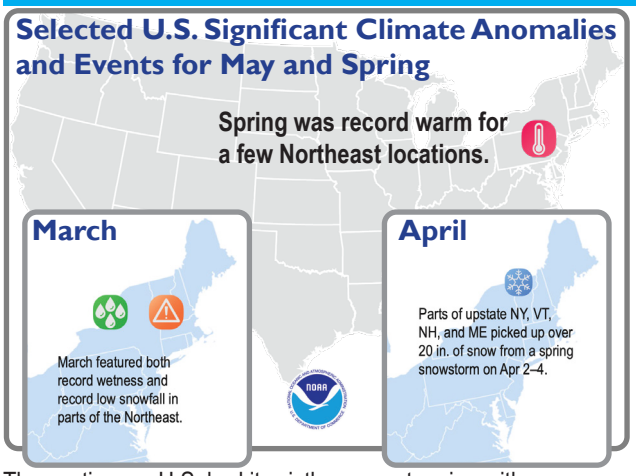
Quarterly Climate Impacts and Outlook

Northeast Region

June 2024

National Significant Events – *March–May 2024*



The contiguous U.S. had its sixth-warmest spring with an average temperature at 2.8°F above the 20th-century average. Average temperatures for March, April, and May were 3.6°F above average (17th warmest), 2.7°F above average (12th warmest), and 2.1°F above average (13th warmest), respectively. Globally, it was the warmest March, the warmest April, the warmest May, and the warmest spring. The contiguous U.S. spring precipitation was 1.32 inches above average. During March, April, and May, precipitation was 0.34 inches above average, 0.25 inches above average, and 0.65 inches above average (13th warmest), respectively.

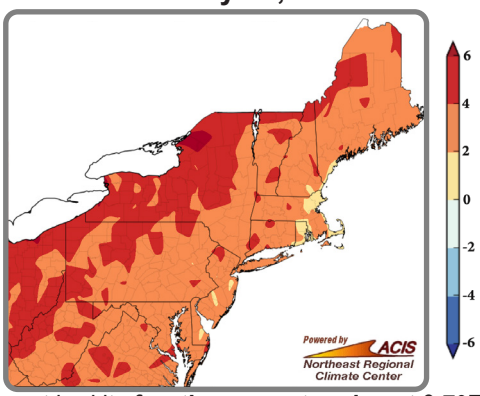
Highlights for the Northeast

- March was **record wet** for sites like Bridgeport, CT; Islip, NY; and Atlantic City, NJ. These sites, along with a few others, also had their **greatest number of March days** with an inch or more of precipitation. Philadelphia, PA; LaGuardia Airport, NY; and Kennedy Airport, NY, had their **wettest March day** on March 23. It was only the second March on record that Bridgeport and Islip saw no snow. March was mild, ranking among the **20 warmest Marches** for much of the region.
- Gusty winds, low humidity, and locally dry conditions led to **multiple wildfires** in the Mid-Atlantic in **mid to late March**. Thousands of acres were burned in eastern West Virginia, with several homes and outbuildings destroyed. The wildfires reduced air quality and caused school delays.
- April was also warmer than normal, ranking among the **20 warmest Aprils** for many sites. April featured two significant storms, one of which produced West Virginia's **largest single-day tornado outbreak** on record. While Elkins, WV; Charleston, WV; and Pittsburgh, PA, had their **wettest April day**, monthly precipitation and snowfall totals varied across the region.
- This May ranked **among the 20 warmest Mays** on record for multiple sites and featured variable precipitation amounts. The Northeast saw **19 tornadoes** in May, more than three times the May average of six. The area served by the National Weather Service in Pittsburgh, PA, had its **greatest number of tornadoes for May** since records began in 1950.
- Spring was **record warm** for Pittsburgh, PA; Huntington, WV; and Elkins, WV, and among the 10 warmest for most areas. The season was wetter-than-normal for many locations but had below-normal snowfall.

