



Northeast Climate Hub
U.S. DEPARTMENT OF AGRICULTURE

USDA NORTHEAST CLIMATE HUB

FY24 Project Catalogue



USDA Northeast Climate Hub group photo at Grey Towers in Milford, PA. | November 2023

A brief introduction from USDA Northeast Climate Hub Director, Dr. Lindsey Rustad.

Hello and welcome. The USDA Climate Hubs were established by the USDA in 2014 in response to then President Obama's Climate Action Plan. The creation of the eleven Climate Hubs recognizes that climate change affects different parts of the country in distinct ways. For instance, what works in the Northeast to address increased rainfall may not be useful in the Southwest, which often grapples with prolonged droughts and extreme heat.

The following is a catalogue of 2024 projects. In addition to these projects, USDA Northeast Climate Hub co-leads, staff, and affiliates participate in regionwide efforts to improve science and data synthesis, tools development, and outreach related to natural resource management and climate change outside of established projects. Continued engagement with the public, service providers, natural resource managers, other USDA Climate Hubs, Tribal land stewards, researchers, scientists, and others extend beyond the scope of projects listed in this catalogue.

Respectfully, Lindsey Rustad



MISSION

Develop and deliver science-based, region-specific information and technologies to agricultural and natural resource managers, and communities to enable climate-smart decision making, increase knowledge, and enhance technology implementation.

VISION

Promote robust and healthy agricultural production and natural resources under increasing climate variability and climate change.

PROJECT THEMES

Science and Data Synthesis

Developing, translating, and delivering relevant information

Decision Support Tools and Information

Supporting climate-informed decision-making through
decision-enabling technologies and applications

Outreach, Convening, and Education

Facilitating engagement, fostering workforce climate
literacy, and promoting information exchange



Photo by USDA

Science and Data Synthesis

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Photo by USDA

Science and Data Synthesis



Photo by USDA NRCS



Changing Characteristics of Precipitation and Drought in the Northeast U.S.

Climate change in the Northeast is characterized by more precipitation occurring in large events and declines in snowpack. It has been hypothesized that this might paradoxically lead to increased periods of drought between these large events. To advance understanding of changing drought patterns in the Northeast, Northeast Climate Hub partners are analyzing historical meteorological drivers of drought, flash drought, and snow. The research team is examining variables influencing drought in the region and analyzing climate data to identify changing risks and trends in drought patterns. The goal is to synthesize findings and deliver webinars, factsheets, presentation slides, and a presentation to provide a better understanding of these phenomena.

Partners: National Drought Mitigation Center, USDA Agricultural Research Service, USDA Forest Service

Photo credit: CraneStation

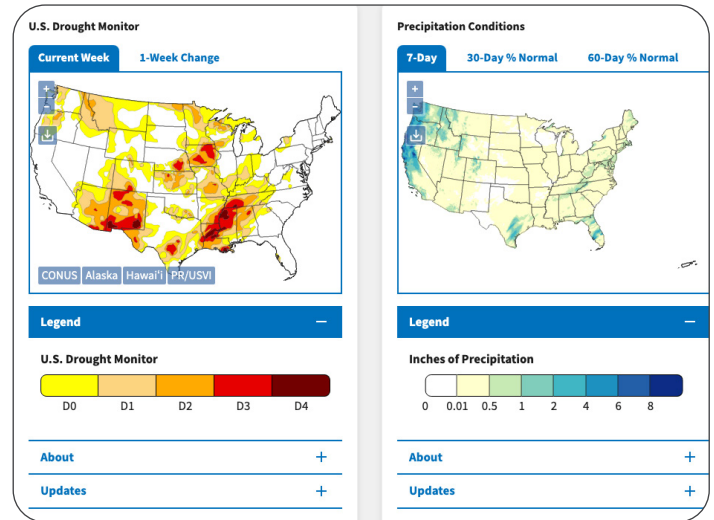


Contribution to the Northeast Chapter of the National Climate Assessment 5

The National Climate Assessment integrates and summarizes research on climate impacts, risks, and vulnerability with the intent to support decision-making. Collaborating with partners nationally, the Northeast Climate Hub will provide climate science information and expertise to author the chapter on the Northeast United States in the fifth National Climate Assessment (NCA5). Information from the NCA5 report will be incorporated into Northeast Climate Hub presentations, materials, and projects while working to disseminate NCA5 concepts across the region with the goal of increasing current climate science information in the region.

Partners: U.S. Global Change Research Program

Photo credit: NASA



Data Analysis with Hubbard Brook Experimental Forest

Extensive experimental and climate data are collected from environmental sensing and weather stations across the Northeast region. Data scientists are needed to compile and then analyze these expanding datasets to address environmental concerns, particularly during extreme weather events. Using data and resources from the team of partners, the Northeast Climate Hub and partners will work to deliver a more rapid response to climate threats across the region. The goal is to produce peer-reviewed publications analyzing long-term trends in extreme weather events in the Northeast, and to highlight data discovery, accessibility, and useability at USDA Forest Service Experimental Forests and Ranges.

