

### National Significant Events – December 2022–February 2023

#### Selected U.S. Significant Climate Anomalies and Events for February and Winter

On Feb 3–4, Mt. Washington dropped to **-47°F** with a wind chill of **-108°F** — the coldest wind chill ever recorded in the U.S.

#### December

On Dec 17, a powerful storm brought up to two feet of snow across parts of the Northeast, downing tree limbs and knocking power out to more than 180,000 customers.

#### January

Much of the Northeast saw record warmth in Jan. ME, CT, MA, NH, NJ, RI, and VT had their warmest Jan on record.

NYC remained snowless through the end of Jan, setting a new latest first measurable snowfall record that was previously set on Jan 29, 1973.

The contiguous U.S. had its 17th-warmest winter with an average temperature of 34.9°F, 2.7°F above the 20th-century average. Average temperatures for December, January, and February were 0.6°F above average, 5.1°F above average (sixth warmest), and 2.7°F above average, respectively. Globally, it was the eighth-warmest December, the seventh-warmest January, the fourth-warmest February, and the fifth-warmest winter. The contiguous U.S. winter precipitation total was 7.69 inches, 0.90 inches above average. December, January, and February precipitation were 0.36 inches above average, 0.54 inches above average, and 0.16 inches below average, respectively.

#### Highlights for the Northeast

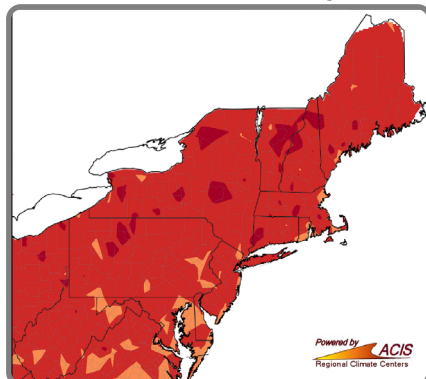
- **Winter** featured **above-normal temperatures** punctuated by a few brief Arctic air outbreaks. It was the **warmest winter on record** for Massachusetts and [a few sites](#). **Seasonal snowfall** was **below normal** in most areas, except where localized heavy snow events occurred. It was the **least snowy winter** for a couple of sites. **Above-normal precipitation** in December and January **eased drought** in the Northeast.
- On December 7, several sites had one of their **10 warmest low temperatures for December**. However, an Arctic air outbreak led multiple sites to have one of their **10 coldest high temperatures for December** on December 24 and fueled a **major lake-effect snow event** in New York, with snow totals of up to 52 inches.
- **January** was **record warm** for seven states and [multiple sites](#) including Central Park, NY, and Worcester, MA. Sites such as Philadelphia, PA, and Washington, D.C., tied their **least snowy January**. Meanwhile, Central Park and Kennedy Airport, NY, saw their **latest first measurable snow** on record on February 1.
- On **February 3–4**, an Arctic air outbreak caused sites such as Boston, MA, and Kennedy Airport, NY, to see one of their **10 coldest temperatures for February**. However, on **February 16, 22, and 23**, a few sites saw their **warmest high temperatures for February**. This February was among the 10 warmest for multiple states and sites, including Baltimore, MD, which was **record warm**. It was the **least snowy February** for Harrisburg and Pittsburgh, PA, and among the 10 least snowy for several other sites.

### Regional Climate Overview – December 2022–February 2023

#### Temperature

##### Departure from Normal (°F)

December 1, 2022–February 28, 2023



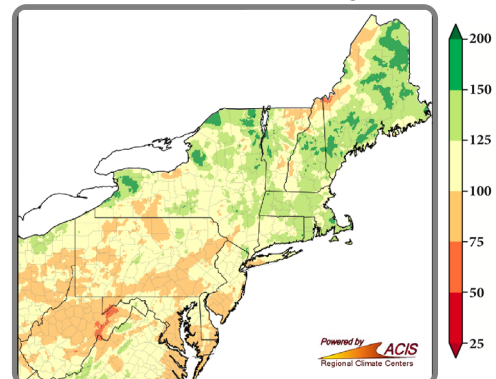
Climate normals based on 1991–2020 data; rankings based on 1895–2023.

