

NOAA Response to:

Integrating Social Science into NOAA Planning, Evaluation and Decision Making

A Review of Implementation to-date and Recommendations
for Improving Effectiveness

A Report from the NOAA Science Advisory Board

March 2, 2010

by the
NOAA Research Council - Social Science Committee

Introduction

In 2001 the NOAA Science Advisory Board (SAB) convened an external Social Science Review Panel (SSRP) to evaluate the adequacy of NOAA's social science research, staffing and data. The SSRP conducted its review over a period of 18 months, submitting its report to the SAB in March 2003.

In 2007, the SAB assembled an external Social Science Working Group (SSWG) to assist NOAA in the development of a strategy to strengthen and integrate social science into corporate and program level planning, analysis and evaluation. NOAA asked the SSWG to address four questions:

- 1) How can NOAA better identify and measure (qualify and quantify) its programmatic outcomes,
- 2) How can social science help NOAA and its partners effectively integrate natural science into decision making,
- 3) How can social science itself be integrated into decision making of NOAA and its partners, and
- 4) How can social science capabilities at NOAA be strengthened where currently they are weak?

The Social Science Working Group reviewed the progress NOAA has made since 2003 to strengthen social science in five areas:

- 1) actions taken since 2003,
- 2) social science budget and staffing,
- 3) planning and funding social science within the Planning, Programming, Budgeting and Execution System,
- 4) the position of social science in NOAA strategic plans, and
- 5) implementation of the 2003 SSRP recommendations.

In the course of the review, the SSWG met with and received written communications from NOAA Assistant Administrators (AAs), the NOAA Research Council (NRC), the NRC Social Science Committee (SSC), and other representatives of NOAA line offices, mission goal teams, and corporate planning functions. To gain a wider perspective on how social science programs are faring at federal agencies more generally, it also met with staff from other federal agencies: U.S. Department of Agriculture (USDA) Economic Research Service (ERS); USDA Cooperative State Research, Education, and Extension Service (CSREES); Environmental Protection Agency (EPA); U.S. Fish and Wildlife Service (USFWS); and U.S. Army Corps of Engineers (USACE).

In its ensuing Report, the SAB found *“the capacity of National Oceanic and Atmospheric Administration (NOAA) to meet its mandates and mission is [continues to be] diminished by the under-representation and under-utilization of social science.”* The SAB acknowledged NOAA has broad mission requirements and limited resources, but stressed the need for resource allocation decisions to achieve outcomes stating *“resource allocations lead to outcomes that affect our nation's health and wealth by influencing the economic decisions and activities of individuals, firms, and governance entities.”* The SAB further stressed the need for a better understanding of how products and services

contribute to these outcomes by underscoring *“for NOAA to understand how its investments affect health and wealth, it must have knowledge about how information and stewardship activities influence decisions and affect outcomes.”*

The SAB further argued that *“In order to make more informed decisions about allocation of resources and the design of products and services, NOAA needs sound information on: (1) the linkages between atmospheric and marine conditions and resources, human activity, and wealth and health outcomes, and (2) the effect of NOAA products and services on human activities. Without this information, it is much more difficult to understand and convincingly articulate NOAA’s contribution to the nation’s economic, social, and environmental needs.”*

The Report further states that *“social science research and analysis does not adequately support “one NOAA” objectives because it is largely “programmatic” rather than corporate in focus and consistent in execution.”* The Report goes on to discuss the utilization of social science in decision-making as it relates to the users of NOAA’s products and services and how social science should be integrated into climate research and in the design and operation of a Climate Service. While the SAB concedes that NOAA faces significant resource challenges and that, consequently, allocating funding toward social science is difficult, it also urged NOAA to commit a critical threshold of resources to support social science programs.

Executive Summary

NOAA agrees with a number of findings and recommendations, general and specific, highlighted in the Report and includes a detailed response to specific recommendations below. NOAA agrees with the SAB that for NOAA to understand how its investments affect the nation, it must have knowledge about how information and stewardship activities influence decisions and affect outcomes related to the broad range of NOAA’s influence including human safety and health, ocean and coastal resources and the US economy. Furthermore, NOAA agrees that in order for it to make more informed decisions about the allocation of resources and the design of products and services and accurately articulate NOAA’s contribution to the nation’s economic, social, and environmental needs, NOAA needs sound information on: (1) the linkages between atmospheric and marine conditions and resources, human activity, and wealth and health outcomes, and (2) the effect of NOAA products and services on human activities.

