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 renowned for their ability to contribute and deliver cutting-edge solutions in fields associated with earth sciences.

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 engaged in environmental issues throughout the world.

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.
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

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

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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