

NOAA RESEARCH



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION • UNITED STATES DEPARTMENT OF COMMERCE

Who We Are

NOAA's research, conducted through the Office of Oceanic and Atmospheric Research, is the driving force behind NOAA environmental products and services that protect life and property and promote sustainable economic growth. Research conducted through in-house laboratories and by extramural programs, focuses on enhancing our understanding of environmental phenomena such as tornadoes, hurricanes, climate, stratospheric ozone, El Niño/La Niña events, polar changes, fisheries productivity, ocean currents, deep sea thermal vents and coastal ecosystem health. NOAA Research also develops innovative technologies and observing systems to include Unmanned Aircraft Systems, Deep-ocean Assessment and Reporting of Tsunamis, and a national "tall tower" observing network to monitor atmospheric pollutants that may drive climate change.

The NOAA Research network consists of seven internal research laboratories, extramural research at 30 Sea Grant university and research programs, and 13 cooperative institutes with academia.

NOAA's Office of Ocean Exploration and Research, and its Climate Program Office, dedicated to Arctic research, also are housed within NOAA Research. Through NOAA and its academic partners, thousands of scientists, engineers, technicians and graduate students participate in furthering the knowledge of natural phenomena that affect the lives of us all.

NOAA's research serves diverse customers. The average citizen benefits through earlier warnings of threatening weather, healthier coasts and fisheries, or a broader understanding of environmental processes. The private sector uses NOAA data to make business decisions and also employs technology developed and transferred by NOAA scientists. Federal agencies, state governments, and local authorities rely on NOAA Research expertise for the sound scientific basis of crucial policy decisions related to environmental protection and restoration strategies.

NOAA researchers are recognized as international leaders on environmental issues. With their international counterparts, NOAA scientists contribute to the understanding and assessment of complex issues such as ozone depletion and climate change.

What We Do

NOAA and the nation depend on the cutting-edge research provided by NOAA Research. NOAA Research built much of the foundation for the modernization of NOAA's National Weather Service, the understanding and monitoring

of climate variability, and improvements in coastal ocean health. Working under the broad themes of climate, atmosphere, and ocean/coastal resources, NOAA scientists study the ocean's depths and the highest reaches of space to better understand the environment.

NOAA's long-term commitment to the highest quality research includes employing in-house and extramural talent to engage in six major areas:

- Continue to conduct experiments to understand natural processes (physical, geochemical, ecological)
- Build predictive models for use in weather, climate, solar, ocean and coastal assessments and predictions
- Develop and deploy new observing technologies to provide data to support predictive models and to document natural variability
- Develop new analytical and forecast tools to improve weather services
- Use new information technology to share information with other federal and academic scientists
- Prepare scientific assessments and information products to enhance public education and guide governmental action

Research plans and products are developed in partnership with academia and other federal agencies, and are peer-reviewed and widely distributed. A high premium is placed on external collaboration both domestically and internationally. In addition, personnel management practices of hiring, promotion and awards are based on demonstrable capability through internal and external peer assessment. These actions — peer review, collaboration and partnerships — ensure that NOAA's research is of the highest quality and remains focused on critical issues.

How the Nation and the World Benefit

Most of the environmental questions our nation and the world face are not easily answered. A strong NOAA is necessary to tackle the complex issues that only advanced scientific knowledge is able to adequately address. NOAA Research answers the call and:

- Provides comprehensive knowledge to guide national environmental policy decisions, including better predictions of the climate response to emissions changes, choices for protection of the ozone layer and alternatives for developing coastal communities
- Improves environmental services to the nation, including reliable predictions and assessments

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- Promotes economic growth through science for decision-making, new technology and partnerships with academia and industry

NOAA is a world leader in environmental science today and is well positioned and organized to provide the sound scientific research policymakers will always need. 🌍