



Eastern Turtle Island Climate Change Newsletter

February 2018

O'GVAḶḶḶ TSḶḶḶḶ (U-Wa-Do-Hi-Ya-Dv I-De-He-Sdi) “Let us live in peace.” – Cherokee

Welcome to the Eastern Turtle Island Climate Change Newsletter, a publication from the United South and Eastern Tribes (USET), College of the Menominee Nation Sustainable Development Institute (CMN-SDI) and the Northeast and Southeast Climate Science Centers (NE CSC/SE CSC). This monthly newsletter provides information on *climate news, funding opportunities, student opportunities, upcoming events (conferences, workshops, webinars)* and *current climate conditions and outlooks* for eastern Turtle Island (North America).

Our Highlighted Stories: Native Fire Management

Native Fire Management Returns to the Apostle Islands, Ojibwe territory in northern Wisconsin

The [Apostle Islands](#) are a group of islands within the traditional lands and waterways of the Anishinaabe, or more specifically, the Ojibwe of the Lake Superior shores of Minnesota, Wisconsin, and Michigan. Today the islands are managed by the Apostle Islands National Lakeshore in northern Wisconsin. With a desire to restore Native cultural practice of rotational burning and to address dangerous fuel build-ups, Park Ranger, Damon Panek (White Earth Ojibwe) began to interview



Tribal elders from the nearby [Red Cliff Band of Lake Superior Chippewa](#) to aid in the development of a culturally sound fire management plan for the park. Now after 2-3 generations, Native fire management has returned to the islands with the assistance of traditional culture keepers that conduct appropriate pre-burn ceremonies and the National Park Service, Bureau of Indian Affairs, and US Forest Service fire crews to implement the prescribed burning. This has returned Native fire management as a traditional practice and thus the restoration of habitat and maintenance of local sustenance such as blueberries and other wild foods. Read more at <http://www.glifwc.org/Mazinaigan/Winter%202017/inc/pdf/flipbook.pdf>.

Restoring Habitat with Fire: Mashpee Wampanoag Tribe and Partners in Mashpee, Massachusetts

In 2014, the [Mashpee Wampanoag Tribe – Natural Resources Department](#) with local, state and federal partners also initiated a project to reduce hazardous fuel loads and to restore habitat in the woodlands of the Mashpee National Wildlife Refuge and the Mashpee Wampanoag Tribe. Nearly 400 years earlier, the English colonists noted in their writings that the Wampanoag and other Native peoples on the East Coast routinely burned, often twice per year to restore habitat, fields, and to enable the propagation of wild foods and medicines (Thomas Morton, 1637). Managed prescribed burning in Mashpee, Massachusetts has restored habitat for the New England Cottontail and revived many dormant plant and insect species. See a short video on the project at <https://www.youtube.com/watch?v=9dpJ0CrJ1s4>.

Other News

USET and the University of North Carolina – Asheville sign an agreement to support Native college students

The United South and Eastern Tribes Inc. (USET) and the University of North Carolina at Asheville (UNC-Asheville) have signed an agreement to collaborate on an education initiative to support Native undergraduate students and enhance Indigenous cultural research across the southern and eastern United States. Specifically, Native undergraduate students from USET-member Tribal nations will be considered resident students and be eligible for North Carolina in-state tuition. UNC-Asheville has majors in atmospheric science, environmental science, and other sciences as well as an American Indian & Indigenous Studies minor. More on the story can be found at <https://mountainx.com/blogwire/uset-and-unc-asheville-sign-education-agreement-for-native-americans/>.

New NASA ESTEEM Audio Story on Fond du Lac Tribal and Community College

This episode features Fond du Lac Tribal and Community College and the three women at the heart of their NASA ESTEEM funded project “Gidakiimanaaniwigamig,” translated from Ojibwe to mean “Our Earth Lodge.” The project consists of a series of highly effective Science, Technology, Engineering, and Math (STEM) camps for kids along with the opportunity for students attending Fond du Lac Tribal and Community College to be engaged in NASA Internships. The focus of these camps is climate and earth systems science. Listen here:

<https://www.nasa.gov/education/esteem/soundbite/fdlctc>.

