

Discussion Briefs for the September 2013 ACCCNRS Meeting

This document contains discussion briefs on three topics that will be discussed at the September 18-19, 2013 ACCCNRS meeting. The three topics covered include: Science Subcommittee, Relationship between NCCWSC and Other Federal Climate Science Services and Programs, and Strategies for Ensuring that the NCCWSC and CSCs Deliver Actionable Science that is Useful to Resource Managers. Each brief provides context for the discussion and outlines a series of guiding questions for Committee deliberation.

Discussion Brief Science Subcommittee

4:00 PM, Wednesday, September 18

Background

NCCWSC and the Climate Science Centers are designed to operate closely with both science and management entities. The ACCCNRS will certainly consider issues related to the science-management interface. USGS determined that it would be beneficial to provide the committee with the infrastructure to request additional information, conduct work between Committee meetings, involve additional partners / perspectives, and serve as a locus for technical and scientific issues requiring specific expertise (e.g. how to evaluate the science quality of CSCs). The relevant charter text is: *At least one subcommittee, to provide expert scientific advice to the Committee, will be established.*

Committee Action on the Subcommittee

The co-chairs believe it is valuable to discuss the possible formation and uses of a Science Subcommittee at ACCCNRS's first meeting. The Committee may decide to adopt Terms of Reference for a Science Subcommittee at the September meeting, or to defer action on both the formation and specific tasks of a subcommittee until a later date, so the committee can further define the purpose and charge to the subcommittee. Initially, the Committee considered alternating between full Committee meetings and those of the Science Subcommittee. However, deferral of Science Subcommittee tasking would enable the full committee to meet again in a relatively short time to resolve both its overall agenda and the activities a Science Subcommittee might undertake to help ACCCNRS achieve its goals.

Committee Discussion Items

A key area for discussion will be the distinction between those topics the full ACCCNRS wishes to address, and those for which it believes specific scientific advice might be useful (and thus can be directed to the Science Subcommittee). Because the NCCWSC and CSC program have strong science-management interactions, much of the discussion of ACCCNRS is likely to touch upon science or science-management interactions. Thus, parsing issues between the parent committee and subcommittee is important.

The TOR includes three broad responsibilities of the SS:

- evaluation of current and future NCCWSC national science priorities, via the review of science plans and related documents prepared by NCCWSC and Climate Science Centers, to identify promising scientific directions, leveraging opportunities, and complementary programs;
- informing new strategic national science initiatives by identifying and highlight

promising, important, and innovative scientific approaches to climate adaptation science that further the scope and mission of NCCWSC;

- advising on science-related program review and oversight mechanisms to ensure that NCCWSC and CSC activities meet stakeholder requirements and needs.

Members are invited to provide input on the following questions:

- Do you have suggestions for improving any aspect of the draft terms of reference (including whether pre-meeting changes addressed submitted comments)?
- What actions might the ACCCNRS request of the Science Subcommittee?
- When should a Science Subcommittee be activated?

Discussion Brief

Item # 1: Relationship between NCCWSC and Other Federal Climate Science Services and Programs

8:45 AM, Thursday, September 19

Background

The National Climate Change and Wildlife Science Center and the eight regional Climate Science Centers were established at a time when public and governmental attention to the impacts of climate change was growing rapidly. Several new programs or proposals arose – for example: the NCCWSC/CSC effort, Landscape Conservation Cooperatives, the National Climate Assessment, and the NOAA “climate services” proposal. These “climate-purposed” efforts were complemented by efforts to address climate impacts in ongoing government activities – e.g. US Army Corps of Engineers climate strategy, EPA “climate ready estuaries”, and many others.

This heightened attention to and investment in impact and adaptation work has appeared somewhat unruly to partners outside the Federal government. Numerous new programs, lack of clarity about distinctions between these new efforts, a proliferation of invitations to provide input or join steering committees, and independent implementation across agencies all have contributed to concerns ranging from simple confusion to worries about potential duplication and waste of scarce resources. This paper is intended to try to provide some clarity regarding the role that the NCCWSC and CSCs are intended to play in this broader context.

