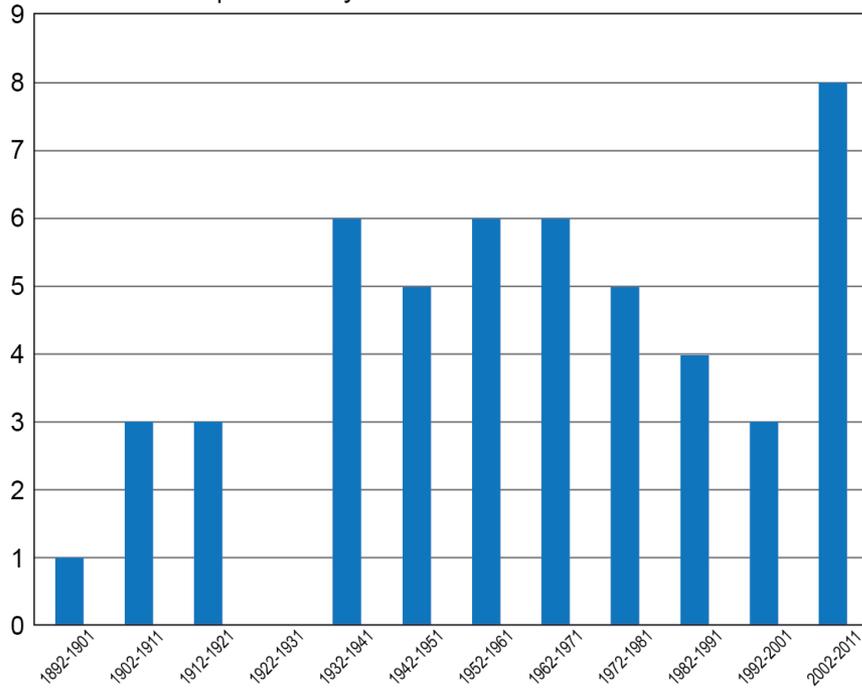
Author: David Miskus, NOAA/NWS/NCEP/CPC

New Jersey State Climate Office: Responding to Sandy

Sandy is the latest in a line of recent NJ weather & climate extremes:

- Major floods in 1999, 2004, 2005, 2006, 2007, 2010, 2011
- Snowiest February (2010), January (2011), October (2011)
- 8 of 10 warmest summers (1895-present) since 1999
- 37 of 51 months with below average precipitation: Jul 1998–Sep 2002

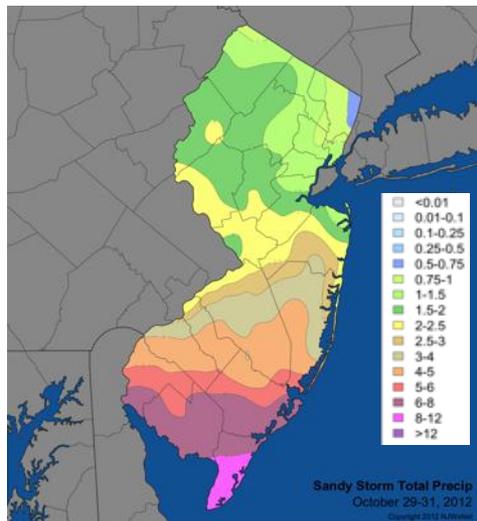
Top-50 Heavy Rainfall Events Per Decade



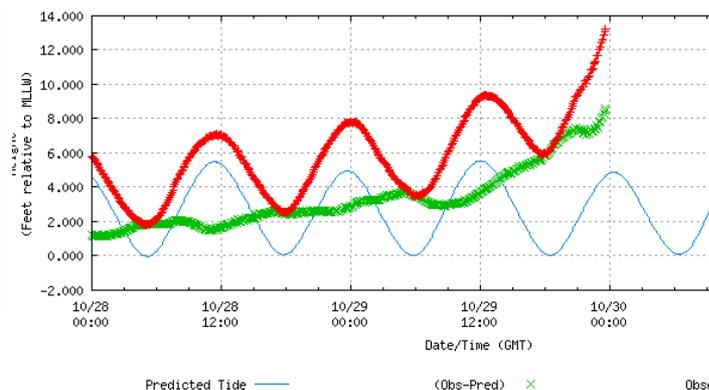
Sandy Strikes New Jersey

- Record low pressure: 946 mb (27.94")
- 12.71" of rain at Stone Harbor
- Peak gust of 88 mph at Tuckerton
- Record tidal surge at Sandy Hook at least 3.2 feet above previous record
- Resulting in two dozen deaths, coastal devastation, tens of thousands of downed trees with associated damage, and unprecedented disruptions to power, transportation and communication networks

