

# U.S. National Report

## U.S.-Canada Regional Hydrographic Commission Meeting

RDML Gerd F. Glang, National Hydrographer, Director Office Coast Survey  
RDML Timothy Gallaudet, Hydrographer of the Navy  
John E. Lowell, NGA Chief Hydrographer

March 16, 2015

# U.S. mapping and charting responsibilities



## U.S. Department of Commerce

- NOAA – Hydrography/national shoreline surveys for legal boundaries, tides and currents, nautical charts for U.S. territorial waters (to U.S. EEZ 200 nautical mile limit)



## U.S. Department of Defense

- Army Corps of Engineers – Dredging and maintenance of navigable channels and inland navigable waterways
- CNMOC – Surveying international waters
- Nat'l Geospatial Intelligence Agency – Charting int'l waters for U.S. military, national Notice to Mariners



## U.S. Department of Homeland Security

- Coast Guard – Maintenance of maritime aids to navigation
- FEMA – Disaster response and floodplain mapping



## U.S. Department of Interior

- U.S. Geological Survey – Interior to coastline base maps

# Office of Coast Survey Highlights: 2014

- New Strategic Plan
- Staffing and Budget
- New Chart Production Processes
- 1681 square nautical miles surveyed
- Global Crowdsourced Bathymetry database partnership with NOAA Geophysical Data Center\*

\* This afternoon

# National Ocean Service

Holly Bamford  
Russel Callender

Management  
and  
Budget

NOAA Integrated Ocean  
Observing System  
Program

Center for  
Operational  
Oceanographic  
Products and  
Services

Office of  
Coast  
Survey

National  
Geodetic  
Survey

Office of  
National Marine  
Sanctuaries

Program  
Offices

Office of  
Response and  
Restoration

National  
Centers for  
Coastal Ocean  
Science

Office of Ocean  
and Coastal  
Resources  
Management

Coastal  
Services Center

# OCS' New Strategic Goals

- **Be the Experts**

- continuously evolve the capabilities and capacities required to be the authoritative national source of navigation products, coastal mapping data and coastal services

- **Transform Charting**

- provide an expanded user base with timely, quality navigation data in media-neutral formats.

- **Innovate Hydrography**

- expand capabilities to acquire data from a broad base of sources, improve chart content and use data for multiple purposes.

- **Change Navigation**

- provide mariners at home and abroad, adaptive and integrated decision support tools that they need for safe and efficient navigation