NCCWSC and CSC Mandate / Role

Congressional and Secretarial action has provided guidance for the specific role/niche of the NCCWSC and CSCs. Congressional appropriations have been targeted at *fish, wildlife, and ecosystems/habitats*. Secretarial Order 3289 expanded the mission of the CSCs to include a *broader range of DOI mission endpoints* -- a broad range of *natural and cultural resources*. To date, NCCWSC and CSCs activities have focused on either (1) the fish/wildlife/ecosystems component of their management issue, or (2) science activities that meet the needs of both natural/cultural resource managers and those addressing other concerns (e.g. human health). (For example climate downscaling may be applied fish/wildlife as well as other impact assessments.) Many decisions require an understanding of the ecological context and possible futures, and the basic ecosystem-focused work of CSCs and the NCCWSC provides this context.

NCCWSC and CSC Perspective on Interactions with Federal Partners

A critical component of any discussion of how programs relate is a clear definition of the nature and roles of participants.

NCCWSC is

- Focused primarily on climate impacts and adaptation
- Concerned with fish, wildlife, habitats / ecosystems and the services they provide
- A science program, designed to bring usable information to decision makers
- A convener of dialogue between natural resource management entities (federal, state, tribal, other) and science providers, to identify key regional priorities and foster integrated approaches to developing needed science

NCCWSC is not

- A management entity, nor one which funds management activities
- Intended to address climate mitigation needs, except as these activities must consider future climate change and its impacts on their infrastructure, etc.
- Primarily focused on providing or refining climate projections
- Limited to science needs of a single agency or program
- A coordinator or linkage/liaison to all Federal climate science / activities.

The description above can overlap with multiple other entities – USFS addresses fish/wildlife/ecosystem impacts, for example, and many agencies provide science for management – but NCCWSC believes it has characteristics that enable it to be distinguished:

- A definable partner base (natural resource managers and science providers with relevant capabilities)
- A clear focus (impacts to natural resources and related adaptation strategies)

In addition, the issues raised by climate change inevitably involve multiple sectors. For example, changes in hydrology are a key impact of climate change. Many agencies manage, advise on management, or provide science for water management, and many societal sectors care about water (agriculture, transportation, recreation, industry, local governments, and fish and wildlife managers). The fact that multiple agencies work on an issue is a basic reality which is not necessarily a problem if those activities are coordinated such that there is a rational division of labor. It is our view that this division of labor is developing, as the multiple new/modified programs emerge from the startup phase and interact organically with others.

Committee Discussion Items

It may be useful for ACCCNRS members to consider two types of recommendations. The first would be actions NCCWC and the CSCs could take to more clearly describe themselves and their work, and to distinguish themselves from other institutions. A second recommendation might address actions at a higher level – which might be considered as the larger Federal Government enterprise evolves.

Questions / Recommendations Directed to NCCWSC/CSC

- Are the NCCWSC and CSC missions and roles clear? If not, what are some recommended changes to improve the clarity of the NCCWSC and CSC missions and roles?
- Is it clear how NCCWSC and CSCs relate to and interact with other federal climate science services and programs? If not, with whom are the most frequent or problematic points of confusion / mission overlap?
- What steps might NCCWSC / CSC consider to communicate their missions and roles more clearly and/or improve coordination with other federal climate science services and programs?

Questions / Recommendations Directed at Government-Wide Coordination

- What are the most problematic areas where there is lack of clarity about missions or lack of coordination among federal programs?
- What actions might be taken to reduce this lack of clarity or increase coordination?

Discussion Brief

Item # 2: Strategies for Ensuring that the NCCWSC and CSCs Deliver Actionable Science that is Useful to Resource Managers

9:45 AM, Thursday, September 19

Background

NCCWSC and the CSCs were established to provide information to be used by decision makers concerned with climate change impacts to and adaptation for the resources they manage. Their creation was in part motivated by a desire to improve the degree of interaction between scientists and managers to ensure the greatest possible utility of the science produced under the auspices of the NCCWSC and CSCs.

The initial strategic guidance from the public process under which the CSC network was designed recommended establishment of Stakeholder Advisory Committees to provide input on needed science. This occurred in the context of a larger movement within scientific circles to address a perceived long standing disconnect between scientists and users of science. The notion of “co-production” of science, in which managers and scientists jointly design research activities, was emerging as a factor in natural resource science.

