The Strategic Plan for Integrating Social Science into NOAA's Weather and Water Mission

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Overview

- The goal of the Social Science Strategic Plan for Weather and Water (SSSPWW) is *creating a stronger, more distributed, and coordinated social science capability that is integrated with programs and decision systems in support of improved decision-making*
- The Plan is an outgrowth of several years of effort by the NOAA Research Council, the NOAA Executive Council, and the Office of Program Planning and Integration in cooperation with the NOAA Mission Goal Teams and line offices
- A starting point is recognition that weather and water programs will have to serve in an environment of extensive change to which social science can contribute greatly, but is not yet sufficiently prepared
- Plan development and recommendations are addressed and comments on the future are offered
  - Some recommendations for long term and short term strategies and analytic priorities are noted in the supplementary slides
- References to the Plan refer to the August 2008 draft

Background

- Increased use of social science was recommended in the 2003 report of the Social Science Review Panel of the NOAA Science Advisory Board [1]
  - The report found that "NOAA's capacity to meet its mandates and mission is diminished by the under-representation and under utilization of social science."
  - The Panel's recommendations were to improve social science literacy at all levels in NOAA, develop and support social science research strategies, plans, and programs, and integrate social science into NOAA's management structure.
- While these recommendations were repeatedly endorsed by NOAA leadership and embodied in the agency's plans, implementation generally has been slow

[1] NOAA Social Science Review Panel, *Social Science Research within NOAA: Review and Recommendations*, Final Report to the NOAA Science Advisory Board, March 18, 2003 http://www.sab.noaa.gov/Reports/NOAA_SocialSciencePanelFinalReport.pdf

Concurrent Initiatives

- Some important social science efforts started while the Plan was being developed and discussed
  - Several studies began in areas including communicating uncertainty in hurricane and weather forecasting and in hydrology
  - National Weather Service line offices began to include more social science content in their Program Operation Plans (POPS)
  - The Social Science Committee of the NOAA Research Council began to review social science in the POPS
- Impetus to acceptance and implementation has been given by the naming of the Social Science Working Group of the NOAA Science Advisory Board (SAB), composed of external experts, which began its work in Fall 2007
  - Its report is expected in Spring 2009

Development

- The plan had to reflect:
  - The large and growing number of programs and issues
  - NOAA leadership's preference for social science to be largely decentralized in programs
  - A need to include a broader range of social sciences
  - Integration of social sciences with other sciences where possible
  - Interaction with external organizations and individuals for capacity building, exchange of ideas and information and infusion of social science thinking
- Consensus was particularly important
- Because complexity was already great, integration with the plans of the other mission goals was largely left to future versions
- The Plan was accepted by the Weather and Water Mission Goal Team, the initial National Weather Service reviewers and the NOAA Research Council's Social Science Committee, and shared with the Science Advisory Board Working Group
- At present Jennifer Sprague, who heads the National Weather Service Office of Strategic Planning and Policy, is leading a Social Science Team that is making further revisions to the Plan
  - This process will hopefully lead to full acceptance by the top management of the National Weather Service and more systematic efforts at implementation

Recommendations

1. The Social Science Strategic Plan for Weather and Water should formally be **integrated into the R&D portfolio** of the Weather and Water Mission Goal Team and the other mission goal teams

2. The Mission Goal Teams should **develop an operational strategy** and program to strengthen and integrate social science into corporate and program-level planning, analysis and evaluation

3. The Weather and Water Social Science Strategic Plan should be **coordinated with** present and future versions of the **social science plans of other mission goals** as well as the NOAA Strategic Plan and NOAA Research Plan

4. **Implementation plans** should be prepared **for specific areas of analysis** in support of program decisions and outreach

   – Implementation plans should address social science activities, their approaches, expected outcomes and uses, organizational arrangements, budgets, timetables and processes for infusion into planning, decision-making and education

The Future

This is an opportune time to build on the gains to achieve increased and sustainable penetration of social science into planning and decision-making

- As succession takes place in the leadership of the National Weather Service, in line offices and in membership of the weather mission goal team, it will be critical to reinforce the message to assure that efforts continue and move forward
- NOAA's Chief Economist, who was a driving force behind increased use of social science and many NOAA-supported weather and water studies, retired in mid-2008. He is expected to be replaced by another senior social scientist
- Leadership and coordination among social scientists and encouragement of integration of social science into program operation plans will continue through the Social Science Committee of the NOAA Research Council
- Weather and water social science must be better coordinated with efforts of other mission goal teams. The nature of interactions will be influenced in part by any changes in the current matrix management system of line offices and cross-cutting mission goal teams
- Great budget pressures could lead to increased use of social science to make resource allocation decisions and improve efficiency and program targeting or it could slow or even reverse efforts. It is important that there be understanding of the role of social science in providing information for choosing among programs, technologies and systems and determining their level of effort, as well as in designing and evaluating programs and demonstrating their value to constituents
- A scientist at the top of NOAA could mean emphasis on integration of "hard sciences" in ways that, whether intended or not, reinforce separation from social sciences when applied by staff, or it could lead to greater understanding of the value of all sciences when used in harmony
- The heightened emphasis on climate change could create new opportunities for social science to contribute to understanding and addressing societal consequences both of change and of programs aimed at prevention, adaptation, and amelioration, and it could lead to reliance on a richer mix of social science skills

Supplementary Slides

Long Term Strategies

- Long term capacity building
- Developing methods, analyses and data for decision support
- Analyzing customer needs, utilization of services and delivery systems, outcomes benefits and costs
- Examining efficiency of production and alternatives for producing data and services and achieving outcomes
- Infusing results of analyses into decisions and programs to improve products and services
- Social science analyses can support a service delivery proving ground, including through efforts in close collaboration with programs and test beds
- Improving the use of social science through:
  - Broadening the mix of social sciences
  - Coordinating social science research within NOAA
  - Coordinating and/or integrating with research in physical and biological sciences where beneficial
  - Coordinating with, fostering and drawing on social science research outside of NOAA, working with external research and professional organizations
  - Improving communication with and education of colleagues and constituencies
  - Continuing to set and refine priorities for analysis
- Assuring an appropriate level of effort for social science in Weather and Water to meet growing needs

Short Term Strategies

- Conducting and building capabilities for studies in priority areas
- More fully examining external research to assure that available studies are utilized so that NOAA's social science resources are applied without unnecessary duplication
- Developing analyses that can assist in setting priorities in the FY 2012-2016 and subsequent Program Operation Plans (POPS), including coordination with test bed programs
- Continuing to increase coordination through the NOAA Research Council Social Science Committee
- Developing cooperative grant relationships with organizations such as the National Science Foundation, THORPEX and professional organizations with related interests
- Strengthening NOAA's support for and relationship with the Societal Impacts Program at NCAR

Analytic Priorities

- User needs assessment, including understanding perceptions of and responses to various types and forms of weather and water information by types of users, including current and potential demand for services and distribution methods
- Communication of forecast uncertainty and communicating complex information more generally
- Use and impacts of more localized forecasts and warnings to help in determining what kinds of forecasts will be most useful and demonstrating the benefits of the forecast efforts to constituencies
- Understanding the societal effects of high impact weather and implications for designing and implementing programs and determining their effectiveness
- Addressing interrelated needs of communities and regions
- Valuation of program benefits and other decision support services
- Communicating with and educating stakeholders

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