



SCIENTISTS IN PARKS

PROJECT DESCRIPTION SUMMER 2021

NPS UNIT: GULF COAST INVENTORY & MONITORING NETWORK	PD #: 2021058
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Project Title: Using GIS to monitor and protect park natural resources, through a comprehensive online database for the Gulf Coast Network (1)

Primary natural resource discipline: Biological Sciences

Project keywords: GIS, Geographic Information System, GIS Technician, ArcGIS Online, Data Management, Metadata, Resource Management, Inventory & Monitoring

Location: SIP Intern will telework from the location of their choice.

COVID-19 NOTICE

As the COVID-19 pandemic continues to change and evolve, project timelines and structure remain flexible and it may be necessary to postpone start dates, begin work remotely, or reformulate the project’s description. Should any development in the COVID-19 outbreak impair a project’s timeline or results, the SIP Team will work with the park and project mentors to assess the situation and determine the best course of action at that time.

PROJECT DESCRIPTION AND WORK PRODUCTS

Position Description: Managing park natural resources is a complex task that requires vast amounts of spatial data. To make sound decisions, resources managers require spatial and concurrent information on, for example, the locations of sensitive habitats, waterbodies, cultural sites, key geological features, and the best travel routes throughout the park. There are two major components of this project: 1. Provide widespread access to GULN GIS data through ArcGIS Online and Portal for ArcGIS: The GULN currently stores a variety of GIS data on a GULN-wide server. These data are saved in multiple formats and are accessed with desktop GIS software, primarily ArcGIS Desktop and ArcGIS Pro. This delivery platform only serves the needs of GULN personnel in a desktop, network-connected environment and fails to make these data readily available to a broader audience. Additionally, there is an increasing reliance on mobile GIS for navigation, real-time problem solving, and informed data collection. . To help make the GULN’s geospatial data accessible to more people in more places, the SIP intern will help develop and implement a data processing routine that includes review, preparation, and publication of spatial data. Initially, server-based data will be compared with already-published data to ensure that the most current, complete, and accurate sources are used to represent a theme. Where gaps occur, or a GULN server-based dataset is deemed superior, that dataset will be prepared for publication. In preparation, files will be renamed to conform to established NPS file naming protocols. Where deficient, detail will be added to metadata and keywords so that all published data are discoverable and descriptive. Once preparation is completed, data will be published to the NPS-internal Portal, or the more widely accessible NPS ArcGIS Online account. 2. Agricultural use on leased-lands. Consolidate reports from lessees regarding land-use practices and relate them to existing geospatial records of tract/lease boundaries at Natchez Trace Parkway (NATR): The Parkway is 444 miles long, intersects with three states, twenty-six counties, and shares its boundary with thousands of adjacent landowners. Because of its size, the park is divided into management districts, which are often limited in their capacity to communicate with one another. Among the Park’s diverse natural and cultural landscape are tracts of land leased to the public for agricultural use. These tracts help to illustrate the region’s long history of farming and ranching. Accurate and accessible records of these leased tracts help park managers monitor impacts to natural, cultural, and scenic resources. A dynamic data system is needed to collect and store data annually to assess changes in crop type, lessees, pesticide and fertilizer use, and

livestock, to name a few. A leased-land GIS layer and land-use Access database already exist for this project, but the information is outdated and is not accessible to all staff. The SIP intern will be responsible for reconciling the existing GIS boundary layer with up-to-date land ownership records to create a spatially uniform boundary layer. Previous land-use records will need to be consolidated into a consistent digital format and related to the revised boundary layer so that spatial and tabular queries can be made to identify relevant records.