A key function of NCCWSC and the CSCs is to provide science that is “actionable” or “usable” and “translational”. These terms imply information that is not only *relevant* to the issue at hand, but *usable* by the relevant decision makers. That is, it is timely, directly responds to key information needs on which decisions rest, the products are at the appropriate temporal and geographic scales, and can be integrated with other relevant data. In addition, *translational* science implies both making complex scientific information understandable to others without specialized expertise (a component of being *usable*), and often the integration of complex scientific information from multiple disciplines, to provide a broader scientific perspective.

Scientific information that does NOT respond to these demands runs the risk of being perceived as irrelevant, and incurring large opportunities costs in relation to the pressing need for “actionable” science.

NCCWSC and CSC Approach to Actionable Science

To expand the relevance of NCCWSC/CSC science, the following general approaches are used¹:

- 1) ***Formal decision science tools***: The Southeast CSC (SE CSC) is exploring the application of Structured Decision Making², which guides participants in identifying key decision points and their information needs, and prioritizing these to identify those with the most influence on an outcome. The SE CSC is using this approach to planning for gopher tortoise conservation.
- 2) ***Encouraging science-management collaboration in all funded proposals***. In solicitations for and review of proposals, CSCs are placing significant emphasis on engagement of investigators with managers, and on ensuring that proposed work addresses key management-identified

¹ The ACCCNRS is clearly a strategy for expanding “actionable science” as well.

² Structured Decision Making: A Practical Guide to Environmental Management Choices by Robin Gregory, Lee Failing, Michael Harstone and Graham Long (Mar 19, 2012)

priorities. For example, in reviewing initial pre-proposals, the Alaska CSC weighted “engagement of stakeholders, decision makers, [etc.]” and “applicability to high priority needs identified by ... regional partners”³. This general model, in which added weight is placed on applicability to actual decisions, and involvement of those responsible for those decisions, is used across the CSC network.

- 3) ***Developing programmatic science objectives.*** As CSCs move beyond the startup phase, a key evolution is the establishment of a finite number of key science priorities for each region, with management-applicable endpoints. For instance, the NW CSC has developed a structured process to identify climate-related projects funded by the CSC and all other regional partners and align these by what science themes they contribute to (examples of themes are fire, cold water stream habitat, and sea level rise) A second phase will bring the relevant science and regional management partners together for each thematic area, , to synthesize the existing science, articulate larger outputs that can result from the implementation of multiple projects and to draw the links to key management decisions or climate adaptation strategies that can be developed using scientific information and products from the CSC and its partners. It is also true, however, that strategic focusing as is described here means some topics will be deferred or not addressed.
- 4) ***Obtaining feedback from users.*** Although not yet implemented, NCCWSC/CSCs will develop metrics to identify whether the information provided via CSCs/NCCWSC is useful to its intended audience. This may involve some version of “customer satisfaction” surveys.

[The strategies outlined here are largely implemented by CSCs, which make the majority of funding decisions. NCCWSC is developing a science program to complement and build upon CSC activities, although it is far less developed.]

A key challenge may be to reduce the degree to which management partners “tell CSCs what science they need” and rather engage in dialogue regarding “what decisions they are facing”. Many partners share both science and management capacity, but the CSCs believe a broader dialogue, rather than simply a list of needed studies, will meet managers’ needs more effectively. With a history in which “science needs” were normally what was requested of managers, CSC are attempting to identify strategies to elicit ***decision*** information from managers.

Committee Discussion Items

NCCWSC and the CSCs are committed to delivering maximally useful science. Input is sought on the following questions:

- How are the CSCs’ and NCCWSC’s current strategies working?
- What other strategies for ensuring the utility of CSC science might be explored?
- Are there adjustments or new protocols that can be implemented to enable science providers who are used to working for publication to work with managers to identify the science questions to be addressed, deliver preliminary results as research is conducted, etc.?
- Are there situations in which some strategies are better suited than others?
- Are there actions management partners might take that would enhance the science-management dialogue?
- (as part of future dialogue) How should the effort to provide actionable science be evaluated?

³ Full proposals were reviewed more heavily for scientific merit.