



## GEOSCIENTISTS-IN-THE-PARKS 2018 – PROJECT DESCRIPTION

<b>NPS UNIT: CARLSBAD CAVERNS NATIONAL PARK</b>	<b>PD #: 2018409</b>
<p><b>Position Title:</b> Cave Technician  <b>Position Type:</b> GIP Intern  <b>Primary natural resource discipline:</b> Geological resources  <b>Location:</b> Carlsbad, New Mexico</p>	
<b>PROJECT DESCRIPTION AND WORK PRODUCTS</b>	
<p><b>Position Description:</b> The participant will assist in assessing impact to world class cave resources in Carlsbad Caverns National Park. This cave technician position will be an opportunity to become intimately familiar with these outstanding caves. The participant will work with the Resource Stewardship and Science Division to assess visitor impact in both Carlsbad Cavern and the park's recreational backcountry caves. The majority of work will be conducted in Carlsbad Cavern and will consist of identifying areas of impact and sketching them onto cave base maps, inventorying broken speleothems, and producing impact maps in Adobe Illustrator or ArcGIS.</p> <p>The participant will also use the park's collection of both historic and monitoring photos to assess impact. This will involve scanning photos/slides, determining the original camera location for each photo, recreating the photo, and comparing the historic and present-day condition of the cave, and producing a GIS with links to side-by-side comparisons. Results for both the photo monitoring and impact mapping will be used to inform updates to the park's Cave Management Plan. Other tasks may include conducting monitoring of cave resources and working with cave program volunteers on various cave related tasks such as restoration or survey.</p> <p>The National Park Service is mandated to protect the caves of Carlsbad Caverns National Park by both the Federal Cave Resources Protection Act of 1988 and the 1916 NPS Organic Act. This project will provide important information to determine the effectiveness of the park's current cave management plan and guide updates to the plan to better protect the park's world-class cave resources.</p> <p>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).</p> <p><b>Work Products:</b> The participant will produce impact maps in Adobe Illustrator or ArcGIS for Carlsbad Caverns and selected recreational backcountry caves. The participant will also create a GIS with links to side-by-side comparisons of historic and present-day photos showing changes to the cave environment. At the end of the term, the participant will give a short presentation at the park summarizing the findings.</p>	
<b>QUALIFICATIONS</b>	
<p>The applicant must be working toward or already have a degree in the geosciences or cave-related studies. The applicant must have experience in both horizontal caving and vertical caving techniques (SRT), and be able to safely and confidently utilize those skills in the field. The applicant must have experience surveying caves, reading and using cave maps, and should be comfortable hiking cross-country in a rugged mountain environment and</p>	

traversing cave environments as described above. The applicant should be able to work well independently and as a team, both in the office and in the field with little supervision. The applicant should have interest and knowledge of cave mapping skills and knowledge of software used to create digital maps. Applicant should have a demonstrated interest in cave conservation and the leave-no-trace policy. The applicant should have experience with cave photography. Experience in cave and karst management, cave cartography, sketching (underground mapping), and GIS will make the applicant more competitive. Computer skills in Microsoft Word, Microsoft Excel, Adobe Illustrator, Adobe Photoshop and a basic familiarity with scanning software are required. The applicant should be able to communicate effectively in writing and orally. Online training for computer access may also be required prior to starting this 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. The applicant will be required to drive a government vehicle to locations throughout the park for field work. A personal vehicle is required for personal errands and for exploring the area independently during time off. Housing is located 35 minutes from the nearest sizeable town with a grocery store.

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. The program’s liability insurance coverage for driving a NPS vehicle is limited to GIPs that are 21 years or older and have a good driving record. If the NPS unit cannot provide alternate liability insurance coverage for these persons, the GIP will not be permitted to drive an NPS vehicle their workday.

**HOUSING**

Government housing will be provided at Carlsbad Caverns National Park at no cost to the participant. Housing will be in a historic multi-occupancy house. Housing includes a kitchen equipped with appliances (refrigerator, freezer, oven, stove, microwave), and a bathroom with shower. Minimal cookware is provided. Participants will need to bring their own bedding and towels. There are on-site laundry facilities. TV and internet access are not provided. No guests and no pets are allowed in this housing. Groceries and other goods and services are located in Carlsbad NM, a 35 minute drive from housing.