Partners: Hubbard Brook Foundation

Photo credit: USDA Forest Service

Drought Assessment in a Changing Climate

Drought occurrences are shifting in a changing climate. In order to promote drought response strategies that build long-term resilience, strengthen economic livelihoods, and reduce risk at all timescales, the Northeast Climate Hub and its partners are evaluating these changes for the Northeast region. The project team is assessing how the drivers of drought vary across the country, identifying research questions, and aiming to understand the impact of drought on ecosystems. The goal is to produce a scientific publication with regional-specific information that will improve the ability to predict and monitor new indicators of drought and help managers make decisions in this changing climate.

Partners: National Oceanic and Atmospheric Administration — National Integrated Drought Information System, USDA Climate Hubs

drought.gov

SCIENCE AND DATA SYNTHESIS



Economics of Soil Health in the Northeast

Soil health influences the resiliency of crops. To evaluate the economic impacts of soil health practices in agriculture in the Northeast and Northcentral U.S., the Northeast Climate Hub and its partners are assessing the costs and benefits of implementing these practices. The project team will complete analyses of data for three long-term research projects, synthesize results, and publish both technical and peer-reviewed papers. Next, the project team will create factsheets and other materials geared towards farmers and landowners, and produce a webinar and associated set of slides geared towards a general audience. The goal is to analyze practices that improve soil health, compare with crop yields, and present the resulting data for soil health trainings.

Partners: USDA Agricultural Research Service, USDA Natural Resources Conservation Service, USDA Forest Service, North Carolina State University, USDA Office of the Chief Economist

Photo credit: USDA ARS



Evaluating the Forest Carbon Market

Carbon sequestration is an important factor related to mitigating climate change. In order to determine the feasibility of a forest carbon market, partners at Pennsylvania State University are evaluating the validity of forest carbon offset credits and offset programs, and will investigate alternative solutions for incentivizing carbon sequestration. Working with partners, the Northeast Climate Hub will produce factsheets and webinars to disseminate results of this research. The goal is to synthesize a feasibility study on the implementation of forest carbon credits.

Partners: Pennsylvania State University

Photo credit: USDA



Exploring Factors Controlling the Formation, Persistence, and Turnover of Soil Carbon

Carbon and nitrogen inputs from manures, cover crops and forages, and crop residues impact soil fertility and crop yield. To better understand how crop management strategies and crop rotational diversity impact soil organic matter quality and nitrogen storage and availability, the project team is leveraging historic data and archived samples from USDA's Farming Systems Project. The project team will analyze soil samples and report results on how agricultural management effects soil organic carbon, nitrogen balances, and soil organic matter fractions. The goal is to compile and analyze associated data on soil carbon and nitrogen balances from long-term experiments.

Partners: University of Maryland, USDA Agricultural Research Service

Photo credit: Rachel E. Schattman



Gulf of Maine Aquaculture and Coastal Vulnerability

Coastal zones face increased climate-related risks. To understand unique vulnerabilities to climate change and observed and projected changes in salinity, the Northeast Climate Hub and Gulf of Maine Research Institute will assess risks to the region's aquaculture industry and coastal working lands. The project team will incorporate the assessment into a regional climate vulnerability assessment, a guide to best management practices for addressing climate risks, and a summary report highlighting the key concepts of vulnerability related to a range of climate impacts facing aquaculture and near-shore terrestrial farms and forests.

Partners: Gulf of Maine Research Institute

Photo credit: Gulf of Maine Research Institute



Microclimate Changes Affecting Fire Risk in the Northeast

A need exists to reduce uncertainty around potential fire-futures in the Northeast U.S. This project will assess the extent to which forest structure drives microclimate and fuel moisture across a diverse range of managed stands with different fuel treatments. Working with partners, the Northeast Climate Hub will expand fire models, develop field-ready microclimate conversion tables, host a webinar on fire modeling, and produce a peer-reviewed journal article. The goal is to improve readiness of forest managers to increased fire risk under a changing climate and increase fire science communication.

Partners: University of Maine, USDA Forest Service — Northern Research Station and White Mountain National Forest

Photo credit: USDA Forest Service



Northeast Regional Vulnerability Assessment

Working lands throughout the Northeast are susceptible to climate variability. In order to identify risk and vulnerability of farms, forests, and coasts, researchers will evaluate current scientific information and climate adaptation and mitigation strategies. In collaboration with partners, the Northeast Climate Hub will compile existing information focused on climate-related vulnerabilities and threats to agriculture, forestry, and aquaculture in the Northeast, identify knowledge gaps regarding adaptation to expected changes in climate, lead agricultural and aquaculture assessments for the Northeast region, and provide content on forest impacts, risks, and vulnerabilities. The goal is to update models, write a summary report highlighting the key concepts of vulnerability facing the region's farms and forests, and disseminate information through webinars, presentations, and articles.