However, NOAA cannot address these issues without fully informing itself of the needs of the agency with regard to social science. As the SAB pointed out, NOAA’s social science programs are generally programmatic and, additionally, not well orchestrated across the agency. Consequently, in order to undertake many of the recommendations of the SAB, NOAA must first determine where it is in terms of social science capability and activity. By conducting an assessment of social science activity and capability in priority areas, the agency can begin to inventory and evaluate its needs and capabilities with regard to social science. These priority areas include ecosystem services and markets, coastal and marine spatial planning, high-impact weather (including communication and economic valuation of weather forecasts), the social costs of carbon, assessing

community impacts of fisheries management, information services in support of adaptation, and ocean economics. Such an evaluation would provide a process and framework for future efforts to strengthen social science programs within the Agency. NOAA will conduct a rigorous needs assessment focused social science needs in priority areas, within three years.

As a part of the assessment, NOAA will also conduct a thorough analysis of how social science priorities are represented and integrated into planning related workforce management, as well as for research and development. Additionally, NOAA will work to better integrate its existing and future social science capability across the agency, through a strong corporate social science coordinating function, and through an analysis of social science in the NOAA workforce, and research and development.

As noted in the Report, NOAA is facing significant resource challenges, and allocating funding toward social science is difficult in a time of competing needs. However, NOAA understands the importance of integrating social science into its products and services and recognizes social science is needed to understand the linkages between NOAA activities, products, and services and NOAA's desired outcomes; and that linkage can be used to inform decisions and improve service quality. Further, NOAA concurs with the following general SAB opinions:

- NOAA cannot effectively carry out its mission without sound and relevant social science research, because it cannot be certain that it is designing and delivering products and services to best match the needs of its constituents.
- Meeting constituent needs includes understanding who the constituents are, how they interpret and respond to regulations, how they use information to make decisions, and how these decisions map into changes in wealth and health.
- NOAA cannot consistently articulate the value its products and services deliver to the nation, nor can it be sure that its resources are allocated optimally across programs and objectives, without sound and relevant corporate social science.

Finally, NOAA firmly believes that social science will contribute significantly to achieving our priorities. To that end, NOAA is moving forward in several areas to better coordinate existing social science activities in an effort to be consistent with the strategic context contained in the NOAA Next Generation Strategic Plan, the NOAA Research Strategic Plan, etc., and has also begun taking concrete steps towards measuring progress, including the use of the NRC-SSC as a forum for programs to report out on ongoing and completed social science activities, as well as a mechanism to ascertain how existing social science can be brought to bear in the most effective way toward understanding the social and economic aspects of desired outcomes from all NOAA programs. There are also efforts within several line offices to estimate the social and economic benefits of NOAA products and services to the nation.

Summary of the SAB Recommendations

The 16 recommendations advanced by the SAB, taken together, fall into three broad categories:

- 1) Infrastructure-- the need to augment social science staffing, improve program resources, and increase use of existing research structures,
- 2) Impact Assessments-- how NOAA uses social science to inform decision making or improve products and services, and
- 3) Integration-- how social science fits into the agency or with other disciplines.

INFRASTRUCTURE:

The SAB found that existing NOAA social science programs are staffed at “sub-optimal” levels. To address this problem, they suggested that in the short-term NOAA focus energies on centralizing its social science capacity to meet corporate needs. In the long-term, once sufficient staffing and resourcing reach critical levels, they suggest a “mixed centralized/diffused” approach, that is, to retain centralized capability, but also develop and maintain capability across offices and programs. Additionally, the SAB suggest that NOAA might better utilize existing infrastructure such as grant programs, contracts, virtual centers, and institutes to enhance NOAA’s social science endeavors.

Recommendation 2.1 - NOAA should draw on the full range of excellent science (physical, biological, and social) to better meet its mission in both line offices and mission goals.

NOAA Response: NOAA is committed to drawing on the full range of the sciences (physical, biological, and social) to better meet its mission in both line offices and mission goals. In fact, since the 2003 Social Science Review Panel report was published, social science has been increasingly integrated into NOAA activities in the planning stages, enabling NOAA activities to benefit from the inclusion of social science.

