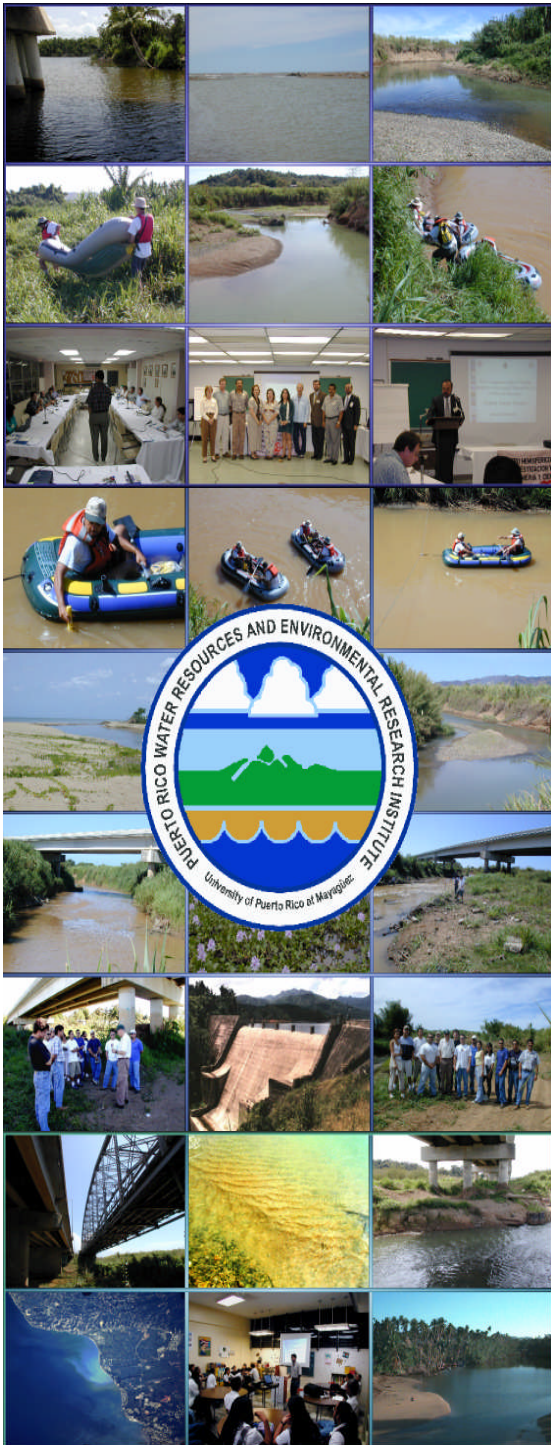


SOME INVESTAGATIONS PROJECTS



PRWRERI

Puerto Rico Water Resources and Environmental Research Institute

Exploring
Encouraging
Educating
Finding Solutions

<http://prwreri.uprm.edu>

University of Puerto Rico at Mayaguez

WHAT IS THE WATER RESOURCES RESEARCH INSTITUTE PROGRAM?

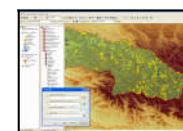
The Water Resources Research Institutes are partnerships among state universities; federal, state, and local governments; business and industries; and non-governmental organizations aimed at solving problems of water supply and water quality at local, state, regional, and national levels. At a public university of each state, a small federal grant provides base support for a program that identifies local and state needs for water research, funds university researchers capable of conducting useful research, and leverages federal funds with state and other resources to sponsor the needed investigations. Some of these programs are freestanding institutes, others are sub-units within university departments or cross-discipline research entities.

Water Resources Research Institutes (WRRIs) encourage and help states to address their specific water research needs. While management of water resources is a state and local responsibility, research has traditionally been a national undertaking. By providing a small amount of federal funding and requiring a non-federal match, the institute program encourages states to invest in university-based research to solve local water resource problems. Specifically:

- ◆ By establishing and utilizing state advisory boards, WRRIs help states employ a conscious and systematic process for identifying and prioritizing needs for water-related information and analysis.
- ◆ By drawing upon university faculties throughout their states, WRRIs tap a wealth of research expertise and foster multidisciplinary and innovative approaches to research on local water issues.
- ◆ By collaborating with federal, state, and local agencies and the private sector, WRRIs leverage their funding and help build statewide and regional networks to share resources and information.
- ◆ By awarding research grants through a competitive, peer-review process, WRRIs sponsor re-

- ◆ By publishing reports and other publications; by conducting seminars, workshops, and conferences; and by one-on-one communication with state and local agency personnel, WRRIs make sure the results of research are available to those who need the information and can put recommendations into action to improve water resource management.
- ◆ By stimulating water-related research in universities, WRRIs provide opportunities for undergraduate and graduate training and education of future water scientists, engineers, managers, and technicians.

