OREGON
WATER RESOURCES DEPARTMENT

Surface Water Information Modeling System (SWIMS) Development

The Oregon Water Resources Department (OWRD) is developing the Surface Water Information Modeling System (SWIMS) to update the current water availability modeling framework known as the Water Availability Reporting System, or WARS.

SWIMS will calculate water availability and summarize streamflow and water use for watersheds across the state. Information from this new system is expected to be available in January 2030.

SWIMS will utilize remote sensing technology as a more modern approach to quantify water use. The information produced by SWIMS will reflect streamflow conditions from 1991 to 2020.

To further inform model development, OWRD's stream gage network is being expanded with 10 new gages to collect additional data. Additionally, historical streamflow records are being published to provide quality information needed to accurately calculate water supply.

Development of the SWIMS model will be informed through hydrologic investigations, including data analysis and literature review, and consultation with subject matter experts through formation of a technical advisory group (TAG).

The TAG consists of state and regional experts in data science, hydrologic modeling, and watershed analysis. They will provide feedback to inform model development and establish support for a scientifically defensible product.

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Key Points

- SWIMS will deliver a modernized water availability modeling system and decision support tool. The new system will reflect updated estimates of water use and streamflow conditions at improved spatial resolution.

- Much of 2024 was dedicated to hiring eight new positions in the Surface Water, Policy, and Information Technology sections to directly support the project.

- In 2025, the project team focus is on scheduling work and identifying requirements for the modeling system. The project team has begun diagramming the model workflow and identifying risks, actions, issues, decisions, and dependencies to plan and inform future project work.

- An expanded network of 30 new weather stations were added to support calculation of water use.

- Field visits to evaluate potential gage locations to monitor natural streamflow began in 2024, with the installation process beginning 2025.

- A project webpage is being created to provide information, updates and documentation and is expected to be available by July 2025.

For more information, please contact:

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