However, NOAA concurs that the social sciences continue to be underrepresented in NOAA’s research, operations, and decision making and that NOAA lacks sufficient social science expertise to meet its mission and objectives. To address this, NOAA intends to engage in priority social science activities, and will continue to support initiatives that include social science and integrate physical, biological, and social sciences.

As indicated previously, NOAA proposes to remedy the lack of integration of social sciences into NOAA’s research, operations and decision-making by utilizing the NRC SSC as a tool to better coordinate and integrate existing social science capabilities across the agency. Other existing committees and coordinating entities will also be used to better integrate social science across the agency, such as Science and Technology efforts at the Line Office level and the Weather and Water Social Science Working Group.

Recommendation 2.2 NOAA should recognize and facilitate the contributions of the social sciences to the major challenges in its research and development and to its

operational responsibilities, as several other agencies, organizations, and scientific programs have done. NOAA should use social science to understand decision making frameworks at all levels so as to provide information that meets stakeholder and user needs.

NOAA Response: NOAA agrees with the SAB that the Agency should recognize and facilitate the contributions of the social sciences to research, development, and to its operational responsibilities. Further, NOAA agrees that it should use social science to understand decision making frameworks at all levels so as to provide information that meets the needs of its user groups. Moreover, NOAA interprets this broadly to include our partners' and stakeholders' needs for products, information and services. NOAA also uses social science to measure the agency's accomplishments and conduct planning activities. For example, NOAA social scientists provide information that the Agency needs to understand how its customers use our products, information and services; how society interacts with the resources and phenomena that we study; and how successful NOAA programs have been relative to social and economic outcomes.

Although this work has historically emphasized economic measures, in order to fully understand partner and stakeholder needs and Agency performance, NOAA has committed to utilizing a broader range of social science disciplines, including: sociology, anthropology, demography, geography, economics, psychology, and political science. Over the next five years, NOAA will assess and appropriately expand these evaluative efforts based on corporate priorities and the individual needs of program offices and goal teams.

Recommendation 2.3 - NOAA should use social science analysis to demonstrate and calibrate its accomplishments, to provide a solid basis for its future planning, and to more properly implement and evaluate its planning activities.

NOAA Response: NOAA believes that social science analysis can help the agency to demonstrate and calibrate its accomplishments and provide a solid basis for future planning. When using valuation as a means to evaluate NOAA's accomplishments, one of the challenges is identifying the portion of the value that may be attributed to NOAA products, information, and services. Some values are more problematic than others. For example the value of coastal and marine resources is influenced by a variety of factors, including 1) the demand for and use of coastal and marine resources by commercial and recreational users, 2) factors that influence the health of these resources, and 3) attributes that provide the context for resource use. The task of narrowing down the change in value that directly results from NOAA activities will require an innovative approach.

Various offices within NOAA have been working on developing new and novel techniques to achieve valid and reliable models for valuation of NOAA products and services. For example, NOAA's National Weather Service (NWS) undertook a study on the economic value of a 7- to 10-day streamflow temperature forecast. They found that NOAA forecasts provide value if they allow the water resource manager to make more cost-effective water allocation decisions. Similarly, NOAA's Weather and Water Goal Team, is

in the process of preparing an assessment of existing and potential social science activities that will improve products and services and, thereby, the health and safety of the nation.

Additionally, NOAA's National Ocean Service (NOS) recently completed a study on the economic value of navigation-related products and services and plans on expanding this work into other NOS activities. For example, NOS/National Geodetic Survey (NGS) is currently undertaking a multi-phase study on the value of the National Spatial Reference System (NSRS). This study examines the broad range of NSRS users to determine how they derive value from NSRS products and services. NGS will use the research findings to estimate the value of their products and services to users and the Nation.

Also, NOAA Fisheries has ongoing programs to collect economic and social data from the nation's commercial fisheries and fishing communities. The agency is using these data to evaluate the performance of catch shares programs in Alaska, the Gulf of Mexico, and New England. A final example is NOAA's National Climatic Data Center, which has published detailed analysis regarding the economic impact of the most costly (>\$1 billion) weather and climate-related extreme events. During the 1980-2009 period, the U.S. sustained over \$700 billion in overall inflation-adjusted damages/costs due to these events. Using economic impact data allows placement of events in historical and geographical perspective and indicates changing occurrence of events that have the highest impact to society. This analysis has been used in a National Climate Assessment synthesis

NOAA will broadly apply these and similar models throughout the agency. Also, in order to more fully understand how NOAA activities benefit the nation, NOAA will expand model designs to include valuation metrics from other social science disciplines. NOAA will use this information to better inform decision-making, improve products and services, and demonstrate a clear path for NOAA to expand use of social science methodologies to demonstrate accomplishments, improve planning, and evaluate its success in meeting missions, goals, and objectives.

