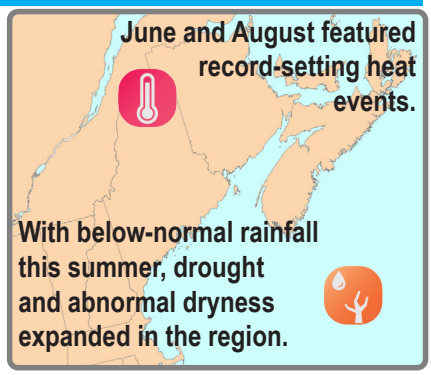
Quarterly Climate Impacts and Outlook

Gulf of Maine Region

September 2025

Gulf of Maine Significant Events – *June–August 2025*



Summer was **exceptionally dry**, with Saint John, N.B., having a **record dry summer** and several sites like Greenwood, N.S., and Portland, ME, having one of their 10 driest. **Summer temperatures** were **near to above normal**, with Concord, NH, having its 10th hottest summer. The hot, dry weather led to **intensifying drought conditions**, with impacts on crops, water resources, and wildfire activity. There were multiple days with **hazy skies and reduced air quality** due to smoke moving through the region from wildfires burning in western Canada.

June

There were a few temperature swings during the month, which included a heat event on June 23 and 24. Two sites in New Hampshire reached 38.9°F (102°F), preliminarily tying the **state's hottest June temperature**. Sites like Boston, MA; Portland, ME; and Kejimkujik Park, N.S., had their **hottest June temperature** with highs ranging from 34.4°C (94°F) to 38.9°C (102°F). With the humidity, it felt as hot as 46°C (115°F) on June 23 and 24. Low temperatures were also unusually hot, ranging from 20°C (68°F) to 26°C (78°F) at multiple New England sites. Overall, June averaged out to be near or hotter than normal, ranking among the **10 hottest Junes** for sites like Moncton, N.B.; Halifax, N.S.; and Summerside, P.E.I. Most areas were dry, with drought developing in Nova Scotia; however, parts of Maine and New Hampshire saw locally heavy rain.

July

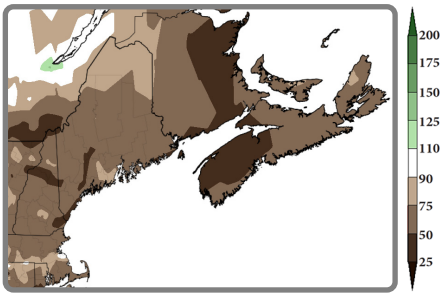
July averaged out to be near or hotter than normal, ranking among the **10 hottest Julys** for Charlo, N.B.; Halifax, N.S.; and Concord, NH. It also became Concord's seventh all-time hottest month. Most areas saw below-normal rainfall, with Bas-Caraquet and Saint John, N.B., having one of their **10 driest Julys**. **Drought and abnormal dryness expanded** across the region, with severe drought introduced in the Maritimes. A few spots like northern Maine saw locally heavy rainfall. July was more humid than usual in parts of New England. For instance, Concord, NH, and Portland, ME, had their fifth greatest number of July days with a dewpoint of at least 21°C (70°F).

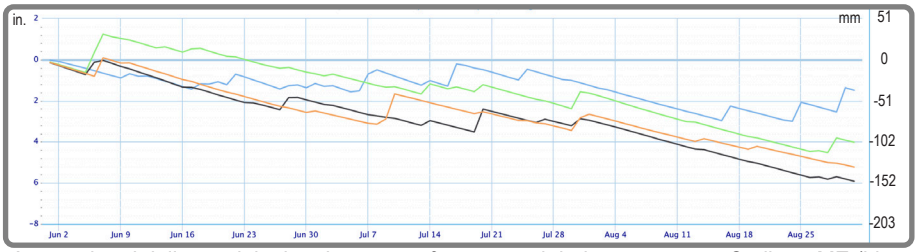
August

August started with cooler-than-normal weather. This was followed by a significant heat event in the Maritimes and northern Maine from August 10 to 14. A high of 38.1°C (101°F) in Maple Plains, P.E.I., became the **hottest temperature ever recorded in P.E.I.** Multiple sites like Sussex, N.B.; Truro, N.S.; and Summerside, P.E.I., had their **all-time hottest temperature** with highs ranging from 34°C (93°F) to 38°C (100°F), while a few sites saw their hottest August temperature. Bathurst, N.B., and Caribou, ME, tied their records for **all-time longest streak** of days with a high of at least 32°C (90°F) with five days and four days, respectively. During the event, the humidity made it feel as hot as 47°C (117°F). A few days later, from August 18 to 19, northern Maine and northwestern New Brunswick saw an unusually early cool spell with lows down to -0.6°C (31°F), resulting in **patchy frost**. Overall, August temperatures averaged out to be below or near normal. August was **extremely dry**, ranking as the **driest August** for Greenwood, N.S., and among the five driest for multiple sites including Boston, MA, and Portland, ME. The mid-August heat event and little rainfall contributed to the **rapid expansion of drought and abnormal dryness**.

