GEOSCIENTISTS-IN-THE-PARKS  
Internship Program

PROJECT DESCRIPTION  
2020 FALL/WINTER

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<tr>
<th>NPS UNIT: NATURAL RESOURCES STEWARDSHIP AND SCIENCE DIRECTORATE</th>
<th>PD #: 2020465</th>
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<tr>
<td><strong>Position Title:</strong> Natural Resource Management Assistant (1)</td>
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<td><strong>Position Type:</strong> GIP Intern</td>
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<td><strong>Primary natural resource discipline:</strong> Water resources</td>
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<td><strong>Project keywords:</strong> Benthic mapping, shoreline change, sediment management, coastal geomorphology, marine ecology, GIS, remote sensing, coastal and ocean national parks</td>
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<td><strong>Location:</strong> Fort Collins, Colorado</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:** In 2018, NPS Regional Natural Resource Chiefs identified benthic mapping and sediment management/shoreline change as two of seven priority issues/topics in the 88 ocean, coastal, and Great Lakes parks. A 3-year action plan was developed for each priority, and this intern would help accomplish the year-one goals of these inter-related priorities.

**Shoreline change and sediment management** — The National Park Service manages more than 11,000 miles of active coastline with a diverse collection of historic, cultural and natural resources, as well as essential park facilities and infrastructure. Preserving these locations involves perpetual maintenance against natural dynamic processes of erosion, shoreline migration, deposition, and overwash. The intern will assist with identifying existing coastal engineering and geology expertise/resources for park managers.

**Benthic habitat mapping** — Coastal ecosystems are at the interface of terrestrial and marine habitats, and the dynamic nature of coastal processes results in complex interactions across these systems. To best monitor and manage coastal ecosystems, a seamless dataset is needed to identify the location and condition of park natural resources. Most parks do not have detailed shoreline or benthic habitat maps. This means that park assets totaling approximately 2.5 million water acres and 11,000 miles of shoreline lack adequate maps to drive management decisions. This information is critical for managing shoreline change and sea level rise. The intern will help address this gap by updating available datasets and creating seamless geospatial datasets that provide spatially explicit information across terrestrial, intertidal, and submerged ecosystems for several parks.

The work produced by the intern will help coastal and ocean park managers “…preserve unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future Generations.” With the information compiled by the intern, managers will be better able to manage dynamic coasts and shoreline in our National Parks.

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:** Potential work products include:

**Benthic mapping**
- Compile and review existing shoreline, LiDAR, acoustic, topobathy elevation datasets and conduct a gap analysis. Final product is an updated online map detailing available data for each park.
- Merge datasets to create seamless topo-bathy maps for several parks.

**Shoreline change and sediment management**
- Identify coastal engineering and geology resources (e.g. literature, GIS and web-based tools) that currently exist within NPS. Final product is a document compiling available resources.
- Compile and review research efforts and existing data within and outside of NPS related to shoreline change and sediment management. Final product is a literature review.

Both projects:
- Assist with project communication and outreach and post deliverables on internal website

**QUALIFICATIONS**

Working knowledge of MS word, Excel, GIS and basic remote sensing (LiDAR or acoustic datasets) are required. Must be able to effectively communicate both verbally and in writing, be self-directed, and be able to work well both independently and with others. Experience with and/or knowledge of aquatic ecology, marine habitat mapping and/or coastal geomorphology is strongly preferred.

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 does not need a valid driver license.** Intern will be based in the Fort Collins office and will not be driving an NPS vehicle.

**A personal vehicle is RECOMMENDED but not required for this position.** There is public transportation available in Fort Collins, CO. Walking and biking are also great options around town. For convenience and ease of getting around, a personal vehicle is highly recommended.

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, DUIs, 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 NOT available and the intern will be responsible for finding housing in the nearby area. Available temporary housing options in Fort Collins, CO include, for example, apartments and in home room rentals. Rent costs start at around $500/mo and go up with furnishings, privacy and amenities.

**INTERNSHIP DATES**

Start Date: 9/14/2020  
Number of weeks: 20 weeks  
Flexible start date: Yes

**LIVING ALLOWANCE**

20 weeks ($500/week = $10,000)

**RELOCATION ALLOWANCE**

$250

**PROFESSIONAL DEVELOPMENT ALLOWANCE**
$200

**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:** Fort Collins is located in the foothills of the Rocky Mountains with great access to hiking, biking, fishing and other outdoor activities. The weather in Fort Collins is fairly mild in the spring and early fall, hot/dry in the summer, and cool with occasional snow in the late fall and winter. There are a number of different grocery stores around town and great restaurants.

**Physical Work Environment:** The work for this internship will be in an office environment and can require long periods of standing and sitting.

**MENTORING AND LEARNING GOALS**

**Mentoring:** The internship mentor will provide project oversight and guidance. The intern will work closely with NPS Marine and Aquatic Ecologists, and have opportunities to interact with other NPS professionals, scientists, and other interns. An orientation will be provided. Webinar and training opportunities will be available.

**Learning Goals:** The intern will have the opportunity to learn about two priority projects/issues in our coastal, ocean and Great Lakes National Parks: benthic mapping project and sediment management/shoreline change project, and sea level rise project. GIS, remote sensing, data management and research skills will be developed. The intern will learn more about marine ecology, coastal geomorphology and climate change impacts in National Parks. Opportunities will be available to learn about NPS and the work done by a diversity of NPS employees.

**SUPERVISORS/MENTORS**

**Primary:**
Monique LaFrance Bartley  
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[https://www.nps.gov/orgs/1439/oceans.htm](https://www.nps.gov/orgs/1439/oceans.htm)

**Secondary:**
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