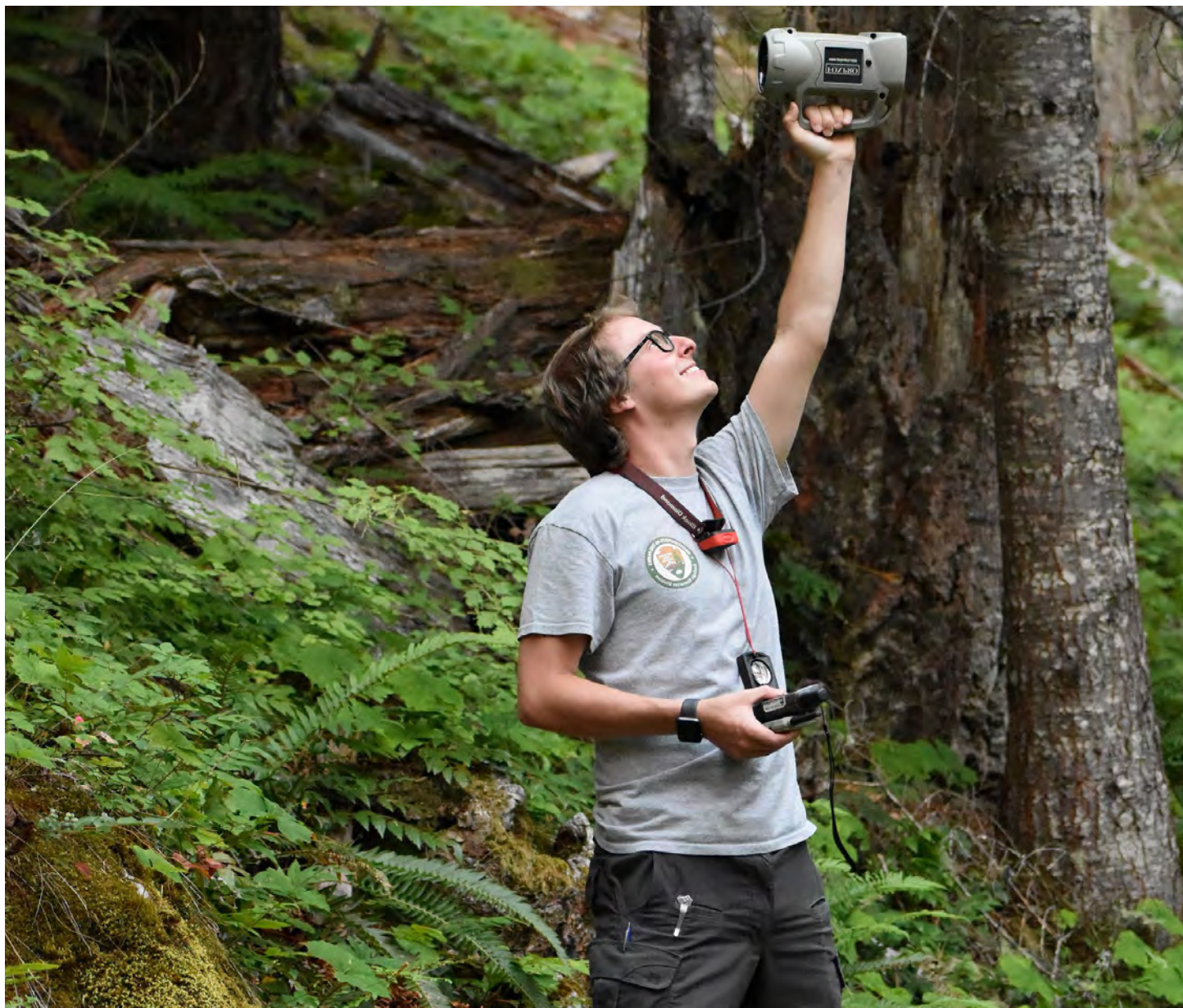




Geoscientists-in-the-Parks Internship Program

Program Report
Fiscal Year 2020





Geoscientists-in-the-Parks Annual Program Report
Fiscal Year 2020

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U.S. Department of the Interior
National Park Service
Natural Resource Stewardship and Science

ABOVE: GIP Max Leveridge playing spotted owl calls during a spotted owl night survey at Oregon Caves National Park and Preserve. (NPS photo)

COVER: GIP Morgan Hill ascending a vertical pit in Lehman Caves at Great Basin National Park, Nevada. (NPS photo)

BACK COVER: GIP Megan Gross sampling wells at Joshua Tree National Park, California. (NPS photo)

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Executive Summary

In 2020, the Geoscientists-in-the-Parks (GIP) Program successfully completed its 24th year and placed 159 interns in 64 parks in every region of the National Park Service, six Washington offices, four inventory and monitoring networks, and one regional office. These talented college students and recent graduates supported the NPS mission by completing important natural resource science projects, gaining on-the-ground work experience, and obtaining an understanding of the importance of conservation and resource stewardship on public lands.

Over 30% of the projects focused on geologic resources, and the remainder on other natural resource science disciplines. Projects covered categories such as inventory and monitoring, research, GIS, and developing and presenting educational and interpretive programs. This year, 19% of the participants were racially diverse, 69% of the interns were female students, and 71% of participants reported having a Bachelors Degree. The GIP interns' work contributed 97,736 service hours or the equivalent of 47 years of full time work doing critical science projects for the NPS at a cost of approximately \$2.3 M. In FY20 the GIP Program continued its affiliation with AmeriCorps and offered Segal Education Awards to its participants. The GIP Program is run in partnership with Stewards Individual Placement Program, a program of Conservation Legacy, and The Geological Society of America.



GIP Amelia May conducts coral reef monitoring at Biscayne National Park, Florida. (NPS photo)

“My favorite aspect of my experience as a GIP participant is being able to work on a wide variety of projects that are motivated by protecting and preserving the park’s world-class geologic resources.”



Statement of Purpose

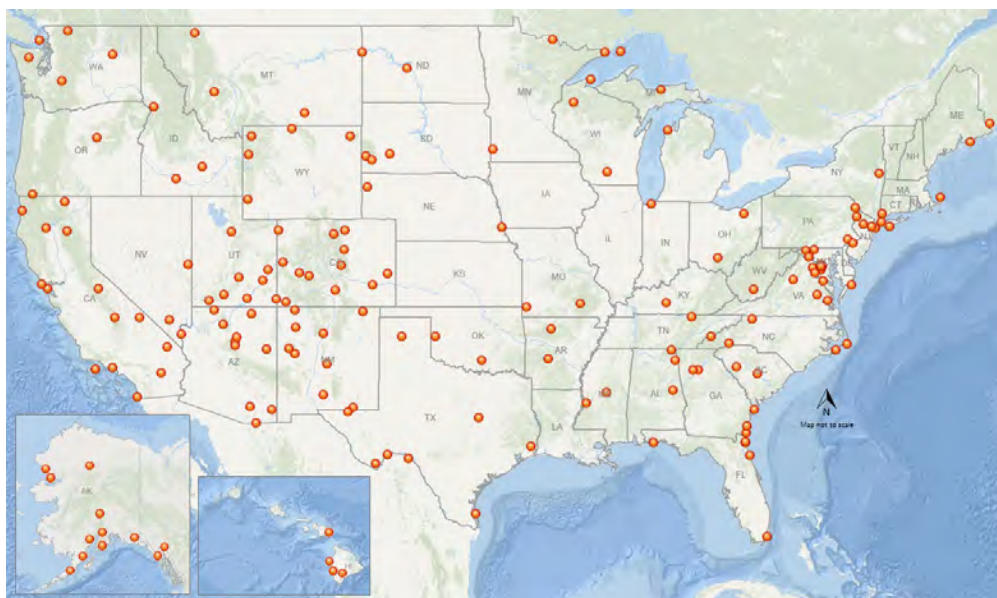
The Geoscientists-in-the-Parks Internship Program, developed by the NPS Geologic Resources Division in 1996, provides undergraduate/graduate students and recent graduates, 18 – 30 years old inclusive, and veterans up to 35, with on-the-ground, natural resource, science-based work experience with the National Park Service. The program fulfills requests by park, network, and central office staff for assistance with natural resource science projects. GIP interns enable the National Park Service to complete important natural resource projects that would not be feasible without

the interns' help. GIP projects address a broad array of natural resource science needs in air resources, biological resources, geological resources, natural sounds and night skies, water resources, and other integrated science topics. This multidisciplinary program provides many opportunities for persons to work on projects focusing on inventory and monitoring; research; curation of park natural resources; developing educational brochures, visitor materials, and educational curricula; and interpreting natural resource science information for park staff and the public.

Since the program's inception, 1,968 participants have worked with parks, networks, and central offices to further NPS resource management needs while gaining on-the-ground work experience.

In 2020, 159 GIP interns helped 75 NPS units and central offices fulfill their unmet natural resource science needs, while gaining practical job experience ranging from three months to one year. GIPs served a total of 97,736 service hours.

Since the program's creation twenty-four years ago, 1,968 participants have completed thousands of natural resource science projects in 213 parks, networks, and central offices and contributed 1,132,628 hours to critical science projects. The number of program participants historically increased every year of the program to accommodate the large number of NPS requests for technical assistance with natural resource. The Geoscientists-in-the-Parks Program is run in partnership with Stewards Individual Placement Program (Stewards) and The Geological Society of America (GSA), in collaboration with the National Park Service's Natural Resource Stewardship and Science offices and divisions.



1,968
GIP interns



1,132,628
Hours of service



213
NPS parks, regions,
central offices

Program Objectives

- Provide on-the-job natural resource science training for undergraduate/graduate students and recent graduates, 18-30 years old inclusive, and veterans up to 35
- Introduce participants to science careers in the National Park Service
- Build natural resource science technical capacity for park service units
- Enhance the public's understanding of the natural resource sciences

Types of Positions

Three types of GIP positions were offered in FY20 - GIP Intern, Guest Scientist, and Direct Hire Authority-Resource Assistant.

GIP Intern positions typically last for 3 months throughout the year. These are entry level natural resource science internships that focus on career exploration and building fundamental natural resource science skills in participants. GIP Intern positions are primarily for undergraduate students studying STEM fields. GIP Interns receive a weekly living allowance of \$350, park-provided housing or a higher living allowance, and a \$250 relocation allowance.

Guest Scientist positions are more complex, may last from 3 months to one year, and are usually filled by students or recent graduates with a higher level of expertise or experience. These internships further develop the participant's technical and other professional skills. Guest Scientists receive a weekly living allowance of \$400, park-provided housing or a higher living allowance, and a \$250 relocation allowance.

Direct Hire Authority-Resource Assistant positions target exceptional upper level undergraduate or graduate students who are interested in natural resource science careers with the federal government. These are rigorous internships that develop the participant's technical and creative thinking abilities, leadership skills, and problem-solving capabilities. These positions must last a minimum of 11 weeks during the summer. DHA Resource Assistants receive a weekly living allowance of \$450, park-provided housing or a higher living allowance, and a \$250 relocation allowance.



GIP Dustin Garrison sets up a game camera in the Merced Grove of Giant Sequoias in Yosemite National Park, California. (NPS photo)

Support of the DOI Strategic Plan

This program supports the following Department of the Interior priorities and objectives outlined in the [DOI Strategic Plan for Fiscal Years 2018 – 2022](#):

Mission Area #1 – Conserving our Lands and Water

Goal 1 – Utilize science in land, water, species, and habitat management supporting decisions and activities.

GIP Joni Gore examined river and glacier responses to climate change while identifying and developing a mitigation procedure for rockfall threats to park roads and buildings at Grand Teton National Park.

Goal 3 – Foster partnerships to achieve balanced stewardship and use of our public lands.

GIP William Hinchliffe digitized lesson plans about the geology of Oregon Caves National Park to create a virtual educational resource available to the public. William also authored two roadside geology brochures for visitors traveling between Oregon Caves National Monument and Preserve and Redwoods National Park. He also worked daily with park visitors and staff to foster a safe educational environment that adhered to COVID-19 safety guidelines.

Mission Area #3 – Expanding Outdoor Recreation and Access

Goal 2 – Enhance public satisfaction at DOI sites.

GIP Virginia Geddie used satellite imagery and ArcGIS to find, catalog, and digitize many forgotten, historic park features at Big Thicket National Park to improve visitor safety and experience, and to preserve Big Thicket's historical resources for generations to come.

