



Idaho Water Resources Research Institute

# Research Update

**Senate Agricultural Affairs**

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February 17, 2026



University of Idaho

# IWRRI connects stakeholders, students and researchers



**Research** complex & urgent questions

**Independent** analysis

Improved access to **data**

**Translate knowledge** to support decision-making

## **S1209 - Section 5**

# **Prioritizing Water Research in Idaho Higher Education**

- \$1,000,000 shall be used for the Idaho Water Resources Research Institute.
- Expenditure of these funds shall be at the direction of the IWRRI Executive Board consistent with the Institute's research priorities.

*IWRRI shall encourage rigorous, actionable water research at all of Idaho's public institutions of higher learning and shall fund research projects accordingly.*

Interim report submitted to JFAC Dec 1, 2025.  
End-of-fiscal year report due June 30, 2026.



# FY26 IWRRI Accomplishments



Identified research priorities across the state with our 32-member Research Advisory Committee and approval from our Executive Board.



Distributed \$580,000 in funding to faculty at Boise State, Idaho State, and University of Idaho to address priority research projects.



IWRRI is conducting research of key importance to the state through our team of research scientists.



Generating a return on investment through competitive grants and contracts.

# Research Prioritization Process



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As part of its mission, the Idaho Water Resources Research Institute conducts applied water-related research. Two of the outcomes of IWRRRI research are written reports and published papers. Explore this page for [highlights](#) of our research, a map with links to some of our [previous reports](#), and recent [scientific publications](#).

[2025 Idaho Water Research Priorities](#) [↗](#)

[Suggest A Research Idea](#) [↗](#)

## Research Advisory Committee:

32 members across agencies, municipalities, industry, conservation organizations, and academic institutions

