

Quarterly Climate Impacts and Outlook

Eastern Region September 2012

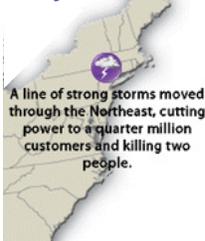
National - Significant Events for June - August 2012

Significant Events for August and Summer 2012



The average U.S. temperature during summer was 74.4°F, 2.3°F above average, the third warmest summer on record. Precipitation, averaged across the nation during summer, was 7.39 inches, 0.86 inches below average, marking the 18th driest summer.

July



June



Highlights for the East

Hottest Days on Record Washington, DC had 7 days with 100°F or more, breaking their record for the highest number of such days. Temperatures in the 100s were recorded at 13 NWS stations.

Severe Storms Wind gusts of 70 mph cut power to millions in the Mid Atlantic states during a late June derecho. Strong thunderstorms also brought widespread power outages in July. Lightning killed a NASCAR spectator at the Pocono Raceway in August and forced the evacuation of the Boston Esplanade on July 4.

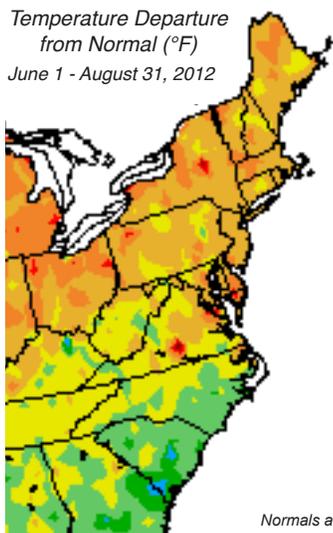
Ocean Temperatures A nuclear power facility in CT was forced to shut down for two weeks when water temperatures in Long Island Sound topped the 75°F limit.

Hurricane Season Through August 31 there have been 11 named storms in the Atlantic. Alberto and Beryl brushed the Southeast coast with minimal impact and Isaac brought needed rain to the region.

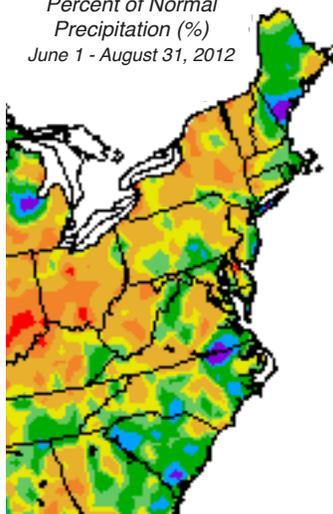
Regional - Climate Overview for June - August 2012

Temperature and Precipitation Anomalies

Temperature Departure from Normal (°F)
June 1 - August 31, 2012



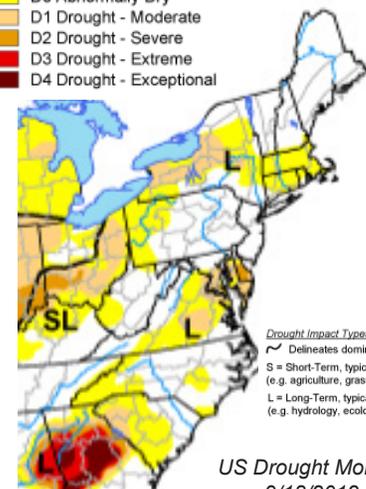
Percent of Normal Precipitation (%)
June 1 - August 31, 2012



Drought in the East

Intensity:

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



The summer of 2012 was warmer than normal in the Eastern Region. With an average temperature of 72.0°F it was 1.1°F warmer than normal and the 16th warmest summer in the period from 1895-2012. Only South Carolina saw temperatures that averaged below the summer normal. It was the 3rd warmest summer on record in Delaware and the 13th warmest in Ohio.

The Eastern Region was also drier than normal during the summer of 2012. Ohio was the driest state with respect to normal (77% of normal) making it the 17th driest summer since 1895 in that state. Vermont also saw 77% of their normal summer precipitation for their 22nd driest summer on record. Wetter than normal conditions were experienced in Virginia and Maine. Maine experienced 127% of the normal summer precipitation, making 2012 the 11th wettest summer in that state.

With generally drier than normal conditions, the summer saw some localized areas of drought. D1 and D2 drought conditions were prevalent in the Delmarva region for most of the summer, with most of Delaware in D1 or D2 drought at the end of August. Central and western New York also saw D1 drought conditions during most of summer, with abnormally dry conditions in the southern New England states and parts of Virginia and the Carolinas.

Regional Impacts - for June - August 2012

Aquatic Ecosystems

Water temperatures in drought-affected streams in parts of New York and New England exceed 71°F. Temperatures above this threshold are considered detrimental to aquatic life.

Coastal Ecosystems

Above average temperatures in the Gulf of Maine led to many lobsters prematurely shedding their shells. Catches of soft-shelled lobsters were large and four to six weeks earlier than normal. Soft-shelled lobsters were worth less than \$2 per pound early this summer, and many of Maine's lobstermen stopped lobstering because their expenses were outweighing the low price received from the wholesale market.