Climate Change Vulnerability Assessment Published for Forests in New England and Northern New York

The Northern Institute of Applied Climate Science and USDA Forest Service has just published a new report describing the anticipated effects of climate change on forest ecosystems across the region. The report, [New England and Northern New York Forest Ecosystem Vulnerability Assessment and Synthesis](#), will be presented in a [webinar on February 22](#) and will be hosted by the Forest Stewards Guild.

Tribal Nations in Virginia Receive Federal Recognition through the Thomasina E. Jordan Indian Tribes of Virginia Federal Recognition Act of 2017

The six Tribal Nations of the Chickahominy Indian Tribe, the Chickahominy Tribe-Eastern Division, the Upper Mattaponi Indian Tribe, the Rappahannock Tribe, the Monacan Indian Nation, and the Nansemond Indian Tribal Association received federal recognition through the passage of H.R. 984, “the Thomasina E. Jordan Indian Tribes of Virginia Federal Recognition Act.” The bill was introduced in 2017 by US Congressman Rob Wittman from Virginia’s 1st District and signed into law by the President on January 29th, 2018. These six Tribal Nations in Virginia (along with the Pamunkey Indian Tribe) are among the 57 federally recognized Tribal Nations within the region served by the Northeast Climate Science Center. For more see: <https://indiancountrymedianetwork.com/news/politics/now-573-six-va-tribes-get-federal-recognition-president-signs-bill/>.

Funding Opportunities and Resources

National Conservation Innovation Grants (CIG): Funding Opportunity #: USDA-NRCS-NHQ-CIG-001

Applications due February 26, 2018. The USDA-NRCS uses CIG to work with partners to accelerate transfer and adoption of promising technologies and approaches that address some of the nation’s most pressing natural resource concerns. This year, NRCS is focusing funding in these areas:

1. **Grazing Lands:** Helping livestock producers make grazing management decisions, encouraging prescribed burning as a grazing management practice, and improving access to conservation planning tools used for developing grazing management plans.
2. **Organic Agriculture Systems:** Helping organic producers develop innovative cropping and tillage systems, edge-of-field monitoring, crop rotations and intercropping systems.
3. **Soil Health:** Supporting both cropping and grazing systems, in a variety of climatic zones, that incorporate soil health management systems for addressing specific resource concerns like nutrients and availability. Evaluating multiple soil health assessment methods to assist in the development of new soil health indicators and thresholds.

<https://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/newsroom/releases/?cid=NRCSEPRD1370829>

NOAA Coastal Resilience Grants

Pre-Proposal Deadline March 7 (Full Proposals will be due in May). The NOAA Coastal Resilience Grants program invites projects for habitat restoration to build resilience by conserving and restoring sustainable ecosystem processes and functions; and reducing vulnerability of coastal communities and infrastructure from impacts of weather events, climate hazards, and changing ocean conditions. Projects are for 1-3 years and requests for funding

may range from \$75,000 to \$2 million. Federal funds must be matched 2:1 with non-federal funding or “in-kind services” (<https://www.fisheries.noaa.gov/grant/noaa-coastal-resilience-grants>).

NOAA Great Lakes Habitat Restoration Project Grants

Deadline March 12. The NOAA Great Lakes Habitat Restoration Project Grants provide federal financial and technical assistance to habitat restoration projects that both meet NOAA’s mission to restore coastal habitats and support the Great Lakes Restoration Initiative goal to protect and restore habitats to sustain healthy populations of native fish species in the eight U.S. Great Lakes states (<https://www.fisheries.noaa.gov/grant/2018-great-lakes-restoration-initiative-funding-opportunity>).