The Northeast had its **second-warmest winter** at 4.9°F above normal. It was among the five warmest for all 12 states, with Massachusetts being **record warm**. **December** was 1.0°F above normal, in the **warmest third** of all years. It was among the 20 warmest for four states. It was the **second-warmest January** at 9.0°F above normal. It was **record warm** for seven states and among the seven warmest for five states. It was the **sixth-warmest February** at 4.8°F above normal. It was among the 20 warmest for 11 states.

#### Precipitation

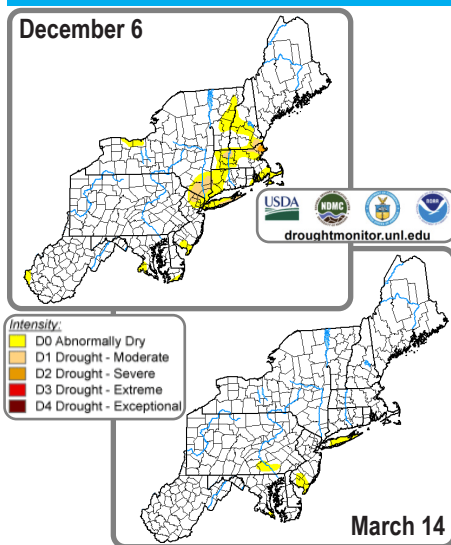
##### Percent of Normal (%)

December 1, 2022–February 28, 2023



The Northeast saw 107% of normal **winter precipitation**, in the **middle third** of all years. It was among the 20 wettest for three states. **December** precipitation was 114% of normal, in the **wettest third** of all years. It was among the 20 wettest for four states. **January** precipitation was 129% of normal, in the **wettest third** of all years. It was among the 20 wettest for seven states but Maryland's 19th driest. It was the **13th-driest February** with 72% of normal. It was among the 20 driest for six states.

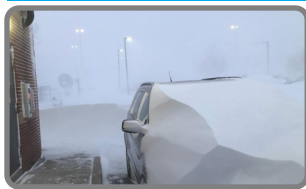
## Regional Climate Overview – December 2022–February 2023



### Drought in the Northeast

As of [December 6](#), the [U.S. Drought Monitor](#) showed 2% of the Northeast in drought and 9% as abnormally dry. **During December**, above-normal precipitation **alleviated severe drought** in northeastern Massachusetts, **eased most moderate drought**, and allowed abnormal dryness to contract. The [January 3](#) U.S. Drought Monitor showed less than 1% of the Northeast in drought and 9% as abnormally dry. **During January**, above-normal precipitation **eased moderate drought** in New York and **abnormal dryness** in New England, with New Hampshire free of drought and dryness for the **first time since May 2020**. Dryness **contracted** in northern parts of the Northeast but **expanded** in southern parts of the region. The [February 7](#) U.S. Drought Monitor showed 4% of the Northeast as abnormally dry. **Abnormal dryness briefly expanded** in parts of West Virginia, Maryland, and Pennsylvania during **February** before **shrinking in coverage in early March**. Dryness also eased in western New York. The [March 7](#) U.S. Drought Monitor showed 2% of the Northeast as abnormally dry. There was no change in conditions in mid-March. For current conditions, see the [Northeast DEWS Dashboard](#).