Partners: USDA Agricultural Research Service, USDA Northern Forests Climate Hub, USDA Midwest Climate Hub, Gulf of Maine Research Institute

Photo credit: USDA



Novel Shallow Wells for Agricultural Water Use in Maine

Extreme heat and drought affect the availability of water for farms to use. In order to identify new sources of water in the region for irrigation and livestock, the Northeast Climate Hub and partners are evaluating the hydrological performance of novel shallow wells, including response to pumping during years characterized by varied climatic conditions. The project team will assess water quality and safety of shallow wells, including microbial and chemical safety. The goal is to research alternative sources of water and associated quality through publications and outreach.

Partners: University of Maine, U.S. Geological Survey, U.S. Environmental Protection Agency

Photo credit: USDA Northeast Climate Hub



Support Natural Resource Conservation Service Activities with Existing Agricultural Research Service Data

In support of Natural Resources Conservation Service (NRCS), the Northeast Climate Hub is exploring ways that data from Agricultural Research Service (ARS) long-term experiments can aid conservation planning. The project team is identifying NRCS data needs, analyzing existing long-term data, and identifying ways to make ARS data more accessible to NRCS. The goal is to increase availability and applicability of existing, long-term ARS data, build connections among agency staff, and increase climate knowledge throughout the Northeast U.S.

Partners: USDA Natural Resources Conservation Service, USDA Agricultural Research Service

Photo credit: USDA NRCS



Test, Validate, and Use Process-based Model (MAIZSIM) Using Long-term Data

Crop system performance is shifting with a changing climate. To examine the processes underlying performance and test management strategies under predicted future weather conditions, researchers will evaluate the climate drivers of yield variability using legacy data. The Northeast Climate Hub and USDA Agricultural Research Service (ARS) will test and validate process-based soil and crop models, assess drivers of climate variability, and develop adaptation strategies using long-term ARS data. The goal is to evaluate adaptation strategies in the face of future climate change and produce a scientific publication detailing results.

Partners: USDA Agricultural Research Service

Photo credit: USDA



Tribal Climate Equity

The impacts of a changing climate affect communities differently. To ensure just distribution of benefits from climate resilience efforts and to alleviate unequal burdens created by climate change, the Northeast Climate Hub is working to understand the scope and scale of Tribal climate equity issues around agriculture and forestry within the region. To do so, the Northeast Climate Hub will convene experts working in this area, conduct a synthesis of available literature, write a synthesis paper, and collaborate with other scientists, ORISE fellows, leadership, and partners to determine potential solutions and pathways for achieving climate equity. The goal of this project is to incorporate Tribal needs, concerns, insights and expertise with a climate equity perspective into all Northeast Climate Hub projects.