EPA Environmental Education (EE) Local Grant Program: Funding Opportunity #: EPA-EE-18-01 (EPA Region 1), EPA-EE-18-02 (EPA Region 2), EPA-EE-18-03 (EPA Region 3), EPA-EE-18-04 (EPA Region 4), EPA-EE-18-05 (EPA Region 5), and EPA-EE-18-07 (EPA Region 7). **Proposals due March 15, 2018.** The EPA will award three to four grants in each of EPA’s ten regions, for no less than \$50,000 and no more than \$100,000 each, for a total of 30-35 grants nationwide. The EE Local Grant Program includes support for projects that reflect the intersection of environmental issues and agricultural best-practices, conservation of natural resources, food waste management, and natural disaster preparedness. Competitive proposals would consist of projects that design, demonstrate; and/or disseminate environmental education practices, methods, or techniques, that will serve to increase environmental and conservation literacy, and encourage behavior that will benefit the environment in the local community/ies within the proposals (<https://www.epa.gov/education/environmental-education-ee-grant-solicitation-notice>).

Wild Rice (Manoomin) Education and Outreach Toolkit for Lake Superior Audiences

Closing Date: March 25, 2018. This competition is only open to Michigan Sea Grant, Minnesota Sea Grant, and Wisconsin Sea Grant. This competition seeks projects that meet the general goal of sustaining and protecting coastal wetland resources to meet existing and emerging needs of the communities, economies and ecosystems that depend on them (<http://seagrant.noaa.gov/Portals/1/WildRiceOutreach-SpecialProjects-Jan252018-Manoomin.pdf>).

NOAA Environmental Literacy Grants: Supporting the Education of K-12 Students and the Public for Community Resilience

Closing date: April 6, 2018. The National Oceanic and Atmospheric Administration (NOAA) is accepting applications to support the education of K-12 students and the public so they are knowledgeable of the ways in which their community can become more resilient to extreme weather events and/or other environmental hazards and become involved in achieving that resilience. Projects through these grants should build the environmental literacy necessary for communities to become more resilient to extreme weather and other environmental hazards they face. Eligible entities include state, local, and Tribal governments (<https://www.grants.gov/web/grants/view-opportunity.html?oppld=298495>).

USDA-Rural Development Emergency Community Water Assistance Grants: Code of Federal Regulation #: 7

CFR 1778. **Applications accepted continuously.** The USDA Office of Rural Development provides funds to help communities prepare, or recover from, an emergency that threatens the availability of safe, reliable drinking water. These emergencies include: droughts, floods, earthquakes, tornadoes, hurricanes, disease outbreaks, chemical spills-leaks-seepage, or other disasters. Up to \$150,000 may be used to construct waterline extensions, repair breaks or leaks in existing water distribution lines, and address related maintenance necessary to replenish the water supply and up to \$500,000 may be used to construct a water source, intake or treatment facility. Entities eligible to apply are state-local government entities, non-profit organizations, or federally-recognized American Indian Tribes. The area must be a rural community (towns or area with a population less than 10,000) and must also have a median household income less-than the state’s median household income for non-metropolitan areas. **Note: A federal disaster declaration is not required to apply for this funding.**

<https://www.rd.usda.gov/programs-services/emergency-community-water-assistance-grants>

NOTE: More Funding Opportunities can be found at the Institute for Tribal and Environmental Professionals (ITEP) Tribes & Climate Change website: <http://www7.nau.edu/itep/main/tcc/Resources/funding>. Also, see the Tribal Climate Change Guide maintained by the Pacific Northwest Tribal Climate Change Project at the University of Oregon: <http://tribalclimateguide.uoregon.edu/>.

Youth & Student Opportunities

5th Annual Native Youth in Food and Agriculture Leadership Summit

Priority Application Deadline March 1, 2018 (students who apply by March 1st will receive additional points in the selection process), **Final Application Deadline March 15, 2018.** The University of Arkansas School of Law is taking applications from American Indian, Alaska Native and Native Hawaiian youth for its fifth annual Native Youth in Food and Agriculture Leadership Summit to held June 7-14 in Fayetteville, AR. Youth between the ages 15 and 18,

including recently graduated high school seniors, who are passionate about food and agricultural production and have the courage to lead their Tribes and communities into the future are encouraged to apply. For more information please see <http://indigenousfoodandag.com/applications-open-for-2018-native-youth-in-food-and-agriculture-leadership-summit/>.