Regional Climate Overview – *March–May 2024*

Temperature

Departure from Normal (°F)
March 1–May 31, 2024

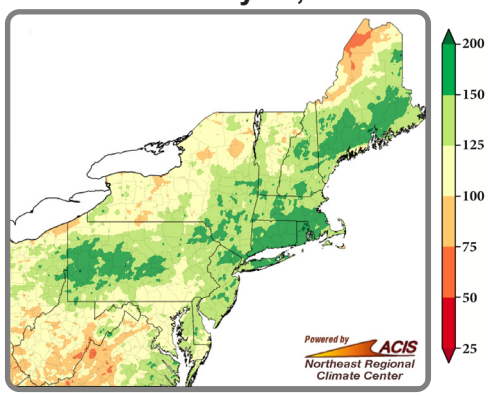


Climate normals based on 1991–2020 data; rankings based on 1895–2024.

The Northeast had its **fourth-warmest spring** at 3.7°F above normal. It was among the seven warmest springs for all 12 Northeast states. The region had its **10th-warmest March** at 5.3°F above normal. It was among the 20 warmest Marches for all 12 states. The region had its **13th-warmest April** at 2.0°F above normal. It was among the 20 warmest Aprils for five states. The region had its **ninth-warmest May** at 3.7°F above normal. It was among the 20 warmest Mays for all 12 states.

Precipitation

Percent of Normal (%)
March 1–May 31, 2024



The Northeast had its **11th-wettest spring** with 120% of normal precipitation. It was among the 20 wettest springs for eight of the 12 Northeast states. The region had its **fifth-wettest March** at 152% of normal. It was among the 20 wettest Marches for 10 states. **April** precipitation was 116% of normal, ranking in the **wettest third** of all years. Pennsylvania had its fifth-wettest April. **May** precipitation was 96% of normal, ranking in the **middle third** of all years. Rhode Island had its sixth-wettest May.

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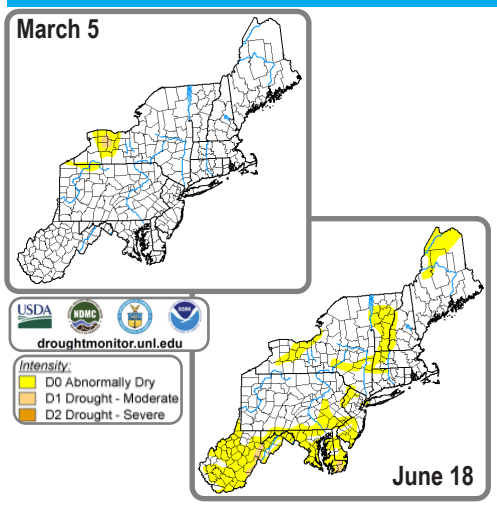
Regional Climate Overview – *March–May 2024*



Drought in the Northeast

As of March 5, the U.S. Drought Monitor showed less than 1% of the Northeast in drought and 3% as abnormally dry. During **March**, **moderate drought and/or abnormal dryness persisted** in western New York and on Nantucket, MA, due mostly to below-normal groundwater levels. During **April**, beneficial precipitation eased moderate drought in these areas, allowing the Northeast to be **free of drought** for the first time since spring 2023. Abnormal dryness was also erased from Nantucket and contracted in western New York. During **May** and **the first half of June**, **moderate drought was introduced** in parts of the Mid-Atlantic, while **abnormal dryness expanded** to include part of every Northeast state except Rhode Island. This was due to factors such as increasing precipitation deficits, reduced soil moisture, and below-normal streamflow and/or groundwater levels. The June 18 U.S. Drought Monitor showed 1% of the Northeast in drought and 30% as abnormally dry. For current conditions, see the Northeast DEWS Dashboard.

