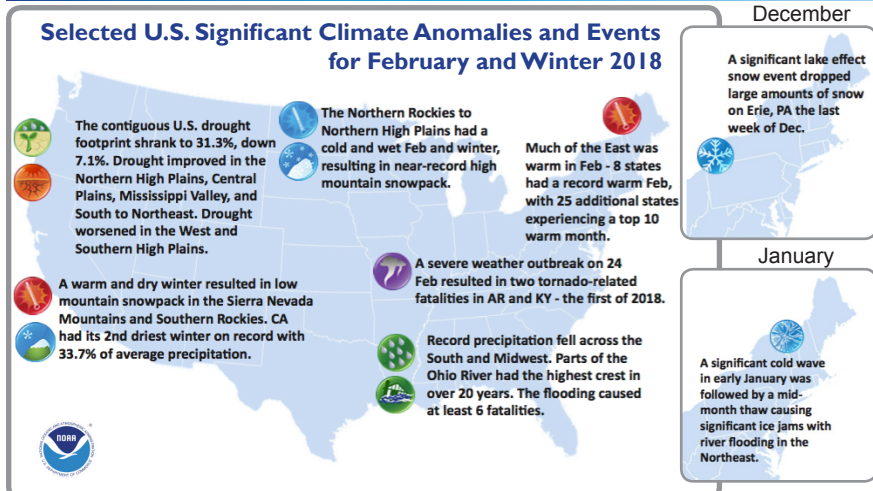


National - Significant Events for December 2017-February 2018



Highlights for the Northeast

A storm from December 9 to 10 dropped up to 11 inches of snow on the region. While impacts were limited to flight delays and slick roads, it provided the first measurable snow and first inch of snow for more than a dozen major climate sites.

December had been mild until the last week, when a disturbance brought a mix of rain and snow showers and was followed by a [bitter cold snap](#). In New York and New England there were reports of snow falling at up to [3-5 inches per hour and thundersnow](#). Erie, PA had large amounts of lake-effect snow. Records were broken for lowest minimum and maximum temperatures.

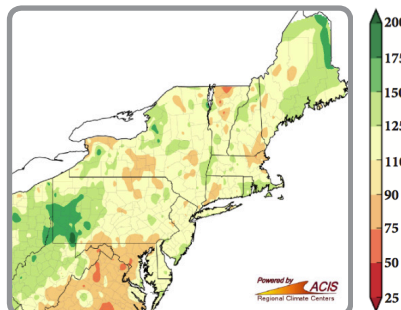
A nor'easter impacted the region on January 3-5. See impacts section for details. A [winter storm](#) on February 7 brought up to 12 inches of snow to parts of the region while other areas received up to 0.5 inches of ice accumulation. A mid-February storm brought the first [significant snow](#) to some areas since the January nor'easter. Among the highest snow totals was 10.5 inches in Glen Gardner, NJ. On the heels of the storm was [record-breaking warmth](#). February 20-21 saw temperatures soar into the low 60s to low 80s, which was 20°F to 40°F warmer than normal. Records were broken not only for those days, but also for any February day. Snow melt and rain caused [flooding](#) in parts of the region, which led to closed roads, water rescues, flooded homes, and evacuations.

The contiguous U.S. had an average winter temperature of 34.0°F, 1.7°F above the 20th century average. According to NOAA, "Much of the East Coast and West had a warmer-than-average winter." December's average temperature of 34.8°F was 2.1°F above average, and January's average temperature of 32.2°F was 2.1°F above average. February's average temperature of 35.4°F was 1.6°F above average. Globally, it was the third warmest December on record (tied with 2016) and the third warmest January. During winter, the contiguous U.S. received 6.26 inches of precipitation, 0.53 inch below average. December precipitation totaled 1.55 inches, 0.80 inch below average, and January precipitation totaled 1.81 inches, 0.50 inch above average. The U.S. had its 6th wettest February with 2.84 inches of precipitation, 0.71 inch above average.

