



# UVM Water Resources Institute

## Strategic Plan

**2025-2029**



## Introduction

*Water research at the University of Vermont runs deep.* Over a decade of support (2008–2020) by the **National Science Foundation** advanced the study of coupled human and natural systems in Lake Champlain and its basin, contributing to both novel scientific advances and policy actions in Vermont. UVM researchers have played essential roles in national programs, such as the **Long Term Ecological Research Network**, **Critical Zone Observatories**, and **Global Lakes Ecological Observatory Network**. These collaborations transcend our state boundaries and produce regional, national, and global impacts. In transforming water research, UVM faculty have benefited from scientific, education, and outreach support from the **Lake Champlain Sea Grant Program**, **Vermont Space Grant Program**, the federal government's **Established Program to Stimulate Competitive Research** (EPSCoR), and the **Cooperative Institute for Research to Operations in Hydrology**.

*A new water day is dawning.* Building off the university's historic strength in water research and other new programs, UVM launched the **Water Resources Institute** (WRI) in Fall 2024 to unify and advance water research and education across campus and beyond. Development of the WRI began in AY2022-23 with a period of consultation between UVM faculty and administrators. The **UVM Faculty Senate** reviewed the WRI proposal in Fall 2023 and the **UVM Board of Trustees** approved the institute in May 2024.

*Looking to the future, WRI created this strategic plan to guide work over the coming years through the advancement of four goals:*

1. Enhance the flow of information among scholars and trainees
2. Educate the next generation of problem solvers to tackle water resources challenges
3. Coordinate and develop new water-related programs, facilities, and services on campus
4. Build bridges with external academic, nonprofit, state, federal, and international partners that accelerate the translation of research to practice

WRI staff developed this plan in consultation with faculty over the 2024-25 academic year (AY) and with support from the **Office of the Vice President for Research**. It outlines our mission and vision, identifies a set of working priorities, and articulates objectives for each of our four goals, outlining a set of actions that institute staff will advance in partnership with faculty, administrators, and the **UVM Foundation**.

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## Our Mission and Vision

### *Leading Water Research for a Changing World*

At the University of Vermont's Water Resources Institute, we recognize that humans and water are inextricably linked – water sustains life, shapes ecosystems, and supports economies, yet also poses risk through floods, droughts, and pollution. We advance innovative research, education, and outreach to address these pressing challenges, equipping scientists and partners with the resources and knowledge needed to develop actionable solutions that support communities, infrastructure, decisionmakers, and more.

We envision a future where the University of Vermont's programs, researchers, facilities, and graduates drive global progress towards a sustainable, just, and resilient water future.

## Working Priorities

### *The WRI shall:*

- Facilitate collaboration of faculty affiliates through cross-institutional projects and the pursuit of research grants, donations, and traineeship funds.
- Secure funding and provide resources for research that is responsive to societal needs, forges novel discoveries, and engages with community partners.
- Increase visibility of UVM's water research excellence.
- Host events that disseminate findings and accomplishments to stakeholders and prospective funders, highlight the diversity of UVM's water research portfolio, and provide opportunities for cross-institutional relationship building.
- Support a robust community of graduate trainees, postdoctoral researchers, and early-career professionals in partnership with UVM programs and faculty.
- Assist in the development of new curricular and credentialing opportunities for students, leveraging UVM's teaching and research strength in water.
- Foster novel scholarship, instruction, and service, by connecting WRI affiliates to UVM's lands, monitoring infrastructure, laboratories, and field research facilities.
- Operate with guidance and cooperation from an external Board of Advisors and an internal Faculty Steering Committee.
- Advance discoveries that are relevant to operational improvements or policymaking.

## **Goal 1: Enhance the flow of information and ideas among scholars and trainees by establishing a hub of water research at the nexus of natural and social sciences, design, engineering, and governance.**

*Objective 1: Increase the visibility of UVM water research and researchers.*

- 1a: Develop a mechanism for the submission of achievements and stories.
- 1b: Amplify research and funding news through social media posts, press releases, and web-based stories.
- 1c: Work with UVM Strategic Communications and communications staff of other institutes to highlight nexus research that unifies multiple research strengths or themes.
- 1d: Develop and share technical briefs based on related WRI research and priorities with policymakers, industry, and non-governmental organizations.
- 1e: Provide opportunities for faculty to act as consultants and provide expert input on legislative or policy initiatives.
- 1f: Encourage faculty affiliates to display WRI affiliation on published papers and WRI logo and spirit mark on conference presentations to increase brand recognition of water research excellence at UVM.
- 1g: Produce WRI website content, including videos, news articles, and links to publications and theses.
- 1h: Consistently update internal tracking of media engagement, paper citations, and other relevant statistics.

