**Project Description**

**2020 Fall/Winter**

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<tr>
<th>NPS Unit: Yellowstone National Park</th>
<th>PD #: 2020409</th>
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<tr>
<td><strong>Position Title:</strong> Geology Assistant (1)</td>
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<td><strong>Position Type:</strong> Guest Scientist</td>
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<td><strong>Primary natural resource discipline:</strong> Geologic resources</td>
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<td><strong>Project keywords:</strong> Yellowstone, Geothermal, GIS, Programming, Geohazards, Geothermal Monitoring</td>
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<td><strong>Location:</strong> Mammoth, Wyoming</td>
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**COVID-19 Notice**

This project description was developed prior to the onset of the COVID-19 outbreak. Therefore, project timelines and structure remain flexible and it may be necessary to postpone start dates, begin work remotely, or reformulate the project’s description. Should any development in the COVID-19 outbreak impair a project’s timeline or results, the GIP Team will work with the park and project mentors to assess the situation and determine the best course of action at that time.

**Project Description and Work Products**

**Position Description:** Our Guest Scientists are an integral part of Yellowstone National Park’s Geology Program team. Beyond the Geology Program team, our Guest Scientists interact with people from almost all of our Park divisions and many of the stakeholders that make this park special. Based on a Guest scientist’s knowledge and experience, duties may include:

Conduct geologic fieldwork:
- Maintain and retrieve data from hydrothermal monitoring stations
- Collect rock, water and gas samples
- Collect pH, temperature, conductivity and other measurements related to the inventorying of the Park’s hydrothermal features
- Gather field data with Collector for ArcGIS and other ESRI products
- Provide field assistance to our research collaborators
- Maintain and use field equipment

Create, manage, analyze and visualize datasets:
- Use ArcGIS ESRI products to manage and visualize collected data
- Write scripts in Python and other languages/packages to manage and analyze data
- Create maps with ESRI ArcGIS software
- Create reports describing field and laboratory work findings and share these findings with Park management and other vested parties

Assist interpretive, law enforcement and other Park staff:
- Create print and web-based science content to educate visitors and increase geologic literacy for the park
- Assist in law enforcement investigations of resource damage
- Assist in geologic questions related to park infrastructure
Guest Scientists are given the opportunity to develop and manage projects relevant to Geology Program work based on their experiences. Guest scientists are also encouraged to learn a new skill while part of the Yellowstone Geology Program team.

Our GIP’s have been integral in creating and completing projects essential to our mission to monitor and inventory Yellowstone’s volcanic features and protect other geologic resources that make the world’s first national park extraordinary.

This position is offered through the National Park Service’s Geoscientists-in-the-Parks (GIP) Internship Program in partnership with Stewards Individual Placement Program (Stewards) and The Geological Society of America (GSA).

**Work Products:**
- Create and present geologic datasets
- Create content for visitor interpretive displays and presentations
- Create and display datasets on maps with GIS software
- Create reports describing field and laboratory work findings and share these findings with Park management and other vested parties

**QUALIFICATIONS**

The applicant must possess an undergraduate degree in geology, geophysics or related geoscience degree by the start of the internship. A candidate either in possession of or in the process of obtaining an advanced degree in geology or geophysics is preferred. Experience with geologic field work is required. A solid proficiency with the Microsoft Office suite (Excel, Word, PowerPoint, etc.) is required. Experience with mobile mapping software such as ArcCollector and Survey 123 is preferred, and proficiency in ArcGIS 10.x or ArcGIS Pro is necessary. Experience with natural resource field data collection is required. Demonstrated skills in programming (Python is preferred) and database management is also necessary. An applicant must have the ability to work both independently and as part of a team, and be able to hike five miles with a 30 pound pack over steep or uneven terrain. Applicants must have a valid driver license.

The applicant must be a U.S. citizen or U.S. permanent legal resident (“green-card-holder”) between the ages of 18 and 30 years old, inclusive, or veteran up to age 35. Prior to starting this position, a government security background clearance will be required.

**VEHICLE AND DRIVER LICENSE REQUIREMENTS**

**Applicant must have a valid driver license and a good driving record.** The intern will drive a park vehicle to and from fieldwork and labs. The intern will also operate a snowmobile for fieldwork after passing the requisite training.

**A personal vehicle is RECOMMENDED but not required for this position.** The intern would greatly benefit from having a vehicle that is safe in snowy conditions as their mode of transportation.

If the GIP is required to drive a park vehicle for their position, Stewards will perform a driving records search, and the GIP’s ability to drive a park vehicle during work hours will be contingent upon the results. GIPs will have to have had their license for 3 years or be over the age of 21 to be insured as drivers under Stewards insurance policy. Examples of things that will preclude a GIP from driving a park vehicle include: GIP under the age of 21 years old that has been licensed less than three years, DUls, multiple moving vehicle violations, suspended or revoked license, or three or more accidents (regardless of fault) in the last 3 years. If the driver’s search is favorable, Stewards will provide driver’s liability insurance while the intern is driving a NPS vehicle for their GIP position. If the GIP is denied coverage by Stewards, they will not be permitted to drive during work hours.
HOUSING

Park housing is available and will be provided at no cost to the participant. The intern may be assigned to a shared dorm room or a private room with shared or kitchen facilities, living areas and bathrooms and will need to bring to the park kitchenware and bedding.

