

National Significant Events – March–May 2018

Selected U.S. Significant Climate Anomalies and Events for May and Spring 2018

Record rainfall caused flooding and mudslides in the mid-Atlantic and southeast. FL and MD were record wet.

March

4 Nor'easters impacted the East Coast with heavy snow, strong winds and coastal flooding. March was cooler than average in the East.

April

The contiguous U.S. snowcover extent was 227,000 square miles above average—the 5th largest April extent on record.

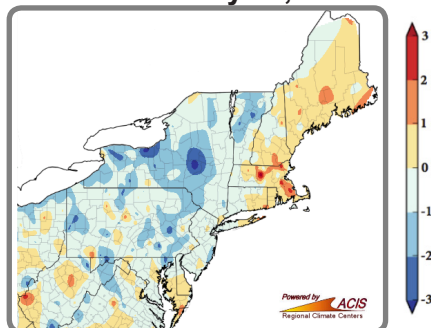
The contiguous U.S. had an average spring temperature of 52.4°F, 1.5°F above the 20th century average. Average temperatures for March, April, and May were 42.6°F, 1.1°F above average, 48.9°F, 2.2°F below average, and 65.4°F, 5.2°F above average respectively. It was the warmest May on record. Globally, it was the fifth warmest March and third warmest April on record. During spring, the contiguous U.S. received 7.91 inches of precipitation, slightly below average. March, April, and May precipitation totaled 2.42 inches, 0.09 inch below average, 2.41 inches, 0.11 inch below average, and 2.97 inches, 0.06 inch above average respectively.

Highlights for the Northeast

On March 2, the first of [several nor'easters](#) brought significant snowfall. Up to 40 inches of snow fell in central and eastern New York, while up to 5 inches of rain was reported in southern New England and Long Island, which caused [flooding](#). Strong winds associated with the storm downed trees and power lines; wind gusts greater than 90 mph were reported in Massachusetts. On March 7 a nor'easter brought rain, [heavy, wet snow](#), and strong winds; over two feet of snow fell from New Jersey to Vermont. There was significant tree damage, exceeding that of Hurricane Sandy in some New Jersey towns that were still recovering in May. Flooded streets led to road closures and wind gusts caused [over 320,000 customers to lose power](#) in Massachusetts. A nor'easter moved through the region on March 13-14, bringing heavy, wet snow, and strong winds. Blizzard conditions were reported in Massachusetts and Rhode Island causing additional [power outages](#). Boston and Worcester, MA, ranked this storm as their [largest one-day March snowfall](#) on record. A storm on March 21 brought the [biggest snowfall of the year to Washington, D.C.](#) and caused [New Jersey to declare a state of emergency](#). April began with over 5 inches of snow in New York City and strong winds a few days later that downed trees and power lines. A [gust of 113 mph](#) was recorded at Whiteface Mountain, NY. Melting snow and recent rain led to a [mudslide](#) on April 5 in East Pittsburgh, PA. May had severe weather and flooding, see page 2 for details. On May 21 and 22, three [sinkholes](#) appeared in Frederick and Annapolis, Maryland, as a result of heavy rain and flash flooding.

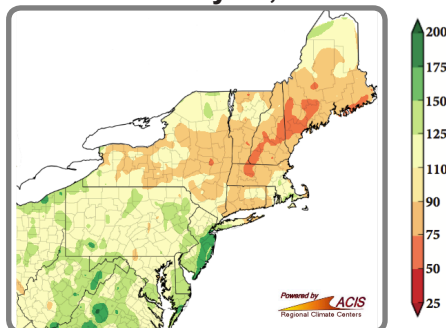
Regional Climate Overview – March–May 2018

Temperature Departure from Normal (°F) March 1-May 31, 2018



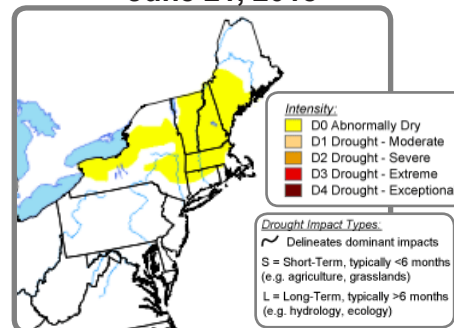
Below-normal temperatures in March and April combined with the warmth from May for a near-normal **Spring** in the Northeast. In **March**, ten of twelve states were colder than normal, with the month finishing at 2.1°F below normal. **April** was 4.8°F below normal, ranking this as the sixth coldest April on record; every state was colder than normal. **May** was 4.9°F warmer than normal, ranking as the fifth warmest on record, and all states ranked amongst their 20 warmest on record.

Precipitation Percent of Normal (%) March 1-May 31, 2018



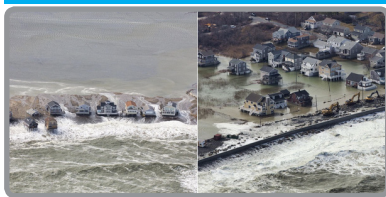
Spring precipitation was 103% of normal. Much of New England experienced lower percentages of normal precipitation, compared to the southern part of the region. **March** precipitation was on the dry side, with 89% of normal. **April** precipitation was 115% of normal. **May** precipitation was 97% of normal, though Maryland had its wettest May on record with 7.68 inches of precipitation.

Drought in the Northeast U.S. Drought Monitor June 21, 2018



Moderate drought persisted in a small area of Maryland in **March** and **April**, before improving to moderately dry and then normal in **May**. Plentiful precipitation has eliminated drought concerns in New Jersey, as reservoirs and ground water levels are healthy. Abnormally dry conditions were introduced in New Hampshire in **May** and expanded to more of New England and New York in June. By mid-**June**, the U.S. Drought Monitor showed 29% of the region as abnormally dry.

