

WESTERN REGIONAL WORKSHOP
National Climate Change and Wildlife Science Center
Workshop Summary
June 4–5, 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 National Climate Change and Wildlife Science Center (NCCWSC) will act as a conduit between science and management by linking physical climate models with ecological and biological responses. Providing this information at appropriate temporal and spatial scales will enable fish, wildlife, and land managers to design suitable adaptive management approaches for their programs.

The following priorities have been proposed for the NCCWSC:

- National syntheses of global climate models
- Forecasts of population and habitat change in response to climate change at scales that help managers develop effective adaptive management strategies
- Integration of physical climate models with ecological and habitat response models
- Standardized approaches to facilitate linking existing monitoring to climate models and ecological/biological response models
- Communication and sharing of information across regional hubs; making regional science hub products available to natural resource managers

The structure of the center has been envisioned as a collaborative system of NCCWSC Regional Climate Science Hubs working with a national headquarters and with external adaptive application partnerships jointly organized by willing partners. These partnerships would create feedback loops to inform science priorities and adaptive resource management at regional and finer scales.

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 is convening a series of regional workshops that build on the outcomes of a 2008 national workshop, bringing together a broad range of stakeholders (federal and state agencies, academic institutions, and NGOs).

The first regional meeting, Eastern Regional, was held on May 6–7, 2009 at Patuxent National Wildlife Refuge. A Western Regional Meeting was convened in Seattle on June 4–5, 2009. The Western Regional Meeting began with plenary presentations about the NCCWSC and related climate activities of the USGS. Following the plenary session, participants split into three groups—Pacific Northwest, Southwest, and Alaska—to develop input on the priorities and structure of the NCCWSC and the Regional Climate

Science Hubs. They were also asked to scope out potential Regional Climate Science Hubs, considering existing partnerships that could become part of a regional hub and possible hub locations. Following the break out sessions, the participants regrouped and shared a summary of the discussions of each group.

SUMMARY OF PARTICIPANT DISCUSSIONS

Priorities of the NCCWSC

- **Efforts of the center must be “value-added” and avoid duplication.** All regions already have numerous climate change-related efforts underway, and many agencies already have useful databases on both climate and wildlife.
- **The science must be policy-relevant and management driven.**
- **Focus of center should be on evaluation and translation of existing climate information as it relates to wildlife impacts.**
- **Forecasts should not focus simply on fish and wildlife population endpoints.** Habitat response—including hydrology, vegetation, etc.—is key.
- **Economic and sociological issues will be relevant.** Participants noted that the discussion of proposed priorities and structure was missing the social science element (e.g., risk/uncertainty, subsistence use of resources).
- **The center must be a neutral purveyor of information.**

Role of Regional Science Hubs

Science focus and products: As the “connective tissue” between climate and wildlife management, the focus of the hub’s scientific effort should include:

- Facilitation of applied research
- Downscaling focused on what is ecologically relevant
- Ecosystem response modeling
- Vulnerability risk assessments, projections concerning wildlife outcomes, possible triage measures
- Decision-support tools for long-term planning, not just, e.g., current listing decisions

Priority setting: Participants stressed the need for collaborative priority-setting with stakeholders, which could be guided by the following questions:

- What issues common to different ecosystems in the hub region?
- Where are there gaps?
- What are the interactions between climate change and other stressors?
- What issues will create synergy if addressed by the hub rather than other entities?
- Can ranked needs as identified by other entities prevent duplication of effort?
- Can thematic issues (e.g., fire, thaw) provide focus for priorities?

Coordination and communication: Participants identified the following needs:

- Coordination of climate information (e.g., collection of NOAA climate data) with wildlife management needs.
- Communication and coordination both between hubs and with national center.
- Two-way communication of information between climate scientists and ecologists via seminars, workshops.
- Communication and outreach to communities about the impacts of climate change on wildlife and the impact of adaptation strategies.
- Clear definition of science vs. policy roles (given the history of troubled relationships between tribes and federal and state organizations regarding land and resource use, this will be especially relevant to ensuring tribal participation).

Location of Regional Science Hubs

- Alaska and Hawaii/Pacific Islands should have their own regional hubs.
- Hard geographic boundaries are unworkable; boundaries should be “fuzzy” to accommodate overlap of landscape boundaries (e.g., watersheds); one alternative is to use climatic areas as boundaries.
- Collaborative institutional relationship will allow the hubs to address broader array of issues. Co-location at university would leverage existing capacity in informatics and in wildlife and climate sciences. University of Alaska and University of Washington were identified as strong candidates.
- Is one hub per region the best configuration? Could more hubs with smaller staffs be an alternative?

Structure of Regional Science Hubs

- Hubs should tap into existing partnerships in the region; examples include national programs such as NOAA’s Regional Integrated Sciences and Assessments program, Cooperative Ecosystem Studies Units, and the Department of Interiors’ Cooperative Fish and Wildlife Research Units; regional partnerships such as the Climate Change Executive Roundtable in Alaska, the San Francisco Bay Consortium, and the Hawaii Conservation Alliance; and other relationships with agencies, NGOs, and other stakeholders.
- Representation among partners should also include informatics (e.g., National Center for Ecological Analysis and Synthesis, Global Biodiversity Information Facility) and land managers not represented at the workshop (e.g., Dept. of Defense).
- Hubs should have their own advisory groups.
- Structure should ensure that scientists are responsive to the external partner groups that have shaped the hub’s agenda.