INTERNSHIP DATES

Start Date: 11/1/2020
Number of weeks: 26 weeks
Flexibility of dates: Yes

LIVING ALLOWANCE

26 weeks ($400/week = $10,400)

RELOCATION ALLOWANCE

$250

PROFESSIONAL DEVELOPMENT ALLOWANCE

$500

AMERICORPS PROGRAM

AmeriCorps is a program that engages individuals in intensive community service work with the goal of “helping others and meeting critical needs in the community”. The GIP Program is supported through AmeriCorps by providing a Segal Education Award in addition to the GIP’s living stipend and relocation allowance.

Upon successful completion of the GIP position, the GIPs (AmeriCorps members) are eligible for a $1,612 - $6,095 pre-tax education award that can be used for paying back student loans or for continuing their education. The amount of the education award is based on the length of the position.

AmeriCorps limits the number of terms an individual can serve to 4 terms. If an applicant has previously completed 4 GIP or other AmeriCorps positions, they will not be eligible to apply for an additional GIP position.

NATURAL AND PHYSICAL WORK ENVIRONMENT

Natural Environment: Visitors and employees alike enjoy the diverse geology displayed within Yellowstone National Park. Rocks from Precambrian through Cenozoic time can be seen. The Laramide and Sevier Orogens, which formed the current Rocky Mountains, and the early Cenozoic, Absaroka Volcanics have profoundly impacted the Yellowstone landscape. But, it is the numerous volcanic eruptions of the Yellowstone Volcano and glaciers that constructed and finally sculpted the diverse landscape that we see today. The numerous hydrothermal features are evidence of heat from Yellowstone’s active volcano. Protection of Yellowstone’s geologic resources and natural processes is the main reason why we still see a large concentration of hydrothermal features within the world’s first national park.

Located immediately outside of Yellowstone’s north entrance, the town of Gardiner, Montana is the closest community to Mammoth. In Gardiner, amenities include a market, gas station and several restaurants. The town of Livingston, Montana is approximately 50 miles north of Mammoth Hot Springs. Bozeman, Montana is a 90-minute drive from Mammoth and the home of Montana State University, major shopping centers, movie theaters and the Museum of the Rockies. Weather varies greatly from the low elevation of Mammoth (~6,200 feet) to moderate elevation around Yellowstone Lake (~8,000 feet). High elevation (11,000-12,000 feet), rugged mountains surround Yellowstone Lake. Within Yellowstone, passing storms can drop snow at any time of the year. At Mammoth, winter temperatures can vary from lows in the -20’s to highs in the 40’s. Dressing in layers is highly recommended for Yellowstone’s extremes in temperature.

Physical Work Environment: The participant will be stationed at Mammoth Hot Springs, Wyoming (park headquarters). The likely ratio of office work to field work is 50/50 office/field in the shoulder season and in winter, once or twice a week in the field. Field work can include hiking up to five miles per day carrying a
30-pound backpack. Overnight stays at government dorms/trailers in the Old Faithful area may be a possibility; backpacking may also be a possibility. Yellowstone is known for its wildlife, including large animals such as bears, bison, moose, wolves and elk. The selected participant will be encouraged to take seasonal safety training for working in Yellowstone's wildlife-rich habitat.

MENTORING AND LEARNING GOALS

Mentoring: The intern will be supervised and mentored directly by an NPS geologist. The intern will have many opportunities to interact and learn from permitted researchers involved in a range of physical and biological investigations related to geology and park management issues. The intern will also attend and participate in staff meetings, park-level trainings and seminars, and have many opportunities to network with land management and education professionals working throughout the Greater Yellowstone Ecosystem.

The park will provide:
- Daily interaction with the intern to assess progress, answer questions, etc.
- Shadowing opportunities with other NPS staff and/or partners tailored to the intern’s interests.
- Opportunities to attend a Yellowstone Association field seminar.

Learning Goals: The intern will receive training and development in a variety of skills including geology, field research and management, GIS field and database management techniques, NPS data management and water flow tracking systems. The intern will also work on a weekly basis with botanists, zoologists, archeologists, educators, ranger professionals to gain a broad understanding of NPS careers. The intern will:
- Participate in planning and staff meetings to understand the day-to-day management activities of Yellowstone NP.
- Gain a working knowledge on NPS databases.
- Become familiar with NPS research and monitoring process.
- Use GIS equipment to support resource management activities.
- Have access to free on-line ArcView GIS classes.

SUPERVISORS/MENTORS

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