*Objective 2: Create new interdisciplinary, cross-departmental teams to pursue large, capacity-building grants, contracts, and/or donations.*

- 2a: Identify and share large capacity-building and infrastructure grants and philanthropic opportunities.
- 2b: Convene research accelerator meetings with faculty affiliates.
- 2c: Award grant writing funds, pending availability of funds.
- 2d: Write and submit competitive proposals.

*Objective 3: Host or co-host events to raise the profile of UVM water research, engage stakeholders, and establish new partnerships, covering the breadth of UVM’s water research portfolio.*

- 3a: Survey faculty affiliates for suggestions on seminar themes, guest speakers, and scheduling. May include speakers from other institutions, funding agencies, and foundations.
- 3b: Schedule events, notify affiliates, and advertise opportunities to stakeholders and the broader community.
- 3c: Host, co-host, or support an annual science meeting to share water research with the UVM community, Vermonters, and regional/national/international participants.
- 3d: Send follow-up surveys to affiliates and event attendees for continuous improvement of events.
- 3e: Pursue donor support for a distinguished series that would bring renowned speakers to UVM, broaden our networks, and bring UVM visibility to key actors in science, innovation, and policy arenas.

*Objective 4: Build and sustain a Faculty Steering Committee comprising representatives from multiple schools and colleges to align WRI actions with institute, affiliate, and university priorities.*

- 4a: Evolve team of inaugural senior faculty advisors into a steering committee of 7-10 members.
- 4b: Develop a governance document for committee composition, roles, responsibilities, and term limits.
- 4c: Implement a system for regular consideration of new members in consultation with the Associate VP for Research.
- 4d: Meet semi-annually with institute leadership to seek input and guidance on priorities, initiatives, and challenges.

*Objective 5: Foster relationships and identify points of synergy between WRI and other institutes and centers.*

- 5a: Meet and coordinate with leads of Vermont Water Resources & Lake Studies Center, Vermont Sea Grant, and NASA EPSCoR to identify opportunities for collaboration and mutual support, particularly on projects that target local issues.

5b: Explore and pursue partnering opportunities with Gund Institute, Leahy Institute for Rural Partnerships, Complex Systems Institute, Casella Center for Circular Economy and Sustainability, and others to advance solutions to critical water sustainability challenges.

5c: Develop required state and federal cost-sharing arrangements when needed to benefit complementary programs using WRI resources.

## **Goal #2: Educate the next generation of problem solvers to tackle water resources challenges.**

*Objective 1: Support WRI faculty affiliates in the development of cross-departmental or cross-unit training initiatives.*

1a: Convene and support faculty to develop traineeship proposals with financial support as available.

1b: Promote any UVM-hosted educational or training opportunities as they arise through social media, the WRI website, and press releases.

1c: Work with faculty affiliates and PACE to develop professional credentialing programs in areas of state, regional, or national need.

1d: Facilitate discussions among faculty and programs on degree and credentialing programs (e.g. certificates).

1e: Conduct market research in collaboration with PACE and the Graduate College to assess market demand and UVM capacity for new undergraduate and graduate degree and credentialing programs.

*Objective 2: Identify pathways to provide material resources for a cohort of WRI-affiliated graduate students and postdocs.*

2a: Solicit donors to establish trainee scholarships for undergraduate students, graduate students, and post-doctoral associates.

2b: Work with Graduate College, Associate Deans for Research, and other UVM institutes to advance professional development opportunities.

2c: Identify and advertise internal and external funding opportunities (e.g., fellowships, scholarships, awards).

2d: Increase participation by UVM students, research staff, and faculty in training opportunities offered by the Consortium of Universities for the Advancement of Hydrologic Sciences Inc.

(CUAHSI), the Cooperative Institute for Research to Operations in Hydrology (CIROH), and other national or international partners.

