

# Engaging a Climate Ready Agency

*From Dave Cleaves, Forest Service Climate Change Advisor*



FEBRUARY 2, 2011

Like a groundhog we all know, this day sees another Forest Service climate change update popping up. Thanks to all of you who continue to share the details of Forest Service activities that are linked to climate change. (See submission details in the last section of this update.) Please also keep the Climate Change Advisor's Office in the loop on climate change related research and communications so that we can learn from each other as we work to connect the strong fibers of this vast organization.

If you want to make sure that you continue to receive these updates, please sign up for our climate change listserv—we'll send an email to announce when a new update is available on the [Climate Change Advisor's website](#). You can also direct partners to this website so they can sign up for the listserv. (It's not the kind of listserv that will flood you with tons of email.) Previous editions of the updates are also posted on the website.

## MESSAGE FROM DAVE

**CHIEF TIDWELL IS OUR SPECIAL GUEST ESSAYIST THIS MONTH.**

### **Assessing Our Progress**

*Tom Tidwell, Chief*

Climate change is one of the major challenges we face as we fulfill our mission to sustain the health, diversity, and productivity of the Nation's forests and grasslands for present and future generations. The future vitality of the lands we manage is at risk from climate change, which drives fire, insects, diseases, invasive species, drought, and other forces. It is not in our mission or our nature to just let things happen. We must manage forests and grasslands to adapt – that is, to accommodate the changes and new conditions imposed by climate shifts. But adaptation cannot be the single focus of our response to climate change and we cannot do it alone. That's why the Climate Change Roadmap and Performance Scorecard are so important – they direct us in creating a balanced approach that also includes mitigating climate change, building partnerships across boundaries, and preparing our employees to respond to climate-related issues by understanding and applying emerging science.

Recently, the Washington Office released initial guidance for using the Scorecard. The guidance, written by a team of Forest Supervisors, Regional Directors, and WO staff, is designed to be brief, easy to understand, practical, and affordable. We have asked each National Forest and Grassland to conduct a preliminary assessment of where they currently stand on the ten Scorecard elements. More formal assessments will be made at the end of each fiscal year. Our goal is for each National Forest and Grassland to answer yes to at least seven scorecard questions, with at least one yes in each dimension, by 2015. We hope that the assessments will provide an opportunity for thoughtful conversations between Forest Supervisors, their staff, and their Regional Forester. We expect that each National Forest and Grassland will develop their own forward-thinking roadmap to improve their readiness to deal with climate change. Regions and Stations will also be evaluating how they will better organize science delivery, partnering, and other functions that will support Scorecard performance. The network of field-based Climate Change Coordinators and the Climate Change Advisor's Office is available to help.

The Roadmap and Scorecard do not impose a one-size-fits-all approach because there is no one solution to the array of challenges that climate change creates. Given the diversity of our landscapes, our stakeholders, and our partners, we must maintain the flexibility to develop different approaches for different places. The Roadmap and Scorecard are designed to encourage innovation, experimentation, and adaptive management. We already have many of the tools we need to respond to climate change, but we may need to develop new approaches to deal with new challenges by experimenting with our tried and true techniques. The Roadmap and Scorecard provide ways to share lessons learned and improve our capabilities based on realistic assessments of our strengths and weaknesses. We want to learn from each other so that we don't repeat mistakes or reinvent what's already out there.

The Roadmap and Scorecard are about developing our organizational ability and readiness to adapt to a rapidly changing future and building climate change response into how we pursue our mission. Most of all, they are not parts of another separate initiative. They will help us to integrate climate change considerations into new and existing programs and initiatives. In particular, they were designed to implement the USDA Strategic Plan (2010-2015) and the Forest Service Strategic Plan (2007-2012), to align with the 2011 Planning Rule, and incorporate climate change preparation into our major initiatives. Actions that have been described in the Roadmap and that will be captured in the Scorecard are applicable to the Watershed Condition Framework, Collaborative Forest Landscape Restoration Program, Open Space Strategy, Invasive Species Strategy, and Cohesive Fire and Fuels Strategy. All of these together will help us accomplish our mission and make our forests and grasslands more resilient. We will need to work together to integrate these strategies throughout our plans of work. However, we still have much to learn about the science of ecosystems and climate and how to handle climate-driven changes and uncertainties in our management processes such as NEPA and forest planning. The Regions, Stations, and State & Private Forestry units will need to work together to address these questions. We are all in this together and together we will move forward.

