South & Eastern Turtle Island Climate Change Newsletter

Fall 2019

Shekoli (Greetings) – Oneida

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

The Latest News from Summer 2019

USET Holds a Tribal Climate Resilience Summit on the Oneida Indian Nation

The United South and Eastern Tribes – Office of Environmental Resource Management (USET-OERM) held a Tribal Climate Resilience Summit on the Oneida Indian Nation, August 27-29 in Verona, New York. Seventy people including Tribal leaders, professional/ staff, Tribal youth, DOI Northeast and Southeast Climate Adaptation Science Centers (NE/SE CASCs) representatives and other partners convened at the Turning Stone Resort Casino Conference Center. Discussions and presentations included climate change impacts on Tribal Nations within the USET region, Tribal climate adaptation plans as well as opportunities and resources for building resilience within Tribal Nations and communities. Tribal youth, undergraduate, and graduate students gave oral and poster presentations on climate change research projects and examples of climate change resilience projects within their Tribal Nations and communities.

GLIFWC and Partners Receive the 2019 Climate Adaptation Leadership Award!

The Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and partners including the College of Menominee Nation-Sustainable Development Institute (CMN-SDI) and the Northern Institute of Applied Climate Science (NIACS) were awarded the 2019 Climate Adaptation Leadership Award in Natural Resources from the Association of Fish and Wildlife Agencies (AFWA). The award was for the development of the Dibaginjigaadeg Anishinaabe Ezhitwaad: A Tribal Adaptation Menu
(TAM), which is a framework for integrating Indigenous and traditional knowledge, culture, language and history into the climate adaptation planning process. GLIFWC worked closely with partners, Tribal citizens, traditional knowledge keepers, and Tribal natural resource professionals to develop a resource that recognizes the importance of Indigenous values in adaptation planning and building resilience to climate change in Tribal Nations and communities. A copy of the TAM can be found online here. GLIFWC and partners also provide in-person trainings and workshops on implementing the TAM.

The Saint Regis Mohawk Tribe and NIACS Hold a Workshop on Climate Change Adaptation for Northeastern Tribal Nations

The Saint Regis Mohawk Tribe and Northern Institute of Applied Climate Science (NIACS) hosted a workshop focused on climate change adaptation for northeastern Tribal Nations. This workshop was held at the Akwesasne Mohawk Casino Resort on September 10th-11th and provided a dynamic opportunity for Tribal natural resource staff and other professionals to consider how climate change would affect northern forests and other natural and cultural resources. During the workshop, participants drew from both the
NIACS Adaptation Workbook and the *Dibaginjigaadeg Anishinaabe Ezhitwaad: A Tribal Climate Adaptation Menu* (TAM) to develop their own custom-built adaptation projects.

**USET Tribal Leaders discuss Climate Change**

During the United South and Eastern Tribes – Sovereignty Protection Fund’s (USET SPF) 2019 Impact Week in Washington D.C. a panel was held with Chief Robert Gray of the Pamunkey Indian Tribe, Tribal Councilman David Weeden of the Mashpee Wampanoag Tribe and Jerry Pardilla, USET-OERM Director and former Governor of the Penobscot Nation. The panel was moderated by USET Tribal Climate Science Liaison and citizen of the Mashpee Wampanoag Tribe, Dr. Casey Thornbrugh. The panelists spoke of observed climate change on Tribal lands, sea level rise impacts, traditional knowledge and adaptation (excerpt 1 & excerpt 2), the youth and adaptation, and building resilience within Tribal Nations. The full video of the panel can be viewed here.

**BIA Pathways Program Student Interns Joins USET and the NE/NC CASC for Tribal Resilience Work**

The Bureau of Indian Affairs Workforce Planning and Youth Program Coordination Office works through its Pathways Program to recruit Native youth and provide them with internship opportunities within the BIA and various Tribal enterprises across the country.

