The National Association of Geoscience Teachers (NAGT)/U.S. Geological Survey (USGS) Cooperative Summer Internship Program is the longest continuously running internship program in the Earth sciences. Over the past 55 years, over 2,500 students have participated in this program, with many participants continuing on to distinguished careers with USGS, academia, and industry.

The cooperative program was launched at the Geological Society of America meeting in Kansas City, MO in early fall of 1965 when William “Bill” Pecora, then the newly appointed Director of the USGS, held a meeting with a small group of distinguished professors and officers of NAGT. Pecora wanted to get the professors’ reactions to an initiative that would provide a stronger link to academia while providing better summer research assistants for the USGS. He suggested that the USGS would provide support through internships for outstanding newly graduated geoscience majors, while NAGT would solicit outstanding student nominations from the directors of the nation’s geoscience field camps. Field camp, a tradition in geoscience education, is an intensive course that applies classroom and laboratory training to solve field-based geoscience problems and is highly valued by employers. A three-fold increase in interns over the past decade supports the success of ‘Pecora’s Plan.’

Although some modifications have been made over time, the NAGT/USGS Cooperative Summer Internship Program operates today much as it did in the beginning. With active participation and support from the highest levels of both organizations (including the Director of the USGS), a joint committee oversees the program. The program year begins in September when field camp directors (now numbering over 120) are provided program information. Each director may nominate up to three students, depending on the size of their camp enrollment. Nominated students apply by sending a resume, letter of interest, and transcripts to the USGS. At the same time, USGS scientists interested in working with an intern submit a proposal about their field and/or laboratory projects. A science panel then reviews and matches candidates by their course work, skills and interests with up to five projects. The qualified candidates are sent to USGS scientists for review, followed by candidate interviews and ranking for preferred selection. Interviews provide useful opportunities for candidates and scientists to determine a good fit, helping USGS scientists determine final intern selections.

Interdisciplinary science training is a cornerstone of the USGS mission, as such all science disciplines are encouraged to take advantage of the intern program. Former student interns continually receive outstanding reviews from both scientists and supervisors. In 2017, USGS extended the program by forming a new partnership with the GIS Certification Institute, and the following year with the Ecological Society of America. Both organizations have nominated outstanding students, and thus allowed our Cooperative Summer Internship Program to provide top-notch students to train with enthusiastic mentors from all science disciplines.