# Office of Coast Survey

Director: Rear Adm. Gerd F. Glang  
Deputy Director: Kathryn Ries

NOAA IOCM

## NOAA/UNH Joint Hydro Center

Co-Director: Andy Armstrong

## Program Planning & Management

Chief: Curt Loy

### Marine Chart Division

Chief: John Nyberg

Raster/Paper Charts

Electronic Navigational Charts

Critical Corrections Update Service

Nautical Data

### Hydrographic Surveys Division

Chief: Eric Berkowitz

Operations

Atlantic Hydrographic Branch

Pacific Hydrographic Branch

### Navigation Services Division

Chief: Russell Proctor

Coast Pilot

Customer Affairs

Navigation Response

### Coast Survey Development Lab

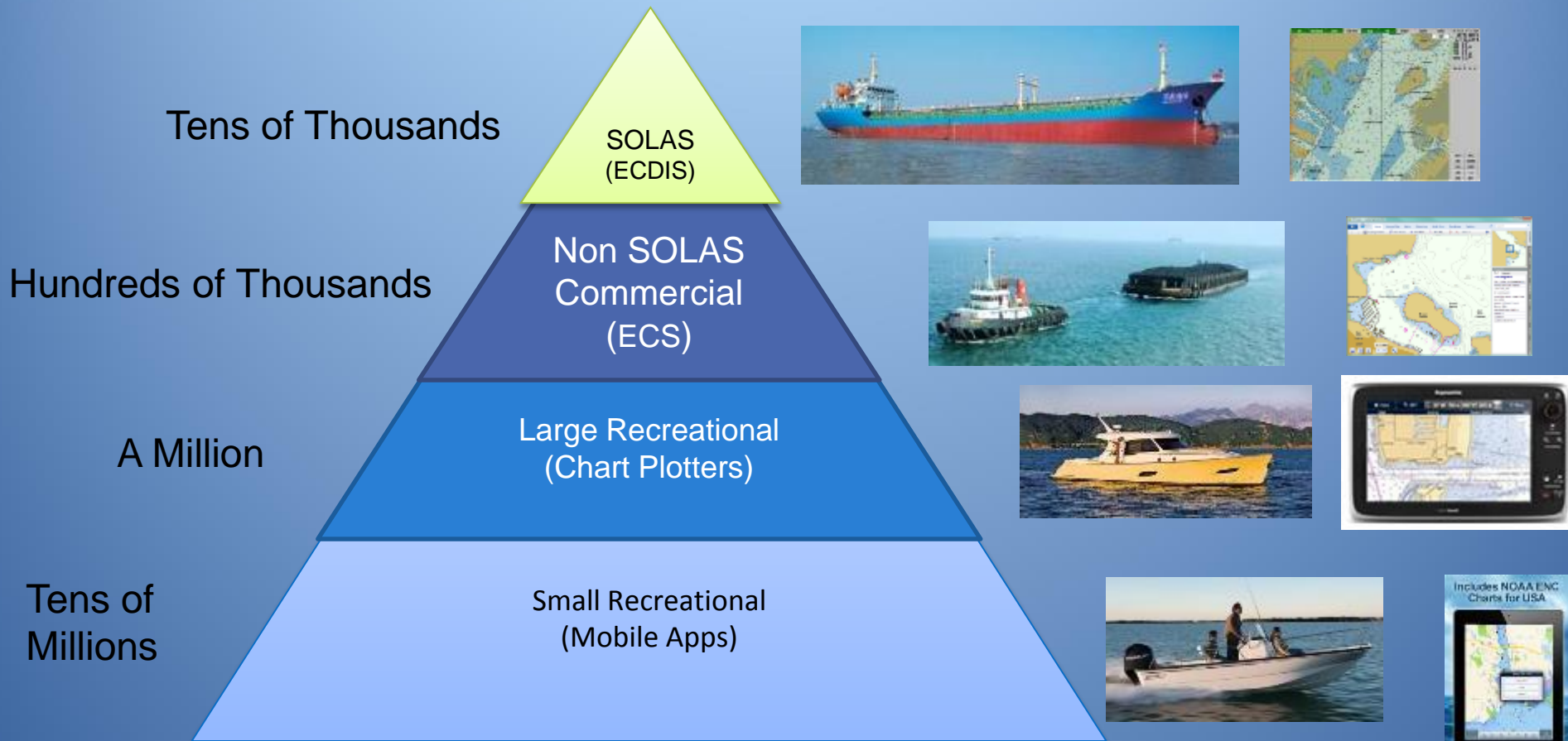
Chief: Richard Brennan

Hydrographic Systems & Technology

Cartographic & Geospatial Technology

Marine Modeling & Analysis

# Expanding User Base- New Modes of Use





# NOAA Ends Printing of Paper Charts

As of April 13, 2014, the US government no longer produces and stocks lithographic prints of paper nautical charts

