Idaho Water Resources Research Institute

Water Resources Research in Idaho

The Idaho Water Resources Research Institute (IWRRI) leads and facilitates high-impact interdisciplinary research on water resource issues facing Idaho, the arid West, and the nation. Authorized by Congress in 1963 under the Water Resources Research Act (WRRA), IWRRI has produced over 950 technical reports addressing critical water resource issues, including development of hydrologic models for allocation and management of agricultural irrigation water in south Idaho, forecasting future municipal water demand for north Idaho’s growing cities, and developing drought models and plans for all of Idaho. IWRRI is annually eligible for a $92,355 federal base grant authorized by the WRRA Section 104(b) and administered by the U.S. Geological Survey.

IWRRI maintains offices and staff at the University of Idaho (UI) Moscow, UI Boise and UI Coeur d’Alene to facilitate engagement with faculty, students and stakeholders throughout the state. In 2016, IWRRI launched its Lake Social Ecological Systems (LaSES) lab at UI Coeur d’Alene to extend UI’s research footprint to include the lakes and reservoirs of Idaho and the region.

In FY2017, IWRRI staff and IWRRI-affiliated faculty conducted $592,068 of research at the LaSES Lab and at UI. One study focused on the environmental fate of deposited heavy metals in Coeur d’Alene Lake, while a second evaluated the vulnerability of alfalfa production in south Idaho’s Magic Valley to different forms of water rights administration. IWRRI sponsored and led development of $2.15 million in additional research proposals to federal agencies, including proposals to the National Science Foundation’s (NSF’s) Dynamics of Coupled Natural and Human Systems and NSF’s Research Experience for Undergraduates programs.

Background

In 1963, following passage of the federal WRRA, IWRRI was created by an act of the Idaho Legislature to be housed at UI. In 2012, UI recognized IWRRI’s key position relative to the university’s strategic plan, granting it a Level III interdisciplinary research institute charter.

Recent Accomplishments

• Researchers at IWRRI’s LaSES Lab are identifying the biogeochemical processes that influence the stability of metal contaminated sediments in the Coeur d’Alene basin.
• IWRRI and IDWR researchers are establishing groundwater elevation trends for the East Snake Plain Aquifer, providing valuable water management information to farmers, food processors and municipalities.
• IWRRI is collaborating with the Idaho Department of Water Resources (IDWR) in developing a hydrologic model for Idaho’s Treasure Valley.
• IWRRI researchers are characterizing the role wildfire-produced biochar has in retaining nutrients in the forest landscape.

Upcoming Goals

• Initiate a consortium including IWRRI, IDWR, the Idaho Office of Emergency Management and other stakeholders to develop a long-term drought response plan for Idaho.
• Build on ongoing work at LaSES to develop effective mitigation and intervention strategies to reduce the occurrence of harmful algal blooms in Idaho’s lakes and reservoirs.

For more information, please contact:
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FY19 PROGRAMS OF INTEREST

• Develop efforts across UI and its centers at UI Boise and UI Coeur d'Alene to develop underwater drone technologies capable of autonomously assessing water quality parameters at depth in lakes and reservoirs in real time.
• Develop the information technology capacity at UI to successfully participate in the burgeoning data revolution in water resource science.
• Develop an aggressive outreach/communication capacity, including the initiation of crowdsourced water quality capabilities, to provide information and responsive feedback to the public as well as to specific stakeholders within the water resources community.

Projected Impact of Continued and Increased Funding
IWRRI is adopting an ‘act locally, inform nationally’ approach to its continued progress and development. On the state level, continued and increased funding would allow IWRRI and UI to respond to the water resources research needs of Idaho’s citizens, municipal water providers, and core industries such as agriculture, aquaculture and food processing. On a national level, continued and increased funding will allow IWRRI to more effectively develop efforts with a multi-state reach and participate in the national conversation regarding water resource issues, providing information to, and learning from, water resource activities occurring in other states across the nation.


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