Regional Impacts and Updates – *March–May 2024*

Cherry blossoms in Newark, NJ, in mid-April. Credit: Chris Stachelski

Spring Conditions

Warm March conditions allowed plants to bloom earlier than usual, with peak bloom of cherry blossoms in Washington, D.C., occurring on March 17, tying as the **second earliest date** since 1921. An early start to allergy season also occurred in some areas. Outdoor recreation activities including hiking, snowmobiling, and ice fishing were affected by the unusual warmth. There were several storms during March, with a notable one from **March 23–24**. The Mid-Atlantic, southeastern New York, and parts of southern New England saw up to 5 inches of rain, resulting in localized flooding and giving a few sites their **wettest March day**. The rest of the region generally saw a mix of precipitation types or snow. For instance, places like eastern New York had up to 0.75 inches of ice accumulation from freezing rain and parts of northern New England saw 18 to 30 inches of snow, **one of their largest snowfalls of the season** and a boost for ski resorts. Much of the month's precipitation fell as rain instead of snow, though. This allowed multiple sites to have a **record wet March** and have their **greatest number of March days** with an inch or more of precipitation but led to below-normal snowfall for most areas. The greatest snowfall deficits exceeded 12 inches, with **this March tying as the least snowy** for several sites.

The first half of April featured two notable storms, while the rest of the month was drier.

- **April 1–5:** A storm system brought mostly rain to the region from April 1–3, with Pittsburgh, PA, and Elkins, WV, having their **wettest April day**. Western Pennsylvania, northern West Virginia, and western Maryland saw the greatest rain totals of 4–6 inches, resulting in **widespread flooding** that led to road closures, flooded buildings, some water rescues, and a few landslides. The Ohio River at Pittsburgh hit its highest level since 2005. Meanwhile, 10 tornadoes touched down in West Virginia on April 2, making it **the state's largest single-day tornado outbreak** since 1950. The tornadoes, as well as several microbursts, damaged hundreds of trees and multiple buildings. On April 4 and 5, the storm dropped heavy snow on northern New York and northern New England, with the **greatest snow totals exceeding 20 inches**. Wind gusts of 30–60 mph, with locally higher gusts, accompanied the storm, fueling coastal flooding that inundated roads. The strong winds, and heavy, wet snow in some areas, downed trees and power lines, with more than 600,000 customers in the Northeast losing power. There were at least **five storm-related deaths**.
- **April 11–12:** Western Pennsylvania and parts of West Virginia saw up to 3.50 inches of rain. Charleston, WV, and Pittsburgh, PA, set records for **wettest April day**, with Pittsburgh beating its previous record that had been set earlier in the month. In fact, April is the **only month on record** for Pittsburgh where the first and second wettest days for the month have occurred in the same year. The rainfall combined with wet antecedent conditions resulted in widespread flooding, causing the National Weather Service to issue a Flash Flood Emergency for parts of western Pennsylvania, signifying a **dangerous, life-threatening situation**. Storm reports noted numerous flooded roadways, mudslides, inundated homes and buildings, trapped vehicles, evacuations, and water rescues.

Tornado damage in West Virginia in April. Credit: NWS Charleston, WV

The early April storms caused interior parts of the Northeast to be quite wet, while the extreme ends of the region like northern Maine and the Delmarva Peninsula were much drier. Areas that saw heavy snow during the early-month storm had a snowfall surplus for April, but **most of the region saw below- or near-normal snowfall**.

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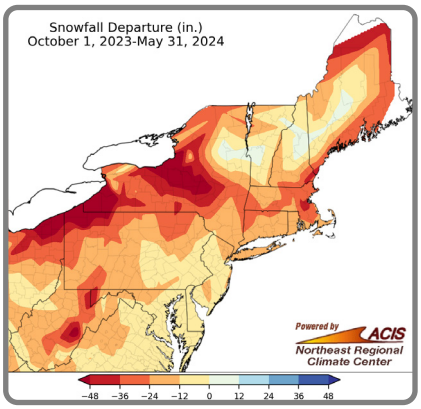
Regional Impacts and Updates – *March–May 2024*