*Objective 3: Develop research and internship pathways in collaboration with existing UVM programs and new WRI industry and non-profit partners.*

- 3a: Coordinate with faculty affiliates, key campus resources (Leahy Institute, FOUR, CELO, ResLife, college student services offices) to create service-learning, research, and professional networking opportunities.
- 3b: Enable networking opportunities through WRI events and connections to appropriate professional organizations (e.g. American Geophysical Union, CUAHSI, Vermont Environmental Consortium).
- 3c: Build agency, NGO, and industry/corporate partnerships to address workforce development needs.
- 3d: Solicit donor support, seek grant funding, and build funding portfolio for internship and job-shadowing programs with agencies, NGOs, and industry/corporate partners for students and postdocs.
- 3e: Advertise internship opportunities with federal labs and agencies, state government, and other related programs such as the Lake Champlain Basin Program.

### **Goal #3: Coordinate existing and develop new water-related programs, projects, equipment, and services on campus.**

*Objective 1: Provide access to the tools, sensor networks, field sites, data resources, and shared technical staff that support research and educational efforts of WRI affiliates.*

- 1a: Identify faculty affiliate needs for computational, laboratory, social, and field-based research infrastructure.
- 1b: Target funding opportunities that develop resources for cross-departmental water research.
- 1c: Develop physical infrastructure and cyberinfrastructure to support research.
- 1d: Develop and implement plans to leverage UVM's Natural Areas and other living laboratories into a research and field instruction core facility in partnership with the Provost's Office and Office of the VP for Research.

*Objective 2: Jointly acquire and collaboratively manage, with WRI affiliates, facilities and equipment that support water and related weather research*

- 2a: Provide salary support when funds are available to faculty for collaborative grant seeking opportunities aligned with WRI's mission and vision.
- 2b: Secure funding and establish statewide weather and water monitoring initiatives that provide high-quality data for research, education, and community resilience.
- 2c: Foster hands-on learning and research opportunities by providing access to WRI monitoring infrastructure.
- 2d: Support the use of the infrastructure as educational resources for K-12, undergraduates, and graduate students to gain hands-on experience.
- 2e: Enable faculty from all disciplines and units to utilize the data produced by these networks in their research.

#### **Goal #4: Build bridges with external academic, nonprofit, state, federal, private sector, and international partners that accelerate the translation of research to practice**

*Objective 1: Establish a WRI Board of Advisors.*

- 1a: Develop a governance document for board composition, roles, responsibilities, and term limits.
- 1b: Identify and recruit board members in collaboration with the UVM Foundation and VP for Research.
- 1c: Meet semi-annually with institute leadership team to seek input on and assistance with strategic opportunities, institute impact, and sources of philanthropic, industry, and government support.

*Objective 2: Establish a working relationship with Lewis-Burke Associates, UVM's government relations firm.*

- 2a: Schedule recurring check-ins that occur no less than twice per year.
- 2b: Identify opportunities that provide funding for faculty affiliates and foster cross-unit collaboration.
- 2c: Develop annual appropriations requests in collaboration with members of Steering Committee and Research Development.

*Objective 3: Provide opportunities for faculty affiliates to network with, learn from, and collaborate with municipal, state, and federal officials, non-profit leaders, and corporate partners*

- 3a: Coordinate with UVM's Office of Government Relations and congressional delegation staff to connect researchers to elected officials.
- 3b: Host convenings that engage with state partners, policy makers, and business leaders to accelerate the translation of research and education to practice and to identify outstanding needs.
- 3c: Create and maintain a list of WRI faculty affiliates hosted online with expertise keywords.

*Objective 4: Maintain UVM's engagement with existing government partners, such as NASA, NOAA, and USGS.*

- 4a: Advertise opportunities and encourage engagement in the annual CIROH Science Meeting and Developers Conference and other relevant federal agency gatherings.
- 4b: Contribute to the CIROH renewal grant in collaboration with faculty affiliates and other consortium members.
- 4c: Identify opportunities for federal partnerships that provide funding for UVM-based research and infrastructure.
- 4d: Encourage and support affiliate contributions to working groups and other cross-cutting efforts at state and federal agencies and other entities (e.g. inter-governmental panels).