The Institute are housed and administered within state universities. Most are located at land-grant universities where they cooperate with and draw upon the resources of traditional agriculture, engineering, and natural resource faculty and extension networks. Each institute is under the leadership of an university faculty member with a record of achievements in water-related research. Some institutes have full-time directors, some have part-time directors, and some are administered along with other natural resource research programs in cross-discipline institutes. The institutes have established themselves as a primary link between water-related personnel in the academic community; local, state, and federal governments; and the private sector. To identify the most important state and local water research needs, each WRI brings together a local advisory panel. Typically the advisory panel consists of local, state, and federal agency officials, representatives of business and industry, and representatives of non-governmental organizations. These panels identify the most pressing water problems and establish priorities.



OBJECTIVES

The general objectives of the Puerto Rico Water Resources and Environmental Research Institute are:

Research

To conduct research aimed at resolving local and national water resources problems.

Education

To train scientists and engineers through hands-on participation in research.

Facilitate

To facilitate the incorporation of research results in the knowledge base of water resources professionals in Puerto Rico and the U.S. as a whole

In order to fulfill these objectives, the Institute coordinates and provides funds for research projects in Puerto Rico, provided to scientists across the island working in a variety of disciplines. The selection of the proposals is based on the water resources problem and the benefits its solution will contribute. In addition, the Institute submits research proposal, consultant and professional improvement to agencies and institutions.

VISION

That the Institute becomes the first selection for government, researchers, consultants, and professionals for information and education in the Water Resources and Environmental field of Puerto Rico, Latin America, and the Caribbean.

MISSION

The Institute directs their efforts to providing and promoting, in Puerto Rico, Latin America, and the Caribbean, research initiatives, education, service, and technology transfer for the preservation and sustainable management of Natural Resources, with emphasis in Water Resources.

COMMITMENT

Technical meetings, seminars, technical reports, and periodic publications are used by the Institute to maintain the Water Resources scientific community, and the general public, informed about the advances in this field. The Institute organizes conferences related to research in Puerto Rico, Latin America, and the Caribbean in collaboration with other organizations of the region.

The Institute uses state of the art laboratories and instrumentation in its research. Each research project provides:

- ◆ Precise and rational description of all the research.
- ◆ Ability to measure the performance and progress.
- ◆ Specific determination of the processes and resources.
- ◆ Specific accountability.

ACHIEVEMENTS

Since its establishment, more than 40 years ago, the Institute has developed a vast experience in diverse areas of science and environmental engineering. Over the years the Institute has achieved important contributions and success, such as:

- ◆ Industrial and Agricultural water requirements
- ◆ Coastal and ground Water Quality Management
- ◆ Hydrology
- ◆ Pollutant Transport
- ◆ Erosion and Sediment Management
- ◆ Surface Water Quality Management
- ◆ Wastewater Treatment
- ◆ Nonpoint Sources Control and Management
- ◆ Floods Control Management
- ◆ Watershed integrated Management
- ◆ Water Use and Social Planning

TECHNOLOGY

The Institute uses innovating techniques in the Water Resources field. It uses remote sensing, Geographic Information System (GIS), and Global Positioning System (GPS) for data collection and spatial analysis. Also the Institute uses state of the art field instrumentation and trained personnel to conduct research activity.



WATER RESOURCES AND ENVIRONMENTAL RESEARCH INSTITUTE PARTNERS

The Institute's partners benefit from its research and information transfer. These partners include:

- ◆ State water quantity and water quality management agencies and environmental health state agencies.
- ◆ Local governments. Municipal water, wastewater, and environmental health departments.
- ◆ Water and wastewater treatment private companies.
- ◆ Businesses and industries which use or manage water resources.
- ◆ Farmers and other agricultural enterprises, environmental organizations, schools, and individuals.
- ◆ Federal agencies such as Corps of Engineers, Environmental Protection Agency, Department of Energy, Department of Defense, US Geological Survey, National Oceanography and Atmospheric Administration, and Federal Emergency Management Agency.

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