



UNIVERSITY OF WASHINGTON

SCHOOL OF MARINE AFFAIRS

April 16, 2009

Dr. Jane Lubchenco
National Oceanic and Atmospheric Administration
Room 5128
14th St & Constitution Avenue, NW
Washington, DC 20230

Dear Dr. Lubchenco,

With this letter, I would like to transmit for your consideration the final report of the Science Advisory Board's Climate Working Group, "Options for Developing a National Climate Service." This report involved a large number of climate scientists and administrators from NOAA, academia, the private sector and Non Governmental Organizations [NGOs] as described below for context.

Background

Congress passed the National Climate Program Act of 1978, which established a network of regional climate centers (RCCs) and resulted in the creation of the Climate Analysis Center (the center's name was subsequently changed to the Climate Prediction Center). In 2000, the Office of the Federal Committee for Meteorological Services and Supporting Research asked the Board on Atmospheric Sciences of the National Research Council to address the next steps in creating a more formal climate service (*A Climate Services Vision*, NRC, 2001). This request recognized that "the provision of climate services was evolving rapidly in response to the combination of a growing knowledge base, a growing appreciation of the importance of climate in human endeavors, and a greater demand for climate information." In 2008, NOAA developed a *Draft Strategic Plan for a Climate Service*. NOAA's Science Advisory Board (SAB) and its subordinate Climate Working Group (CWG) sought advice on NOAA's plan during a June 2008 workshop, consisting of over 80 participants largely external to NOAA and representing a wide range of sectors and backgrounds. This workshop resulted in the *Climate Services External Review Report* (July 15, 2008) which suggested that NOAA lead and effort, with its partners, to compare and contrast specific options for the development of climate services against a set of guiding principles for a robust and successful service.

The workshop recommended the establishment of external Tiger Teams to evaluate four different options for developing a National Climate Service and the SAB endorsed this recommendation. In response, [NOAA established?] or [the CWG established?] or NOAA and the CWG established?] two types of committees, a Coordinating Committee and four “Tiger Teams,” [Please help me out here as to the precise wording] that would work together to examine each option and develop an integrated report. This effort was designed to provide a new report entitled *Options for Developing a National Climate Service* and placed on a fast track, to be available in time to enable a new administration to make well-reasoned choices on the development of a National Climate Service. The Coordinating Committee and the Tiger Teams were charged [by NOAA, CWG or combo] with identifying the pros and cons of four specific options for developing a National Climate Service:

1. Create a national climate service federation that would determine how to deliver climate services to the nation
2. Create a non-profit corporation with federal sponsorship
3. Create a national climate service with NOAA as the lead agency with specifically defined partners, and
4. Expand and improve weather services into weather and climate services within NOAA

The charge to the Coordinating Committee from the SAB CWG consisted of four tasks:

1. Provide 6 to 10 compelling examples that will communicate the potential scope of climate services and demonstrate actionable outcomes from climate information. The objective of this task was to communicate why a climate service is needed and to indicate the breath of potential societal benefits. The Committee produced a series of short examples based on presentations at the June 2008 workshop in order to demonstrate the breadth of potential users of a climate service and to indicate that information will be actionable by a wide variety of decision makers. Designed as an introduction as to why a climate service is needed, this section barely scratches the surface in communicating the compelling need for a national climate service.

2. Provide a definition of climate service. The Coordinating Committee answered this call by articulating the vision, mission, and key attributes of a climate service.

3. Provide an analysis of each of the four specific options stated in the charge to the Coordinating Committee, with a Tiger Team assigned to address each option. The Coordinating Committee was explicitly asked not to select an option, but rather to weigh the pros and cons of each option against 12 guiding principles developed in the June 2008 workshop. The analysis of the pros and cons was not intended to be exhaustive, but rather sufficient to elucidate the ability of each option to address the listed set of objectives and goals of the service. To a large extent, the Coordinating Committee and Tiger Teams fulfilled this charge, but there are distinct weaknesses in the report that stem from (a) the urgency of the effort to assess alternate models (options) for the provision of the services prior to initiating efforts to “design”

components of a National Climate Service and (b) the fact that small Tiger Teams cannot sufficiently represent the breadth and needs of user groups. To be more specific: First, this report fails to define the roles of different federal agencies in a National Climate Service. Despite diverse agency representation at the June 2008 workshop and on the Coordinating Committee and Tiger Teams, there was great reluctance to explicitly define the interactions between agencies and the contributions of each relevant agency. Second, the committees were charged with defining an evolution (implementation) from targeted user groups, as a mechanism of evaluating the strengths of the four different options. However, the small Tiger Teams included a few representatives from different user groups. Because each Tiger Team couldn't include representatives from the same sectors or same user groups, as well as a range of sectors, it was not possible to provide a consistent end-to-end analysis of the same sectors by each Tiger Team. Therefore, the committee was unable to compare the implementation of each of the options from this perspective. This is a clear short-coming of the report.

