



Gulf of Maine Significant Events – March–May 2020

March

Storms moved through the region frequently during March. The most notable storm occurred from **March 23 to 24** and produced **strong winds** and a mix of precipitation types. The greatest **snow totals** of up to 38 cm (15 in.) were in New Hampshire, Maine, and Cape Breton (N.S.), while the greatest **rain totals** of up to 75 mm (3 in.) were in eastern Massachusetts. There were thousands of power outages [in Maine](#) and [Nova Scotia](#). Despite several storms, many areas saw below-normal precipitation and above-normal temperatures.

April

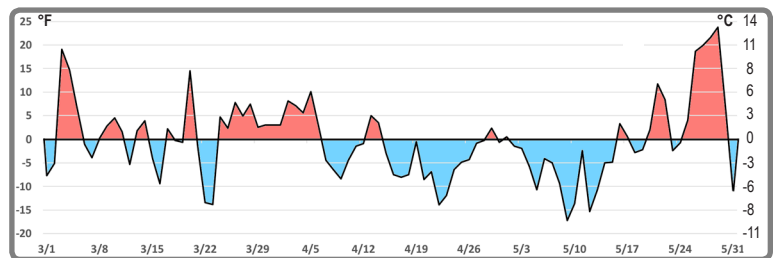
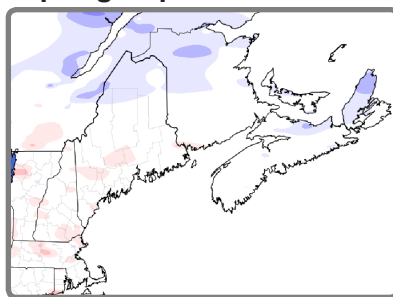
There were frequent storms again in April. A storm rapidly strengthened to a [near-record](#) pressure level for April for Maine, producing **wind gusts** of up to 108 km/h (67 mph) across the region and dumping **heavy snow** on parts of Maine, New Hampshire, and New Brunswick, from **April 9 to 10**. The greatest storm snow totals of up to 53 cm (21 in.) were in Maine, with Caribou seeing 27.7 cm (10.9 in.) of snow, its **second snowiest April day** on record. In Maine, the [heavy, wet snow](#) downed trees and wires, leaving [more than 266,000 customers](#), around a third of the state, **without power**. In the Maritimes, more than 10,000 [customers lost power](#) and blowing snow [closed some roads](#). **Storm surge** led to road closures, flooded some buildings, and damaged a trail and pier in Downeast Maine, and [destroyed a historic trail](#) in Saint Andrews, N.B. From **April 12 to 14**, a storm brought **damaging winds and rain** to the region. Wind gusts of 65 to 95 km/h (40 to 60 mph) [were common](#), with a peak gust of 129 km/h (80 mph) in Milton, MA. The strong winds [downed trees and wires](#), leaving more than 115,000 customers in Massachusetts and around [7,000 customers in Nova Scotia without power](#). The system also produced heavy rain, with the greatest totals of more than 50 mm (2 in.) in coastal Maine and central New Hampshire.

May

High temperatures in New England on **May 9** were as much as [14°C \(25°F\) below normal](#), with Caribou, ME, having its **second coldest max temperature for May**. With [cold air](#) in place, [a nor'easter](#) brought **snow** to much of the region. The greatest amounts were in [northern Maine](#) and [New Brunswick](#), with this ranking among the largest single-day snowfalls for May. Woodstock, N.B., saw 33 cm (13 in.) of snow on May 9, making it the site's **snowiest May day** since 1886 and beating the old record of 10.2 cm (4 in.) from May 2, 1917. Caribou had its third snowiest May day, while Concord saw measurable snow in May for the **first time in over 50 years**. Wet snow and strong winds in the Maritimes caused [more than 9,500 customers](#) to lose power. Temperatures were **unusually mild** from [May 27 to 29](#). On May 28, both Bas Caraquet and Miscou Island, N.B., set **monthly maximum temperature records** of 33.7°C (93°F) and 32.3°C (90°F), respectively. Caribou's low temperature on May 27 and 28 ranked as the third warmest for May, while its low of 21°C (69°F) on May 29 was **record warm for May**. Concord recorded its second warmest May minimum temperature. Dozens of daily temperature records were broken in the Maritimes. In addition, Caribou had a [dew point of 21°C \(70°F\)](#) for the **first time in May**.