Program Summary

The GIP Program is administered through an NPS youth cooperative agreement and annual task agreement with Conservation Legacy (Cooperative Agreement P20AC00117). This national youth agreement authorized under the Public Lands Corps Act (16 U.S.C. §§ 1721) focuses primarily on U.S. citizens and legal residents between the ages of 16 and 30 years of age and veterans 35 years old. A key benefit of the GIP Program is that program participants may be non-competitively hired by the federal government after completing 640 hours of satisfactory service in one or more appropriate conservation projects (for the Public Lands Corps Non-Competitive Hiring Authority see [DOI Personnel Bulletin 17-03](#), May 23, 2017 and DOI Personnel Bulletin 12-13, January 22, 2013) or directly hired after successfully completing an 11-week summer DHA internship and graduating from an accredited college or university (see [DOI Personnel Bulletin 12-15](#)). The NPS strives to hire outstanding GIP alumni into NPS natural resource science positions.



The GIP Program continues to be affiliated with AmeriCorps, a program that engages individuals in intensive community service work with the goal of helping others and meeting critical community needs. GIPs are eligible for a \$1,638 to \$6,195 pre-tax AmeriCorps Segal Education Award upon successfully completing their internship. This award can be used for paying back student loans, continuing the participant's higher education, or for other qualifying educational expenses. In FY20 GIP interns were eligible to receive \$308,347 in AmeriCorps Segal Education Awards at no cost to the NPS. The amount of each award is based on the hours worked with most interns receiving an award of at least \$1,638. In addition to the AmeriCorps affiliation, medical insurance can be provided to GIP interns if the position lasts 52 weeks.



GIP Jazmin Helzer conducting water quality surveys in anchialine pools at Kaloko-Honokohau National Historical park, Hawai'i. (NPS photo)

Program Costs

In FY20, the GIP Program continued to use standardized position lengths and costs in order to manage the program more efficiently. The table shown below summarizes the costs for the Geoscientists-in-the-parks positions that began in FY20.

Table 1. GIP Program cost breakdown in FY20.

FUNDING SOURCE		COST	SUBTOTAL
NPS	Geologic Resources Division	\$142,130.63	\$2,100,037.09
	Inventory & Monitoring Program	\$20,475.00	
	NPS regional funding	\$65,965.00	
	Parks	\$1,607,906.09	
	WASO funding	\$263,560.37	
	Subtotal Direct Costs - NPS		
Partners	The Geological Society of America Foundation	\$4,000.00	\$188,631.05
	Park associations	\$184,631.05	
	Subtotal Direct Costs - Partners		
TOTAL DIRECT COSTS			\$2,288,668.14
Approximate In-Kind and Cash Contribution - Program Partners			\$572,167.04

The NPS Geologic Resources Division (GRD) and the Natural Resource Stewardship and Science Directorate shared the costs for one GIP position per park in FY20 (\$3,550 per park). In addition, GRD covered the cost differential in the stipends for all of the DHA positions (\$1,200 per position). Park associations, The Geological Society of America Foundation, inventory and monitoring networks, Washington offices, and regions also assisted parks with the costs for GIP interns.

Intern and Supervisor Webinars

In February and June, the GIP Program led webinars to launch the spring / summer and fall / winter internships, respectively. The webinars provided information on the year's program changes and enhancements, AmeriCorps affiliation and requirements, roles and responsibilities, selection process, and costs. In addition, the GIP Program hosted a Direct Hire Authority webinar facilitated by Doug Hale, to introduce the supervisors and interns to the requirements for DHA positions. Stewards also conducts individual webinars for each GIP supervisor and intern to review program procedures and requirements.

GIP interns and supervisors were also encouraged to participate in the following webinars: NPS Fundamentals with Kristen Gibbs, Diversity, Equity, and Inclusion with Erica White-Dunston, Resumes and Navigating USA Jobs with Amanda Rowland, PLC Hiring Authority with Crystal Gales, and DHA-RA Hiring Authority with Doug Hale.



GIP Max Leveridge completing a topography survey at Yosemite National Park, California. (NPS photo)

COVID-19 Impacts

The COVID-19 pandemic impacted many aspects of both the summer and winter seasons of GIP. From selecting the summer interns to advertising, starting, and hosting the fall interns, changes were made to the program due to the nature of the pandemic. A top priority for every decision was the safety of the interns. Stewards implemented and consistently updated pandemic specific policies and procedures consistent with federal, state, and/or local guidance and as risks associated with COVID-19.

Pandemic Changes, Policy and Procedure Highlights

- Requiring all members to sign release of liability that includes COVID-19 specific acknowledgment of risk
- Requiring all members to sign on and agree to COVID-19 Risk Acceptance and Health Survey
- Requiring first day of service health survey for individual placements
- Daily health screening
- Required telework work plans between intern and Supervisor / Mentor

Impacts to the National Park Service

- 34 projects were canceled
- 28 positions were delayed
- 67 positions worked remotely part or full time
- Some position descriptions were altered to accommodate park changes from COVID-19
- NPS and Stewards were unable to complete any in-person site visits
- Longer processing times for background checks

“Thank you for the opportunity to complete this experience despite the many challenges with COVID-19. I still learned so much this summer through teleworking, networking over the phone and socially distanced fieldwork days.”



GIP intern John Brooks (middle) underwent two days of intensive training to obtain his motorboat operators certification – allowing him to boat to and from the barrier islands at Cape Lookout National Seashore, North Carolina.

Demographic Information

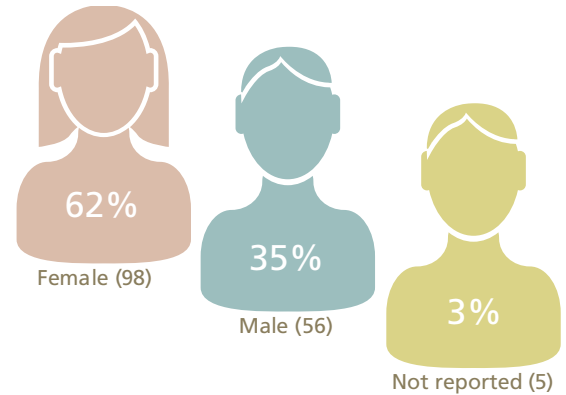
Gender and Ethnicity of GIP Interns

Sixty-two percent of GIP interns in FY20 identified as women. Participation by women in the GIP Program is 7% higher than the percentage of women in the U.S. earning undergraduate degrees in science fields (55%) and over two times the percentage of women working in the U.S. science workforce (28%) (National Science Foundation).

This year, 19% of GIP interns were from racial / ethnic groups under-represented in STEM career fields. Participation by racially diverse students may be higher than is reported because 3% of the program participants chose not to disclose their race / ethnicity on their applications.

Overall, the 19% diversity in the GIP Program does not adequately represent the diversity of the U.S. population, however it is three times more than the U.S. STEM workforce (6%) and is nearly seven times that of the NPS STEM workforce (3%). Table 2 lists the racial/ethnic diversity of the overall NPS workforce and in STEM fields. The NPS statistics were compiled from 2014 NPS employment data compiled by James Wiggins, NPS Equal Employment Opportunity Specialist.

Distribution of GIP positions by gender



Distribution of GIP positions by race / ethnicity

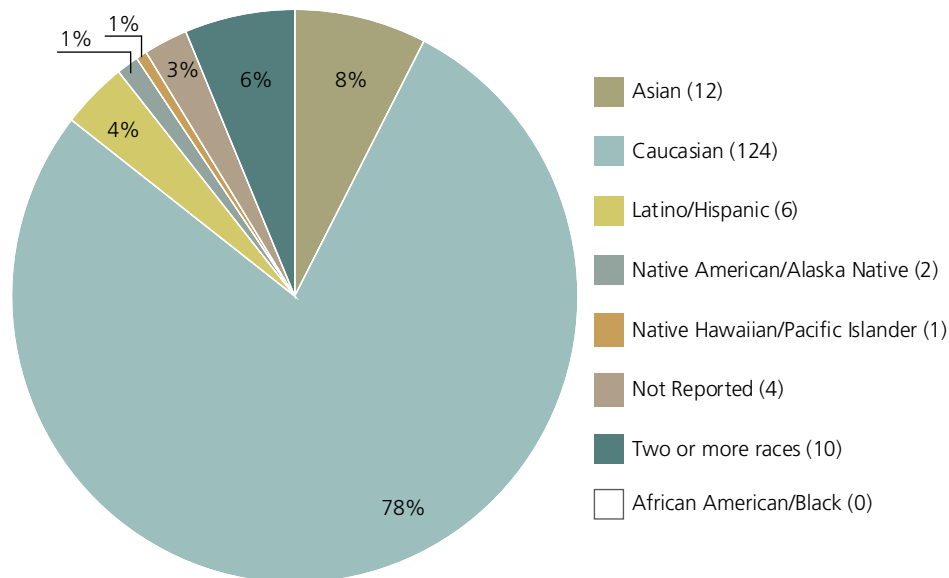


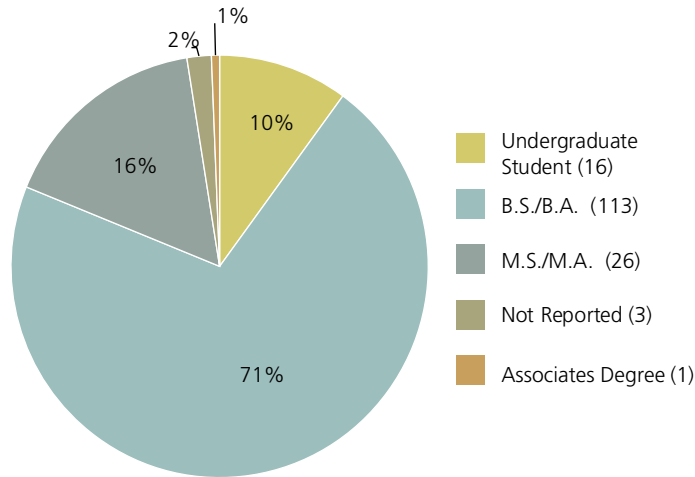
Table 2. Diversity of the overall NPS workforce and in STEM fields (2014 NPS data).

CATEGORY	# EMPLOYEES	%
NPS Employees	23,529	100%
NPS Racial/Ethnic Diversity (excluding Caucasian) of NPS Workforce	4,183	18%
NPS workforce - Caucasian	19,346	82%
NPS Workforce – STEM fields	5,054	21%
NPS Workforce – Racial /Ethnic Diversity in STEM Fields	698	14% of NPS STEM employees, 3% of total NPS workforce

Educational Status of GIP Interns

This year, ten percent of program participants reported to be undergraduate students. Seventy-one percent of program participants reported to have received a bachelor's degree, and 16% of the interns reported receiving a master's degree demonstrating the high caliber of participants in the program.

Distribution of GIP positions by level of education



GIP Damian Johns (left) works with GIP Hannah Gershon (right) to set up acoustic monitoring equipment in Grand Canyon National Park, Arizona. (NPS photo)

Schools Attended by GIP Interns

Table 3. Schools attended by GIP interns in FY20. The table below displays the universities or colleges that had two or more GIP interns participating in this year's program.

COLLEGES & UNIVERSITIES
Auburn University
Brigham Young University
California Polytechnic Institute, San Luis Obispo
Colorado State University
DePaul University
Michigan Technological University
Montana State University
Mount Holyoke College
North Carolina State University
Portland State University
Skidmore College
Texas A&M University
The College of William and Mary
The University of Chicago
University of Arizona
University of California, Los Angeles
University of California, Santa Cruz
University of Hawai'i
University of Minnesota
University of New Hampshire
University of Puerto Rico, Mayagüez
University of Texas at Austin
University of Washington
Wichita State University

Veterans

In 2020, 4 veterans who served in the US Armed Forces, military Reserves, or National Guard participated in the GIP Program. The GIP Program is proud to host these veterans at National Parks throughout the year. Tristan Amaral, Laura Caron, Vincent Valentino, and Grant Johnson - thank you for your service!

List of Intern Projects

Geoscientists-in-the-Parks (GIP) positions for spring / summer are shown in Table 4. Positions for fall / winter are shown in Table 5. Guest Scientist (GS) and Direct Hire Authority (DHA) positions are marked in the position title column.

Table 4. GIP positions with spring or summer start dates in FY20.

