



## DIVISION OF HYDROLOGIC SCIENCES

[WWW.DRI.EDU/DHS](http://WWW.DRI.EDU/DHS)

**THE DIVISION OF HYDROLOGIC SCIENCES (DHS)** is one of three scientific research divisions within DRI. Since its inception in 1960, DHS faculty have built a solid reputation for delivering high-quality research, development, and education services in the interdisciplinary fields of hydrologic sciences and engineering. As a nonprofit, DRI's DHS faculty have earned a reputation for providing high-impact scientific and engineering products to our customers and stakeholders, and the public. DHS faculty are engaged in environmental issues throughout the world.

The mission of DHS is to contribute to society's fundamental knowledge and understanding of hydrologic systems and to serve as a leader in the long-term sustainability of water resources. In addition to serving as experts in water resources, DHS faculty are renowned for their ability to contribute and deliver cutting-edge solutions in fields associated with earth sciences.

We achieve our mission through an integrated team of multidisciplinary research faculty along with an outstanding team of administrative support staff, graduate research assistants, technicians, and computer and information processing specialists who assist the researchers with their projects. The division has approximately 100 ongoing research projects with an annual budget of \$13 million derived from research sponsors.

## RESEARCH AREAS

- Watershed Hydrology
- Post-fire Hydrology
- Snow and Global-scale Hydrology
- Biogeochemistry
- Ecological Engineering
- Paleoenvironments
- Hydroclimatology
- Remote Sensing
- Regional Groundwater Hydrology and Hydraulics
- Vadose Zone Hydrology
- Surface and Subsurface Flow and Contaminant Transport



**PHOTO CAPTIONS** Upper left: Researchers monitor water quality from the DRI boat on Lake Tahoe; Upper right: Researcher examines ice core sample in DRI's ice core lab; Lower right: Researchers collect water quality samples at the Las Vegas Wash.

## NEVADA SCIENCE, GLOBAL SOLUTIONS

The Desert Research Institute (DRI) is a recognized world leader in basic and applied interdisciplinary research. Committed to scientific excellence and integrity, DRI faculty, students, and staff have developed scientific knowledge and innovative technologies in research projects around the globe. Since 1959, DRI's research has advanced scientific knowledge, supported Nevada's diversifying economy, provided science-based educational opportunities, and informed policy makers, business leaders, and community members. With campuses in Reno and Las Vegas, DRI serves as the non-profit research arm of the Nevada System of Higher Education.

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## LABORATORIES

**Environmental  
Geochemistry Laboratory**

**Environmental  
Microbiology Laboratory**

**ICP-MS (Inductively  
Coupled Plasma Mass  
Spectrometry) Laboratory**

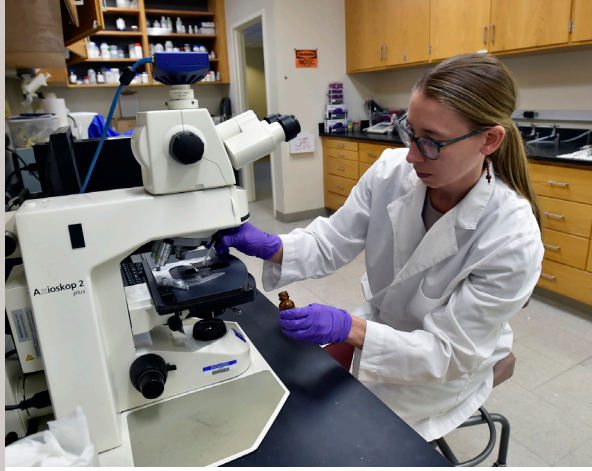
**Urban Lysimeter**

**Soil Characterization and  
Quaternary Pedology  
Laboratory**

**Trace Chemistry  
Laboratory**

**Community Environmental  
Monitoring Program  
(CEMP) Laboratory**

**Environmental Engineering,  
Fluid Mechanics,  
and Geomechanics  
Laboratories**



## CAPABILITIES

DHS provides state-of-the-art services that include sampling, monitoring, analysis, and data interpretation.

### HYDROGEOLOGY

- Regional Flow System Analysis
- Groundwater/Unsaturated Flow and Reactive Transport Modeling
- Geothermal Systems
- Borehole Logging Services
- Aquifer Testing
- Wellbore Logging

### GEOCHEMISTRY

- Water Quality
- Physical/Chemical Processes
- Groundwater Sources and Flow Paths
- Groundwater Age Dating
- Emerging Contaminants

### GLOBAL NATURAL RESOURCES SUSTAINABILITY

- Adaptation of Water Resources to Climate Variability
- Paleoclimatology
- Paleohydrology
- Hydroclimatology

### GEOSTATISTICAL AND EARTH SYSTEMS ANALYSIS

- Geographic Information Systems
- Remote Sensing and Image Processing
- Multiscale, Multivariate Statistical Analysis

### ECOLOGICAL ENGINEERING

- Watersheds and Surface Water Modeling
- Water Quality Monitoring
- Aquatic Ecology
- Ecological Modeling
- Contaminants of Emerging Concern

### WATER RESOURCES MANAGEMENT

- Streamflow Modeling
- Flash Flood Analysis
- Hydrologic Engineering
- Alluvial Fan Hydrology
- Hydrologic Cycle
- Water Quality Treatment
- Integrated Atmospheric/Surface Water/ Groundwater Analysis
- Hydrologic Impact of Fire and Soil Compaction

## COLLABORATIONS

The work DHS conducts supports a variety of federal and state agencies, such as the Department of Energy, Department of Defense, National Aeronautics & Space Administration, National Science Foundation, Nevada Division of Environmental Protection, and Nevada Division of State Lands. DHS also supports local government agencies, such as the City of Reno, Clark County, Nevada Tahoe Conservation District, Truckee Meadows Water Authority, and Southern Nevada Water Authority.

DHS researchers also partner with private companies such as Clean Air Task Force; WaterAid; and World Vision, Inc.; as well as national and international academic institutes, such as the University of Arizona; University of California, Berkeley; University of California, Davis; Yale University; University of Nevada, Las Vegas; University of Nevada, Reno; University of Utah; Hohai University, China; ETH Zurich; and University of Oxford.

**PHOTO CAPTIONS** Top left: Scientist works in the Environmental Microbiology Lab in Las Vegas; Top right: Researcher collects sediment from the Truckee River.

## CONTACT US

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