**INTERNSHIP START/END DATES**

**Start Date:** 9/17/2018

**End Date:** 12/7/2018

**Number of weeks:** 12

**Flexibility of dates:** Yes

**STIPEND PAYMENT**

\$3,600 for 12 weeks (\$300/week)

**HOUSING PAYMENT**

N/A

**TRAVEL ALLOWANCE**

\$250

## 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 travel/housing allowance.

Upon successful completion of the GIP position, the GIPs (AmeriCorps members) are eligible for a \$1,230 - \$5,815 pre-tax education that can be used for paying back student loans or for continuing their education.

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.

## PHYSICAL/NATURAL & WORK ENVIRONMENT

**Physical/Natural Environment:** Carlsbad Caverns National Park is located in the Guadalupe Mountains in southeastern New Mexico. The Guadalupe Mountains are the remnant of a Permian Age reef. Massive limestone and accompanying dolomites and siltstones comprise the outcroppings in which over 120 caves are formed. The park’s caves contain a huge abundance and diversity of speleothems including cave pearls, soda straws, draperies, popcorn, and many rare and unique formations such as subaqueous helictites, rusticles, and outstanding gypsum chandeliers. Genesis by sulfuric acid dissolution differentiates the caves of Carlsbad Caverns NP from most of the other caves in the world.

On the surface Carlsbad Caverns NP is incised with deep rugged canyons with dramatic karst spires and cliffs. The park's desert landscape is dominated by sparse shrubs, grass, and cacti providing a home to diverse wildlife including javelina, Barbary sheep, and large colonies of cave swallows and bats. Summers in the park are hot and dry with highs in the low 100's. The park experiences frequent rain the early fall, with occasional snow and ice in the winter.

From Carlsbad Caverns NP it is a 35 minute drive to Carlsbad NM, the nearest town with groceries and other goods and services. Carlsbad has a permanent population of 30,000 people with an additional 30,000 people working temporarily in the area. Carlsbad is the base for two National Parks, a National Forest, two State Parks, and over three million acres of BLM land, all offering a variety of outdoor related activity opportunities.

**Work Environment:** Work will primarily be in the field with occasional office work. A desk and computer will be provided for office work. Fieldwork will focus on Carlsbad Cavern, both on and off the developed tourist trails. Other field sites will be accessed by vehicle, with extensive hiking required in hot and rugged conditions. Field work will involve both strenuous horizontal caving and the use of vertical caving techniques (SRT). Underground conditions vary with temperatures up to 68F with high humidity. Potential job-site hazards include weather, rattlesnakes, entry into caves, riding ATVs and UTVs. Participant may be required to wear a respirator (training and fit-test will be provided). Work schedule will be flexible to accommodate long days of fieldwork, with a maximum of 40 hours per week.

## MENTORING AND LEARNING GOALS

**Mentoring:** Resource Stewardship and Science Division staff will provide oversight and direction to the participant on a daily basis. The Division Chief will ensure that the participant obtains the training necessary to successfully conduct assigned tasks. RSS staff will mentor the selected individual on the many aspects of cave monitoring, impact assessment and resource management, as well as providing on the job training in vertical caving and cave surveying (if needed). The participant will also have opportunities to work with public cave program volunteers and researchers.

**Learning Goals:** The participant will gain substantial experience in cave resource management and become familiar with the caves of Carlsbad Caverns National Park. The selected individual will be able to participate in

official trainings and on the job learning experiences relevant to not only cave resource management but any professional level career. Broad spectrum trainings will include first aid/CPR, computer system security and awareness, and AED operation. Job specific training will include mapping techniques, cave data entry and management, photo monitoring, and others.

SUPERVISORS	
<b>Primary Supervisor:</b> Rod Horrocks	<b>Secondary Supervisor:</b> Erin Lynch
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