NPS UNIT		POSITION TITLE		ID #
1.	Air Resources Division (Colorado), Great Smoky Mountains National Park (North Carolina, Tennessee)	GIS Assistant (Crystal Chen)	GS	2020102
2.	Air Resources Division (Colorado), Mount Rainier National Park (Washington)	Air Quality Assistant (Sean Hickey)	GS	2020098
3.	Alaska Regional Office (Alaska)	Natural Resource Management Assistant (Gavin DeMali)	GS	2020080
4.	Alaska Regional Office (Alaska), Wrangell-St Elias National Park & Preserve (Alaska)	Geology Assistant (Tristan Amaral)	GS	2020004
5.	Badlands National Park (South Dakota)	Natural Resource Interpretive Assistant (Jessie McCraw)		2020040
6.	Badlands National Park (South Dakota)	Natural Resource Interpretive Assistant (Isabelle Rein)		2020041
7.	Badlands National Park (South Dakota)	Paleontology Assistant (Alexa Schubert)		2020064
8.	Badlands National Park (South Dakota)	Paleontology Assistant (Alexi Richmond)		2020065
9.	Badlands National Park (South Dakota)	Paleontology Assistant (Blake Chapman)		2020066
10.	Badlands National Park (South Dakota)	Paleontology Assistant (Carolyn Kocken)		2020069
11.	Bandelier National Monument (New Mexico)	Natural Resource Management Assistant (Meghan Connelly)	GS	2020099
12.	Bandelier National Monument (New Mexico)	Ecology Assistant (Chase Green)	GS	2020116
13.	Bandelier National Monument (New Mexico)	Ecology Assistant (Bridgitte Janowick)	GS	2020117
14.	Bandelier National Monument (New Mexico)	Ecology Assistant (Kara Fox)	GS	2020132
15.	Big Thicket National Preserve (Texas)	GIS Assistant (Virginia Geddie)		2020043
16.	Biological Resources Division (Colorado)	Biology Assistant (David Cressy)	GS	2020104
17.	Biscayne National Park (Florida)	Natural Resource Management Assistant (Amelia May)		2020103
18.	Black Canyon of the Gunnison National Park (Colorado), Curecanti National Recreation Area (Colorado)	Hydrology Assistant (Kali Stier)		2020009
19.	Buffalo National River (Arkansas)	Biology Assistant (Riannon Colton)		2020056
20.	Buffalo National River (Arkansas)	Biology Assistant (Zoe Boyles)		2020057
21.	Buffalo National River (Arkansas)	Hydrology Assistant (Hailey Hall)		2020063
22.	Cape Lookout National Seashore (North Carolina)	Biology Assistant (Nora Skinner)		2020033
23.	Cape Lookout National Seashore (North Carolina)	Biology Assistant (David Brooks)		2020034
24.	Carlsbad Caverns National Park (New Mexico)	Cave and Karst Assistant (Brian Anschel)	GS	2020083
25.	Catoctin Mountain Park (Maryland), Urban Ecology Research Learning Alliance (Washington DC)	Ecology Assistant (Justin Taylor)	GS	2020076

NPS UNIT		POSITION TITLE		ID #
26.	Chattahoochee River National Recreation Area (Georgia)	GIS Assistant (Louisa Markow)	GS	2020010
27.	Colorado National Monument (Colorado)	Geomorphology Assistant (Telemak Olsen)	GS	2020115
28.	Colorado National Monument (Colorado)	Geomorphology Assistant (Telemak Olsen)	GS	2020485
29.	Coronado National Memorial (Arizona)	Natural Resource Management Assistant (Evan Laughlin)	GS	2020048
30.	Coronado National Memorial (Arizona)	Natural Resource Management Assistant (Estefanía Vicens Clavell)	GS	2020049
31.	Cuyahoga Valley National Park (Ohio)	Natural Resource Management Assistant (Natalia Greenblatt)		2020094
32.	Denali National Park & Preserve (Alaska)	Natural Resource Management Assistant (Leah Crenshaw)		2019038
33.	Denali National Park & Preserve (Alaska)	GIS Assistant (Chloe Shaw)	GS	2020111
34.	Denver Service Center (Colorado)	Natural Resource Management Assistant (Margaret Tueller)	DHA	2020303
35.	Dinosaur National Monument (Colorado, Utah)	Paleontology Assistant (Rudolph Hummel)		2020091
36.	Dinosaur National Monument (Colorado, Utah)	Paleontology Assistant (Colton Snyder)	GS	2020078
37.	Dinosaur National Monument (Colorado, Utah)	GIS Assistant (Rowan Lee)		2020093
38.	Dinosaur National Monument (Colorado, Utah)	Paleontology Assistant (Rowan Lee)	GS	2020415
39.	Florissant Fossil Beds National Monument (Colorado)	Education Assistant (Nichole Shaw)		2020037
40.	Fort Caroline National Memorial (Florida), Timucuan Ecological & Historical Preserve (Florida)	Natural Resource Management Assistant (Hayden Lowe)		2020058
41.	Fort Caroline National Memorial (Florida), Timucuan Ecological & Historical Preserve (Florida)	Natural Resource Management Assistant (Alisa Cloutier)		2020084
42.	Fort Necessity National Battlefield (Pennsylvania)	Natural Resource Management Assistant (Adam Wells)	GS	2020123
43.	Fort Necessity National Battlefield (Pennsylvania)	Natural Resource Management Assistant (Alice Morgan)	DHA	2020302
44.	Fossil Butte National Monument (Wyoming)	Natural Resource Interpretive Assistant (Emily Randall)		2020011
45.	Gates of the Arctic National Park & Preserve (Alaska), Yukon-Charley Rivers National Preserve (Alaska)	Biology Assistant (Delaney Vinson)	GS	2020074
46.	Gateway National Recreation Area (New Jersey, New York)	Geomorphology Assistant (Claudia Silver)	GS	2020022
47.	Geologic Resources Division (Colorado)	Geology Assistant (Timothy Henderson)	GS	2020107
48.	Geologic Resources Division (Colorado)	Geology Assistant (Chelsea Bitting)	GS	2020131
49.	Glacier National Park (Montana)	Biology Assistant (Anna Moser)	GS	2020039
50.	Grand Canyon National Park (Arizona)	Natural Resource Interpretive Assistant (Leslie Grove)		2019434
51.	Grand Canyon National Park (Arizona)	Paleontology Assistant (Erikka Olson)	GS	2020024
52.	Grand Canyon National Park (Arizona)	Acoustic Assistant (Alexander Schmies)	GS	2020026
53.	Grand Canyon National Park (Arizona)	Acoustic Assistant (Ellen Murphy)	GS	2020027
54.	Grand Canyon National Park (Arizona)	Acoustic Assistant (Hannah Gershone)	GS	2020028
55.	Grand Canyon National Park (Arizona)	Biology Assistant (Dana Musto)	GS	2020120

NPS UNIT		POSITION TITLE		ID #
56.	Grand Teton National Park (Wyoming), John D. Rockefeller Jr. Memorial Parkway (Wyoming)	Hydrology Assistant (Joni Gore)		2020113
57.	Gulf Islands National Seashore (Florida, Mississippi)	Natural Resource Management Assistant (Emily Stolz)		2020059
58.	Gulf Islands National Seashore (Florida, Mississippi)	Natural Resource Management Assistant (Jordan Wingate)		2020067
59.	Gulf Islands National Seashore (Florida, Mississippi)	Natural Resource Management Assistant (Jennifer Lewis)		2020068
60.	Hot Springs National Park (Arkansas)	Natural Resource Management Assistant (Camille Buckley)		2020085
61.	John Day Fossil Beds National Monument (Oregon)	Natural Resource Interpretive Assistant (Dietrich Kuhlmann)		2020046
62.	John Day Fossil Beds National Monument (Oregon)	Paleontology Assistant (Amanda Peng)		2020050
63.	John Day Fossil Beds National Monument (Oregon)	Natural Resource Interpretive Assistant (Nicoletta Browne)		2020045
64.	John Day Fossil Beds National Monument (Oregon)	Paleontology Assistant (Lana Jewell)		2020051
65.	Kaloko-Honokohau National Historical Park (Hawaii)	Biology Assistant (John Flint)	GS	2020036
66.	Kaloko-Honokohau National Historical Park (Hawaii)	Biology Assistant (Jazmin Helzer)	GS	2020008
67.	Klamath I&M Network (Oregon, California), Lava Beds National Monument (California)	Cave and Karst Assistant (Sarah Burgess)	GS	2020089
68.	Lake Mead National Recreation Area (Arizona, Nevada), Natural Sounds and Night Skies Division (Colorado)	GIS Assistant (BriAnn Phillips)	GS	2020055
69.	Lassen Volcanic National Park (California)	Natural Resource Management Assistant (Isabella Plummer)		2020044
70.	Mammoth Cave National Park (Kentucky)	Cave and Karst Assistant (Marissa Schorr)	GS	2020106
71.	Mammoth Cave National Park (Kentucky)	GIS Assistant (Maaz Fareedi)		2020411
72.	Northeast Coastal and Barrier Network (Massachusetts, Maryland, Virginia, New York)	Science Communication Assistant (Edward Cascella)		2020124
73.	Oregon Caves National Monument (Oregon)	Natural Resource Management Assistant (Max Leveridge)		2019450
74.	Oregon Caves National Monument (Oregon)	Education Assistant (William Hinchliffe)		2020086
75.	Saguaro National Park (Arizona)	Biology Assistant (Jessica Gilbert)	DHA	2020304
76.	San Antonio Missions National Historical Park (Texas)	Hydrology Assistant (Clay Carufel)	GS	2020062
77.	San Juan Island National Historical Park (Washington)	Natural Resource Management Assistant (Joseph DeVito)	GS	2020031
78.	Shenandoah National Park (Virginia)	Natural Resource Interpretive Assistant (Madison Heiser)		2020097
79.	Sierra Nevada Network (California)	GIS Assistant (Erik DeSilva)	GS	2020130
80.	Southeast Region (Georgia)	GIS Assistant (Matthew Toro)	GS	2020455
81.	Theodore Roosevelt National Park (North Dakota)	Paleontology Assistant (Charles Salcido)		2020122

NPS UNIT		POSITION TITLE		ID #
82.	Theodore Roosevelt National Park (North Dakota)	Paleontology Assistant (Patrick Wilson)		2020021
83.	Tule Springs Fossil Beds National Monument (Nevada)	Paleontology Assistant (Esmeralda El Srouji)		2020118
84.	Tule Springs Fossil Beds National Monument (Nevada)	Paleontology Assistant (Lauren Parry)	GS	2020001
85.	Waco Mammoth National Monument (Texas)	Paleontology Assistant (Maree Yard)	GS	2020006
86.	Water Resources Division (Colorado)	Natural Resource Management Assistant (Laura Caron)		2020079
87.	Water Resources Division (Colorado)	Natural Resource Management Assistant (Maria Marionkova)		2020082
88.	Wupatki National Monument (Arizona)	Paleontology Assistant (Katarina Keating)	GS	2020052
89.	Yellowstone National Park (Idaho, Montana, Wyoming)	Hydrology Assistant (Madeline McKeefry)	GS	2020075

There are a total of 89 spring / summer GIP positions.

Table 5. GIP positions with fall or winter start dates in FY20.

NPS UNIT		POSITION TITLE		ID #
90.	Big Bend National Park (Texas), Rio Grande Wild and Scenic River (Texas)	GIS Assistant (Luis Geraldino)	GS	2020426
91.	Bryce Canyon National Park (Utah)	Natural Resource Interpretive Assistant (Keith Moore)	GS	2019403
92.	Bryce Canyon National Park (Utah)	Natural Resource Interpretive Assistant (Sadie Textor)	GS	2019404
93.	Bryce Canyon National Park (Utah)	Natural Resource Interpretive Assistant (Katherine Billings)	GS	2019470
94.	Carlsbad Caverns National Park (New Mexico)	Cave and Karst Assistant (Hunter Klein)		2019406
95.	Carlsbad Caverns National Park (New Mexico)	Paleontology Assistant (Scott Kottkamp)		2019407
96.	Chattahoochee River National Recreation Area (Georgia)	Hydrology Assistant (Elsa Toskey)	GS	2019408
97.	Chattahoochee River National Recreation Area (Georgia)	Hydrology Assistant (Joshua Abrams)	GS	2019409
98.	Coronado National Memorial (Arizona)	Natural Resource Management Assistant (Erica Doody)	GS	2019410
99.	Death Valley National Park (California, Nevada)	Education Assistant (Marcus Hill)		2019411
100.	Death Valley National Park (California, Nevada)	Education Assistant (Erikka Olson)		2019412
101.	Death Valley National Park (California, Nevada)	Hydrology Assistant (Taylor Johaneman)		2019413
102.	Denali National Park & Preserve (Alaska)	Ecology Assistant (Johanne Albrigtsen)	GS	2019414
103.	Denali National Park & Preserve (Alaska)	Ecology Assistant (Tracey Faber)		2019415
104.	Denali National Park & Preserve (Alaska)	GIS Assistant (Chloe Shaw)	GS	2019418
105.	Denali National Park & Preserve (Alaska)	Night Skies Assistant (Stephen (Cameron) Sanson)		2019420
106.	Denali National Park & Preserve (Alaska)	Science Communication Assistant (Jacob Zeigler)		2019421
107.	El Malpais National Monument (New Mexico)	Cave and Karst Assistant (Penelope Vorster)		2019424

