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Date: 6 November 2020

To: Amy Colette, NAGT/SERC Financial & Administrative Director

From: Dr. Kurtis Burmeister, Executive Secretary

Re: Annual Report 2020, NAGT/USGS Cooperative Summer Field Training program

The 2020 Field Season for the NAGT/USGS Cooperative Summer Field Training Program marked the 54th year of what is now one of the longest running science internship programs in the nation. More than 2,500 students have participated in this program since it was first conceived in 1965 by William “Bill” Pecora, then the newly appointed Director of the US Geological Survey. Many of these students have gone on to become well-known leaders, influential professors and outstanding contributors to the knowledge base of geoscience. More information about the history, operation of this program, and this year’s interns can be found on our website: www.usgs.gov/undergradintern (direct link to the brochure [here](#)).

This year, 92 students were nominated by field camp directors, and 71 of those students completed an application for the program. After receiving 37 geology-based proposals from USGS scientists and after the proposal review panel met and matched students to projects, a total of 39 students were placed with USGS science projects (some projects took on more than one intern). Since bringing new life back into this historic program over a decade ago, we have now gone from 8 placements in 2002, to numbers that are consistent with the historical average for this program. Summary of information and tasks completed in 2020:

- Letters went out from NAGT to field camp directors seeking nominations of qualified students in September. The program maintained a restriction on the number of nominees from each field camp as follows:
 - One student if the camp enrollment is 20 students or less
 - Up to 2 students if the camp enrollment is 21-40 students
 - Up to 3 students if the camp enrollment is 41-60 students
 - Up to 4 students if the camp enrollment is greater than 60 students

In order to keep the program manageable we monitor the number of allowable field camp nominees on an annual basis.

This year we continued the practice of requesting that Field Camp Directors include a brief description of the attributes of the particular nominees selected. This greatly helps the USGS Placement Panel in their efforts to place a student with a project best suited to their abilities while also helping USGS mentor scientists in preparing to conduct their interviews with students.

- In October, letters were sent to all 92 nominees from both NAGT and USGS congratulating them on their nomination and instructing them on how to apply. The application is through USAJOBS. A total of 71 students (77% of nominees) completed the application by the December 23 deadline.
- The USGS solicited internal proposals from scientists wishing to host an NAGT intern in the fall. A total of 37 proposals were received, and ultimately 31 were matched with interns (some projects hosted more than one intern). A list of interns and their research projects for 2020 is attached. The USGS has a broad scientific mission that includes areas beyond traditional field geology like hydrogeology, ecology, and climate change. It continues to be a challenge to educate students about the value of doing an internship in a field they had not previously considered.

- The USGS maintains a running geology field camp list which was started to provide as a service six years ago (found at www.usgs.gov/geosciencefieldcamps), where the YES office and NAGT have cross checked and identified 126 active field camps. This year turned out to be very unusual because the COVID-19 pandemic caused some field camps to close and some to go virtual. The field camp list for the upcoming year once there is a good understanding of what the 2021 field season will look like for many camps.
- Program evaluations are normally sent to both scientists and interns toward the end of the summer field season. USGS sends evaluations to the scientists and NAGT sends evaluations to interns. These evaluations, copies of information referenced in the bulleted items above, and detailed, multi-year comparative program information, are usually provided in the full packets to those attending our Annual Joint NAGT/USGS Internship Meeting. This year, because project start dates were severely delayed due to COVID, the project end dates are quite varied. The first batch of evaluations goes out in October, followed-up by a second batch of evaluations in December.
- The USGS, Youth and Education in Science Office provides cost-shared support for these intern's salaries by way of funding transfer to the science center where they will be working. This year, the YES office provided over \$4k for each project that was approved for cost-shared support. The collective support for this program is in excess of \$400,000.
- The YES office has continued the use of a new hiring authority, started in 2019, allowing us to keep these interns on board for up to 4 years (rather than the previous limit of 5 months) if the project has the need for extended assistance and the funds to support the intern for an additional amount of time. Many scientists have indicated that this is of great benefit to them, as we already know of several who wish to extend their intern's employment and plan to do so, as long as there are no conflicts with their graduate school or other plans. Many of these interns welcome the opportunity to stay with USGS longer as well, especially in times of uncertainty due to government hiring freezes and the often difficult process of obtaining a permanent federal position.
- The Federal Recent Graduates hiring program provides a much sought-after opportunity for NAGT/USGS interns to continue employment for up to three years, as long as the USGS is not under a hiring freeze, with the intent of permanent hire (if funding is available).
- The USGS continues its recently expanded partnerships with the Ecological Society of America, and the GIS Certification Institute. These new partner organizations have nominated additional exceptional students in other areas of expertise that are needed by our USGS scientists, particularly those with projects based in ecology, biology, and GIS. These partnerships have been a positive addition, as they have not only allowed the YES office to nearly double the number of students placed in internships using this exceptional hiring authority, but it has also served as a tool to garner additional interest in the program bureau-wide with additional geology-focused projects.
- In 2020, the COVID-19 pandemic caused many delays in the start dates of projects as well as delays due to added difficulties in the hiring process. The YES office worked extensively with HR staff, Administrative Officers, hiring scientists, and the incoming interns themselves to maximize opportunities where possible and find flexibilities in the work environment in order for these internships to continue, including utilizing the unprecedented option to work virtually where possible.

