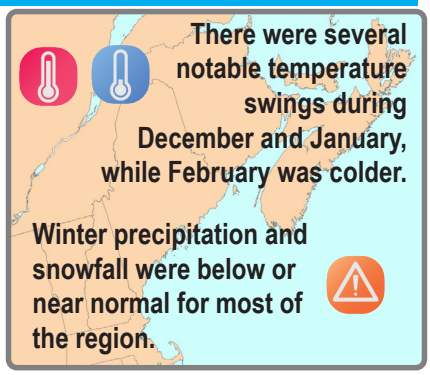
Quarterly Climate Impacts and Outlook

Gulf of Maine Region

March 2025

Gulf of Maine Significant Events – *December 2024–February 2025*

While **winter temperatures were wide ranging**, most of the Gulf of Maine region saw **below- or near-normal precipitation and snowfall**. There were several **notable storms** during winter, as well as **persistent drought conditions** in some areas.



December

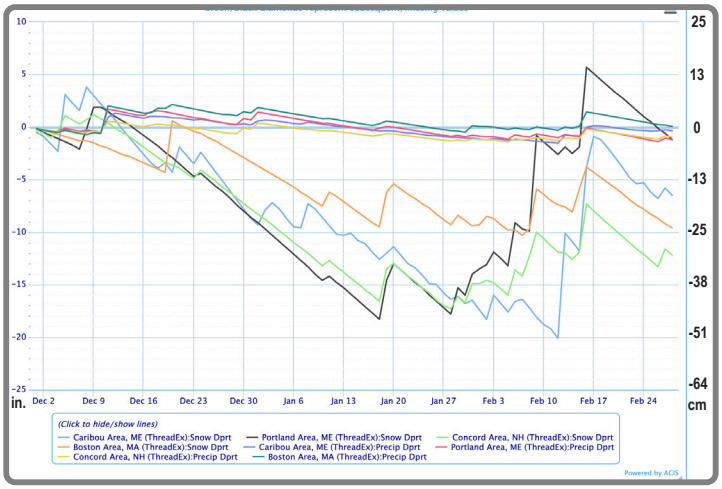
Temperatures swung from below normal to above normal and back again several times in December, causing the month to be within 1°C (2°F) of normal for most areas. This December was among the **10 warmest** for Bas-Caraquet and Charlo, N.B. December **precipitation varied**, with the Maritimes mostly drier and New England generally wetter. **Snowfall was below or near normal** for many areas. During the month, Boston, MA, saw its **sixth-wettest** December day and Saint John, N.B. had its **third-snowiest** December day.

January

January also featured **significant temperature swings**. A **cold spell** from January 20 to 22 produced some of the coldest values of this winter as temperatures fell as low as -32°C (-26°F) in parts of New England. Wind gusts of 50 to 70 km/h (30 to 45 mph) led to wind chill values as low as -37 (-35°F) in Edmundston and Fredericton, N.B. This event kicked off a **month-long cold stretch** in parts of the region that lasted through late February. The month wrapped up with below- or near-normal temperatures in Massachusetts and New Hampshire but near- or above-normal temperatures in Maine and the Maritimes. This January was among the **10 warmest** for Bas-Caraquet and Charlo, N.B. **January** was generally **dry**, with multiple areas seeing less than 50% of normal precipitation. **Snowfall** was also mostly **below or near normal**.

February

The first three weeks of February were generally **cold**, but there was a **notable warmup** during the last week of the month. Overall, February **temperatures** were **below or near normal**, in stark contrast to the record- or near-record warmth last winter. February **precipitation and snowfall amounts varied**. Much of the Maritimes and places like eastern Maine were drier and saw below- or near-normal snowfall, while areas such as northeastern Massachusetts, New Hampshire, and northern Maine were wetter and snowier. In fact, Caribou, ME, had its 10th-wettest February. Storms during the month typically produced a **mix of precipitation types**.

