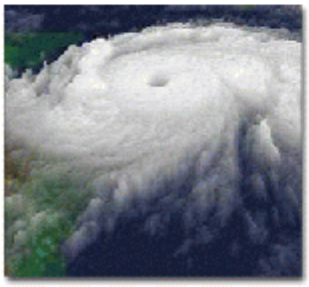
Office of Oceanic & Atmospheric Research



NOAA's Office of Oceanic & Atmospheric Research

Where Science Comes to Life

The Office of Oceanic and Atmospheric Research (OAR)-- or "NOAA Research" — works in partnership with NOAA's National Weather Service, National Ocean Service, National Environmental Satellite Data Information Service and National Marine Fisheries Service as the research and development organization of the agency. It is through NOAA Research that our work results in better weather forecasts, longer warnings for natural disasters and an overall greater understanding of our oceans, climate and atmosphere.

Our responsibility is to address better management and understanding of the environment through research. NOAA Research explores the facets and trends of our environment that influence our future. Our research plays a key role in facing the new challenges of a rapidly changing society and our natural surroundings.

A decade ago, it would have been difficult to envision the advances that have been made by NOAA Research. But today, we are brokers of independent scientific knowledge completing the NOAA circle of research, prediction and environmental stewardship. The keys to successful NOAA research are our talented and dedicated workforce and our partnerships with academia, other federal institutions and constituent groups.

Vision Statement

A society that uses the results of our research as the scientific basis for more productive and harmonious relationships between humans and their environment.

Mission Statement

To conduct research, develop products, and provide scientific information and leadership toward fostering NOAA's evolving environmental and economic mission.

Office of Oceanic & Atmospheric Research

Who We Are and What We Do

As the primary research and development organization within NOAA, NOAA Research explores the Earth and atmosphere from the very surface of the sun to the depths of the ocean. Our role within NOAA is to provide products and services that describe and predict changes in the environment. NOAA Research results allow decision makers to make effective judgments in order to prevent the loss of human life and conserve and manage natural resources while maintaining a strong economy. We conduct research in three major areas: atmosphere, climate, and ocean and coastal resources.

Everyone is a stakeholder or partner in environmental stewardship. Over the years, NOAA Research has developed formal partnerships with academia and customers who need our research to make informed decisions.

The four components of NOAA Research are:

- 12 NOAA laboratories and their 11 Joint Institute research partners
- National Sea Grant Program
- Office of Global Programs
- National Undersea Research Program

Six of the **12 NOAA Research labs** are in Boulder, CO. Those labs are the Aeronomy Laboratory; the Climate Diagnostics Center; the Climate Monitoring and Diagnostics Laboratory; the Environmental Technology Laboratory; the Forecast Systems Laboratory; and the Space Environment Center. These labs study atmospheric, climate and ocean conditions, on projects ranging from developing remote sensing techniques to climate monitoring research.

The Air Resources Lab, located in Silver Spring, MD, conducts research on processes that affect the quality of the atmosphere. The Atlantic Oceanographic and Meteorological Lab is located in Miami, FL and is the primary source of hurricane and ocean climate research. The Geophysical Fluid Dynamics Lab in Princeton, NJ focuses primarily on climate and ocean modeling. The Great Lakes Environmental Research Lab in Ann Arbor, MI conducts research on Great Lakes protection issues. The National Severe Storms Lab in Norman, OK provides research on tornadoes and severe storms. In Seattle, WA, the Pacific Marine Environmental Lab focuses on El Nino, tsunami, underwater volcano and fisheries research.

The **National Sea Grant Program** engages many of the nation's top universities in conducting scientific research, education, and outreach projects designed to better understand and use our ocean, coastal, and Great Lakes resources. The network of 30 Sea Grant programs, located in coastal and Great Lakes states and Puerto Rico, serve as the nucleus of more than 200 participating institutions involving more than 3,000 scientists, engineers, educators, students, and outreach experts.

The **Office of Global Programs (OGP)** manages NOAA's Climate and Global Change Program (C&GC) which leads the nation in the advancement of research on the dynamic climate system. The C&GC Program is responsible for NOAA's scientific contributions that improve our ability to observe, understand, assess, predict, and respond to changes in the global climate. The program has been an essential element of the US Global Change Research Program (USGCRP) since its inception in the late 1980s, and has generated critical scientific insights related to the natural earth system.

The **National Undersea Research Program (NURP)** is a network of six regional centers in partnership with Universities and a private foundation, which provides scientists with the tools and expertise for undersea research. NURP is the only program in the nation of its kind. The program places scientists underwater, either remotely or in person, to research and explore the largely inaccessible undersea environment. NURP acts as a clearinghouse of undersea information for other federal agencies and decision makers.