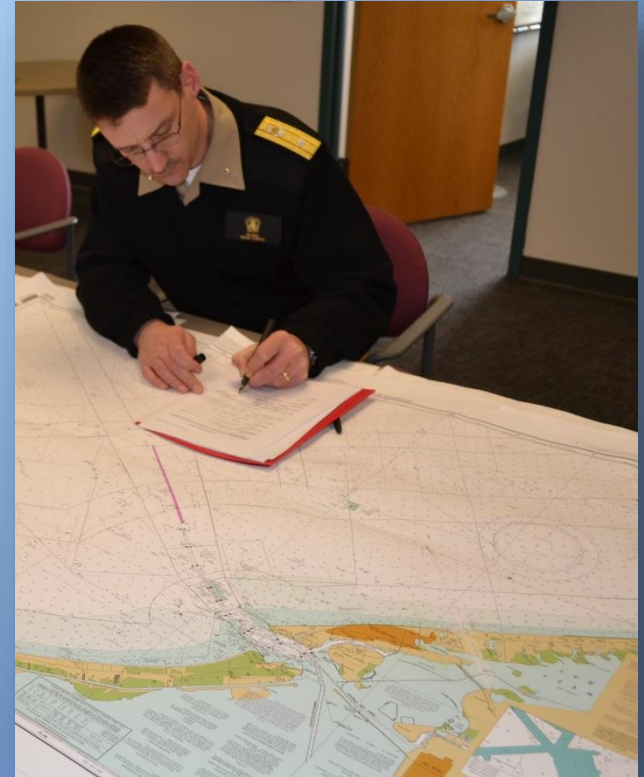
Paper Print on Demand (POD), pocket, and booklet charts as well as raster and electronic (ENC) nautical charts and paper Coast Pilots continue to be available through commercial vendors.





# NOAA transitions paper chart production to private companies

- Coast Survey certifies seven print-on-demand chart printing agents
- Gives agents flexibility to offer different color palettes, various papers, a cleaner margin, and a range of services
- Charts maintained by NOAA, corrected with Notices to Mariners up to the week of purchase



# NOAA Chart Distribution *for navigation*

## **Chart printing agents**

OceanGrafix

East View Geospatial

Frugal Navigator

Marine Press

Paradise Cay Publications

The Map Shop

Williams and Heintz Map Corporation

Defense Logistics Agency

## **Free downloads from NOAA**

NOAA RNC®

NOAA ENC®

## **ENC Distributors**

C-MAP Norway

Norwegian Hydrographic Service  
(Primar-Stavanger)

National Geospatial-Intelligence  
Agency

United Kingdom Hydrographic Office

Transas Ltd.

Baker Lyman and Co, Inc

Titafin LLC

Maris AS

ChartWorld

Creative Map Corp.

# NOAA Charts *not* for navigation

## Free downloads

PDF charts

BookletCharts

Historical maps and charts

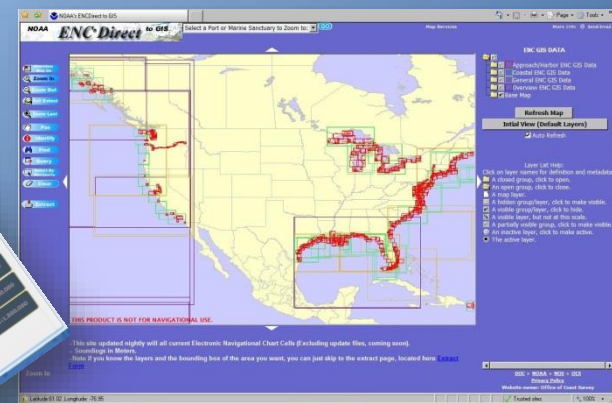
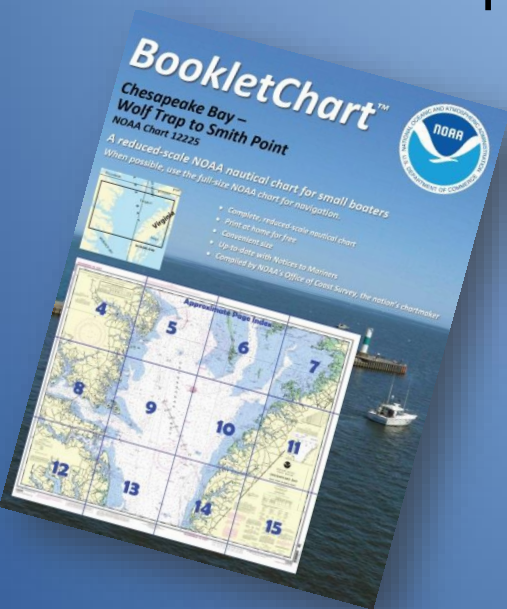
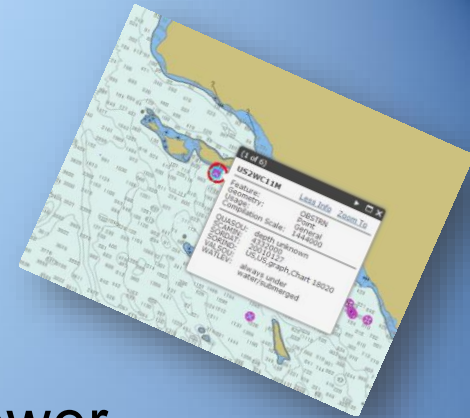
## Web viewers