Storm Sandy Total Precipitation
Oct 29-31, 2012

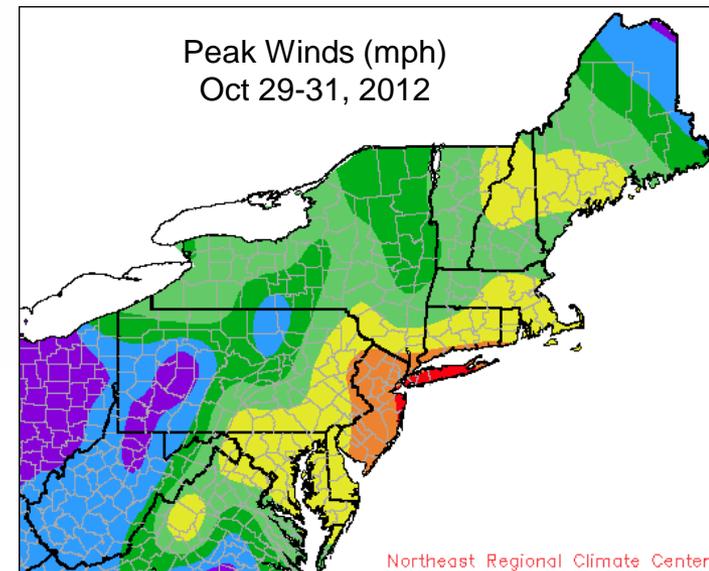


NOAA/NOS/CO-OPS
Verified Water Level vs. Predicted Plot
Sandy Hook, NJ from 10/28/2012 – 10/30/2012



NJclimate.org

Peak Winds (mph)
Oct 29-31, 2012



Monitoring Sandy

- NJ Weather & Climate Network (including 5 minute updates from 50 stations)
 - Special web dashboard: 30,000 unique visitors during storm
- Over 150 Community Collaborative Rain, Hail and Snow Network storm obs.

Sandy NJ Weather Dashboard

ONJSC Home

NJWxNet

Facebook

Twitter

E-mail

Links:	National Hurricane Center	National Weather Service Mt. Holly, NJ	National Weather Service Upton, NY	New Jersey Office of Emergency Management	Middle Atlantic River Forecast Center	NOAA CO-OPS NJ Tides & Currents Map	CoCoRaHS NJ Precip Observations
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Current Conditions from NJWxNet

Data should be considered UNOFFICIAL and UNCONFIRMED.
Weather elements for some stations are not available.

Last data update: **2012-10-29 22:00:00 EDT**

City	Time	Last 5 Minutes				Storm Total Precip (in)
		Temp (°F)	Pres (inHg)	Wind (mph)	Gust (mph)	
Atlantic City Marina (S)	22:00		28.53	SW 39	44	7.28
Basking Ridge (M)	22:00	54	28.62	SE 14	42	1.24
Berkeley Twp. (M)	22:00	54	28.53	S 34	50	4.21
Bethel Mill Park (M)	22:00	59		SE 11	16	4.10
Bivalve (S)	22:00	53			4	6.93
Cape May Courthouse (M)	22:00			S 5	26	7.85
Charlotteburg (M)	22:00	56		W 3	27	1.06
Cherry Hill III (M)	22:00	60		W 0	10	2.78
Clayton (S)	22:00	57	28.25		6	4.37
Cream Ridge (M)	22:00	54	28.53	S 24	51	2.20
Dennis Twp. (M)	22:00	51		SW 22	36	7.76
Egg Harbor (M)	22:00	52		S 7	33	5.54
Greenwich (M)	22:00	53		SW 11	24	6.43
Hamilton (M)	22:00	56		SE 5	21	1.97
Hammonton 2 (M)	22:00	54		SE 15	23	3.08
Harvey Cedars (S)	22:00	55				2.93
Haworth (M)	22:00	60	28.82	S 12	38	0.60
Hawthorne (S)	22:00	58	28.79	SE 18	35	0.64
High Pt. Monument (S)	22:00	54	28.76	S 25	66	0.03

