



Internships, Employment Opportunities, and Research Grants

As an unbiased, multidisciplinary science organization, the U.S. Geological Survey (USGS) is dedicated to the timely, relevant, and impartial study of the health of our ecosystems and environment, our natural resources, the impacts of climate and land-use change, and the natural hazards that threaten us. Opportunities for undergraduate and graduate students and faculty to participate in USGS science are available in the selected programs described below. Please note: U.S. citizenship is required for all government positions.

Undergraduate and Graduate Opportunities

NAGT/USGS Cooperative Summer Field Training Program

The USGS partners with the National Association of Geoscience Teachers (NAGT) to provide summer internships for college students who have completed a field-based course. Established in 1965, this program is one of the longest, continuously running science internships in the country. Field camp directors begin the process by nominating their top students. This nominated group is then invited to apply for summer positions with the USGS doing scientific field, laboratory, or office work. More than 2,300 students have participated in this program, with many participants proceeding on to distinguished careers with the USGS, academia, or industry. Additional information is available at <http://education.usgs.gov/nagt/NAGTFlyer2015.pdf>.

National Institutes for Water Resources—USGS Student Internship Program

The National Institutes for Water Resources (NIWR) collaborates with the USGS on a student internship program. Located in each State, the District of Columbia, the U.S. Virgin Islands, Puerto Rico, and Guam, these 54 institutes



provide undergraduate and graduate students with career-enhancing field, laboratory, and research experience through USGS internships. Although funding is derived from the USGS, interns are employees of the participating universities and colleges. Additional information is available at <http://water.usgs.gov/wrri/student-internships.php>.

National Cooperative Geologic Mapping Program/EDMAP

The educational component (EDMAP) of the National Cooperative Geologic Mapping Program (NCGMP) was established to recognize the importance of geologic mapping for our Nation's well-being. A primary objective of EDMAP is to train the next generation of geologic mappers. Faculty advisors, together with graduate students or upper level undergraduate students, submit a proposal that requests support for field mapping projects. Each student is expected to produce a new geologic map at a scale of 1:24,000 or larger that covers all or part of a 7.5-minute quadrangle. Projects are funded on a year-by-year basis and are matched 1:1 by the universities. Since 1996, EDMAP has supported 1,155 students at 157 universities nationwide, including the District of Columbia and Puerto Rico. In 2014, EDMAP funded 18 projects to include 30 students at 17 universities. Additional information is available at <http://ncgmp.usgs.gov/about/edmap.html>.

USGS Student Interns in Support of Native American Relations Program (SISNAR)

The SISNAR program encourages students to pursue careers in geological, biological, hydrological, geographical, geospatial information management, or related sciences that may be helpful in natural resources management for Native American tribes. USGS scientists submit research proposals involving Tribal land, and projects are selected through an internal competitive review process. Scientists publicly advertise a request for interns once their proposal has been selected for funding. Interns are not required to be Native American. Interested students are encouraged to contact the principal investigator identified in any particular project to inquire about internship opportunities. Any USGS scientist

interested in natural resources management for Native American tribes and in sponsoring an intern may submit a proposal during the SISNAR solicitation period, typically in November and December. Six to eight interns are funded each year. Additional information is available at <http://www.usgs.gov/tribal/activities/>.

USGS Mendenhall Research Fellowship Program

This prestigious and competitive program allows postdoctoral fellows to conduct concentrated research with members of the USGS professional staff, linking current science expertise to the science strategy of the USGS. Often, the research is a culminating element to the fellow's formal career preparation. Each year, postdoctoral research opportunities spanning the wide range of USGS science are advertised on the Mendenhall Research Fellowship Program Web site. Research opportunities may be posted at any time during the year, and positions are filled depending on the availability of funds. Candidates must have successfully completed a Ph.D. in an area described in the research opportunity by the time employment starts. Mendenhall Fellows are appointed to the USGS for 2 years. Additional information is available at <http://geology.usgs.gov/postdoc/>.

