



SCIENCE • ADAPTATION • MITIGATION • COMMUNICATION

A Tool for Decision Making in an Era of Uncertainty

Since 2007, the National Park Service (NPS) has teamed with Global Business Network (GBN), the University of Arizona Office of Arid Lands Studies, the University of Montana National Center for Landscape Fire Analysis and the USGS Northern Prairie Wildlife Research Center to explore how scenario planning can help land managers better understand, address and prepare for the impacts of global climate change on national parks and protected areas.

Scenario planning is a proven decision support process developed by the US Military during the cold war and was adopted by the private sector to facilitate decision-making in situations laden with complexity, uncertainty and risk. More recently, scenario planning has been adapted to include scientific and resource management information toward long-term protected area planning and conservation.

This February, the NPS completed the final of four scenario planning training workshops designed to raise awareness of, and build capacity in, scenario planning for climate change response. The workshops utilized current scientific information on known climate drivers and potential impacts for selected landscapes in order to build plausible scenarios of how the future may evolve. Once articulated, the scenarios are used to explore overarching mitigation and adaptation actions that could allow managers to effectively conserve and protect resources across a range of potential futures.

GBN, a world leader in scenario planning consulting and training, facilitated the workshops which were held at various locations across the country over the past six months. The first of the four training workshops focused on climate change impacts to Alaska's Arctic and Coastal regions, the second on Great Lakes and Atlantic Coasts, the third on Urban Landscapes and Eastern Forests and the final workshop utilized case studies from southern Sierra Nevada, the Mojave Desert, and the Hawaiian Islands.

Over 150 people participated in the trainings, which brought together managers, scientists, planners, resources specialists, and educators to discuss the impacts of global climate change at the local and landscape scale. Workshop participants hailed from organizations such as the National Park Service, universities and non-profits as well as partner agencies like the National Oceanic and Atmospheric Administration, the US Geological Survey, the Bureau of Land Management, the US Forest Service and the Bureau of Reclamation.

Summary reports of the training workshops are available online. A scenario planning process guide is currently under development.

For workshop summaries: <http://nrpcsharepoint/climatechange/Management%20Action/Forms/AllItems.aspx>

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Above: One obstacle to making decisions in the face of uncertainty can be an overwhelming sense of what is possible. Scenario planning is a tool for illuminating the most critical information and overcoming decision paralysis; Photo courtesy of GBN.

Monthly Climate Change Webinar Series

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

March's presentation will feature Wendy Abshire, Senior Project Manager for the Cooperative Program for Operational Meteorology Education and Training (COMET) in Boulder, Colorado.



Her presentation titled, "*Climate and other Geoscience Multimedia Education Materials-- The Free Candy Store is Open!*" will introduce attendees to free web-based multimedia educational materials available from the COMET Program.

COMET, established in 1989, is a part of the University Corporation for Atmospheric Research. As an internationally renowned training partner to NOAA, all of their award-winning training materials on climate and weather topics are available to everyone.

The webinar will provide an overview and tour of climate and other materials that may be of most interest to the NPS community. Not only may attendees extend their knowledge by using these materials as is, they may be reused and re-purposed (including graphics and animations).

Follow this link to register for this month's webinar:
<https://www1.gotomeeting.com/register/778762921>

Applying Scenario Planning in the Alaska Region

Building from the Alaska Climate Change Scenario Training Workshop held in August 2010, the NPS Alaska Region is now starting to apply climate change scenario planning for all four Alaska networks. This is a three-year project, primarily funded through the FY10 NPS Climate Change Response Program's Servicewide Call, and led by the Scenario Network for Alaska Planning (SNAP).

In February 2011, the first network workshop (Southwest Alaska Network) was held in Anchorage and focused on Kenai Fjords National Park, Lake Clark National Park and Preserve, Katmai National Park and Preserve, and Aniakchak National Monument and Preserve. Outcomes from the workshop included the identification of climate drivers that will influence the Southwest Alaska parks, generation of plausible climate futures for the region, and implications associated with these various climate futures. Follow-up work will include the identification of smart investments and management actions that apply to all plausible climate futures identified (no-regrets actions), while identifying existing or proposed actions that represent poor investments and management actions (no-gainer actions) based on these climate futures. The second network workshop (Arctic Network), is scheduled for April 2011.

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A recent Reuters article discussing climate change in Alaska mentions this 3-year scenario planning project and interviewed Bob Winfree from the Alaska Regional Office and Jeff Mow from Kenai Fjords NP, who have both been actively engaged from the project's inception. The article and the comments to the article can be found at: <http://www.reuters.com/article/2011/02/12/us-alaska-climate-idUSTRE71B23320110212>

Scenario Planning for Communities

A recent article in the Tucson Sentinel explored future scenarios as a means of understanding adaptation measures that the cities in Arizona must take to prepare for climate change. The article can be found at: http://www.tucsonsentinel.com/local/report/122110_arizona_climate/

Vulnerability Assessment Guide Now Available!