Regional - Climate Overview for December 2017-February 2018

Precipitation and Temperature Anomalies

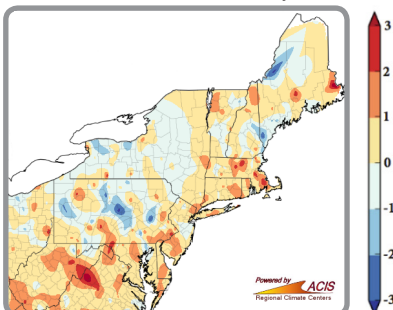
Percent of Normal Precipitation (%)
December 1, 2017–February 28, 2018



The Northeast received 110% of normal precipitation during **winter**. The Northeast had 68% of normal precipitation in **December**. All twelve states received below-normal precipitation, with six states ranking this December among their 20 driest. The Northeast had 113% of normal precipitation in **January**. Five states were drier than normal, while seven states were wetter than normal. Precipitation ranged from 74% of normal in Maryland to 156% of normal in Maine. **February** precipitation was 159% of normal, making it the seventh wettest on record. All twelve states had a wetter-than-normal February and Pennsylvania had its wettest on record.

Normals based on 1981–2010

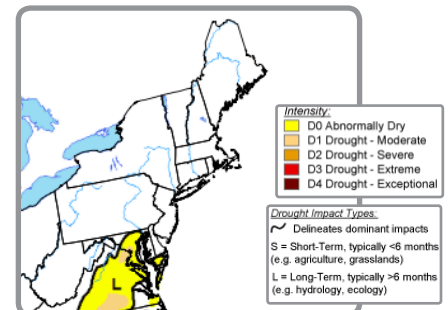
Departure from Normal Temperature (°F)
December 1, 2017–February 28, 2018



At 0.4°F above normal, average **winter** temperatures in the Northeast were close to normal. The Northeast had a cold **December** at 3.2°F below normal. All twelve states were colder than normal. **January** was another cool month for the Northeast at 1.5°F below normal. Nine of the twelve states were colder than normal. **February** was 5.9°F above normal, making it the third warmest February on record for the Northeast. Connecticut, Massachusetts, and Rhode Island had their warmest February on record. There were 20 major climate sites in the Northeast that set or tied their warmest temperatures ever recorded during the month of February.

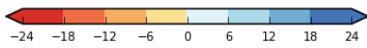
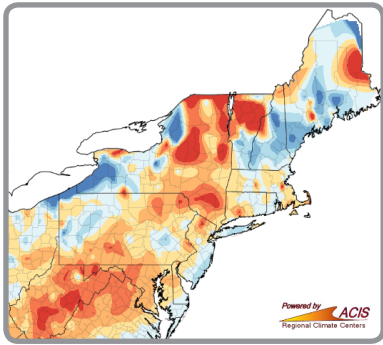
Drought in the Northeast

U.S. Drought Monitor
March 15, 2018



The [U.S. Drought Monitor](#) from **December 5** showed 1% of the Northeast in a moderate drought and 14% as abnormally dry. Abnormally dry and moderate drought expanded through December and January. A small area of severe drought was introduced in Maryland. The **January 30** Drought Monitor showed 1% of the region in a severe drought, 5% in a moderate drought and 21% as abnormally dry. A wet February allowed conditions to improve. The **February 27** Drought Monitor showed less than 1% of the region in a moderate drought and 2% as abnormally dry. [NIDIS](#), [NOAA](#), and the [NRCC](#) are partnering to launch a [Drought Early Warning System \(DEWS\)](#) in the Northeast.

Regional - Impacts and Updates for December 2017 - February 2018



Above: Winter (December-February) snowfall departure from normal in inches.

Below: Ice jam in Warrensburg, NY on January 24. Credit: Vince Spadaro.



Winter Summary

December snowfall ranged from 10 inches below normal to more than 40 inches above normal. At the end of the month Erie, PA received massive amounts of snow in just two days. Their December and seasonal snowfall totals were near-record breaking. The region's **January** snowfall ranged from more than 20 inches below normal, in part of New York, to over 5 inches above normal. In **February**, snowfall ranged from 6 inches below normal to 6 inches above normal, with the highest totals in New York and New England. For **winter**, snowfall ranged widely from 2 feet below normal to 2 feet above normal, with most of the snow east of the Great Lakes and in New England.

Severe Weather

From late December through early January there was a bitter cold snap with dangerously cold wind chills. Records were broken for lowest minimum and maximum temperatures. At 17 sites, the period ranked among the 10 longest [streaks of days below 32](#), up to 14 consecutive days. Bridgeport, CT and Huntington, WV set or tied their record for longest streak. Later in January, the region experienced alternating periods of colder-than-normal and seasonable or warmer-than-normal temperatures. Experts warn that [deer ticks](#) have survived the cold snaps. Rainfall, snowmelt, and [ice jams](#) contributed to flooding on several waterways, with reports of closed roads, flooded homes and buildings, and some evacuations and water rescues.

