



NOAA Research in Indiana



IN-1 through 10 (Statewide)

Climate and Global Change Program

NOAA is responsible for providing climate information to the nation in order to prepare and protect climate sensitive sectors of society and the economy. To carry out this mission, NOAA's Climate and Global Change Program conducts focused scientific research to understand and predict variations of climate. The Program is comprised of a number of research elements, each focusing on a specific aspect of climate variability. Taken together, this research contributes to improved predictions and assessments of the effects of climate variability and change on different environments over a continuum of time scales from season to season, year to year, and over the course of a decade and beyond. This research is accomplished through the strong support of the academic and private sectors, as well as NOAA and other federal laboratories. In FY 2001, NOAA's Climate and Global Change Program provided approximately \$126,300 in support of climate research in the State of Indiana. For more information please visit <http://www.ogp.noaa.gov>

IN-1 and 3 (Lake Michigan)

Great Lakes Environmental Research Laboratory Great Lakes Research

The Great Lakes Environmental Research Laboratory (GLERL) carries out research and provides scientific products, expertise, and services required for effective management and protection of Great Lakes and coastal ecosystems. As part of the mission of NOAA and the U.S. Department of Commerce, GLERL science provides for protection of life and property, economic well-being, and sustained ecosystem health. With a wide array of scientific disciplines on staff, and an ecosystem-level focus, GLERL contributes unique capabilities in support of intelligent and cost-effective Great Lakes and coastal resource management. GLERL is pursuing focused research in areas including aquatic contaminants and biogeochemistry; invasive species, ecosystem dynamics and long-term monitoring. In addition, in a new and unique effort started in February 2001, GLERL now has a Great Lakes Sea Grant Extension Agent onsite to support and promote increased communication and cooperation among GLERL and the seven Great Lakes Sea Grant Programs in the region, including the Illinois-Indiana Sea Grant program. By making GLERL scientific products, services, and expertise more widely available to the extensive Great Lakes Sea Grant Network, the agent can rely on the Network's vast outreach, communications, and education infrastructure to furnish constituents with a wider information base. For more information please visit <http://www.glerl.noaa.gov>

IN-1 and 3 (Lake Michigan)

**Great Lakes Environmental Research Laboratory
Episodic Events Great Lakes Experiment**

The Episodic Events Great Lakes Experiment (EEGLE) Program is a five-year study of spring storm-induced erosion and transport of fine sediment material in Lake Michigan's southern basin. The storm episodes generate winds, waves and currents, and a heavy sediment load that can be identified and tracked by satellite imagery. Fine sediment particles often bind with contaminants and nutrients and their suspension and transport elsewhere in the Lake may have important implications for ecosystem structure and function. EEGLE is a collaborative project that includes scientists from NOAA's Great Lakes Environmental Research Laboratory and university scientists from both inside, and outside, the Great Lakes region. The program is supported by funding from NOAA and the National Science Foundation. For more information please visit <http://www.glerl.noaa.gov/eegle/>

IN-1 and 3 (Lake Michigan)

**Great Lakes Environmental Research Laboratory
Lake Michigan Mass Balance Study**

Scientists from NOAA's Great Lakes Environmental Research Laboratory are participating in the EPA mass balance study that seeks to identify the sources, pathways and fate of contaminants cycling through the Lake Michigan ecosystem. Four major chemicals are being studied; polychlorinated biphenyls (PCBs), atrazine (an agricultural herbicide), trans-nonachlor (a pesticide), and mercury. The Lake Michigan Mass Balance focuses on where these chemicals are entering the Lake and what happens to them as they move through the ecosystem. This study will identify relative pollutant loads from rivers, air deposition, and sediment resuspension, and will allow prediction of the benefits associated with reducing such loads. For more information please visit http://www.glerl.noaa.gov/res/Task_rpts/aqeadie06-1.html

IN-1 and 3 (Lake Michigan)

**National Undersea Research Program
National Undersea Research Center for the Northeastern United States and Great Lakes**

The National Undersea Research Center for the Northeastern United States and Great Lakes is located at the University of Connecticut, Avery Point in Groton, Connecticut. It is one of six regional centers supported by the National Undersea Research Program. The Center supports and conducts undersea research in the waters off the northeast coast of the United States and the Great Lakes. The center provides science and operational support (occupied submersibles, remotely operated vehicles and mixed gas diving technologies) and funding for reviewed projects within this region. The Center supports research on the physical, chemical, and biological factors controlling the cycling and fates of organic contaminants and heavy metals (trace metals) at the sediment/water interface and their ultimate impacts on biological productivity. Also receiving special attention are the habitat characteristics controlling the recruitment and population dynamics of recreational and commercial species of fish, including "pest" species. The FY 2001 funding for the Center totaled \$1.36 million. For more information please visit <http://www.nurc.uconn.edu>

IN-1, 3, and 7 (Based in West Lafayette - serves entire Indiana coastal zone)

National Sea Grant College Program

Illinois-Indiana Sea Grant College Program

The Illinois-Indiana Sea Grant College Program, part of the National Sea Grant College Program, is a regional program of research, education, and outreach services that works to promote the wise use of Great Lakes resources, primarily along southern Lake Michigan. Illinois-Indiana Sea Grant research addresses increasing the size and profitability of aquaculture industries; reducing the spread, introduction, and economic impact of non-indigenous species; improving both the biological and human aspects of the Lake Michigan fishery through attainment, transfer, and application of knowledge of food web and ecosystem dynamics of the lake; supporting ecologically sound and sustainable coastal economic development and land use; and reducing non-point pollution stemming from increased land development. The program works with Purdue University Cooperative Extension Service and other state and federal agencies in an effort (entitled "Planning with POWER") to educate local land use decision-makers and natural resource officials on the impacts of land use on surface water quality and natural resources and provides alternative land use options. The public, industry, and policy makers are kept informed on issues related to biological resources, aquaculture, water quality, and coastal business and environment through the program's extension and outreach services along with its biannual newsletter "The HELM" and Internet publication "The HELM Online." Extension efforts in both states are enhanced through partnerships with the Cooperative Extension Service at both the University of Illinois and Purdue University. In FY 2001, Illinois-Indiana Sea Grant projects received funding of approximately \$1.4 million from the National Sea Grant College Program. For more information please visit <http://www.iisgcp.org>

IN-5 (Woolcott)

Forecast Systems Laboratory

GPS Meteorological Observing System

NOAA's Forecast Systems Laboratory (FSL) operates a rapidly expanding network of GPS Meteorological (GPS-Met) Observing Systems to monitor the total quantity of precipitable water vapor in the atmosphere. Currently, there are 93 systems over the contiguous 48 states and Alaska, and plans are being made to extend these observations to Hawaii, Puerto Rico, the Caribbean Islands, and Central America. Water vapor is an important but under-observed component of the atmosphere that plays a major role in severe weather events and the global climate system. GPS-Met systems provide accurate water vapor measurements under all weather conditions, including thick cloud cover and precipitation, and do so at very low cost. The major reason why this system is so economical is that the network is being developed by FSL in cooperation with federal, state and local government agencies, universities, and the private sector. The GPS stations provide high-accuracy surveying and navigation services for National defense, automated agriculture, safe land and marine transportation, government infrastructure management, and 911 emergency response services. Fortunately, these systems can also be used for meteorology with the addition of surface weather sensors. A GPS-Met system operated by NOAA is located near Woolcott. For more information please visit <http://www.gpsmet.noaa.gov/jsp/index.jsp>