

Environment, Science and Development (ESD) Program FY05 Information Sheet

Program Objectives and Outcomes

The Environment, Science and Development (ESD) Program seeks to accelerate and expand the use of climate research outcomes and products through the development, implementation and evaluation of applications activities. The goal of the ESD open competition effort is to stimulate innovative projects that bridge the gap between climate research insights and products¹ and practical decision needs in vulnerable sectors and regions. The ESD program is intended to provide resources to individuals and organizations involved in climate research and related decision making to translate scientific research into actual applications within a short period of time.

Each ESD project is expected to i) contribute to the number and effectiveness of decision support methods, tools, and products available to decision makers in specific sectors and regions; and ii) create enhanced adaptive capacity in regions and sectors affected by climate. Upon completion, each principal investigator will be required to address the following questions based on the project's outcomes:

- How has the project contributed to a higher level of awareness/understanding on the part of specific decision makers/institutions of the effects of climate variability on their management objectives and the potential use of climate research and information, including predictive information, in addressing these challenges?
- How has the project contributed to the ability of a particular sector or region to better adapt to climate variability and change (i.e., what capacity or institutional “footprint” does the project leave behind)? If possible, please quantify these results. If climate research and information were not deemed useful by the decision makers involved in this project, please identify any scientific or institutional needs that could be addressed by evolving research efforts.
- What insights does this project offer for ongoing efforts to link climate research to enhanced coping strategies and the provision of climate related decision support?

Program priorities for FY05 include (further elaboration follows below):

- The development, implementation and evaluation of innovative methods for applying climate information to practical challenges associated with resource management, planning and disaster preparedness; projects designed to increase resilience to climate variability in coastal regions are of particular interest; and
- The analysis and evaluation of past or ongoing applications activities to synthesize and communicate lessons learned, and to shed light on the potential transferability of applications methodologies.

¹ Examples of research insights and products include (but are not limited to) climate forecasts and diagnostic information; impacts analysis and vulnerability maps; emerging institutional relationships that connect producers and users of climate information.

Program Description and Elaboration of Program Priorities for FY05

As stated in the Climate and Societal Interactions (CSI) overview section of the FY05 Climate and Global Change Program Announcement:

Climate science and services have the potential to help inform decision making in sectors and regions that are affected by climate variability and change. A multi-disciplinary, research, assessment and applications effort is fundamental to creating an effective bridge between societal need and scientific insights and products.

The ESD program focuses on the **applications** component of this end-to-end effort to link science and decision-making processes in climate-sensitive sectors and regions. The ESD research applications activities build on over a decade of investment by NOAA and its university and government partners in integrated climate research and prediction; applications research and development; social science-oriented impacts and vulnerability research; and multidisciplinary scholarship on research, assessment and decision support systems for climate and global change. NOAA continues to support the development of the knowledge, methods and research infrastructure/capacity designed to help society better adapt to climate variability and change through various research programs (e.g., Human Dimensions of Global Change Research; Regional Integrated Sciences and Assessments; Climate Variability and Health; and numerous research programs which provide greater insight into the climate system, including Climate Variability and Predictability, Climate Dynamics and Experimental Prediction, Climate Observations and Climate Prediction Program for the Americas).

Experience has demonstrated, however, that a separate, applications-focused activity is a useful complement to these ongoing activities and can provide the often incremental resources necessary to “connect the dots” between science and decision making in specific contexts. In addition, this program is a highly efficient way to connect researchers and stakeholders in areas of mutual interest. Such an effort is necessary in order to fully realize a return on NOAA’s past investment in prediction research, and to continue to develop synergies between ongoing and future prediction research and the needs of the society. The current ESD program is the next generation of NOAA’s Research Applications Program, a decade-long effort to foster the understanding and the technical, scientific and institutional capacity necessary to forecast and adapt to climate variability. The effort took a place-based approach to integrated programs of research, institutional development and capacity building with support provided through a variety of funding mechanisms and partnerships with regional, national and international organizations².

² Applications efforts focused on Africa, Latin America and the Caribbean, South East Asia and the Pacific Islands. For additional information, please see <http://www.ogp.noaa.gov/mpe/csi/esd/index.htm>.

As part of the CSI portfolio, ESD supports the priorities and concepts identified as high priority by NOAA and the Climate Change Science Program (CCSP), including the advancement of effective decision support-oriented climate research. Specifically, ESD serves as a mechanism for helping the global community in the area of climate research applications by conducting applied research and capacity building activities abroad either directly or through funded university or NGO partners. Partnering with other elements of NOAA and its broader scientific community, ESD projects seek to engage key regional and international decision makers.

FY 2005 ESD Program Priorities

The FY05 ESD program priorities are designed to support NOAA's mission to enhance society's ability to plan for and respond to climate variability and change. NOAA plans to "work with users of climate information to enable and increase the application of climate information for health and safety, environmental, economic, and community planning, especially for freshwater supply, water quality and coastal impacts" (*New Priorities for the 21st Century: NOAA's Strategic Plan for FY2003-FY2008 and Beyond*). Within this context, the following areas are identified as priority ESD program themes in FY05:

- The development, implementation and evaluation of innovative methods for applying climate information to practical challenges associated with resource management, planning and disaster preparedness; applications relevant to coastal regions are of particular interest.

Coastal and marine areas are among the most productive and dynamic ecosystems on earth. Coastal regions are home to more than half of the global population, and host a diverse array of economic activities. Climate research has the potential to contribute to efforts to develop integrated approaches addressing the effects of climate on coastal and marine environments and human populations. ESD will seek to develop applications projects that will i) contribute to improved coastal and marine resource planning and management through the use of climate science insights, findings, tools and methods; and ii) generate demonstration models for utilizing climate information in this important sector.

- The analysis and evaluation of past or ongoing applications activities to synthesize and communicate lessons learned, and to shed light on the potential transferability of applications methodologies.

At this point in the program's development, ESD will seek to support focused analysis of past experiences to generate a better understanding about the characteristics of effective decision support. These "lessons learned" can be utilized as input to current efforts to build effective applications/decision support systems for climate.

Proposal Information

Proposed activities could include workshops, training and educational activities, small-scale multidisciplinary research initiatives, critical analysis reports, and/or pilot applications projects. Projects should involve decision makers in the design and implementation of the project, and should not exceed \$100K. Projects should be no more than 12 months in duration, with a clear and discrete outcome/impact at the end of this period.

Please contact the Environment, Science and Development program manager, Lisa F. Vaughan with questions (301-427-2089 ext. 132 or Lisa.Vaughan@noaa.gov).