Tornado damage in Pennsylvania in May. Credit: NWS PBZ

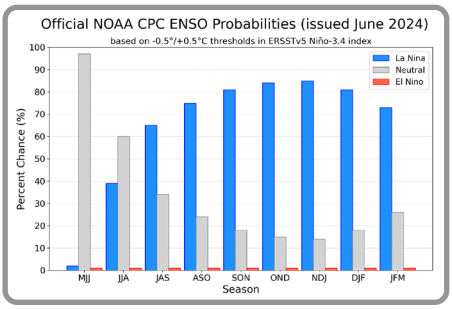
Spring Conditions Continued

Severe weather was frequent in May, with the region seeing **19 tornadoes,** more than three times the May average of six tornadoes. Of those, Pennsylvania had 14 tornadoes but averages four in May. The National Weather Service in Pittsburgh, PA, noted that their service area saw a **record-high number of tornadoes** this May. The strongest tornadoes were rated EF-2, caused extensive tree and structural damage, and resulted in several injuries. Hancock County, WV, had its **first tornado since records began** in 1950. Preston County, WV, had two tornadoes in the same month for the **first time on record** and tied its record for greatest number of tornadoes in a year. Putnam County, WV, saw three tornadoes in 2024, its most in a year, while West Virginia's April–May tornado count of 15 made it the **state's most active year for tornadoes** on record. This was part of an active severe weather pattern across the broader U.S. this spring.



As is typical in **May**, there was **little to no snow**. **Spring snowfall** was below or near normal for most areas, with the largest deficits of over 12 inches in places like eastern West Virginia. However, northern New England and northern New York had a snowfall surplus of over 12 inches due to storms in March and April. Almost the entire Northeast saw **below- or near-normal snowfall for the snowfall season** (October–May), with the largest deficits of over 48 inches in lake-effect areas of New York and northwestern Pennsylvania. It was among the 20 least snowy seasons for multiple sites including Erie, PA, which had its second least snowy season with a deficit of 79.5 inches. Last snowfall season also had reduced snowfall, making it the first time in decades that some sites like Boston, MA, saw such low totals in back-to-back snowfall seasons.

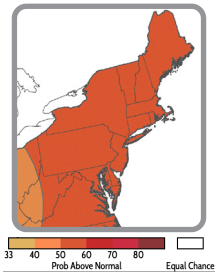
Regional Outlook – *Summer 2024*



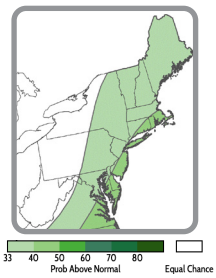
ENSO

ENSO-neutral conditions returned in the equatorial Pacific Ocean in May. NOAA's Climate Prediction Center indicates there is a 65% chance of **La Niña developing** during July–September, with an 85% chance of La Niña persisting through November–January.

Temperature and Precipitation



Normal July–September average temperatures range from the low 60s in parts of New England and New York to the mid 70s in some coastal areas. NOAA's Climate Prediction Center favors **above-normal temperatures** for **July–September** for the entire Northeast (map left), driven by factors like long-term climate trends. Normal July–September precipitation ranges from less than 10 inches in western New York to more than 15 inches in eastern New York and parts of Pennsylvania and West Virginia. **Above-normal precipitation** is favored for **July–September** in areas closer to the coast (map right) due in part to long-term climate trends and the potential for increased tropical moisture tied to an expected active hurricane season. **Equal chances** of below-, near-, or above-normal precipitation were forecast elsewhere.



	2024 Atlantic Season Outlook	1991-2020 Average Season
Number of Named Storms	17-25	14
Number of Hurricanes	8-13	7
Number of Major Hurricanes	4-7	3

Atlantic Hurricane Season

NOAA is expecting **an extremely active Atlantic hurricane season** with 17–25 named storms, of which 8–13 are expected to become hurricanes, including 4–7 major hurricanes. Factors like exceptionally warm sea surface temperatures and a developing La Niña leading to reduced wind shear are expected to align to potentially make this season very active. The greatest number of named storms in the Atlantic was 30 in 2020, while the greatest number of hurricanes was 15 in 2005. Both years also featured a record-tying seven major hurricanes. The Atlantic hurricane season runs from June 1 through November 30, peaking from mid-August to late October.

Northeast Partners

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
- NOS, National Centers for Coastal Ocean Science
- OAR, Climate Program Office and Geophysical Fluid Dynamics Lab
- OAR, National Sea Grant Office
- NOAA's North Atlantic and Great Lakes Regional Collaboration Teams

And the following other offices:

- Northeast Regional Climate Center
- National Integrated Drought Information System
- Consortium of Climate Risk in the Urban Northeast
- Cooperative Institute for the North Atlantic Research
- Northeast Region State Climatologists
- Mid-Atlantic RISA

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