



SCIENCE • ADAPTATION • MITIGATION • COMMUNICATION

Moving Forward by Looking Back

The Thomas Condon Paleontology Center (TCPC), tucked into the rolling grass-covered hills of the eastern Oregon landscape, showcases a world-class collection of Tertiary fossils recovered from the nearby hills that tell a story spanning nearly 50 million years. It is a story of evolution and extinction, of catastrophic volcanism and of our planet's dramatically changing climate.

"The challenge at a paleontology park is to find ways to make the story of deep time relevant to the contemporary issues facing us today," says Jim Hammett, Superintendent of John Day Fossil Beds National Monument. "There is no better issue to help make that connection than climate change. But we need to go further than simply stating there's a problem. It's not fair to the public to stop there." To that end, Hammett and his team determined early in the building design phase that the TCPC needed to do more than interpret climate change. It also needed to demonstrate a willingness and ability to do something about it.

Atop the TCPC's roof sits a 30 kilowatt, grid-tied photovoltaic system, clearly visible to any passing motorist. Power from these panels supplements the building's electrical requirements, and any surplus is fed back into the utility grid. The sight of these panels glinting in the hot Oregon sun sends a powerful message of sustainability and accountability, but that is only part of the TCPC's connection to climate change. Through a special

agreement between the National Monument and Bonneville Power Administration, all of the electricity purchased for use in the facility is generated from renewable sources, primarily from the wind turbines that rise above the Columbia River Gorge, a hundred miles to the north. An additional partnership between the monument, Discover Your Northwest and Bonneville Environmental Foundation allows visitors to purchase "Green Tags" in the TCPC bookstore, providing an opportunity for them to off-set their own carbon emissions generated during their trip to the park.

"It is our responsibility as an agency to reveal solutions to this critical issue," says Hammett. "We need to be able to demonstrate an ability to mitigate our own impacts and show that it can be done without much effort." The design of the TCPC, and the partnerships that have been established, are just a few of the ways John Day Fossil Beds National Monument is rising to the challenge issued by the Director – to use science to help mitigate and adapt to our changing climate. Through communicating these efforts to park visitors we help them discover that we all can be part of the solution.

The National Park Service will celebrate the first National Fossil Day on October 13th, 2010. John Day Fossil Beds will host on-going activities throughout the day. For more information, contact: Paul_Ollig@nps.gov

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Above: The Thomas Condon Paleontology Center showcasing a 30 kilowatt, grid-tied photovoltaic system at John Day Fossil Beds NM in Oregon.

Monthly Climate Change Webinar Series

2nd Thursday of every month
2:00 pm - 3:30 pm EDT

Next Webinar: Oct 14th, 2010

October's presentation will feature Dr. Patrick Gonzalez, our new servicewide Climate Change Scientist.

His presentation titled, "*Global Vulnerability of Ecosystems to Vegetation Shifts Caused by Climate Change*" will be an opportunity for Patrick to share his work in climate science, specifically touching on how climate change is shifting vegetation upslope and towards polar areas and the Equator. These shifts fundamentally alter ecosystems and can harm human well-being. Patrick will present results of a global vulnerability analysis that identifies locations of observed vegetation shifts, areas of future vulnerability, and potential refugia. This published research provides a method for natural resource management agencies to identify priority areas for climate change adaptation measures.

Follow this link to register for this month's webinar:
<https://www1.gotomeeting.com/register/599752400>

The Climate Change Response Program can be found on the web at: <http://www.nps.gov/climatechange>

We are also on InsideNPS at: <http://inside.nps.gov/waso/waso.cfm?prg=125&lv=2>

Interpreting Climate Change Training at Ranger Rendezvous in Bend, OR

Are you or members of your staff attending the Ranger Rendezvous in Bend, OR, this year? Are you considering arriving early for a pre-workshop session? On Sunday, October 31, participants have the opportunity to take a preworkshop session to learn more about the science of climate change, our agency position on this critical issue, and how to improve your park's climate change communication effectiveness. This workshop is sponsored by the Mather Training Center and the Climate Change Response Program. To register, contact: Rebecca_Harriett@nps.gov