USGS Water Science Center Programs

USGS Water Science Centers are located throughout the United States, and many USGS Water Science Centers provide support for students. For example, the USGS Oklahoma Water Science Center hires students and recent graduates to fill temporary and entry-level positions to

assist with hydrologic field work, geographic information system (GIS) mapping, data collection and management, and data-interpretation projects. In coordination with the Water Resources Research Institute at Oklahoma State University, the USGS SISNAR program, associations with Langston University, the University of Oklahoma, and many of the 39 Native American Tribes in Oklahoma, the Oklahoma Water Science Center hires several students each year who contribute new ideas and diversity to the USGS work force by assisting with a wide range of cooperative programs. The Water Science Center program provides valuable work experience that students can use in seeking professional positions with governmental agencies and private-sector companies. Additional information about USGS Water Science Centers is available at <http://water.usgs.gov/programs.html>.

Opportunities at Specific Institutions (Representative Examples)

- *City College of New York (CCNY) and University of Puerto Rico Mayaguez (UPRM)*—The USGS/CCNY/UPRM Internship Program recruits high-achieving students of diverse backgrounds from CCNY and UPRM. Students applying for the program are matched with USGS scientists and placed in summer internships. For more information, contact Rafael “Willie” Rodriguez [(813) 498-5024; rrodrigu@usgs.gov] or Bill Schwab [(508) 457-2299; bschwab@usgs.gov].
- *California State University Sacramento (CSUS) and San Diego State University (SDSU)*—The USGS/CSUS and USGS/SDSU cooperative relationships support internship opportunities, through the USGS Pathways Program, to recruit high-achieving students of diverse backgrounds in various scientific fields. USGS scientists announce job opportunities through USAJOBS (<https://www.usajobs.gov/>) for developmental internships, which may transition to future career opportunities within the USGS workforce. Information about the California Water Science Center is available at <http://ca.water.usgs.gov/> and the Western Ecological Research Center at <http://www.werc.usgs.gov/>, or by contacting the California Water Science Center [(916) 278-3000; gs-w-cawsc_dc@usgs.gov].
- *Other Partnerships in Hydrologic Technology*—The USGS is committed to developing the science skills of under-represented groups by providing career opportunities in hydrologic technology. Through partnerships with a number of community colleges and technical schools, the USGS offers input on curricula and training to school advisory boards. Such essential hydrologic skills are needed by the USGS and by State and local management agencies. Programs currently exist with the following:
 - Gateway Community College, Phoenix, Ariz.; contact Robert Swanson [(402) 328-4110; rswanson@usgs.gov] or Brian Arnold-Renicker [(303) 236-9578; brenicke@usgs.gov];



- Vermilion Community College, Ely, Minn.; contact James Fallon [(763) 783-3255; jfallon@usgs.gov] or Brian Arnold-Renicker [(303) 236-9578; brenicke@usgs.gov];
- Western Dakota Technical Institute, Rapid City, S.D.; contact Joyce Williamson [(605) 394-3219; jewillia@usgs.gov] or Brian Arnold-Renicker [(303) 236-9578; brenicke@usgs.gov];
- Spokane Community College, Spokane, Wash.; contact Darrin Miller [(360) 312-8155 ext. 2001; damiller@usgs.gov];
- Midlands Technical College, Columbia, S.C.; contact John Shelton [(803) 750-6112; jmshelto@usgs.gov].



Student Employment—USAJOBS and the Pathways Program

The USGS offers diverse employment opportunities for students in geology, hydrology, biology, cartography, computer science, cartography, and many other subfields and positions that support science. USGS student positions are publicly advertised year round on USAJOBS. Student positions can be viewed at <https://www.usajobs.gov/StudentsAndGrads>, by selecting either “Find Internships” or “Find Recent Graduate Jobs” and refining the search results under Department and Agency by selecting Department of the Interior:Geological Survey.

The Pathways Program has three major components: the Internship Program, the Recent Graduates Program, and the Presidential Management Fellows (PMF) Program.

- *Internship Program*—This program provides students enrolled in an educational institution, at the high school to graduate level, an opportunity to explore a career with the Federal government. The program has two types of internship appointments: (1) students are appointed on a temporary basis, not to exceed 1 year; or (2) students are appointed to a position for a period expected to last more than 1 year that could lead to permanent employment. Additional information is available at <http://www.usgs.gov/humancapital/sw/studentinterns.html>.
- *Recent Graduates Program*—This program promotes possible careers in the Federal service for individuals who have completed a qualifying associate’s, bachelor’s, master’s, professional, doctorate, or technical degree or certification program within the preceding 2 years. Recent graduates who successfully complete this year-long program may be eligible for conversion to a permanent position with a Federal agency. Additional information is available at <http://www.usgs.gov/humancapital/sw/graduateprogram.html>.
- *Presidential Management Fellows (PMF) Program*—This program attracts outstanding graduate students to Federal service upon graduation with advanced degrees. The program is designed with a narrow focus—to develop

