



United States Geological Survey Idaho National Laboratory Project Office Overview

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EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

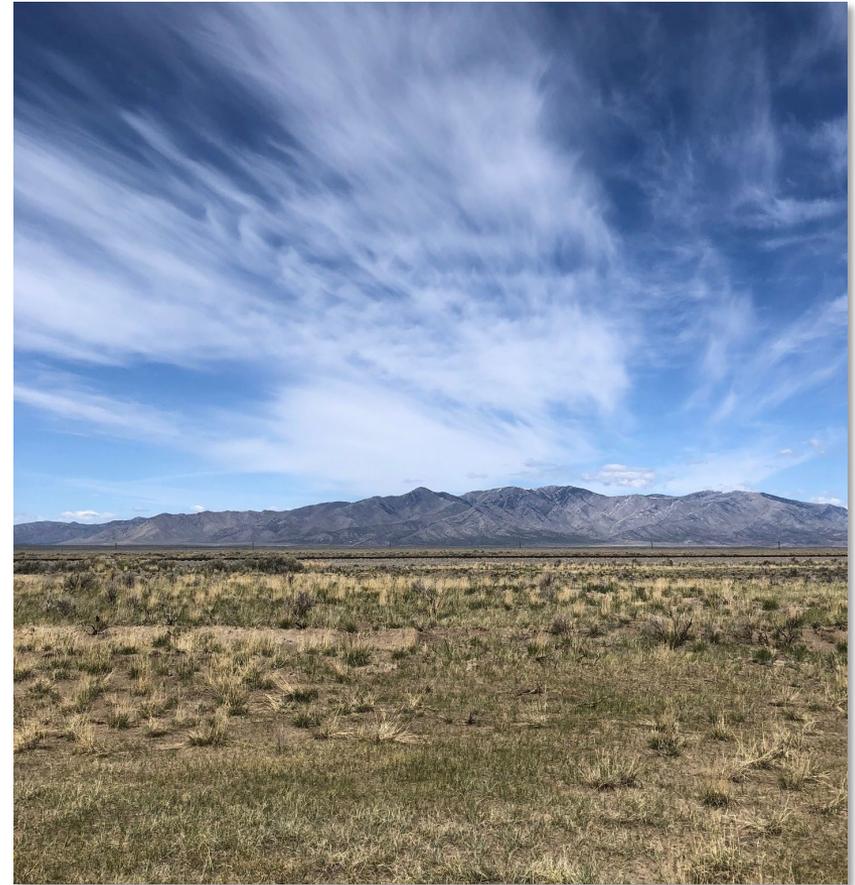
Idaho Cleanup Project



Idaho National Laboratory Project Office (INLPO)

Mission Statements:

- Maintain a comprehensive groundwater monitoring and hydrogeologic studies program to evaluate availability and movement of water within the East Snake River Plain aquifer
- Describe the processes controlling the fate and transport of contaminants
- Provide independent reviews of hydrogeological data and reports



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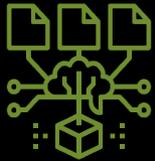
USGS
science for a changing world

INLPO Programs

Technical Programs



Geologic
Framework

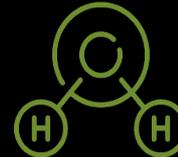


GW Flow
Modeling

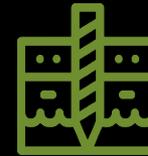


Geochemistry
Studies

Field Programs



Hydrologic
Monitoring



Geophysical
Logging



Geotechnical
Drilling



Technical Programs

Geologic Framework

- Stratigraphic modeling using paleomagnetic inclination, age-dating, and geophysical data to correlate basalt flow units
- USGS Core Library at Central Facilities Area (100,000+ feet of linear core)

Groundwater Flow and Contaminant Transport Modeling

- Innovative ways to improve groundwater flow simulations using new and current data
- Developing a software package ecosystem

Geochemistry

- Monitoring groundwater quality trends over time
- Use geochemical modeling to determine water mixing



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Field Programs

Hydrologic Monitoring (water levels and water quality)

- Comprehensive groundwater monitoring network
- Surface water flow determination

Geophysical Logging Program

- Borehole logging and data collection for new and existing wells including borehole video

Geotechnical Core Drilling and Well Construction

- Drill rigs to support core drilling and monitor well construction
- Well maintenance and well work overs
- Soil probing equipment