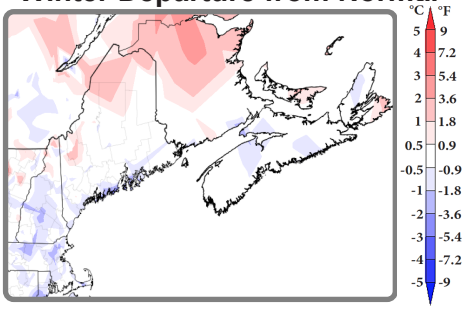


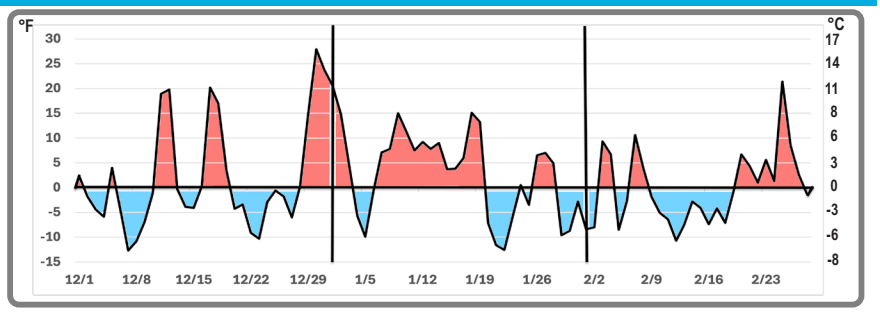
The graph to the right shows accumulated precipitation and snowfall departures from normal (1991–2010) at four New England sites. Precipitation was near normal (four colored lines grouped close to 0), but there were notable snowfall deficits at three sites (blue, orange, and green lines). Credit: NRCC

Regional Climate Overview – *December 2024–February 2025*

Temperature

Winter Departure from Normal





Daily average temperature departure from normal during winter at Caribou, ME. Warmer-than-normal days are shaded red and colder-than-normal days are shaded blue.

Winter (averaged over December, January, and February) ranged from 2°C (4°F) **colder than normal*** to 3°C (5°F) **warmer than normal**. **December** was **within 1°C (2°F) of normal** for most areas, with northern New Brunswick being warmer. **January** ranged from near normal to 3°C (5°F) **warmer than normal** for the Maritimes and much of Maine but was colder than or near normal for Massachusetts and most of New Hampshire. This December and January were among the 10 warmest for Bas-Caraquet and Charlo, N.B. **February** ranged from 3°C (5°F) **colder than normal** to near normal.

*Normals based on 1991–2020 data.

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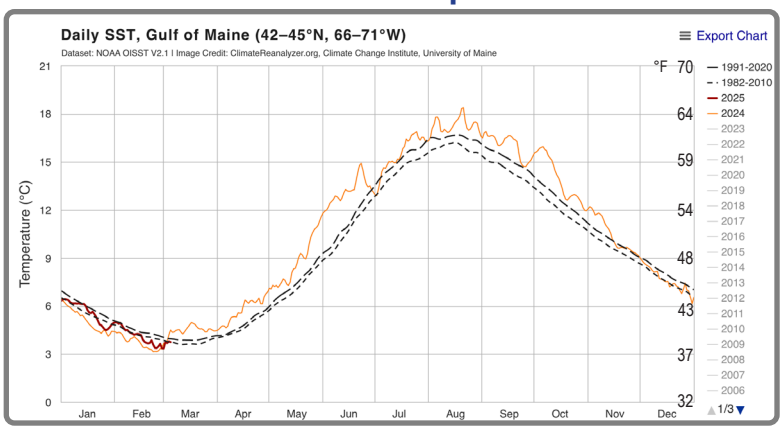
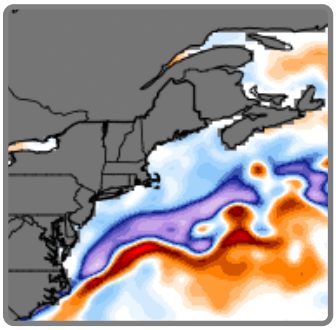
Regional Climate Overview – *December 2024–February 2025*

Sea Surface Temperature

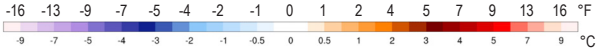


Sea surface temperatures (SSTs) in the Gulf of Maine were **below or near** the 1991–2020 average **almost every day** during winter. The orange line represents daily SSTs in 2024, while the burgundy line represents 2025. Climatological averages for both the 1991–2020 (long dashed line) and 1982–2010 (short dashed line) periods are also displayed.



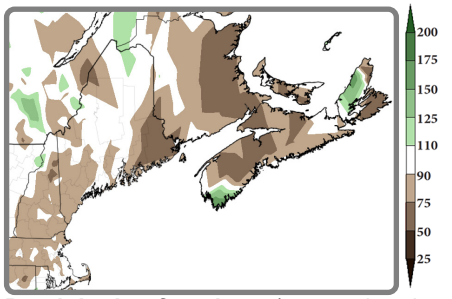
In the SST anomaly map to the left, preliminary data from February 28 showed SSTs to be **below or near** the 1991–2020 average in much of the Gulf of Maine.

