

Engaging a Climate Ready Agency

From Dave Cleaves, Forest Service Climate Change Advisor



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This update on Forest Service climate change activities is brought to you by the Climate Change Advisor's office (part of the Chief's Office). Previous editions are available on [our website](#). The purpose of these updates is to help us keep our eyes on the prize of healthy and functioning ecological, social, and economic systems as the climate around them changes. We are working to bring climate change knowledge into our organizational expectations and actions. We will be learning by doing and learning from each other as we work to connect the strong fibers of this vast organization.

MESSAGE FROM DAVE

This month, we have a guest essayist filling in for Dave. Leslie Brandt is on detail to the Climate Change Advisor's Office this fall. When not in the Washington, she works with Region 9 and the Northern Research Station as part of the Northern Institute of Applied Carbon Science on climate change science-management integration.

Preserving the Northwoods Landscape for Future Generations

Every summer since I was four years old, I have been returning to a small glacial lake in Northern Wisconsin where my grandparents, aunts, and uncles have had summer cottages. As a child, I would spend all day swimming in the lake that was darkened by the tannins secreted by the surrounding hemlock trees. The lake was often so cold that my lips turned purple, but not enough to break a determined child's spirit. My first "hiking" experience was walking on the small trail that surrounded that lake. I would often stop to kneel on the mossy ground to pick blueberries and wintergreen leaves under the shade of the hemlock and birch trees. In the evenings, I'd sit by the pier waiting for fish to bite. If we were lucky, we might catch a big northern pike and have a true Wisconsin fish fry. But even if we just caught a small bluegill or crappie, it was still exciting to reel that fish in and uncover the abundance of life that thrived below in the darkness of the lake. I would go to bed listening to the buzzing of mosquitoes and awake to the call of our resident loons.

It was those early experiences in the Northwoods in Wisconsin that inspired me to become an ecologist. Although my research took me to the deserts of New Mexico, the tallgrass prairies of Minnesota, and the estuaries of the Chesapeake Bay, I never lost my affinity for the Wisconsin Northwoods. So, when the opportunity arose for me to return to Wisconsin and work with the Chequamegon-Nicolet National Forest, I was thrilled. But the reason behind it was bittersweet: the ecosystems that inspired me to become an ecologist in the first place are now threatened by climate change. It was my job to help the National Forest, and the people of northern Wisconsin who enjoy it as much as I do, to determine those threats and figure out some ways we can develop solutions.

A few weeks before I started my position with the Forest Service last year, I returned to that Northern Wisconsin lake for a family reunion. As I had for many years before, I sat on the pier and looked out at the lake as the sun was going down over the horizon. The summer droughts we have been experiencing for the past several years meant the lake was much lower than it had been when I was young, and some of the conifers surrounding the lake were showing signs of stress. My uncle came

and sat next to me, asking me about my job, “so you think this climate change stuff is real? I don’t see it.” At the time, while I could point to a few examples right around me, I didn’t really know what we could come to expect over the coming years.

Now, a year later, I know all too well the potential impacts of climate change on the Wisconsin Northwoods—higher temperatures, less snowfall, decreasing water availability in the late summer, and a decline in the iconic tree species of the Northwoods landscape (including hemlock and birch). But I am still hopeful for the future. I have come to believe that all of us, from Forest Service employees like me to skeptics like my uncle, must work collectively to preserve the ecosystems of the Northwoods in the face of a changing climate. This is no easy challenge: some ecosystems may fare better than others, and some species may be lost forever from the Wisconsin landscape. But I hope that in some small way, I will be able to contribute to preserving those formative experiences I had in the Wisconsin Northwoods for my future children and grandchildren.

FROM THE WASHINGTON OFFICE

Chief Tidwell participates in Critical Issues in Climate Change Symposium

Chief Tidwell spoke in a panel session on [Designing Resilience](#) as part of a Critical Issues in Climate Change Symposium organized by the [Joint Center for Political and Economic Studies](#) in conjunction with the Congressional Black Caucus Foundation. The Joint Center’s [Commission to Engage African Americans on Climate Change](#) brings together leading experts from government, health, industry, civil rights, academia, labor, consumer protection and environmental interests to increase understanding of climate change and its potential impact on African American communities.

2011 Urban and Community Forestry Grant Program

The [National Urban and Community Forestry Advisory Council](#) (NUCFAC) has posted applications and instructions for applying for the 2011 Urban and Community Forestry Challenge Cost Share grant program at their website and at www.grants.gov (reference CFDA 10.675). Applications are due November 29, 2010. There are three innovation grant categories including climate change. NUCFAC uses these grants to support innovative research, collaborations, and programs that help advance the use of urban and community forest resources in mitigating greenhouse gas emissions, helping communities adapt to climate change impacts, or expanding knowledge of how urban and community forests can best be managed to both mitigate and adapt to climate change.

Power IT Down Day Results

On August 27, Forest Service employees in the WO Yates Building were encouraged to shut off their electrical equipment, especially computers and printers, to help reduce the Federal government’s energy consumption and associated greenhouse gas emissions. Over that weekend, we reduced emissions equivalent to 290 gallons of gasoline. For more information, visit the [Sustainable Operations Greenhouse Gas Inventories website](#).

