Human Dimensions of Global Change Research

FY 2003 Information Sheet

Goal

The goal of NOAA's Human Dimensions of Global Change Research Program is to advance our understanding of human response to and planning for the effects of climate variability in the context of multiple and interacting social and environmental pressures. The Program supports investigation into how decision makers perceive the effects of climate and how they process and use new scientific findings and information relevant to climate and its impacts. To ensure that society as a whole gains from the emerging knowledge and forecasting capabilities of global change science, we also encourage research directed toward the nature of participation in these decision processes and identification of practices, operations, individuals, and/or organizations affected or influenced by changed decisions. This Program is designed to advance the knowledge necessary to build local, regional, and national capacity to reduce vulnerability to climate related impacts.

Rationale

In the mid 1980s, dynamic climate models designed to simulate the interaction of the ocean and atmosphere in the tropical Pacific began to show skill in predicting the behavior of the El Niño phenomenon. The scientific community working on predictability was enthusiastic about the potential that forecasts might have for reducing vulnerability to El Niño-related climate variability. They assumed that predictive information would be, by its nature, useful information and therefore would result rather directly in better decisions.

As a result, NOAA's Climate and Global Change Program became heavily invested in the research that lead to forecast capability; the Program remains committed to extending understanding of the climate system. In order to get to the point of realizing potential benefits associated with predictive insights into the behavior of the climate system, this office recognized the need to advance our understanding of how humans experience climate, the nature and interaction of social, economic, and ecological vulnerability to problems affected by climate, and the constraints that influence coping systems. As expressed in the 1999 NRC Report, Making Climate Forecasts Matter, there is still much to learn as we do not yet have a comprehensive or systematic picture of the potential or actual benefits of climate forecasts. (Easterling and Stern, 1999)

Global change science over the last few years has embraced the importance of decision relevance within the process of research planning (see Global Environmental Change: Research Pathways for the Next Decade, and Our Changing Planet FY 2001). Two recent NRC reports, Our Common Journey and The Science of Regional and Global Change: Putting Knowledge to Work, begin to chart the course toward global change science agendas designed specifically to address broader issues of sustainability and

vulnerability. NOAA's Human Dimensions Program is fully consistent with and supportive of these developments and encourages those responding to this announcement to be cognizant of these trends.

Current Funding Priorities

For FY2003, this program will have two priorities, a continuation of the focus of last year's announcement on communication, and a new focus on synthesizing our current state of knowledge. A description of both follows.

Priority 1: Communication

For several years, NOAA has been funding research projects and applications activities associated with the potential or actual use of climate forecast information. Many projects have investigated the potential benefits and costs of using forecast information as well as factors currently constraining their widespread use. Most of these have looked at the use of climate information in an event-specific context.

These earlier studies and experiences with the actual use of climate forecast information in real world settings provide an emerging foundation of knowledge and point to the need for a more systematic understanding of information systems appropriate to the delivery of climate information amenable to social coping systems. The research priority for FY2002 funding was to improve our understanding of communication, dissemination, and evaluation of climate analysis and forecast information. The objective was to provide knowledge that contributes to improving the relationship between the information delivery system and the social coping system such that societal welfare in its broadest sense is enhanced. In FY2003, we would like to continue funding similar projects. We encourage applicants to submit proposals for up to three years of research on this topic. One aspect that this office is interested in exploring is learning how forecast information is integrated through a system of decision-making; we welcome other topics as well.

Priority 2: Synthesis

Because Human Dimensions of Global Change research encompasses so many sectors and regions throughout the world, it is difficult to obtain a complete understanding of progress in the human dimensions' arena. We are soliciting proposals for one-year projects that will contribute to a better understanding of the state of the knowledge within this multi-disciplinary focus.

There are a number of specific requirements that must be addressed to obtain funding for the Priority 2 activities. First, decision makers are essential to this process. PIs must demonstrate their efforts to include them throughout the project. Second, a workshop must be held to help the PIs synthesize the status of that

sector and/or region. Third, proceedings for this workshop must be written and printed. The PIs will need to work with the Project Manager on format and content. Fourth, a synthesizing report must be written. The Project Manager will again work with the PIs on the format of these reports. Fifth, one of the PIs will be required to present a short summary of their work at a meeting of HDGC PIs that will be scheduled within two years of completion of their project. Investigators do not need to include travel costs for the PI meeting, but should complete all work towards a presentation within their one-year commitment.

Possible topics for synthesis projects include:

Communication. e.g., improving ways of communicating forecast information to users; the role of the media in communicating scientific forecast information to users; verification of forecast skills - what happens after the forecast leaves the forecaster and what are the consequences; the confluence of scientific and local knowledge. PIs interested in a communication-related topic may wish to build on work started at the "Communication of Climate Forecast Information Workshop" held at the IRI in June 2001.

Decision Tools. e.g., what tools are used and are needed by decision-makers for the uptake of climate information?

Specific Sector and/or a Geographic Focus. e.g., water management in the United States, Subsidence farming in southern Africa, Energy markets in the eastern United States, natural disaster mitigation in Latin America, etc.

The Importance of Scale (of information and of management). - e.g. what are the issues and/or problems for which managers might consider climate information relevant, and what can be done to more effectively correlate the scale of climate information with the scale at which managers operate?