4. Define performance and success criteria for each option, including input and output, and outcome and impact metrics. The Coordinating Committee developed its recommendations from guidance in the NRC (2005) report *Thinking Strategically: The Appropriate Use of Metrics for the Climate Change Science Program*.

Response

The Coordinating Committee developed a vision, mission and set of key characteristics, that when combined with the guiding principles, should inform the development of a Climate Service.

Vision: The National Climate Service will provide information to the nation and the world to assist in understanding, anticipating, and responding to climate, climate change, and climate variability and their impacts and implications.

Mission: The Service will inform the public through the sustained production and delivery of authoritative, timely, and useful information to enable management of climate-related risks, opportunities and local, state, regional, tribal, national, and global impacts.

Key Attributes: The Service will achieve its mission by promoting active interaction among users, researchers, and information providers. The Service will be user-centric, by ensuring that scientifically-based information is accessible and commensurate with users' needs and limitations. The Service will provide such usable information and enable development of decision support tools through a sustained network of observations, modeling, research activities, and user outreach and assistance.

Findings

The *Climate Services External Review Committee* listed a series of principles and objectives that are characteristics of a successful climate service. The Tiger Teams completed an analysis of

the pros and cons for each Option based on this set of guiding principles as a way of informing decisions in the development of a National Climate Service. The Coordinating Committee utilized this information to compare each option and form the conclusions of this report.

Finding 1. Each of the four options has significant strengths and weaknesses. None of the options analyzed was viewed as an ideal description of a National Climate Service.

Finding 2. The greatest strengths of the federated options are their flexibility and nimbleness (especially the non-profit option), ability to connect and actively engage a broader range of users and members of the research community and potential to have a single focus (no competing agenda).

Finding 3. The greatest weaknesses of the federated options are the potential that the “voice” will be less authoritative, the lack of existing examples of successful federations to learn from, and a structure will take time to set up and may require new legislation.

Finding 4. The greatest strengths of a lead agency or NOAA-led service (combined weather and climate service) are an ability to speak with an authoritative voice, build quickly from existing components of a climate service, ensure support of inherently governmental functions (observing systems, operational systems), and an ability to ensure “one-stop shopping” if weather and climate functions are integrated.

Finding 5. The greatest weaknesses of a lead agency or NOAA-led service are the competing agendas within agencies, potential problems in ensuring that NOAA is responsive to the needs of other agencies and/or ensuring other agencies provide needed contributions, and the lack of experience in dealing with the enormous breadth of potential users (and lack of internal expertise to work with this community).

Finding 6. The current NOAA organization is not well-suited to the development of a unified climate services function. Greater connectivity between weather and climate functions, and between research, operations and users is required.

Finding 7. The level of commitment and the nature of collaboration and interaction among federal agencies that would participate in a National Climate Service are not well-defined. This is a distinct weakness in formulating a national strategy.

Recommendations

The Coordinating Committee was unanimous in stating that a successful strategy for developing a National Climate Service relies on five recommendations:

Recommendation 1. Internal reorganization of NOAA that enables greater connectivity of weather and climate functions is a necessary step for success.

Recommendation 2. Each federal agency needs to collaboratively define its role and level of commitment in an NCS and there needs to be a lead federal entity.

Recommendation 3. Success of an NCS requires recognized, clear, authoritative, responsible leadership within the Federal System at the highest level possible.

Recommendation 4. An NCS requires a defined, independent budget large enough to influence the direction of the Service and achieve its mission.

Recommendation 5. An NCS requires an interface best described by a federated structure (i.e., non-profit or federation) because it has a stronger connection to users and the research community.

In addition, the Coordinating Committee encourages NOAA and its partners to maintain a community advisory function as the steps are taken to develop a National Climate Service that is of real value to the Nation.

NOAA's SAB reviewed the CWG "Options" report at its March meeting and suggested some adjustments to the report. Subsequently the SAB held a teleconference discussion on the final report and approved its content and recommendations. The formation of a National Climate Service is one of the most pressing and important challenges and opportunities facing NOAA today. On behalf of the NOAA SAB I assure you that we look forward to working with you and NOAA staff on implementing the important recommendations of the Report.

Sincerely,

A handwritten signature in black ink that reads "David Fluharty". The signature is written in a cursive style with a large, prominent 'D' and 'F'.

David Fluharty, Ph.D.
School of Marine Affairs
University of Washington
3707 Brooklyn Ave. NE
Seattle, WA. 98105

206 685-2518
fluharty@u.washington.edu

cc: List