WAYPOINTS

INFORMING THE FUTURE OF MAINE'S COAST AND ISLANDS

Waypoints is part of Island Institute's effort to gather data and share stories that spur action and provide decision-making support to community leaders. Like the waypoints on a journey or map, thoughtful interpretations of data and science provide navigation points toward community-led solutions.

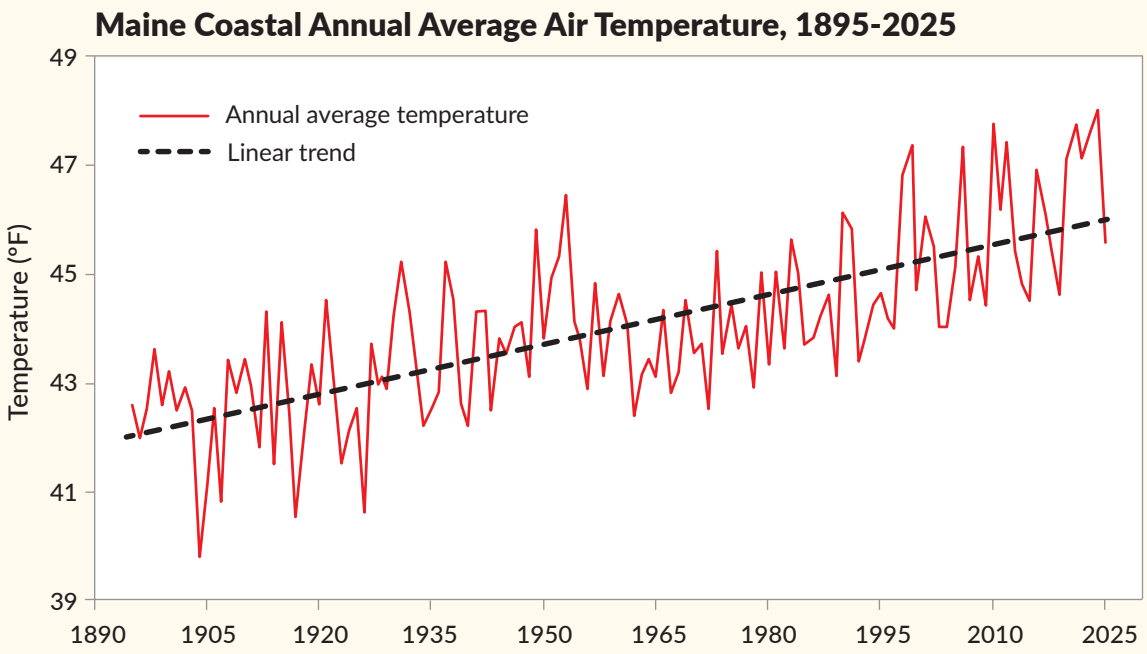
Maine Air Temperature

Maine is heating up

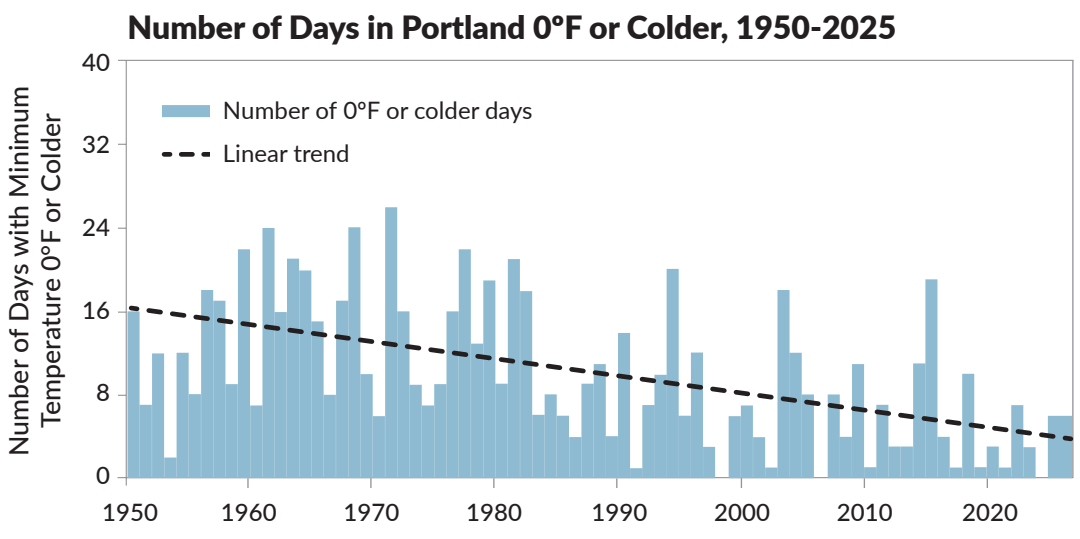
The average warm season since 2010 is about two weeks longer, and winters are about two weeks shorter as compared to the 20th century, creating ripple effects in our state's economy and population's health.

- On average, temperature in Maine has warmed by about 3.5°F since 1895.
- The 10 warmest years on record for Maine have all occurred since 1998, with 2024 as the warmest year on record.

Temperatures are projected to warm by another 2-10°F by 2100, depending upon emissions scenarios.



Data source: National Centers for Environmental Information (NCEI), an office of the National Oceanic and Atmospheric Administration (NOAA)



Data source: NOAA NCEI Global Historical Climatology Network daily (GHCNd)

Warming air temperatures impact our tourism and agriculture economies.

Visitors spent over $9 billion in Maine in 2025 (Maine Office of Tourism), and changing temperatures are expected to influence tourist activities. Fewer freezing days in winter means less snow and ice cover for skiing, snowmobiling, and ice fishing. More warm weather extends fall recreation. The agricultural sector has seen the growing season increase by two weeks since 1950, which affects which crops can thrive in Maine.

On average since 1950, Portland now sees three more days per year 85°F or warmer, and 12 fewer days 0°F or colder.

With more hot days, cases of heat-related illness (HRIs) increase.

Across the U.S., heat-related mortalities tripled between 2016 and 2023. Last summer in Maine, emergency department (ED) visits due to HRIs spiked. This trend continues in 2026, with the week leading up to July 4 already surpassing the highest week of 2025, with 115 ED visits.

Access to cooling protects against HRIs. From 2011 to 2023, the percent of Mainers with air conditioning (A/C) in their homes increased from 53% to 78%, bringing Maine closer to the national average (88% in 2020). But, the level of protection varies by county and income; 84% of homes in York County have some sort of A/C, compared to only 62% of Hancock County residents (data from 2023).