Last Hour Extremes

9:00pm – 10:00pm

Top Wind Gusts (mph)		Lowest Pressures (inHg)		Top Precipitation (in)	
Pittstown	74	Woodstown	28.17	Greenwich	0.13
Sea Girt	73	Clayton	28.25	Woodstown	0.10
High Pt. Monument	71	Upper Deerfield	28.26	Netcong	0.09
Wantage	69	Sicklerville	28.29	Upper Deerfield	0.08
Cream Ridge	65	Mansfield	28.29	Cape May Courthouse	0.08
Point Pleasant	65	Woodbine	28.41	South Harrison	0.08
Kingwood	62	Oswego Lake	28.44	Clayton	0.07
Berkeley Twp.	62	Pittstown	28.50	West Cape May	0.07
Pequest	61	Atlantic City Marina	28.53	Woodbine	0.06
Stewartville	54	Cream Ridge	28.53	Atlantic City Marina	0.06

Storm Total Extremes

Since Sun 10/28 at 12:00am

Top Wind Gusts (mph)		Lowest Pressures (inHg)		Top Precipitation (in)	
Sea Girt	79	Atlantic City Marina	27.98	West Cape May	9.47
Atlantic City Marina	77	Oswego Lake	28.03	Cape May Courthouse	7.85
Harvey Cedars	75	Woodbine	28.06	Dennis Twp.	7.76
Pittstown	74	Clayton	28.11	Woodbine	7.29
Point Pleasant	74	Berkeley Twp.	28.12	Atlantic City Marina	7.28
High Pt. Monument	73	Sicklerville	28.12	Bivalve	6.93
Seaside Heights	71	Mansfield	28.12	Greenwich	6.43
Parsippany	70	Seaside Heights	28.14	Egg Harbor	5.54
Wantage	69	Woodstown	28.15	Upper Deerfield	5.07
Cream Ridge	66	Red Lion	28.16	West Creek	5.05

Click station name for graphs, metadata, and more. Mouseover data values for unit conversion.

State Climate Office Outreach

Interactions with public officials, stakeholders, media and general public

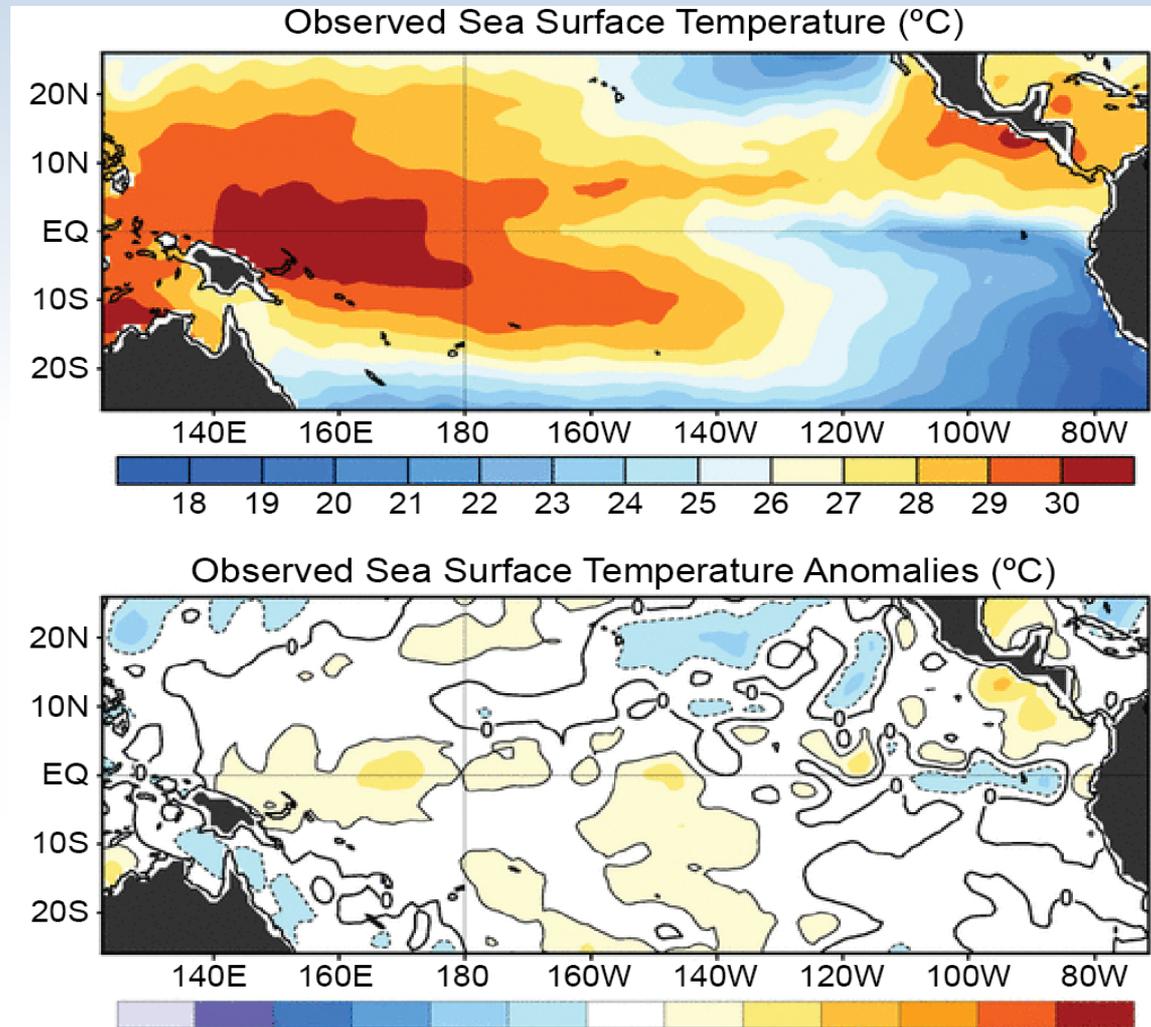
- NJ Office of Emergency Management command center housing the governor, his cabinet, a multitude of state agencies, Red Cross, etc.
- National Weather Service (local offices and river forecast center)
- 80+ media interviews: (pre, during, & post storm) TV, newspaper, radio, web sources, & Discovery Channel