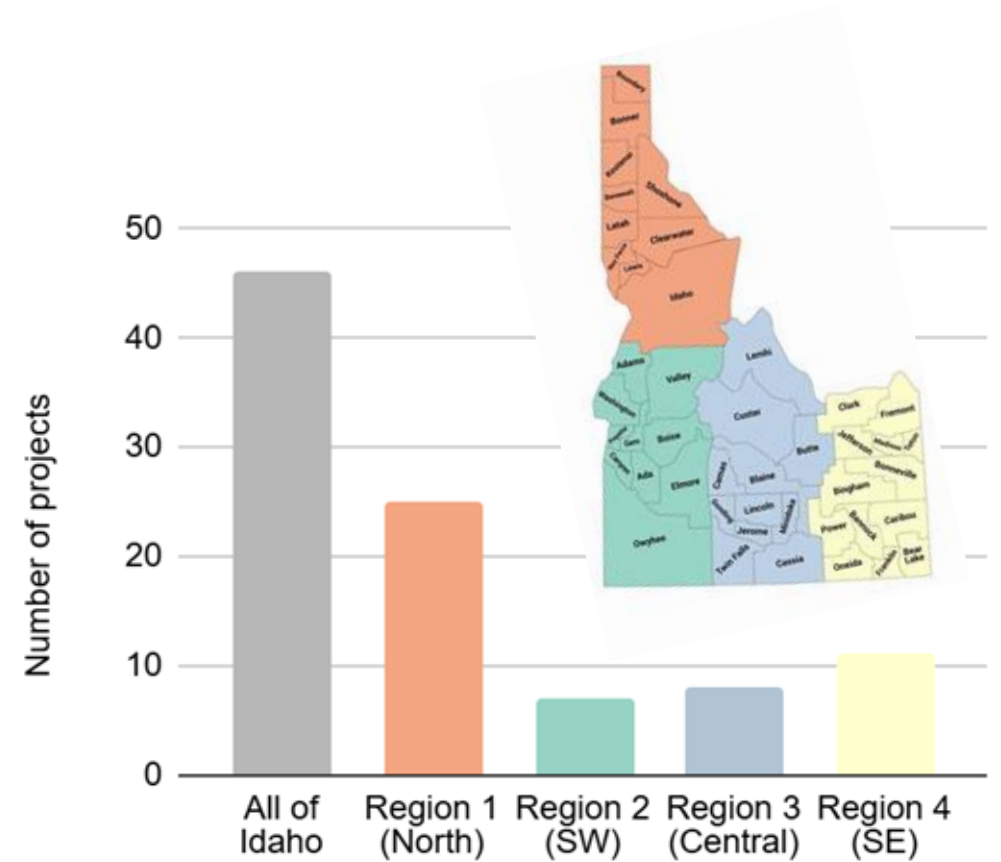
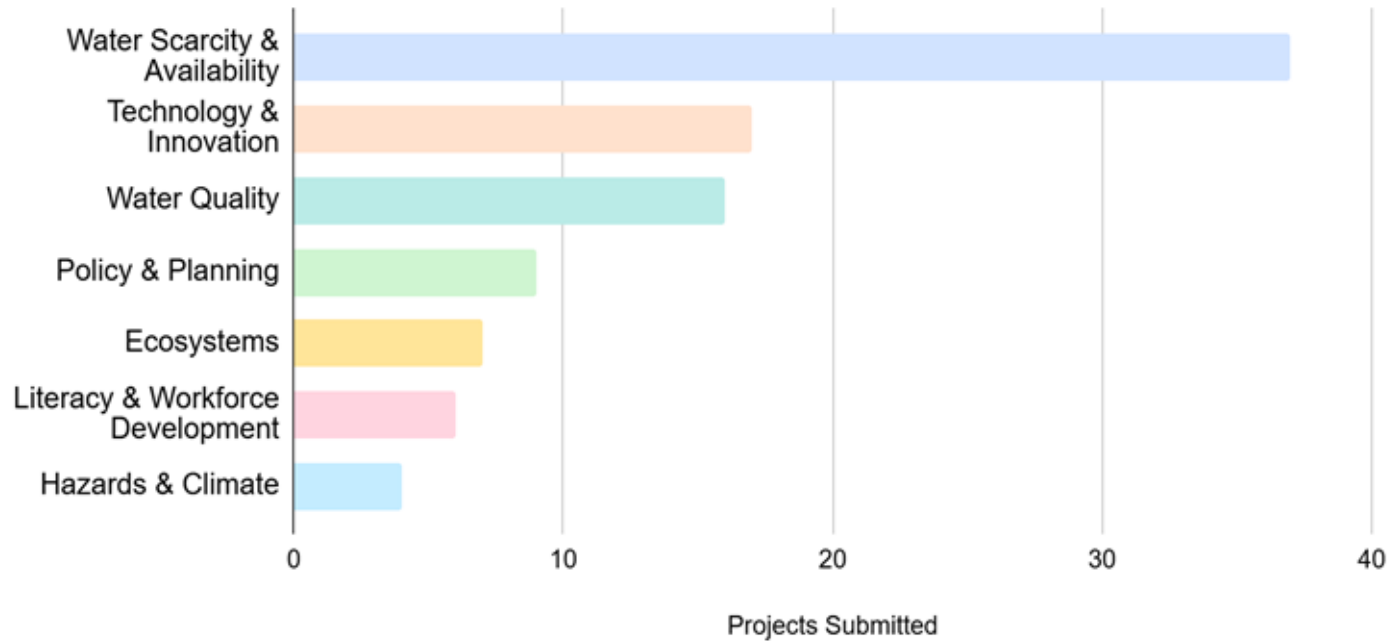
Identified Idaho's most pressing water challenges

Generated 90+ research project needs

Evaluated projects based on relevance, community impact, feasibility, and geographic representation

Provided recommendations to the IWRRRI Executive Board for allocation of IWRRRI's legislated research funding

# 2025 Research Need Submissions



# 2025 Idaho Water Research Priorities

## STATEWIDE RESEARCH

### Water Scarcity & Availability

- Evaluating L-band InSAR for Idaho Water Monitoring Applications\*
- Enhancing Visualization of Snow Water Storage Conditions\*

