SSIO 2015 Internship Opportunity Position

Internship Information

Project title: The Kona Coast: A Biogeographic Context
NOAA mission goal: Healthy Oceans
Hypothesis or objectives: The purpose of the Kona Coast Integrated Ecosystem Assessment (IEA) is to perform a formal synthesis and quantitative analysis of information on relevant natural and socio-economic factors along the Kona Coast, Hawai’i in the Main Hawaiian Islands (MHI). This IEA process helps enable an Ecosystem Approach to Management and aims to involve citizens, scientists, resource managers, and policy makers. The Kona region was chosen based on its dynamic ecology and the vast history of research done in this area. It is home to a diverse group of species, including ornamental fish, coral reefs, sea turtles, cetaceans and manta rays. It is also home to eco-tourism, aquaculture industry, and recreational and aquarium fisheries. The balance of these human activities with the natural processes along the Kona Coast is important to sustain ecosystem health in this important region. The project proposed here will support the above Kona Coast IEA by comparing long-term oceanographic patterns between the Kona Coast and the MHI. This comparison will provide a broad oceanographic context for the Kona Coast, highlighting how it differs from the MHI as a whole. This comparison will require synthesizing new products describing the oceanography along the Kona Coast, including sea surface temperature, chlorophyll a, sea surface temperature and chlorophyll a fronts, inorganic suspended sediments and wave exposure. These products will be analyzed spatially and temporally to better understand and describe the dynamic oceanography of the area in support of EAM. A short report will be written (including maps) describing these oceanographic patterns along the Kona Coast.

Academic status: Undergraduate
Area(s) of discipline: Earth Science, Ecology, Geography, Marine And Aquatic Sciences, Oceanography, Remote Sensing Technology
Internship location: Silver Spring, MD
Duties and responsibilities: The student will be involved in synthesizing products describing the oceanography along the Kona Coast, including sea surface temperature, chlorophyll a, sea surface temperature and chlorophyll a fronts, inorganic suspended sediments and wave exposure. The student will also be involved in analyzing and describing spatial and temporal denoted by these products to support the IEA and EAM processes along the Kona Coast.
Special skills/training required: The student will need a basic understanding of oceanography and geographic information systems (GIS) for this internship. They will learn and have opportunities to apply advanced GIS processing and analytical techniques to datasets along the Kona Coast, Hawai’i. The student will also have the opportunity to practice, refine and apply their understanding of cartography and...
practice, refine and apply their understanding of cartography and oceanography in a real-world context. It will also provide them with an opportunity to practice and improve their scientific writing capabilities, in the context of ecosystem approaches management.

Expected outcomes: The student will benefit by learning new GIS analytical techniques in a hands on way, which will be applicable to many other career paths in the marine and earth sciences. They will also benefit by experiencing what it is like to work in an interdisciplinary environment, including oceanographers, marine biologists, geospatial scientists, developers, social scientists and landscape ecologists. This experience will give the student a good understanding of what it is like to work in the dynamic and cross-cutting field of coastal and ocean science.

Guidance and supervision: The student will be guided by marine scientists working in the fields of marine science, remote sensing, geospatial information sciences and spatial modeling. They will receive guidance about cutting edge spatial analysis techniques, and making the leap from science to ecosystem based management applications.

Internship Travel Information

Purpose (student's role): ---
Mode of transportation: ---
Date(s): ---
Destination: ---
Estimated cost: ---
Source of funding: ---

Mentors Contact Information

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