The Scorecard is not meant to measure or record everything we do about climate change. Our concentration on the National Forest System is an early advance down the Climate Change Roadmap. This year, we will also be expanding the four dimension concept of the scorecard (capacity, engagement, adaptation, and mitigation) to climate change response for other Deputy Areas and national programs because the things we do in response to climate change are delivered across a range of different authorities to a wide variety of stakeholders. Under Executive Order 13514, every federal agency will be required in 2011 to report what it is contributing to the federal climate change response and how it is handling the climate-driven challenges to its mission. I am confident that the Roadmap and Scorecard process will make us national leaders in assuring sustainability in a changing future.

We are looking forward to seeing and sharing the outcome of the 2010 preliminary assessment. The results will help us tell our story and move toward climate readiness. Thank you for all that you do.

## FROM THE WASHINGTON OFFICE

### Climate Change Performance Scorecard Guidance Released

The [National Roadmap for Responding to Climate Change](#) and the Performance Scorecard were announced in July 2010. Recently, the guidance for using the Scorecard was released along with a request for each National Forest and Grassland to do a preliminary assessment by March 25 in order to provide a rough snapshot of our climate change efforts to date and feedback with which to refine the guidance. Going forward, complete Scorecard assessments will be made at the end of each fiscal

year. Our goal is for each National Forest and Grassland to provide evidence to support a yes answer for at least seven Scorecard questions, with at least one yes in each dimension, by 2015. The guidance document and a new briefing paper on the Scorecard are available on the [Forest Service Intranet](#).

### **USDA Climate Change Science Plan**

Released in December 2010, the [USDA Climate Change Science Plan](#) provides a guide for USDA and stakeholders to enable clear and consistent consideration of investments in climate change science activities. It presents an overview of the critical questions facing USDA agencies as they relate to climate change and offers a framework for assessing priorities to ensure consistency with USDA's role in the federal government's broader [U.S. Global Change Research Program](#) and related efforts. The document identifies important roles and responsibilities for USDA agencies and areas of needs and dependencies wherein USDA agencies are reliant on other programs for cooperation.

### **Office of the Chief Climate Change Intranet Site**

Employees can now access Forest Service climate change information on an [internal](#) website. Although the site will continue to evolve, you can now find contact information for the Climate Change Advisor's staff, news, archived copies of this update, and information on the Roadmap and Scorecard. We hope this will allow us to share information more rapidly, better organize our growing collection of climate change activities and events, and allow you to find needed materials on demand.

## **FROM THE FIELD**

### **First Friday All Climate Change Talks (FFACCTS) Presentations**

This month's FFACCTS, hosted by the Eastern Forest Environmental Threats Assessment Center, includes presentations on "State of the Climate Reports" by Deke Arndt, Climate Monitoring Branch Chief of NOAA's National Climatic Data Center and "Climate Change, Changing Forests: The Impacts of Climate Change on Forests of the Northeastern United States and Eastern Canada" by Lindsey Rustad, Research Ecologist of NRS. The program begins at 11 am Eastern on Friday, February 4. Contact Perdita Spriggs for connection details for VTC, WebEx, or conference call, or for more information.

### **WO Seminar on High Elevation Pines**

Diana Tomback from the Whitebark Pine Ecosystem Foundation and Bob Keane from RMRS will present work that is underway to help preserve and restore the fragile ecosystem of high elevation five-needle pines. This group includes the world's oldest living tree species – the bristlecone pine. The high elevation five-needle pines are found in small narrow niches that are being impacted by mountain pine beetles and white pine blister rust along with a changing climate. Discussion will follow the presentation on February 24 from 10 – 11:30 am Eastern in the Yates Building Training Room.

