



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA NIFA
& Land Grant Colleges and Universities

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Focus on Partners: Alaska's WERC

The mission of the University of Alaska Fairbanks is to serve as the premier university in arctic and subarctic research and teaching. Alaska's **Water and Environmental Research Center (WERC)** fills that role in scientific and engineering studies related to water resources and environmental quality. WERC's mission is to perform basic and applied research related to water and environmental resources, to train graduate students at master's and PhD levels in this field and to disseminate pertinent research information to the public. WERC's research budget currently runs around \$1.2 million per year; graduate education is acquired through student participation in various research projects.



Funding is obtained from state and federal agencies as well as from private companies and foundations. Faculty, staff and students at WERC are working to develop a better understanding of the arctic and subarctic environments. Research disciplines at WERC include environmental, civil and mechanical engineering; oceanography; limnology; hydrology; microbiology; geochemistry; and hydraulics. WERC scientists are conducting cutting-edge research to help improve the quality of life for arctic inhabitants while supporting careful and sustainable development of Alaska's bountiful natural resources, protecting fragile ecosystems and seeking to better understand the role of the arctic and subarctic in the global system. An example of a water-based research project conducted in Alaska is shown below:



Study of water quality in rainwater catchments in Alaska

Dan White and Corianne Hart, UAF

In a collaborative effort between the Alaska Training and Technical Assistance Center and the Cold Climate Housing Research Center, we prepared a short document on best management practices (BMPs) for rainwater catchments. We considered materials for roofs, gutter/leaders, pumps, pipes, filtration systems, disinfection systems and storage containers. The goal was to have a guidance document that small systems and homeowners could use to improve drinking water quality from rainwater catchment systems.

We are now embarking on a study of water quality catchments throughout Alaska. This study will focus on linking the design of rainwater catchments to the quality of water they produce. The importance of this project stems from the fact that many families throughout Alaska depend on rainwater catchment systems to provide water for washing, cleaning, cooking and/or drinking purposes. At present, we are seeking participants statewide with a newspaper and web site



Pacific Northwest Regional Water Quality Coordination Project Partners

Land Grant Universities

Alaska

Cooperative Extension Service
Contact Fred Sorensen:
907-786-6311

<http://www.uaf.edu/ces/water/>

University Publications:

<http://www.alaska.edu/uaf/ces/publications/>

Idaho

University of Idaho
Cooperative Extension System
Contact Bob Mahler: 208-885-7025

<http://www.uidaho.edu/wq/wqhome.html>

University Publications:

<http://info.ag.uidaho.edu/Catalog/catalog.htm>

Oregon

Oregon State University
Extension Service
Contact Mike Gamroth: 541-737-3316

<http://extension.oregonstate.edu/>

University Publications:

<http://extension.oregonstate.edu/catalog/>

Washington

Washington State University
WSU Extension
Contact Bob Simmons:

360-427-9670 ext. 690

<http://wawater.wsu.edu/>

University Publications:

<http://pubs.wsu.edu/>

Northwest Indian College
Contact Charlotte Clausing:
360-392-4319

cclausing@nwic.edu or

<http://www.nwic.edu/>

Water Resource Research Institutes

Water and Environmental Research
Center (Alaska)

<http://www.uaf.edu/water/>

Idaho Water Resources
Research Institute

<http://www.boise.uidaho.edu/>

Institute for Water and
Watersheds (Oregon)

<http://water.oregonstate.edu/>

State of Washington
Water Research Center

<http://www.swwrc.wsu.edu/>

Environmental Protection Agency

EPA, Region 10

The Pacific Northwest

<http://www.epa.gov/r10earth/>

Office of Research and Development,
Corvallis Laboratory

<http://www.epa.gov/wed/>

For more information contact
Jan Seago at 206-553-0038 or
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The Project

Land Grant Universities, Water Research Institutes, and EPA Region 10 have formed a partnership to provide research and education to communities about protecting or restoring the quality of water resources. This partnership is being supported in part by the USDA's National Institute of Food and Agriculture (NIFA).

Our Goal and Approach

The goal of this Project is to provide leadership for water resources research, education, and outreach to help people, industry, and governments to prevent and solve current and emerging water quality and quantity problems. The approach to achieving this goal is for the Partners to develop a coordinated water quality effort based on, and strengthening, individual state programs.

Our Strengths

The Project promotes regional collaboration by acknowledging existing programs and successful efforts; assisting program gaps; identifying potential issues for cross-agency and private sector collaboration; and developing a clearinghouse of expertise and programs. In addition, the Project establishes or enhances partnerships with federal, state, and local environmental and water resource management agencies, such as by placing a University Liaison within the offices of EPA Region 10.

advertising campaign. Once a core group of participants has been identified, we will periodically sample and analyze the water collected from participant's storage tanks for a suite of contaminants that could include: metals (e.g., Cd and Zn), organics (e.g., benzene) and bacteria.

Based on variables such as the materials used in the catchment systems, the frequency of rainfall, the amount of water collected, and the duration of storage we will evaluate the effectiveness of various catchments for providing safe drinking water. This fieldwork, coupled with the BMP document already being prepared, will provide valuable information for homeowners and small systems seeking to use rainwater catchments in Alaska.



National Water Quality Program Areas

The four land grant universities in the Pacific Northwest have aligned our water resource Extension and research efforts with eight themes of the USDA's National Institute of Food and Agriculture.

1. Animal Waste Management
2. Drinking Water and Human Health
3. Environmental Restoration
4. Nutrient and Pesticide Management
5. Pollution Assessment and Prevention
6. Watershed Management
7. Water Conservation and Management
8. Water Policy and Economics

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