Online Chart Viewer

NOAA ENC Online

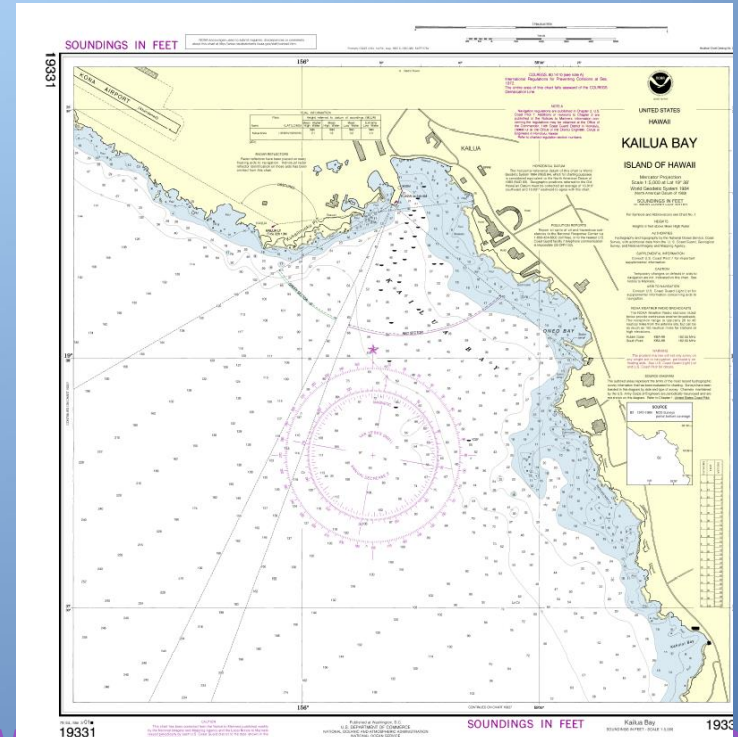
ENC Direct to GIS

Seamless Raster



# Portable Document Format (PDF) Nautical Charts

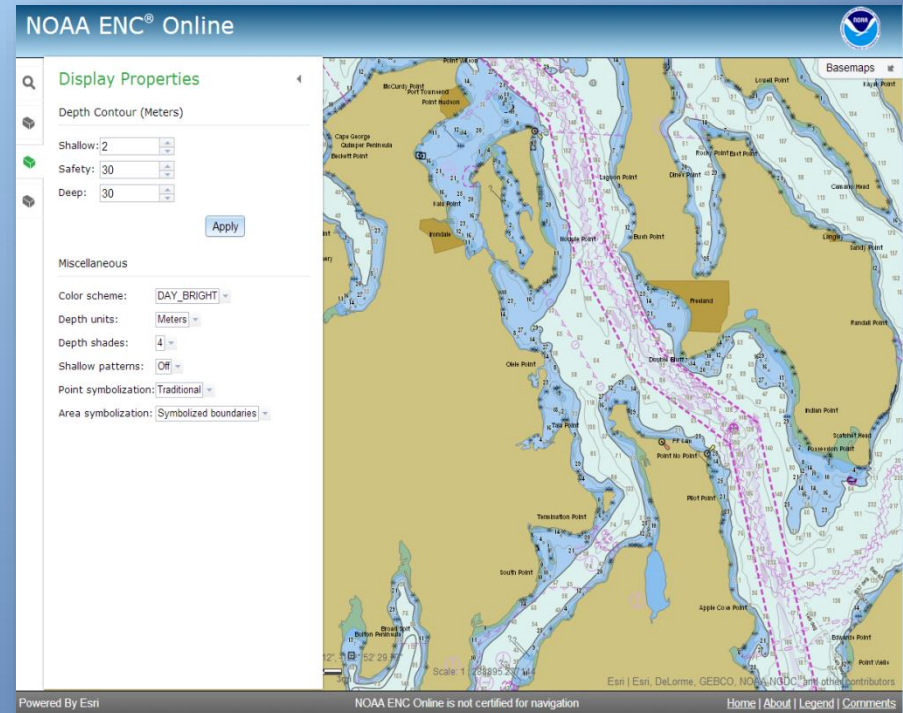
- Updated Weekly
- Available Immediately
- Enhanced Readability
- Printable
- Easy to view
- High resolution
- Available and free to download at [www.nauticalcharts.noaa.gov](http://www.nauticalcharts.noaa.gov)





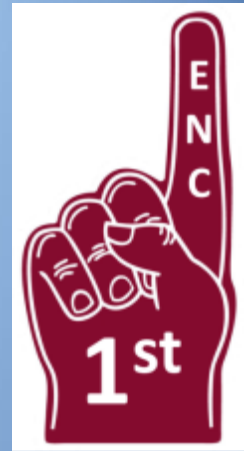
# NOAA ENC® Online

- Allows users to see ENC data without a special system
- Uses S-52 symbology
- Has a search function
- Displays best scale data (similar to ECDIS)
- Powered by ESRI Maritime Chart Server Technology



[www.nauticalcharts.noaa.gov/ENCOnline](http://www.nauticalcharts.noaa.gov/ENCOnline)