Recommendation 4.1 - NOAA administrators should address the weakening position of the social sciences by aggressively developing and implementing a plan to strengthen and integrate social science throughout NOAA line offices, programs and mission goals.

NOAA Response: NOAA has struggled to meet mission related social science needs. Undoubtedly, the agency has a long way to go before it will achieve a critical threshold of social science capabilities. Having said that, NOAA believes that the cultural shift within NOAA with respect to value of and need for social science, while slow, is progressing.

The NRC SSC has made significant inroads into improving attitudes toward social science research and its value NOAA-wide. By acting as the coordinating body for social science activities at NOAA and communicating the successes of social science programs,

the committee provides clear examples of how social science has furthered and continues to further the Agency's mission.

NOAA admits, however, that there is much room for improvement and the need is urgent to shore up the weakening position of social science at the agency. Consequently, in addition to strengthening the function and role of the NRC SCS to better utilize existing capabilities, NOAA intends to begin efforts to more aggressively integrate social science in three broad areas:

- 1) core competencies, so that social science is more seamlessly entrenched in what we do;
- 2) research, so that social science will inform conduct of all research at the agency, taking into account the human dimensions of the issues we address; and
- 3) workforce, so that social science expertise becomes a priority for transitional planning in staffing at the agency.

A central part of the NOAA core competencies is to ensure that social science is integrated. The SSC will develop a plan for social science as a part of the next 5 year research plan, including objectives and performance measures. To ensure that social science informs our research capability, NOAA is exploring the idea of an Office of Social Science within the Office of Oceanic and Atmospheric Research (OAR) as part of the ongoing reorganization. This would make a strong connection between social science and NOAA's research enterprise and would help build the short-term corporate social science capability and be the core of the centralized capability. In addition to informing research, the office would be an incubator for research into improved service delivery through effective use of end-to-end social science principles. Finally, NOAA needs to better utilize its extramural resources to accomplish the social science mission. The goal of making social science a priority for intramural staffing is a worthy goal, but may not be attainable in the immediate future. Our academic partners across the country should be actively engaged to help us in the meantime.

Recommendation 4.3 NOAA should develop a tracking system that accurately accounts for and monitors social science staff.

NOAA Response: NOAA concurs that it needs to do a better job of inventorying and tracking its current social science capacity. Furthermore, NOAA acknowledges that current job classifications do not adequately account for those who conduct social science, but are not in a social science series; or those individuals who are in a social science series, but do not conduct social science. Additionally, because social science is often imbedded in funding for larger efforts, it is often difficult to quantify the exact amount of funding going to social science research and other programs. This is another example of why a needs assessment for social science is necessary. For the needs assessment, a special task force will be tapped to define the appropriate metrics and data required to assess social science capability at NOAA. However, as a part of this process, NOAA units will conduct an exercise to determine their current social science capabilities and how these capabilities relate to present and future priorities and needs. Moreover, we expect that once a framework for collecting data on social science

capabilities at NOAA is designed and in place, the process will be operationalized and repeated on a regular basis to track changes in social science capability over time.

Recommendation 5.2 Until a coordinated and comprehensive social science capacity can be sustained NOAA-wide; a strong centralized social science presence will be necessary to support corporate and programmatic social science efforts. To put appropriate social science expertise in place to guide, inform, and support the use of the social sciences within NOAA, NOAA leadership should create the Office of Societal Impacts. This office would serve a leadership role in coordinating social science across the agency, integrating it where appropriate in research, programmatic, and planning functions. To ensure that the office has sufficient support to perform these functions, it should be external to the line offices and report directly to upper levels of NOAA leadership, such as the Deputy Under Secretary for Oceans and Atmosphere, in a manner similar to the Office of Education.