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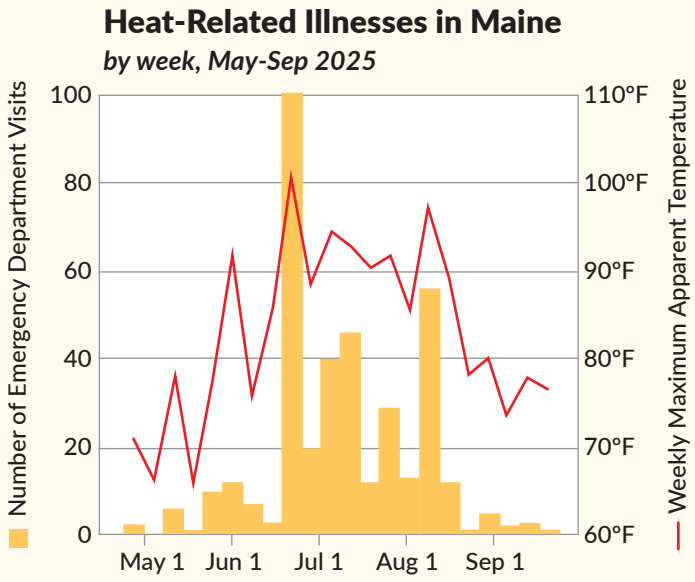
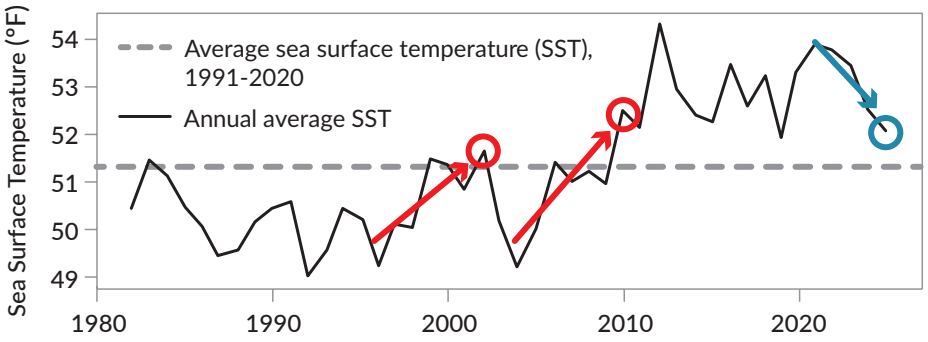


Data source: Maine Tracking Network, Maine Center for Disease Control and Prevention

A newly released *Extreme Temperature Response and Resilience: A Guidebook for Maine Communities* from the Maine Center for Disease Control and Prevention can be found by using the QR code.

Gulf of Maine Temperature

Annual Average Sea Surface Temperature for Gulf of Maine, 1982-2025



The 2025 temperature (blue circle) was similar to temperatures in 2002 and 2010 (red circles), though they come at the end of warming (red arrows) versus cooling (blue arrow).

Data Source: NOAA Optimal Interpolation Sea Surface Temperature V2 High Resolution Dataset. Figure generated by Gulf of Maine Research Institute.

Recently cooler, but still very warm

The Gulf of Maine has been in a warm state, with sea surface temperatures above the long-term average since 2010. While temperatures have been cooler than recent peaks during the past several years, they have remained warm compared to preceding decades.

Baselines matter!