Partners, Customers and Benefits

Our customers and partners are as diverse as our research. Our research results have a profound impact on many audiences who are affected by environmental management, policy and public safety. Specifically, OAR's customers include the general public and members of Congress who represent them, environmental non-governmental organizations with interest in our issues, the global community, other components of NOAA, other federal agencies, state and local governments, universities and private industry.

The **Joint and Cooperative Institutes** are collaborative, long-term research partnerships established under agreements between NOAA and participating universities and non-profit research institutions with programs dedicated to oceanographic and/or atmospheric research, education or outreach. These partnerships provide NOAA with close collaborative programs involving the foremost scientists in the nation.

Legislative Mandates

Legislation mandating NOAA Research programs includes the National Sea Grant College Program Reauthorization Act of 1998. This authorizes the National Sea Grant College Program, the Knauss Fellows program and research on invasive species, oyster disease and harmful algal blooms through 2003. The Sea Grant program was originally authorized in 1966. The National Weather Service Organic Act of 1890 provides non-expiring authority for NOAA's atmospheric research programs. The Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 provides authority through 2002 for NOAA to fund research, prevention and control activities that relate to aquatic nuisance species.

Accomplishments

NOAA Research has accomplished much through the years, but a few highlights are:

- **T** Discovered the cause of the Antarctic ozone hole and continues to provide information needed for decisions associated with the recovery of the ozone layer.
- **T** Enabled the National Weather Service to give a six-month warning on El Nino in 1997 through the use of ocean observations, analyses and climate modeling applied by agribusiness, water resources, utilities and emergency sector managers.
- **T** Developed a model providing significant improvement in hurricane track forecasts used by local forecasters, emergency managers, and 50 million east coast residents.
- **T** Created enhanced climate models to detect the effect of increased carbon dioxide on climate to understand and predict the impacts of greenhouse gases leading to global warming.

- Spearheaded the formation of an intergovernmental alliance with the seafood industry and academia, training more than 5,000 U.S. processing plants, and 6,000 importers and international suppliers on new seafood handling and processing techniques.
- Supplied crucial information on the health of coral reefs and other marine organisms through the use of the *Aquarius* Undersea Laboratory at its present location in the Florida National Marine Sanctuary.

Goals and Challenges

Our overall goals for the years ahead are to:

- Predict and characterize threats to society and the environment by providing science that leads to informed decision-making.
- Reduce exposure to environmental threats by creating new climate products and services and building and sustaining coastal and ocean prediction, exploration and management tools.
- Build strategic alliances that address environmental issues and challenges through increased collaboration and effective partnerships.
- Promote a science-literate public.
- Provide a firm foundation for NOAA Research, increasing the long-term commitment to research with recruitment of superb scientific talent, increased funding, steamlined processes and modernized systems.

Many challenges face NOAA Research in the years ahead. Among them are:

- Lead the development of NOAA's Climate Observations and Services Program, to provide data, predictions, and assessments needed by agribusiness, water resources, utilities, the emergency sector, and the weather derivatives market.
- Contribute to an international effort to author parts of a forthcoming scientific state-of-understanding assessment on the topic of global climate change. The assessment, due out in 2001, is a report of the Intergovernmental Panel on Climate Change (IPCC) and aims to provide policy-relevant scientific information in a concise, "user-friendly" format for national and international decision makers.
- Maintain NOAA's observational capabilities to produce models for enhanced weather and climate prediction; provide policy-makers with information to assess climate variability as well as understand the ocean's role in climate and fisheries.
- Provide better information to coastal managers to make informed decisions and balance the wise use of coastal resources.
- Lead implementation of Ocean Exploration Panel Report recommendations. The report is a blueprint to discover, map and document unexplored ocean areas.

Office of Oceanic & Atmospheric Research Organizational Chart

Assistant Administrator
David Evans

Deputy Assistant Administrator
Louisa Koch

Senior Research Council
International Activities
Science Advisory Board Staff

Office of Research & Program Development
Ronald Baird, Assoc. Dir., Ocean & Coastal Resources Research
David Rogers, Assoc. Dir., Atmospheric Research
J. Michael Hall, Assoc. Dir., Climate Research

