WHONDRS-GUI:
a web application for global survey of surface water metabolites

WHONDRS

The **Worldwide Hydrobiogeochemistry Observation Network for Dynamic River Systems (WHONDRS) is a consortium that aims to understand complex hydrologic, biogeochemical, and microbial connections within river corridors experiencing perturbations** such as dam operations, floods, and droughts.
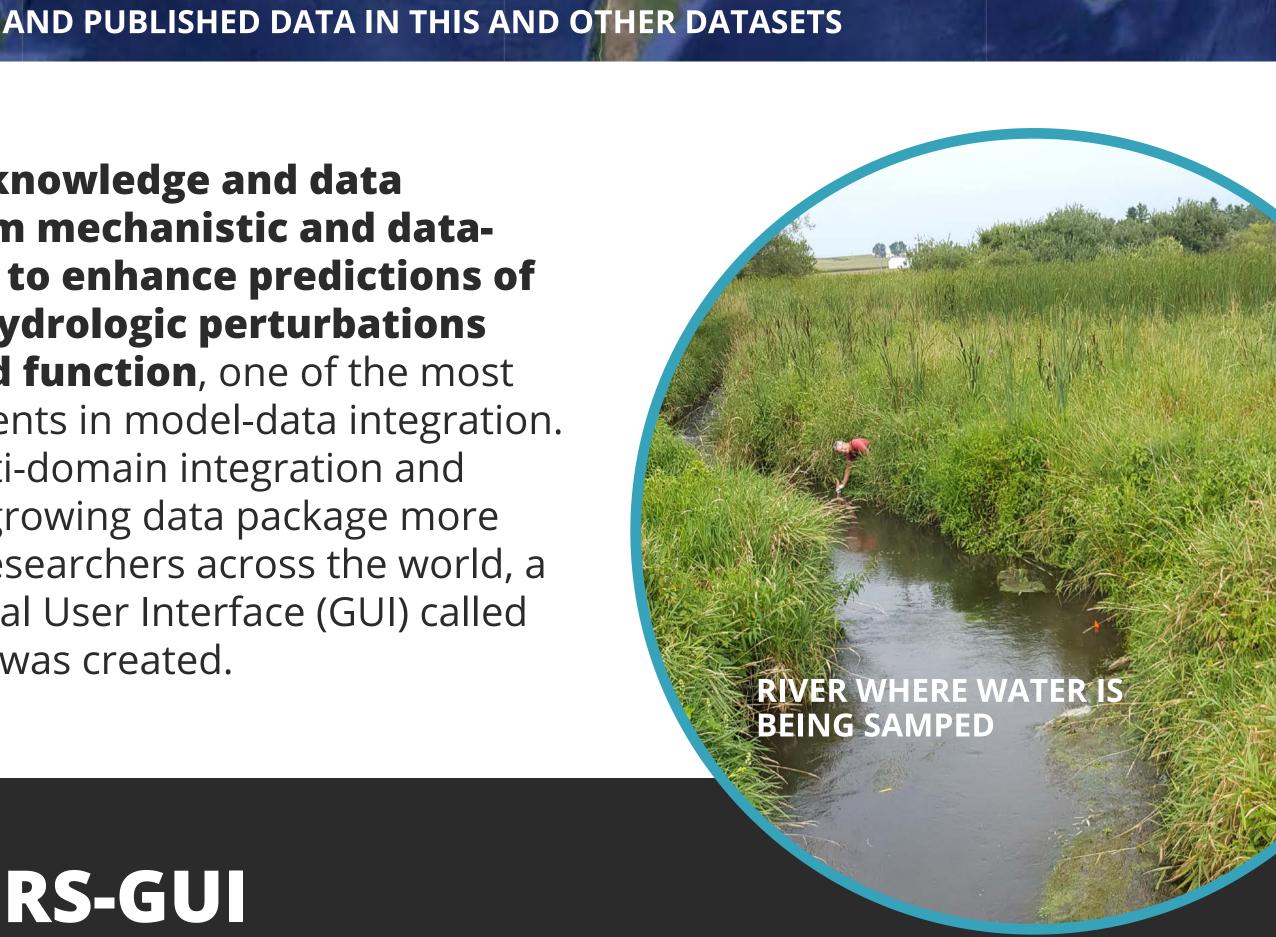
GLOBAL SURVEY

In one ongoing WHONDRS sampling campaign, **surface water metabolite and microbiome samples are collected through a global survey to generate knowledge across diverse river corridors**. Metabolomics analysis and a suite of geochemical analyses were performed on collected samples through the Environmental Molecular Sciences Laboratory (EMSL).

LOCATIONS FOR WHICH WHONDRS HAS COLLECTED SAMPLES AND PUBLISHED DATA IN THIS AND OTHER DATASETS

The obtained knowledge and data package inform mechanistic and data-driven models to enhance predictions of outcomes of hydrologic perturbations and watershed function, one of the most critical components in model-data integration. To support multi-domain integration and make the ever-growing data package more accessible for researchers across the world, a Shiny/R Graphical User Interface (GUI) called WHONDRS-GUI was created.

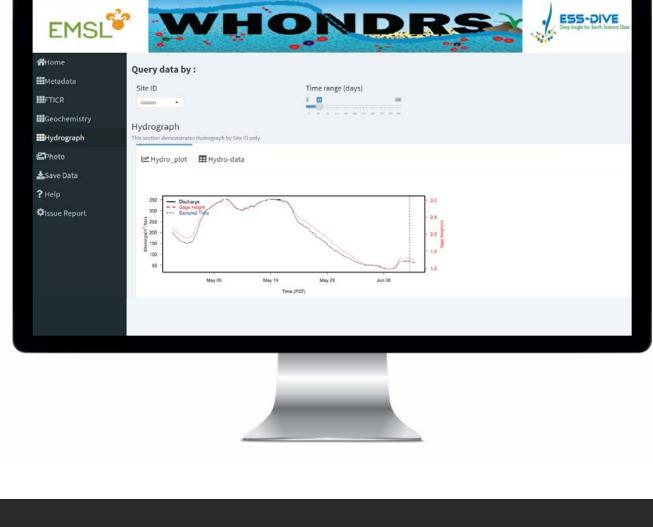

RIVER WHERE WATER IS BEING SAMPED

WHONDRS-GUI

The Web application can be run on any modern Web browser without any programming or operational system requirements, thus providing an open, well-structured, discoverable dataset for WHONDRS. Together with a context-aware dynamic user interface, WHONDRS-GUI has functionality for searching, compiling, integrating, visualizing and exporting different data types that can easily be used by the community.

THE WHONDRS-GUI WEB APPLICATION

The Web application and data package are available at:
https://data.ess-dive.lbl.gov/view/doi:10.15485/1484811

Users can simultaneously obtain access to the data and code and subsequently run the web app locally. The WHONDRS-GUI is also available for online use at Shiny Server:
https://xmlin.shinyapps.io/whondrs/