### Water Technology & Data

- Assessing Sufficiency, Optimal Deployment, and Application-Readiness of Idaho's Hydrometeorological Observation Network\*
- Integrated Water Data and Visualization Platform

### Water Quality

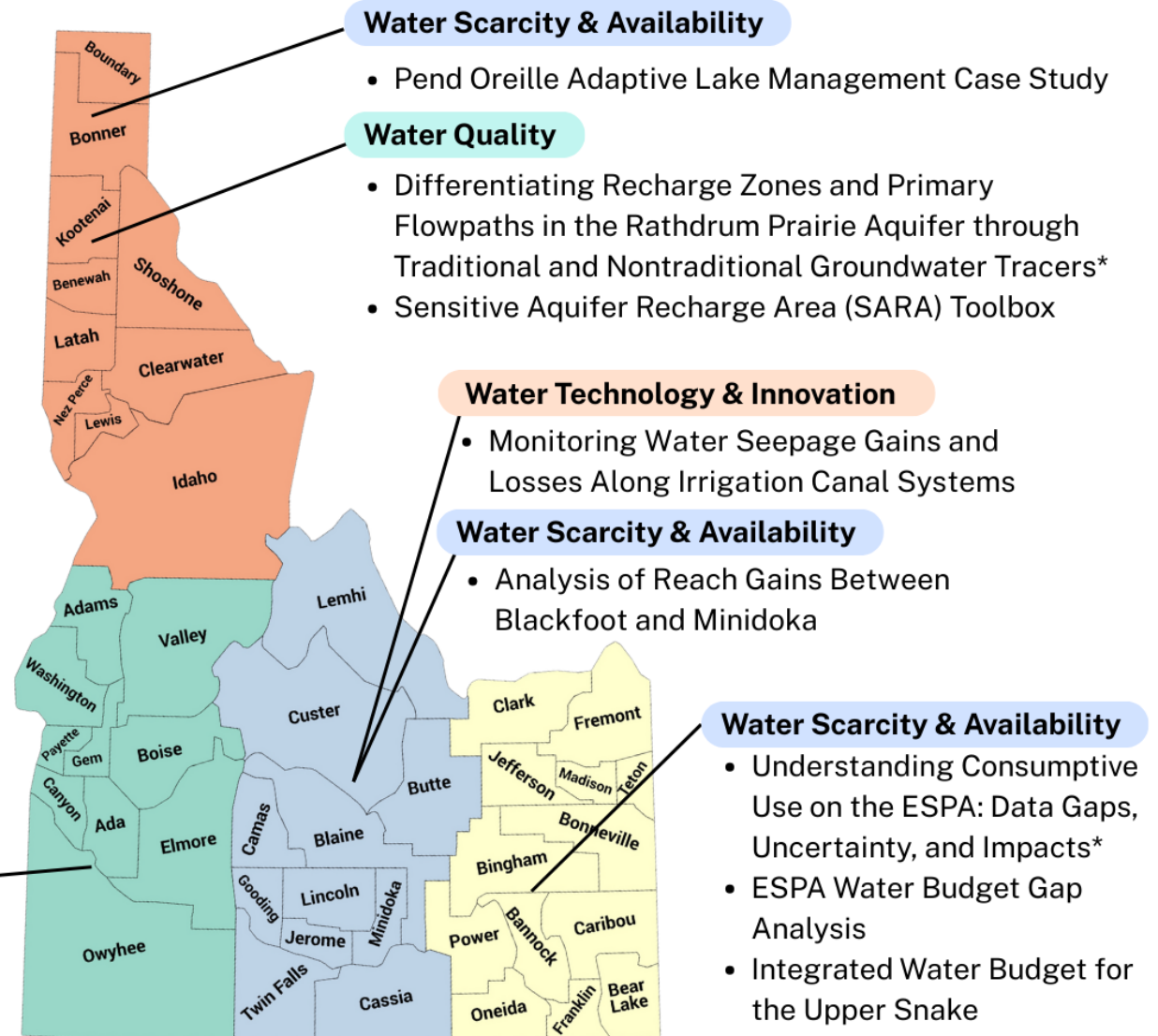
- Comprehensive Integration and Evaluation of Idaho Water Quality Monitoring\*
- Sentinel-2 Satellite Surface Water Quality Validation
- Recycled Water and Aquifer Recharge