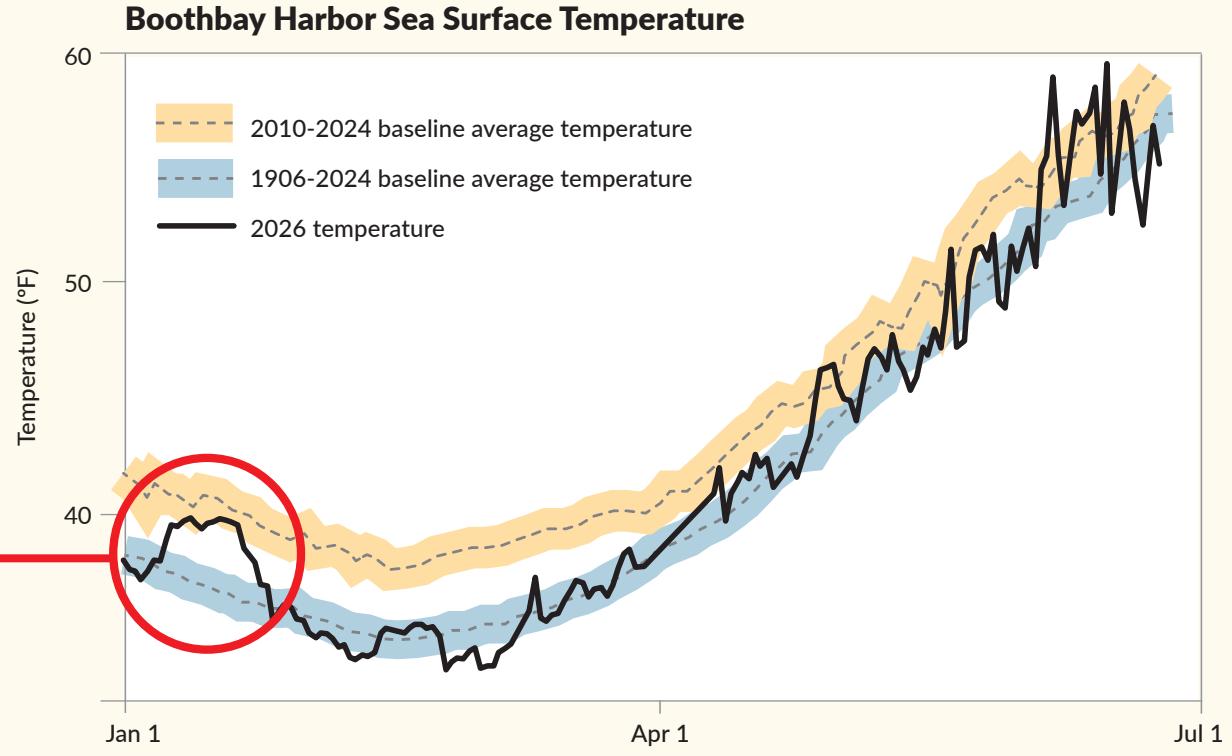
Baselines are the years used to represent reference conditions. As seen in the chart to the left, sea surface temperatures in the Gulf of Maine have been above the long-term average since 2010. Given the warm temperatures from 2010 to 2025, the 2025 temperature seems cool, as it is one of lowest temperatures during that period. Yet, the 2025 temperature was on par with those experienced in 2010 and 2002. Given that temperatures from 1982 to 2010 were cooler, those two years felt warm.

Temperature can be perceived differently, depending upon the baseline against which it is compared.

The 2026 sea surface temperatures in Boothbay Harbor are another example of why baselines matter. January 2026 sea surface temperatures in Boothbay Harbor were cool when compared to the years 2010-2024, however when compared to the long-term average dating back to 1906, the 2026 temperatures were warmer.

In January 2026, you may recall seeing more sea ice than in recent memory. Yet, when comparing temperatures to the early 1900s and sea ice extent between the two periods, 2026 was actually quite warm and sea ice was thin and patchy relative to the ice in the early 1900s when people could walk, ice skate, drive a car, or even pull a house across coastal Maine bays during many winters.

Boothbay Harbor Sea Surface Temperature



Data source: Department of Marine Resources Boothbay Harbor Environmental Monitoring Program

Why the warm, then the pause?

Three major water masses enter the Gulf of Maine, and their characteristics are very different. These include warmer, saltier water derived from the Gulf Stream, and cooler, fresher water from the north which arrives from Scotian Shelf Water at the surface and Labrador Slope Water at depth. Since 2010, Gulf Stream water has been the predominant water mass entering the Gulf of Maine, but since late 2023 there has been a shift back towards a greater influence of colder, fresher water from the north. These broader oceanographic changes have resulted in the pause in warming that we are currently experiencing. Some models predict this pause may endure through 2030. These changes have major impacts on species including cod, lobster, right whales, northern shrimp, seabirds, green crabs, longfin squid, black sea bass, and many others.

Oceanographic changes set up the possibility of new and unexpected conditions that impact management of fisheries, aquaculture, protected species, marine recreation, and transportation. While some warm-water species may decline during this short-term cooling, it does not necessarily imply a sustained return to pre-2010 conditions.

BOTTOM LINE

Air and ocean warming are driven by climate change. Changes in atmospheric and oceanic currents, like jet streams and the Gulf Stream, influence short-term events, like cold snaps or ocean cooling, but the long-term trend of warming remains.

For more information on these and other indicators of climate change in Maine, use the QR code for the Maine Climate Council's Scientific and Technical Subcommittee's *2026 Interim Climate Science Report*.