Trusted relationships with state and local communities have developed over many years of state climate office service.

El Niño/La Niña Southern Oscillation (ENSO) Sea Surface Temperature Update

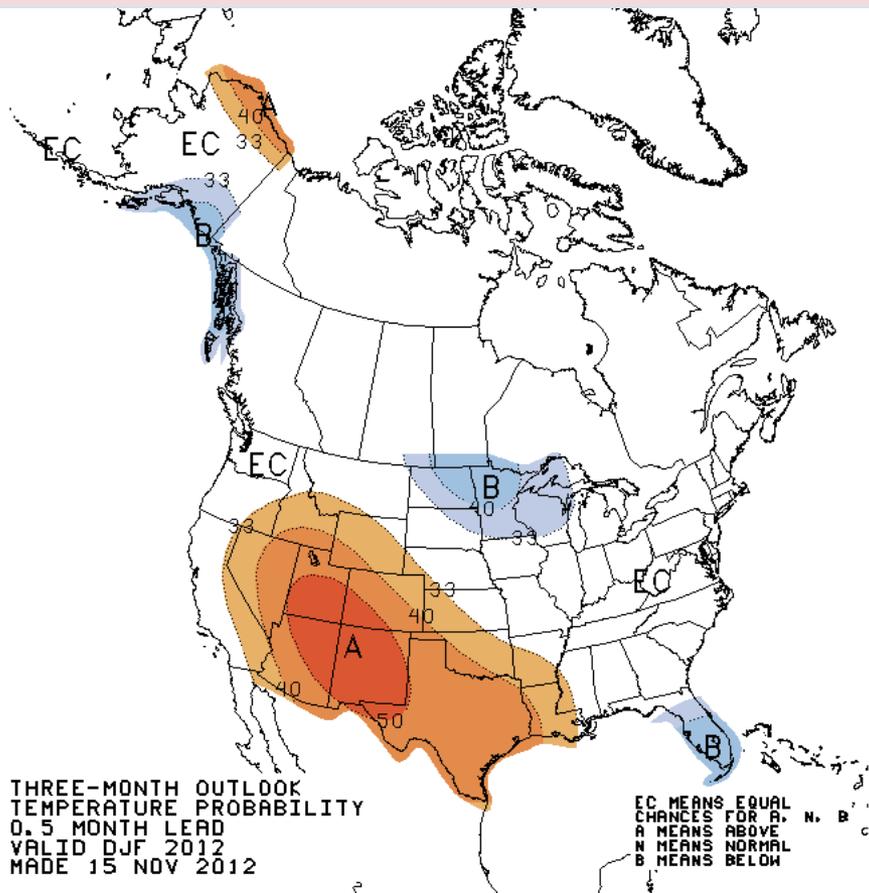
- ENSO-neutral conditions continue
- Equatorial sea surface temps. remain above average across Western and Central Pacific
- Atmospheric circulation over tropical Pacific is near average
- ENSO-neutral favored through the N. Hemisphere winter 2012-13