### Water-Related Hazards

- Developing Probabilistic Flood Maps for Idaho Under Precipitation Uncertainty \*

\*Faculty-led projects across research universities

## REGIONAL RESEARCH

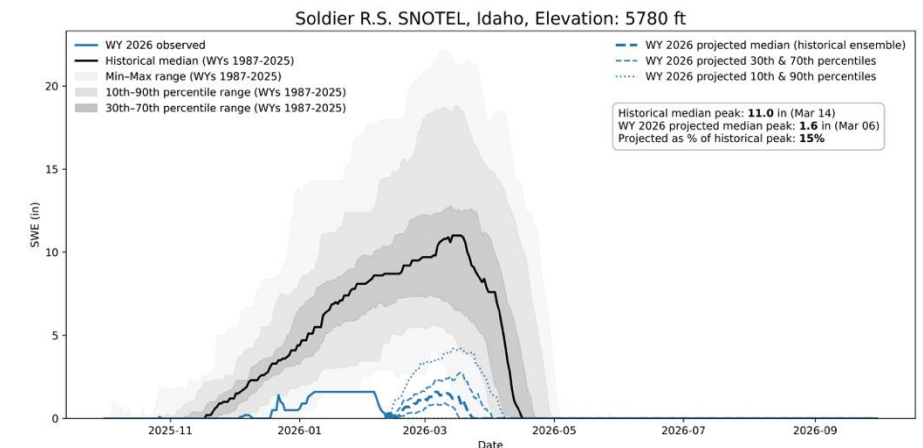
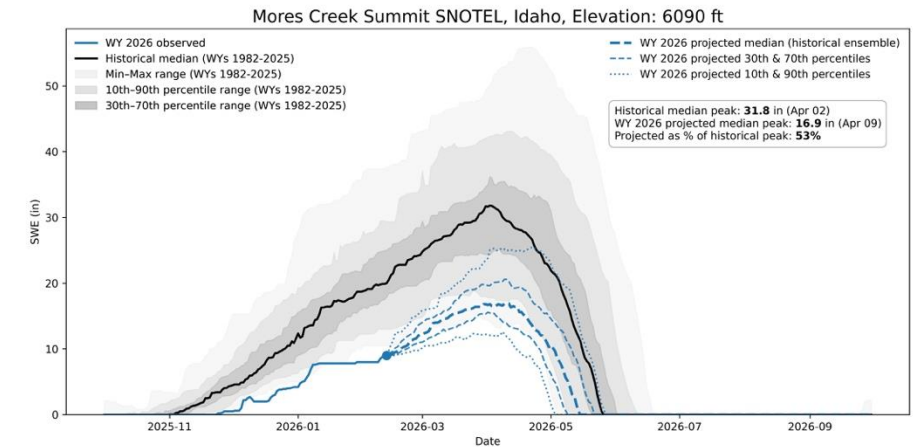
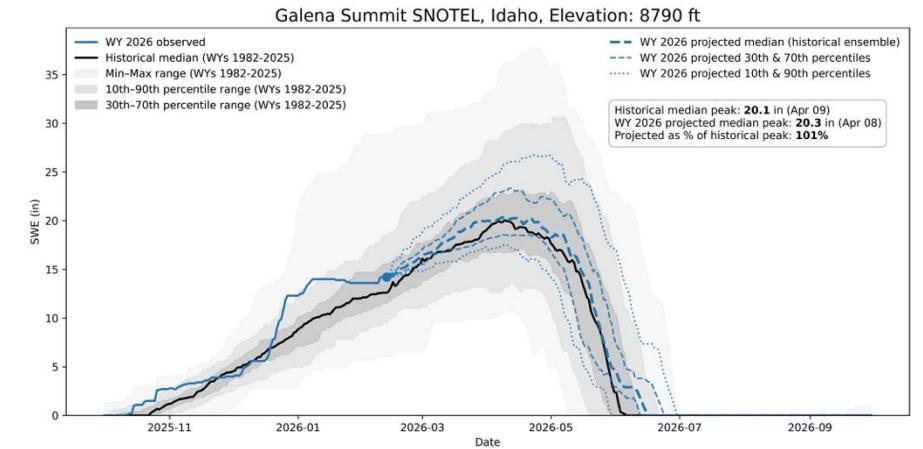