NPS UNIT		POSITION TITLE		ID #
108.	El Malpais National Monument (New Mexico)	Night Skies Assistant (Alexandra Farrell)		2019425
109.	Flight 93 National Memorial (Pennsylvania)	Natural Resource Management Assistant (Grant Johnson)	GS	2020467
110.	Flight 93 National Memorial (Pennsylvania)	Natural Resource Management Assistant (Vincent Valentino)	GS	2020468
111.	Florissant Fossil Beds National Monument (Colorado)	Education Assistant (Nichole Shaw)		2019466
112.	Florissant Fossil Beds National Monument (Colorado)	Paleontology Assistant (Mariah Slovacek)	GS	2019483
113.	Fossil Butte National Monument (Wyoming)	Natural Resource Interpretive Assistant (Carolyn Kocken)		2019427
114.	Geologic Resources Division (Colorado)	Coastal Hazards Specialist (Henry Crawford)	GS	2019471
115.	Glacier National Park (Montana)	Biology Assistant (Joseph Krenzelok)	GS	2019429
116.	Glen Canyon National Recreation Area (Arizona, Utah)	Biology Assistant (Katherine Ko)		2019477
117.	Glen Canyon National Recreation Area (Arizona, Utah)	GIS Assistant (Caleb Mathias)		2020425
118.	Grand Canyon - Parashant National Monument (Arizona)	Paleontology Assistant (Summer Weeks)		2019437
119.	Grand Canyon - Parashant National Monument (Arizona)	Paleontology Assistant (Holley Flora)		2019438
120.	Grand Canyon National Park (Arizona)	Acoustic Assistant (Claire Morris)	GS	2019431
121.	Grand Canyon National Park (Arizona)	Acoustic Assistant (Damian Johns)	GS	2019475
122.	Grand Canyon National Park (Arizona)	Biology Assistant (Samuel Hay-Roe)	GS	2019432
123.	Grand Canyon National Park (Arizona)	Biology Assistant (Joel Donohue)	GS	2019433
124.	Grand Canyon National Park (Arizona)	Natural Resource Interpretive Assistant (James Ianni)	GS	2019436
125.	Grand Canyon National Park (Arizona)	Biology Assistant (Wildlife) (Kirsten Fuller)	GS	2019481
126.	Grand Canyon National Park (Arizona)	Acoustic Assistant (Maria del Valle Coello)	GS	2020462
127.	Grand Teton National Park (Wyoming)	GIS Assistant (Joseph Nadeau)		2019439
128.	Great Basin National Park (Nevada)	Cave and Karst Assistant (Morgan Hill)		2019440
129.	Gulf Islands National Seashore (Florida, Mississippi)	Natural Resource Management Assistant (Rachel Thoms)		2020479
130.	Hot Springs National Park (Arkansas)	Hydrology Assistant (Emily Do)		2019442
131.	Intermountain Region (Colorado)	Natural Resource Management Assistant (Ashley Daffron)	GS	2020447
132.	Jewel Cave National Monument (South Dakota)	Cave and Karst Assistant (Erin Dundas)	GS	2020445
133.	Joshua Tree National Park (California)	Paleontology Assistant (Megan Gross)		2019443
134.	Joshua Tree National Park (California)	Natural Resource Interpretive Assistant (Stephanie Widzowski)		2019467
135.	Kaloko-Honokohau National Historical Park (Hawaii)	Biology Assistant (Leila Morrison)	GS	2019444
136.	North Cascades National Park (Washington)	GIS Assistant (Emma LaFave)		2019472
137.	Redwood National Park (California)	Natural Resource Management Assistant (Oren Nardi)		2020422

NPS UNIT		POSITION TITLE		ID #
138.	Redwood National Park (California)	Natural Resource Management Assistant (Skyler Wrigley)		2020423
139.	San Juan Island National Historical Park (Washington)	Biology Assistant (Kylie McLatchy)	GS	2019480
140.	Sierra Nevada Network (California)	GIS Assistant (Erik De Silva)	GS	2019455
141.	Southwest Alaska Network (Alaska)	Geology Assistant (Benjamin Roberts-Pierel)	GS	2019482
142.	War in the Pacific National Historical Park (Guam)	Natural Resource Management Assistant (Brittany Tominez)		2019484
143.	War in the Pacific National Historical Park (Guam)	Natural Resource Management Assistant (Victoria Moscato)		2020410
144.	Water Resources Division (Colorado)	Natural Resource Management Assistant (Emily Rodrigue)		2019448
145.	Water Resources Division (Colorado)	Natural Resource Management Assistant (Nina Loutchko)		2020465
146.	Whiskeytown-Shasta-Trinity National Recreation Area (California)	Natural Resource Management Assistant (Isabella Plummer)		2020438
147.	Whiskeytown-Shasta-Trinity National Recreation Area (California)	Natural Resource Management Assistant (Elizabeth Evers)		2020439
148.	White Sands National Monument (New Mexico)	Paleontology Assistant (Lawrence Shaffer)	GS	2019469
149.	Wilderness Stewardship Division (Washington DC)	Natural Resource Management Assistant (Jessica Marie Millman)	GS	2019464
150.	Wilderness Stewardship Division (Washington DC)	Natural Resource Management Assistant (Robin McKnight)		2019465
151.	Yellowstone National Park (Idaho, Montana, Wyoming)	Geology Assistant (Laura Blackstone)	GS	2019457
152.	Yosemite National Park (California)	Ecology Assistant (Dustin Garrison)	GS	2019458
153.	Yosemite National Park (California)	Ecology Assistant (Crystal Barnes)	GS	2019459
154.	Yosemite National Park (California)	GIS Assistant (Travis Bott)		2019460
155.	Yosemite National Park (California)	GIS Assistant (Max Leveridge)		2019461
156.	Yosemite National Park (California)	GIS Assistant (Linnea Hardlund)		2019462
157.	Yosemite National Park (California)	Geomorphology Assistant (Jennifer Aldred)	GS	2019463
158.	Zion National Park (Utah)	Hydrology Assistant (Evan Kolb)	GS	2020413
159.	Zion National Park (Utah)	Hydrology Assistant (Connor Gallagher)	GS	2020414

There are a total of 70 fall / winter GIP positions.



GIP Johanne Albrigtsen collecting snow depth data near the McKinley River in Denali National Park and Preserve, Alaska. (NPS photo)

Regional Distribution of Projects

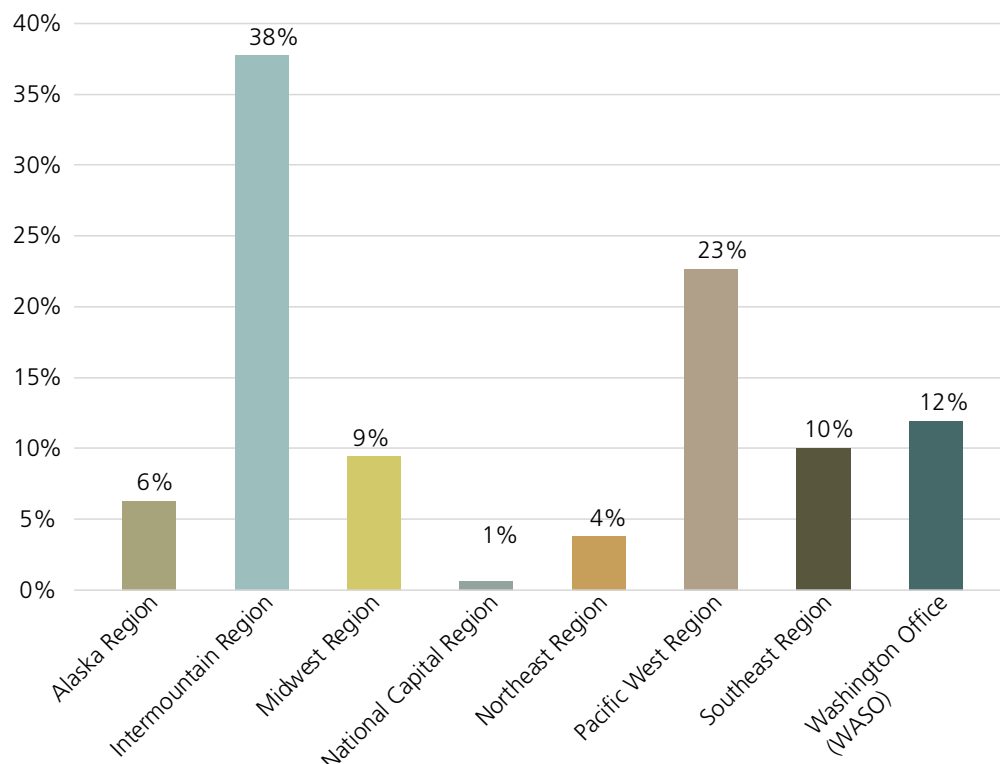
GIP interns worked throughout the National Park Service in 64 parks, six Washington offices, four inventory and monitoring networks, and one regional office. Approximately half of the GIP positions were in the Intermountain and Pacific West Regions (38% and 23% respectively). The number of GIP positions by park and region is shown in Table 6 and the percentage distribution for each region is shown in the graphic below.

Table 6. Distribution of GIP positions by NPS region based on the FY20 NPS Regions. The number of positions is shown in parenthesis after the park program.

REGION	# POSITIONS	PARK
Alaska Region	10	AKRO (2), DENA (7), GAAR, WRST, YUCH
Intermountain Region	60	BAND (4), BIBE, BITH, BLCA, BRCA (3), CAVE (3), COLM (2), CORO (3), CURE, DINO (4), ELMA (2), FLAG, FLFO (3), FOBU (2), GLAC (2), GLCA (2), GRCA (13), GRTE (2), IMRO, JODR, PARA (2), RIGR, SAAN, SAGU, WACO, WHSA, WUPA, YELL (2), ZION (2)
Midwest Region	15	BADL (6), BUFF (3), CUVA, HOSP (2), JECA, THRO (2)
National Capital Region	1	CATO, UERL
Northeast Region	6	FLNI (2), FONE (2), GATE, SHEN, WEPA (4)
Pacific West Region	36	DEVA (3), GRBA, JODA (4), JOTR (2), KAHO (3), LABE, LAKE, LAVO, MORA, NOCA, ORCA (2), REDW (2), SAJH (2), TUSK (2), WAPA (2), WHIS (2), YOSE (6)
Southeast Region	16	BISC, CALO (2), CHAT (3), FOCA (2), GRSM, GUI5 (4), MACA (2), SERO, TIMU (2)
Washington Office (WASO)	19	ARD (2), BRD, DSC, GRD (3), KLMN, NCBN, NSNS, SIEN (2), SWAN, WRD (4), WSD (2)

Note – the total number of GIP positions shown in this table may not correspond to the total number of positions for FY20 because some projects are associated with more than one park, network, or central office.

Percentage Distribution of GIP positions by NPS region

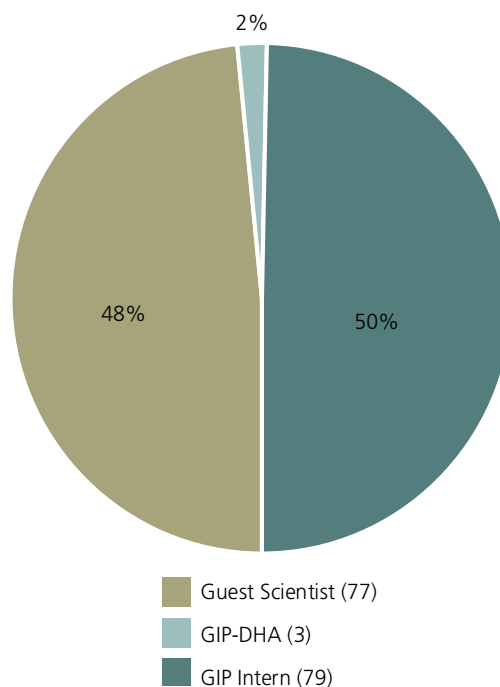




Yosemite GIP Jenn Aldred reviews park archives (NPS photo)

Distribution of Positions by Type

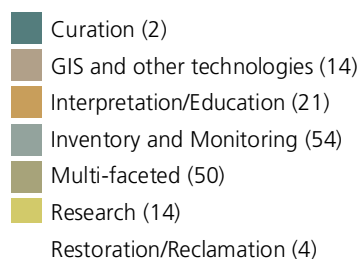
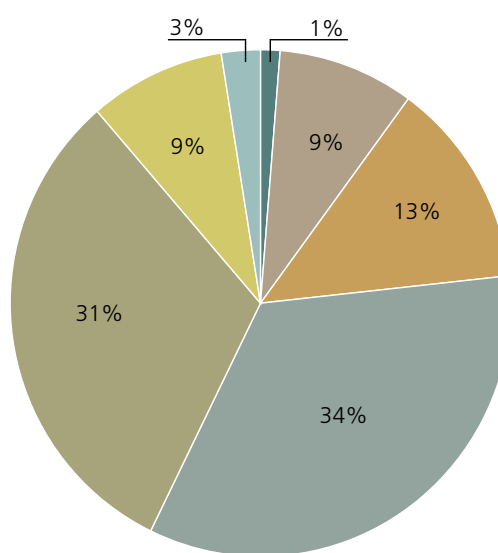
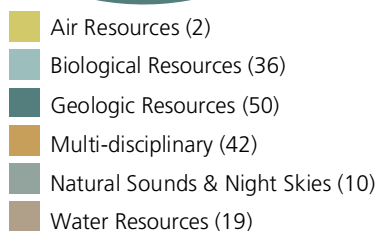
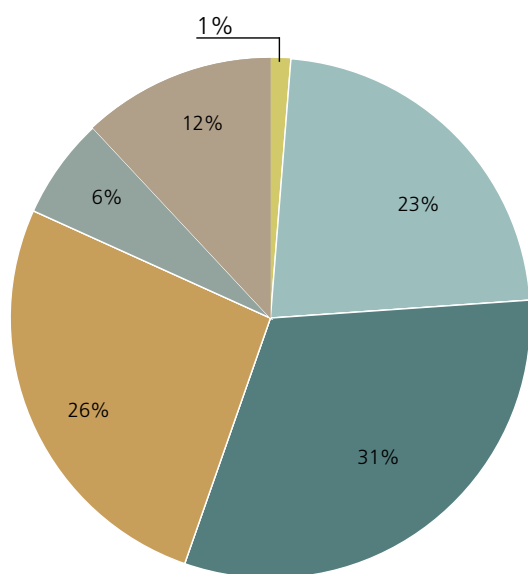
Half of the GIP internships (50%) in FY20 were entry-level GIP intern positions, 14% less than FY19.



