BIOGEOGRAPHY

NCCOS NATIONAL CENTERS FOR COASTAL AND OCEAN SCIENCE

CCMA

NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

CENTER FOR COASTAL MONITORING AND ASSESSMENT

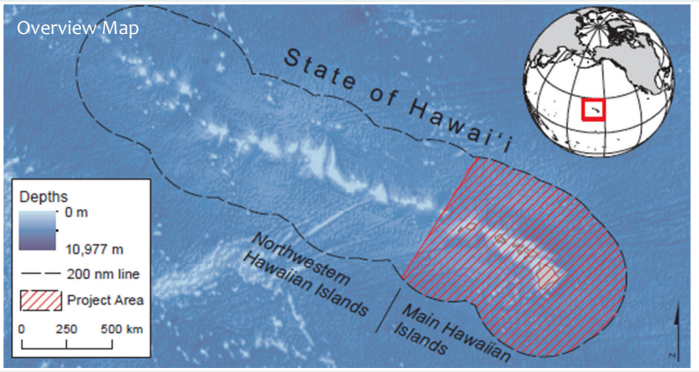
MISSION

To develop products on the distribution and ecology of living marine resources and their associated habitats for improved ecosystem-based management.

MARINE BIOGEOGRAPHIC ASSESSMENT *of the* MAIN HAWAIIAN ISLANDS

PROJECT BACKGROUND

The state of Hawai'i is working to develop local renewable energy sources to reduce its dependence on fossil fuels. Most of the State's potential renewable energy resources (notably, wind) are located in federal waters from 3 to 200 nautical miles offshore. The Bureau of Ocean Energy Management (BOEM) regulates the leasing, construction and operation of most renewable energy projects in federal waters, and is required to evaluate potential human, coastal and marine impacts from these projects. BOEM partnered with the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Coastal Ocean Science (NCCOS) to gather biogeographic information in support of this evaluation around the Main Hawaiian Islands (MHI). This assessment is one component of the larger BOEM and State of Hawai'i process to evaluate renewable energy proposals offshore of the MHI.



PROJECT OVERVIEW & OBJECTIVES

NCCOS compiled existing, readily-available spatial data and synthesized new products around the MHI, describing the physical and biological marine environment, benthic habitats, fishes, sea turtles, marine mammals, and seabirds. Analyses and data products were specifically tailored to fit within BOEM's framework of offshore lease blocks. Data products range from simple animal distribution maps to mathematical models depicting the predicted distributions of animals. For some animals, this assessment marks the first time that their space-use patterns were mapped or modeled in the MHI, and made available online. Collaborations with a variety of federal, state, academic and non-governmental organizations were crucial to this work.

BOEM Bureau of Ocean Energy Management

NOAA

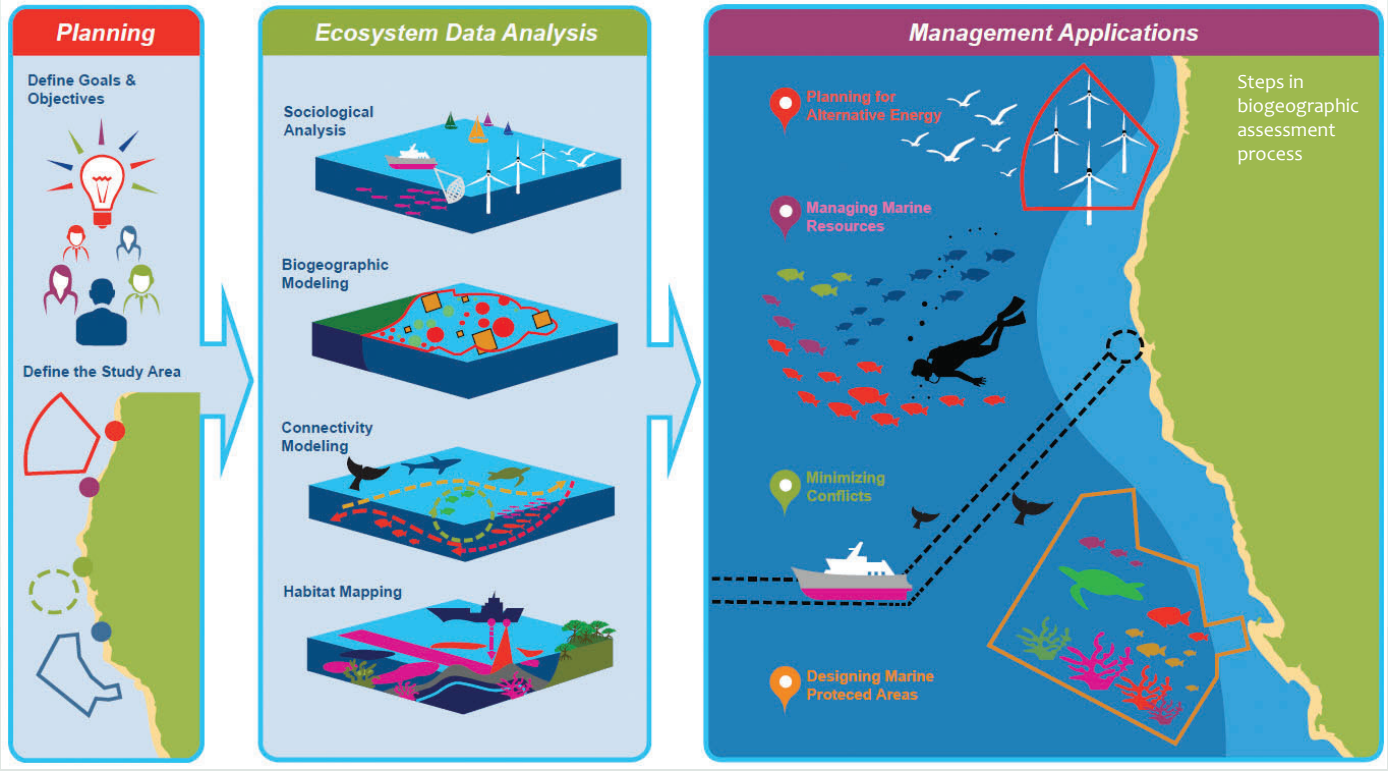
September 2016

REPORT & PRODUCTS

Products from this project are publicly available. They include: (1) technical report (pictured right), (2) spatial datasets , (3) online map viewer, (4) web map services. These products are available from the project website: **http://coastalscience.noaa.gov/projects/detail?key=163**

THE BIOGEOGRAPHIC PROCESS

Biogeography is the study of spatial and temporal distributions of organisms, their associated habitats, and the historical and biological factors that influence their distributions. The concept of a "biogeographic assessment" builds on these principles, and provides a process (pictured below) to compile and evaluate spatial and temporal data, characterize ecological patterns, fill data gaps, as well as measure and map spatial uncertainty in support of ecosystem-based management. This process was developed by NCCOS through two decades of collaboration with scientists and resource managers. Products from biogeographic assessments are developed using Geographic Information Systems (GIS) and statistical software packages, and can range from simple distribution maps to complex predictive models.



MORE INFORMATION & ADDITIONAL ONLINE RESOURCES

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