This summer Tyler Everett joined the USET-OERM team as BIA Pathways Tribal Resilience Intern. Everett is a citizen of the Aroostook Band of Micmacs and assisted this summer in the planning of USET’s Tribal Climate Resilience Summit and worked to affirm USET’s mission of providing technical support to its member Tribal Nations. He also joined as graduate research fellow of the NE CASC and holds degrees in biology and forestry from the University of Maine. He is continuing his research into the impacts of emerald ash borer on ash (Fraxinus) forests across Tribal lands. His research will bring together partners at the University of Maine this fall to demonstrate his ash resource inventory manual and to discuss federal, state & Wabanaki Tribal policies impacting ash forests.

This summer, Jordan Matula joined the Northeast CASC and the North Central CASC teams as a BIA Pathways Program Intern. Jordan is a junior at the University of Nebraska at Omaha (UNO), where she is combining her passions by majoring in biology and minoring in Native American studies. Jordan is a citizen of the Oglala Sioux Tribe in South Dakota and serves as President for UNO’s Inter-Tribal Student Council. As an intern, Jordan assists the CASC Tribal Resilience liaisons with on-going research projects, such as creating educational literature tools addressing species vulnerability to climate change and publishing a monthly Tribal Climate Adaptation Newsletter for the NC CASC. Jordan’s work will provide Tribal Nations in the NC CASC and NE CASC regions to information and resources to perform vulnerability assessments and implement appropriate adaptation strategies for their communities.
The SE CASC is revamping its Tribal Partners Page

The Southeast Climate Adaptation Science Center (SE CASC) has redeveloped their Tribal Partners and Tribal Resources webpages to include important new resources relevant to Tribal and Indigenous communities, as well as a newly developed GIS application. This interactive “Tribal Resources WebApp” contains information about state and federally recognized Tribal Nations in the southeast region, including web links to connect users with a first-hand account of the Tribal Nation’s story. Additionally, phone and email information for designated partners will be highlighted to link users with relevant Tribal climate change adaptation experts.

The University of Massachusetts-Amherst to host the NE CASC for another 5 years!

The Northeast Climate Adaptation Science Center (NE CASC) is pleased to announce that a consortium of universities, led again by the University of Massachusetts-Amherst (UMass), has been chosen to host the NE CASC for a 5-year cycle! Following seven successful years, the NE CASC at UMass is funded until 2024. The NE CASC staff and consortium partners look forward to continuing to provide expertise to address the region’s most pressing climate adaptation challenges for natural and cultural resource managers and Tribal partners.
Connecting Generations & Food Systems: The Aroostook Band of Micmacs Hosted the Intertribal Agriculture Council’s 4th Annual Food Sovereignty Summit

Twenty-two Tribal youth participated in the 4th Annual Intertribal Agriculture Council (IAC)-Food Sovereignty Summit to learn about Indigenous food systems, leadership, and opportunities available to them. The Summit was hosted by the Aroostook Band of Micmacs August 1st-4th. Elected Micmac leadership greeted the youth to their lands and shared some history of the Tribal Nation. In addition to traditional foods, the youth explored pollinator habitat, brown ash basket weaving, Emerald Ash Borer threats to brown ash and steps to ensure that the trees are around for the next seven generations. The Summit was a partnership of the Aroostook Band of Micmacs, IAC, the Boys and Girls Club, Farm Service Agency, and Natural Resources Conservation Service.