## Regional Impacts and Updates – December 2022–February 2023



Reduced visibility in Buffalo, NY, on December 24. Credit: [NWS Buffalo](#)

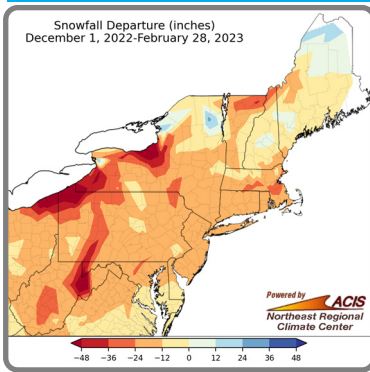
### Winter Conditions

A **rapidly-intensifying storm** and Arctic air behind it brought mixed precipitation, strong winds, and cold temperatures to the Northeast on **December 22–24**, leading to difficult travel on some of the busiest travel days of the year. The temperature in Pittsburgh, PA, dropped by 32°F in three hours on December 23. Highs on **December 24** were mostly in the single digits or teens, with some sites having one of their **10 coldest high temperatures for December**. Wind gusts of up to 60 mph led to **wind chills** in the -20s or -30s in multiple areas and led to hundreds of thousands of [power outages](#). Some power companies [urged customers to conserve energy](#) as grid capacity was strained. Coastal areas experienced flooding, with [multiple gauges in New Jersey](#) recording **moderate to major flood levels**, including Sandy Hook which tied its 10th highest crest. The Arctic air also triggered a **massive lake-effect event** from **December 23–27** in localized parts of New York, with Buffalo accumulating 51.9 inches. Buffalo saw its **fourth all-time snowiest day** with 22.3 inches on **December 23** and its **third largest two-day snowfall** with 40.2 inches from **December 23–24**. Wind gusts of 70 mph or higher contributed to Buffalo experiencing **blizzard conditions for over 36 hours**, with many hours of zero visibility. The Buffalo Airport was shut down and travel bans were in place for a few days. Hundreds of people were stranded in unheated homes (due to power outages) [or on roads](#); however, first responders also became stuck and needed to be rescued. There were **at least 46 deaths in Erie County**, likely making it one of the deadliest weather events for the county in recent history. Some lake-effect areas in New York had a snowfall surplus, with Buffalo having its **third-snowiest December**; however, **December snowfall** was generally **below or near normal** for the rest of the Northeast.

**January** was **record warm** for several locations. The average temperature was **above normal every day** during January for sites such as Philadelphia, PA, and Central Park, NY, part of their **longest streak of such days**. Some sites including Boston, MA, Providence, RI, and Albany, NY, set/tied their **greatest number of January days** with a high of at least 32°F. In fact, the high in Hartford, CT, was at or above freezing every day in January for the **first time on record**. Multiple sites including Bridgeport, CT, and Burlington, VT, had their **greatest number of January days** with a low at or above 20°F. The lowest temperature observed this January was the **warmest on record** when compared to all other Januaries at over 24 climate sites. The warm weather allowed some maple syrup producers to tap trees [earlier than usual](#); however, soft ground limited access to forests for loggers, [delaying projects](#). With above-normal temperatures and an unfavorable storm track for heavy snow, [most of the Northeast](#) experienced a **snowfall deficit**, with several sites having their **least snowy January**. For Bridgeport, it was the **first January on record** without measurable snow. A few sites had their **latest first measurable snow**, arriving on **February 1**, more than a month-and-a-half later than usual. The lack of snow affected [winter recreation activities](#) such as [skiing](#) and snowmobiling, with fewer trails open and a reduction in tourism revenue for businesses; however, transportation departments [saved money](#) as costs of buying salt and overtime hours for employees were reduced.

An Arctic air outbreak occurred on **February 3–4**. Several sites had one of their **10 coldest temperatures for February**, with lows in the single digits or below 0°F. Boston, MA's low of -10°F on February 4 was its **first double-digit below zero day** since January 1957. In northern Maine, trees splintered and there were frost quakes due to the cold. Cold temperatures and wind gusts of up to 65 mph led to extreme below-zero wind chills including -42°F in Burlington, VT, and -35°F in Boston, MA. Mount Washington, NH, recorded an **unofficial wind chill of -108°F**, possibly the lowest on record for the U.S. Temperatures climbed rapidly from **February 4–5**, with Watertown, NY, going from -32°F at 6 AM on February 4 to 30°F at 6 AM on February 5, a change of 62°F.