Office of Scientific Support
Russell Callender

Office of Management & Information
Mary Langlais

Joint Research Institutes

Sea Grant Colleges

National Undersea Research Centers

Office of Global Programs
J. Michael Hall

National Sea Grant College Program
Ronald Baird

National Undersea Research Program
Barbara Moore

Office of Weather and Air Quality
David Rogers

Arctic Research Office
John Calder

Aeronomy Laboratory
Daniel L. Albritton

Air Resources Laboratory
Bruce Hicks

Atlantic Oceanographic & Meteorological Laboratory
Kristina Katsaros

Climate Diagnostics Center
Randall Dole

Climate Monitoring & Diagnostics Laboratory
Dave Hofmann

Environmental Technology Laboratory
Steven Clifford

Forecast Systems Laboratory
Alexander E. MacDonald

Geophysical Fluid Dynamics Laboratory
Ants Leetmaa

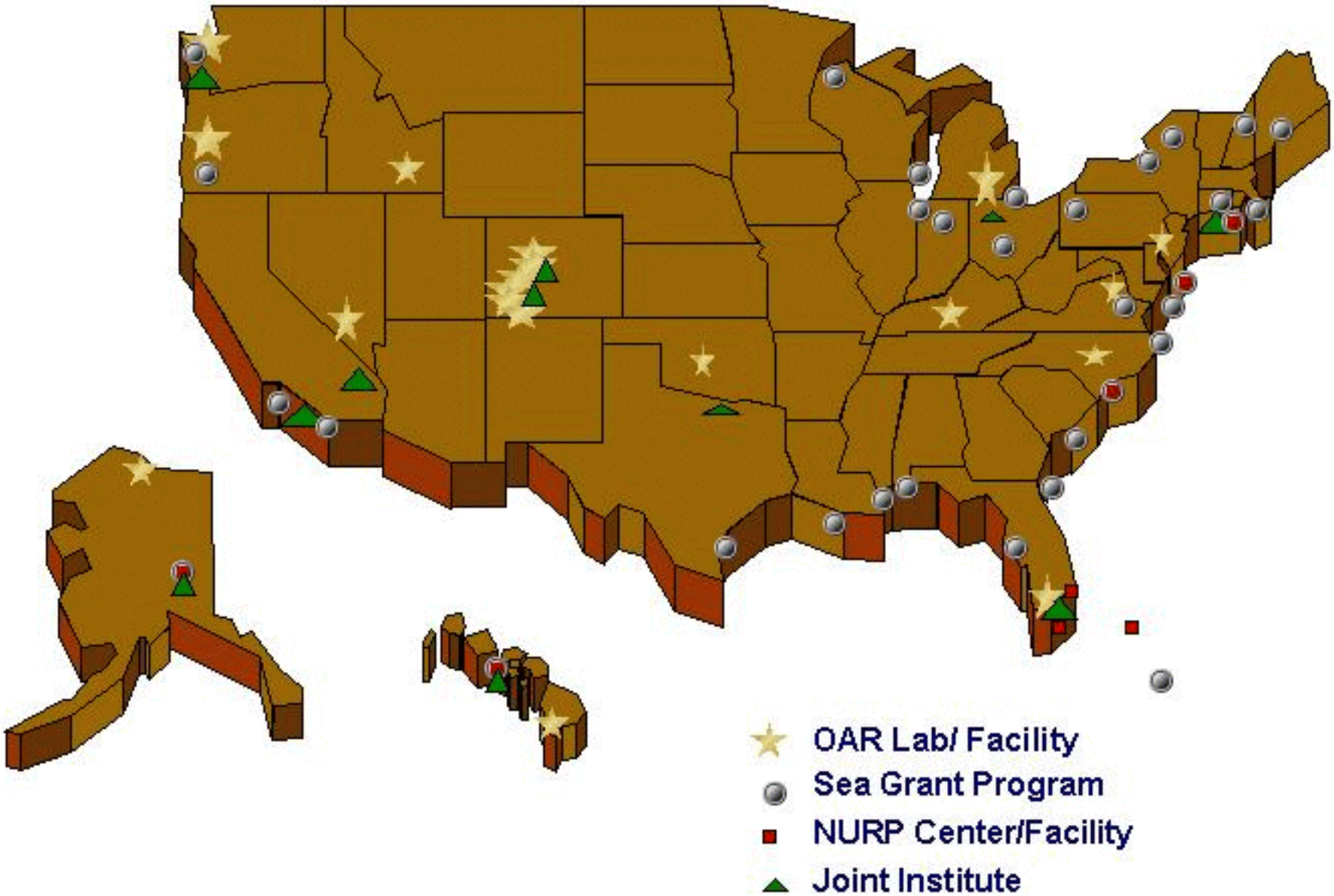
Great Lakes Environmental Research Laboratory
Stephen Brandt