### Water Scarcity & Availability

- Water Supply Analysis Below Swan Falls Dam and Major Tributaries

# Statewide Topics: Water Quantity

- Development of Tools to Visualize how Current Snowpack Levels Compare to Historical Patterns (BSU)
- Probabilistic Flood Maps for Idaho Under Precipitation Uncertainty (ISU)



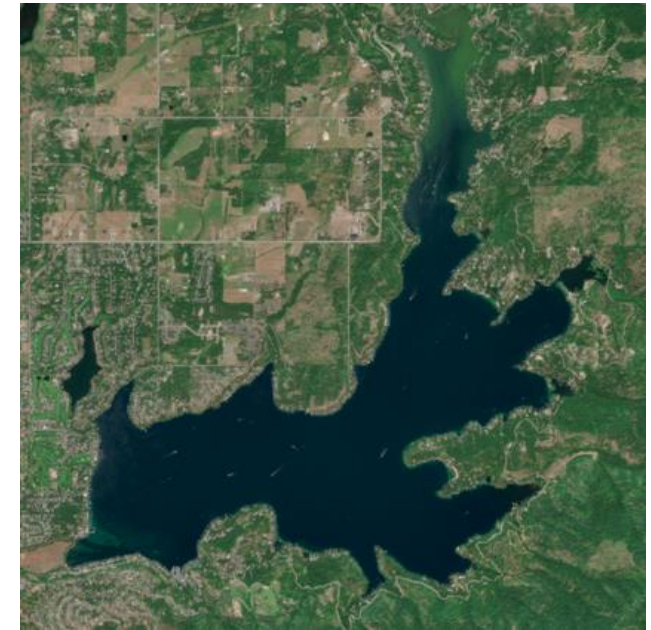
# Statewide Topics: Water Quality

## Sentinel-2 Satellite Surface Water Quality Validation

This project will improve how well satellite images match on-the-water measurements of algae, and our ability to track the frequency and duration of algal blooms in Idaho lakes and reservoirs.

## Water Quality Implications of MAR through Injection Wells & Recycled Water

Research synthesis about using surface water and recycled water for aquifer recharge, focusing on implications for drinking water protection, monitoring approaches, water quality requirements, existing regulations, and key knowledge gaps.