Locations for Two DOI Climate Science Centers Announced

The location of two new DOI Climate Science Centers (CSC) were announced on Thursday September 23rd, by Secretary of the Interior, Ken Salazar. North Carolina State University will host the Southeast CSC and a consortium of three universities—Oregon State University, University of Washington and the University of Idaho—will lead the Northwest CSC. To read the full memo, go to: <http://nrpcsharepoint/climatechange/default.aspx>

CCRP Featured Staff

Leigh Welling

We are proud to announce Dr. Leigh Welling as the new Program Manager to lead the NPS Climate Change Response Program, which is an interdisciplinary program responsible for working with parks, regions, Washington directorates and programs, and a range of partners to develop a cross-cutting approach to responding to the challenges of climate change. Previously, Leigh served as the NPS Climate Change Coordinator, during which time she helped to establish the new program beginning FY 2010, including budget planning and implementation, staffing, and strategic planning. Leigh came to the Washington Office from Glacier National Park where she was Director of the Crown of the Continent Research Learning Center and served as National Coordinator for the NPS Research Learning Centers from 2006-2008. She has a PhD and MS in oceanography from Oregon State University and a BA in geology from the University of Colorado, Boulder. Her research focused on ground-truthing hindcast models for interpreting past climatic variability and change.



Great Northern LCC Update

The Great Northern LCC launched its newsletter during the month of September. The GNLCC Quarterly is aimed at providing information about the GNLCC and their activities, highlighting science partnerships, events, and news related to landscape conservation throughout the region. In every edition you will find a calendar of events, new publications, and information on how to become involved in the GNLCC. For more information, go to: http://www.nrmcs.usgs.gov/files/gnlcc/newsletter/GNLCC_News_Fall2010.pdf

Great Lakes Talking Points Available

The CCRP is developing talking point documents intended to be a synthesis of current climate change research organized by bioregion; there are 11 bioregions identified. These documents are a tool for resource managers and interpreters. The Great Lakes document is now complete and available at: <http://nrpcsharepoint/climatechange/communication/Bioregional%20Talking%20Points/Forms/AllItems.aspx>



Maria Honeycutt

Maria Honeycutt has joined the CCRP for one year as a Coastal Adaptation Specialist on detail from NOAA's Coastal Services Center. She'll assist managers across NPS' ocean and coastal units in accessing relevant science, tools, and guidance to support adaptation planning and projects, with an early emphasis on sea-level/lake-level issues. Maria has been a Climate and Hazards Policy Analyst at NOAA since 2008, working to strengthen relationships between NOAA's research enterprise and the programs that support coastal managers. Prior to joining NOAA, she spent a year in the U.S. Senate as a Congressional Science Fellow and seven years as an engineering consultant leading post-hurricane recovery projects for FEMA. Maria earned a BA in geology from Smith College, an MS and PhD in oceanography from the University of Delaware, and is professionally registered as a Certified Floodplain Manager. An avid photographer of NPS units in the Desert Southwest, she's looking forward to seeing many new coastal parks and supporting NPS' adaptation efforts.



IMR Climate Change Needs Assessment Project Update

Two major components of the project have been completed—an on-line survey and evaluation of 600+IMR employees and the completion of follow-up individual interviews and associated recommendations. The next step in this project involves the creation of decision tree documents. These decision trees will guide IMR employees in determining relevant climate change training classes or modules they can take to learn more about a particular subject related to climate change. Classes or modules would likely include climate literacy - basic and advanced, adaptation, mitigation, uncertainty in decisionmaking, communicating climate change - basic and advanced and would reference existing available training resources. We have submitted two abstracts to the George Wright Society Conference and hope to present details regarding the project, the surveys and interviews, survey results and recommendations at these sessions next Spring.