National Severe Storms Laboratory
James Kimpel

Pacific Marine Environmental Laboratory
Eddie N. Bernard

Space Environment Center
Ernest G. Hildner

NOAA Research Centers



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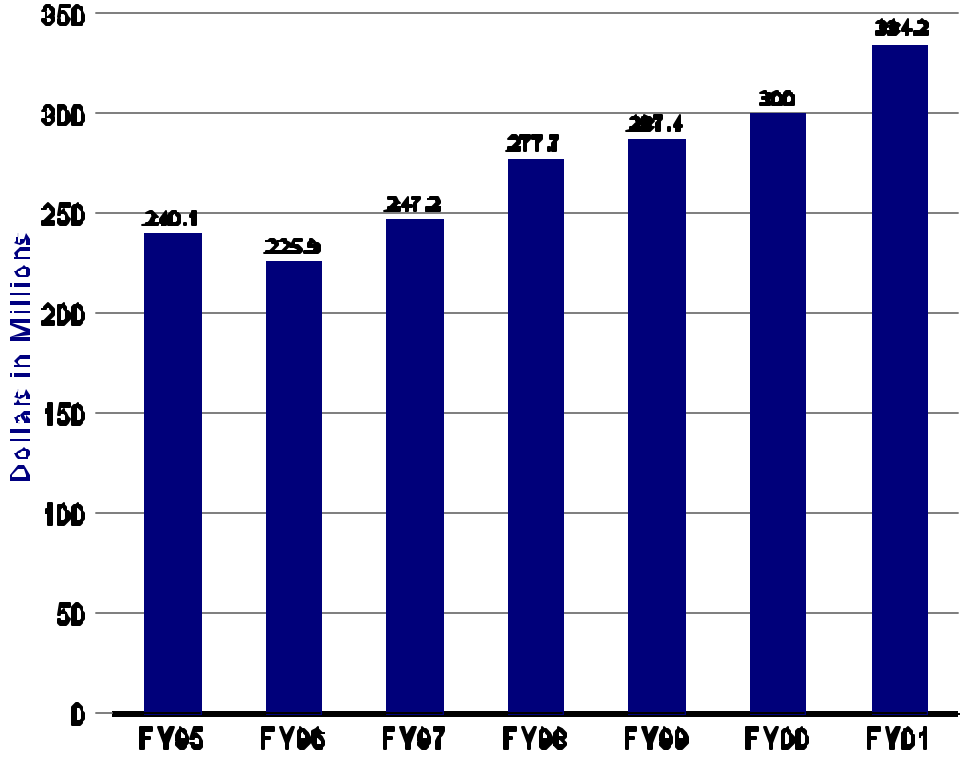
Appropriation History



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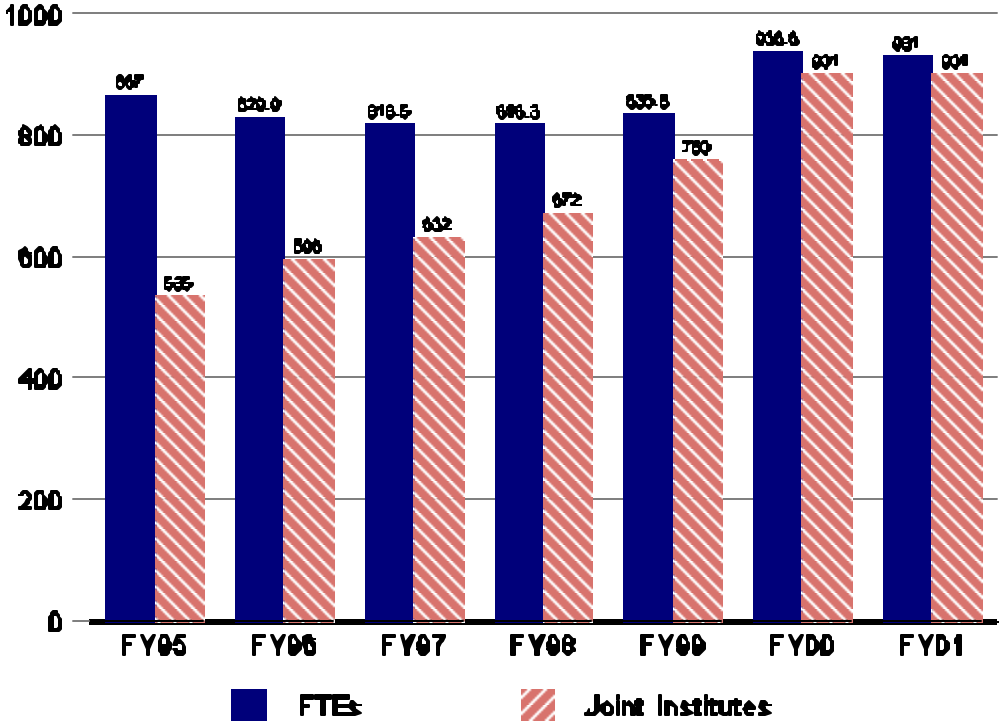
Full Time Equivalents & Contractors



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