

POSITION ANNOUNCEMENT:

GEORGE MELENDEZ WRIGHT INITIATIVE FOR YOUNG LEADERS IN CLIMATE CHANGE

The National Park Service (NPS) is pleased to announce the 2017 *George Melendez Wright Initiative for Young Leaders in Climate Change* (YLCC) to provide a pathway for exemplary students in higher education (graduate students, advanced undergraduate students, and recent graduates) to apply their skills and ideas to park-based challenges and solutions. The Initiative offers 12-week paid internships which allow students to gain valuable work experience, explore career options, and develop leadership skills through mentorship and guidance while helping to advance the NPS response to climate change. Successful students may be eligible for non-competitive hire into federal positions for which they qualify following completion of all academic requirements.

CHANGES IN ROSEATE SPOONBILL COLONY DISTRIBUTION

Everglades National Park
Homestead, Florida

This is a climate change internship with the National Park Service in South Florida, also working closely with Florida Audubon's Everglades Science Center, to create a time series of GIS layers showing changes in Roseate Spoonbill nesting colony distribution over time compared to sea levels in Florida Bay, and provide outreach on birds, birding, and climate change to park visitors and at community outreach events on weekends. The intern will have housing and office space at Biscayne National Park, and frequently drive to Everglades National Park and the Everglades Science Center in Tavernier in the Florida Keys.

INTERNSHIP PROJECT BACKGROUND

Roseate spoonbills are an important estuarine predator in Everglades National Park and an indicator of ecosystem health for Florida Bay, and researchers hypothesize that they are responding to rising sea levels, a result of climate change. They currently nest in both in Everglades NP (ENP) and Biscayne NP (BNP) but their numbers have steadily declined since 1979 when 90% of spoonbills in Florida nested in the Bay. Although the number of nests in Florida has remained stable at about 1500, only 25% now occur in Florida Bay with the remainder occurring at approximately 20 new nesting locations throughout Florida, with recent nesting as far north as GA and SC. Since 2000 the Bay has experienced a 13cm increase in water levels due to increasing sea surface elevations. Spoonbills rely on low water on coastal wetlands where they forage to concentrate their prey during the nesting cycle and are highly susceptible to changes in wetland water levels. We attribute the movement of spoonbill nesting location northward and inland since 2000 to this rise. In addition, spoonbill nesting has moved farther north than previously documented, likely attributable to increased temperatures, allowing this largely tropical species to expand its range beyond all historical records. As an indicator species, the movements of spoonbill have broad implications for the effect of sea level rise, global warming and other aspects of climate change on both ENP and BNP.

The existing internship covers Roseate Spoonbill fieldwork and a review of existing literature on

spoonbill timing of nesting, as well as outreach in the form of guided bird walks and outreach in the form of booths at festivals and talks to schools and groups and promoting birding at the parks for 20% of a typical workweek. A goal for this project is to create a time series GIS layers of spoonbill colony geographical distribution from the 1930s to today while continuing 20% outreach to stress climate change effects on bird migration, the ecosystem health of Florida Bay, and reproductive strategies. One outreach product of this internship will be a PowerPoint presentation to interested groups.

INTERNSHIP PROJECT DESCRIPTION

This is a climate change internship with the National Park Service. The intern will report to the Chief of Resource Management and Planning at Biscayne National Park. The intern will assist the Fish and Wildlife programs at both Biscayne and Everglades National Parks, working with wildlife biologists and biological technicians in fieldwork and office tasks, as well as working closely with biologists and ecologists at the Everglades Science Center managed by Florida Audubon Society. The schedule (subject to change with community outreach events) will be Sundays through Thursdays, 8 hours a day.

Internship Tasks

The intern will review NPS data, Florida Audubon data, citizen science (eBird) data, and reach out to land managers across the US to get geographical information on spoonbill colonies. They will put the geographical information into GIS and create GIS layers showing Roseate Spoonbill nesting colony distribution for different time periods, then assist the Audubon scientist in correlating these distributions against sea elevation data and temperature data. In addition, the intern would continue outreach 20% of a typical workweek as described above. The intern would assist with hurricane shutdown preparations as needed.

