Department of Ocean and Resources Engineering  
_Seminar_

Collaborative Nautical Charting and Scientific Seabed Mapping Missions

By

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Abstract

New positioning, depth sounding, and seabed imaging technology has revolutionized hydrography in the past 15 years. Unfortunately, many government hydrographic offices may be unable to apply this technology to their entire area of responsibility because the resources available are limited and must be devoted to the regions of highest vessel traffic volume. However, high resolution mapping equipment and techniques are now in widespread use throughout the academic research fleet, and many groups now have the ability to acquire high quality bathymetric data. This presents an opportunity for hydrographic offices to assist these newer users of seabed mapping technology with data acquisition, processing, and interpretation assistance in exchange for access to modern data for updating nautical charts in lower traffic areas. A cooperative mapping project in the Northwestern Hawaiian Islands (NWHI) undertaken by multiple agencies will be described. NOAA's Office of Coast Survey was asked to assist with this effort to ensure that the data acquired met the applicable International Hydrographic Organization (IHO) standards. The resulting dataset was used to generate boundaries for the newly established Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve, supports ecosystem mapping and fisheries management, and is the first new hydrographic data for nautical charts of this region in over 70 years. This project has been a model for continuing collaboration between academic and government ocean-mapping organizations.