



Excellence in Drinking Water Research

Addressing the Challenge through Science and Innovation

National Risk Management Research Laboratory
www.epa.gov/nrmrl/

Drinking Water Research Expertise: Risk Management

The U.S. Environmental Protection Agency's (EPA) Office of Research and Development (ORD) conducts a broad spectrum of drinking water research. Our ability to find solutions to environmental problems, and to communicate the results, depends on a talented and dedicated workforce with diverse backgrounds and perspectives. We recognize that our continued success depends on the collective efforts of our employees. Utilizing the combined expertise of our workforce, ORD's National Risk Management Research Laboratory optimizes coordination, leverages resources, and encourages collegiality in the integration of risk management objectives into novel experiments.



Environmental Issue

Our nation's drinking water comes from surface and ground water, both of which are vulnerable to contamination. In 1974, Congress passed the *Safe Drinking Water Act* to protect public health by ensuring safe drinking water. Under this law, EPA sets standards for drinking water quality and assists states, localities, and water suppliers who implement those standards. The law protects us against both naturally occurring and human or animal derived contaminants that might be found in drinking water. EPA, states, municipalities, and water utilities work together to ensure that these standards are met.



Research

EPA researchers study ways to monitor, protect and restore water resources and infrastructure, as well as treat and transport clean drinking water. Researchers study waterborne diseases and pathogens that may impact human health, and works to develop technologies and tools for water resource managers and decision makers to adapt water resources to future climate change, demographics, and economic developments.

Risk management research involves drinking water related studies that provide scientific information to EPA that supports current rules and regulations and for policy and regulatory development related to implementation of the federal Safe Drinking Water and Clean Water Act, and support the primary and secondary regulations for drinking water by:

- Producing data, tools, models, and technologies to prevent, control, and manage potential health risks associated with drinking water treatment and distribution, and to promote the sustainability of water resources.
- Lending technical support to the water industry, nationally and internationally, on issues related to drinking water treatment and risk management.
- Supporting EPA's rulemaking and policy development responsibilities.

Risk Management Water Research

- Arsenic
- Contaminants
- Corrosion
- Small Systems
- Distribution Systems
- Aging Infrastructure
- Treatment Technologies
- Climate Change Adaptation

State-of-the-Art Facilities:

EPA's highly specialized risk management drinking water research facilities are located in laboratories and research centers across the country. These laboratories provide opportunities for states, local governments, utilities, organizations, and academic institutions to use EPA's facilities for research. By making its research facilities and equipment available, EPA can serve as a catalyst for progress in efforts to identify, understand, and solve current and future environmental issues.

Novel Experiments:

EPA researchers plan and conduct research to address EPA's most critical science needs to tackle existing and emerging environmental issues and to support the Agency's national goals. Research experiments arise from comprehensive research strategies and multi-year research plans that identify the research needed to respond to environmental issues, identify key gaps in scientific knowledge, and provide a guide to implement the science. Drinking water risk management research receives extensive external review to ensure the science conducted at EPA is relevant and of the highest quality.

Collaboration:

In all aspects of our work, from problem identification and research design, and through to implementation, we must involve the widest span of disciplines to bring different perspectives to the table. Research planning involves extensive outreach to stakeholders to obtain input, and collaboration with EPA's program offices, which establish standards to protect public health and the environment, and the Agency's regional offices, which support and enforce the implementation of regulations.

To ensure that information exchange encompasses all drinking water issues, EPA researchers collaborate with other EPA Offices and Federal Agencies, as well as many national and international organizations. ORD manages numerous extramural contracts, cooperative agreements, interagency agreements, and grants with universities, contractors, consultants, and water utilities.



Expert Scientists and Engineers

EPA employs highly trained scientists and engineers from a wide span of disciplines to provide technical assistance to states, utilities and the water industry. Their research integrates cost analysis with their expertise to provide effective, reliable, and cost-effective techniques for assuring the delivery of safe drinking water.

Drinking water risk management researchers study the management of contaminants in water supplies that pose a threat to human health, and develop approaches to monitor, treat, characterize, protect, and restore impaired waterways and infrastructure.

Resources:

<http://www.epa.gov/nrmrl/wswrd/dw/>

<http://epa.gov/ord/npd/dwresearch-intro.htm>

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Drinking Water Research Facilities

- Andrew W. Breidenbach
Environmental Research Center
- Test and Evaluation Facility
- Edison Environmental Center



Scientists

Physical Scientists
Molecular Biologists
Microbiologists
Environmental Scientists
Toxicologists

Hydrologists
Statisticians
Biochemists
Geneticists
Ecologists
Biologists
Modelers
Chemists

Engineers

Chemical Engineers
Environmental Engineers

Technicians

Biological Science Technicians
Engineering Technicians
Physical Science Technicians