Regional Impacts and Updates – March–May 2018



Coastal Flooding in Scituate, MA, on March. Credit: Ralph Karl Swenson, SKYWARN Spotter.

Spring Conditions

The cold March allowed [ski resorts](#) to extend their season and was [good for some farmers](#) as there was no early blooming and fewer diseases and insects in the soil. On the other hand, some farmers had [delayed growth](#), and the cool March stalled the [maple syrup season](#). Despite cold winter temperatures, [ticks are an issue this spring](#), as most survived due to the insulation provided by above-normal snowfall in many areas. The March storms brought coastal flooding, beach erosion, power outages, numerous school cancellations, accidents, and travel delays throughout much of the region. Disrupted travel led to [increased trucking costs](#). On April 16–17, heavy rain and wind gusts up to 53 mph were recorded in Massachusetts, which created unfavorable conditions for participants of the [Boston Marathon](#). The storm brought [flooding](#) to other areas. The continuation of cooler temperatures and [snow](#) into April [reduced business for some nurseries](#), as the greening of lawns and blossoming of spring flowers was delayed by up to two weeks in some areas.

Severe Weather



Tree down in Waymart, PA. Credit: NWS BGM

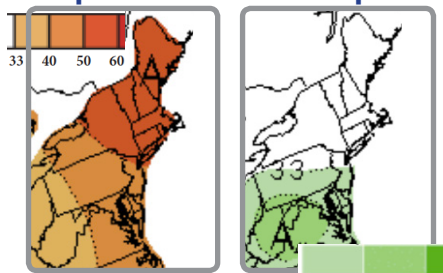
A severe weather outbreak on May 15 brought intense downpours which caused flooding, trapped people in cars, and closed roads. Frederick, MD, experienced [significant flooding](#). [Large hail](#) was reported in several states. There were strong winds that downed trees and power lines that caused 600,000 customers in Pennsylvania, New York, New Jersey, and Connecticut to [lose power](#), and unfortunately also resulted in five deaths. The tree and wire damage was worsened by the March storms. There were several confirmed tornadoes and downbursts in [New York](#), [Connecticut](#), and [Pennsylvania](#). A [meteotsunami](#) formed on the Long Island Sound. Train line services were suspended, stranding thousands during rush hour. A [state of emergency](#) was declared for part of New York. Pottstown, PA, reported a gust of 81 mph. This was one of the largest outbreaks for the region in the last 29 years.

On May 28, over nine inches of rain near Catonsville, MD, caused serious [flooding in Ellicott City](#), MD, where estimates show the Patapsco River rose 17.8 ft. in less than two hours. The flood heavily damaged buildings and houses along the city's Main Street, and caused more than \$20 million in damage.

Regional Outlook – Summer 2018

Northeast Regional Partners

Temperature and Precipitation



Probability of above normal (A)

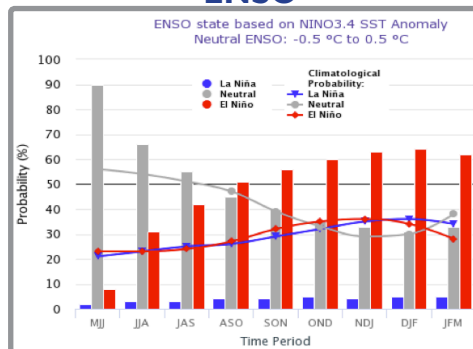
Normal July–September average temperatures range from the upper 50s in northern New York and northern New England to the mid 70s in the Mid-Atlantic. [NOAA's Climate Prediction Center \(CPC\)](#) is calling for an increased chance of above-normal temperatures (left map). The precipitation outlook favors above-normal precipitation for the southern portion of the region (right map). Normal July–September precipitation ranges from less than 10 inches near Lake Ontario in New York to more than 15 inches in New York's Catskills and higher elevations of Vermont and New Hampshire. According to CPC, [ENSO-neutral](#) is favored through summer 2018, with the chance of El Niño increasing to 50% during fall and near 65% during winter.

Atlantic Hurricane Season

	2018 Season Outlook	Average Season
# of Named Storms	10-16	12
# of Hurricanes	5-9	6
# of Major Hurricanes	1-4	3

NOAA's 2018 Atlantic [hurricane outlook](#) indicates a 35% chance this season will be more active than normal, a 40% chance it will be near-normal, and a 25% chance it will be below-normal. The outlook calls for "10–16 named storms (winds of 39 mph or higher), of which 5–9 could become hurricanes (winds of 74 mph or higher), including 1–4 major hurricanes (winds of 111 mph or higher)." The Atlantic hurricane season runs from June 1 through November 30, with a peak from mid-August to late

ENSO



Early-Jun CPC/IRI Probabilistic ENSO

National Oceanic and Atmospheric Administration offices including:

[NESDIS/National Centers for Environmental Information](#)

[NWS, Eastern Region](#)

[NWS, Climate Prediction Center](#)

[NWS, National Operational Hydrologic Remote Sensing Center](#)

[NMFS, Fisheries Science Centers and Regional Office, Atlantic](#)

[NOS, Office for Coastal Management](#)

[OAR, Climate Program Office and Geophysical Fluid Dynamics Lab](#)

[OAR, National Sea Grant Office](#)

[NOAA's North Atlantic and Great Lakes Regional Collaboration Teams](#)

[Northeast Regional Climate Center](#)

[National Integrated Drought Information System](#)

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