Photo credit: Colleen Rossier

Decision Support Tools and Information

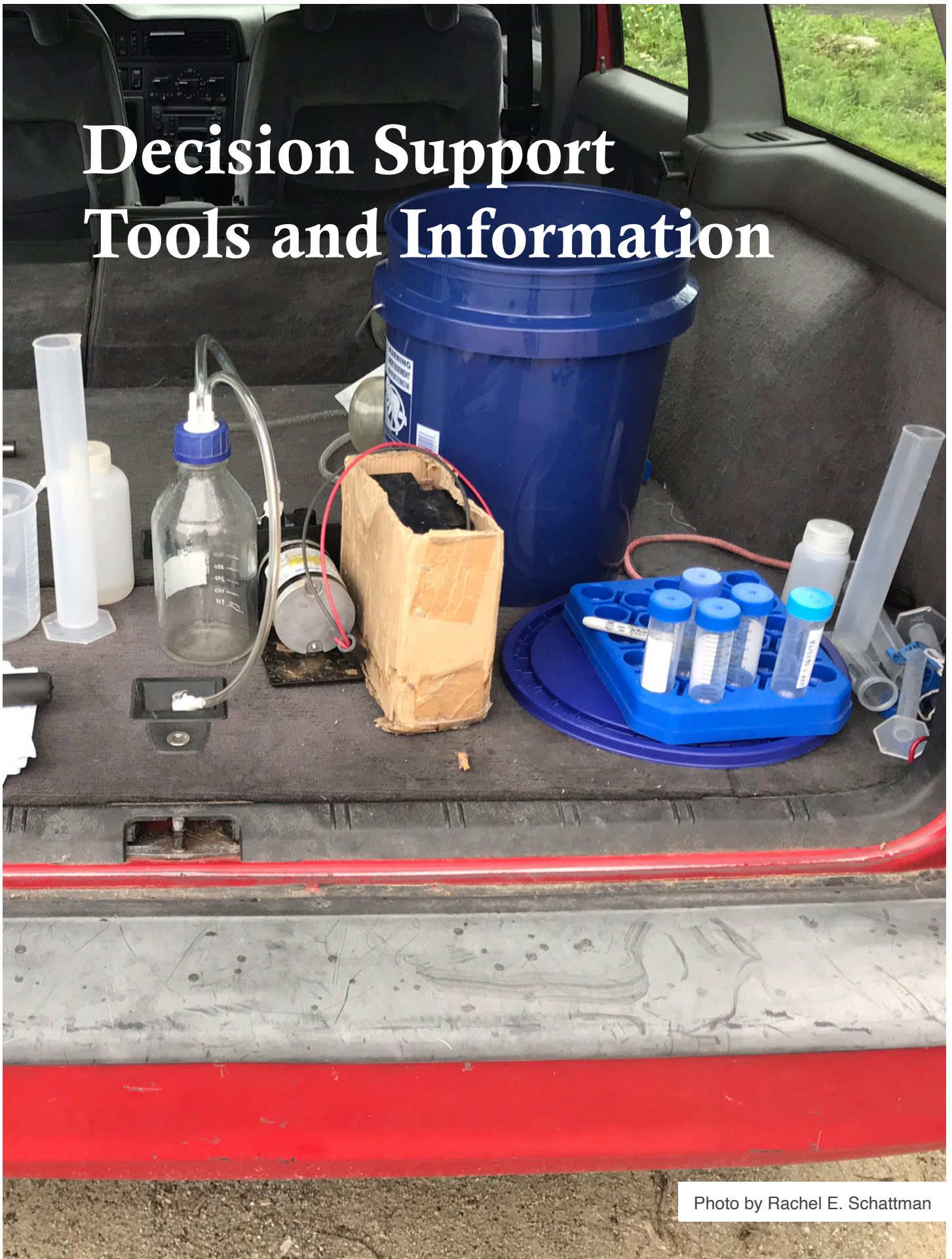
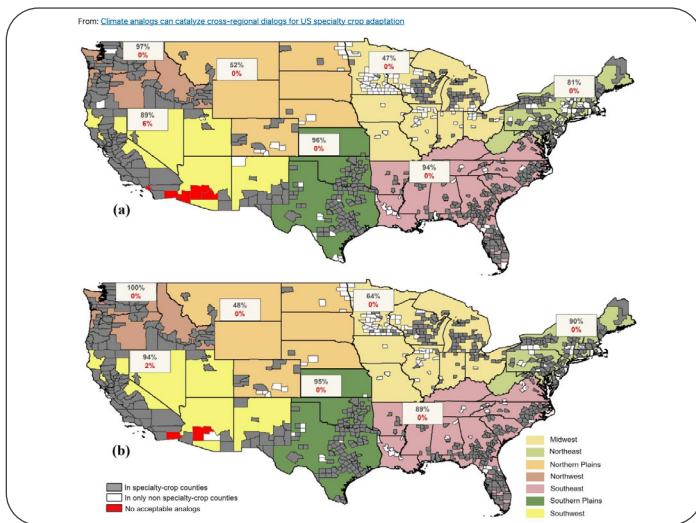


Photo by Rachel E. Schattman

DECISION SUPPORT TOOLS AND INFORMATION



Analogs for Dialogues: An Academy to Catalyze Climate Change Adaptation for U.S. Specialty Crops

Climate analogs are locations whose current climate is similar to a target location's future climate. Specialty crops grown in these locations will become relevant to growers in the target location as the effects of climate change continue. Partners of the Northeast Climate Hub will establish a Specialty Crop Climate Change Extension Academy to facilitate actionable information exchange between current and future Extension professionals and promote adoption of climate adaptive specialty crops in target locations.

Partners: USDA Climate Hubs, Washington State University, University of Florida, Agriculture and Food Systems Institute, University of Minnesota, USDA National Institute of Food and Agriculture

Chaudhary, S., Rajagopalan, K., Kruger, C.E. et al. Climate analogs can catalyze cross-regional dialogues for US specialty crop adaptation. *Sci Rep* 13, 9317 (2023). <https://doi.org/10.1038/s41598-023-35887-x>

Climate Smart Technology and Artificial Intelligence in Agriculture and Forestry in the Northeast

Smart technology and artificial intelligence (AI) represent a new suite of tools with large potential for managing climate risks on working lands. Partners will explore available smart technology and AI tools relevant to land managers, create new tools, and disseminate information about the accessibility and utility of these tools. The goal of this work is to increase awareness and use of advanced climate-smart technologies, AI and machine learning for land managers on working lands in the Northeast.

Partners: City University of New York

Photo credit: Hubbard Brook Foundation



Engaging with the Tribal Soil Climate Analysis Network to Develop Climate-Smart Tools

Soil Climate Analysis Network (SCAN) and Tribal SCAN (TSCAN) meteorological station data are collected across the Northeast and must be presented in usable and useful ways to stakeholders. In order to learn about climate-smart tools built on data from SCAN and TSCAN networks, and generate ideas for new tools that would integrate indigenous knowledge and be most useful to those tribal stakeholders, the Northeast Climate Hub and Northeast Regional Climate Center are hosting focus groups for tribal stakeholders. These tools will then be developed and iteratively updated in a collaboration between Cornell University, tribal stakeholders, and the Northeast Climate Hub.