The Klamath River now has the Legal Rights of a Person

This summer, the Yurok Tribe declared rights of personhood for the Klamath River — likely the first Tribal Nation to do so for a river in North America. A concept previously restricted to humans (and corporations), “rights of personhood” means, most simply, that an individual or entity has rights, and they’re now being extended to nonhumans. The Yurok’s resolution, passed by the Tribal Council in May, comes during another difficult season for the Klamath; over the past few years, low water flows have caused high rates of disease in salmon, and canceled fishing seasons. To read the full story, visit:

Funding Opportunities and Resources

NOAA Climate Program Office Grants FY 2020 Notice of Funding Opportunity
Deadline October 28. The NOAA Climate Program Office supports competitive research through three major program areas: Earth System Science and Modeling (ESSM); Climate and Societal Interactions (CSI); and Communication, Education and Engagement (CEE). Through this announcement, CPO is seeking applications for 10 individual competitions in FY20. Prior to submitting applications, investigators are highly encouraged to learn more about CPO and its programs, as well as specific program priorities for FY20. Information is available on grants.gov (https://www.grants.gov/web/grants/search-grants.html?keywords=NOAA-OAR-CPO-2020-2006076) and on the NOAA Climate Program Office site (https://cpo.noaa.gov/Funding-Opportunities/FY-2020-Notice-of-Funding-Opportunity).

NOAA Fisheries: Species Recovery Grants for Tribal Nations
Deadline October 31. The NOAA Species Recovery Grants to Tribal Nations support Tribally-led management, research, monitoring, and outreach activities that have direct conservation benefits for listed species under the Endangered Species Act. Recently delisted species, proposed, and candidate species are also eligible. Federally recognized Tribal Nations and organizations of federally recognized Tribal Nations that have delegated authority to represent a federally recognized Tribal Nations on matters relating to ESA listed, candidate, or proposed species. For more information visit:
USDA-NIFA Tribal Colleges Research Grants Program
Deadline November 1. This program was designed to assist 1994 Land-Grant Institutions (Tribal Colleges) in building institutional research capacity through applied projects that address student educational needs and meet community, reservation or regional challenges. Awards are to be made based on a competitive review process. For more information and to apply, click here.

National Indian Health Board (NIHB): Climate Health & Communication Mini Awards
Deadline November 8. The National Indian Health Board (NIHB) with support from the Centers for Disease Control and Prevention (CDC), is pleased to announce a call for applications for a Climate Ready Tribes (CRT) Initiative Mini-Award for Climate and Health Communication. This opportunity is designed to fund up to three (3) American Indian and Alaska Native Tribal Nations to conduct low-cost, local work related to Tribal climate health. Each funded Tribal Nation will receive up to $5000. A pre-application webinar will be held Thursday, October 17, 2019 at 2:00 pm ET to answer questions about this award and the application process. To register for the webinar click here. You may also contact Angelica al Janabi aajlanabi@nihb.org with questions.

NFWF & NOAA Emergency Coastal Resilience Fund
Deadline November 12, 2019. The National Fish and Wildlife Foundation (NFWF), in coordination with the National Oceanic and Atmospheric Administration (NOAA) as per the Supplemental Appropriations Act of 2019 (P.L. 116-20), is announcing the Emergency Coastal Resilience Fund to support projects that increase the resilience of coastal communities impacted by hurricanes Florence and Michael, Typhoon Yutu, and wildfires in 2018. The Emergency Coastal Resilience Fund will support projects that strengthen natural systems at a scale that will increase protection for communities and critical assets against the future impacts of storms, floods, and other natural hazards. For more information, visit: https://www.nfwf.org/coastalresilience/emergency/Pages/home.aspx.

Bureau of Indian Affairs Tribal Resilience Program Funding
Requests for Proposals typically announcement in the Spring/applications due in the Summer. The Bureau of Indian Affairs – Tribal Resilience Program offers funding to federally recognized Tribal Nations and Tribal organizations to hold adaptation and resilience workshops, complete Tribal Nation vulnerability assessments and adaptation plans, to develop plans for coastal resilience, and support for Tribal staff to attend workshops and meetings on adaptation. Calls for proposals are typically released in the spring. Information on the Tribal Resilience Program can be found here. In the meantime, information and a webinar on the spring 2019 call for proposals can be viewed at here for reference and planning.