Distribution of Projects by Discipline and Category

In FY20, GIP projects represented a broad range of natural resource science disciplines from biology to geology to hydrology. Thirty-one percent of the projects focused on geologic resources, followed by multi-disciplinary projects (26%) and biology (23%). The majority of the projects were inventory and monitoring (34%) followed by multi-faceted projects (31%), and interpretation/education (13%) category.

Distribution of GIP projects for each natural resource science field (left) and by project category (right)



Twenty-Four Years of Geoscientists-in-the-Parks

This year marks the twenty-fourth anniversary of the Geoscientists-in-the-Parks Internship Program! The GIP Program was created over two decades ago in 1996 by the Geologic Resources Division (GRD). The GIP Program was initially administered by Vera Smith, but shortly after was taken over by Judy Geniac. At the time, the program was called Geologists in the Parks and was created to facilitate the temporary placement of geoscience professionals in parks in order to meet geologic resource management and interpretive / education needs of the Service. GIP participants were undergraduate and graduate geology students, geoscience teachers, college professors on sabbatical leave, professionals, and retired geologists. During the inaugural year, the program placed 6 geologists through a partnership with the Student Conservation Association (SCA). In 1997, GRD began a public-private partnership with the Geological Society of America to assist with the program. In 1999, the program changed its name to GeoScientists-in-the-Parks Program and expanded to other natural resource fields such as hydrology, water quality, air quality, and integrated ecological positions.

In 2004, the Geological Society of America created an online recruitment system for candidates to apply. Under the leadership of Lisa Norby, and in collaboration with partners, the internship program grew from 50 positions in 2010 to 180 positions in 2018. Two thousand and ten also marked the beginning of a Diversity component to increase the hiring and recruitment of diverse interns. GIP reached a big milestone in 2014, when the program hired the 1,000th intern. In 2016, the program started collaborating with Stewards Individual Placement Program, a program of Conservation Legacy, which granted interns the eligibility to receive an AmeriCorps education award. Direct Hire Authority for Resource Assistants was granted to selective interns in 2017.

Over time, the program has been a tremendous success assisting parks with their varied natural resource science needs and has supported close to 2,000 interns across the Service. As the GIP Program transitions into the new Scientists in Parks Program we are excited for this opportunity to continue to support parks, central offices, and networks by developing the next generation of science conservation stewards and park advocates.



1997 - PRWI



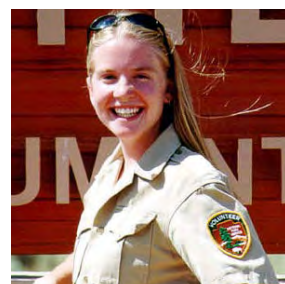
1998 - SHEN



1999 - ZION



2000 - CAVO



2001 - FOBU



1996

Expanded to
natural resources
1999

GSA online
application system
2004

500 GIPs
2008

1997

2000





2002 - DENA



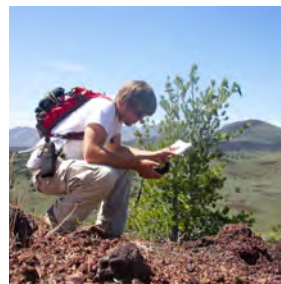
2003 - BRCA



2004 - WACA



2005 - BRCA



2006 - CRMO



2007 - PEFO



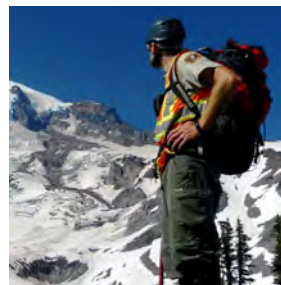
2008 - CRMO



2009 - LACL



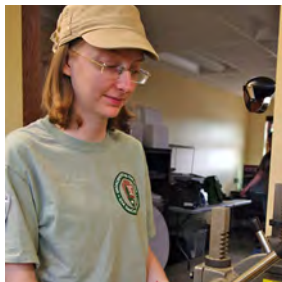
2010 - BADL



2011 - MORA



2012 - ASIS



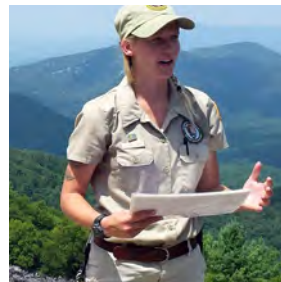
2013 - FLFO



2014 - BRCA



2015 - ELMA



2016 - SHEN



2017 - LAVO



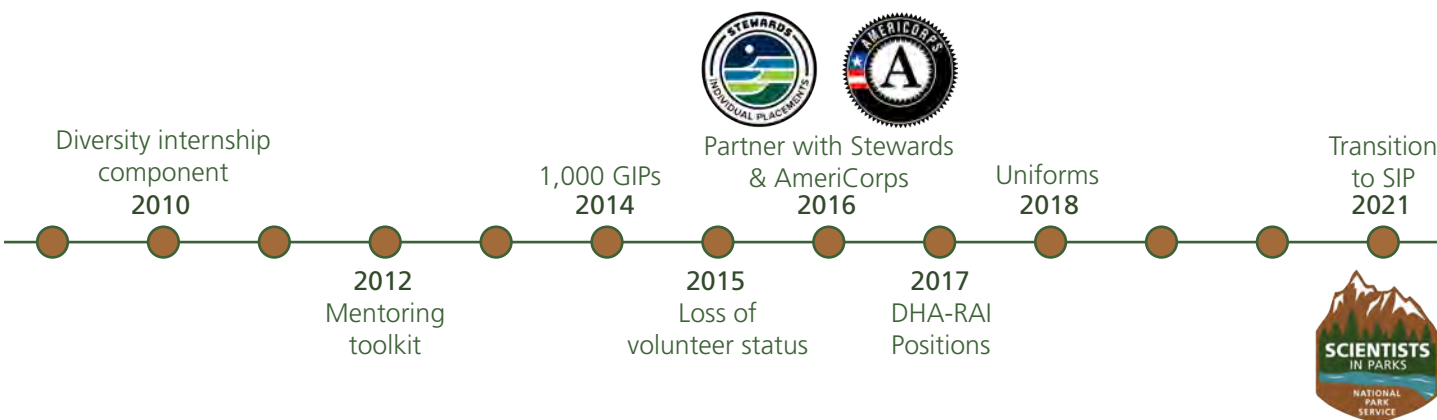
2018 - YOSE



2019 - KAHO



2020 - GRBA



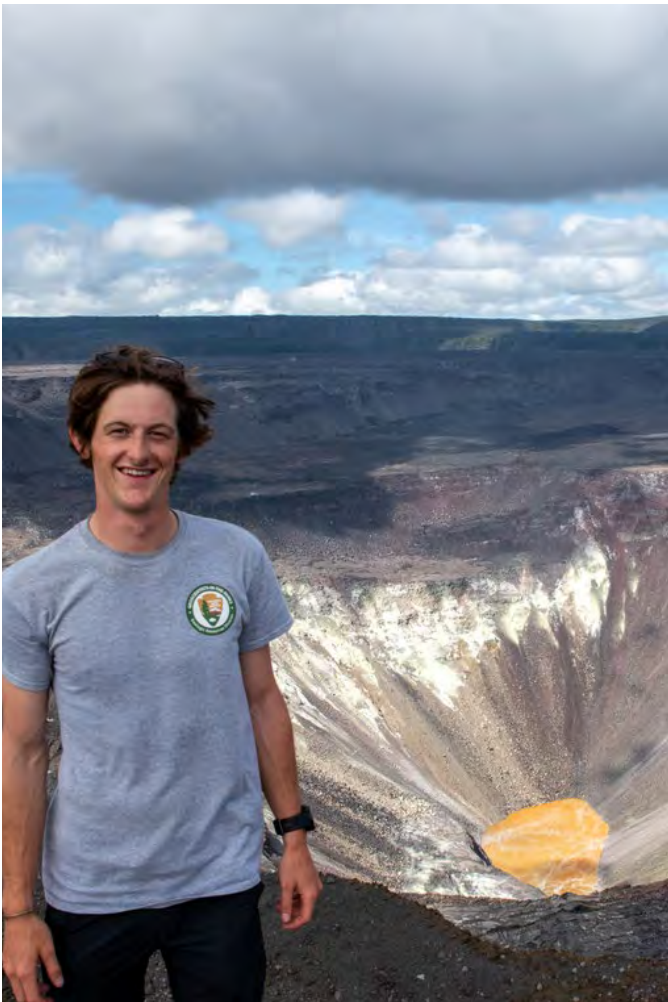
Participant and Project Highlights

HENRY CRAWFORD

Geomorphology Assistant
Geologic Resources Division, CO



GIP Henry Crawford worked as a Geomorphology Assistant assisting with coastal geology and terrestrial geologic hazards projects. Henry's assistance was integral for several geologic hazards monitoring installations at Grand Teton National Park, Zion National Park, and Hawai'i Volcanoes National Park. The most recent installation of long-range ground displacement meters on the caldera rim of Kilauea volcano was a significant and full team effort where Henry's previous experiences in rockfall monitoring installations and work while protected by rope was vital. The Geologic Resources Division are excited that Henry will continue his interest in Active Process Geology as a Master's student at The University of British Columbia in early 2021. His contribution to assisting Parks while a GIP has shown the power of the internship program for both public lands management and the early career of a young scientist.



GIP Henry Crawford stands beside the active crater at Kilauea, in Hawai'i Volcanoes National Park, Hawai'i (left photograph). Henry and GRD staff Eric Bilderback survey for geohazards in Hawai'i Volcanoes National Park, Hawai'i. (right photograph). (NPS photos)



HANNAH GERSHONE

Acoustics Assistant

Grand Canyon National Park, AZ

During Hannah Gershone's two GIP terms with Stewards she served as an acoustics assistant at Grand Canyon National Park (GRCA). This internship gave Hannah the opportunity to get to know the South Rim of the Grand Canyon. During her time as a GIP, Hannah learned how to deploy specialized acoustic monitoring equipment called GRAC031, GRCA032, and GRCA007. Due to the adjustments the program had to make for COVID-19, Hannah became a pivotal figure in assisting with transforming the Grand Canyon soundscapes program to focus more on interpretation and research projects. This involved using bioacoustics data to understand how species diversity is affected by plane flights overhead. Other projects Hannah took part in during her GIP internship included creating the first soundscape equipment training video and a manual for future soundscape interns to utilize. She also placed four borrowed acoustic set ups to capture overflight data. To further develop the resources for the soundscape program, Hannah had the opportunity to create soundscape field calendars from 2018-2020 that will be incredibly useful for future soundscape assistants. Throughout her term, Hannah and others on her team gathered hundreds of hours of overflight data for GRCA using SPLAT analysis. Now that Hannah's second term has come to an end, she will be attending the University of Oregon working towards her Master's in Environmental Literature.



