

“A change in the research enterprise dealing with environmental change and environment-society interactions is urgently needed. Organization of this research should no longer be exclusively defined by academic discipline but should encourage an intimate connection between research, operational activities, and the support of decision-making.”

Adapted with permission from The Science of Regional and Global Change: Putting Knowledge to Work, National Research Council, 2001 - Courtesy of the National Academy Press, Washington, D.C.

OFFICE OF GLOBAL PROGRAMS
OCEANIC AND ATMOSPHERIC RESEARCH
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
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Office of Global Programs

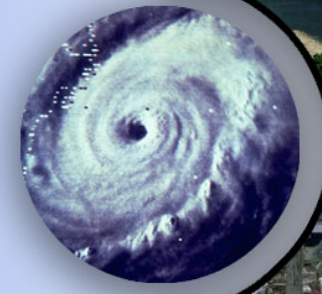
National Oceanic and Atmospheric Administration

Department of Commerce

Climate and Societal Interactions Division



Application Research



Human Dimensions



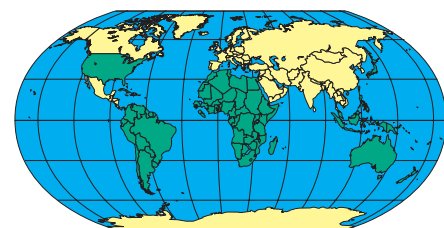
Regional Assessments



Many problems facing society today initially may not be seen as climate problems, but may in fact have a climate component. For example, climate is linked to water management, agricultural yields, natural disasters and human health. As predictive capabilities of climate science improve, there are many new applications and opportunities to use this information to expand the choices available to decision-makers, to manage risk and improve quality of life. NOAA's **Office of Global Programs** (NOAA/OGP) seeks to advance the development and application of these predictive capabilities through research, observations and modeling, and application and assessment activities.

Within NOAA/OGP, the **Climate and Societal Interactions (CSI) Division** is focused on the interface between scientific information and environmental and societal decision-making, particularly with relation to climate. Programs conducted by the CSI Division promote the study and use of new information tools to enable society to prepare for changing environmental conditions, to cope with challenging issues related to multiple environmental and social stresses, and to move society towards a more sustainable future. An important component of this effort is to catalyze dialogues between scientists and decision-makers, stimulating new ways of using science to enhance human welfare. Key program elements include:

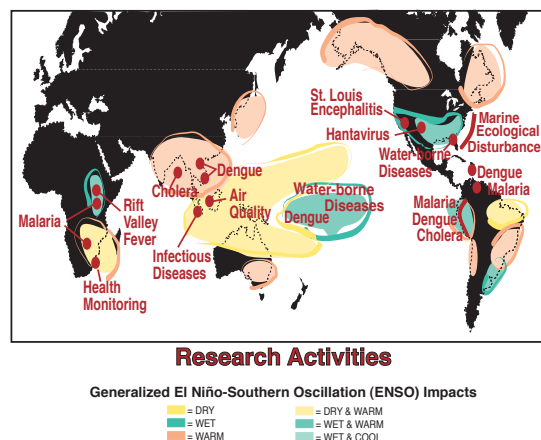
APPLICATIONS RESEARCH PROGRAM - this program serves as a bridge between scientific insights and societal needs through targeted research, institutional capacity development and local applications of knowledge. The goal is to reduce vulnerability to natural disasters and improve quality of life. In addition, this program is a mechanism to provide feedback to the research community regarding decision-making information needs.



The Applications Research Program shaped the global response to the 1997/98 El Niño event, fundamentally changing the way that climate information is produced, distributed, and utilized. Working with domestic and international partners, OGP organized and implemented eleven Outlook Forums in 1997-98, which resulted in coordinated regional responses throughout Africa, Asia-Pacific, Latin America and the Caribbean, and the United States.

Applications Research Programs include:

- **REGIONAL APPLICATIONS PROGRAMS (RAPs)** take a region-specific approach to integrated programs of research, institutional development and capacity building. Program foci include Africa, Asia-Pacific, Latin America and the Caribbean. Support for these activities is provided through a variety of funding mechanisms and partnerships with regional, national and international organizations.
- **THE CLIMATE VARIABILITY AND HUMAN HEALTH PROGRAM** provides research grants and promotes the use of climate information to mitigate the impacts of climate on health in the US and internationally.



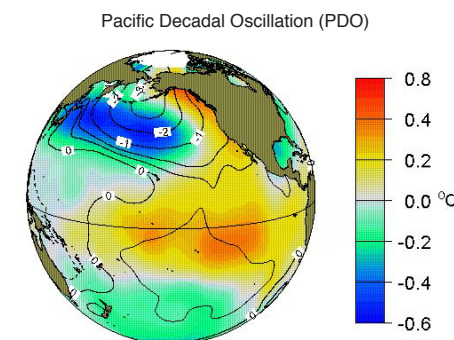
Exploring the Linkages between the El Niño-Southern Oscillation (ENSO) and Human Health.

- **THE CLIMATE INFORMATION PROJECT** is an evolving experiment and research effort in identifying new methods of producing, communicating, and distributing climate information.

THE HUMAN DIMENSIONS OF GLOBAL CHANGE RESEARCH PROGRAM - this grants program supports scientific research on decision-making processes in the context of a variable climate system. Research includes analysis of the capacity of institutions to respond to changing conditions, the sensitivity and vulnerability of human systems to climate variability, and the value of improved scientific information. Key applications of this research are in agriculture, fisheries management, international trade, utilities, disaster planning and water management.

REGIONAL INTEGRATED SCIENCES AND ASSESSMENTS (RISA) PROGRAM - this program develops regional applications within the United States, focusing on integrating knowledge and experience about climate-related risks and vulnerabilities, as well as capacity building for improved decision-making. The RISA Program now supports five projects:

- The Pacific Northwest Assessment;
- The California Applications Program;
- The Climate Assessment Project for the Southwest;
- The Assessment of Climate Variability and Impacts on Agriculture in the Southeast US; and
- The Western Water Assessment



The phrase "Pacific Decadal Oscillation" was first coined by Mantua et al (1997), within the Pacific Northwest (PNW) RISA Group. In its positive phase, the PDO is a pattern of Pacific sea surface temperatures (SST) with cold anomalies in the central northern Pacific and warm anomalies along the west coast of North America. The RISA team established that the PNW climate signal is dominated by a combination of the El Niño-Southern Oscillation (ENSO) phenomenon on a seasonal/inter-annual time scale, and the PDO, which varies on a decadal time scale.

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