The graph and map are from ClimateReanalyzer.org and are based on daily mean SST from NOAA OISST version 2.1. Data are preliminary for about two weeks. Click here for more information.



Precipitation

Winter Percent of Normal



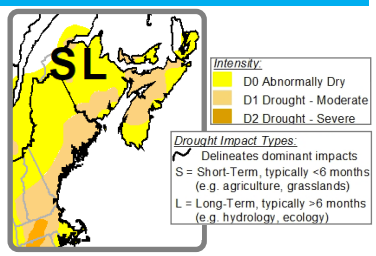
Precipitation for winter (accumulated from December to February) ranged from 50% of normal* to 175% of normal. **December** precipitation ranged from less than 50% of normal in parts of the Maritimes like P.E.I. to 175% of normal in parts of New England like midcoast Maine. **January** precipitation ranged from less than 25% of normal to near normal for almost the entire region. **February** precipitation generally ranged from 50% of normal in places like eastern Maine and southeastern New Brunswick to 150% of normal in places like southwestern New Hampshire, with Caribou, ME, having its 10th-wettest February.

*Precipitation normals based on 1991–2020 data.

Regional Impacts – *December 2024–February 2025*

Winter Conditions

Much of the region started **December** in **drought or abnormal dryness**. Extreme and severe drought eased during the month, while moderate drought contracted in New England and New Brunswick but expanded in northern Nova Scotia and eastern P.E.I. During **January**, moderate drought eased in eastern P.E.I. and western New Brunswick but expanded in Massachusetts. During **February**, moderate drought contracted in Massachusetts, southern Nova Scotia, and central/southern New Brunswick but was introduced in northwestern New Brunswick and P.E.I. Below-normal streamflow and/or groundwater levels were found in New England during winter.



North American Drought Monitor as of February 28.

There were **a few notable storms** during winter:

- **December 11 to 12**: The region saw up to 100 mm (4 in.) of precipitation, mostly in the form of **rain**. Boston, MA, tied its sixth-wettest December day on the 11th, with localized flooding in eastern Massachusetts. Wind gusts, peaking around 109 km/h (68 mph), downed trees and power lines and caused building closures and transportation issues. Power outages affected over 80,000 customers in Maine and 75,000 in New Brunswick, where restoration took several days. The event also led to **rapid snowmelt**.
- **December 24 to 25**: A storm dropped snow on the region, with the greatest totals of 10 to 38 cm (4 to 15 in.) in central New Brunswick and western Nova Scotia. Saint John, N.B., had its third-snowiest December day on the 24th, while Grand Manan, N.B., saw its **first white Christmas in 17 years**.
- **February 16 to 18**: The region saw **mixed precipitation** and **gusty winds**, which exceeded 100 km/h (62 mph) in the Maritimes. Snowfall totals of 25 to 40 cm (10 to 16 in.) were reported in parts of Maine, New Hampshire, and New Brunswick, with **whiteout conditions** and heavy drifting in northern Maine and northern New Brunswick resulting in road closures. Several hours of **freezing rain** led to hazardous travel in southern New Brunswick, parts of Nova Scotia, and P.E.I. A few coastal parts of Nova Scotia and New Brunswick saw up to 30 mm (1 in.) of rain. Impacts from the stormy weather included downed trees, school closures, and travel issues. A **rapid freeze** led to hazardous travel in eastern Massachusetts as cold air pushed in behind the storm.

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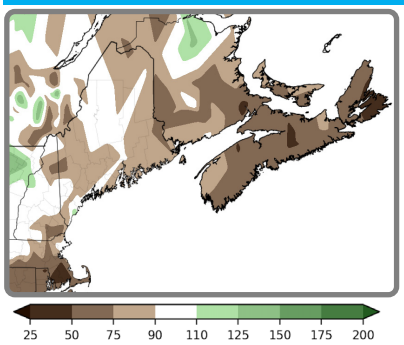
Regional Impacts – *December 2024–February 2025*