Marine Ecosystems

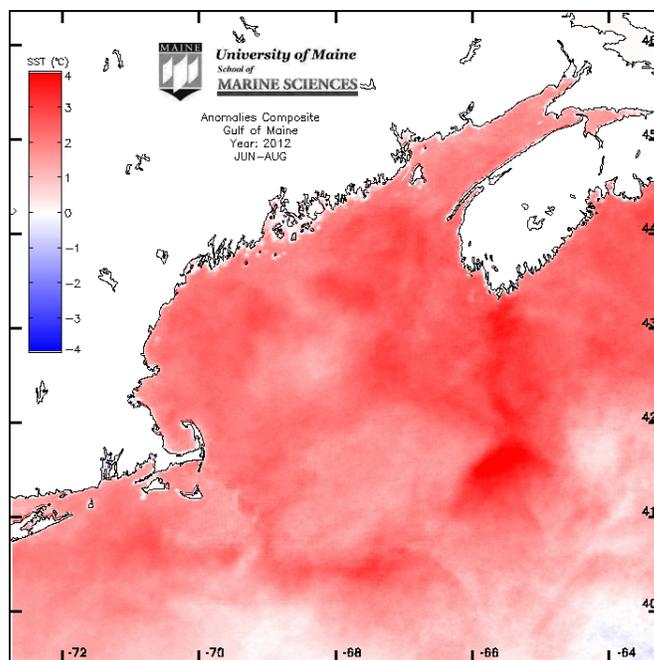
Sea-surface temperatures in the Northeast ocean were the highest on record for the Jan-July time period and temperatures throughout the water column were above the long-term mean. Atlantic cod distributions continue to show a northeastward trend and diminished areal extent in the Middle Atlantic Bight as documented from annual surveys since 1968.

Health

Warm summer temperatures were partly responsible for an increase in the number of West Nile virus cases in the region. Warm temperatures likely accelerated the replication of the virus in mosquitos. Dry conditions, however, acted to decrease mosquito abundance.

Recreation

Whitewater recreation releases on the Salmon River in NY were cancelled due to low reservoir levels. There was concern that water would not be available to sustain fish spawning flow requirements.

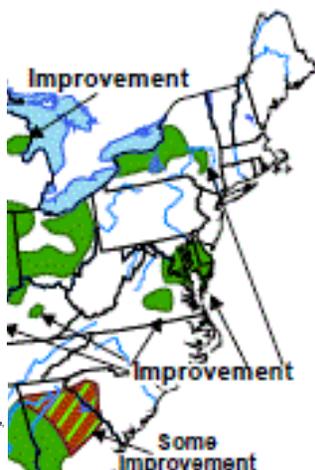


Sea surface temperature anomalies for the Gulf of Maine. Anomalies represent the difference between the June-August, 2012 water temperature and the average value for the 1985-2012 period.

Regional Outlook - for Autumn 2012

U.S. Seasonal Drought Outlook

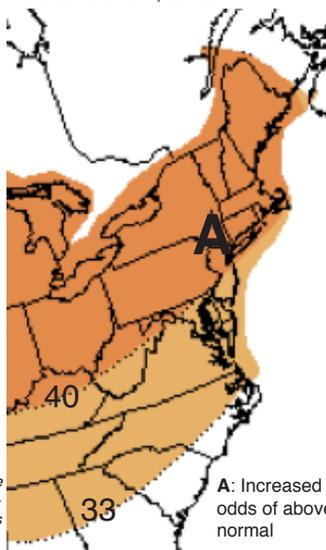
Drought Tendency from Sept. 6 - Nov. 30, 2012



KEY:
 ■ Drought to persist or intensify
 ■ Drought ongoing, some improvement
 ■ Drought likely to improve, impacts ease
 ■ Drought development likely

3-Month Temperature Outlook

Valid October-December, 2012



Contoured values indicate increased chance (%) of above normal temperatures

A: Increased odds of above normal

US Seasonal Drought Outlook Sept. 6 - Nov. 30, 2012

Recent moderate to heavy rain in portions of the mid-Atlantic helped to improve drought conditions. The seasonal decline in temperatures over the next 3 months will substantially reduce surface water lost to evaporation and vegetative growth. Furthermore, precipitation tends to fall at a more moderate rate over a longer period of time, which recharges soil moisture efficiently. Snowfall similarly holds moisture that seeps slowly into the soil as it melts. These factors, along with anticipated precipitation patterns, at least partially driven by the developing El Nino episode, should bring some relief to drought-affected areas in the East

NOAA Seasonal Climate Outlook

The autumn 2012 temperature outlook indicates increased odds for above-normal temperatures for the region with the exception of South Carolina. The highest odds for above normal temperatures are across New York and northern New England. (www.cpc.ncep.noaa.gov)

Eastern Region Partners

Northeast Regional Climate Center
www.nrcc.cornell.edu

Southeast Regional Climate Center
www.sercc.com

National Integrated Drought Information System (NIDIS)
www.drought.gov

Northeast River Forecast Center
www.nrfc.noaa.gov

Mid-Atlantic River Forecast Center
www.marfc.noaa.gov

Climate Prediction Center
www.cpc.noaa.gov

NOAA Fisheries Service - Northeast Fisheries Science Center
www.nefsc.noaa.gov

Carolinas Integrated Sciences and Assessments
www.cisa.sc.edu

Consortium on Climate Risk in the Urban Northeast
www.ccrun.org

NOAA's North Atlantic, South Atlantic, and Great Lakes Regional Collaboration Teams
www.regions.noaa.gov/

Eastern Region State Climatologists
www.stateclimate.org

Cooperative Institute for North Atlantic Research
www.cinar.org

NWS Eastern Region's Climate Service
nws.noaa.gov/om/csd/index.php?section=programs#eastern