

2009 NATIONAL WORKSHOP
National Climate Change and Wildlife Science Center
Workshop Summary
July 16, 2009

Changes in the earth's climate will pose significant challenges to wildlife managers. Adaptive management of fish and wildlife resources will depend on scientific information about climate change at scales useful to managers. Working collaboratively with federal, state, academic, and NGO partners, the U.S. Geological Survey (USGS) National Climate Change and Wildlife Science Center (NCCWSC) will act as a conduit between science and management by providing natural resource managers with the tools and information they need to develop and execute management strategies that address the impacts of climate change on fish, wildlife, and their habitats.

To help develop the structure of the NCCWSC and partnership mechanisms needed to link climate science and national resource management in the United States, and to provide impetus to the establishment of the NCCWSC, the USGS convened a series of national and regional workshops in 2008-09. These workshops brought together a broad range of stakeholders, including federal and state agencies, tribal organizations academic institutions, and NGOs. A final, national workshop held on July 16 in Arlington, Virginia, engaged representatives from federal and state agencies, tribes, universities, and national NGOs working on climate change or wildlife issues. The purpose of this final workshop was to gather input on the Five-Year Strategy that the USGS is developing for the NCCWSC.

As part of the Five-Year Strategy the USGS has proposed the following priority science activities:

- Use and create high-resolution climate modeling information and derivative products for forecasting ecological and population response at national, regional, and local levels
- Integrate physical climate models with ecological, habitat, and population response models
- Forecast fish and wildlife population and habitat changes in response to climate change
- Assess the vulnerability and risk of species and habitats to climate change.
- Develop standardized approaches to modeling and monitoring techniques, to facilitate the linkage of monitoring efforts to climate and ecological/biological response models

The workshop began with an overview of the NCCWSC and its proposed Five-Year Strategy, including the goals, objectives, structure, and governance of the Center. Participants provided general feedback on the proposed strategy as well as specific input on (1) the relationship between the Regional Climate Science Hubs and Application Partnerships, and (2) the proposed functions and composition of the National Advisory Board and Regional Advisory Councils for the NCCWSC.

I. DISCUSSION OF PROPOSED STRATEGY

NCCWSC mission and goals:

- Participants strongly supported the mission and goals of the Center, its emphasis on partnerships, and the strategy to have both a national office and distributed Regional Climate Science Hubs.
- A recommendation was made to reference “adaptive management” in the mission statement.
- Participants discussed the need for training for managers to facilitate their use of the science products developed by the Center, and suggested adding “application support” to the mission.
- Participants urged greater emphasis on communicating the work of the NCCWSC and the resultant management decisions with the public.

NCCWSC science activities: Participants made the following suggestions regarding activities of the Center:

- As a first step in the sequence of activities that the Center will undertake, add working with resource managers to identify the information needed.
- Change assessing vulnerability and risk to evaluating methods for conducting vulnerability and risk assessments.
- Some suggested that the Center actively educate and train resource management professionals in adaptive management methods and their role in it; others thought that the Applications Partnerships would take the lead in fulfilling this role.

Partners:

- Through discussion, it was clarified that in addition to national partners and Application Partnerships, the Center will work with additional partners at the regional level, including states, tribes, non-governmental organizations, academic institutions, and others. A description of how the Center will engage with these partners should be added to the Strategy. The Regional Advisory Councils will likely serve as one forum for engaging these partners. In addition, the Native American Association for Fish and Wildlife, the Regional Climate Change Committees being established by AFWA, and the Western Governors Association on Climate Change offer forums to engage with tribes and states on these issues.
- A question was raised about the number of universities that could be engaged with a particular Regional Climate Science Hub, and the expectations of those hosting a Hub. USGS believes multiple universities can be accommodated to get the most benefit from partnering. It was noted that the Request for Information regarding the opportunity to host a Hub includes criteria such as computing capacity and a demonstrated ability to work with resource management partners.

Capacity

- There is a need for enhanced capacity to fulfill the goals of the Center, both on the part of scientists and resource managers. Scientists will need the skills to better understand and develop tools to address the needs of resource managers. Resource managers will need to build capacity to implement the Center's products, conduct monitoring, and provide feedback.

II. RELATIONSHIP BETWEEN NCCWSC REGIONAL CLIMATE SCIENCE HUBS AND APPLICATION PARTNERSHIPS

There was extensive discussion on a number of issues and questions regarding how the Hubs will interact with the various application partnerships, and the relative roles of each. Major comments or remaining include:

- **The proposed structure will require a culture shift.** Such a transdisciplinary and inter-organizational structure is novel but essential. Achieving this culture shift will require staff with skills in collaboration and working at the interface of science and management. This skill set will be particularly important and should be a selection criterion for Hub Leaders.
- **How will the structure ensure that results of on-the-ground adaptation and management activities are relayed back to the Hubs and Center, to improve and refine future modeling and science?**
- **Will the proposed hub structure provide adequate coverage?** The number of hubs will be limited by budgetary constraints. Regional coverage can be expanded through the network of Application Partnerships. USGS envisions 4 to 6 landscape- or geography-based partnerships per hub.
- **How to include the social science element?** Should application partnerships include, for example, university partners who deal with conflict resolution?
- **The USGS should take advantage of partnerships that can fulfill a communications role.** NGOs can help communicate the work of the Hubs to the public. Land grant institutions also have a well-developed partnership network that could help provide outreach.

III. PROPOSED FUNCTIONS AND COMPOSITION OF NATIONAL ADVISORY BOARD AND REGIONAL ADVISORY COUNCILS

The Strategic Plan envisions a National Advisory Board whose composition would represent a diversity of the Center's primary partner organizations, including both science and resource management organizations that are strongly engaged with Center activities. The Board would help set Center priorities, provide feedback on Center activities, and explore opportunities for additional partnerships and resources. The Board may establish ad hoc science review committees to provide input on technical issues. The Center will also develop mechanisms to get robust scientific review and input on national-level science methodologies, directions, and partnership opportunities. Regional Advisory Councils at the Hub level would include representatives from each of the associated application partnerships. These Councils would review Hub activities and offer input on upcoming Hub priorities. They would serve as the mechanism for partnerships to provide updates and feedback from their monitoring and research activities to further refine models and strategies.

- **Composition of the National Advisory Board must be diverse.** Representation from array of federal agencies, states, tribes, and NGOs was suggested.
- **National Advisory Board should serve two functions: priority setting and independent science review.** Participants supported representation from both science and resource management on the National Advisory Board, which would be responsible for helping set priorities. In addition, participants recommended a separate, independent entity to conduct scientific review of the Center's products and performance. This could be accomplished through ad hoc scientific committees appointed by the Board, or through a body convened by an outside entity such as the National Academy of Sciences.
- **Linkage of the regional advisory councils to the national advisory board is essential.** One way to achieve this would be to have one representative from each Regional Advisory Council serving on the National Advisory Board.
- **How to ensure the needs of resource managers drive the activities of the Center?** Even before a hub is established, a regional advisory council can be formed and be a catalyst for identifying the management needs and providing this input to the national office.
- **Ensuring objectivity of regional advisory council is important.** This must be balanced, however, by the need to have the council include partners who can provide advice on relevance and priorities.
- **How to identify and link with Application Partnerships?** The regional advisory councils could help develop criteria for identifying Application Partnerships. Potential criteria include: clear goals, commitment to adaptive management, and a focus on supporting natural resource adaptation to climate change.