France: Research Training in Paleoclimate

Applications Due March 1, 2018. Study and conduct research alongside geology professors from OU and the University of Nantes (France), in both Oklahoma and France. The IRES program specifically targets U.S. science and engineering students from underrepresented populations, and this research program seeks to foster increased representation of students of Native American heritage in geoscience. We also strongly encourage first-generation college students to apply. The program will involve a series of meetings in preparation for summer field and lab work, followed by travel to France for the field program, and approximately one week of follow-up work at OU for preparation of results. For students who may be interested in this program, but cannot apply for the 2018 season, note that we expect to issue a call for applicants for a 2019 and a 2020 run of the program, please see <http://franceires.isoreghan.oucreate.com/Research/>.

Contribute a story to the Early Career Climate Forum

The Early Career Climate Forum (ECCF: <http://eccforum.org/>) is a web-based platform to facilitate and increase information sharing, networking and effective science communication for early career scholars, managers and scientists across the Department of Interior's Climate Science Centers (CSCs), affiliates, and stakeholders. The ECCF is interested in blog posts about climate adaptation written by students and early career professionals from East Coast and Midwestern Tribal Nations. To sign up for the ECCF listserv and receive daily updates on jobs, fellowships, new research, and other professional development resources, send an email to info@eccforum.org; to read our latest blog go to <http://eccforum.org/>. For more information please contact Michelle Staudinger (mstaudinger@usgs.gov) Follow us on [Facebook](#) and Twitter [@ECCForum](#).

Upcoming Webinars, Events and Trainings

WEBINAR: Ethical Standards of Practice for Engaging Indigenous Knowledges in Climate Research:

February 22, 2018, 4:00 PM Eastern Standard Time. How are climate research studies including Indigenous knowledge systems and communities who hold them? There are few studies that report on research outputs directly serving Indigenous communities, conducting ethical guidelines for research practice, or providing community access to findings. This webinar will share guiding questions for research practice in Indigenous communities and provide a summary on examples of ongoing community-based, participatory climate studies occurring within Native communities. The presenter will be Dominique David-Chavez (Arawak Taíno), a Ph.D. candidate at Colorado State University working with her family's Indigenous community in the U.S. Caribbean on developing and implementing an Indigenous community-based climate research model.

To join call 844.467.6272 and enter the passcode 207485#. Click on: <https://ac.arc.nasa.gov/epo/> (Firefox or Chrome work well). Note this is an Adobe Connect webinar. Select "enter as guest" and then type your name – you will then enter into the online meeting. If you have any issues, please call (408.829.8430) or email Michael Toillion (michael.toillion@nasa.gov).

WEBINAR: Climate Vulnerability Assessment Findings and Management Practicalities for Forests in New England and Northern New York: February 22, 2018, 1:00 PM Eastern Standard Time. The USDA Forest Service has published a new report "*New England and Northern New York Forest Ecosystem Vulnerability Assessment and Synthesis: A Report from the New England Climate Change Response Framework Project*," describing how climate change is expected to affect the 40 million acres of forest found in the region. A webinar will be hosted on the key findings of the report. Register at: <https://www.forestquild.org/node/551>.

WEBINAR (Series): Air Quality Planning for Wildfires and Wildland Smoke:

Wildfires are not limited to Western North America. In 2016, approximately 90,000 acres burned within the states of Alabama, Georgia, North Carolina, South Carolina, and Tennessee. In 2007, 124,000 and 564,000 acres burned in Florida and Georgia (the largest in both states' histories). The EPA and the Institute for Tribal Environmental Professionals (ITEP) will be hosting a series of free webinars on Air Quality Planning for Wildland Smoke. **To Register** for these 90-minute webinars, send an email to: baldwin.joyce@epa.gov. In your email, you may request registration for a particular webinar or for all of them. If you have questions about registration, please call Regina Chappell at 919-541-3650.