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INLPO Monitoring Networks

Aquifer Monitoring Network

- 429 wells
- 72,320 water-level measurements (1922-2024)
- 22,515 water-quality samples collected with 387,827 records (1949-2024)

Perched-Groundwater Monitoring Network

- 30 wells
- 13,257 water-level measurements (1960-2024)
- 3,375 water-quality samples collected with 30,468 records (1959-2023)

Surface-Water Monitoring Network

- 12 stations
- 1,524 stage and discharge measurements (1959-2024)
- 1,472 water-quality samples collected with 9,228 records (1962-2023)

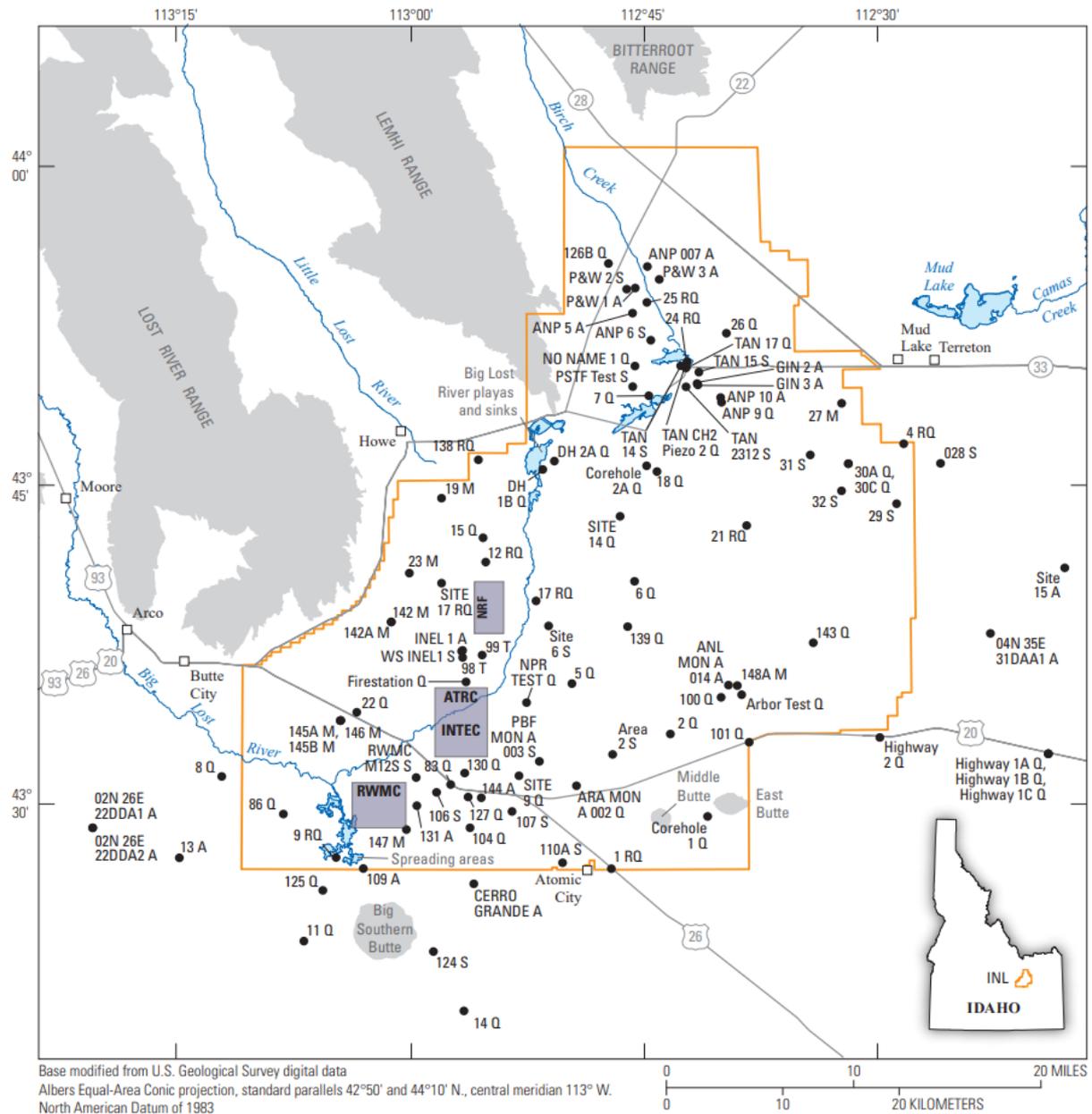


NRF-16 near the Naval Reactors Facility (434018112545101)

