

Tribal Engagement



NECASC

Northeast Climate Adaptation Science Center

The USGS Northeast Climate Adaptation Science Center (NE CASC) works with Tribes to understand climate change impacts and adaptation priorities for Tribal Nations and Indigenous communities within the region.

NE CASC Academic Consortium and the 25 Federally Recognized Tribal Nations overlapping with NE CASC

Federally recognized Tribal Nations
Academic Consortium

- 1 University of Vermont
- 2 University of Massachusetts, Amherst
- 3 Woodwell Climate Research Center
- 4 Cornell University
- 5 Columbia University
- 6 USFS Northern Research Station



What do we do?

- Scientific research to help inform conservation actions and support conservation planning
- Investigate climate change impacts on wildlife and their habitats on land and in water
- Seek opportunities for climate adaptation planning and community resilience
- Build capacity to respond to climate change through partnerships and training the next generation of scientists
- Provide technical support and guidance for framing projects and seeking funding opportunities

We study:

Forests



Shifting distribution of species, spread of invasives, and impact of droughts

Coasts



Sea level rise, erosion & impacts on salt marshes, shellfish beds, and mudflats

Rivers & Streams



Changes in flow & temperature and response of cold water fish

Lakes



Impacts of nutrient loading, deoxygenation and warming on water quality and fish

Example projects and collaborations:

[Invasive Emerald Ash Borer and Impacts on Traditional Wabanaki Basketmaking](#)

This ongoing project examines ecological impacts of several introduced and expanding forest insects and diseases on forest habitats across the Northeast. Invasive emerald ash borer impacts the quality of stands of brown ash, which are used by Wabanaki Nations in the traditional practice of basketmaking. Researchers are working with Wabanaki Tribes and the Maine Indian Basketmakers Alliance to treat invasives and protect cultural practices.



USET Tribal Climate Resilience Camp 2024 (Michelle Jewell, SE CASC)

[Climate Effects on the Culture and Ecology of Sugar Maple](#)

This completed project addresses the impact of climate on the quality of maple sap used to make maple syrup. Informed by the needs of tribal, state and federal resource managers, and maple syrup producers, the research team examined the chemical composition of sap collected throughout the northeast and compared this to variation in climate across the region. Projections are available for maple syrup quality under future climate conditions and under a variety of management strategies.

[Increasing Tribal Adaptation Capacity for Coastal Resources in the Northeast](#)

Fish that migrate between fresh and salt waters, including river herring and American eels, are integral to coastal tribal cultures. Strong declines in their populations over recent decades have decreased access to traditional subsistence foods and cultural heritage. This project collaborated with Northeast Tribal Nations to adapt coastal resources to climate change impacts in order to restore, protect, and adapt Tribal Trust Resources.

[Working with United South and Eastern Tribes \(USET\) to provide information and technical support](#)

NE CASC works with Tribal Community Resilience Liaisons at the United South and Eastern Tribes (USET) to provide information and technical support to Tribal Nations conducting climate change vulnerability assessments and adaptation plans. NE CASC also partners with USET to support events like the Tribal Climate Resilience Camp, an opportunity for representatives from Tribal Nations within the USET footprint to come together and discuss adaptation plans, funding opportunities, and climate-related challenges facing their communities.

[Center for Braiding Indigenous Knowledges and Science \(CBIKS\)](#)

NE CASC partnered with the Center for Braiding Indigenous Knowledges and Science (CBIKS), also based at host institution, UMass Amherst. The NSF-funded international center is focused on connecting Indigenous knowledges with mainstream “Western” sciences to address some of the most pressing issues in new ways, including dire impacts affecting land, water, plant and animal life, the danger posed to irreplaceable archaeological sites, sacred places and cultural heritage, and the challenges of changing food systems, all of which disproportionately affect Indigenous communities. NE CASC university co-director Jon Woodruff serves as a co-principal investigator at CBIKS.

We want to hear from you!

What are some of the climate-related issues that impact your Tribal Nation?

What information or tools could support your climate adaptation and resilience efforts?

If your Tribal Nation is developing a climate change vulnerability assessment/adaptation plan, how could climate science or partnerships benefit these plans?

NE CASC Tribal Liaisons



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Learn more at:
necasc.umass.edu



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