NOAA Response: Although NOAA sees the value in a strong centralized social science presence to guide, inform and support social science efforts throughout the Agency, NOAA disagrees with the SAB on how this might be implemented. NOAA does agree with the SAB that the function should be housed in a Line Office that has a corporate mission.

Rather than establishing an Office of Societal Impacts, NOAA proposed to reinvigorate the role and responsibility of NOAA's Office of Planning, Programming and Integration (PPI) to provide a strong, coordinated social science presence in the agency. This approach is consistent with Recommendation 5.2 in view of the corporate nature of PPI's mission and the access of PPI staff to upper-NOAA management. This will be accomplished through the Chief Economist position in PPI, who is the Chair of the SSC and acts as a Senior Advisor for Environmental Social Science. The person in this position plans and coordinates resources, both intramural and extramural, to achieve the specific objectives in the NGSP; tracks the level and mix of social science capability in NOAA for adequacy; provides overall guidance in terms of applying social science toward priority issues; provides coordination for integrating social science into budget planning and programming; and is the main point of contact for social science issues at the Agency level as they arise (e.g., blue/green jobs creation).

Recommendation 5.5 - NOAA should use its network of joint and cooperative institutes to strengthen social science research, either through the inclusion of social science research in existing institute programs or by establishing one or more joint/cooperative institutes dedicated to social science.

NOAA Response: NOAA concurs that social science research in NOAA should take advantage of its network of joint and cooperative institutes. The NOAA Research Council has a Cooperative Institute Committee as well as the SSC, and the SSC recently began including a representative from the Cooperative Institute Committee at the SSC meetings. NOAA will continue to do more to take advantage of its network.

Recommendation 5.6 - NOAA should provide appropriate budgetary support to accomplish these recommendations through special *assessments and reprogramming*. Line offices should establish budget targets for investments in social science capacity over the next three to five years. Ultimately, the determination of the proportion of NOAA resources to be allocated to the social sciences should be outcome-driven. Until a threshold capacity is developed so that the benefits of the social sciences can be felt, formal needs assessments are completed, and formal procedures are adopted to assess the adequacy of social science investment in each line office, the SAB recommends that about 5% of all line office budgets should be allocated to the social sciences. This likely will require reallocation of existing staffing budgets.

NOAA Response: NOAA concurs with the opinion that social science in the agency is significantly underfunded. Given budgetary limitations and increasing demands on limited resources, NOAA expects that improved resourcing to social science programs will continue to pose a challenge and possible impediment to significantly improving social science infrastructure at the agency. Across the agency, budgets have declined even as mandates have increased requirements to meet core missions. Consequently, NOAA does not agree with the SAB in its recommendation with the 5% allocation of line office budgets for social science.

Rather, NOAA feels that it is premature to assign any specific level of budget or staff to social science without first assessing present social science capabilities, comparing these capabilities against present and future research needs, determining a realistic estimate of investment to obtain a critical threshold of social science capability, and estimating the relative value of such an investment in relationship to NOAA numerous, competing priorities. Having a clear idea of these factors, NOAA will be in a better position to strategically invest its limited resources to maximize the value of its investment in the social sciences. Therefore, NOAA believes specific funding and staffing levels should be determined through a needs assessment as mentioned in Recommendation 4.2 and that such an assessment should guide additional social science investments.

Such an assessment would also assist in determining the appropriate mix between in-house social science expertise and social science conducted under contract – “rent vs. buy.” This is an issue that is constantly evolving based on the current needs; however, it is often the case that social science work is contracted out due to inadequate in-house capability as opposed to an informed decision on the mix of contractors vs. in house social science.

IMPACT ASSESSMENTS:

The SAB found that NOAA could do a better job of utilizing social science research methods and other capabilities to assess the socioeconomic impact and value of NOAA products and services, as well as to evaluate and, more importantly, improve the performance and success of NOAA products and programs. They found, “while social science supports certain management actions, NOAA-wide it is still viewed more as a tool to justify NOAA products rather than a tool to improve how products are produced”. In other words, the Group found that agency-wide there is ample opportunity to increase

use of social science information to more effectively design, target, and transition NOAA products and services.

Recommendation 6.1 NOAA should use the social sciences to: (1) identify and measure social and economic outcomes; (2) achieve socially beneficial outcomes; (3) improve performance within the organization; and (4) set targets for future accomplishments.