March 1, 2018, 2:00 pm EASTERN STANDARD TIME

Presentations: (1) *The Yurok Tribe's Wildfire Disaster Response and Reintroduction of Prescribed Fire to Help Prevent Future Wildfires*; (2) *Preparing for the Next Wildland Fire Season*

March 15, 2018, 2:00 pm EASTERN DAYLIGHT TIME

Presentations: (1) *Residential and Community Strategies to Prevent Forest Fire Smoke Exposures*; (2) *Industrial Air Scrubbers During Wildfire Conditions: A Public Health Intervention*; (3) *Protecting the Health of Pets and Livestock*

6th Annual Workshop Rising Voices “Collaborative Science with Indigenous Knowledge for Climate Solutions. Rising Together: Mobilizing and Learning from Local Actions”

April 11-13, Duluth, MN. The theme of the workshop is “Rising Together: Mobilizing Learning from Local to Global.” For more information, please visit <https://risingvoices.ucar.edu/> or contact: [Heather Lazrus](#), [Julie Maldonado](#), or [Heather Stirratt](#) for more information.

Association of State Wetland Managers Annual State/Tribal/Federal Coordination Meeting.

April 11-12, 2018, Silver Spring, MD. The purpose of this annual meeting is to support state and Tribal wetland program managers, federal agencies and other wetland professionals as they respond to challenges in the coming year. Limited scholarship assistance available to those in need to help defray travel, registration and lodging expenses. The deadline for submitting a request is **March 16**. Please visit the Association of State Wetland Managers webpage at www.aswm.org (Please copy and paste web address to access the site).

14th Annual Southeast Indian Studies Conference

April 12-13, Pembroke, NC at the Museum of the Southeast American Indian. This conference will provide a forum for discussion of the culture, history, art, health and contemporary issues of Native Americans in the Southeast. The 2018 conference will also host keynote speaker Dr. Ryan Emanuel, enrolled citizen of the Lumbee Nation and Associate Professor with the Department of Forestry and Environmental Resources at North Carolina State University. Dr. Emanuel will speak on the environmental challenges ranging from proposed gas pipelines to climate change that impact Southeastern Tribal Nations and how these Tribal Nations, are demonstrating creativity and resilience in dealing with these challenges. Please see the website for more information:

<http://www.uncp.edu/academics/colleges-schools-departments/departments/american-indian-studies/news-events/southeast-indian-studies-conference>.

2018 Local Solutions: Eastern Climate Preparedness Conference

April 30 – May 2, Manchester, NH. This conference will cover a range of climate preparedness and resiliency issues such as: sea level rise, urban heat, and both coastal and inland flooding issues. Please see the website for more information: <http://www.communityresilience-center.org/conferences/local-solutions-conference-2018/>.

2018 National Conference of the Native American Fish and Wildlife Society (NAFWS)

May 8-10, Warwick, RI. This year's NAFWS National Conference will be hosted by the Narragansett Indian Tribe. The NAFWS is calling for papers for presentation on areas that include, but are not limited to: Climate Change, Conservation Law Enforcement/Training, Fisheries Management, Wildlife Management, Environmental Protection, and Youth Programs. Please see the website for more information: <http://www.nafws.org/events/national-conference>. If you would like to be a Presenter at the conference or to assist on the conference planning, please contact Dinalyn Spears at dspears@nitribe.org/dinalynsp@gmail.com and/or Sasha Hoskia at shoskie@nafws.org.

2018 National Tribal Forum on Air Quality (NTF)

May 14-17, Duluth, MN. This forum provides a venue for Tribal environmental professionals, EPA representatives, and other agencies/organizations to meet and discuss current policies, regulatory initiatives, technical topics in air quality. Please see the website for more information: http://www7.nau.edu/itep/main/conferences/confr_ntf.