Regional Climate Overview – *June–August 2025*

Precipitation
Summer Percent of Normal





Accumulated daily precipitation departures from normal during summer at Caribou, ME (blue line); Portland, ME (black line); Concord, NH (green line); and Boston, MA (orange line).

Summer precipitation (accumulated from June to August) ranged from 25% of normal* to 90% of normal, with Saint John, N.B., having a **record dry summer** and several other sites having one of their 10 driest. **June** precipitation ranged from 25% of normal to near normal for many areas. **July** precipitation also mostly ranged from 25% of normal to near normal, with a few Maritimes sites having one of their 10 driest Julys. **August** precipitation ranged from less than 25% of normal to near normal, with Greenwood, N.S., being record dry and multiple sites in the region having one of their 10 driest Augusts. *Precipitation normals based on 1991–2020 data.

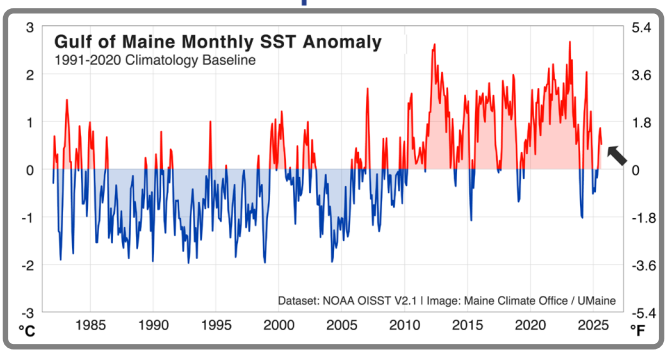
Contact: Samantha Borisoff (sgh58@cornell.edu)
Northeast RCC (nrcc@cornell.edu)

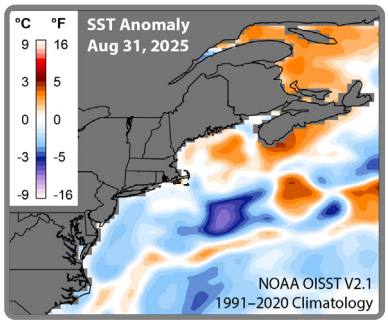
Environment and Climate Change Canada | Environnement et Changement climatique Canada
Gulf of Maine Council on the Marine Environment
Canada and the United States working together for a healthy environment
NOAA

Regional Climate Overview – *June–August 2025*

Sea Surface Temperature

Summer monthly mean sea surface temperature (SST) averaged across the Gulf of Maine was **above the 1991–2020 climatological mean** all three months. The chart shows all monthly SST anomalies from January 1982 to August 2025, estimated from NOAA OISST version 2.1. The arrow on the right of the chart points to the June–August values.

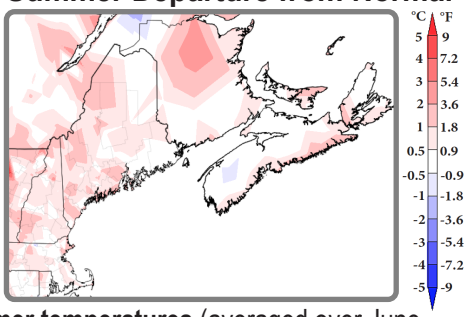




The map at left shows preliminary data for August 31. **Cool SST anomalies** are found in parts of the Gulf of Maine shaded blue, while shades of orange indicate **warm anomalies**, particularly around Nova Scotia. Daily OISST data for the Gulf of Maine are available from the Maine Climate Office. A large phytoplankton bloom this summer has been associated with changing ocean conditions in the Gulf of Maine.