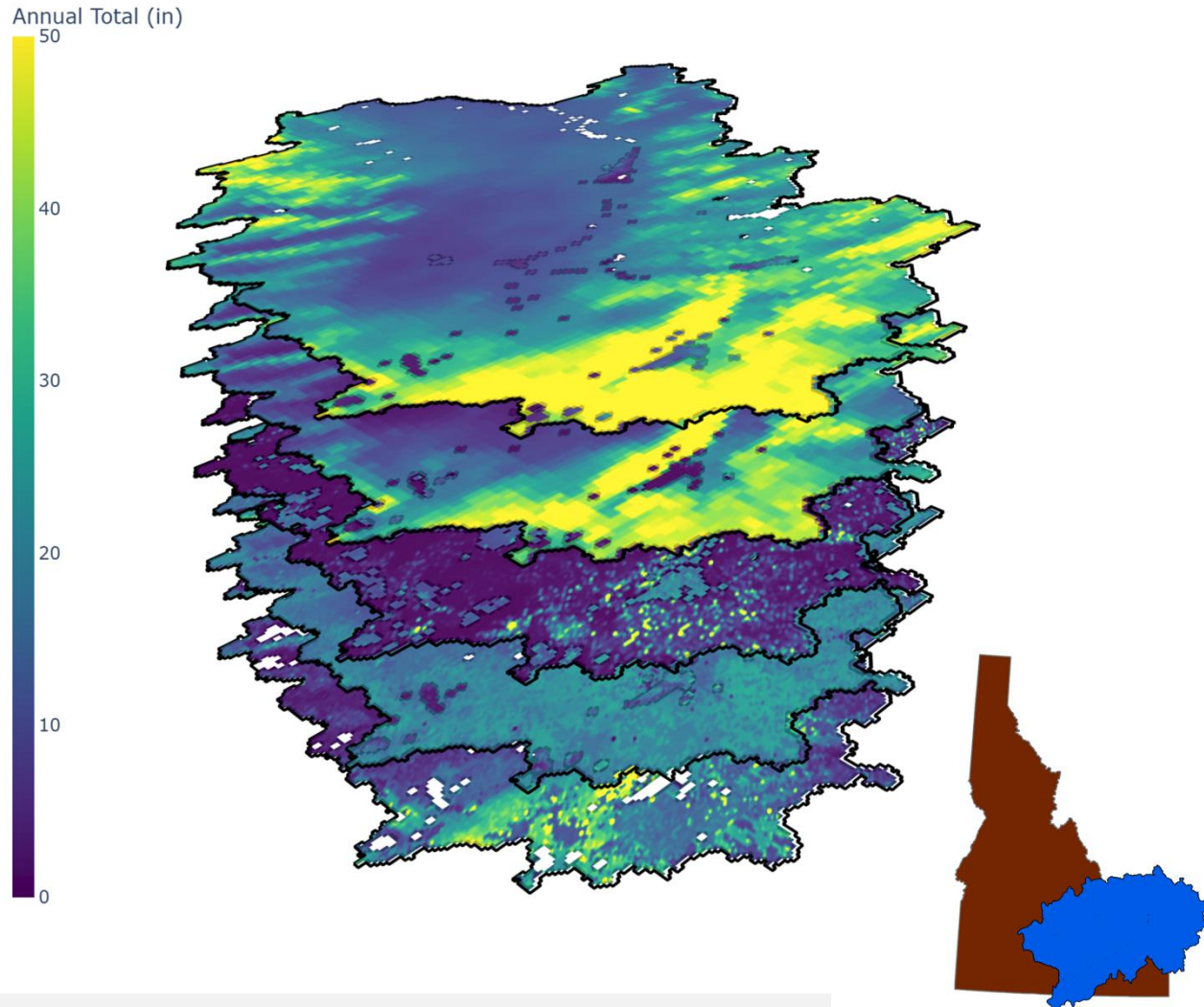
Steve Powers, PhD, IWRRRI Research Scientist



# Monitoring Opportunities

- Assessing Idaho's weather and climate monitoring systems to identify gaps and opportunities for improvement (ISU, BSU, UI)
- Evaluating a new remote sensing dataset (L-band InSAR) to track snow depth using Lidar (BSU)
- Monitoring water seepage gains and losses along irrigation canal systems (UI)

# Regionally Relevant Topics: ESPA



- **Evaluating aquifer recovery strategies to support reach-gains:** Evaluate which approaches are most effective at reaching ESPA management goals
- **Quantifying headwater contributions** entering the ESPA and tracking changes through time
- **Supporting near-term planning:** Developing seasonal curtailment forecasts so irrigators can prepare and adapt in advance
- **Informing long-term management:** Identifying gaps and opportunities to improve the ESPA water budget which will strengthen the groundwater model and enable identification of management practices to prioritize
- **Responsive to urgent needs:** Fast-tracking critical projects requested by water users and the state