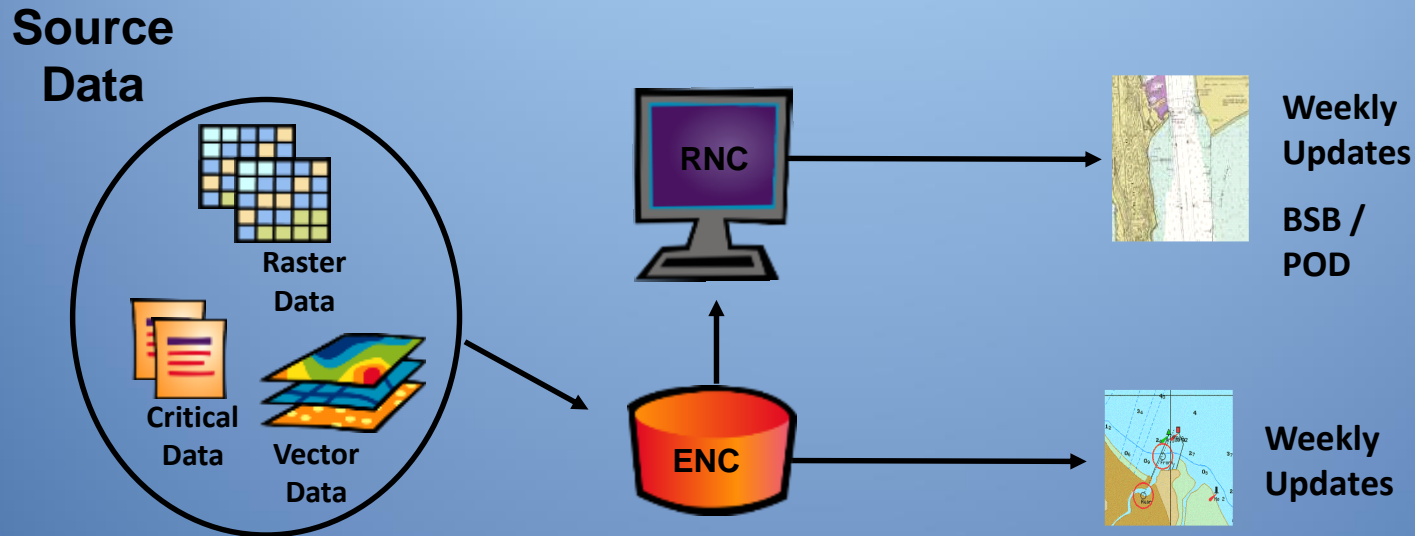
# ENC-First Realignment



- Major restructure internal to MCD
  - Dissolve USB, ENC, NCSII branches
  - Create 6 equivalent regional branches-all functions and all products
- Restructured our data sources to optimize for ENC source application
