OHIO WATER RESOURCES CENTER

2023-2024 ANNUAL REPORT
Executive Summary

The Ohio Water Resources Center (Ohio WRC) is the federally authorized and state-designated Water Resources Research Institute for the State of Ohio. Our mission is to enable and conduct state-relevant water-related research; foster collaboration among academic investigators, governmental bodies and water professionals; train the next generation of water scientists; and educate the public on water resources issues in Ohio. With evidence-based scientific information, we form links between water researchers and those who manage and use water.

ADVISORY BOARD

The distinguished members of our Advisory Board provide critical expertise and guidance for advancing our work across all areas.

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David Straub
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USGS, Ohio-Kentucky-Indiana Water Science Center

Christopher Winslow
Director
Ohio Sea Grant

By the Numbers 2019 to 2024

Across Ohio, the Ohio WRC funded 34 research projects at 9 universities in Ohio.

For every federal dollar, $18 was leveraged from other sources.

The Ohio WRC leveraged its influence by devoting 800 hours to boards & committees.

Ohio WRC research has produced 200 publications, theses, & presentations.
2023-2024 Activities

Water Quality Sample Ohio WRC Projects

1. **Daniel Gingerich and Jeffrey Bielicki, OSU** are building a database of water rates across Ohio to evaluate current and future drinking water affordability.

2. **David Singer, Kent State** is addressing water contamination from coal mining to determine when acid production from mine drainage will cease.

3. By linking algae community, growth, and toxin production, **Silvia Newell, Stephen Jacquemin and Jason Doll, WSU** are modeling bloom formation and toxicity.

4. **Rachel Gabor, OSU and Rachel Eveleth, Oberlin** are quantifying the relationship between algal blooms, carbon cycling, and water quality in lakes.

5. **Lesley Knoll, Miami U** is evaluating the effect of winter/spring weather conditions on cyanobacteria dynamics in Ohio reservoirs.

6. **Michael Booth, Steve Matter, and Adam Lehmann, UC** are assessing the use of large woody debris as a low-cost management tool for improving water quality in urban streams.

7. **Andy May and Linda Weavers, OSU** are measuring the downwind deposition of forever chemicals from sources to determine their impact to water quality within Ohio.

Water Technology Sample Ohio WRC Projects

8. **Jonathon Van Gray, OSU** is investigating the bacterial populations of surface waters to better manage the spread of antibiotic resistance.

9. **Dylan Ward, Reza Soltanian, Daniel Sturmer, and Adam Lehmann, UC and Hamilton County SWCD** are increasing the understanding of stream water-groundwater exchange in altered, complex urban catchments.

10. **Dongmei Feng, UC** is coupling remote sensing with machine learning to evaluate changes in total phosphorus loads in the Ohio River basin.

11. **Yalin Dong and Teresa Cutright, UA and Jessica Glowczewski, Akron Water** are using machine learning to develop a user-friendly tool to identify areas within a water distribution system that experience water inequity.

12. **James Stagge, OSU** is investigating how changing meteorological drivers and hydrologic responses to climate change alter flood risks in Ohio.

13. **Xi-Zhi Niu, UC, and John Chorover, University of Arizona** are developing analytical methods for the analysis of ultrashort, short, and long-chain PFAS from environmental samples.
First Annual Interdisciplinary Water Research Symposium

Sustainable water management strategies demand collaboration between various researchers, stakeholders, and governing bodies. To support and enhance the transfer of technical and research information on water resources, the Ohio Water Resources Center hosted the First Annual Interdisciplinary Water Research Symposium at Ohio State University. Organized by students, this event was created with the goal of fostering collaboration between students, faculty, and practitioners throughout Ohio that are interested in all aspects of water resources. Students presented on a range of topics: hydrology, emerging contaminants, microbiome, sustainable infrastructure, water quality, and economics. The nearly 100 attendees included individuals from state agencies, academic researchers, industry professionals, and graduate and undergraduate students.

We, at the Ohio WRC, are excited to continue hosting this event at the Ohio State University. It is an opportunity to enhance training of young professionals for the water industry. We aim to increase the impact of the symposium by increasing the participation of researchers and practitioners outside The Ohio State University.

By the Numbers 2019 to 2024

10,300 Water samples collected
147,000 People-hours engaged in events
22 MILLION Individuals reached through online and printed media

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