Temperature

Summer Departure from Normal



Summer temperatures (averaged over June, July, and August) ranged from near normal to 3°C (5°F) above normal for most areas, with Concord, NH, having its 10th hottest summer. **June** was up to 2°C (4°F) above normal. It was among the 10 hottest Junes for a few Maritimes sites like Moncton, N.B.; Halifax, N.S.; and Summerside, P.E.I. **July** was up to 2°C (4°F) above normal, ranking among the 10 hottest Julys for Charlo, N.B.; Halifax; and Concord. **August** temperatures ranged from 2°C (4°F) below normal in eastern Massachusetts to near normal for most other areas. *Normals based on 1991–2020 data.

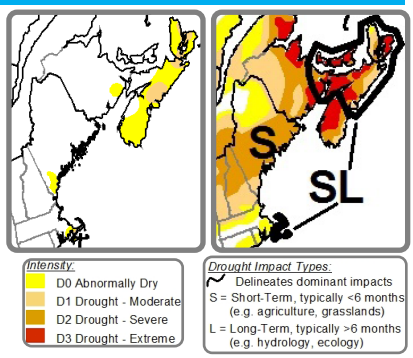
Regional Impacts – *June–August 2025*

Summer Precipitation

Drought and abnormal dryness took hold in the region during summer as most areas were warm and dry. For instance, in Nova Scotia, moderate drought was introduced in June, severe drought developed in July, and **extreme drought** emerged in August. In New England, drought was introduced and rapidly intensified in August. There were multiple drought-related impacts.

- ***Water Resources***: Record- to near record low streamflow and groundwater levels were present in the region, with **dry wells** reported in Maine, New Hampshire, and Nova Scotia. **Mandatory water restrictions** were enacted in a few places including South Berwick, ME; Medfield, MA; and parts of Nova Scotia. Low water levels in parts of the Maritimes affected some outdoor recreation businesses and contributed to hotter-than-usual water temperatures that **stressed cold-water fish** such as salmon, as well as other species like mussels.
- ***Agriculture***: Farmers relied on irrigation when available, but it increased their workload and some water supplies ran low or dried up. Impacts noted in Maine included brown lawns, early leaf drop from trees, discolored apples, wild blueberry crop losses, and **drought-stressed corn**, hay, and potatoes. In Nova Scotia, growers reported **dried up pastures** causing winter hay to be used early, yellowing leaves and slow growth of apple trees, and reduced crop yields. Dry conditions were challenging for cranberry growers in New Brunswick.
- ***Wildfires***: An increased wildfire risk across the region prompted burn bans for all of the Maritimes, the unusual step of closing some public lands in Nova Scotia and New Brunswick, burn permits to be suspended in Maine, and farmers to be extra cautious when harvesting. Multiple areas saw **increased wildfire activity**. There were 245 wildfires from July through mid-August in Maine, **more than double the average**, with 70 fires in one week. In mid-August, 39 wildfires burned in New Brunswick, including one that charred over 1,400 hectares (5 sq. mi.). A fire in Nova Scotia burned over 8,400 hectares (33 sq. mi.), causing hundreds of residences to be evacuated, destroying 20 homes, and creating poor air quality in Nova Scotia and nearby provinces.

However, there were a few locally **heavy rainfall/flash flood events** in New England, particularly in June and July. For example, on June 6, Hillsborough, NH, saw 82.6 mm (3.25 in.) of rain in less than two hours, qualifying as a 100-year storm event, with flash flooding damaging roads. Similarly, on July 10, up to 127 mm (5 in.) of rain caused flash flooding near Boston, MA, with multiple roads shut down during the morning commute and vehicles submerged in floodwaters.



North American Drought Monitor as of June 30, 2025 (above left) and August 31, 2025 (above right).

Dried up grass in Maine in mid-August. Credit: NWS GYX

Contact: Samantha Borisoff (sgh58@cornell.edu)
Northeast RCC (nrcc@cornell.edu)

Regional Impacts – *June–August 2025*

Summer Conditions

Multiple sites in the Maritimes saw their **all-time hottest temperature** or their **hottest temperature for August** between August 10 and 14. In fact, P.E.I.'s **record for all-time hottest temperature** was set in Maple Plains with a high of 38.1°C (101°F). Bathurst, N.B., and Caribou, ME, tied their records for **all-time longest streak** of days with a high of at least 32°C (90°F). Meanwhile, Kejimkujik Park, N.S., saw its **first-ever** two consecutive days over 34°C (93°F), while St. Peters Bay, P.E.I., had a **record-tying** four consecutive days above 30°C (86°F). The hot weather contributed to intensifying drought conditions in the region.