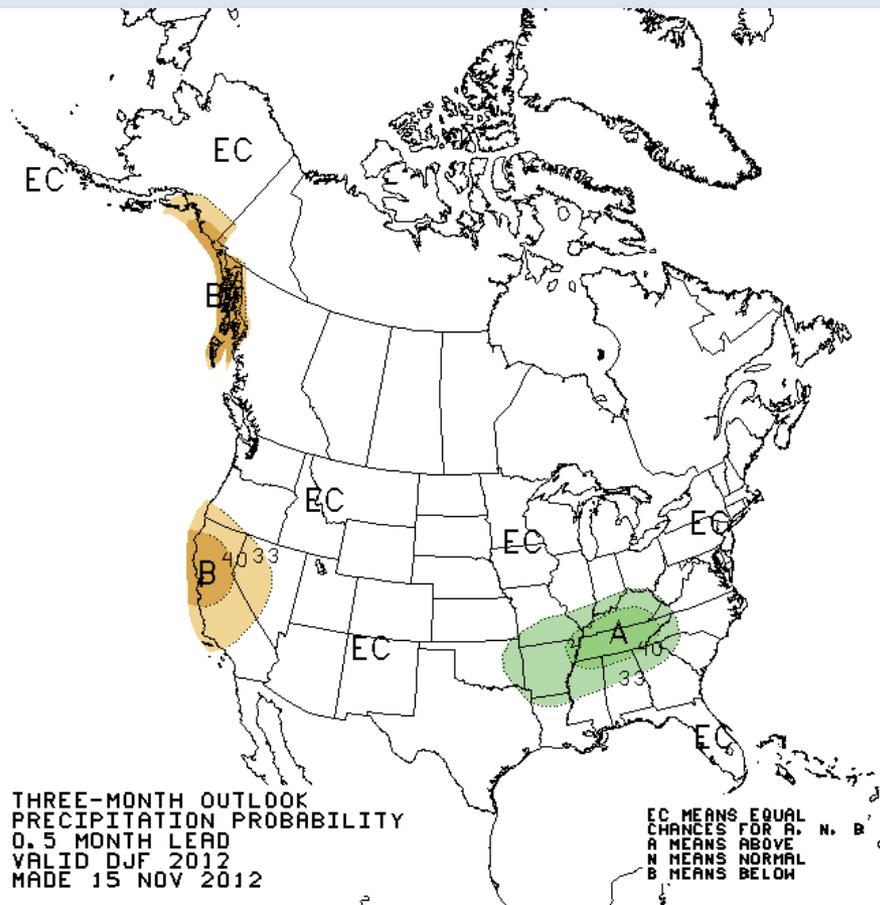
7-day average centered on 07 November 2012