### **National Workshop on Climate and Forests**

This May 2011 workshop in Flagstaff, AZ, is designed to increase understanding of adaptation and mitigation options; make planning tools accessible and useful for decision makers, resource managers, and educators; and foster science-management partnerships to generate the best management decisions. An afternoon field trip explores the Four Forests Restoration Initiative and sites of ponderosa pine ecosystem restoration, aspen decline, wildfire, and pinon pine bark beetle

mortality. The workshop is sponsored by the Forest Service, USDA National Institute of Food and Agriculture, Arizona Cooperative Extension, Society of American Foresters, Association of Natural Resource Extension Professionals, the University of Arizona, and Northern Arizona University. [Registration](#) is now open.

### **Greater Yellowstone Area (GYA) Climate Action Plan**

In December, the Greater Yellowstone Coordinating Committee (GYCC) signed the GYA Climate Action Plan for reducing greenhouse gas emissions from federal operations in the ecosystem over the next 10 years. The plan conserves both natural and financial resources and is a model for interagency collaboration. The ten land management agency units in the GYA (the Beaverhead-Deerlodge NF, Bridger Teton NF, Caribou-Targhee NF, Custer NF, Gallatin NF, Grand Teton NP, National Elk Refuge, Red Rock Lakes NWR, Shoshone NF, and Yellowstone NP) have committed to projects that will result in a 21-36 percent ecosystem-wide reduction in emissions below a 2007 baseline by 2020. The current plan consists of an Excel workbook and Executive Summary, but a more user-friendly, written version will be published this spring. For more information, see the [GYCC Greenhouse Gas Emissions Reduction document archive](#), or contact Michael Fiebig, [mtfiebig@fs.fed.us](mailto:mtfiebig@fs.fed.us).

### **Climate Change Adaptation Workshop on the Willamette National Forest**

The Willamette National Forest (WNF) held a workshop in January focused on climate change effects on aquatic resources and terrestrial vegetation. Several scientists from PNW presented relevant projections of climate changes and effects on natural resources in the central Oregon region. David Peterson presented an overview of climatology and future climate projections and Crystal Raymond presented projections of expected changes in fire regimes for the Pacific Northwest. Paul Anderson spoke about climate change and silviculture. Gordie Reeves presented research on climate change effects on coldwater fish in the region. Resource specialists from the WNF gave presentations on changes they are seeing to hydrology, terrestrial vegetation, and the road system, as well as current management practices that are increasing forest resilience. Forest managers and resource specialists also discussed: (1) how they are incorporating potential effects of climate change into project planning, (2) additional actions they might consider, and (3) any current management that is counterproductive to increasing forest resilience to climate change.

### **Climate Change Workshop for the Santa Fe and Carson National Forests**

In January, the Santa Fe and Carson NFs held a joint workshop on climate change in northern New Mexico including sessions on climate change science, fire and climate change, and hydrology and climate change. The workshop was a successful example of a science-management partnership with attendees from FS Research Stations, the Universities of Arizona and California, New Mexico State University, and USGS, along with managers and resource specialists from the Santa Fe and Carson NFs, Valles Caldera Trust, Bandelier National Monument, BLM, and FWS. Strategies were presented for adapting to climate change (Dave Peterson - PNW) and improving public outreach on fire, smoke, and climate change (Sarah McCaffrey -NRS). Michael Furniss (NWS) presented an overview of the FS watershed vulnerability assessments. Linda Joyce (RMRS) facilitated the hydrology session. Elizabeth Reinhardt from the FS Climate Change Advisor's Office presented perspectives from the WO. Presentations were followed by panel discussions and breakout sessions that gave forest managers an opportunity to discuss potential vulnerabilities of forest ecosystems with respect to fire, hydrology, and climate change and identify potential changes in management that could help improve forest resilience to climate change.