Partners: Northeast Regional Climate Center —Cornell University, USDA Natural Resources Conservation Service

Photo credit: USDA Northeast Climate Hub



Forest Climate Indicators

Climate indicators communicate key aspects of the physical climate, climate impacts, and vulnerabilities to inform decision makers and the public. Developing climate-related indicators specific for forestry will help to increase the useability of climate information to support forest management and planning. The goal of this project is for forest managers and planners to have increased access to real-time planning tools and new technologies. This project will achieve its goal through an operational website-platform characterizing 3-4 forest climate indicator decision tools relevant to forest managers within the Northeast and Midwest Climate Hub regions. Other aspects of the project include developing relevant software and a training manual; conducting a series of workshops targeted at state, private and Tribal foresters, Climate Hubs, Extension faculty; and a peer-reviewed paper.

Partners: Northeast Regional Climate Center — Cornell University, USDA Midwest Climate Hub, USDA Office of the Chief Economist

Photo credit: Hubbard Brook Foundation



Mapping Saltwater Intrusion in Forests for the Mid-Atlantic

Coastal forests in the Northeast are at increased risk to saltwater intrusion due to climate change and rising sea levels. These forests provide habitat for an array of rare plants and wildlife, store carbon, and valuable timber resources. Studies have documented signs of stress and coastal forest dieback, resulting in ghost forests. The goal of this project is to investigate impacts of climate change and the effects of saltwater intrusion on coastal forests. Working with partners, the Northeast Climate Hub will conduct a spatial analysis on the Mid-Atlantic coastal forests' most vulnerable to sea level rise, provide accessible information to foresters and other community members through a factsheet, and produce other tools such as GIS map layers.