Scanning the Conservation Horizon, a Guide to Climate Change Vulnerability Assessment, described in the November CCRP Newsletter, is now published. This guide is the product of an expert workgroup consisting of leading scientists from

federal and state agencies, non-profit organizations, and universities. The peer-reviewed guide is designed to help conservation professionals and natural resource managers craft effective strategies to prepare for and cope with the effects of rapid climate change on the nation's fish, wildlife, and natural habitats. Training on designing and conducting vulnerability assessments, based on information in the guide, is scheduled for May and August of this year. The published book, with many enhancements over previous versions, can be downloaded from: <http://www.nwf.org/vulnerabilityguide>
Contact: John_Gross@nps.gov to request a hard copy or for information on the training.



CCRP Featured Staff

Tim Watkins

We are proud to announce Dr. Tim Watkins as the new Science and Education Coordinator for the CCRP. Tim's primary responsibility will be to coordinate NPS efforts through the Cooperative Ecosystem Studies Units (CESUs) and the NPS Research Learning Centers (RLCs). He will also manage the George Melendez Wright Climate Change Youth Initiative, including the competitive intern and fellowship programs.



Tim has an interdisciplinary background in research, education, partnerships, and outreach. In his previous position with the National Geographic Society (NGS), Tim oversaw an international small-grants program in biological research and conservation. He also managed the annual NGS/NPS BioBlitz partnership program, including BioBlitzes at Rock Creek, Santa Monica Mountains, Indiana Dunes, Biscayne and Saguaro National Parks.

Tim received his Ph.D. at the University of California, Irvine. He did postdoctoral work at Dartmouth College and served on the faculty at Macalester College. His research projects focused on the thermal ecology and evolutionary genetics of amphibian populations. In addition, he has several years experience with innovative teaching in physiology, ecology, and evolution.

The Sustainable Operations and Climate Change (SOCC) branch is ushering in 2011 with plenty of exciting news.

The Climate Friendly Parks (CFP) program has supported CFP workshops at three units in the National Capital Region: National Capital Parks East, Harper's Ferry National Historic Park and Wolf Trap National Park for the Performing Arts. These parks and the National Mall will be completing their climate action plans soon and joining the ranks of CFP Member Parks.

For any parks interested in joining the CFP program or just conducting a greenhouse gas inventory at your park, we now offer quarterly Climate Leadership in Parks (CLIP) tool trainings. We recently held a CLIP training on February 17th, and the next training is scheduled for May 19th from 1:00 – 3:00PM EDT. You can sign up for this or future trainings here: <http://inside.nps.gov/waso/custommenu.cfm?lv=3&prg=998&id=9638>

We are currently collecting final comments on the Green Parks Plan (GPP), a long-term strategic sustainability performance plan for the NPS, and the mitigation implementation plan of the Climate Change Response Strategy. The GPP is an innovative vision for operational sustainability and represents an integral component of our core conservation and education mission. While the goals of the GPP, the majority of which are tied

to Executive Orders and other legislation, are Servicewide goals (eg. not directly applicable to individual parks), its success hinges upon the current and future sustainable activities taking place in each park unit and support office. To further facilitate effective implementation, integration with environmental management system (EMS) elements at the region and park level will be a priority. Servicewide release of the GPP is expected in the coming months.

SOCC hosted the first Green Open Mic listening session on February 3rd, to discuss how to communicate about sustainability in the NPS. We were pleased with all of the comments and the ideas that were exchanged during the call. Our first session underscored what we already knew: there are a lot of great ideas out in the field!! Green Open Mic sessions will be held on the first Thursday of every month from 1:00 - 2:30 PM ET. The March topic is: "Recycling and Trash Free Parks: Best Practices, Resources and Communication." <http://inside.nps.gov/waso/custommenu.cfm?id=9890&lv=3&prg=999>
Contact: Julie_Corby@nps.gov



Interagency Climate Change Planning in Colorado's Gunnison Basin

Resource managers at Black Canyon of the Gunnison NP and Curecanti NRA have joined forces with The Nature Conservancy (TNC) and other federal, state, and county partners to develop a Gunnison Basin Climate Change Working Group. This working group has the following goals: 1) increase understanding and awareness of the threat posed by climate change to plants, animals and ecosystems within Colorado's Gunnison Basin; 2) identify priority climate change adaptation strategies; and 3) promote the coordinated and effective implementation of these strategies and allocate and/or raise funds to support implementation. As a result of several meetings, TNC drafted a Gunnison Basin Climate Change Working Group Work Plan. While this document is still being finalized, key objectives and products identified in the Draft Work Plan are:

- Complete a rapid vulnerability assessment to identify species, habitats and ecosystems within the Gunnison Basin that are most at risk from climate change; understand actual and potential ecological effects of climate change; and inform adaptation planning.

- Identify priority strategic actions to address climate change within the Gunnison Basin (and map locations to implement them).
- Identify tools and information that natural resource managers can use to make current programs and projects "climate smart."
- Identify and design a multi-entity climate adaptation demonstration project to help build resilience to climate change at a strategic location within the Gunnison Basin.
- Document tools, methods and lessons learned to share with resource planners and managers within and outside the Gunnison Basin to facilitate climate adaptation in other landscapes.
- Measure project success by monitoring progress and integrating an adaptive management approach (develop measures of success).

