



2016 – Geoscientists-in-the-Parks Project Description



NPS UNIT: Grand Canyon National Park	PD #: 2016044
Position Title: Karst Technician Position Type: Guest Scientist Primary natural resource discipline: Water resources Location: Grand Canyon National Park Physical Science Program 17 S Entrance Rd Grand Canyon, AZ 86023	
PROJECT DESCRIPTION AND WORK PRODUCTS	
<p>Position Description: This position will be focused on collecting field data, processing, and analyzing that data to better understand the hydrologic behavior of the aquifer feeding the Bright Angel Creek System. Field work will focus on water quality and quantity data. Monthly site visits will involve measuring field water quality parameters, flow, and collecting water samples for lab analysis. Site access will typically involve 2-6 days in the field, camping, on- and off-trail hiking in the Grand Canyon. This work is arduous and requires walking over uneven surfaces for multiple days at a time, exposure to extreme weather conditions, carrying heavy loads (up to 45 lbs). Technical rope work may be required. Office work will be focused on entering field data, processing data using existing QA/QC protocols, analyzing data, and maintaining field equipment. This work will require use of a computer with Microsoft Office products. Upon successful completion of the GIP internship, the participant is eligible for an AmeriCorps Education Award. This position is offered through the National Park Service's Geoscientists-in-the-Parks Internship Program in partnership with Environmental Stewards and The Geological Society of America.</p> <p>Work Products: Results from this project will be included as part of the environmental impact analysis for park resources related to the parks water supply infrastructure. Additionally, if time and commitments allow, the intern will be encouraged to present the findings of this research at a scientific conference.</p>	
QUALIFICATIONS	
Completed undergraduate degree in Earth Science or related field with coursework in hydrology, geomorphology.	
Preferred qualifications:	
<ul style="list-style-type: none">• Knowledge of GIS• Knowledge of karst systems and processes• Experience with measuring water quality and flow in the field• Knowledge of statistics and the program R• Backcountry hiking skills and experience• Wilderness First Aid or similar• Vertical Caving skills and experience• Experience conducting field work in arduous conditions requiring walking over uneven surfaces for multiple days at a time, exposure to extreme weather conditions, and carrying heavy loads (up to 45 lbs).	

<p>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. Applicant must have a valid driver’s license and a good driving record. While a vehicle is not required, it is preferred due to the remote nature of the park. Housing is within walking/biking distance of the office. Prior to starting this position a government security background clearance will be required.</p>
<p>INTERNSHIP START/END DATES</p>
<p>Start Date: 5/1/2016 End Date: 11/1/2016 Are these dates flexible? Yes</p>
<p>STIPEND PAYMENT</p>
<p>\$9,000 for 6 months</p>
<p>HOUSING PAYMENT</p>
<p>\$0</p>
<p>TRAVEL ALLOWANCE</p>
<p>\$250</p>
<p>HOUSING/WORK ENVIRONMENT</p>
<p>Housing: Park housing is provided at no cost to the participant. Housing will be shared within the park. Intern will have a private room with shared living room, kitchen, and bathroom. Intern will need to bring all bedding and cookware.</p> <p>Physical/Natural Environment: Grand Canyon National Park, a World Heritage Site, encompasses 1.2 million acres and lies on the Colorado Plateau in northwestern Arizona. The land is semi-arid and consists of raised plateaus, steep-walled canyons, and structural basins typical of the southwestern United States. Forests are found at higher elevations, while the lower elevations are made up of a series of desert basins. Summer temperatures can range from below freezing above the rims to well over 100 F at the bottom of the canyon. Field work involves working for multiple days in arduous conditions requiring walking over uneven surfaces, exposure to extreme weather conditions, and carrying heavy loads (up to 45 lbs). Technical rope work may be required. Site access typically involves extended hikes down the canyon with total elevation loss exceeding 5,000 vertical feet that then needs to be ascended. Hikes to access sites can also exceed 30 miles round trip, with daily hikes up to 16 miles. Trails and off-trail hiking also involves potential dangers including heat related injuries, physical dangers (cliffs, loose rocks, steep slopes, uneven ground), and biological dangers (rattlesnakes, scorpions, cactus, etc.).</p> <p>Work Environment: Work will be split between the field and office. Field work will involve accessing sites as described above. Office work will be in one of three locations: Flagstaff, the South Rim of the Grand Canyon, and The South Rim Museum. Work schedule will be variable depending on field schedule but typically will be 40 hours per week.</p>
<p>MENTORING AND LEARNING GOALS</p>
<p>Mentoring: Interns will work directly with the park Hydrologist and Physical Science Program manager to learn new skills and strengthen existing skills and knowledge.</p> <p>Learning Goals: This internship will provide the intern with new knowledge of monitoring remote spring</p>

locations and the opportunity to work through a specific project.	
SUPERVISORS	
Primary Supervisor:	Benjamin Tobin
Supervisor's Title:	Hydrologist/Cave Specialist
Supervisor's Address:	1824 S Thompson St Flagstaff, AZ 86001
Supervisor's Phone number:	(928)638-7481
Supervisor's email address:	benjamin_tobin@nps.gov
Park or Program Website:	http://nps.gov/grca
Secondary Supervisor:	Ed Schenk
Supervisor's Title:	Physical Science Program Manager
Supervisor's Address:	17 S Entrance Rd Grand Canyon, AZ 86023
Supervisor's Phone number:	(928) 638-7817
Supervisor's email address:	edward_schenk@nps.gov
Park or Program Website:	http://www.nps.gov/grca