



NE CASC

Northeast Climate Adaptation Science Center

Protecting Maine's Resources for a Safer, Brighter Future

Northeast Climate Adaptation Science Center (NE CASC) research shows how climate impacts threaten our natural and cultural resources, and helps managers adapt to key challenges, including:

- **Range-shifting invasive species** are threatening forests, freshwater, and coastal ecosystems.
- **Increased coastal flooding** due to rising sea levels and more frequent storms is damaging infrastructure.
- More frequent extreme heat events and summer droughts **increase mortality in fish and wildlife** and decrease agricultural productivity.
- Shifting seasons are **disrupting the migration** of fish and wildlife species.



92+
research projects
in Maine

150+
early career
researchers
trained

12
agency, organization,
and Tribal Nation
partnerships
in Maine

SINCE 2012...

What We Do at NE CASC

- Help **federal, state, and Tribal agencies** prepare for floods, droughts, and other extreme weather events.
- Assess the **vulnerability of fish, wildlife, and their habitats** to changing climate conditions.
- Incorporate cutting edge science into **conservation planning** to improve ecological resilience.
- Prepare **early-career researchers** to develop science that serves natural and cultural resource managers.

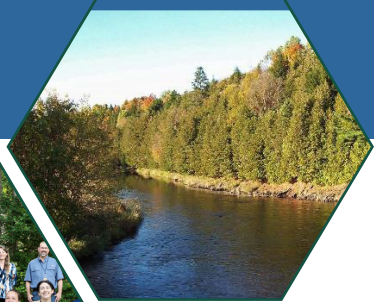
Who We Are

NE CASC is part of a network of nine regional climate adaptation science centers managed by the U.S. Geological Survey National Climate Adaptation Science Center and is hosted by the University of Massachusetts Amherst. Our affiliated partners include Columbia University, Cornell University, University of Vermont, Woodwell Climate Research Center, United South and Eastern Tribes, Inc., and the USFS Northern Research Station.

NE CASC Successes in Maine

ADVANCING ADAPTATION PLANNING THROUGH TRIBAL PARTNERSHIPS

- Supporting cultural preservation by studying [impacts to wetland plants](#) used for basketmaking and medicinal harvesting in the Meduxnekeag River watershed, in collaboration with the Houlton Band of Maliseet Indians.
- Developed a [Wabanaki Adaptation Guidebook](#) and a **Regional Tribal Network**, led by UMaine researchers and Wabanaki Tribal Nations, to support Tribal capacity to adapt to a changing climate.
- **Building capacity for research and monitoring of salt marshes** with the Passamaquoddy Environmental Department. NE CASC produced a video documenting this effort, which has led to **additional external funding** for the Tribe.
- Partner with the United South and Eastern Tribes (USET) to support an annual [Tribal Climate Resilience Camp](#), which brings together representatives from Tribal Nations to **share technical expertise and advance adaptation planning**.



MANAGING INVASIVE SPECIES

- [Developed thermal calendars](#) for the invasive emerald ash borer to help state and Tribal managers more effectively time their control efforts.
- Synthesized climate-smart invasive species practice through the collaborative [Northeast Regional Invasive Species & Climate Change \(RISCC\) Network](#) to support proactive management in Maine.

“NE RISCC research helped the state make crucial decisions regarding potentially invasive plants... Maine has found the work done by NE RISCC highly valuable.”

- Gary Fish, Maine State Horticulturist

SUPPORTING MAINE'S COASTAL ECONOMY

- [Using innovative methods in partnership with shellfish harvesters](#) to document ongoing changes to tidal mudflats and create strategies to help the harvesting community adapt to sea level rise and a changing climate.
- **Co-producing scientific tools and salt marsh restoration strategies** with coastal communities from the [Maine-Canada border with the Passamaquoddy Tribe of Sipayik](#) to the Acadia region and Casco Bay with [Maine Coast Heritage Trust and the Cousins River Marsh Collaborative](#). These collaborations are generating actionable science that **supports coastal restoration, protects coastal communities, preserves fisheries habitat, and sustains Maine's recreational and working coastlines**.

PROTECTING WILDLIFE

- Collaborated with Maine Department of Inland Fisheries & Wildlife to **incorporate climate information into 2025 revisions of [State Wildlife Action Plans](#)**, helping Maine better prepare for changing environmental conditions.
 - Developed the science to **inform adaptive management strategies for federally listed species**, including Canada lynx.



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