The Gunnison Basin Climate Change Working Group initiated a rapid vulnerability assessment process in January 2011 and intends to have a product in May at which time workshops will be re-convened to develop and evaluate strategic actions to address climate change effects.
Contact: Ken_Stahlnecker@nps.gov



Mark Your Calendars

February 28 - March 23, 2011

A new version of the Earth to Sky Communicating Climate Change workshop will be offered through a series of 5 webinars starting on Feb 28th. The target audience is everyone out there interested in communicating about climate change. Register at: <https://www1.gotomeeting.com/register/538619977>

March 23, 2011

The monthly USFWS Safeguarding Wildlife from Climate Change webinar will take place (topic TBA).
Donna_Brewer@fws.gov

March 30-31, 2011

The Climate Friendly Parks program will be hosting a workshop at Indiana Dunes NL.
Julie_Corby@nps.gov

March 31, 2011

The Power of Place: Gathering Collective Wisdom to Transform Climate Change Communication, will be held in Palmetto Bay, FL. This workshop will gather the collective wisdom and insights from field educators to develop an innovative strategy to transform climate change communication. <https://sites.google.com/site/ccedpartner/home>

April 20-21, 2011

Bridging Boundaries: Adaptation Planning for Grasslands & Forests in the Northern Great Plains, will be held in Rapid City, SD. This workshop aims to build capacity and improve coordination of climate change management and adaptation efforts among land management agencies in the Northern Great Plains. <https://sites.google.com/site/bordercrossingworkshop/>

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.

Submissions are due on the 3rd Friday of every month
Next due: March 18th, 2011

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

Pictured from left to right; Natasha Koss, Superior Watershed Partnership and AES Coordinator, Vicki Baldini, a resident of Marquette, TJ Brown, Michigan Energy Options who is the contractor doing the work in the homes for SWP, and Gregg Bruff, Chief of Heritage Education.

Pictured Rocks National Lakeshore

Energy Saving Program Comes to Alger County

With funding from the Great Lakes Restoration Initiative, Pictured Rocks National Lakeshore and Superior Watershed Partnership and Land Trust are teaming up to launch a new energy saving program called Alger Energy Savers (AES). This program seeks to help community members save money by reducing energy use while helping to protect public lands from the impacts of climate change.

“As a resident of Alger County, I know that energy bills can be very high during the winter,” said Gregg Bruff of Pictured Rocks National Lakeshore. “And as a staff member of Pictured Rocks, I also know that scientists confirm that climate change is already affecting our parks and the region. The hope is that this program can help people find a solution to both by sharing information about energy efficiency.”

According to Bruff, in 2008 homes accounted for some 20% (1,230 million metric tons) of 5,839 million metric tons of carbon dioxide emitted annually in the U.S. Alger Energy Savers is hoping to visit 1500 homes in the county. If this goal is reached, 165,000 metric tons of carbon dioxide and 1.7 million kilowatt hours of electricity will be saved.

By contacting Alger Energy Savers (AES) to sign up for a visit, residents of Alger County receive a brief home energy assessment from a professional contractor and up to \$50 of energy efficiency measures. During this visit, the contractor will install

energy efficient light bulbs, pipe wrap, and faucet aerators, identify opportunities for improving energy efficiency, and discuss the next steps to save money by reducing energy use. Home visits will also include a voucher for \$10 towards select energy efficient products at a local hardware store.

Through this community-based energy retrofit approach, the program will show that energy efficiency can save individuals money, improve the comfort of their homes, and reduce the impacts of climate change on national parks such as Pictured Rocks National Lakeshore.

AES Program Manager Natasha Koss touts the program as a way for people to enhance community pride and personal motivation. “As a Lake Superior shoreline county, Alger County residents have a unique opportunity to do small things that can make a profound difference to protect one of our greatest resources,” exclaimed Koss. Contact: Gregg_Bruff@nps.gov



Useful Resources Related to Climate Change

This month's webinar speaker comes from the COMET program, which develops continuing education multi-media training modules that are available for anyone. They develop modules mostly for NOAA in Meteorology and other Geosciences and even have some climate and climate change modules available. After you register you can take these modules online at: http://www.meted.ucar.edu/topics_climate.php

A very compelling short video titled, *Love. Not Loss.*, is about biodiversity and speaks to the power of our role as informal educators in reconnecting our audiences with nature. Available at: http://www.youtube.com/watch?v=BvIdwOEzreM&safety_mode=true&persist_safety_mode=1

In November 2010, a report was released by the Yellowstone to Yukon Conservation Initiative titled, *Moving Toward Climate Change*

Adaptation, that gives an in-depth look at the adaptation actions this region is taking to prepare for the stresses of climate change. Available at: http://www.y2y.net/data/1/rec_docs/898_Y2Y_Climate_Adaptation_Report_FINAL_Web.pdf