Internship Products

National Park Service managers have a high priority management need to understand if the important top-level estuarine predator, the Roseate Spoonbill, is indeed responding to climate change in the form of sea level rise, by changing its nesting colony distribution. The GIS layers the intern will produce will showing distribution of spoonbill nesting colonies during different time periods will be one product; a second product will be a PowerPoint slides showing these different layers changing over time compared to rising sea levels and temperatures. Both projects will be useful to scientists and DOI park and refuge managers with spoonbill colonies, especially with future accompanying information from the intern, Audubon, and NPS scientists about connections to sea level rise.

QUALIFICATIONS

GIS skills (official or unofficial transcript showing a college-level or graduate-level GIS class or certificate), understanding of wildlife ecology (college level class or above), understanding of climate change especially sea level rise, at least one class of undergraduate level statistics so as to be able to run or understand statistical analyses such as correlations. Class and professional experience in wildlife ecology and fieldwork and/or outreach or environmental education or interpretation is a plus, but not required.

LEADERSHIP DEVELOPMENT

The intern will be working closely with the Chief of Resource Management at BNP (main supervisor), the Supervisory Wildlife Biologist at ENP, the Director of Research at Audubon Florida, and biological

technicians at each entity. Each will provide direction in science, data management, and critical thinking. The Chief of RM will mentor the intern in project management and in professional courtesy, such as how to request information from other land managers (review draft email requests, review telephone protocol, etc.), as well as in how to conduct public presentations and guided bird walks (the Chief has extensive professional experience in these areas). The intern will receive mentoring on her/his GIS product from park and Audubon scientists. The intern will develop leadership skills and learn real-world problem solving as s/he takes on ownership of this project in order to create outreach products and GIS products, leads outreach events independently, drives government vehicles, and has to make critical decisions based on weather, resource availability, etc. The intern will have the opportunity to explore other professional development and career options with both the National Park Service (interpretation and resource management) and non-governmental organizations (Audubon Society) with the supervisor as part of their mentorship experience.

DATES OF POSITION

Approximate start date is June 4, 2017 for twelve weeks. Dates are very flexible and the window of opportunity for project completion is October 31, 2017.

COMPENSATION

This initiative supports one student at \$15/hour for 12 weeks, or 480 hours.

HOUSING

Biscayne National Park is located 30 miles south of Miami on the open waters of Biscayne Bay. The climate is sub-tropical with mild dry pleasant winters (60-80 degrees) and hot, wet humid summers (80-90 degrees) with many mosquitoes present. Park Headquarters, Convoy Point, is located nine miles east of Homestead, Florida. Homestead provides medical (including a hospital), banking, groceries, and educational facilities. Miami provides all the educational, medical, sporting, and cultural features of a thriving multi-ethnic metropolitan area. The Atlantic Ocean and Biscayne Bay lie at your doorstep to provide great recreational opportunities of swimming, windsurfing, canoeing, fishing, boating, snorkeling and scuba diving on the coral reefs. A vehicle is required as there is no public transportation to the park.

Housing is provided: Shared two-bedroom, 1 bathroom fully furnished second-story apartment with a kitchen (including kitchen basic tools and appliances), and screened-in porch in the administrative area of Biscayne NP. The intern would receive a twin bed and share the room with a person of the same gender (M or F). Bedrooms are same-sex, although the entire house may be co-ed. The intern would need to provide her/his linens. The apartment is accessible via stairs. . Alternate housing options include rentals of condos, townhouses and apartments in the Homestead area. Prices vary greatly, depending on the size of the unit and if the unit is being shared by multiple roommates. A 1-bedroom unit is about \$800 per month or more.

WORK ENVIRONMENT

This project will mostly be air-conditioned office work, but there is a possibility for field days in the intense heat, humidity and biting insects that characterize South Florida summers. The intern could be working on an NPS or Audubon vessel. S/he could be walking on the BNP jetty, an ENP boardwalk, or mangrove muck in Florida Bay. Strong currents, rain, and exposure to stinging and biting organisms are all possibilities. For any possible Biscayne Bay or Florida Bay field work (for example, to assist occasionally with sea turtle nest monitoring or White-crowned Pigeon monitoring), the intern will have to climb in and out of a boat multiple times, sometimes from docks and sometimes from the water and wade into water/muck. The intern should be in good health and have good physical stamina in order to load the boat in the hot sun and walk in water/mangrove muck and/or public areas while carrying heavy equipment. Field work will be cancelled during unsafe conditions (e.g. storms, high seas, strong winds). Office work will involve data entry, GIS work, creating presentations and other outreach materials, and other computer-related work.

CONTACT INFORMATION

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