# Regionally Relevant Topics

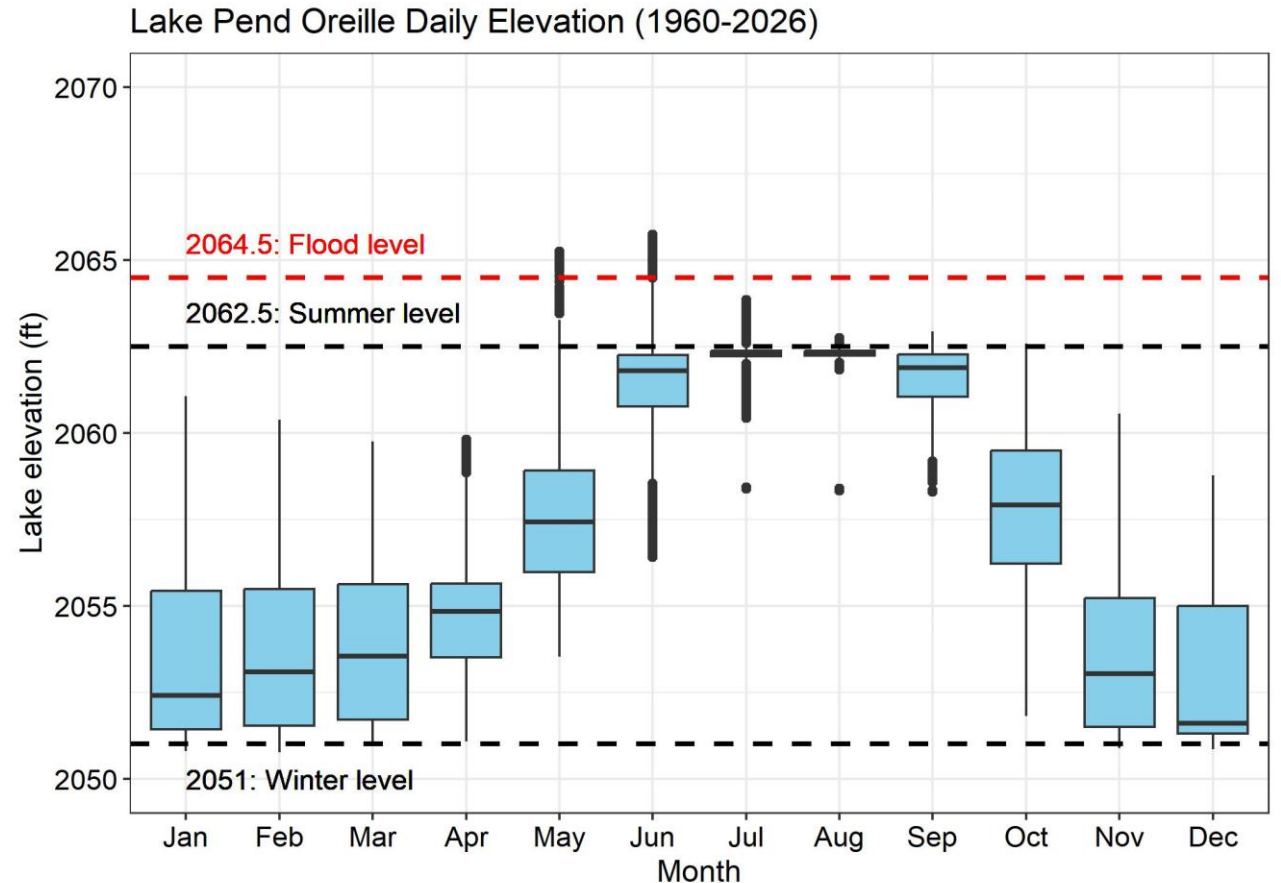
- Return on investment through acquisition of extramurally funded projects
- **Valley County:** Water supply and growth
- **Treasure Valley:** Star Bridge Moratorium



# Regionally Relevant Topics: North Idaho

## Adaptive Management Case Study of Lake Pend Orielle

Characterizing conditions and inflows into Lake Pend Oreille that could support higher summer pool levels and analysis of changes in rain on snow events. Working with the community to provide educational materials about operations





**Your Priorities.  
Our Research.  
Idaho's Solutions.**



Idaho Water Resources Research Institute

## Thank You

- Sign-up for our newsletter
- Look for research updates & outcomes
- Submit research needs

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