The Program continues Pecora’s vision of greater educational involvement, providing a first-rate professional experience to students early in their careers. It is a wonderful partnership that influences the career paths of future scientists in positive and exciting ways.
<table>
<thead>
<tr>
<th>Intern</th>
<th>Field Camp</th>
<th>Location</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna Baker</td>
<td>University of Missouri - Columbia</td>
<td>Mendoza Park, California</td>
<td>Geological and Geophysical Studies of Seismic Hazards in Central and Eastern U.S.</td>
</tr>
<tr>
<td>Emily Bryant</td>
<td>Western Washington University</td>
<td>Vancouver, Washington</td>
<td>Updates of Soil Moisture Thresholds for Shallow Landslide Monitoring and Warning</td>
</tr>
<tr>
<td>Allison Dombrowski</td>
<td>University of Missouri - Columbia</td>
<td>Lacawood, Colorado</td>
<td>Geochronology Data Compilation, Intermountain West and National Geologic Synthesis Projects</td>
</tr>
<tr>
<td>Derek Ensign</td>
<td>University of Texas Arlington</td>
<td>Denver, Colorado</td>
<td>Stable Isotopes of the Hot Springs Mammoth Site and and Luminescence Dating of the Associated Fall River Terraces</td>
</tr>
<tr>
<td>Claire Grove</td>
<td>Humboldt State University</td>
<td>Cheyenne, Wyoming</td>
<td>Creataceous sandstone reservoir and mudstone source rocks in Northern Alaska</td>
</tr>
<tr>
<td>Montana Hauke</td>
<td>South Dakota School of Mines &amp; Technology</td>
<td>Golden, Colorado</td>
<td>Investigations of Hazardous Hazards and Seismic Ground Motions—Data for Earthquake Hazard Assessments</td>
</tr>
<tr>
<td>Micah Hernandez</td>
<td>Colorado State</td>
<td>Denver, Colorado</td>
<td>Geologic Map Transect of the Northern Rockies</td>
</tr>
<tr>
<td>Elizabeth Hill</td>
<td>University of Minnesota Twin Cities</td>
<td>Mounds View, Minneapolis</td>
<td>Geologic-source arsenic contamination in drinking water aquifers of the contiguous U.S.: a widespread problem</td>
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<tr>
<td>Kristi Hill</td>
<td>Western Michigan University</td>
<td>Detroit, Michigan</td>
<td>Arsenic Sources in the Klamath Basin.</td>
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<tr>
<td>Elizabeth Horton</td>
<td>University of Washington</td>
<td>Moffett, California</td>
<td>Mapping the Geologic and Geophysical Studies of the San Andreas Fault System, California</td>
</tr>
<tr>
<td>Sean Hutchings</td>
<td>University of Utah</td>
<td>Denver, Colorado</td>
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<td>Emma Krolczyk</td>
<td>West Virginia University</td>
<td>Idaho State</td>
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<tr>
<td>Shannon Mahan and Matt Enmons</td>
<td>University of Oregon</td>
<td>Vancouver, Washington</td>
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<td>Edward Larkin</td>
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<tr>
<td>Noah Lindberg</td>
<td>Lehigh University</td>
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<tr>
<td>William Stephenson and Alena Lea</td>
<td>South Dakota School of Mines &amp; Technology</td>
<td>Golden, Colorado</td>
<td>High-Resolution Geophysical Investigations of Hazardous Hazards and Seismic Ground Motions—Data for Earthquake Hazard Assessments</td>
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<td>Jennifer Marsh</td>
<td>Wasatch Uinta Field Camp</td>
<td>Utah State</td>
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<tr>
<td>Shae McLafferty</td>
<td>Iowa State - University of Nebraska Field Camp</td>
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<td>Izabella Ogilvie</td>
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<td>Lakewood, Colorado</td>
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<td>James Padilla</td>
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<td>Lydia Pinkham</td>
<td>University of Michigan</td>
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<tr>
<td>Laura Strickland and Lesleigh Anderson</td>
<td>University of Utah</td>
<td>Reston, Virginia</td>
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<td>Cheyenne, Wyoming</td>
<td>Quaternary Paleoenvirontmental</td>
<td>Reston, Virginia</td>
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<tr>
<td>Kathrine Pippinger</td>
<td>New Zealand Frontiers Abroad</td>
<td>Reston, Virginia</td>
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<tr>
<td>Cheryl Miller and Jason Alexander</td>
<td>University of Utah</td>
<td>Reston, Virginia</td>
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<tr>
<td>Halle Putera</td>
<td>South Dakota School of Mines and Technology</td>
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<td>Jordan Pritchard</td>
<td>Indiana University</td>
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<td>Javin Hatcher and Paul Hackley</td>
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<tr>
<td>Walter Mooney</td>
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</tbody>
</table>

**Notes:**
- The projects listed include a variety of topics ranging from arsenic contamination to geologic and geophysical studies.
- Interns are associated with various universities and laboratories across the United States.
- The locations range from Mendoza Park, California, to Denver, Colorado, and beyond.
- The projects involve mapping, monitoring, and research on natural and geological phenomena.

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**U.S. Department of the Interior**
**U.S. Geological Survey**

**Youth and Education in Science Office**
**Office of Science Quality and Integrity, June 2020**
Intern: Jessica Reid  
Field Camp: Indiana University  
Mentor: Walter Mooney  
Location: Menlo Park, California  
Project: USMIN Mineral Deposit Database

Intern: Karissa Rosenberger  
Field Camp: New Mexico Tech  
Mentor: Kim Perkins and John Nimmo  
Location: Menlo Park, California  
Project: Quantifying fluxes and resources in the water cycle

Intern: Mercedes Salazar  
Field Camp: New Mexico Tech  
Mentor: Denis LeBlanc and Timothy McCobb  
Location: Northborough, Massachusetts  
Project: Hydrology and Water Quality of Cape Cod's Groundwater/Surface-Water System

Intern: Alex Schwarz  
Field Camp: Wasatch Uinta Field Camp  
Mentor: Carma San Juan and Jeffrey Mauk  
Location: Denver, Colorado  
Project: USMIN Mineral Deposit Database

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**ESA/USGS 2020 Cooperative Summer Internship Program Placements**

**Intern:** Skyler Bennis  
**College:** University of California, Davis  
**Mentor:** Nicholas Johnson  
**Location:** Millersburg, Michigan  
**Project:** Deploy and evaluate sea lamprey controls to supplement l-ampricides and barriers

**Intern:** Allie Carlile  
**College:** University of Oklahoma  
**Mentor:** Ralph Grundel  
**Location:** Indiana Dunes National Park  
**Project:** Effective restoration and landscape design for pollinator conservation in the Great Lakes Basin

**Intern:** Marissa Cartwright  
**College:** Coe College  
**Mentor:** James Shanley  
**Location:** Montpelier, Vermont  
**Project:** Mountains to sea – fluvial transport of carbon and nutrients and effects on ecosystems and people