Upcoming Events, Webinars, and Trainings (listed in order by date)

Conference: AISES National Conference
October 10-12, 2019, Milwaukee, WI. The mission of the American Indian Science and Engineering Society (AIrSES) is to substantially increase the representation of American Indians, Alaska Natives, Native Hawaiians, Pacific Islanders, First Nations and other indigenous peoples of North America in science, technology, engineering and math (STEM) studies and careers. For more information visit: www.aises.org

Conference: Nibi Miinawaa Manoomin Symposium – Ikwe Oganawendaan Nibi miinawaa Manoomin "Women Protecting our Water and Wild Rice"
October 13-15, 2019, White Earth Tribal and Community College (WETCC) and the Shooting Star Casino and Event Center, Mahnomen, MN. This symposium will offer an important opportunity for universities and Anishinaabe Nations to learn about shared concerns and responsibilities affecting wild rice and water. This year’s symposium will have a special focus on the roles that women have in taking care of rice and water for this and future generations. For more information and to register visit:
Workshop: Tribal Adaptation Menu
October 22-24, 2019, College of the Menominee Nation, Keshena, WI. A workshop of the Tribal Adaptation Menu (TAM) in partnerships with the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), Northeast Climate Adaptation Science Center (NE CASC), Northern Institute of Applied Science (NIACS) and several other Partners will be held for Tribal natural resource managers, along with partner organizations and key collaborators. There is no fee for the workshop registration, however, participants are responsible for their own travel and lodging. Lunch and refreshments are provided. For more information contact

WEBINAR: SE CASC 4th National Climate Assessment (NCA4)-Southeast Region Webinar Series
The Southeast Climate Adaptation Science Center (SE CASC) will be offering a six-part webinar series taking an intensive look at Chapter 19 of the Fourth National Climate Assessment (NCA4), Volume II: The Southeast, Chapter 15: Tribes and Indigenous Peoples, and Chapter 20: U.S. Caribbean. The topic of each webinar will be focused on one of the key messages outlined in the Southeast chapter and findings and case studies from the Tribal Nations and Indigenous Peoples chapter relevant to the Southeast.

October 23, 2019, 12:00 PM Eastern Standard Time (11 AM Central): Increasing Flood Risks in Coastal Areas
November 20, 2019, 12:00 PM Eastern Standard Time (11 AM Central): Natural Ecosystems will be Transformed
December 5, 2019, 12:00 PM Eastern Standard Time (11 AM Central): Risks Rural Communities
January (date TBD), 2020, 12:00 PM Eastern Standard Time (11 AM Central): Tribes and Indigenous Peoples
February 11, 2020, 12:00 PM Eastern Standard Time (11 AM Central): The U.S. Caribbean

For more information and to register visit: https://secasc.ncsu.edu/nca4-webinar-series-the-southeast/

Conference: USET Annual Meeting & 50th Anniversary Celebration
November 4-7, 2019, Choctaw, MS. The Annual Meeting of the United South and Eastern Tribes Inc. (USET) and celebration of its 50th Anniversary will be hosted by the Mississippi Band of Choctaw Indians in at the Pearl River Resort. The Board of Directors will be in session from Monday, November 4, 2019 - Wednesday, November 6th. USET Committees will meet November 4th - November 7th. Anyone who wishes to present to a committee should contact the committee chair immediately to discuss their interests. Contact information for committee chairs can be obtained by clicking USET Committee Chairs or by calling USET at 615-872-7900. For more information and for registration visit here.

WEBINAR: The Tribal Adaptation Menu
November 13, 2019, 2:00 PM Eastern Standard Time (1 PM Central): The National Adaptation Forum will be hosting a webinar on Tribal Climate Adaptation Menu, what it is, how to utilize the resource, and a case study on how it's been put into practice. More info and registration can be found here.