## CLIMATE CHANGE RESOURCE CENTER (CCRC)

### Climate Change Tools

The CCRC is working to expand its collection of tools that can help land managers incorporate climate change and carbon management into decisionmaking. The [tools webpage](#) provides descriptions and access to science-based applications. For each tool, the site offers a prospectus of tool-specific information on appropriate uses, data requirements, learning resources, and limitations. Please see the [CUFR Tree Carbon Calculator web page](#) for an example. If you have developed or are using a tool you wish to share, contact the CCRC at [ccrc@fs.fed.us](mailto:ccrc@fs.fed.us) or submit the tool for review via our [online submission form](#).

## RECOMMENDED READING

### **Climate Change, Aquatic Ecosystems, and Fishes in the Rocky Mountain West: Implications and alternatives for management**

*Bruce E. Rieman and Daniel J. Isaak*

Climate change is rapidly altering aquatic ecosystems across the Rocky Mountain West and may negatively impact populations of sensitive species. The objective of this 2010 report ([RMRS-GTR-250](#)) is to synthesize the literature to address three questions: 1) What is changing in climate and related physical/hydrological processes that may influence aquatic species and their habitats? 2) What are the implications for fish populations, aquatic communities, and related conservation values? 3) What can we do about it?

### **Scanning the Conservation Horizon: A guide to climate change vulnerability assessment**

*National Wildlife Federation*

This [new publication](#) is designed to help conservation practitioners understand how vulnerability assessments can help them respond to the challenges of managing natural resources in an era of rapid climate change. Developed by a collaborative working group that included Forest Service personnel, it provides an overview of the general principles of climate change vulnerability as it relates to species, habitats, and ecosystems; describes various approaches for assessing the components of vulnerability; and highlights examples of vulnerability assessments.

### **Natural Inquirer Climate Change Edition**

*USDA Forest Service*

The new climate change edition of the *Natural Inquirer* is now available to order [online](#) (at no cost). The *Natural Inquirer* is a science education journal written for middle school students and is based on Forest Service science. In this edition, students will explore the relationship between ocean sea surface temperatures, wildland fires, and a changing climate. They will discover how the study of tree-rings enables scientists to predict future climates and how the habitats of eastern tree species and wolverines living in the west may change as the climate changes. Other topics include the use of satellite data to estimate tropical forest growth and carbon storage over time, and the possible impacts of climate change on stream temperatures. Fifteen Forest Service scientists and five cooperating scientists are introduced in the journal. The journal may be read by adults as well as youth! This journal is one of the Forest Service's first education resources produced to commemorate

the 2011 International Year of Forests.

### **Integrated Management of Carbon Sequestration and Biomass Utilization Opportunities in a Changing Climate: Proceedings of the 2009 National Silviculture Workshop**

*Theresa B. Jain, Russell T. Graham, and Jonathan Sandquist, tech. eds.*

The 2009 National Silviculture Workshop presented scientific information and management strategies to meet a variety of objectives while simultaneously addressing carbon sequestration and biomass utilization. The focus areas were the role of climate change in science and management, silvicultural methods to address carbon sequestration and biomass utilization, alternative silvicultural strategies to address the growth and development of forests, and current applications of computer simulation models or modeling techniques designed to provide decision support. The [proceedings publication](#) is available online.

## **LINKS**

### **Climate.gov**

The Forest Service is working with an interagency climate change group lead by NOAA to develop [climate.gov](#). The website is intended to serve as a single point-of-entry for federal agency climate information, data, products, and services. The Climate Portal addresses the needs of decision makers and policy leaders, scientists and applications-oriented data users, educators, youth, business users, and the public. WO Conservation Education has been invited to help develop the education tab on the Web site. There will be future opportunities for the Forest Service to contribute to other parts of the Web site.

## **SUBMISSIONS**

Please send your submissions on Forest Service climate change related activities to Cathy Dowd: [cdowd@fs.fed.us](mailto:cdowd@fs.fed.us). It's most helpful to have a short description with a web link to more information.

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.