potential future government leaders. The Office of Personnel Management (OPM) coordinates the program on behalf of Federal agencies. OPM conducts an annual career fair in March/April in Washington, D.C., so that agencies can interview PMF candidates for selection. After successful completion of this 2-year program, PMFs are eligible for conversion to permanent career-conditional or term appointments. The program involves 80 hours of training each year, a mentor, a 4- to 6-month rotational developmental assignment typically to another agency or bureau, and a one-time reimbursement fee to OPM. Additional information is available at <http://www.pmf.gov/> or by contacting an agency PMF coordinator.

Research Opportunities

State Water Resources Research Institute Program

Currently, 54 Water Resources Research Institutes serve all 50 States, the District of Columbia, and three territories of the United States. Located at designated universities and colleges, the institutes support more than 200 research and information transfer projects with appropriated and matching funds. State advisory panels operate in cooperation with the USGS to set research priorities and select proposed projects. Virtually all projects provide undergraduate and graduate student training and support. More than 500 students annually have received training and support under this program in recent years. Additional information is available at <http://water.usgs.gov/wrri/index.php>.

Water Resources Research Act National Competitive Grant Program

This matching grant program, conducted in collaboration with the State Water Resources Research Institutes, is open to investigators at any institution of higher education in

the United States. Proposals may be submitted for projects of 1 to 3 years in duration and may include requests of as much as \$250,000 in Federal funds. Research priorities are in the general area of water supply and availability, including the physical dimensions of supply and demand, quality trends in raw water supplies, the role of economics and institutions in water supply and demand, institutional arrangements for tracking and reporting water supply and availability, and institutional arrangements for coping with extreme hydrologic conditions. Additional information about the program is available at <http://water.usgs.gov/wri/national-competitive-grants.php>.

Earthquake Hazards Program External Research Support

Grants from the USGS support the Earthquake Hazards Program's research goal to mitigate the effects of earthquakes by providing earth science data and assessments essential for land-use planning, engineering design, and emergency preparedness decisions. A funding opportunity announcement is issued annually for submission of competitive grant proposals to support research in earthquake

hazards, the physics of earthquakes, earthquake occurrence, and earthquake safety policy. The application period generally is open from early March through mid-May each year. Applications are submitted through GRANTS.GOV (<http://www.grants.gov/>). Additional information is available at <http://earthquake.usgs.gov/research/external/>.

National Geological and Geophysical Data Preservation Program (NGGDPP)

Historical data collected from energy exploration, seismic investigations, and aerial photogrammetric surveys are fundamental to ongoing scientific research. The USGS National Geological and Geophysical Data Preservation Program (NGGDPP) awards grants to States to inventory, digitize, and preserve endangered, at-risk, geoscientific materials and datasets, and also helps universities train the next generation of scientists and engineers. In 2014, \$820,000 in Federal and State matching funds were awarded to 30 States to inventory, develop metadata, and update at-risk collections of geological and geophysical samples and data. More than 18,800 hours of student-supported help were provided. It is anticipated that \$750,000 will be awarded in 2015 to continue with the States' data preservation efforts. Additional information is available at <http://datapreservation.usgs.gov> or by contacting Betty Adrian [(303) 202-4828; badrian@usgs.gov].

Cooperative Research Units Program

The Cooperative Research Units (CRU) program is a collaborative effort of the USGS, States, universities, and the Wildlife Management Institute (a nonprofit organization). The mission of the program consists of three integrated components—research, technical assistance, and graduate education—designed to help address natural resource issues of State and Federal land managers, now and into the future. Integration of the three components is accomplished by having USGS scientists serve as members of the graduate faculty at a host university. Through the host university, USGS scientists conduct applied scientific research on natural resource issues important to their State and Federal cooperators. As members of the graduate faculty, USGS scientists mentor and directly involve graduate students and postdoctoral associates in their research. This technical assistance provides hands-on, applied training for the next generation of natural resource professionals. The CRU program presently consists of 40 Fish and Wildlife Cooperative Research Units located on university campuses in 38 States. Additional information is available at <http://www.coopunits.org>.