Partners: Rutgers University

Photo credit: USDA NRCS



Photo by Chris Miller

Outreach, Convening, and Education

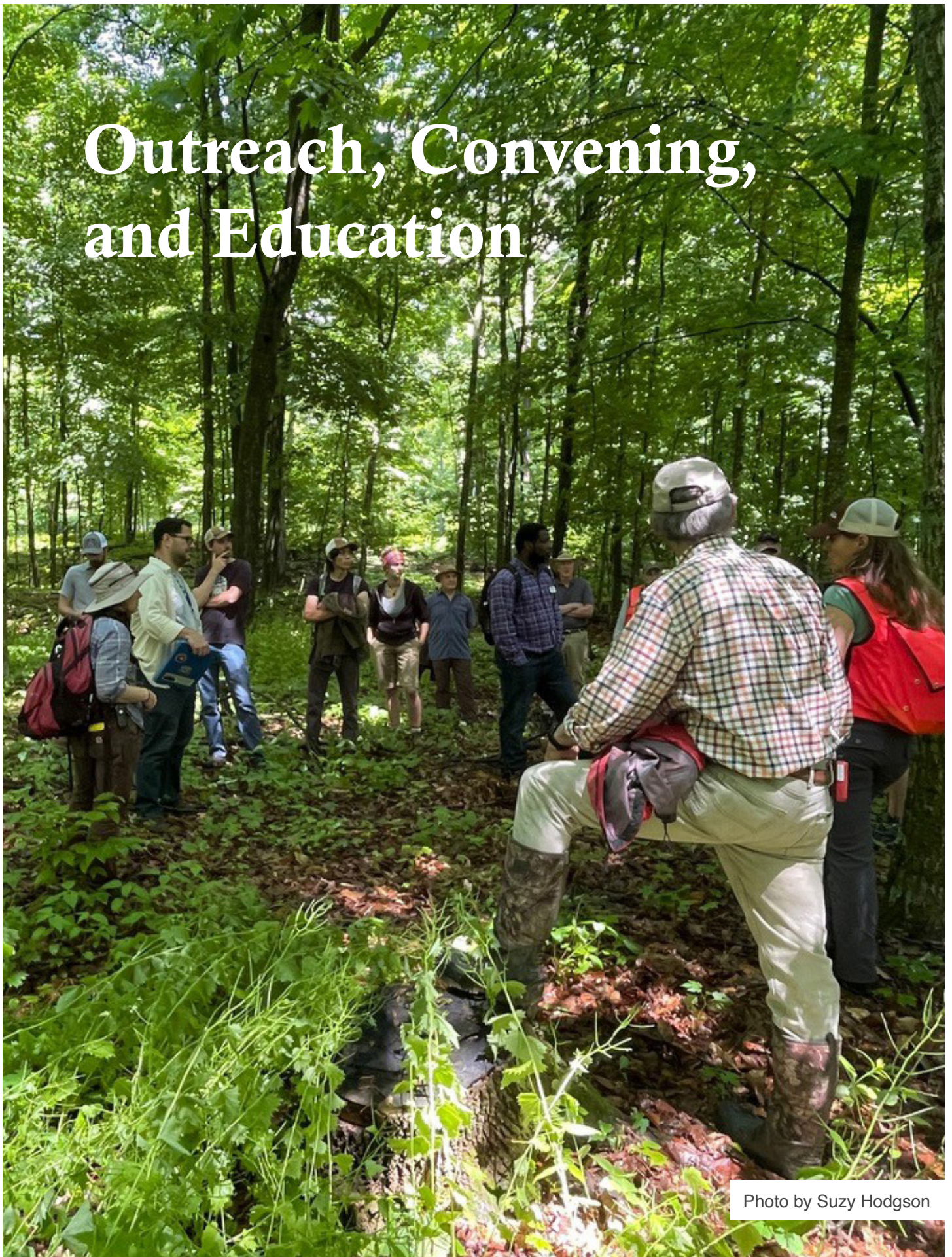


Photo by Suzy Hodgson

OUTREACH, CONVENING, AND EDUCATION



Agroforestry Demonstration Site

Interest in agroforestry as a climate adaptation and mitigation practice is increasing among land managers in the Northeast. Partners of the Northeast Climate Hub at the University of Maine are working to establish an agroforestry demonstration site at Wyman’s Wild Blueberry Research and Innovation Center in Old Town, Maine to educate stakeholders about effective agroforestry and landscape restoration strategies for northern temperate sites. The site will share resources for agroforestry specific to the climate of the Northeast including species selection, planting protocols, and ongoing maintenance.

Partners: University of Maine, USDA National Agroforestry Center

Photo credit: Alaina Ring



Arts for Climate Equity

Four artists will complete an artist residency related to climate equity and environmental justice, and create works that link science and art across diverse communities. Final products will be shared publicly to increase connections between climate scientists, artists and the public; improve understanding of how creativity and the arts can offer new insights into environmental justice and climate equity issues; and increase recognition of how the arts can be used as climate change communication tools.

Partners: The Nature of Cities, USDA Forest Service — Northern Research Station — Urban Field Station

Photo credit: klementovich



Climate Adaptation and Mitigation Fellowship for Dairy Program

The Climate Adaptation and Mitigation Fellowships for Dairy are built on peer-learning cohorts for dairy farmers and agricultural advisors in the Northeast. The goal is to advance climate change adaptation and mitigation knowledge planning skills for these cohorts. To facilitate increased climate literacy, dairy farmers and advisors will participate in a year-long peer-learning program to gain understanding of climate adaptation and mitigation practices, create farm-specific climate adaptation and mitigation plans, expand their networks, and engage in peer-to-peer learning.

Partners: Cornell University

Photo credit: USDA Northeast Climate Hub

Climate Adaptation and Mitigation Fellowship Program

The Climate Adaptation and Mitigation Fellowships are built on peer-learning cohorts for farmers and agricultural advisors in diversified agriculture and agroforestry, small fruit and vegetable, and row cropping systems within the Northeast and Midwest. During the two-year program, fellows will engage in learning about climate impacts, and climate adaptation and mitigation strategies. They will also create farm-specific climate adaptation and mitigation plans, as they learn from one another. Fellows gain climate-relevant knowledge for improved decision-making and planning, and will be more empowered to become climate leaders in their communities.

Partners: University of Maine, USDA Midwest Climate Hub, American Farmland Trust, USDA National Agroforestry Center, Rutgers Climate Change Institute, University of Vermont Extension, Michigan State University Extension, Maine Organic Farmers and Gardeners Association, USDA National Institute of Food and Agriculture

OUTREACH, CONVENING, AND EDUCATION



Climate Adaptation in Farmer and Agricultural Advisor Knowledge Networks

The Northeast Climate Hub provided leadership to a cohort of vegetable farmers and agricultural advisors learning about the effects of climate change on agriculture and climate adaptation planning in 2020-2022. As follow up from this work, research will analyze the outcomes of this fellowship over the two years since its completion in 2022. The research seeks to use longer-term and in-depth data on adaptation behavior in farmer-advisor networks to make actionable research-based recommendations. Mapping participants' climate adaptation social networks will illustrate how information and advice flow and identify the connections that facilitate persistent behavior change which will ultimately lead to the development of actionable recommendations for future educational and advising programs.