Big Lost River AB Big Lost River Sinks NR Howe ID (13132565)



Groundwater Level Monitoring Well Network



Treinen and others, 2024



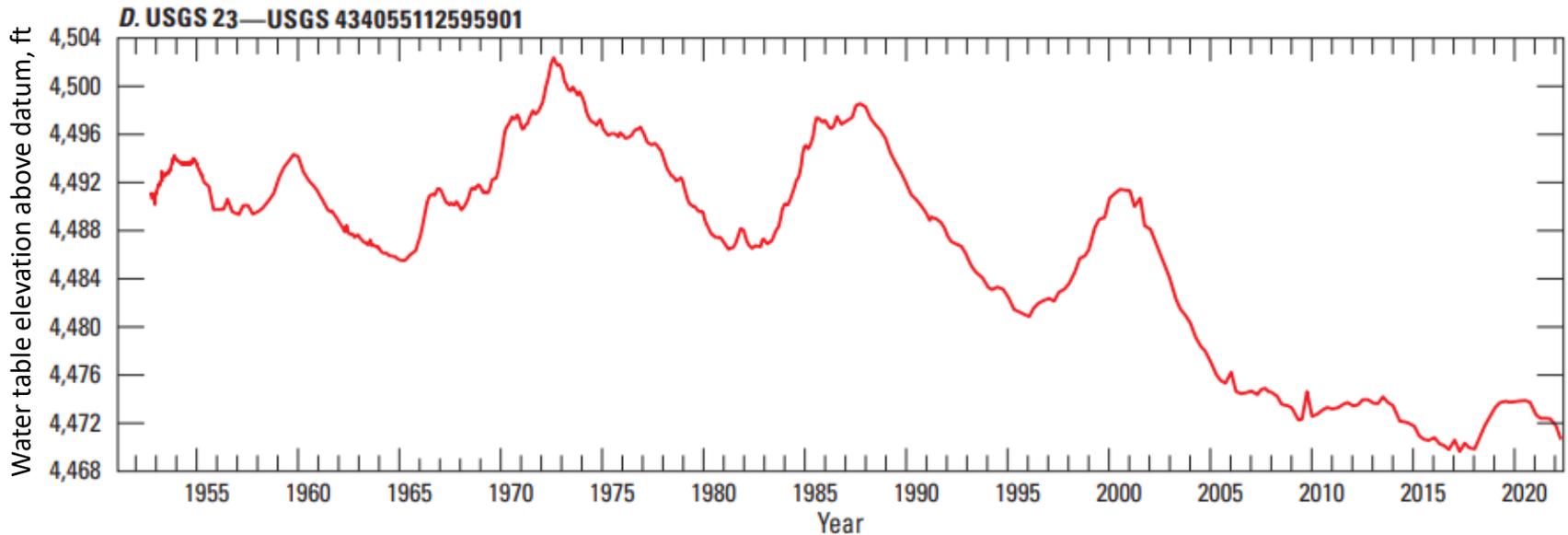
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Long-Term Water Level Declines



[Treinen and others, 2024](#)



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INLPO – Publicly Released Information Products

Scientific
Investigation
Reports

Software
Packages

Data
Releases

USGS national water level and water quality data:

<https://waterdata.usgs.gov/nwis>



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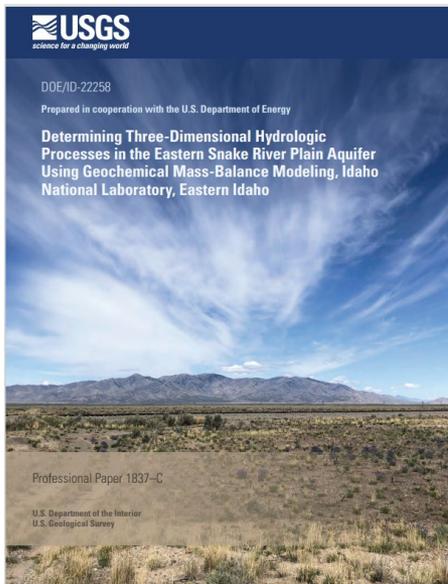


