



NOAA INTEGRATED OCEAN AND COASTAL MAPPING: MAP ONCE, USE MANY TIMES

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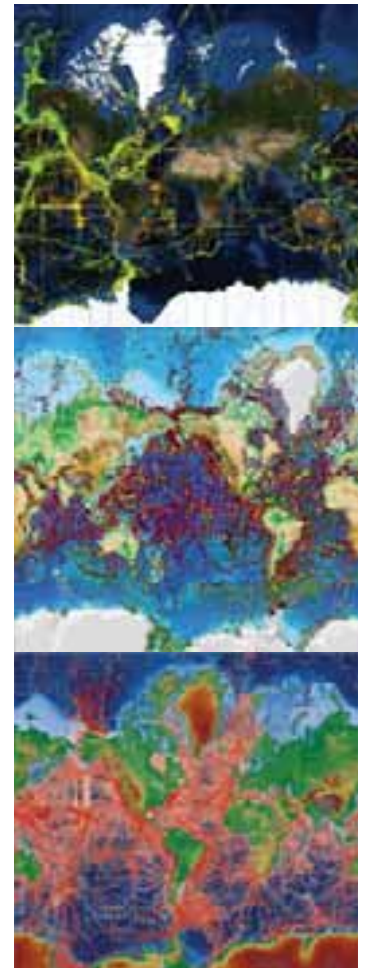
As the NOAA IOCM Coordinator, my role is to work with NOAA's 21 programs with ties to OCM mapping, the federal Interagency working group on Ocean and Coastal Mapping, and other external partners such as states, academia and the private sector to efficiently acquire, steward and deliver mapping data for as many operational, ocean science, coastal management and spatial planning uses as possible. GIS is an important aspect of IOCM data delivery, particularly for the IOCM objective to support "Maximum Use and Re-Use" of OCM data. This objective, and the GIS tools that support it, blend into the realm of planning and decision support. My interest in attending the ESRI Oceans Summit is to better understand where GIS is headed for ocean and coastal resource management, explore GIS solutions to improve delivery of NOAA's OCM data for decision support, share NOAA IOCM team requirements, and contribute to the discussion on how GIS can better serve the ocean science and management community.

IOCM DEFINED

The practice of collecting multi-purpose ocean and coastal mapping data for use by many users is known as Integrated Ocean and Coastal Mapping (IOCM). As defined in the Ocean and Coastal Mapping Integration Act of 2009, ocean and coastal mapping is the acquisition, processing, and management of physical, biological, geological, chemical, and archaeological characteristics and boundaries of ocean and coastal areas, resources, and sea beds using a variety of mapping technologies. The NOAA IOCM program implements planning, acquiring, documenting, managing, integrating, and disseminating these data and derivative products in a manner that permits easy access to, and use by, the greatest range of users.

NOAA IOCM supports a "whole ocean" approach to management and planning, leveraging limited resources by identifying common mapping requirements, ensuring proper stewardship of mapping data to consistently generate the products that were originally intended, as well as the innovative re-use of these data to derive additional products to serve national needs. NOAA is adopting these practices throughout its mapping programs with the philosophy of "map once, use many times." This mapping goal is also reflected in the concepts of efficient government as promoted by the National Ocean Policy, OMB Circular A-16 on Coordination of Geographic Information and Related Spatial Data Activities, and other federal directives.

IOCM objectives include streamlining operations, reducing redundancies, improving efficiencies, developing common standards, and stimulating innovation and technological



development.

PROCESS

IOCM involves three primary objectives:

- **Integrated Data Acquisition** among mapping organizations within NOAA and other agencies to avoid duplication of effort and increase efficiency by leveraging joint capabilities;
- **End-to-End Data Management** to provide an efficient system to assure that all data collected is consistently processed and provided to the national archive centers; and
- **Maximum Use and Re-use** of the total archive of mapping data to consistently produce and distribute the products that were originally intended, as well as the innovative re-use of data to produce additional products to serve national needs.

COORDINATION

Coordination is an essential IOCM element. NOAA embraces a cooperative approach to implement integrated mapping, and actively partners within and outside of the agency. NOAA offices with mapping interests have formed an IOCM Team to share expertise, modify projects to meet more than one objective, and improve NOAA's ability to use data for multiple applications (i.e., bathymetry for charting and bottom type for habitat mapping). NOAA works with a broad range of partners on mapping, from other federal and state agencies to regional organizations, counties, academia and the private sector.

At the interagency level, NOAA co-chairs the Interagency Working Group on Ocean and Coastal Mapping (IWG-OCM) with USGS and USACE. The IWG-OCM was established in 2006 by the Subcommittee on Ocean Science and Technology to "facilitate the coordination of ocean and coastal mapping activities and avoid duplicating mapping activities across the Federal sector as well as with State, industry, academic and non-governmental mapping interests."