Conference: SE CASC Regional Science Symposium
November 13-15, 2019, New Orleans, LA. The goals of the Symposium are to 1) Support climate adaptation efforts by sharing science resources, lessons learned, and best practices; 2) Discuss and identify gaps and needs for scientific information needed for adaptation; 3) Provide a venue to share information about current activities, plans, and opportunities for collaboration. Decision makers and staff from state fish and wildlife agencies, federal organizations, Tribal Nations, Tribal organizations, and NGOs are encouraged to attend. For more information and registration visit: https://secasc.ncsu.edu/se-casc-regional-science-symposium/.

Workshop: USET Climate Adaptation Plan Writing Retreat
December 10-12, 2019, NOAA Greater Atlantic Region Fisheries Office (NOAA-GARFO) in Gloucester, MA. Tribal technical staff tasked with completing and writing their Tribal Nation’s climate change adaptation plan or vulnerability assessment are invited to participate in the three-day writing retreat. For
more information and to register contact, Casey Thornbrugh, USET Tribal Climate Science Liaison at CThornbrugh@USETINC.ORG or Jennifer Bennett, USET-OERM Administrative Assistant at JBennett@USETINC.ORG.

Conference: Intertribal Agricultural Council Annual Meeting
December 10-12, 2019, Las Vegas, NV. IAC Annual Meeting is a three-day event focusing on Native agriculture production, sustainability and conservation. Attendees include Native pre-college and college students, educators, and professionals as well as representatives from Tribal Nations, Tribal enterprises, Native owned businesses, and government partners. For more information and registration visit: http://www.indianag.org/2019-iac-annual-conference.

Conference: ASWM State/Tribal/Federal Coordination Meeting: “Building a Wetland Program Capacity in an Everchanging Environment”
April 7-9, 2020, Shepherdstown, WV. The Association of State Wetland Managers is preparing the agenda for ASWM's 2020 Annual Meeting and is looking for some dynamic presentations to include. If you would like to submit an abstract to share useful findings, case studies, practices or tools relevant to state, Tribal and other wetland practitioners, go to the Abstract Submission page and follow the instructions for online submission. For more information about the State/Tribal/Federal Coordination Meeting, please visit: https://www.aswm.org/wetland-programs/state-wetland-programs/10209-2020-state-meeting.

Visualizing the Climate

NOAA State of the Climate Report: Selected Climate Anomalies for August and Summer 2019

For more information visit: https://www.ncdc.noaa.gov/sotc/national/201908
Explanation of Maps: The following maps were generated with observed and recorded data from weather stations across the continental United States compiled and displayed at the High Plains Regional Climate Center (HPRCC) located in Lincoln, NE. The data uses a baseline or “climate normal” based on the 30-year climate averages for locations for the years 1981-2010. The standard 30-year climate averages will be updated again for the time frame 1991-2020 at the conclusion of year 2020.

NOAA Regional Climate Centers:
Departure from Normal Temperature (°F) for June, July & August 2019

Summer 2019 experienced hotter than average conditions (based on the years 1981-2010 climatological average) primarily in the Southwest, West Coast, Southeast and East Coast. Much of the interior portions of the country experienced average seasonal summer temperatures with the Northern Plains experiencing cooler than average summer temperatures.

Generated 9/20/2019 at HPRCC using provisional data.
For more information visit: https://hprcc.unl.edu/maps.php?map=ACISClimateMaps

NOAA Regional Climate Centers:
Percent of Normal Precipitation (%) for June, July & August 2019

Summer 2019 experienced wetter than average conditions (based on the years 1981-2010 climatological average) in the Northern & Central Great Plains and in the Ohio River Valley as well as the lower Arkansas and central Mississippi River valleys. Much of the Intermountain and Southwest experienced drier than average conditions. Although dry conditions are typical of summer in much of the West, summer 2019 experienced below average precipitation from the North American Monsoon, a seasonal climate feature of the Southwest.