2018 Carolinas Climate Resilience Conference (CCRC)

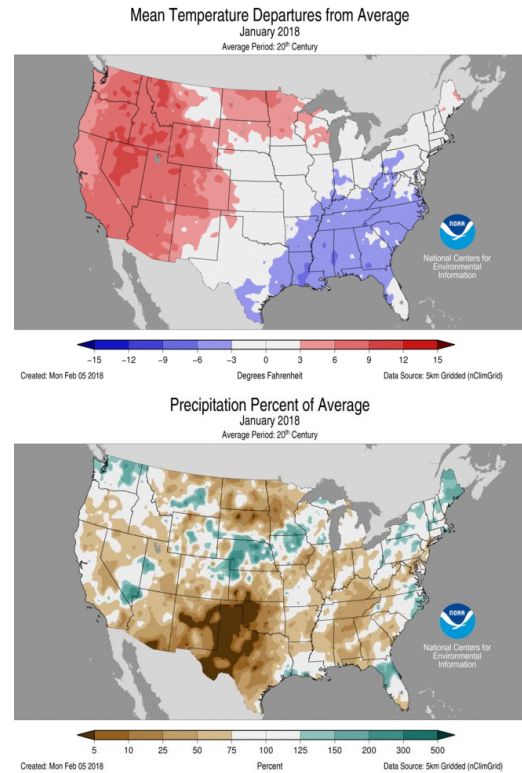
September 17-19, Columbia, SC. The presentation submission deadline will be **April 13, 2018**. The Carolinas Climate Resilience Conference will provide a platform to share experience and knowledge of opportunities, tools, resources, local initiatives, and expertise to foster real-world solutions to climate adaptation in the Carolinas. Please see the website for more information: <http://www.cisa.sc.edu/ccrc/index.html>

Climate Analysis & Forecast

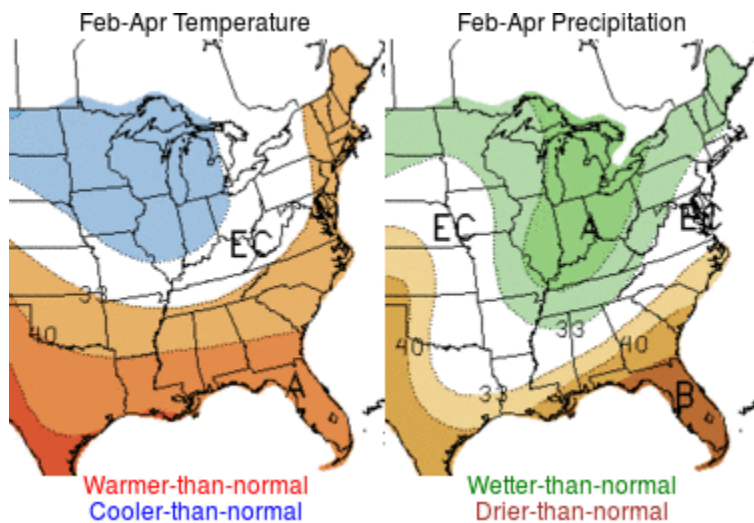
January – A month of swings in extremes: What happened?

January took us on a roller coaster of extremes, with a cold early part of the month to warmer-than-average in the latter part, with wild swings throughout. *Why?* In early January, flows in the upper atmosphere were more wavelike with air reaching far into the arctic and carrying that air down to our latitudes. In contrast, flows during the latter part of the month were more streamlined, resulting in warmer conditions. Each week of January alternated between these two states, resulting in the wild swings in extreme temperatures we experienced. Overall January experienced above average temperatures across the western U.S. and northern Great Plains and below average in the Southeast and Gulf Coast.

For a more detailed description of national and regional temperature and precipitation rankings, check out [NOAA's State of the Climate report for January](#). For a more detailed explanation of the physical drivers behind January's weather, read the [synoptic discussion](#).



Temperature & Precipitation Outlooks



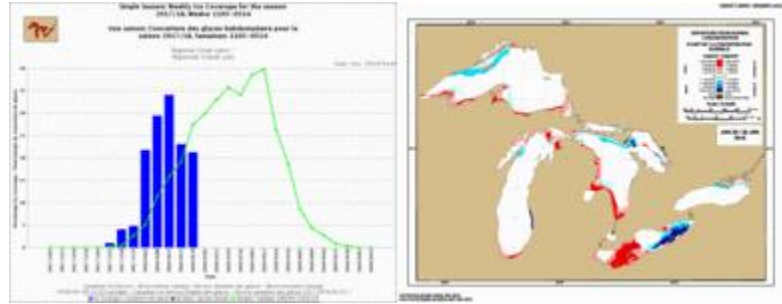
La Niña has peaked and is expected to persist through the winter. La Niña is typically associated with warmer- and drier-than-average conditions in the southern tier and cooler-/wetter-than-average conditions across the North, except for coastal New England where relatively warm and wet conditions are typical.