NOAA Response: NOAA agrees that the social sciences are essential for:

- 1) quantifying the monetary and social values of NOAA's information and services,
- 2) improving the design of NOAA products, information and services in light of user needs, adaptation, response, and utilization,
- 3) helping NOAA prioritize future investments, and
- 4) identifying, measuring, and achieving socially beneficial outcomes.

However, there is a distinction between creating funding for social science through mandates or incentives versus creating a demand for social science products and services within NOAA based on knowledge among leadership about the value and effectiveness of social science in contributing toward NOAA missions. Only the latter circumstance will raise social science to the level of priority that is required to alter funding patterns at NOAA. NOAA leadership is aware of the potential for social science, but it has yet to place a high priority on investment in social science. Consequently, NOAA needs an approach that will clearly demonstrate to its leadership that social science has value and can significantly further NOAA's missions. Given the lean budget environment, NOAA believes that compelling its leadership to invest more in social science without tangible proof of its effectiveness will lead to increased barriers in integration of social science into decision-making and, moreover, will further strain productive dialogue between the social, natural, and physical sciences.

NOAA feels that the groundwork has been laid for the use of social science in improving NOAA's products, information and services, and several studies¹ have been completed showing their value. As these kinds of studies are used and found to be effective, NOAA Leadership is more likely to increase investment in social science. In addition, the needs assessment mentioned earlier will be an integral part of implementing this recommendation. The results of the needs assessment will provide information on how social science will lead to desired outcomes, how to measure outcomes and performance, and set targets for future accomplishments.

Finally, the assessment of social and economic benefits only provides part of the picture. NOAA will place an increased emphasis on program evaluation. As is stated in OMB Memorandum M-10-01 (October 7, 2009), "*Rigorous independent program evaluations can be a key resource in determining whether government programs are achieving their intended outcomes as well as possible and at the lowest possible cost.*" Social science capability will be deployed toward conducting program evaluations throughout the Agency.

¹ **300 Billion Served: Sources, Perceptions, Uses, and Values of Weather Forecasts**, Jeffrey K. Lazo, Rebecca E. Morss, and Julie L. Demuth, *Bulletin of American Meteorology Society*, Vol. 90, No. 6, June 2009, pp 785-798.

Recommendation 6.2 NOAA should establish performance metrics to set targets for and evaluate progress toward improved social science capability within NOAA.

NOAA Response: While NOAA agrees progress toward improved social science capability within NOAA must be tracked, it reiterates that targets should be based on demonstrated needs for social science. After the social science needs assessment is completed, NOAA proposes to develop a plan to meet identified needs for social science. As a part of this process, NOAA will develop performance metrics and set targets to evaluate its progress at improving the capability of NOAA social sciences.

INTEGRATION:

Recommendation 4.2 - NOAA should conduct a formal needs assessment to determine its needs for social science staff and research by program, and determine the appropriate mix of internal and external staffing to meet these needs.

NOAA Response: NOAA strongly agrees with the SAB that a formal needs assessment on priority issues to document needs related to social science staffing, research priorities, and funding is necessary. Further, NOAA views this as a critical first step in determining the appropriate level of social science funding and staffing at the agency. Therefore, any discussion of specific levels of social science capability is premature because before we can move from a general discussion on agency needs related to social science, we must first know what questions the agency would like social science to answer, what type of research, data, and information will be required to answer those questions, and how this information will be applied to achieve NOAA missions and mandates. This exercise will ensure that social science will contribute to NOAA's mission, thereby ensuring that social scientists are able to successfully demonstrate the value of social science to NOAA at all levels. While there have been assessments at the line office level (NMFS and NOS), a broader assessment is needed.

Recommendation 5.1 - NOAA leadership should articulate a commitment to strengthen the social sciences within NOAA and develop incentive structures to ensure this commitment is implemented at the line office, mission goal and programmatic levels.

NOAA Response: Leadership across NOAA, in various contexts, has articulated recognition that social science is important. One example of this is the recent acknowledgment of the need for social science in the 2012 – 2016 NOAA Annual Guidance Memorandum stating that “*targeted social science research and analysis could be used to create more effective decision support capabilities and to better convey forecast risk and uncertainty.*” Furthermore, in the context of PPBES, various activities are underway within the NOAA Goals to fund a variety of social science initiatives beginning in FY2012. Recently, the NOAA Assistant Administrators have been helpful in underscoring the need for social sciences within their various lines. Moving forward, social science activities will be included in all appropriate budget initiatives to ensure that social science is appropriately funded. Finally, the move to fill the position of NOAA Chief Economist within the Office of Planning, Programming and Integration serves as

testament to the commitment of NOAA to build on its existing social science capability. Filling this critical position will certainly increase the visibility of the benefits of social science and further highlight NOAA's commitment to strengthen social sciences within NOAA.