Partners: University of Maine, Northeast Sustainable Agriculture Research and Education Program

Photo credit: USDA



Climate Equity in the Northeast

Communities across the Northeast experience the impacts of a changing climate differently. To ensure the just distribution of the benefits of climate protection efforts and in recognition of unequal burdens created by climate change, the program's goal is to increase and promote awareness of climate equity in working lands in the Northeast. Focusing on climate equity issues and solutions across agriculture, aquaculture, and forestry, the Northeast Hub's Climate Equity Fellow will research, locate, and contact climate change stakeholders who are engaged with climate equity and social justice issues relative to working lands; host climate equity convening webinars and a workshop; synthesize current climate equity literature, webinars, and podcasts; and create a Climate Equity Toolkit. The program will improve cohesion of climate equity work in the region and help to ensure that climate equity becomes a major pillar of the Northeast Climate Hub's work.

Photo credit: USDA

OUTREACH, CONVENING, AND EDUCATION



Climate Learning Forum

Northeast working landscapes are diverse. Service providers are equally diverse, bringing a variety of perspectives and technical expertise to their work. Learning about and sharing these different areas of expertise will help broaden provider knowledge. The Climate Learning Forum aims to bring together agricultural and forestry service providers to collaboratively advance climate adaptation and mitigation on working lands in the Northeast. Through learning modules, in-person events, online meetings, and other communication and outreach, the forum will offer opportunities to cooperate and discuss climate priorities among service providers, foster connection, and new networks.

Partners: Cooperative Extension, USDA Natural Resources Conservation Service, Northeast Regional Association of State Agricultural Experiment Station Directors, Association of Northeast Extension Directors, USDA Office of the Chief Economist, and Agricultural, Forestry and Agroforestry Service Providers.



Connection with Northeast Region Natural Resources Conservation Service

Fostering an intentional connection between the Northeast Climate Hub and the Northeast Region Natural Resources Conservation Service (NRCS) will create better understanding of the Northeast Climate Hub's work for USDA state-level NRCS leadership and vice-versa, with a goal to improve collaboration on climate-related topics. Specifically, representatives of the Northeast Climate Hub will attend NRCS State Technical Committee meetings in Northeast states in 2024 and present on objectives and projects. These presentations will help to increase understanding and dialogue between representatives of the Northeast Climate Hub and NRCS State Technical Committees.

Partners: USDA Natural Resources Conservation Service

Photo credit: USDA NRCS

OUTREACH, CONVENING, AND EDUCATION



Delmarva and the Ground for Change: Documentary Film Screenings

Through a focused lens on solution-based practices available at the farm scale, *Delmarva and the Ground for Change* is a film that provides hope concerning the climate crisis while elevating farmer knowledge. In an effort to facilitate deeper conversations around soil health and climate smart farming, the Northeast Climate Hub teamed up with University of Delaware Cooperative Extension. Together, they are helping agricultural and conservation focused organizations host their own screening events. Through these in-person gatherings, the film not only helps to build community and promote climate smart farming practices, but it also increases public awareness around how our nation's farmers can take part in fighting climate change from the ground up.

Partners: University of New Hampshire, University of Delaware Cooperative Extension, USDA Office of the Chief Economist

Photo credit: USDA Northeast Climate Hub



Exploring Biochar on Farms in the Northeast

Biochar is charcoal intentionally produced from biomass sources such as wood chips, plant residues, manure, or other agricultural waste products. It is emerging as a form of carbon sequestration. With the support of partners, the Northeast Climate Hub is using creative, digital communications to increase awareness of the research and use of biochar in agriculture across the Northeast. The goal is to create a dynamic StoryMap to provide information about biochar and its uses, identify locations where biochar is produced and sold in the region, and highlight farmer experience with biochar.

Partners: USDA Forest Service — Research and Development, Environment for Americas, USDA Natural Resource Conservation Service, University of New Hampshire

Photo credit: USDA NRCS

OUTREACH, CONVENING, AND EDUCATION



Forest Carbon for Climate Change Mitigation — An Animated Short Film

Forests play a crucial role in mitigating climate change by capturing carbon dioxide and storing carbon within soil and biomass. Forest carbon science can be difficult for many stakeholders to understand, and information is often shared in complicated and inaccessible ways. To address this, the Northeast Climate Hub will produce a short animated film on forest carbon for climate mitigation. The goal of this film is to educate forest landowners and managers about forest carbon storage options in an engaging format. The film will also seek to explain the pros and cons of a forest carbon marketplace.

Partners: Pennsylvania State University, FOCCE

Photo credit: USDA



Graduate Student Climate Adaptation and Mitigation Partners

Climate change is increasing gaps in climate equity. It is important to integrate concepts of climate equity into graduate studies in climate change research and education programs. The Graduate Student Climate Adaptation and Mitigation Partnership (GradCAMP) seeks to create a network of graduate students who are passionate about infusing climate equity into their existing research on working lands in the Northeast. GradCAMP will provide a forum for climate scholars to explore climate equity issues through their own research as well as provide opportunities for stakeholder engagement, networking, peer feedback, and professional development. Through virtual monthly meetings, a speaker series, and an in-person workshop, the cohort will build a network of emerging climate scholars and increase awareness of climate equity issues within the Northeast.