Generated 9/20/2019 at HPRCC using provisional data.
For more information visit: https://hprcc.unl.edu/maps.php?map=ACISClimateMaps
Explanation of the Maps: NOAA’s Climate Prediction Center (CPC) issues seasonal climate forecast maps. These maps show the probabilities of unusually warmer/colder or wetter/drier seasons (relative to the 1981-2010 climate averages). Specifically, “A” indicates chances are leaning toward above average, “B” indicates chances are leaning toward below average, and “EC” indicates that there are equal chances for above average, below average, or average conditions. This information is generated from forecast models that use information on ocean, land, and atmospheric conditions such as sea surface temperatures (e.g. El Niño/La Niña conditions), presence/absence of sea ice or snow pack, and tropical weather patterns that can influence the location of the Jetstream and persistent areas of high/low pressure systems during a season. Note: These are seasonal forecasts not predictions with 100% certainty. For example, a single hurricane with heavy rain or a week-long cold air blast/heat wave can impact the outcome of these forecasts. Please see this 2-minute video on how to interpret these maps.

Temperature & Precipitation Outlooks

The late fall season (October-November-December) 2019 temperature outlook is leaning toward above average temperatures throughout the entire forecast domain, although regional probabilities vary. The highest probabilities for above average temperatures are across the Southwest, the Northeast, and the North Slope of Alaska. Probabilities for above average temperatures are lowest from the northern Great Plains and Upper Mississippi Valley to interior portions of the east-central Gulf Coast region, and for interior parts of southern Alaska.

The OND 2019 precipitation outlook indicates that above average seasonal total precipitation is of highest probability near the Atlantic Coast from Florida to New Jersey, much of the west-central and central US, and Alaska (excluding the Alaska Panhandle). Below average precipitation is of the highest probability over the north-central portion of the West Coast.

Above average late summer and early fall sea surface temperatures have persisted throughout areas surrounding Alaska. This and the likelihood for another fall season with significantly delayed sea ice were major factors in the temperature outlook for Alaska, which also may have implications “downstream” and southward in the continental U.S. Pacific sea surface temperatures in the tropics are near average indicating a lower probability that El Niño/La Niña will influence the seasonal climate this fall. Heavy regional precipitation from tropical storms-hurricanes are also always a possibility in summer and fall seasons. For more information visit here.
NE/SE CASC Tribal Liaisons

Casey Thornbrugh is the Northeast and Southeast Tribal Climate Science Liaison hired by USET and is a citizen of the Mashpee Wampanoag Tribe. Based at the NE CASC at UMass-Amherst, Casey will provide current climate science information to Tribal Nations in the NE CASC and SE CASC regions. Casey will work with Tribal Nations to identify climate research needs and priorities and provide climate adaptation planning support for the Tribal Nations on the East Coast and Gulf Coast states.

Sara Smith is the Midwest Tribal Climate Science Liaison hired by the College of Menominee Nation as part of the Sustainable Development Institute. She is a direct descendent of the Oneida Nation of Wisconsin. Sara will be stationed at the US Forest Service’s Northern Forest Research Station on the University of Minnesota campus in St. Paul, Minnesota. Sara will serve as a direct liaison between Tribal Nations in the Midwest and the NE CSC to identify and address research gaps in climate, natural, and cultural resources as well as improve outreach and capacity building.


South & Eastern Turtle Island Climate Change Newsletter Contributors

Casey Thornbrugh
Tribal Climate Science Liaison for the Northeast and Southeast Climate Science Centers
United South and Eastern Tribes, Inc.
cthornbrugh@usetinc.org

Sara Smith
Tribal Climate Science Liaison for the Northeast Climate Science Center-Great Lakes & Midwest
College of the Menominee Nation – Sustainable Development Institute
ssmith@menominee.edu

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

Ashlyn Shore
Science Communications Specialist for the Southeast Climate Science Center
arshore@ncsu.edu
*A special “thank you” to all those individuals in addition to those individuals mentioned above who provided comments and reviewed the content of the Newsletter.

*We are always looking for more stories on climate change and resilience. Please contact Casey Thornbrugh, Sara Smith, or any of our contributors with stories from your Tribal Nation and community that we may share!