INLPO Scientific Investigation Reports

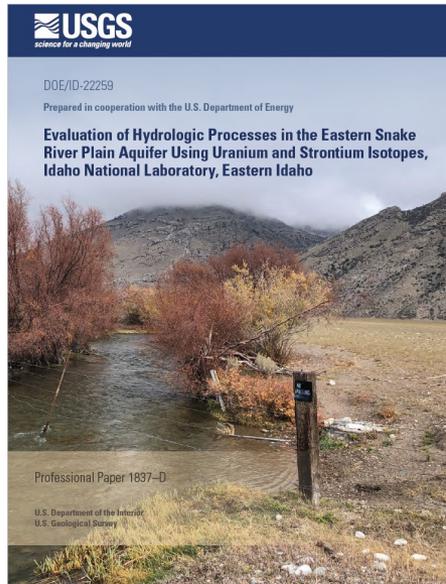
Geochemistry

Borehole completion

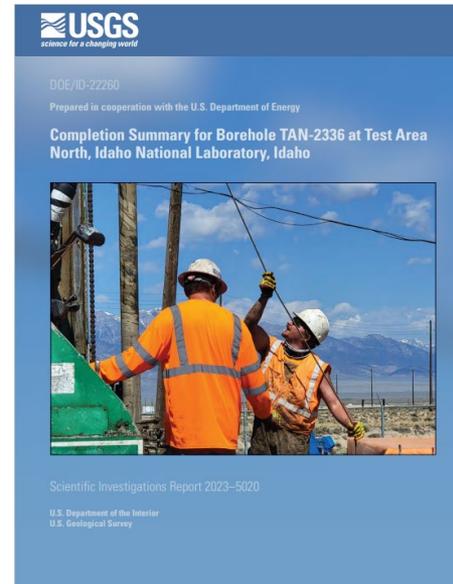
Hydrologic monitoring



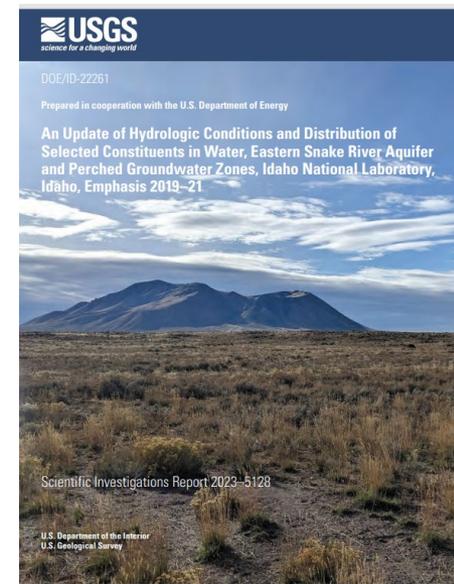
2023



2023



2023



2024



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INLPO R Software Packages



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INLPO Data Releases

Idaho National Laboratory Project Office

Child Items (8)

-  Datasets for the U.S. Geological Survey - Idaho National Laboratory groundwater and surface-water monitoring networks, v1.1
-  Drilling, construction, geophysical data, and lithologic log for borehole USGS 144
-  Drilling, construction, geophysical data, and lithologic log for borehole USGS 145
-  Drilling, construction, geophysical data, and lithologic log for borehole USGS 151
-  Drilling, construction, geophysical data, and lithologic logs for borehole USGS 152
-  Drilling, construction, geophysical, water quality, and aquifer test data for well SEP 16, Butte County, Idaho
-  Geophysical and lithologic data for 12 boreholes in Raft River Valley, Idaho
-  Paleomagnetic inclination data collected from Coreholes EREF-GW-1, STF-PIE-AQ-02, TAN 2336, USGS 138, USGS 139, USGS 142, USGS 143, USGS 144, USGS 145, USGS 147, and USGS 148A, located at and near the Idaho National Laboratory, Idaho



Resources

<i>Project website</i>	https://www.usgs.gov/centers/idaho-water-science-center/science/idaho-national-laboratory-project-office
<i>Data Releases</i>	https://www.sciencebase.gov/catalog/folder/630fcb43d34e36012efa09e5
<i>Software Releases</i>	https://code.usgs.gov/inl
<i>Publications</i>	https://rconnect.usgs.gov/INLPO/inlpubs-main/
<i>USGS Water Data for the Nation</i>	https://waterdata.usgs.gov/nwis



Acknowledgements



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