# GEOScientists-in-the-Parks

## 2018 – Project Description

<table>
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<tr>
<th>NPS Unit: Denali National Park and Preserve</th>
<th>PD #: 2018028</th>
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<tr>
<td><strong>Position Title:</strong> Soundscape Technician</td>
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<td><strong>Position Type:</strong> GIP Intern</td>
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<td><strong>Primary natural resource discipline:</strong> Natural sounds and night skies</td>
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<td><strong>Location:</strong> Denali Park, Alaska</td>
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### Project Description and Work Products

**Position Description:** The GIP intern will assist the wider NPS Alaska Region Natural Sounds program by focusing on implementing the third year of Denali’s acoustic monitoring plan. This involves the preparation and deployment of audio recording equipment, its subsequent maintenance, and eventual removal from the field. Many of the monitoring sites are located deep in remote areas of the park accessible only by foot. For this reason, the applicant will work closely with both the Alaska Region Soundscape Specialist and with Denali Backcountry Rangers to organize travel to and from site locations. Day-to-day logistics and equipment preparation before site visits make up a large portion of the workload, as well as careful attention to the subsequent data download and reduction for archive. If the applicant is conversant in the Python programming language opportunities exist to contribute to more robust data analyses. (Training in computation will be provided as part of this internship regardless of previous experience.)

Minority tasks are varied and tailored in-part to the applicant’s skillset. They include equipment repair/inventory, routine data analysis, field support for minor acoustics projects/initiatives, testing new technology, outreach activities, or GIS tasks.

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). Upon successful completion of the GIP internship, the participant is eligible for an AmeriCorps Education Award.

**Work Products:** Compliance with the soundscape standards in Denali’s Backcountry Management Plan is monitored with acoustic data collected by this program. GIP field efforts will result in 1+ month long acoustical records at six locations: Fang Mountain, Triple Lakes Trail, Sushana Ridge, Carlson Creek, Toe of the Tokositna Glacier, and Kahiltna Pass. These data are comparable with measurements taken across the nation and have long-term archival value. In addition to securing these data, careful documentation of site locations will be provided in the form of photographs, field notes, and annotated maps.

### Qualifications

Applicant must be an upper level undergraduate in a university/college and be majoring in natural or physical sciences, engineering, or social science field. Interests in geography, acoustics/physics, computer science, statistics, electrical/mechanical engineering, ecology, or ornithology would be especially relevant to the position.
We are very flexible and open-minded about our inclusion, and are often looking to fold new ideas and perspectives into our innovative program.

The participant must be able to work amicably as part of a small team in both the office and in inclement field conditions, have basic map reading and GPS orientation skills and must have experience hiking cross-country in a rugged environment. Much of the field work for this position involves difficult off-trail travel with a ≤ 55 pound overnight backpack.

GIP participants are considered AmeriCorps members: 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, he/she will not be eligible to apply for an additional GIP position.

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

**VEHICLE/DRIVER’S LICENSE REQUIREMENTS**

Applicant must have a valid driver’s license and a good driving record. A valid driver’s license is required for work purposes, but a personal vehicle is not required as there is a shuttle bus system available for in-park transportation. Other employees with vehicles are often going to Fairbanks for supplies, and applicants can carpool.

If the GIP is required to drive a park vehicle for their position, a driving records search will be performed and the GIP’s ability to drive a park vehicle will be contingent upon the results. Examples that will preclude a GIP from driving a park vehicle include DUIs, multiple moving vehicle violations, suspended or revoked license, or three or more accidents (regardless of fault) in the last 3 years.

**HOUSING**

On site housing will be provided at no cost to the intern. Housing will either be at C-Camp (dense seasonal cabins with 2x occupants, nearby bathhouse for showers, kitchen - applicant provides their own food) or at Campus Housing (dense seasonal housing w/out roommate, nearby bathhouse for showers, no kitchen - instead a meal plan at employee dining room). Shuttle buses run from housing areas to office. Further information on housing will be provided during interview process.