Contact: Theresa_Ely@nps.gov



Hydroclimate Conference at Yosemite NP, Oct. 7-8, 2010

Warming of the climate will profoundly affect the Sierra Nevada's hydrologic system, according to the latest scientific thought. Annually, in Yosemite NP, scientists gather to share their research with the public. Northern California is predicted to warm by 3-6°C (5-11°F) by the year 2100, an increase that will decrease the annual snowpack volume, melt it earlier, and increase the potential for torrential winter rainstorms that may cause flooding. This shift in the cycle will diminish the strength of the spring pulse result in longer, drier summers with less water in rivers, streams, and groundwater storage. Warmer temperatures will result in rising snowline elevation and an increase in park area receiving rain instead of snow. To learn more about the conference, contact:

Jim_Roche@nps.gov

SER Hosts Natural Resources/Interpretation Workshop

The Southeast Region Natural Resources and Interpretation Offices collaborated to bring natural resource managers and interpretive managers together for a three-day workshop. One hundred twenty-five participants gathered in Asheville, NC during the week of August 31-September 2, 2010. The purpose of this workshop was to help to bridge the gap between natural resource management and education. This included: (1) gaining perspective of each discipline, (2) discussing collaborative ways in tackling critical resource issues in the Southeast Parks and (3) discussing ways to provide valuable information on those critical resources to the public. Workshop participants included park managers and field employees from both natural resources and interpretation, as well as park superintendents, members of the Southeast Region Regional Directorates Office, and professionals from the Washington Offices of both Natural Resources and Interpretation.

The goal of the workshop was to create a solid communication network and working relationship between natural resources and the field of interpretation. One of the major principles of the Southeast Region Interpretive Strategic Plan "A Move to Solid Ground" recognizes the importance of working collaboratively with natural resource managers on these issues.

Climate Change was discussed in a variety of forums during the workshop. The state of the science was presented to the participants during the plenary session. Dr. David Levinson of the National Oceanic Atmospheric Administration provided information and data on changes that have been recorded and what we might anticipate in the future for the southeastern United States. The participants were provided information on the South Atlantic Landscape Conservation Cooperative (LCC) and its purpose to bring climate information into landscape scale analyses to assist land managers. The group also heard how best to translate the complex issue of climate change to visitors. Participants then engaged in small group dialogue and problem solving on interpreting climate change to visitors.

There was a field trip to the Appalachian Highlands Science Learning Center at Great Smokey Mountains National Park where participants participated in hand on data collection related to plants and salamanders.

Contact: Don_Wollenhaupt@nps.gov

Upcoming Workshops & Meetings

The Wildlife Society hosts its 17th annual conference in Snowbird, UT on October 2-6, 2010.

<http://www.wildlifesociety.org/>

The White House Council on Environmental Quality will hold the first GreenGov Symposium at George Washington University in Washington, DC on October 5-7, 2010.

<http://www.whitehouse.gov/greengov/symposium>

The 10th Biennial Scientific Conference on the Greater Yellowstone Ecosystem titled, "Questioning Greater Yellowstone's Future: Climate, Land Use, and Invasive Species," will be held in Mammoth Hot Springs, Yellowstone NP on October 11-13, 2010.

<http://www.greateryellowstonescience.org/gyesci-conf2010>

The Association of National Park Rangers (ANPR) will hold its annual meeting in Bend, OR on October 31-November 4, 2010. This year's meeting will feature sessions on climate change.

<http://www.anpr.org/anpr.htm>

The annual meeting of the National Association for Interpretation will host several sessions on Climate change in Las Vegas, NV on November 16-20, 2010.

<http://www.interpnet.com/workshop/>

The American Geophysical Union Fall meeting will be held in San Francisco, CA on December 13-17, 2010.

<http://www.agu.org/meetings/fm10/>



Susan Sachs from Great Smokey Mountains NP leads the Climate Change Field Trip.

Devils Postpile NM

The summer of 2010 saw the arrival of a Climate Change Intern at Devils Postpile National Monument. The position was funded by the National Park Service and administered by the National Council for Science and the Environment. The intern, Michael Davis, assisted the Monument's natural resources staff with ongoing, as well as newly established, research projects. Michael made important contributions to invasive plant species monitoring in the San Joaquin Valley and lent a valuable hand to efforts to get the Monument's cold air pooling study up and running. In addition to these projects, Michael worked all summer on an exhaustive review of the most up-to-date scientific literature about climate change and the ecological consequences it could have for Devils Postpile NM. In an internal report he wrote about the future projections of global climate models and dynamic vegetation models, observed effects of climate change on species distributions and phenology, and made adaptive management recommendations for Devils Postpile NM managers. Michael's favorite experiences of the summer were hunting for non-native plants with Michela Adrian, trying to keep up with David Scott during fieldwork, and engaging in thought provoking conversations with Holly Alpert about the potential consequences of climate change. Contact: Deanna_Dulen@nps.gov

More Information

This newsletter is a monthly forum to share the latest news relating to NPS efforts to manage our parks in a changing climate.

