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SSIO 2015 Internship Opportunity Position

Internship Information

Project title: **Characterizing Human Use Impacts Of Recreational Vessels In The Northeast Reserve, Puerto Rico**

NOAA mission goal: **Resilient Coastal Communities and Economies**

Hypothesis or objectives: **The Puerto Rico Local Action Strategy specifically identifies the need to reduce the impacts of vessels on coral reef ecosystems through establishing vessel use zones, installing navigational and mooring buoys, rerouting large vessel traffic, and establishing no-anchor zones. Very little empirical data exists on the quantity and locations of commercial and recreational vessel use in the North East Reserve. This internship intends to provide spatial/temporal data and analysis on vessel use in the Reserve that will greatly inform the development of a vessel zonation strategy.**

Academic status: **Undergraduate**

Area(s) of discipline: **Computer And Information Sciences, Earth Science, Environmental Science Studies, Geometrics, Natural Resource Management, Remote Sensing Technology**

Internship location: **Silver Spring, MD**

Duties and responsibilities: **High resolution satellite information will be collected monthly along the central trunk of the Northeast Reserve (NER) from Fajardo to Culebra, Puerto Rico. Multiple images will be acquired each month using a sampling strategy (two weekday, two weekend, and major high use events) to be able to explore seasonal and inter-monthly use patterns. The scenes will be interpreted to detect vessels and an ArcGIS project will capture the location and attribution. This is considered a pilot project to explore the utility of this approach for other locales but also develop automated detection techniques for identifying vessel traffic.**

This project will provide key information on when, where, how many, and what types of vessels are frequenting the NER. Spatial and temporal patterns will be explored to understand the magnitude and types of human uses, but also inferences can be made about how these activities are impacting the coral ecosystems.

Special skills/training **Image Processing, GIS, Spatial statistics.**

required: **Fluency in spanish would be useful but not required.**

Expected outcomes: **The student will enhance their remote sensing and spatial analytic skills, and explore linkages of human use impacts to marine environments. The student will work with a interdisciplinary team including experts in social science, spatial ecology, modeling, and conservation management.**

Guidance and supervision: **Guidance will be provided by the Principal Investigator and staff scientists on how to conduct the analytics.**

Posted or modified date/time: **Wednesday, September 24, 2014 - 11:39:00 AM**

Internship Travel Information

Purpose (student's role): ---

Mode of transportation: ---

Date(s): ---

Destination: ---

Estimated cost: ---

Source of funding: ---

Mentors Contact Information

Name: **Tim, Battista**

Organization: **National Ocean Service (NOS)**

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Co-Mentor name: ---

Co-Mentor email: ---

Agency or organization: ---



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