**Intern:** Julia David  
**College:** University of Michigan  
**Mentor:** Rich Shebley  
**Location:** Puget Sound, Washington  
**Project:** Water quality and ecological sampling to support status and trends monitoring of small streams in Puget Sound

**Intern:** Catherine Seguin  
**Field Camp:** University of Michigan  
**Mentor:** Andy Gendaszek  
**Location:** Tacoma, Washington  
**Project:** Water Temperature Mapping in the Snoqualmie and Skykomish River Basins and Modeling Water Temperature in the Tolt River

**Intern:** Kent Smith  
**Field Camp:** University of New Mexico  
**Mentor:** Andrew Waite  
**Location:** Ithaca, New York  
**Project:** NY Surface water and Ground Water Data Collection

**Intern:** Haley Spalla  
**Field Camp:** Bowling Green State University  
**Mentor:** Jack Eggleston  
**Location:** Kearneysville, West Virginia  
**Project:** Mapping catastrophic floods with high-resolution multi-spectral and radar remote-sensing data

**Intern:** Brett Trottier  
**Field Camp:** Western Michigan University  
**Mentor:** John Lane and Fred Day  
**Location:** Storrs, Connecticut  
**Project:** Applied Hydrogeophysics Research

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**Intern:** Diana Dimarco  
**College:** Seattle University  
**Mentor:** Amanda Demopoulos  
**Location:** Gainesville, Florida  
**Project:** Connectivity of coral ecosystems in the northwestern Gulf of Mexico: applications of microchemistry and isotopic analysis to fish and coral populations

**Intern:** Haley Disinger  
**College:** Furman University  
**Mentor:** Matt Fisk and Matt Germino  
**Location:** Boise, Idaho  
**Project:** Assessing impacts of aridification, drought, and land-use on drylands of the Colorado Plateau

**Intern:** Joshua Driscoll  
**College:** Worcester Polytechnic Institute  
**Mentor:** Diann Prosser  
**Location:** Laurel, Maryland  
**Project:** Monitoring Colonial Waterbirds on Poplar Island

**Intern:** Sydnee Dunn  
**College:** California State University Fullerton  
**Mentor:** Matt Fisk and Matt Germino  
**Location:** Boise, Idaho  
**Project:** Assessing impacts of aridification, drought, and land-use on drylands of the Colorado Plateau
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<tr>
<td>Addison Gruber</td>
<td>College of the Atlantic</td>
<td>Tabitha Graves</td>
<td>West Glacier, Montana</td>
<td>Western Bumblebee Sampling</td>
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<tr>
<td>Natalie Holsclaw</td>
<td>Northern Kentucky University</td>
<td>Greg Noe</td>
<td>Reston, Virginia</td>
<td>Experimental suppression of invasive lake trout in Glacier National Park, and measuring streamflow as part of the USGS Integrated Drought Science Plan</td>
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<tr>
<td>Lauren Mason-Saranopoulos</td>
<td>Northern Arizona University</td>
<td>Theodore Kennedy</td>
<td>Grand Canyon</td>
<td>Aquatic Ecology of the Colorado River</td>
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<tr>
<td>Katherine Meyr</td>
<td>Weber State University</td>
<td>Robert Al-Chokachy and Adam Sepulveda</td>
<td>Springdale, Montana</td>
<td>Assessing the effects of drought on native trout in the Greater Yellowstone Area</td>
</tr>
<tr>
<td>Elijah Allan</td>
<td>Oregon State University</td>
<td>Daniel Griffith and Kristin Byrd</td>
<td>Moffett Field, California</td>
<td>Advancing Ecosystem Science with Ground-based Spectral Measurements of Plant Functional Diversity in California</td>
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<tr>
<td>Indigo Bannister</td>
<td>University of California Santa Barbara</td>
<td>Kristina Hopkins and Ana Garcia</td>
<td>Missoula, Montana</td>
<td>Building a Shared Framework for Regional Wildlife Climate Adaptation Planning</td>
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<tr>
<td>Brittany Bufford</td>
<td>Texas Southern University</td>
<td>Alisa Wade</td>
<td>Central and Southeast Pennsylvania</td>
<td>Geochemical Processes and Pesticides in Vulnerable Crystalline Aquifers of the Piedmont Hydrogeologic Setting</td>
</tr>
<tr>
<td>Ashton Woods</td>
<td>Florida Atlantic University</td>
<td>Walter Mooney</td>
<td>Menlo Park, California</td>
<td>Geologic and Geophysical Studies of the San Andreas Fault System, California</td>
</tr>
</tbody>
</table>

Geology and ecology field course directors can participate through our partnerships with the NAGT or ESA. Please visit the appropriate websites for additional information on how to nominate students. Nominations are due in early fall (although for the 2021 season we will be accepting applicants later due to alterations in 2020 field course schedules).