The Role of Institutions. - e.g. What are the roles played by various existing and emerging institutions and how do these institutions influence the information system.? What is the effect on overall societal welfare?

Event-specific and between event use of information and response. - e.g. what are the differences between how an information system functions in preparation for and during a particular event? What has been learned in these instances about information systems and how do these lessons apply to building "between event " response and adaptation?

Approach

Multidisciplinary teams of investigators are often needed to address the complex issues at hand. These teams can be comprised of different social science disciplines or across the disciplines of social and natural sciences. In the past, many of the successful proposed

approaches have integrated social with natural or physical science components to form a more comprehensive analysis of the dynamics of climate-human interactions. (Please note that support for extensive modeling of the physical system is more appropriately handled through climate science programs both within the other sections of the Office of Global Programs and other agencies.)

Studies can be focused on regions in the US or overseas where the impacts of climate variability are acute. If the US research team is undertaking a study outside the US, they must present evidence of strong collaborations with local researchers and institutions (e.g., NGOs, extension services, state and local governments, representative private sector organizations) in the region of study. Letters of support from local collaborators should be included with the proposal.

An important objective of the program is to provide feedback to the climate science and forecasting community on the level of usefulness of the current information being produced and how the information could be more effectively communicated and disseminated. Thus, investigators are encouraged to consider developing a plan for determining how best to provide feedback on the insights/results from their research projects to members of the forecasting community, such as those at NOAA's Climate Prediction Center or the International Research Institute (IRI) for climate prediction.

Investigators are strongly encouraged to collaborate with decision makers in the region or sector to be studied. Many projects have included focus groups, workshops with these communities to discuss project framework up front and conclude with workshop on research results. See our web page for examples of past projects (http://www.ogp.noaa.gov/mpe/csi/econhd/index.htm).

We would also like to encourage creative methods of conveying the results of work done under the contract or more general knowledge about climate-human interactions to provide information to the broader community. For example, information can be displayed on websites, in non-scientific newsletters, on CDs, on short video documentaries that can be copied and disseminated, etc. While this is not a requirement for funding, we are encouraging PIs to consider both traditional and nontraditional methods of relaying their findings to those impacted by the study as well as to the general community interested in these issues (e.g., policy makers, teachers, students, NGOs, etc.). Investigators may wish to collaborate with journalists, members of the media, etc. for this purpose.

Applicants whose proposals are chosen for funding will be expected to undertake an ongoing dialogue with NOAA's Climate and Societal Interactions group of which the Human Dimensions research program is one element. Part of this dialogue will consist of a Principal Investigators meeting of funded projects to discuss common questions and frameworks to be addressed in the new research projects.

Proposal submission

The full guidelines for proposal submission can be found in the NOAA FY 2003 call for proposals for its Climate and Global Change Grants Program (www.ogp.noaa.gov). However, investigators are advised to include the following information in their proposals.

Proposals should sufficiently build on what is already known from the published literature about the proposed topic (e.g., value of climate information, decision making under uncertainty, use/transfer of new scientific information, integrated modeling of natural and human systems, sectoral analyses.) Linkages to the use of specific information derived from climate prediction should be discussed explicitly; however, physical science components aimed at improving climate forecasts will not be supported.

Because of the interdisciplinary nature of the program and the proposals we receive, it is essential that investigators describe in extensive detail the proposed methodology and how it will be accomplished. Investigators need to be explicit about hypotheses to be tested, data to be collected, analyses to be performed, components of any proposed modeling, and expected output for theoretical advancement of the topic area. For proposals from a team of researchers, a plan, which includes the roles of the investigators and how the team will interact and integrate the multiple components, must be clearly specified. Investigators who will not be requesting funds for salaries must also be listed along with their estimated time of commitment.

Competition for funding in this program continues to be very strong. We encourage cost-sharing arrangements between agencies. The program normally receives about seventy letters of intent for proposed research projects, and less than half of those are encouraged for submission of full proposals. Of the full proposals submitted, only about 10-15% are selected for funding. Program funds are expected to be extremely limited again. For further information, contact Dr. Nancy Beller-Simms, 1100 Wayne Avenue, Suite 1225, Silver Spring, MD 20910; telephone: (301) 427-2089, ext 1; or e-mail: Nancy.Beller-Simms@noaa.gov.

Funding availability

Contingent on the availability of funds through the FY 2003 budget process, up to $1 million may be available for new projects. Please note that the average funding level is about $100K per year, ranging from $50K - $140K per year. Applicants are encouraged not to exceed requests of $150K per year for multi-year projects.

Sources of background information for developing a relevant proposal

At the request of NOAA, the National Research Council (NRC) of the National Academy of Sciences recently developed a science plan for the area of the human dimensions of seasonal-to-interannual climate variability. The published NRC plan, Making Climate Forecasts Matter, lays out the state of knowledge and a series of critical research questions, and it provides a valuable set of references. All researchers interested in the NOAA Human Dimensions program are highly encouraged to read this book, particularly

chapter six on Scientific Priorities. The full book is available on the National Academy Press web site at http://books.nap.edu/catalog/6370.html.

Other useful publications include, Coping With Climate: A Way Forward (see http://www.ogp.noaa.gov/mpe/csi/index.htm), and two NRC publications: Our Common Journey: A Transition Toward Sustainability, and The Science of Regional and Global Change: Putting Knowledge to Work.

References

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