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NOAA CLIMATE CORES: ENHANCING THE NATIONAL CLIMATE DECISION SUPPORT CAPACITY

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1. INTRODUCTION

Climate information is used by scientists, forecasters, policy makers, decision makers, and many others to, for example, conduct research, predict climate scenarios, manage risks, mitigate climate-related hazards, develop outreach tools, manage ecosystems, protect endangered species, and manage the nation's water supply. Climate variability information can also be used to leverage opportunities for economic benefit as in the management of energy resources or planning for agricultural yields. The demand for more information is increasing as observation systems expand and skill in climate prediction improves, and also through media and other outreach activities as a result of headlining climate issues.

2. THE CHALLENGE

The challenge is to build a decision support capacity to provide high quality, spatially and temporally relevant climate information of value to decision makers. A comprehensive capacity includes information not only from research, but also from operational products, such as downscaled climate forecasts and products to aid agricultural decision makers on a daily basis. However, within the many sectors of climate-related research, science and operations, there is little coordination and integration of efforts.

Most recently, the Western Governors' Association proposed the National Integrated Drought Information System (NIDIS) (Western Governors' Association, June 2004) and identified the need for coordination within the climate community to ensure the most effective drought research efforts benefit decision makers, agriculture producers and other users of NIDIS. Indeed, Motha (2000), the National Research Council (2001) and Redmond (2002) have identified the need for cohesive and collaborative interactions at national, regional and local levels in order to effectively deliver the relevant information to users, maximize the effectiveness of climate observations, ensure research focus stays on highest priority needs, and limit redundancy of efforts.

To respond to these identified needs, a structured program that facilitates the integration and coordination of decision support systems is required. The example presented by NIDIS is a prototype for developing fruitful partnerships through collaboration. Another proposed

mechanism for addressing these documented needs is NOAA Climate Cores.

3. NOAA CLIMATE CORES

Several meetings held over the course of the last three years have provided evidence that a collaborative approach is effective. The Climate Prediction Assessments Workshop, held in Alexandria, Virginia, in October 2002, and the follow on Climate Prediction Applications Science Workshop, March 2003, were such meetings. Representatives from Regional Integrated Sciences and Assessments (RISA) programs, National Weather Service operations, other NOAA line offices, academia, State Climatologists, Regional Climate Centers, the extension community, other government, state, and local agencies, and the private sector, discussed applications science issues, but more importantly, fostered relationships to better serve decision makers. The NOAA Climate Cores proposes to bring together groups like these, and add to the list by not limiting participation to prediction applications science. Topics to be addressed at these forums will include identifying policy and operational issues, transition to operations of climate tools, inconsistencies across regions, funding opportunities, recommendations for regional and local priorities, data issues, and setting planning guidelines. NOAA will provide oversight and management.

The Cores' objective is multifold. They will be forums at which the regional climate communities, defined on the basis of climate-sensitive issues, can participate to share regional and local science, present challenges faced within their region, and allow expressions of need on the part of potential users. Climate-related policy issues such as requirements for new products and capabilities for drought mitigation, for example, can be identified based on the input of all players within regions. In addition, operational requirements and limitations could be addressed, and solutions and transition procedures could be identified. The forums will provide opportunities to establish collaborations for leveraging funding opportunities such as the NOAA Climate Transition Program (Horsfall and Hill, 2004), and to communicate funding opportunities for other regional programs.

As most climate funding priorities are set on a national level, there is a need to identify the issues at the

regional and local level and elevate recommendations. The Cores will provide regional and local members of the climate community the opportunity to provide input to national-level organizations for setting priorities.

The Cores will encompass a three-step process. The first step is a requirement to gather information and regional needs through the forums, or regional conferences. The second step is developing a capacity for working in the research arena, identifying resources, transfer of research to operations, maintaining operations, and providing extension services to effectively deliver the fruits of the research. With a clearly defined path for product delivery, the third step is a feedback process to determine what improvements can be made to the process and/or the product. This feedback process will establish the continuance to the first step of the forums. The Cores, however, are by no means limited in scope. Future growth can evolve towards "test beds" for climate products developed in partnership with several Core members.

The Cores will be self-defining, but closely linked to the development of new RISAs. As new RISAs are established through conferences that bring together climate community members, the participants will be able to continue their interaction through the Cores' regional conferences.

4. SUMMARY

NOAA Climate Cores are proposed to provide a methodology for identification of regional and local climate issues and collaboration by members of the climate community to address these identified issues. Topics to be addressed include problem identification, development of solutions and methods of transitioning research to operations, identification of funding opportunities, and policy recommendations for more effective delivery of climate services for the nation.

5. REFERENCES

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