



The Water Center
UNIVERSITY of PENNSYLVANIA

Providing Solutions to Urban Water Challenges



The Water Center's Approach to Solving Urban Water Challenges

The Water Center at Penn is a preeminent urban water policy, innovation, and science center that engages University faculty and students, regional decision makers, and national and global thought leaders in the development of integrated and innovative urban water strategies that address the biggest challenges facing urban water leaders today.

These challenges are converging, leading to water-related events that threaten public and environmental health, and economic prosperity. Drinking, storm and wastewater systems, particularly those in urban settings, are most significantly impacted. This requires increasing resiliency to changing conditions while continuing to provide the vital functions of ensuring clean, safe and affordable drinking water, storm and wastewater services to an ever-increasing urban population, projected to represent over 70% of the world's people by 2050.

To assist urban water leaders, the Water Center at Penn's applied research focuses on four critical and interconnected research areas, allowing us to provide holistic solutions to water challenges.

Applied Research Areas

Urban Water Systems



Our collective expertise, both within the Water Center and across the University, can help strengthen water system capacities in the face of looming crises. Through strategic technical support to distressed water systems and communities, we develop novel approaches and tools that can be scaled for impact through our extensive network of public, private and civil society partners. Our approach emphasizes water equity and environmental justice considerations and is particularly applicable to small or under-resourced urban communities and the water systems they depend on.

Integrated Watershed Management



The Water Center at Penn accelerates transformational change in urban watersheds through an 'Integrated Water Management' approach that addresses multiple challenges—integrating planning for water supply, wastewater and stormwater systems, protecting human health, and improving water quality. We help communities recognize the connections between various water systems, thereby encouraging a holistic approach to solving water challenges and engage stakeholders across social, economic, and political divides.

Global Climate Resilience

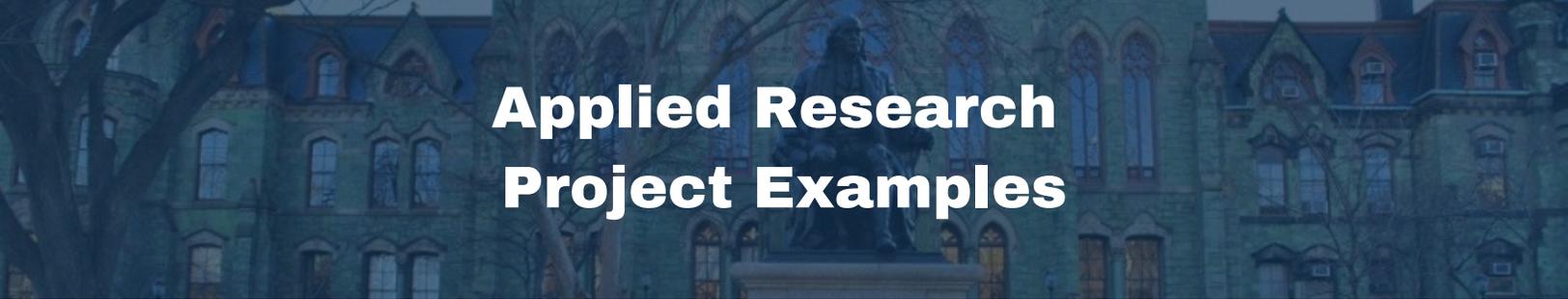


Changes to the hydrologic regime are already challenging the basic assumptions on water quality and quantity that underpin our complex infrastructure and regulatory systems. The Water Center at Penn supports city decision makers and planners in creating sustainable and resilient cities in the face of a more erratic and unpredictable climate. To achieve this, we take a trans-disciplinary approach to water challenges by integrating public health, ecology, technology, business, governance, economic, equity, city planning, design and climate change considerations in proposed solutions.

Finance, Science, and Innovation



By connecting The University of Pennsylvania's myriad of researchers across multiple disciplines, the Water Center leverages Penn's capacity as a world-class research institute. For example, the university's finance, economics and risk management expertise can be used to address water sector finance and affordability issues, while computer science researchers can support water utilities ability to tap into the power of big data. We are uniquely positioned to bring real-world water challenges to leading topical researchers, subsequently supporting use and scaling of research outcomes by water sector practitioners.



Applied Research Project Examples

Three Rivers Watershed Planning, Action Network and Leadership Incubator

Building off a successful Phase 1 project analyzing the state of Southwest Pennsylvania's waters, Phase 2 focuses on designing and implementing a long-term watershed stakeholder engagement process to generate political will for integrated water resource management (IWRM). Key aspects of the engagement process include networking, leadership development, data collection, communication, and small utility.

Roadmap for a Delaware River Upgrade

Development of an independent, science-based feasibility study identifying the necessary steps to achieve improved water quality along a 27-mile stretch of the Delaware River at Philadelphia and Camden in order to help move the region toward a recreational designation. Provides a detailed analysis of the current conditions, synthesizes the expected improvements over time from significant planned investments by multiple entities, and outlines the costs and benefits of additional investments in order to provide stakeholders with a common set of facts to discuss a path forward balancing social, financial, and environmental benefits.

Water System Planning and Resilience in Duquesne, PA

Explore possibilities for an economically realistic and sustainable path forward for a publicly owned water system in an extremely distressed and shrinking city in the industrial Monongahela Valley in Southwestern Pennsylvania. This work provides a framework from which The Water Center can assist other similar cities nationwide.

Affordable Water in Great Lakes Cities

Provide technical assistance and policy guidance to the City of South Bend to help them develop a water affordability program. Undertaken in conjunction with the Mayors Innovation Project at the University of Wisconsin Madison.

Local Decision Makers Guide to Navigating Technical Assistance and Financial Options for Equitable Stormwater Management

Develop a thoughtful, objective, straight-talking warts-and-all guide for local elected and appointed decision makers across the US on how to get started in navigating the dizzying array of options and opportunities for technical assistance and funding resources available to managers, board members, and elected officials responsible for local water management systems.

Healthy Waters for the Great Lakes

Identify the underlying causes of the water failures in Flint, Michigan and provide an analysis to determine where similar conditions exist in the Great Lakes region. Undertaken in conjunction with the Mayors Innovation Project at the University of Wisconsin Madison.

Integrated Water Management for Cities

Provide policy guidance on the principles of integrated water management (IWM) and technical assistance to South Bend, Indiana, Toledo, Ohio, and Pittsburgh, Pennsylvania. Undertaken in conjunction with the Mayors Innovation Project at the University of Wisconsin Madison.

CONTACT US

The Water Center at Penn
McNeil Building Room 412
3718 Locust Walk
Philadelphia, PA 19104



watercenter@sas.upenn.edu
215-898-2786