Temperature predictions show weak probability (only 33-40% chance) of warmer-than-average conditions across the south and cooler-than-average in the Midwest. The highest chances of wetter-than-normal conditions are expected across the Ohio River Valley and Northern tier with a stronger chance for drier-than-normal conditions in the far Southeast.

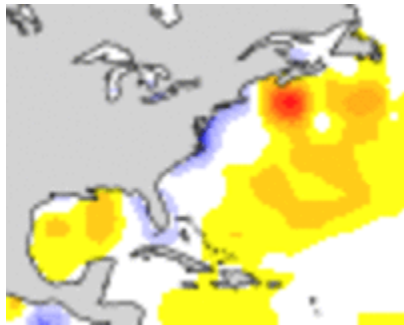
Map description: A = chances skewed toward “above average,” B = chances skewed toward “below average,” and EC = equal chances for above average, average, or below average. Detailed maps, descriptions, and discussion can be found at cpc.noaa.gov.

Great Lakes Ice Cover

After a colder-than-average late December and early January brought rapid ice development — well ahead of normal for the year — a warmer late January melted ice back down to below-normal coverage, now at 22% in total across the 5 lakes (normal = 27%; left panel at right). The largest deficits are in western Lake Erie and along the southern and western coasts of Lakes Superior and Huron, respectively, with above-average ice coverage in eastern Lake Erie (right panel). Current forecasts continue to predict slightly above-average (60%; normal = 55%) total ice coverage for the remainder of the season.



[Current conditions](#) and [seasonal forecast](#) by NOAA GLERL. Figure source: [Canadian Ice Service – Env. Canada](#).



Atlantic Ocean Surface Temperatures

January sea surface temperatures (left, [click for full map and legend](#)) were warmer than average, with a particular hotspot over 3°C (5.4°F) above normal near the Gulf of Maine. Cooler than average sea surface temperatures, likely influenced by January's continental arctic air outbreaks, have developed along the mid-Atlantic coast.

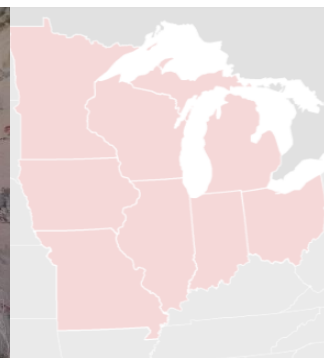
7-day SST anomalies showing the most recent conditions are available from [NOAA National Hurricane Center](#). For short-range (1-4-day forecasts) see the [NOAA Ocean Prediction Center](#).

For more information, or if you would like to see other analyses and forecasts included in this newsletter, contact Alex Bryan, Climate Assessments and Scenario Planning Postdoctoral Fellow, at abryan@usgs.gov.

Eastern Turtle Island Climate Change Newsletter Contributors



Casey Thornbrugh, Tribal Climate Liaison – Northeast & Southeast, United South and Eastern Tribes Inc. and the Northeast and Southeast Climate Science Centers
<https://necsc.umass.edu/people/casey-c-thornbrugh>
cthornbrugh@usetinc.org



Sara Smith, Tribal Resilience Liaison – Midwest & Great Lakes, College of the Menominee Nation and the Northeast Climate Science Center
<https://necsc.umass.edu/people/sara-smith>
ssmith@menominee.edu

Alex Bryan

Climate Assessments and Scenario Planning Postdoctoral Fellow for the Northeast Climate Science Center
abryan@usgs.gov

Cari S. Furiness

Program Manager for the Southeast Climate Science Center
cari_furiness@ncsu.edu

Jeanne Brown

Communications and Outreach Manager for the Northeast Climate Science Center
jeannebrown@umass.edu

Brandy Venuti

Special Projects Coordinator for the United South and Eastern Tribes Inc.
bvenuti@usetinc.org

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