FROM THE FIELD

Measuring Forest Carbon

The Forest Service workshop “Intensive Landscape-scale Measurements of Forest Carbon for Reference Sites in the Americas” on the Silas Little Experimental Forest in September involved

scientists and staff from the Northern, Southern, and Pacific Northwest Research Stations as well as 21 researchers and analysts from Mexico, Brazil, Honduras, Guyana, Peru, Colombia, and Argentina. The objectives were (1) to learn how to establish and implement a forest carbon monitoring program, and develop parameter estimates for forest dynamic models and ecosystem service analyses; and (2) to develop a proposal for a Western Hemisphere network of forest carbon monitoring reference or verification sites, including landscape-scale sampling designs, measurement protocols, and integration with remote sensing and models. The workshop concluded with initiation of a plan to develop common protocols for establishing and maintaining forest carbon observations at intensive research and monitoring sites across the Americas. Such a network could have significant positive impact in terms of validating remote sensing; augmenting national forest inventories for monitoring, reporting, and verification; promoting consistency among countries; and for research and teaching. A full report and additional information is available on the [workshop website](#).

Predicting Behavior of Forest Diseases as Climate Changes

The potential synergistic effects of climate change and forest diseases on tree and forest health will be the focus of an hour-long webinar sponsored by the Western Wildland Environmental Threat Assessment Center; Pacific Southwest Research Station; University of California Cooperative Extension, Marin County; and University of California, Santa Barbara. Speakers will present case studies of sudden aspen decline, Swiss needle cast, Alaska yellow cedar decline, and other diseases to illustrate drivers of tree declines, and management options to minimize the undesirable effects of forest diseases as climate changes. The hour concludes with questions and answers among speakers and participants. This webinar will be offered twice: Wednesday, November 3, 2010 from 1:15-2:15 PM PDT and Thursday, December 2, 2010 from 9:30-10:30 AM PST. Follow this [link to register](#) for either session. The number of participants is limited so register early. Registrants will receive a toll-free call in number and a link to the online webinar by email. Please contact Janice Alexander (jalexander@ucdavis.edu, 415-499-3041) for more information.

Integrating Climate Change with Forest Vegetation Models for Adaptation Planning

Evaluating the potential impacts of climate change on forest management and planning objectives is essential to ensuring that these objectives can be met in the coming decades. The Western Wildland Environmental Threat Assessment Center and the University of Washington Climate Impacts Group (UW CIG) recently held a webinar on the numerous factors that need to be considered when integrating climate change and vegetation models used in forest planning and management. Presentations by Jeremy Littell of UW CIG and Sam Cushman of RMRS as well as an audio file are archived at the [webinar website](#).

Round-up of Climate Change Activities on Eastern National Forests and Grasslands

After completing the 40-hour [Training in Advanced Climate Change Topics \(TACCT\) program](#) last March, 22 Forest Service employees from 14 national forests and grasslands and 2 regional offices set out to engage their coworkers on climate change science and implications for forest management. In the 6 months since the program, a number of climate change activities have taken place on National Forests and Grasslands in the eastern US and made significant contributions to increasing our climate-readiness. Events completed to date include educational posters for Forest/Grassland staff and visitors (Kevin Amick, Hoosier NF; Amy Amman, Ottawa NF; Casey McQuiston, Superior NF; Matt St. Pierre, Chequamegon-Nicolet NF), educational presentations to members of the public (Renee Thakali, Midewin National Tallgrass Prairie), Earth Day event for Forest staff and local students (Brian

Bogaczyk, Ottawa NF), forest carbon assessment (Eric Henderson, Hiawatha NF), and informational presentations to Forest/Grassland leadership, staff, and specialists (Jarel Bartig, Wayne NF; John DePuy, Shawnee NF; Rich Hall, Mark Twain NF; Ellen Lesch, Ottawa NF; Jim McDonald, R9 Regional Office; Roger Simmons, White Mountain NF).

RECOMMENDED READING

Climate Change Indicators in the United States

U.S. Environmental Protection Agency

This 2010 [report](#) presents 24 environmental indicators that describe trends related to the causes and effects of climate change. For example, 8 of the top 10 years for extreme one-day precipitation events have occurred since 1990, the length of time that lakes stay frozen has decreased at an average rate of one to two days per decade, and the length of the growing season has increased more rapidly in the West than in the East.

LINKS

Tribes & Climate Change

The Institute for Tribal Environmental Professionals (ITEP) [Tribes & Climate Change website](#) includes profiles of tribes that are impacted by climate change, audio recordings of tribal elders offering their views on climate change, general information about climate change and its impacts, and links to online resources. You can also [sign up](#) for ITEP's monthly Climate Change Newsletter.

Rocky Mountain Region Water Web Resources

The [Rocky Mountain Region Watershed Stewardship website](#) helps citizens grasp the forest-to-faucet link and builds public awareness and partner support for active watershed stewardship in National Forest headwaters. The section on [Watersheds Under Stress](#) describes the impacts of [climate change](#), insects, and population growth on our water resources. For example, in the inland west, spring snow pack has dropped sharply since 1988 and snowmelt runoff now averages 10 days earlier.

NEWSLETTER SUBMISSIONS

Please send your submissions on Forest Service climate change related activities to Cathy Dowd: cdowd@fs.fed.us