Regional Climate Overview – March–May 2020

Temperature Spring Departure from Normal

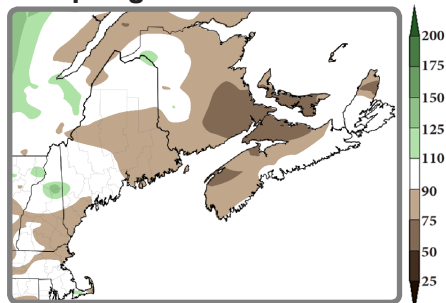


Daily average temperature departure from normal during spring at Caribou, ME. Warmer-than-normal days are shaded red and colder-than-normal days are shaded blue.

Spring temperatures (averaged over March, April, and May) were **within 1°C (2°F) of normal** for most areas, with parts of the Maritimes being colder and parts of New England being warmer. Portland, ME, had its sixth warmest spring. **March temperatures** ranged from **near normal** in the Maritimes to 3°C (5°F) **above normal** in New England. Portland had its seventh warmest March and earliest 21°C (70°F) day. **April** was as much as 3°C (5°F) **colder than normal**. The highest temperature reached in April in Boston, MA, and Portland was the **coldest for April** and second coldest for Concord, NH. **May temperatures** were **within 1°C (2°F) of normal** for many areas but cooler at a few Maritimes sites. Bangor, ME, did not reach 21°C (70°F) until May 7, its third latest date on record. Temperature normals based on 1981–2010 data.

Regional Climate Overview – March–May 2020

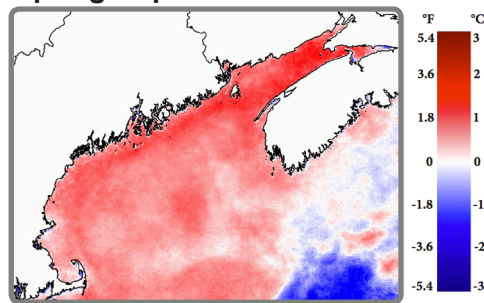
Precipitation Spring Percent of Normal



U.S. precipitation normals based on 1981–2010 data; Canadian precipitation normals based on 2002–2019 data.

Spring precipitation (accumulated from March to May) ranged from 50% of normal to 110% of normal for much of the region. Most areas saw 25% to 110% of normal precipitation in **March**; however, northern Maine and Cape Breton, N.S., saw up to 175% of normal precipitation. This March was among the 10 driest on record for some sites in New Brunswick and Nova Scotia. **April precipitation** ranged from 25% of normal in eastern P.E.I. to 200% of normal in central New Hampshire. Charlottetown and Summerside, P.E.I., had one of their three driest Aprils on record. **May precipitation** ranged from 25% to 110% of normal for most areas, except in southern Nova Scotia which saw up to 150% of normal.

Sea Surface Temperature Spring Departure from Normal



Sea surface temperature anomalies during spring over the entire Gulf of Maine were **above normal**, strongest (around 1.2°C [2.2°F]) in the Bay of Fundy and along the coast of Maine and weaker (0.3° to 0.8°C [0.5° to 1.4°F]) over the deeper basins in the center of the Gulf. Anomalies over the Scotian Shelf were a mix of weak positive (0.4°C [0.7°F]) and weak negative (-0.2°C [-0.4°F]) values.