**INTERNSHIP START/END DATES**

- **Start Date:** 5/7/2018
- **End Date:** 9/14/2018
- **Number of weeks:** 19
- **Flexibility of dates:** Yes

**STIPEND PAYMENT**

$5,700 for 19 weeks

**HOUSING PAYMENT**

**TRAVEL ALLOWANCE**

$1,000

**PHYSICAL/NATURAL & WORK ENVIRONMENT**

**Physical/Natural Environment:** Physical/Natural Environment: Denali is a six-million-acre park with the Alaska Range as a backbone. The park is replete with extensive glaciers and braided rivers, miles of tundra plateaus, and countless glacial lakes and ponds, all capped by the magnificent 6,194 m (20,320 ft.) Denali. The summers are often cool (55° ± 10° F) and wet. During drier summers wildfire smoke can be prevalent. The Alaska Range is an exceptionally wild and challenging place to work and recreate.
Larger city services are located in Fairbanks, 120 miles north of the park entrance. There are limited shopping opportunities after arrival, so it is very important to come prepared. Commuting options include bikes (available for loan), walking along a roadside trail, and a free shuttle system. Many seasonal employees do not have their own vehicles and find the existing transportation to be adequate for their needs.

Participants will conduct office work in a common working space shared with many other seasonal employees. Office is in Denali Park, Alaska, 250 miles north of Anchorage, 120 miles south of Fairbanks.

**Work Environment:** This experience will be largely fieldwork based, though the office time devoted to field preparation and data management is substantial as well. Successful fieldwork requires a thoughtful plan organized with colleagues in the office environment. Much of the work for this position will involve logistical planning with colleagues.

Field work will be performed in a park environment, spending long hours in the outdoors. Field collection efforts will involve overnight trips to monitoring sites and long hours outdoors in a variety of different weather conditions (rain/snow, cold, strong winds/blowing silt, low visibility) and over a variety of terrain (steep or coarse rocks, swift moving rivers, soft tundra/wetland, snowfields.) The applicant is expected to work in any of these conditions, while actively mitigating hazards with their team to accept only reasonable risks. For this reason we seek applicants with strong decision-making skills in the backcountry.

Exposure to wildlife is common, and precautions are emphasized. A bear safety orientation course is required and will be provided at the park. Weather is unpredictable, but summer usually has some days of dry, relatively clear conditions with intermittent and sometimes lengthy periods of wet drizzle. Good personal rain gear is a must, with under layers (like fleece) for colder and windier conditions. Don't forget the bug repellent; interior Alaska's mosquito reputation is legendary. Past participants have developed a healthy respect and love for the physical and mental challenge of working in the Denali, but occasionally the learning curve has been steep. We seek applicants who are already competent backcountry travelers heading into this employment.

**MENTORING AND LEARNING GOALS**

**Mentoring:** Upon joining our team, applicants can expect to work as part of a close two-person team with supervisor Davyd Betchkal, working together on day-to-day problems that provide many 'in-the-moment' type training opportunities. In addition, the applicant will be able to glean wilderness travel skills from backcountry rangers and more-experienced resource staff that they team up with for site access throughout the summer.

Applicant will have access (on their initiative) to a cadre of experienced natural resource professionals here in the Denali office as well as the potential for conversation with the scientists and planners that make up the Natural Sounds and Night Skies Division team in Ft. Collins, Colorado.

**Learning Goals:** Full immersion into the complex world of fieldwork logistics: with emphasis on communication skills, time-management, and organization. Experience in Alaska - with work happening over a grand scale on a compressed timeline - will surely bolster your professional capacities in this dimension.

First-hand experience working with physical science equipment in remote backcountry environments. Along with this, a practical understanding of instrument error and instrument-selection concerns. Training will be provided on contemporary computational approaches to data analysis as well as basic statistical approaches. An understanding of the basic principles of environmental acoustics and sensory ecology. A chance to explore interdisciplinary science and it's relation to NPS policy and law.

Experience staying safe in wilderness environments (wildlife, terrain, weather) and associated decision-making skills. Training on wildlife and wilderness travel will be provided. Experience working with a world-class Wilderness management team. Wilderness medicine training may be available as well.
| **SUPERVISORS** |
|------------------|------------------|
| **Primary Supervisor:** Davyd Betchkal | **Secondary Supervisor:** Dave Schirokauer |
| **Title:** Biologist / Alaska Region Soundscape Specialist | **Title:** Resources and Science Team Leader |
| **Address:** P.O. Box 9 Denali Park, AK 99755 | **Address:** P.O. Box 9 Denali Park, AK 99755 |
| **Phone number:** (907) 683-5754 | **Phone number:** (907) 683-9605 |
| **Email address:** davyd_betchkal@nps.gov | **Email address:** dave_schirokauer@nps.gov |
| **Park or Program Website:** [https://www.nps.gov/dena/learn/nature/soundscape.htm](https://www.nps.gov/dena/learn/nature/soundscape.htm) | **Park or Program Website:** [https://www.nps.gov/dena/learn/nature/soundscape.htm](https://www.nps.gov/dena/learn/nature/soundscape.htm) |