Partners: West Virginia State University

Photo credit: USDA North east Climate Hub



The Pulse

Many forest managers are navigating the current climate situation and changing market processes. Professionals seek accessible and consolidated news related to forestry and climate change in the Northeast. To fill this need, the Northeast Climate Hub prepares a weekly forest and climate focused newsletter called, *The Pulse*. This digital newsletter shares forest, climate, and carbon related news clips from a wide variety of sources and is aimed at forestry professionals. Newsletter content includes science-based information and reflects a balanced variety of perspectives.

Partners: Northeastern Loggers' Association

Photo credit: Toan Chu, Upsplash



The Quarterly Harvest

The Northeast Climate Hub is active in dozens of projects. In order to share project updates and promote climate-informed decision-making with stakeholders, the Northeast Climate Hub produces a quarterly newsletter. The purpose of this digital newsletter is to share stories and information concerning Northeast Climate Hub projects, climate science, and solution-based practices in the Northeast.

Partners: University of New Hampshire

Photo credit: USDA

OUTREACH, CONVENING, AND EDUCATION

USDA Forest Service U.S. DEPARTMENT OF AGRICULTURE
Northern Research Station

Rooted in Research

Webinar Series Wednesdays in January at 10:30am ET/ 9:30 CT

Rooted in Research: Adapting to Extreme Weather Wild Cards

Join the USDA Forest Service Northern Research Station, USDA Northeast and Northern Forests Climate Hubs, and the Northern Institute for Applied Climate Science (NIACS) for Rooted in Research: Adapting to Extreme Weather Wild Cards.

Between floods, severe storms, and wildfires, nearly everyone in North America has recently experienced an extreme weather event firsthand. Extreme events will become more commonplace as the climate continues to change. These events pose new challenges for forestry and natural resource management that may require new, adaptive ways of thinking to address them.

January 10th
Wild Cards and the Adaptation Workbook
• **David Bengston**, USDA Forest Service Northern Research Station
• **Stephen Handler**, USDA Forest Service Northern Research Station, Northern Institute of Applied Climate Science, and USDA Northern Forests Climate Hub

January 17th
Forest Resilience and Wildland Fire



Rooted in Research: Adapting to Extreme Weather Wild Cards Webinar Series

Extreme weather events are becoming more frequent with a changing climate. This webinar series will explore the different types of extreme weather events threatening the Northeast, showcase the latest research on these topics, and discuss relevant management implications. The series will draw scientists, land managers and natural resource practitioners. Occurring 3-times per year, the webinar series seeks to increase understanding of the drivers of extreme weather events and improve abilities to manage forest and natural resources under climate change.

Partners: USDA Forest Service — Northern Research Station, Northern Institute of Applied Climate Science, USDA Northeast Climate Hub, USDA Northern Forests Climate Hub

fs.usda.gov

Sightline: Environmental, Social, and Governance Explained

New sustainability terms like “forest positive” or “science-based target initiatives” are being used increasingly across the forest sector as Environmental, Social, Governance (ESG) becomes more prominent. Behind these emerging financial sector initiatives is the idea that, by measuring and disclosing climate-related risks and opportunities, investors can maximize growth and profits. *Sightline* is dedicated to explaining these new sustainability terms shaping laws, business, and forests around the world, and raising awareness on pending forest issues relative to ESG. Through four quarterly briefs, two webinars, a workshop and strategic planning, *Sightline* will increase awareness on these topics within the forestry community and forest products industries.

Partners: Northeastern Loggers’ Association, New March Strategies

Photo credit: USDA

OUTREACH, CONVENING, AND EDUCATION



Wood Vaults for Carbon Mitigation

To encourage strategies that mitigate climate change, the Northeast Climate Hub is supporting research on the use of wood vaults as an innovative carbon sequestration approach. The Northeast Climate Hub is providing outreach support for partners, who are engaged in field testing this new concept, exploring practice options, and identifying pathways for potential adoption. The Northeast Climate Hub will help coordinate expert webinars on wood vaults, engage USDA Natural Resources Conservation Service on practice integration possibilities, and participate in a workshop exploring wood vaults as a strategy for carbon mitigation.

Partners: University of Maryland, Carbon Lockdown Project, USDA Forest Service — Forest Products Lab

Photo credit: Ning Zeng

Yale Forest Forum — Understanding Climate Smart Forestry in Practice

Climate-smart forestry has become a buzzword across the forestry sector and beyond. This webinar series provides the opportunity to learn from practitioners and researchers about how they put climate-smart forestry into practice. The series will also cover how forests can be managed to enhance their carbon storage capabilities and/or increase their resilience to the impacts of climate change. This webinar series seeks to integrate climate-smart forestry concepts through sharing science-based information and promote improved management of the nation's forests under a changing climate. The Northeast Climate Hub is a co-host.

Partners: Yale School of the Environment —The Forest School

yff.yale.edu

Cover Photo by Martin Sanchez, Upsplash

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