SST normals based on 1985–2014 data



Above: Snowfall on April 10 in Bangor, ME. Credit: Maura Thomas; Below: Snowfall on May 10 in New Maryland, N.B. Credit: Russell Emery



Spring Snowfall

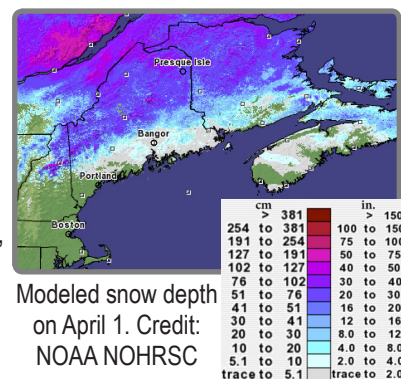
March snowfall was **below normal** for most of the region. Boston recorded only a trace of snow during March, tying as the **least snowy March** on record. However, northern Maine, northwestern New Brunswick, and [Cape Breton, N.S.](#), saw **more snowfall than usual**.

April snowfall was **above to much above normal** for Maine, northern New Hampshire, and much of the Maritimes, particularly northwestern New Brunswick and Cape Breton, N.S. This April ranked among the 10 snowiest for Sydney, N.S.; Bas Caraquet, N.B.; and Caribou, ME. A storm on April 19 dropped 43 cm (17 in.) of snow in Sydney, N.S., making it the site's **second snowiest April day** since 1870. Also, Caribou recorded its **second longest streak** with at least 3 cm (1 in.) of snow depth at 159 days (November 12, 2019 to April 18, 2020). The record of 163 consecutive days was set last year. **April snowfall** was **below normal** for parts of mainland Nova Scotia, eastern P.E.I., and southern New Hampshire.

May snowfall was **above normal** for the Maritimes, Maine, and New Hampshire. Woodstock, N.B., had its **snowiest May on record**. In fact, the snowfall total in Woodstock, N.B., from the May 9 to 10 storm alone eclipsed the previous highest snow total on record for the entire month, set in 1917. Bas Caraquet, N.B., had its

second snowiest May, while Caribou, ME, had its third snowiest and Concord, NH, had its sixth snowiest. Eastern Massachusetts saw **near-normal** May snowfall.

Spring snowfall was **below normal** for Massachusetts, most of New Hampshire, southern Maine, southern New Brunswick, much of mainland Nova Scotia, and eastern P.E.I. However, western P.E.I., Cape Breton (N.S.), northern New Brunswick, and northern Maine saw **above-normal spring snowfall**, with Caribou having its **10th snowiest spring**. For the snow season (October through May), Caribou had its sixth snowiest **season**, while Boston had its eighth least snowy.



Modeled snow depth on April 1. Credit: NOAA NOHRSC

Regional Impacts – March–May 2020

Air Quality

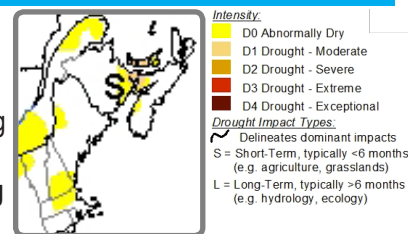
[According to NASA](#), "...the data indicate that the **nitrogen dioxide levels** in March 2020 are about 30% **lower on average** across the region of the I-95 corridor from Washington, DC to Boston than when compared to the March mean of 2015-19." **Reduced greenhouse gas emissions** this spring were partially attributed to [less transportation and industrial output](#) due to stay-at-home orders during the coronavirus outbreak.

Regional Impacts – March–May 2020

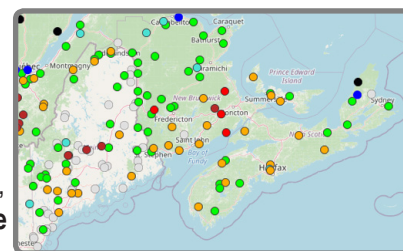
Spring Conditions

Spring leaf out occurred more than a week **earlier than usual** in eastern Massachusetts due in part to mild March conditions; however, colder weather in April and May contributed to leaf out occurring more than a week **later than usual** for much of Maine, as well as **spring bloom** occurring **later than usual** for parts of New England. In the Maritimes, a cool start to May **delayed seeding operations** and **frost** affected some fruit trees. Dry conditions in P.E.I. were **favorable for planting potatoes** with about **half the crop planted** by late May.