GIP Hanna Gershone sets up a bioacoustics recorder along the South Rim of the Grand Canyon (left photograph). Hannah and another intern during a hiking expedition along the North Kaibab Trail, Grand Canyon National Park (right photograph). (NPS photos)

MARIA (MASHA) MARIONKOVA

Natural Resource Assistant
Water Resources Division, CO



During Masha's GIP term, she served as a Natural Resource Management Assistant with the Water Resources Division, where she helped to address Harmful Algal Bloom (HAB) issues across all 88 ocean and coastal National Parks. Due to recent and marked increases in frequency, duration, and number of HAB events, HAB has become one of seven priority areas identified by Regional Natural Resource Chiefs for the Ocean and Coastal Resources Program. During her term, Masha researched and summarized data to create a service-wide information library on park-specific HAB issues, monitoring efforts, and state, regional, and federal species-specific guidelines. This process required review of condition assessments, extensive literature review, data compilation from state and regional agencies, compiling rapid response protocols, and creating the reference library. Masha also improved the existing Coastal Resources Program HAB website where products and interactive maps are accessible to the public. Due to her diligent work, HAB project managers and other researchers will have the tools to quickly identify monitoring efforts, potential partnerships, and applicable guidelines in their area. Masha's term looked different than normal this year and was completed entirely virtually due to COVID-19 adjustments.



GIP Maria Marionkova's working on the HAB issues from her apartment in Fort Collins, Colorado due to the COVID-19 pandemic.



TRACEY FABER

Ecology Assistant

Denali National Park and Preserve, AK

At Denali National Park and Preserve, scientific illustrator Tracey Faber worked with Park Resources staff to create images and materials that could be used in education programs, as interpretive aids, and to demonstrate concepts key to Park management. The projects she worked on include: a tracks and signs guide to Denali wildlife; a depiction of seasonal cycles in the Park; an illustrated poster summarizing recent research on seasonally molting species whose visibility make them charismatic indicators of the complex and pervasive effects of climate change; and figures showing the geologic features of a landslide that has necessitated rebuilding a section of the park road. This was an inspiring opportunity to work with dedicated scientists who collaborate across a variety of fields to do broadly relevant research that informs their management of a vast, incredible landscape for the benefit of both local ecosystems and an international public. The images Tracey created will be a resource for Park staff as they seek to engage visitors and educate them about Denali and the concepts of ecology and geology that inform Park management. More of her work can be seen at traceyraefaber.com.



GIP Tracy Faber's scientific illustrations from left to right: (top row) Arctic Warbler- a Eurasian leaf warbler species whose only U.S. breeding grounds are in Alaska, a springtime Snowshoe Hare, a Winter-time Willow Ptarmigan. (bottom row) A family of Moose, a Snowshoe Hare being pursued by a Lynx. (NPS Images by Tracy Faber)

EMILY DO
Hydrology Assistant
Hot Springs National Park, AR



At Hot Springs National Park, Emily was responsible for the continued hydrological monitoring of the park's numerous thermal features. Emily monitored over 30 features each week for the 12 weeks of her project. She was also responsible for authoring a Standard Operating Procedure for Hot Spring's hydrology and radon programs, which included monitoring radon in the park's bathhouses. Emily also authored Hot Spring National Park's "Geology and Ecology of National Parks" USGS web page (<https://www.usgs.gov/science-support/osqi/yes/national-parks/hot-springs-national-park>). In addition, she assisted the park's wildlife and botany staff in updating educational information on a variety of park-native species, including: Cedar Waxwing, Cowbird eggs, Fine Lined Skink, Grey Quirrel, Leopard Frogs, Mourning Doves, Southern Black Racer, and the Red-winged Blackbird. Emily is currently enrolled in a Climate Modeling Master's program at the University of Michigan.



GIP Emily Do opening the access to a monitoring well at Hot Springs National Park, Arkansas (left photograph).

GIP Emily Do collects temperature, pH, and radon levels of Fordyce Spring in Hot Springs National Park, Arkansas (right photograph). (NPS photos)

DHA Intern Highlights

The DHA Resource Assistant internship (DHA-RA) is a unique internship opportunity within the Department of the Interior (DOI), with the objective of providing meaningful internship experiences. When the undergraduate or graduate student earns their academic degree they are eligible for career employment in the DOI. DHA-RA interns will have the opportunity to apply natural resource science expertise to public land management in the NPS and build a network with federal employees throughout the internship. These rigorous internships require specialized expertise and typically are available to upper level undergraduate or graduate students. The internships are designed to develop the participant's technical and creative thinking abilities, leadership skills, and problem-solving capabilities. DHA-RA interns are eligible to be hired directly into a permanent federal position after fulfilling the requirements of the internship.



Margaret Tueller, Natural Resource Management Assistant Denver Service Center, CO

During the summer of 2020 as a Geoscientists-in-the-Parks intern, Margaret Tueller worked with National Park Service Planning on the GIS team and on a national-level work group developing a process for development and use of management zones in park operations. Margaret studies GIS and Urban Planning at Arizona State University with a minor in Design Studies.

Management zones are one tool parks use to steward the land and resources in their charge. To improve this tool, Margaret looked at several examples of zones and devised a common data schema that will eventually be the basis for a park-service wide database of management zones. This is a critical first step for the park service in normalizing and improving management zones.

As a bonus, Margaret was able to participate in field work to Tuzigoot National Monument. Due to the pandemic, field work was drastically reduced but fortunately, the park service had a critical need for field work in Tuzigoot

which happens to be in Margaret's home state of Arizona. This allowed Margaret to experience park service field work and gain an understanding of how field work contributes to planning. Margaret participated as a full member of the Planning GIS team and also attended service wide GIS meetings including the GIS Council for the park service. She gave numerous updates and presentations of her work, culminating in a Story Map presenting a full summary of her internship.



GIP Margaret Tueller and the cultural resource team posing on the stairs up to the citadel of Tuzigoot National Monument, AZ (NPS photo).



Jessica Gilbert, Biology Assistant - Saguaro National Park, AZ

Jessica Gilbert is a PhD candidate in the Applied Biodiversity Sciences Program and the Department of Ecology and Conservation Biology at Texas A&M University. Her research focuses on understanding the dynamics of livestock grazing, traditional management, and wildlife conflict in the high Andes of Huascaran National Park, Peru.

During summer 2020, Jess continued in a long tradition of working as a Geoscientists-in-the-Parks intern in the high elevation forests of Saguaro National Park. She lived in the back-country all summer, helping with long-term monitoring of natural resources in the park's Wilderness. Her independent project was to monitor wildlife use of high elevation perennial springs with motion sensor game cameras. She also helped develop protocols to monitor aspen groves, perennial springs, and night sky quality. After graduating, Jess hopes to pursue a career with a federal agency or other organization to work on collaborative landscape level conservation initiatives.



Alice Morgan, Natural Resource Management Assistant - Western Pennsylvania National Parks, PA

Alice Morgan is a PhD candidate currently in her last semester at West Virginia University where she is completing a doctoral degree in Recreation, Parks, and Tourism and a graduate certificate in Geographic Information Systems. Her dissertation is focusing on adventure based STEM education.

While serving at the Fort Necessity National Battlefield and the associated Western Pennsylvania parks, Alice completed a variety of projects in the areas of education and natural resources. She worked to restore native monarch butterfly habitat and reintroduce native plants at the parks, participated in monarch butterfly counts, and designed interpretive material. One of her favorite projects was designing natural resource themed educational material for middle school and high school students including a set of lessons on the Hemlock Woolly Adelgid and the role of Palynology at Fort Necessity.

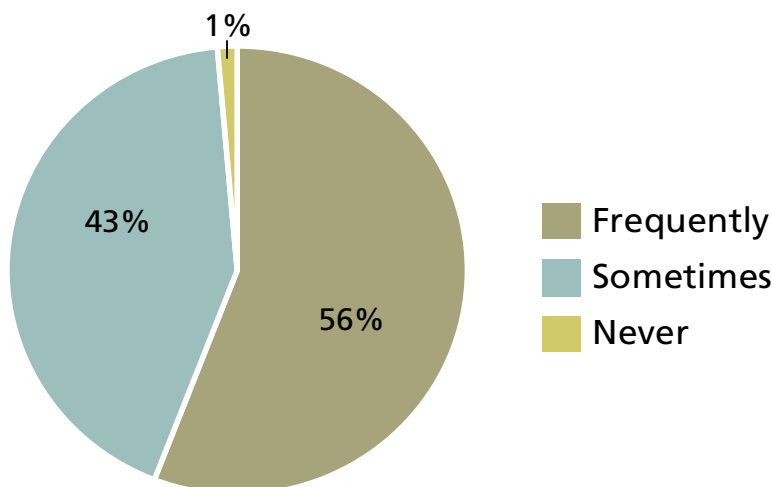
Program Evaluations

GIP Program participants were asked to complete pre-internship and post-internship evaluations in order to help the NPS understand the participants' backgrounds, experiences, and to improve the program and interns' experiences.

Pre-Internship

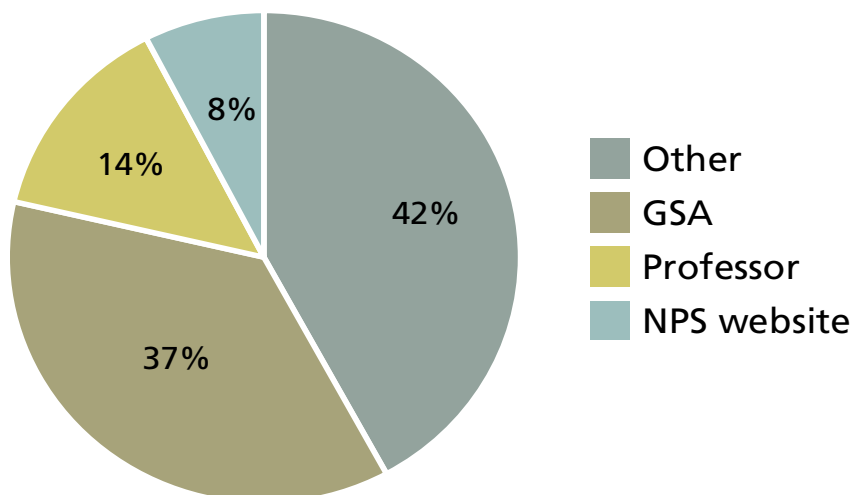
Prior to this internship, had you ever visited a National Park?

Prior to their internships, nearly all of the GIPs (99%) had visited a national park, with the majority of participants (56%) having frequently visited a national park.



How did you first hear about this internship?

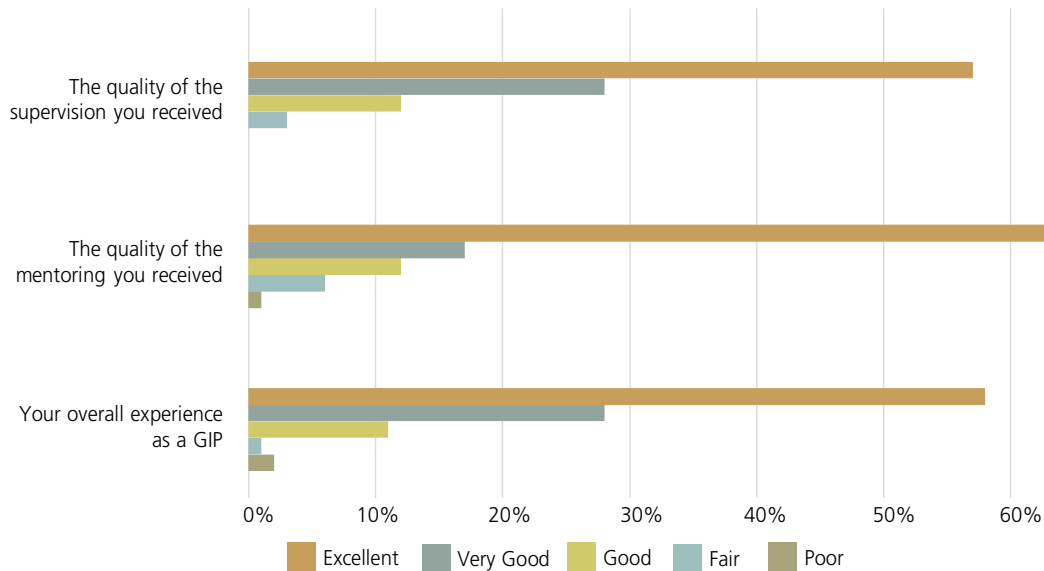
Forty-two percent of participants learned about the GIP Program from other sources. Thirty-seven percent learned about the program from information provided by The Geological Society of America, and the remainder of the GIP interns heard about the program from their professors (14%), NPS websites (8%). Other sources specified include NPS employees or affiliates, previous GIP program participants, university and conservation related job boards, and social media posts.