Dec-Jan-Feb Seasonal Forecast

Dec-Jan-Feb Average Temperature Probability

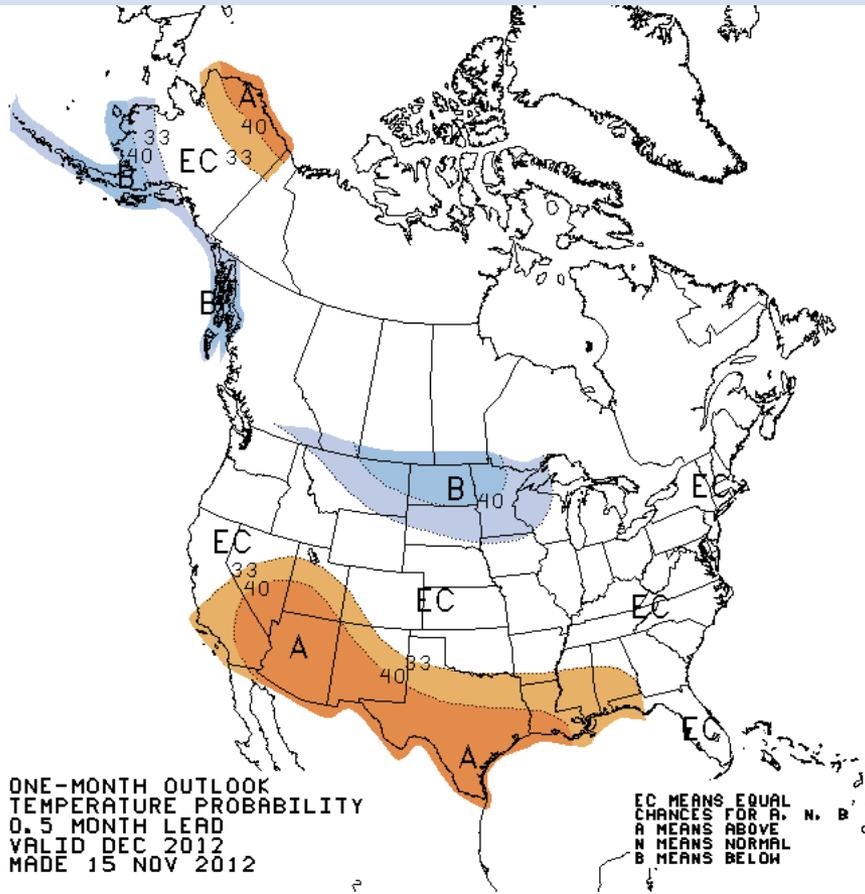


Dec-Jan-Feb Total Precipitation Probability

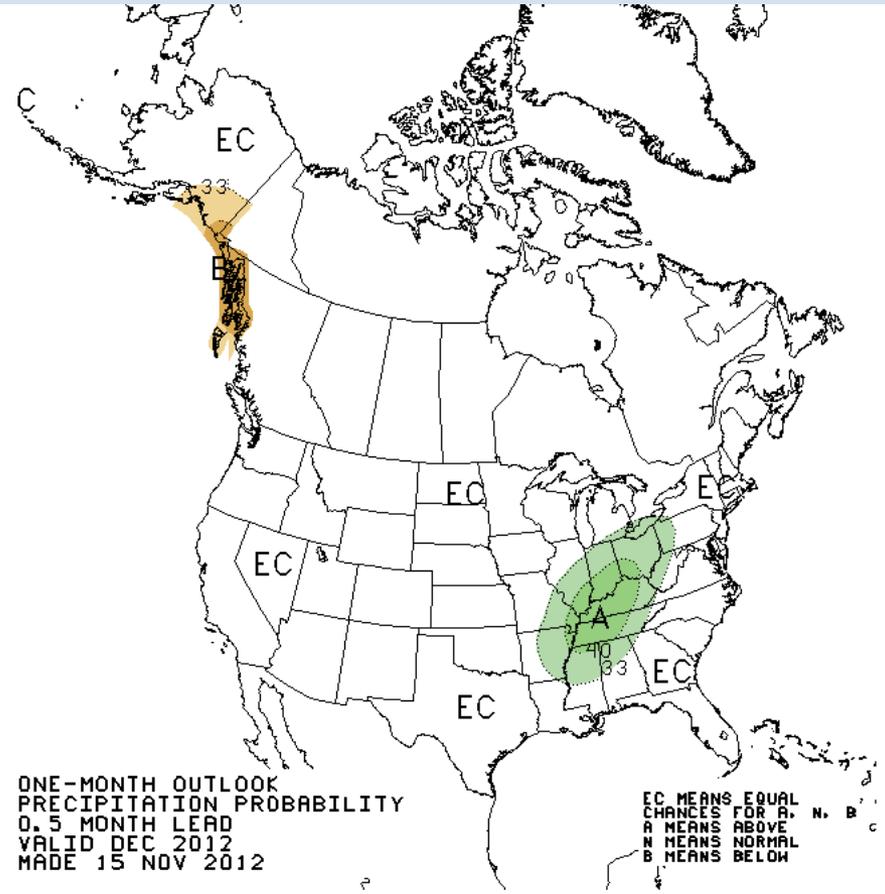


December Monthly Forecast

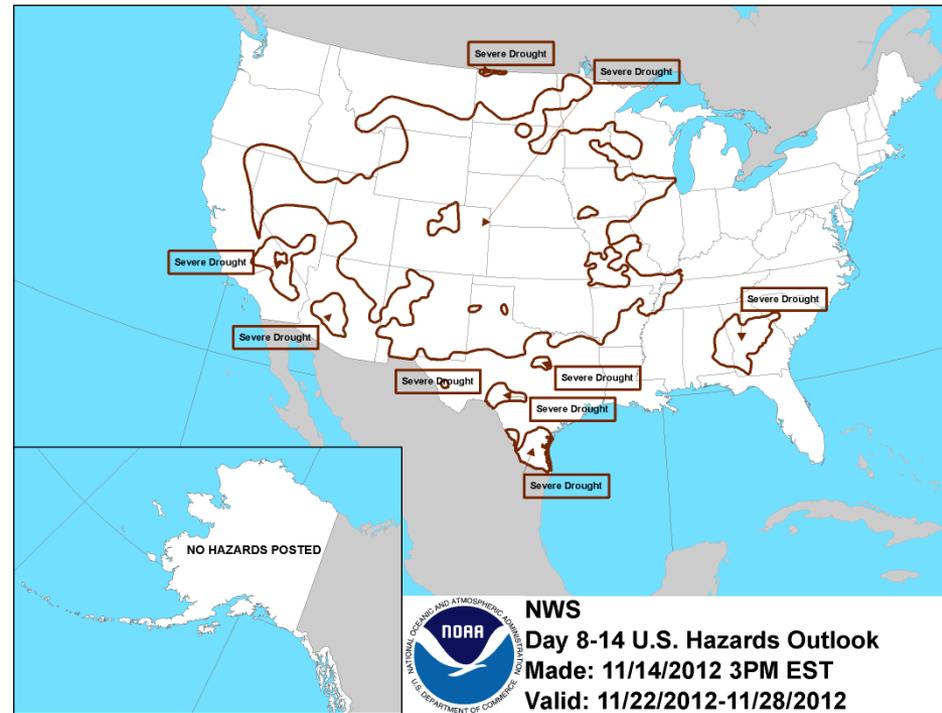
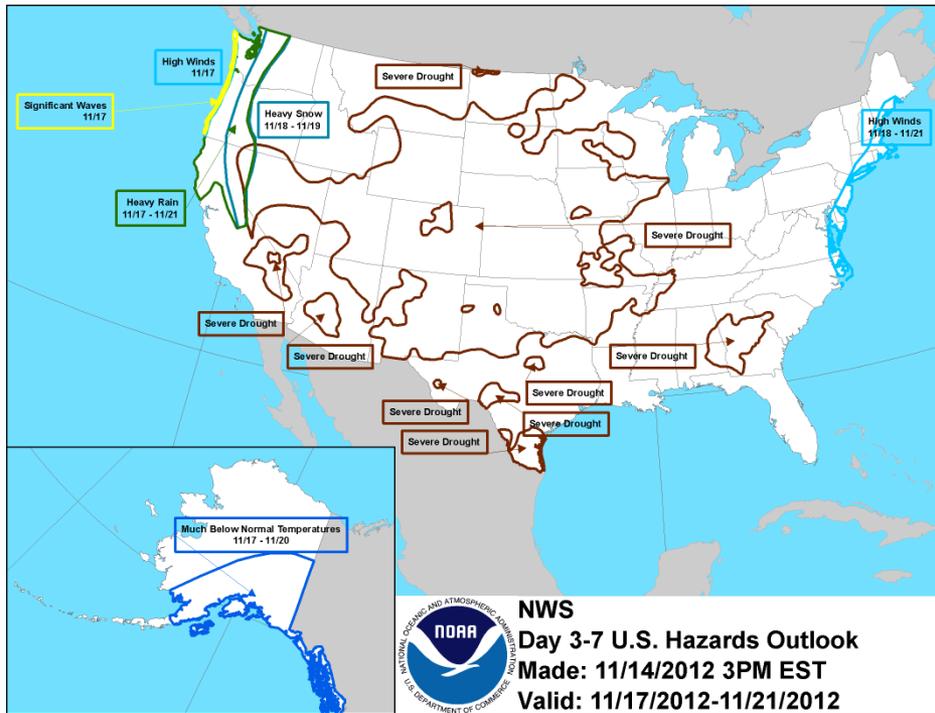
December Average Temperature Probability



December Total Precipitation Probability



U.S. Hazards Outlook



For More Information



Today's Presentation:

- <http://www.ncdc.noaa.gov/sotc/briefings>

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

U.S. Drought Monitor: <http://droughtmonitor.unl.edu/>

Climate Portal: www.climate.gov

New Jersey State Climatologist: www.njclimate.org

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