Acadia National Park, ME, without haze on August 2 (top) and with haze on August 6 (bottom). Credit: NPS

Severe weather was very limited this summer, with only a few notable events. This included a storm on July 20 in central New Hampshire that produced golf ball-sized hail and straight-line winds of up to 169 km/h (105 mph) that downed over 500 trees. Cloud-to-ground lightning stroke totals in New Brunswick for January–August were the **lowest on record** since records began in 2002.

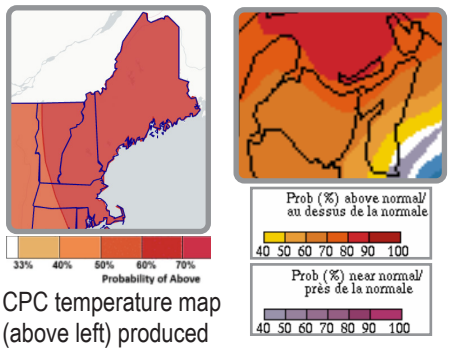
Smoke from wildfires burning in western Canada moved across the region multiple times during summer, creating **hazy skies**, reducing air quality, and posing a health risk. For example, from June 6 to 9, Air Quality Alerts were issued for parts of New England where unhealthy levels were reached at times, while moderate to locally poor air quality was reported in the Maritimes, with Air Quality Health Index values briefly reaching 9 (high health risk) in Saint John, N.B.

Harmful algal blooms and elevated bacteria levels affected bodies of water in New England, particularly Massachusetts and New Hampshire, throughout summer, impacting recreational activities.

Regional Outlook – *Autumn 2025*

Temperature and Precipitation

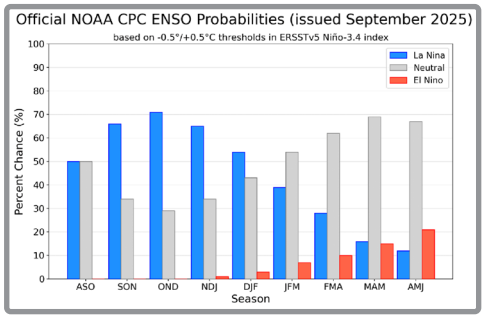
For **September–November**, NOAA's Climate Prediction Center (CPC) and Environment and Climate Change Canada (ECCC) favor **above-normal temperatures** for almost all of the Gulf of Maine region. In New England, this is driven by long-term trends. ECCC favors **below-normal precipitation** for most of Nova Scotia, eastern New Brunswick, and a small part of eastern P.E.I. **Equal chances** of below-, near-, or above-normal precipitation were forecast for the rest of the region including all of New England. An increased risk of wildfires is expected to continue in Maine and New Hampshire in September.



CPC temperature map (above left) produced August 21. ECCC temperature map (above right) produced August 31.

ENSO

ENSO-neutral conditions continued to be present in the equatorial Pacific Ocean as of early September. According to NOAA's Climate Prediction Center, a transition to **La Niña is likely**, with a 71% chance of La Niña during October–December and a 54% chance during winter 2025–26. This is likely to be a weak La Niña event.



Atlantic Hurricane Season

	Updated 2025 Atlantic Season Outlook	1991-2020 Average Season
Number of Named Storms	13-18	14
Number of Hurricanes	5-9	7
Number of Major Hurricanes	2-5	3

NOAA's updated 2025 Atlantic hurricane season outlook favors an **above-normal season**. This is due to factors like ENSO-neutral conditions and warmer-than-normal Atlantic ocean temperatures. The Atlantic hurricane season runs from **June 1 through November 30**, peaking from mid-August to late October. There were six named storms during summer, which is near the long-term average for late August. The first (major) hurricane of the season, Erin, brought rough surf and rip currents to Nova Scotia and Maine where some beaches were closed.The Northeast Regional Climate Center's webinar in August 2025 focused on the updated hurricane outlook.

Gulf of Maine Partners

Northeast Regional Climate Center

National Oceanic and Atmospheric Administration

Environment and Climate Change Canada

Gulf of Maine Council on the Marine Environment, Climate Network

Massachusetts Climate Maps and Data Center

Maine Climate Office

To receive this publication every quarter: www.gulfofmaine.org/public/climate-network and climatatlantique-climateatlantic@ec.gc.ca

Contact: Samantha Borisoff (sgh58@cornell.edu)
#RegionalClimateOutlooks

Environment and Climate Change Canada | Environnement et Changement climatique Canada

Gulf of Maine Council on the Marine Environment — Canada and the United States working together for a healthy environment