Supervision and Mentoring

When asked to rate the quality of supervision and mentoring GIPs received during their internship experience, the majority of participants (64%) reported receiving excellent quality mentoring, and 57% reported receiving excellent quality supervision. Fifty-eight percent of participants reported having an excellent overall experience as a GIP. In addition, 84% of participants reported having discussions about their career goals with their supervisors and 85% of participants reported that staff members in addition to their supervisor were available to provide guidance and support to the project.

Please rate the follow about your experiences with supervision, mentoring, and the internship as a whole:



"[I experienced] the perfect balance of guidance and the freedom to pursue projects at my own discretion. It is a powerful feeling, to be taught something and then be able to demonstrate your abilities."

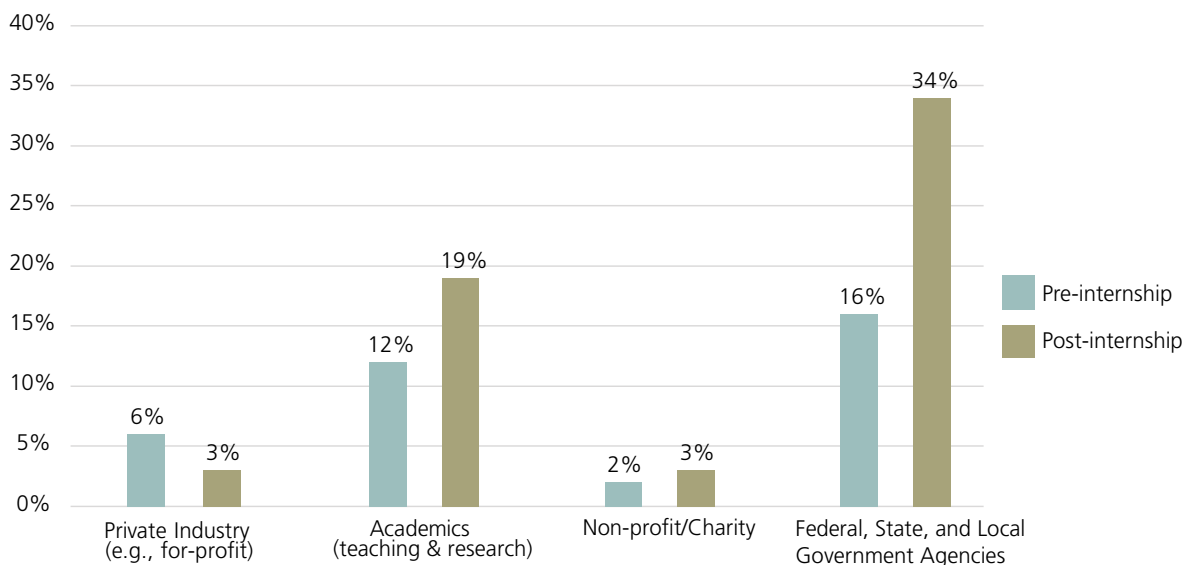


GIPs Charles Salcido (right) and Patrick Wilson (left) collecting fossils in float at Theodore Roosevelt National Park in North Dakota. (NPS photo)

Knowledge and Interest in Federal Careers

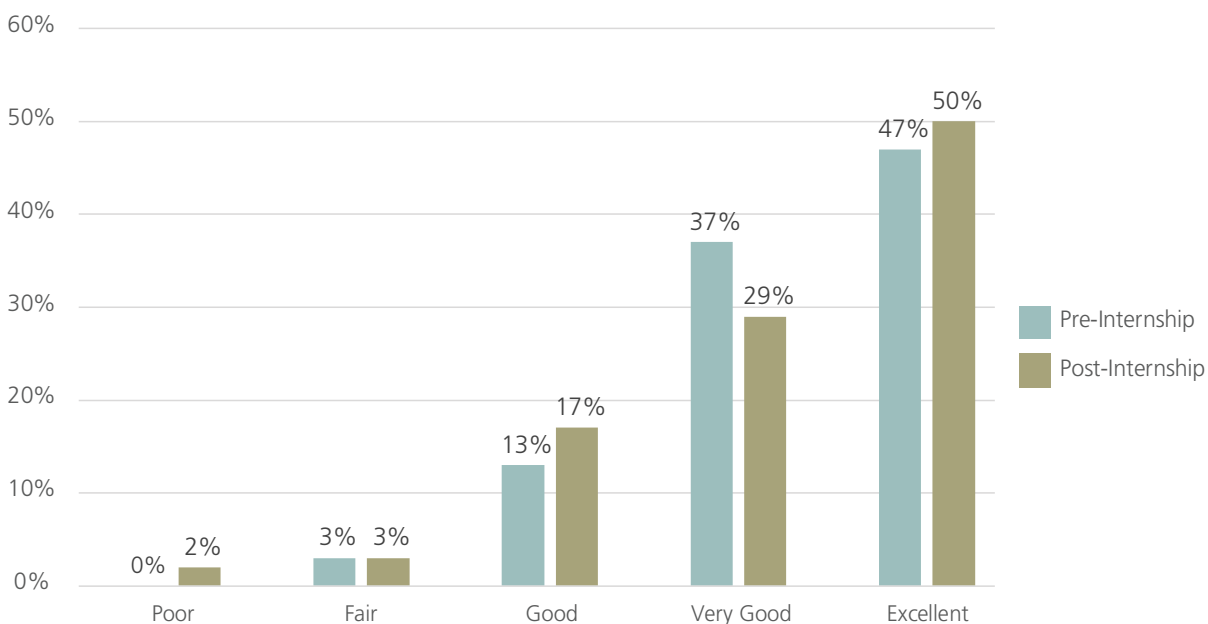
Participants were asked to report their knowledge of job opportunities and their interest in pursuing a federal career in both the pre-internship and post-internship surveys. The number of participants who reported an Excellent knowledge of job opportunities in Federal, State, and Local government agencies doubled from pre-internship to post-internship survey results.

GIP interns that reported an Excellent knowledge of job opportunities pre-internship and post-internship



GIP interns that reported an interest in pursuing a federal career pre-internship and post-internship

Participants were asked to provide their likelihood to pursue a federal career pre-internship and post-internship. In the categories of *Very Good* and *Excellent*, the number of responses increased after the completion of internships.



Participant Quotes

Did you enjoy working with the NPS unit that hosted your project?

- “This experience has been interesting. We live in a historic time where flexibility has to be considered in a way that it never has been before. The experience of working remotely has been education and enlightening. I am overjoyed that I am able to still participate and contribute in a meaningful way to an incredible and important project like the Theodore Roosevelt Paleontologic Resource Inventory.”
- “My time with White Sands National Park has broadened my knowledge on an interesting and educational topic of study. As a federally enrolled tribal member of the San Carlos Apache Nation, AZ, this opportunity has allowed me to learn and contribute to this data and research. It has allowed me to be close to my original homelands and have Native American representation.”
- “I have fallen in love with the beauty of Catocin Mountain Park’s landscape. I appreciate my supervisor’s commitment to making me feel welcome here, and the work has been enjoyable. My experience was positive despite the isolation that comes with the coronavirus.”
- “The environment at the Biological Resources Division (BRD) helped me thrive and really learn a lot. I was given room to figure things out on my own for projects which I think will be very beneficial for any future jobs I have. BRD and especially the Landscape Restoration and Adaptation Branch (LRAB) made me feel like my opinion and insight matter.”

Please describe your favorite aspect of your experience as a GIP participant.

- “Giving interpretive snowshoe hikes at Bryce Canyon National Park was undoubtedly my favorite part of the position--interacting with people from all over the world, providing a fun experience for them, and connecting them with the park’s resources has been such a fulfilling experience.”
- “I really enjoy the multidisciplinary aspect of the internships in the GIP program. At Carlsbad Caverns National Park, not only do I get to enjoy working on projects in my field of study, but I also get exposed to many fields that I never intended to be a part of. This cross cutting of disciplines ends up making me a better field scientist and preservationist.”
- “Part of my project is to help manage restoration efforts for coral reefs in the park. In recent years, the corals in Biscayne were threatened by a deadly disease, leaving most of our reefs decimated. My team has been tasked with collecting remaining corals for restoration efforts. I am really amazed by how many live corals we are seeing, and the diversity of those corals. Compared to last year, it seems that some reefs have had a comeback. I hope to implement these findings into an updated restoration plan.”
- “My favorite aspect of being a GIP participant was the opportunity to truly explore my interests. Prior to this program, I had never had an internship that pertained to environmental science. This really gave me insight into my field of study and helped me really create a long-term career plan based upon my experience working for a government agency.”

Do you feel that your work through the GIP Program contributed to the NPS Mission?

- “Definitely feel that my project work made a significant contribution towards the NPS. My project work led to the education of the public about a wide variety of things, which is one of the NPS’ main mission points. My work gave the public a direct opportunity to learn more about the Park Service through various media outlets.”
- “Absolutely. El Morro’s recent certification as an International Dark Sky Park means that astrotourism to both the park and the area will (and already has) see an uptick, and with a higher concentration of interest comes a rise in the importance of serving as an interpretive conduit to what the visitors see in the sky. My programs were very well-received and thoroughly enjoyed by all who attended (according to several people who came up to me personally), and I know that a lot of the presented information actually stuck and was absorbed, allowing people to feel closer to the night sky and thus more likely to visit park sites.”
- “I do feel that my project work has made a contribution towards the mission of the NPS. I feel that with every binder I helped organize, with every photo share drive I spent time on managing, with every transect I walked looking for fossils and with every mine I assisted in closing, those projects, however big or small, will go towards enhancing the park, its natural resources, and its safety for future visitors. I feel that I provided good stewardship at Joshua Tree and that the mission of the NPS was always in the forefront of my mind when decision making.”

- “Yes, I created the geology audio tour for the enjoyment and education of Yosemite National Park’s visitors. Four to five million people visit Yosemite every year. The app was created to increase accessibility to scientific information in the hopes that visitors will gain an appreciation for the landscape around them and feel inspired to take actions that will benefit the conservation of natural spaces for future generations. This directly addresses the key components of the National Park’s mission. Additionally, my work on the Cookie Rock slide aids in the understanding of rockfall hazards in Yosemite which serves to educate park managers and will increase the safety and enjoyment of visitors to the park.”

If you could make one recommendation to the Director of the National Park Service on how to better engage young people/adults and diverse communities what would you say?

- “I think that continuing to offer and potentially expanding internship programs such as this one is key to getting young people involved in conservation and public lands management. Having a paid entry-level work opportunity that also provides training and opportunities to shadow land managers and researchers is extremely valuable for young people interested in learning more about careers in NPS and has been a very formative experience for me. In terms of connecting with the general population of young people, keeping entrance fees low makes it possible for students and younger individuals to access our national parks.”
- “I think that the NPS is improving everyday to better connect with young people/adults and I was able to witness this during my time with Grand Teton. Using various forms of social media is the way to reach this demographic. Every young adult uses some form of social media and by posting interesting and important topics on the NPS social media outlets will reach and connect with these people.”
- “NPS is a great place for incoming graduates to gain experience doing sciences and performing field work. However, it can be a difficult place for many to gain long term traction. Opening up the doors for more career seasonal positions will bring in more competitive young applicants and improve the National Park Service.”
- “Keep Education programs properly funded. Within my position I interacted with so many kids of all ages, both in the park and in the classroom, and if you want to reach families that wouldn’t normally go to parks, reaching their kids is the best way. By supporting education specific rangers, and not just interpretation rangers who also sometimes work with schools, the NPS can strength bonds with the communities that visit each site. If kids have a good experience at a NPS site with their class they’re going to be more likely to want to come back on their own.”



GIP Sadie Textor leads an interpretive tour of Bryce Canyon National Park, Utah. (NPS photo)

Program Publicity

The following are examples of promotional materials, articles, and videos prepared about this year's GIP participants.