Eleanor Snow /s/

Youth and Education in Science Manager, U.S. Geological Survey

Laura Corey /s/

Education Program Analyst, U.S. Geological Survey



Dr. Kurtis Burmeister

Executive Secretary, NAGT-USGS Cooperative Field Training Program, Sacramento State University

NAGT/USGS 2020 Cooperative Summer Internship Program Placements

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| Intern: Anna Baker | Intern: Kristi Hill | Intern: Izabella Ogilvie |
| Field Camp: University of Missouri - Columbia | Field Camp: Western Michigan University | Field Camp: Western Washington University |
| Mentor: Walter Mooney | Mentor: Brent Topping | Mentor: Don Sweetkind and Kenzie Turner |
| Location: Menlo Park, California | Location: Menlo Park, California | Location: Lakewood, Colorado |
| Project: Geological and Geophysical Studies of Seismic Hazards in the Central and Eastern U.S. | Project: Arsenic Sources in the Klamath Basin. | Project: GIS-based regional geologic map compilation, Intermountain West and Sierran-Pacific projects |
| Intern: Emily Bryant | Intern: Elizabeth Horton | Intern: Baylee Olds |
| Field Camp: Western Washington University | Field Camp: Brian Collins | Field Camp: University of Utah |
| Mentor: Ben Pauk | Mentor: University of Washington | Mentor: Thomas Cronin |
| Location: Vancouver, Washington | Location: Moffett Field, California | Location: Reston, Virginia |
| Project: Cascades Volcano Observatory Field Electronics | Project: Updating Soil Moisture Thresholds for Shallow Landslide Monitoring and Warning | Project: Land Sea Linkages in the Arctic |
| Intern: Allison Dombrowski | Intern: Sean Hutchings | Intern: Logan Owen |
| Field Camp: University of Missouri - Columbia | Field Camp: University of Utah | Field Camp: Fort Lewis College |
| Mentor: Amy Gilmer | Mentor: Walter Mooney | Mentor: Carma San Juan and Karen Lund |
| Location: Lakewood, Colorado | Location: Menlo Park, California | Location: Denver, Colorado |
| Project: Geochronology Data Compilation, Intermountain West and National Geologic Synthesis Projects | Project: Geologic and Geophysical Studies of the San Andreas Fault System, California | Project: Geologic Map Transect of the Northern Rockies |
| Intern: Derek Ensign | Intern: Emma Krolczyk | Intern: James Padilla |
| Field Camp: University of Texas Arlington | Field Camp: West Virginia University | Field Camp: University of Puerto Rico |
| Mentor: Jeffrey Mauk | Mentor: Shannon Mahan and Matt Emmons | Mentor: Jean Self-Trail |
| Location: Denver, Colorado | Location: Denver, Colorado | Location: Reston, Virginia |
| Project: Denver Mineral Separation Laboratory | Project: Stable Isotopes of the Hot Springs Mammoth Site and and Luminescence Dating of the Associated Fall River Terraces | Project: Micropaleontology of Cenomanian/Turonian sediments of the Gulf Coast and Atlantic Coastal Plain Regions |
| Intern: William Gnesda | Intern: Hannah Kruse | Intern: Lydia Pinkham |
| Field Camp: Colorado State | Field Camp: University of Oregon | Field Camp: University of Michigan |
| Mentor: Gregg Swayze | Mentor: Heather Wright and Sarah Ogburn | Mentor: Laura Strickland and Lesleigh Anderson |
| Location: Denver, Colorado | Location: Vancouver, Washington | Location: Lakewood, Colorado |
| Project: Spectral and Hyperspectral Imaging of Critical Mineral Resources; USMIN Mineral Deposit Data | Project: Volcano Disaster Assistance Team | Project: Quaternary Paleoenvironmental Studies using Plant Macrofossils |
| Intern: Claire Grove | Intern: Edward Larkin | Intern: Katherine Pippenger |
| Field Camp: Humboldt State University | Field Camp: Idaho State | Field Camp: New Zealand Frontiers Abroad |
| Mentor: Kate Whidden and Christina DeVera | Mentor: Carma San Juan and Karen Lund | Mentor: Cheryl Miller and Jason Alexander |
| Location: North Slope Alaska | Location: Denver, Colorado | Location: Cheyenne, Wyoming |
| Project: Cretaceous sandstone reservoir and mudstone source rocks in Northern Alaska | Project: Geologic Map Transect of the Northern Rockies | Project: Characterizing hydrogeomorphic processes in Littlefield Creek |
| Intern: Montana Hauke | Intern: Noah Lindberg | Intern: Jordan Pritchard |
| Field Camp: South Dakota School of Mines & Technology | Field Camp: Lehigh University | Field Camp: Indiana University |
| Mentor: Carma San Juan and Karen Lund | Mentor: William Stephenson and Alena Leeds | Mentor: Javin Hatcherian and Paul Hackley |
| Location: Denver, Colorado | Location: Golden, Colorado | Location: Reston, Virginia |
| Project: Geologic Map Transect of the Northern Rockies | Project: High-Resolution Geophysical Investigations of Hazardous Faults and Seismic Ground Motions—Data for Earthquake Hazard Assessments | Project: Thermal Indices round-robin |
| Intern: Micah Hernandez | Intern: Jennifer Marsh | Intern: Halle Putera |
| Field Camp: Colorado State | Field Camp: Wasatch Uinta Field Camp | Field Camp: South Dakota School of Mines and Technology |
| Mentor: Carma San Juan and Karen Lund | Mentor: Michael Poland | Mentor: Walter Mooney |
| Location: Denver, Colorado | Location: Vancouver, Washington | Location: Menlo Park, California |
| Project: Geologic Map Transect of the Northern Rockies | Project: Geodetic monitoring of volcanoes in the western United States | Project: Geologic and Geophysical Studies of the San Andreas Fault System, California |
| Intern: Elizabeth Hill | Intern: Shae McLafferty | |
| Field Camp: University of Minnesota Twin Cities | Field Camp: Iowa State - University of Nebraska Field Camp | |
| Mentor: Melinda Erickson | Mentor: Richard Briggs | |
| Location: Mounds View, Minneapolis | Location: Golden, Colorado | |
| Project: Geologic-sourced arsenic contamination in drinking water aquifers of the contiguous US: a widespread problem | Project: Earthquake geology and geochronology in the western U.S. | |