## Regional Impacts and Updates – December 2022–February 2023

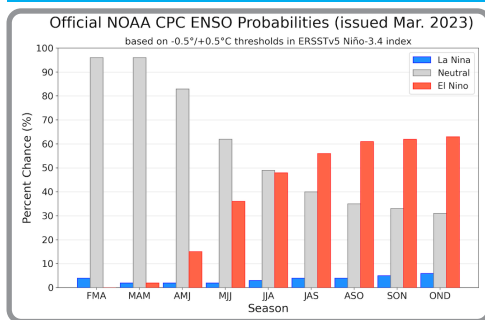


### Winter Conditions Continued

The second half of February was **unusually warm**, particularly on **February 15–16** and **22–23**. With highs ranging from the 60s to 80s and lows in the 40s and 50s, multiple sites saw one of their 10 warmest high and/or low temperatures for February, with Beckley, WV, and Dulles Airport, VA, being **record warm**. This February was the **warmest on record** for Baltimore, MD, and among the 10 warmest for multiple sites. There were limited storms in February; however, on **February 21**, a **rare EF-2 tornado** touched down in [Mercer County, NJ](#), the county's **first February tornado** since 1950. With **unusually warm temperatures** and **few storms**, **snowfall was below normal** for most areas. It was the **least snowy February** for Harrisburg and Pittsburgh, PA, which saw a trace of snowfall and 0.2 inches, respectively. This February was among the 10 least snowy for a few other sites.

Winter 2022–23 ranked among the 10 warmest for much of the region, with Worcester, MA, and Dulles Airport, VA, seeing their **warmest winter on record**. The unusually warm temperatures contributed to **below-normal winter snowfall** for many areas, with multiple sites recording one of their 10 least snowy winters. In fact, it was the **least snowy winter on record** for Baltimore, MD, and Atlantic City, NJ, which saw 0.2 inches and 0.3 inches of snow, respectively. According to modeled data from the [USA National Phenology Network](#), **spring leaf-out arrived earlier than usual** in parts of the Mid-Atlantic and coastal Northeast, including Baltimore, Maryland, at nearly three weeks early and New York City at **more than a month early**.

## Regional Outlook – Spring 2023



### ENSO

During February, **La Niña conditions ended** in the equatorial Pacific Ocean. NOAA's [Climate Prediction Center indicates ENSO-neutral conditions](#) will likely continue through spring and into early summer, with elevated chances of **El Niño conditions** developing after that.

### Temperature and Precipitation

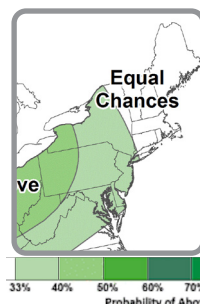
Normal April–June average temperatures range from the upper 40s in northern New England to the mid 60s in southern West Virginia and parts of the Mid-Atlantic. [NOAA's Climate Prediction Center \(CPC\)](#) favors

**above-normal temperatures for April–June** for the entire Northeast (map above).

Normal April–June precipitation ranges from 9 inches in western New York to more than 15 inches in parts of West Virginia.

**Above-normal precipitation** is favored for **April–June** for the Mid-Atlantic and

much of New York (map below). **Equal chances** of below-, near-, or above-normal **precipitation** were forecast for most of New England and eastern portions of New York.



### Flood Potential

[According to NOAA](#), the **river flood risk** during spring is **normal** for much of the Northeast. **Minor flooding** is possible for parts of West Virginia, where spring is expected to be wetter than normal. **Minor flooding** is also possible

for localized parts of central New York, where soils were generally wet and snow cover was present as of mid-March.

The **ice jam flood potential** is **normal to above normal** for parts of northern New England and northern New York, with some areas having thick river ice and a substantial snowpack as of mid-March.

**Very heavy rain** can cause **flooding** at any time of the year, even in areas experiencing drought or that have little to no snow on the ground.

## 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](#)