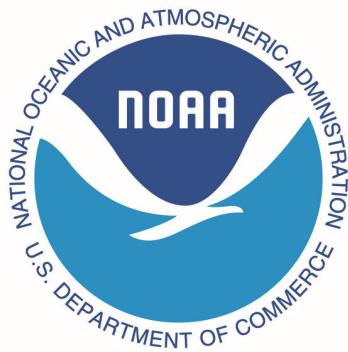


NOAA Office of Coast Survey



2015-2019 Strategic Plan Summary

Navigate with Confidence



National Oceanic and Atmospheric Administration

Office of Coast Survey

1315 East-West Highway

Silver Spring, MD 20906

director.ocs@noaa.gov

nauticalcharts.noaa.gov



NOAA's Office of Coast Survey is the only mandated U.S. government authority and source for providing coastal and Great Lake navigational charts.

Coast Survey manages the hydrographic surveys – by NOAA vessels and contractors – that collect the data, we maintain the nation's charts, we format and distribute the charting products and hydrographic data, we search for underwater debris and wreckage, we research and develop new hydrographic technologies, and we create the models that observe, measure, and forecast ocean phenomena.

Our extensive data is a unique national resource for ocean and coastal mapping (dating back to the 1800s) for multi-use applications. Coast Survey's products are science-based, customer-driven and contribute directly to safe and efficient navigation, economic uses of the oceans, and life along the coasts

We are privileged to lead the nation's integrated ocean and coastal mapping activities.

The Coast Survey director serves as the national hydrographer and leads U.S. contributions toward setting global technical standards and policies.

Mission

- Provide the nation with navigation products and information that improve ocean-going commerce and coastal economies, keep people safe, and protect coastal environments.

Vision

- The nation's economy is stronger, waters safer, and coasts more resilient.



BE THE EXPERTS

To be the experts in our scientific and technical fields, we will continuously evolve our capabilities and capacities to meet our responsibilities as the national authoritative source for hydrography, nautical geospatial data, marine modeling, and U.S. navigational charts.

Maintaining the highest levels of expertise means that we must continually improve our internal processes and efficiencies, and build (human, physical, and cyber) resources.

TRANSFORM CHARTING

Many disparate groups use Coast Survey data and products. To provide charting data for new uses and new systems, we must re-engineer our chart production environment for timelier and more accurate navigation products, in an array of formats. We must evolve distribution mechanisms and support product customization to respond to changing customer needs.

Transforming the charting process requires compilation and synchronization of databases and systems, and building fit-for-use products and distribution systems. Improvements include matching charted shorelines to the real world, publishing critical updates within a week of receipt, and gaining access to official NOAA charting data in a responsive array of systems and formats.

Coast Survey will...

- ✓ fulfill customer requirements by correlating strategic decisions to improved market management and analysis
- ✓ expand access to Coast Survey expertise through additional partnerships, as well as improved education communication
- ✓ ensure that Coast Survey authoritative data is freely and easily accessible to the public
- ✓ organize Coast Survey data holdings as a collection of interoperable databases, on a robust infrastructure that provides 24 X 7 reliable distribution and customer service, and ensure that computer files, databases, and server replication capability at Coast Survey's disaster recovery site is at 100 percent
- ✓ provide Coast Survey employees with robust and cutting edge capacities and capabilities for effective mission execution, and maintain a work environment that encourages employee collaboration and attracts new talent

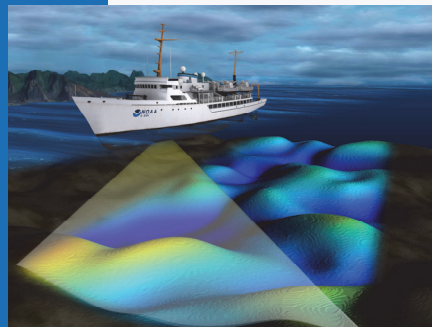
Coast Survey will...

- ✓ partner with the U.S. Army Corps of Engineers, U.S. Coast Guard, and National Geodetic Survey's Remote Sensing Division to build workflows and specifications to enable direct ingestion of their data
- ✓ establish a chart evaluation system, with methodologies for sampling data quality and taking corrective actions, using reports of current and future vessel traffic, public source orthophotos, reported discrepancies, accidents, and derived bathymetry
- ✓ let end users know precisely when and where updates are applied to charts
- ✓ implement geo-referencing tools to support the distribution of web enabled metadata
- ✓ geo-reference all volumes of the United States Coast Pilot and offering the publication in international standardized format

INNOVATE HYDROGRAPHY

Expanding Coast Survey's access to data from a broad range of sources will improve chart content and provide more data for multiple purposes. By diversifying bathymetric data acquisition, we can also reduce effort duplication and maximize the use of resources.

In addition to increasing data sources for chart updates, we will use dynamic sources (i.e., automatic identification system [AIS], satellite-derived bathymetry, and crowdsourcing) to update survey priorities. Priorities will consider: tight underkeel clearance areas, completely unsurveyed areas, chart discrepancies, reported accidents, new uses and products, stakeholder requests, and national geographic priorities.



