

**WATER-RESOURCE RELATED GEOPHYSICAL ACTIVITIES
OF THE U.S. GEOLOGICAL SURVEY:
MISSION OF THE BRANCH OF GEOPHYSICAL APPLICATIONS AND SUPPORT**

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ABSTRACT

The Branch of Geophysical Applications and Support (BGAS), serves as the focus point for the water-resource related geophysical activities of the U.S. Geological Survey (USGS). The mission of BGAS is to support the USGS and cooperating Federal, State, and local agencies by providing technology transfer and training for the application and use of existing and newly developed geophysical methods. The BGAS also carries out independent and cooperative applied research on the use of geophysical methods in solving water-resource problems.

Most technology transfer and training activities of the USGS are conducted in support of other Federal agencies, including the U.S. Environmental Protection Agency, Departments of Defense and Energy, and Federal Highway Administration. Examples of technology that BGAS has recently brought to the USGS include optical televiewer, borehole radar, borehole electromagnetic flowmeter, two-dimensional resistivity, and continuous seismic profiling. BGAS training programs emphasize a 'tool-box' approach that integrates the use of multiple complementary geophysical methods and stresses the beneficial role of forward modeling for geophysical method selection and study design.

Recent research activities include the integrated use of geophysics to: (1) define fracture flow in boreholes that are equipped with innovative collapsible liners and packer assemblies, (2) monitor ground-water tracer tests and remediation activities, and (3) characterize and map sediments in shallow-water environments.

BGAS maintains a Website (<http://water.usgs.gov/ogw/bgass>) to provide information about the mission and operational program of BGAS and to serve as a training tool. The Website contains lists of available geophysical equipment and copies of recent publications, details current research interests, and provides links to other Websites related to geophysics.