Intern: Jessica Reid
Field Camp: Indiana University
Mentor: Walter Mooney
Location: Menlo Park, California
Project: Geological and Geophysical Studies of Seismic Hazards in the Central and Eastern U.S.

Intern: Amanda Ringer
Field Camp: Central Washington University
Mentor: Carma San Juan and Jeff Mauk
Location: Denver, Colorado
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

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: Ithica, 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-Lewis
Location: Storrs, Connecticut
Project: Applied Hydrogeophysics Research

Intern: Carson Tunnell
Field Camp: University of Texas Dallas
Mentor: Walter Mooney
Location: Menlo Park, California
Project: Geological and Geophysical Studies of Seismic Hazards in the Central and Eastern U.S.

Intern: Paige Voss
Field Camp: Pomona College
Mentor: Kim Perkins and John Nimmo
Location: Menlo Park, California
Project: Quantifying fluxes and resources in the water cycle

Intern: Jack Willard
Field Camp: Oregon State University
Mentor: Stephen DeLong
Location: Moffett Field, California
Project: Earthquake Hazards in Northern California

Intern: Laurie Zielinski
Field Camp: South Dakota School of Mines and Technology
Mentor: Jared Peacock, Jonathan Glen, Victoria Langenheim and Dan Scheirer
Location: Moffett Field, California
Project: Geophysical investigations related to geothermal, mineral, and water resources and to natural hazards in the western U.S.