Recommendation 5.3 - To promote the transition to increased social science capacity, NOAA should consider establishing a NOAA Council of Social Science Advisors to advise NOAA leadership on fruitful areas of investment in social science research and staff.

NOAA Response: NOAA is implementing this Recommendation through its NOAA Research Council - Social Science Committee. This body will continue to contribute to the implementation of this Recommendation by influencing the direction of social science activities throughout NOAA, based on close guidance from NOAA leadership.

Recommendation 5.4 - The NOAA Science Advisory Board should establish a standing Social Science Working Group to provide ongoing oversight and quality control over the integration of the social sciences into the agency.

NOAA Response: NOAA sees the utility in the establishment of a standing Social Science Working Group in the Science Advisory Board and is committed to its establishment.

Recommendation 5.7 - Over the long term, NOAA should integrate the social and natural sciences in all its research committees, rather than creating parallel structures. In the short term, it may be necessary to create special purpose social science groups to strengthen the social sciences in NOAA. NOAA should also seek ways to coordinate its activities with social science research activities outside of NOAA, such as those at National Science Foundation (NSF).

NOAA Response: NOAA strongly agrees with an upfront approach to integrating social and natural science and believes the inclusion of social science in the beginning stages of NOAA activities will prove beneficial. Various "special purpose" social science groups within NOAA such as the Human Dimensions Program at the NOS Coastal Service Center (CSC), the Fisheries Social Science Branch, Southeast Regional Office, and the Weather and Water Social Science Working Group, which coordinates social science activities related to the Weather and Water Mission Goal. NOAA will facilitate export of these approaches to other offices and programs. Furthermore, there is collaboration on social science research activities with external entities such as NCAR's Societal Impact Program, the University of Oklahoma's Social Science Woven into Meteorology, and NSF.

Recommendation 5.8 - The SAB endorses the following recommendations of the NOAA Social Science Committee to: 1. Combine in-house and external social science staff, as appropriate to each program; 2. Use test beds and demonstration projects to illustrate the value of social science to NOAA activities and educate NOAA managers about the

benefits of the social sciences; 3. Leverage the growing focus on ecosystem-based management and climate services, two areas where the need for and benefits of integration of social science should be obvious and unquestioned.

NOAA Response: NOAA concurs with the cited recommendations of the NOAA NRC-SSC. The aforementioned needs assessment should help with the appropriate role of in-house and external social science capability. NOAA feels the key to the advancement of social science within the Agency is to clearly demonstrate its effectiveness. This can be successfully accomplished through test beds and demonstration projects on priority issues.

Conclusion

Overall NOAA concurs with the SAB in that the Agency needs to better integrate social science and the natural sciences by strengthening social science capacity throughout NOAA through the integration of social science into product development, decision-making, impact analysis, performance measurement, and program evaluation. Further, NOAA agrees with the SAB that NOAA does not have adequate social science capacity to realize the full range of benefits that social science would provide to the agency.

To effectively integrate social science into its information and services, NOAA intends to:

- (1) Undertake a social science needs assessment in priority areas to document the level of social science capability (including needs/gaps) and define research needs.
- (2) Strengthen social science through a corporate coordinating function, to be handled
 - In NOAA's Office of Program Planning and Integration (PPI) through the Chief Economist who will serve as a senior advisor for environmental social science, and
 - Through the NOAA Research Council - Social Science Committee.
- (3) Make improvement to social science in three broad areas:
 - Core competencies – ensure that social science is seamlessly entrenched in what we do
 - Research – ensure social science research informs the agency, taking into account the human dimensions of issues
 - Workforce – so that social science expertise becomes a priority for staffing at the agency
- (4) Reflect the importance of social Sciences in the NOAA Next Generation Strategic Plan

NOAA's intent is to address the Report's recommendations through a natural progression of a studied and informed process designed to strengthen social science in a manner appropriate to the needs of the Agency.