A [nor'easter](#) rapidly intensified off the East Coast January 3-5 dropping up to 24 inches of snow. The storm produced snowfall rates up to 3 inches per hour, thundersnow, and power outages. Strong winds of up to 76 mph produced blizzard conditions in parts of New England, New York, and New Jersey. More than 5,000 flights were cancelled nationwide, mostly in the Northeast. The storm contributed to high water levels and [significant flooding](#) along the New England coast. Boston, MA had its highest tide on record.

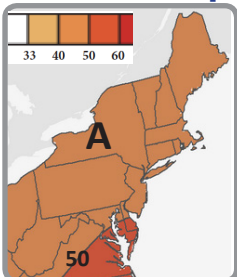
On February 15 there was a confirmed EF1 tornado in Uniontown, PA, with gusts up to 105 mph. This was the first recorded February tornado in the [Pittsburgh area](#) since 1950 when records began. This marks the third year in a row Pennsylvania has had a February tornado. Until 2016, there had only been one February tornado on record for the state of Pennsylvania.

Uniontown, PA Tornado Damage Credit: NWS Pittsburgh



Regional - Outlook for Spring 2018

Temperature and Precipitation

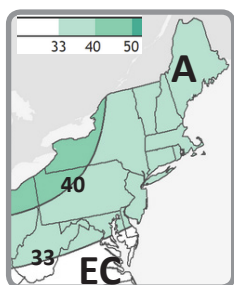


Normal April-June average temperatures range from the upper 40s in northern New England to the low to mid 60s in Delaware and parts of Maryland and West Virginia. For April-June 2018, NOAA's [Climate Prediction Center](#)

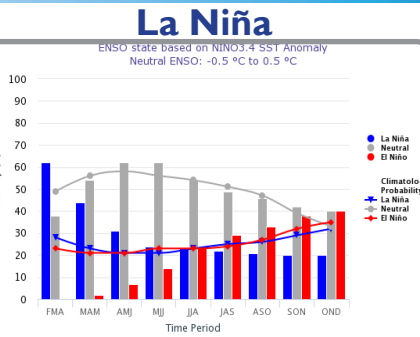
A: Above-normal
B: Below-normal
EC: Equal chances of above-, near, or below-normal
#: Probability of above- or below-normal

(CPC) is calling for an increased chance of above-normal temperatures (left map).

The precipitation outlook (bottom map) calls for increased chances of above-normal precipitation for a majority of the region. Normal April-June precipitation ranges from less than 10 inches in portions of central and northern New York to more than 14 inches in the higher elevations in



Spring Flood Potential Outlook



Early-Mar CPC/IRI Official Probabilistic ENSO Forecasts

La Niña conditions were present in the equatorial Pacific Ocean from mid-December through February. According to NOAA's Climate Prediction Center, a transition from [La Niña to ENSO-neutral](#) is most likely (55%) during spring.

Spring Flood Potential

[Spring flood potential](#) is low for most of the region with some minor flooding likely for parts of northern New Jersey. Three early-March coastal storms have led to generally near to above-normal river flows and soil moisture. Dry conditions carrying over from the summer and fall of 2017 have created an increased capacity for winter melt and spring rain, reducing the potential for flooding. Very heavy rain can cause flooding at any time of the year, even in areas experiencing dry conditions or that have little to no snow on the ground.

Northeast Region Partners

National Oceanic and Atmospheric Administration
www.noaa.gov

National Centers for Environmental Information

www.ncei.noaa.gov

National Weather Service, Eastern Region

www.weather.gov

NOAA Fisheries Science Centers and

Regional Offices, Atlantic

www.nmfs.noaa.gov

Office for Coastal Management

www.oceanservice.noaa.gov

NOAA Research, Climate Program Office and

Geophysical Fluid Dynamics Lab

www.research.noaa.gov

NOAA National Sea Grant Office

www.seagrant.noaa.gov

NOAA's North Atlantic and Great Lakes

Regional Collaboration Teams

www.regions.noaa.gov

Climate Prediction Center

www.cpc.ncep.noaa.gov

National Operational Hydrologic Remote Sensing Center

www.nohrsc.noaa.gov

Northeast Regional Climate Center

www.nrcc.cornell.edu

National Integrated Drought Information System

www.drought.gov

Consortium on Climate Risk in the Urban Northeast

www.ccrun.org

Cooperative Institute for North Atlantic Research

www.cinar.org

Northeast Region State Climatologists

www.stateclimate.org

Mid-Atlantic RISA

www.midatlanticrisa.org