Leigh Welling - Coordinator
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Electronic Field Trip to North Cascades National Park

North Cascades NP and the National Park Foundation invite schools across the country to take a free Electronic Field Trip (EFT) to North Cascades on October 13th, 2010. The EFT will be hosted by popular television personality and passionate conservationist Jeff Corwin. Classes can watch the broadcast as it is streamed over the internet or broadcast on participating public television stations and internal school satellite networks. Lesson plans for teachers and web-based games for students are available now at <http://www.northcascadeseft.org>

The EFT, "Climate Challenge: North Cascades National Park," will include two live, hour-long broadcasts (7:00 a.m. PDT and 10:00 a.m. PDT) from North Cascades featuring park rangers, scientists, kids and spectacular scenery. The free program is designed for 4th through 8th grade students and it will be the first in a series of investigative EFTs to explore the impact climate change is having on our national parks and encourage students to become leaders in addressing climate change. Students will have the opportunity to call in and have their questions answered during the broadcast.

Flamingo Master Plan and Design Program

The Flamingo area of Everglades National Park, lying at the end of the 38-mile main park road, began as a coastal farming settlement in the 1880s. As the largest developed area within the park, it was built as part of the Mission 66 program in the 1950s. In 2005, hurricanes Katrina and Wilma destroyed or heavily damaged a number of the aging facilities, and many visitor services had to be discontinued or reduced. Today, Flamingo still has limited services while remaining the gateway to Florida Bay and the park's backcountry. Public support for rebuilding Flamingo continues to be very strong and the NPS completed the Flamingo Commercial Services Plan (CSP) in 2008, defining a broad vision and financially-viable approach to rebuilding Flamingo.

According to a recent study released by the Environmental Protection Agency that followed trends relative to sea level rise along U.S. Coasts between 1958 and 2008, climate change is expected to affect virtually every sector of society, including water resources, energy use, food production, commerce and recreation. Using North Cascades as a backdrop, this EFT will educate tomorrow's leaders about the effects of climate change and explore with them ways climate change can be addressed. Home to 9,000 foot tall mountains and over one-third of the remaining glaciers in the lower 48 United States, North Cascades is an excellent location to explore the effects of climate change. Its northerly location and high altitude terrain make prime territory to teach about some of the earliest tangible impacts of climate change evidenced in glacier melt and species distribution.

While this EFT is geared toward students, it is open to anyone interested in learning more about climate change in our national parks. Register at: <http://www.northcascadeseft.org>
Contact: Charles_Beall@nps.gov

The just-completed Flamingo Master Plan and Design Program, based on the CSP, provides detailed guidance to establish a "new Flamingo" an eco-friendly destination with a greater variety of lodging options and visitor amenities. The plan's design and construction focuses on improvements that are hurricane, flood, and climate change resistant, and demonstrate state-of-the-art sustainable technologies. For more information, go to: <http://www.nps.gov/ever/parkmgmt/flamingomasterplan.htm>
Readers interested in a hard copy or CD of the full plan, contact: Fred_Herling@nps.gov

Useful Resources Related to Climate Change

GO Green is EPA's monthly newsletter whose mission is to provide "what you can do" information about activities and events to improve our homes, communities, and offices. Available at: <http://www.epa.gov/gogreen/>

The Art of the Long View by Peter Schwartz is a fascinating overview of scenario planning. Through real life examples, it delves into teaching the tools for developing strategic plans for

businesses and organizations. Resource management decisions must be based on future expectations, and scenario planning is an effective approach for managing our resources under an uncertain future climate.