The NOAA fleet is the lynchpin of U.S. hydrographic surveys for navigational charts. Coast Survey recognizes the need to sustain the vessels and equipment, and to better align NOAA survey schedules with cartographic timelines and customer expectations.

Coast Survey will...

- ✓ increase the use of externally-produced data for identifying chart discrepancies, updating charts, informing product development, and revising hydrographic survey priorities
- ✓ use the revised survey priorities to determine the best methods (i.e., NOAA fleet, navigation response team, contract survey vessels, federal and state partners, and others) for acquiring hydrographic data in highly changeable areas or in priority areas where NOAA vessels are not scheduled to survey
- ✓ fully utilize contractual hydrographic surveying opportunities
- ✓ improve data contributions from trusted partners
- ✓ in partnership with the National Geophysical Data Center, establish a global crowdsourced bathymetry database
- ✓ develop processing techniques to improve usability of seafloor characterization (backscatter) data for uses beyond navigation

Coast Survey will...

- ✓ engage in the fleet recapitalization process to promote replacements for hydrographic ships, and engage in NOAA's technology recapitalization process to ensure all NOAA ships have ocean mapping capabilities
- ✓ evaluate and implement new technologies that improve data acquisition, i.e., operationalize GPS water level buoy technologies
- ✓ contribute to efforts to ensure that all NOAA hydro ships are operating for 240 days at sea with a 90% utilization rate
- ✓ revise survey specifications to meet customer requirements and international standards
- ✓ assess every survey plan for opportunities to incorporate additional requirements and increase the use of data beyond navigation

CHANGE NAVIGATION

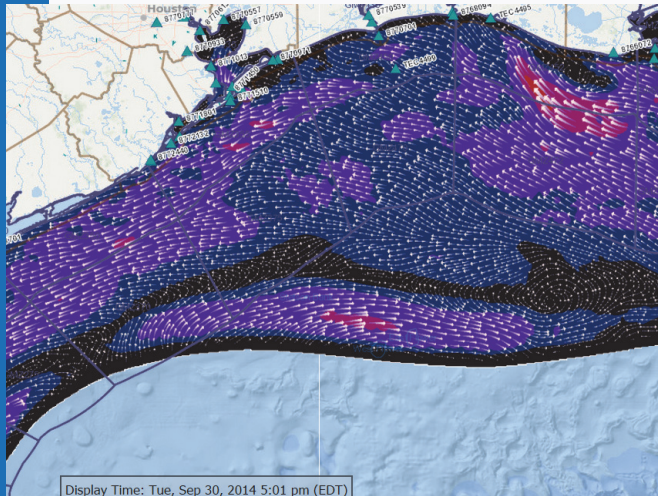
Coast Survey is supporting the global transition to electronic navigation (often associated with electronic chart and display systems, or ECDIS), and we plan to demonstrate a substantially advanced set of precision navigation information products. Mariners and other customers need flexible and integrated data (to replace the current single data streams) in systems of their choice, so we will make our data ready for easy consumption by commercial enterprises that can provide value-added products and services.

Completing the transition to global electronic navigation will require technical systems updates, and support for Coast Guard regulatory revisions as they promulgate new electronic chart and publication standards. We also need to access charting data from neighboring countries, as we lead the implementation of international standards for next-generation electronic charts and overlays of diverse interoperable maritime information.

Coast Survey develops the ecological and storm surge models used in coastal resilience planning and emergency management. The next five years will be transformative for this evolving science.

Coast Survey will...

- ✓ analyze the needs and requirements of the top 20 ports relative to NOAA navigation services data availability
- ✓ create a one-stop dissemination portal for integrated digital NOAA navigation data, including charts, publications, water levels, weather, models, and high-resolution bathymetric overlays
- ✓ package weather, water levels, and hydrodynamic models into an easily digestible format for consumption by electronic chart systems, portable pilot units, and mobile devices
- ✓ develop real-time and predictive electronic chart prototypes that include all navigation information (charts, bathymetry, models, waves, currents, wind, vessel traffic), based on an in-depth understanding of decisions facing the mariner (i.e., under-keel clearance management)
- ✓ improve chart standardization, reduce redundancies where charts with different scales overlap areas, and increase large scale coverage



Coast Survey will...

- ✓ expand coverage of Coast Survey's ecological and storm surge models into four new geographic areas
- ✓ lead the collection of technical requirements for model-based coastal intelligence, in partnership with NOAA's Center for Operational Oceanographic Products and Services, NOAA's Integrated Ocean Observing System Program, National Weather Service, and other partners participating in the ecological forecasting and storm surge roadmaps
- ✓ develop model support for ecological forecasting in the Gulf of Maine and Lake Erie
- ✓ improve forecast guidance (model output) accuracy with more advanced coastal inundation predictions on the East Coast, Gulf of Mexico, and Micronesia