1. Provide access to GULN GIS data through ArcGIS Online and Portal for ArcGIS: The I&M Program is tasked with monitoring the health of park 'vital signs'. Vital signs are environmental metrics that can be used to indicate changes in ecosystem health over time. Reporting these changes to resource managers provides information that can be used to shape management actions. The GULN monitors water quality, terrestrial vegetation, amphibians, Texas tortoise, coastal geomorphology, seagrass, and land birds. Each of these vital signs relies heavily on geospatial data to inform projects from design to data collection and reporting. Additionally, many park managers and collaborators have come to rely on the GULN's GIS database for their own, non-I&M related work. This SIP project will help make this valuable geospatial database accessible to the GULN and park staff when and where it is needed. 2. Agricultural use on leased-lands: The development of a centralized land-use database of leased lands at NATR will ensure that lessee data is consolidated and integrated. Upon linkage with an updated GIS layer, lessee data can be used park-wide through a broadly accessible system such as ArcGIS Online. Timely knowledge of Who (is currently leasing the tract), What (the land is being used for), When (the lease starts and ends), and Where (the tract is located) gives park stewards the information they need to oversee the use of leased-lands. The updated system will help managers respond quickly with knowledgeable mitigating measures if issues occur, and mores specifically will help track chemical applications on leased-land.

This position is offered through the National Park Service's Scientists in Parks (SIP) Program in partnership with Stewards Individual Placement Program (Stewards) and The Geological Society of America (GSA).

Work Products: 1. A GULN online GIS database that serves data that are - well organized, consistent in file naming, and meaningfully described and discoverable through related metadata. 2. A formal repository that NATR can maintain into the future and ensures that updated data are readily accessible to all NATR staff. Although the design and delivery of the leased-land data product will be flexible, the system will need to be built using software platforms that are broadly accessible to NPS employees, such as ESRI and Microsoft products.

QUALIFICATIONS

Strong organizational skills. Thorough work products. Proficiency with ArcGIS Desktop. Experience with ArcGIS Online and/or Portal for ArcGIS. Ability to work independently and remotely. Connect and work with others through online collaboration platforms such as Zoom, Webex, Teams, etc. Upper level undergraduate or graduate student with at least 9-12 credit hours of GIS.

The applicant must be a U.S. citizen or U.S. permanent legal resident ("green-card-holder") between the ages of 18 and 30 years old, inclusive, or veterans up to age 35. Prior to starting this position, a government security background clearance will be required.

VEHICLE AND DRIVER LICENSE REQUIREMENTS

Applicant does not need a valid drivers license.

A personal vehicle is not required for this position.

If the SIP is required to drive a park vehicle for their position, Stewards will perform a driving records search, and the SIP's ability to drive a park vehicle during work hours will be contingent upon the results. SIPs will have to have had their license for 3 years or be over the age of 21 to be insured as drivers under Stewards insurance policy. Examples of things that will preclude a SIP from driving a park vehicle include: SIP under

the age of 21 years old that has been licensed less than three years, DUIs, multiple moving vehicle violations, suspended or revoked license, or three or more accidents (regardless of fault) in the last 3 years. If the driver's search is favorable, Stewards will provide driver's liability insurance while the intern is driving a NPS vehicle for their SIP position. If the SIP is denied coverage by Stewards, they will not be permitted to drive during work hours.

HOUSING

Park housing is NOT available. The intern will be responsible for finding housing in the nearby area. The SIP Intern will not be required to move and may work from the location of their choice. The intern will need access to high speed internet (not provided by internship), and be capable of shipping and receiving hardware like hard-drives, e.g., access to Fedex drop off/ pick up.

NATURAL AND PHYSICAL WORK ENVIRONMENT

NA

INTERNSHIP DATES

Start Date: 5/16/2021
Number of Weeks: 26 Weeks
Flexible Start Date: Yes


LIVING ALLOWANCE

26 Weeks (\$525/week =\$13650)

RELOCATION ALLOWANCE

\$350

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 SIP Program is supported through AmeriCorps by providing a Segal Education Award in addition to the SIP's living stipend and relocation allowance.

Upon successful completion of the SIP position, the SIPs (AmeriCorps members) are eligible for a \$1,638 - \$6,195 pre-tax education award that can be used for paying back student loans or for continuing their education. The amount of the education award is based on the length of the position.

AmeriCorps limits the number of terms an individual can serve to 4 terms. If an applicant has previously completed 4 SIP or other AmeriCorps positions, they will not be eligible to apply for an additional SIP position.

SUPERVISORS/MENTORS

<p>Primary:</p> <p>Jeff Bracewell jeff_bracewell@nps.gov 337-356-6166</p>	<p>Secondary:</p> <p>Jane Carlson jane_carlson@nps.gov 337-291-3074</p>
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