The spring freshet in New Brunswick showed three peaks in water levels (April 8 to 9, April 15 to 17, and May 3 to 8) that caused two sites to go above flood stage along the Saint John River basin; however, **no major flooding** occurred as in the past two years, which saw record-setting levels. With below-normal spring precipitation, **moderate drought** and **abnormal dryness** developed in southeastern New Brunswick, northern Nova Scotia, P.E.I., **parts of Maine**, southern New Hampshire, and northeastern Massachusetts. **Some areas saw increased forest fire activity**. Maine saw **55 brush fires during Memorial Day weekend** (May 22 to 25), bringing the year-to-date total as of June 2 to **600 fires**, more than the state saw **in all of 2019**. Even with **burn bans in place**, there were more than 70 fires since May 18 in New Brunswick, with a **fire near Blackville** being **one of the largest fires** in the province since the mid-1990s. As of June 3, there were 232 fires with 1120 hectares burned in New Brunswick, **well above the 10-year average** of 150 fires with 191 hectares burned for the same period. A brush fire at Porters Lake, N.S., led to the evacuation of **more than 500 homes** and burned about 50 hectares. Ipswich and Georgetown, MA, enacted **mandatory water restrictions** effective June 1 due in part to below-normal precipitation and **below-normal streamflow** on the Ipswich and Parker Rivers.



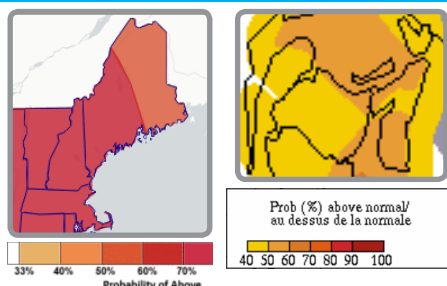
Above: May 31, 2020 [North American Drought Monitor](#). Below: May 29, 2020 [North American Water Watch](#) streamflow



Regional Outlook – Summer 2020

Temperature and Precipitation

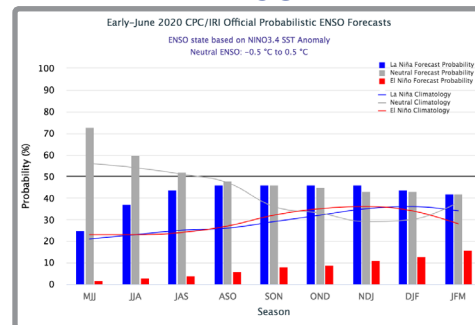
For **June–August**, [NOAA's Climate Prediction Center \(CPC\)](#) and [Environment and Climate Change Canada \(ECCC\)](#) favor increased chances of **above-normal temperatures** for the region. An increased likelihood of **below-normal precipitation** is forecast for New Brunswick, northern and western Nova Scotia, and western P.E.I. for **June–August**. **Equal chances** of below-, near-, or above-normal precipitation were predicted for New England and the rest of the Maritimes.



CPC temperature map (above left) produced May 21.

ECCC temperature map (above right) produced May 31.

ENSO



During May, El Niño-Southern Oscillation (**ENSO**)-**neutral conditions** were observed in the equatorial Pacific Ocean. NOAA's Climate Prediction Center indicates there is a 60% chance **ENSO-neutral conditions** will continue through summer and nearly equal chances (40–50%) of ENSO-neutral or La Niña conditions during autumn and winter.

Atlantic Hurricane Season

[NOAA's 2020 Atlantic hurricane season outlook](#) indicates an **above-normal season** is most likely, with "a likely range of 13–19 named storms of which 6–10 could become hurricanes, including 3–6 major hurricanes (Category 3 or higher)." Factors such as a lack of El Niño conditions and warmer-than-normal sea surface temperatures favor increased storm activity. For the **sixth consecutive year** the **season started early**, with the **first storm** forming on May 16, the second storm **on May 27**, and already the **third storm on June 2**. The season runs from June 1 through November 30, peaking from mid-August to late October.

	2020 Atlantic Season Outlook	Average Season
Number of Named Storms	13-19	12
Number of Hurricanes	6-10	6
Number of Major Hurricanes	3-6	3

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