John Day Fossil Beds National Monument, OR

GIP Anne Kort finished her second term with John Day Fossil Beds in July 2019. Her paleontological research with park Paleontologist Nick Famoso, titled "GIS at John Day Fossil Beds: Novel analysis of locality data can inform better inventory and monitoring practices for paleontological resources at John Day Fossil Beds National Monument, Oregon, USA" was published by the online journal, Palaeontologia Electronica in April 2020. You can read the article here: : <https://palaeo-electronica.org/content/2020/2996-gis-at-john-day-fossil-beds>

GIP Anne performs paleontological surveying and collection at John Day Fossil Beds National Monument, Oregon. (NPS photos)



Coronado National Memorial, AZ

Estefanía Clavell served as a Natural Resource Management Assistant at Coronado National Monument in Arizona, working with the Unstable Management Program (UMP). Estefanía was profiled in episode 6 of Coronado's virtual conservation series, "Canyon Cafecito." Estefanía used this opportunity to speak about her experience in conservation and science as a Latinx. Watch her interview here: <https://www.facebook.com/156728524342714/videos/315947889788595>

GIP Estefanía Clavell hikes in Chiricahua National Monument to perform natural resource monitoring duties. (NPS photos)



Dinosaur National Monument, UT

GIPs Julia Anderson, Kellyn McKnight and Mosaics intern Thuat Tran worked at Dinosaur National Monument last summer, and had the opportunity to be featured on an episode of the Emmy Award-winning National Geographic Disney+ series "Weird But True," hosted by Charlie Engelman. Dinosaur National Monument, and the GIP researchers there talked about the history of the park and ongoing paleontological research on the show. Season 3 of "Weird But True" has been available on Disney + since August 14, 2020.



GIP interns conduct paleontological collection in the background of a shot for the National Geographic Series "Weird But True" at Dinosaur National Monument, UT. (NPS photos)



Shenandoah National Park, VA

GIP Aubry Andreas served as a Natural Resources Interpretive Assistant at Shenandoah National Park in Virginia. Their project and experience at the park was documented in the NPS web series “Shenandoah Shorts. The interview with Aubry can be viewed here: <https://www.youtube.com/watch?v=HGPT8-fSfOc>

GIP Aubry Andreas (left) films a Shenandoah park ranger for a discussion on bear safety. (NPS photos)

Jewel Cave National Monument, SD

2019 GIP intern—Sierra Heimel’s project was to continue cave mapping efforts at Jewel Cave National Monument. Her contributions have been added to larger research and published in a USGS report titled “Groundwater Characterization of the Madison Aquifer near Jewel Cave National Monument, South Dakota.” The report can be found here: <https://pubs.er.usgs.gov/publication/fs20193072>

GIP Sierra Heimel in Jewel Cave National Monument. (NPS photos)



Yosemite National Park, CA

2018 GIPs Mariah Radue’s and Nikita Avdievitch photogrammetry and laser scanning project at Yosemite National Park contributed to the academic paper “Quantifying 40 years of rockfall activity in Yosemite Valley with historical Structure-from-Motion photogrammetry and terrestrial laser scanning,” that was published in the science journal “Geomorphology” and is available through Elsevier: <https://www.sciencedirect.com/science/article/pii/S0169555X20300416>

GIP Mariah Radue conducting routine monitoring at Yosemite National Park, CA. (NPS photos)



Grand Canyon National Park, AZ

GIPs Diana Boudrau and Klara Wildrig’s paleontological research contributions are reflected in Grand Canyon National Park’s *Centennial Paleontological Resource Inventory*. A copy is available for download here: <https://www.nps.gov/subjects/fossils/park-surveys.htm>

GIP Klara Wildrig (left) and GIP Diana Boudreau (right) at an outlook and paleontological site in Grand Canyon National Park, AZ. (NPS photos)





GIP Aria Mildice during a survey in the Near East in Lechuguilla Cave, Carlsbad Caverns National Park, New Mexico. (NPS photo)

Conclusion

The National Park Service successfully completed the 24th year of the Geoscientists-in-the-Parks Program and has provided demonstratable benefits to NPS units, program participants, and the public. Since the program's inception, 1,968 interns have completed 1,132,628 hours of critical natural resource science work in 213 parks and central offices.

With the completion of 159 important science projects in 2020, totaling 97,736 service hours in parks and central offices, the NPS has been able to move science-based decision-making and resource management forward for the National Park Service. GIP interns gained valuable on-the-ground training, personal and professional development skills, and an increased awareness of conservation and environmental stewardship on public lands. Many interns qualified for the Public Lands Corps Non-Competitive Hiring Authority or the Direct Hire Authority. A program goal is to use these special hiring authorities to hire outstanding GIP graduates into the NPS or DOI workforce.

Funding from the NPS Geologic Resources Division, Natural Resource Stewardship and Science Directorate, regions, parks, networks, central offices, park associations, and the substantial cost share by the program partners has leveraged NPS funding to complete highly critical science projects for the NPS, training for America's youth, and furthering the NPS mission. These internship opportunities will help grow a stronger and more diverse STEM workforce in the NPS and throughout the American workforce.

The program partners offered innovative ideas that have improved the GIP Program in 2020, have recruited highly talented participants, and effectively managed the day-to-day program operations. In addition, this year's program partners successfully implemented COVID-19 policy to allow for the safe and responsible continuation of GIP programming. The NPS looks forward to transitioning Geoscientists-in-the-Parks, Future Park Leaders, and Mosaics in Science into the Scientists in Parks program, which begins its first season in 2021.

Acknowledgments

The NPS would like to gratefully acknowledge the outstanding efforts and contributions of its 159 program participants this year. Every person who worked as a GIP intern contributed valuable work, perspectives, and completed essential natural resource science work that furthers the goals and objectives of the National Park Service and grows each participant personally and professionally.

NPS supervisors and mentors also provided essential support for the program by identifying projects, overseeing the participant's work, ensuring project success, and providing mentoring and guidance to help the interns grow personally, technically, and professionally.

Park associations, parks, NPS Directorates, networks, and regions provided funding for GIP positions throughout the Service. This funding greatly increased the park's ability to bring interns to parks and central offices while gaining valuable work experience and complete critical natural resource science projects.

The NPS Youth Programs Division provided valuable input and guidance to help improve and grow the GIP Program. Special thanks to Youth Programs Division Chief, George McDonald, for his continued support and feedback on the program.

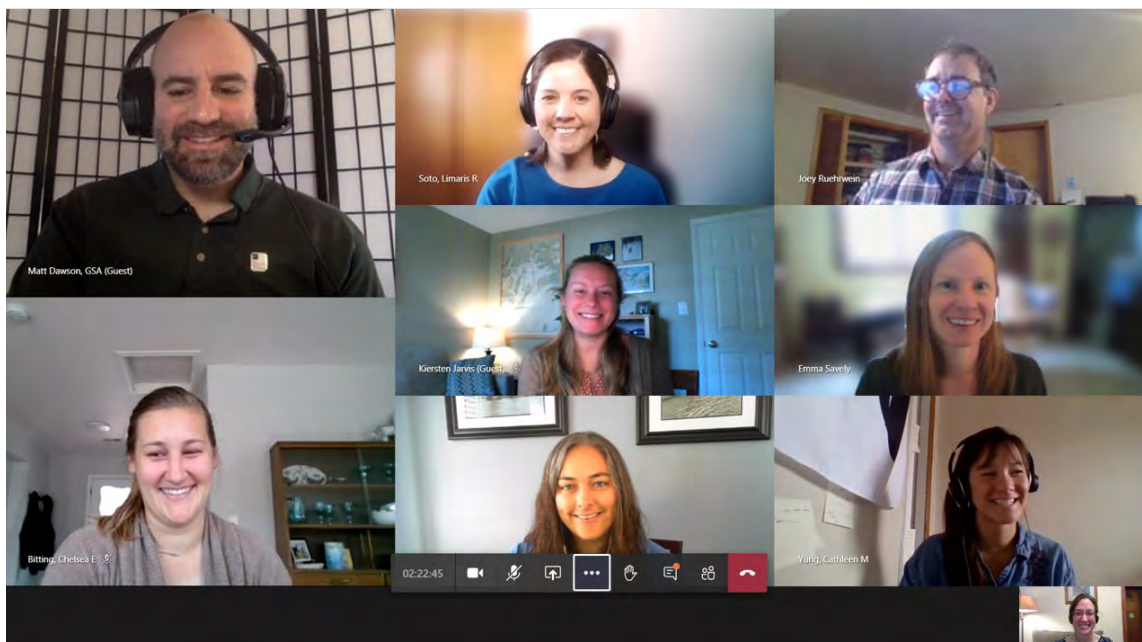
The GIP Program would like to thank Ray Sauvajot, Carol McCoy, and Harold Pranger with the Natural Resource Stewardship and Science Directorate, for their ongoing support of the program. Without their financial and administrative support, the GIP Program would not

be as successful as it is.

David Joseph, NPS retiree, updated and maintained the NPS program database. His invaluable work made it easy to respond to NPS data calls, track program costs and expenditures, and other information. Lisa Norby, NPS retiree, assisted with updating the financial records for the program.

GSA provided excellent support advertising and recruiting candidates to help the NPS find the best and brightest interns and managed the program's online application system. The NPS sincerely appreciates the great work of Matt Dawson and Lesley Petrie.

We also acknowledge Stewards for partnering with the GIP Program and providing outstanding support including completing all enrollment paperwork with the interns, working closely with the supervisors and GIPs to ensure success of the program, administering the AmeriCorps component of the program, and assisting with the financial aspect of the program. We appreciate the excellent work of Joey Ruehrwein, Krista Rogers, Emma Savely, Stacey Alfandre, and many others at Stewards.



The GIP Team during the Geoscientists-in-the-Parks Annual Program Meeting, which occurred virtually. Top to Bottom (Left Row): Matt Dawson, Chelsea Bitting. (Middle Row): Limaris Soto, Kiersten Jarvis, Krista Rogers. (Right Row): Joey Ruehrwein, Emma Savely, Cathleen Yung, and Lesley Petrie. (NPS photo)

Financial Contributions

Special Thanks to Sally and Bob Newcomb

Sally and Bob Newcomb began supporting the Geoscientists-in-the-Parks Program in 2007 through their partnership with the Geological Society of America Foundation (GSAF). They hoped to encourage aspiring scientists to grow and challenge themselves by pursuing once-in-a-lifetime work experiences in the unique setting of Denali National Park and Preserve, Alaska.

"Keeping up with the interns, reading their reports, going to their papers and posters at GSA meetings, all have been very rewarding as well as just plain fun, giving us a view of the world we could never otherwise have, as well as introducing us to a series of talented and dedicated young people." - Sally Newcomb

The program warmly recognizes Sally and Bob Newcomb for their support of GIP opportunities that help the next generation of stewards meet today's challenges. The Newcombs have partnered with GSAF to support 46 GIPs at Denali National Park and Preserve over the last 13 years.



Sally and Bob Newcomb hiking above Wonder Lake at Denali National Park and Preserve, Alaska.

Park Associations

In FY20, four park associations contributed to GIP projects throughout the service. The GIP program would like to thank the Shenandoah National Park Trust, Protectors of Tule Springs, Zion Forever Project, and the Grand Canyon Conservancy.

In addition, the GIP Program would like to thank Don Weeks, Physical Resources Program Manager, with DOI Regions 6-8 for his continuous support of geology projects across the region. We would also like to thank DOI Regions 3-5 for providing program funding.



Transition to Scientists in Parks

The National Park Service is launching the inaugural year of the Scientists in Parks (SIP) Program. The SIP Program consolidates the Geoscientists-in-the-Parks Program, the Mosaics in Science Diversity Program and the Future Park Leaders of Emerging Change Program into a single program focused on assisting national parks with natural resource management needs. The program is committed to providing all aspiring professionals—especially those underrepresented in science—with a unique opportunity to work on important real-world projects while building professional experience and a life-long connection to America's national parks. For more information, visit go.nps.gov/scientistsinparks or email scientists_in_parks@nps.gov.



Coordinating Organizations



National Park Service, Geologic Resources Division

The Geologic Resources Division assists the National Park Service and partners in the Service-wide coordination, support, and guidance necessary to understand and implement science-informed stewardship of geologic and associated park resources; reduce impacts from energy, mineral, and other development; and protect visitor values. The Division created and manages the GIP Program and cost shares positions with NPS units. GRD manages two Service-wide internship programs – the Geoscientists-in-the-Parks and Mosaics in Science Programs.

For more information about GIP: <https://go.nps.gov/gip>

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Stewards Individual Placement Program

Stewards Individual Placement Program offers land and water management agencies and other non-profit organizations opportunities to accomplish specific projects by providing individual placements (internships) on public lands. Stewards is responsible for administering the GIP Program once the interns have been hired (enrollment, payment of stipends, travel, and housing allowance, issue resolution, and preparation of final program report).

For more information about Stewards: <https://www.stewardslegacy.org/>

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The Geological Society of America

The Geological Society of America (GSA) is a global professional society with a growing membership of more than 20,000 individuals in more than 100 countries. GSA provides access to elements that are essential to the professional growth of earth scientists at all levels of expertise and from all sectors: academic, government, business, and industry. The Society unites thousands of earth scientists from every corner of the globe in a common purpose to study the mysteries of our planet (and beyond) and share scientific findings. GSA is responsible for advertising, recruiting, and managing the application system for the GIP Program. GSA Foundation annually supports multiple positions in Alaska.

For more information about GSA: www.geosociety.org

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go.nps.gov/gip