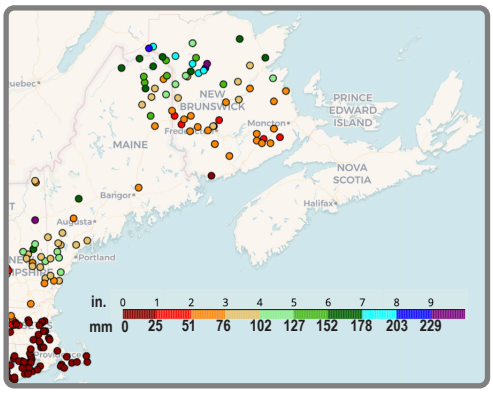


Winter snowfall ranged from 25% of normal* to 150% of normal. *Normals based on 1991–2020 data

Winter Snowfall

Snowfall in **December and January** was **below or near normal** for most areas, with the **snow depth** across the Maritimes at month's end also **below or near normal**. The snow water equivalent in the snowpack for the Saint John River basin was at 32% of normal for the February 3 to 5 period. Outdoor winter activities were limited by the lack of snow.

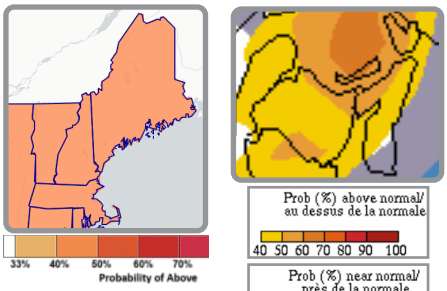
February snowfall was **below normal** for most of the Maritimes, eastern Maine, and part of southeastern Massachusetts but was **above normal** for northern New Brunswick and most of New England. This active weather pattern led to improving conditions for outdoor winter activities in New England. At the end of the month, **snow depth** was generally **below-normal** in the Maritimes. The snow water equivalent in the snowpack across most of Maine was below or near normal for the March 2 to 5 period (based on 20 years of data) and was 75% of normal for the Saint John River basin for the March 3 to 5 period. **Winter** snowfall (map above) was **below or near normal** for most areas.



The map to the right shows snow water equivalent in the snowpack for the February 23 to March 5 period. Most of Massachusetts had no water content (burgundy dots) due to no snowpack, while northwestern New Brunswick had over 178 mm (7 in.) of water content (blue and purple dots). Credit: NRCC

Regional Outlook – *Spring 2025*

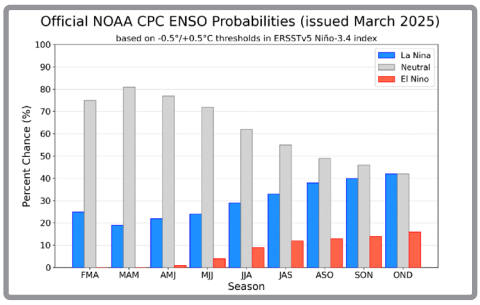
Temperature and Precipitation



CPC temperature map (above) produced February 20. ECCC temperature map (right) produced February 28.

For **March–May**, NOAA's Climate Prediction Center (CPC) and Environment and Climate Change Canada (ECCC) favor **above-normal temperatures** for almost the entire Gulf of Maine region. In New England, this forecast was tied to long-term trends as La Niña conditions wane. Meanwhile, near-normal temperatures were predicted for parts of western and southern Nova Scotia.

ECCC favors **above-normal precipitation** for much of New Brunswick, with **equal chances** of below-, near-, or above-normal precipitation forecast for the rest of the Gulf of Maine region.



ENSO

Weakening La Niña conditions were present in the equatorial Pacific Ocean during February. NOAA's Climate Prediction Center indicates ENSO-neutral conditions are expected to emerge next month, with a 62% chance of ENSO-neutral conditions continuing through summer.

Spring Flooding

NOAA indicates there is "**a low threat of significant spring flooding**" in New England based on factors like below-normal winter precipitation, current snowpack and soil moisture, and projected spring weather. However, there is a **risk of ice jam flooding** for parts of Maine through March. Also, **very heavy rain** can cause flooding at any time of the year, even in areas that have little to no snow cover. The NOAA Eastern Region Climate Services webinar on March 27 will focus on the spring flood outlook and inundation mapping. Register for the webinar here or view the recording on the Northeast Regional Climate Center's website.

New Brunswick's **River Watch program**, which monitors water levels along the Saint John River and its tributaries, launched on March 11. To view flood maps, see the New Brunswick Flood Hazard Viewer.

Contacts

National Oceanic and Atmospheric Administration

Environment and Climate Change Canada

Northeast Regional Climate Center

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