  - Hydro, shoreline, channels, navaids
- Organizational change is complete and training personnel is underway

# ENC First

Transition began May 1, 2014

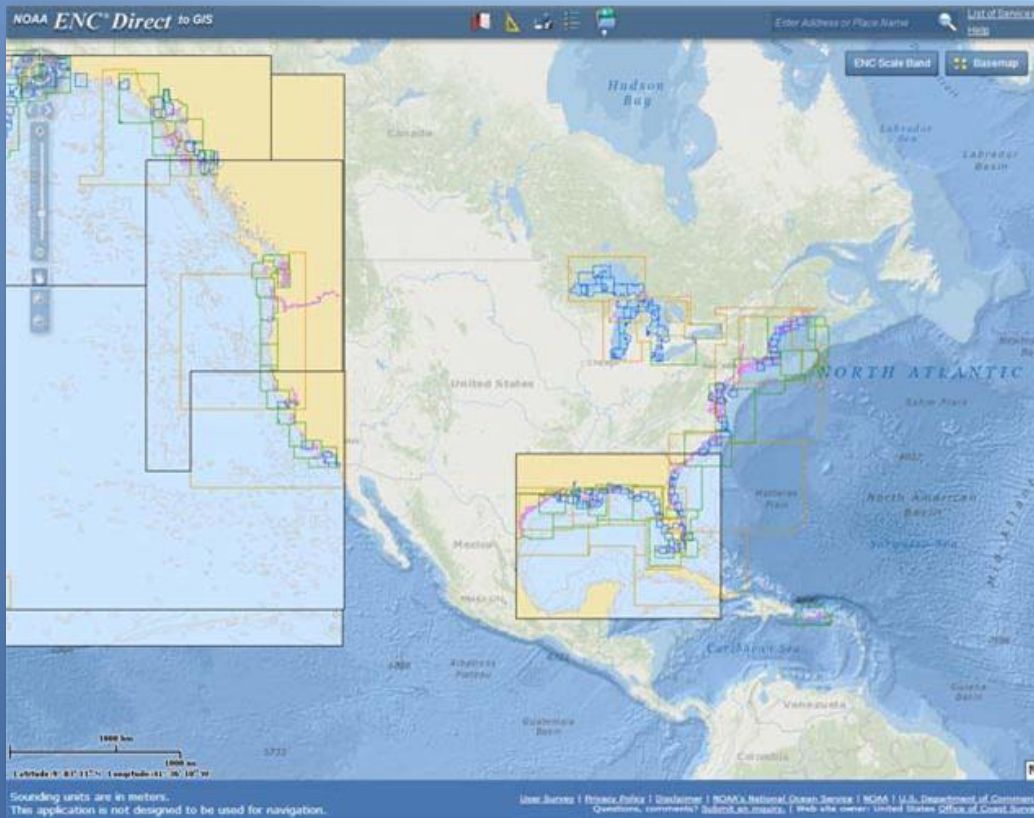


New editions are de-emphasized. Chart changes are made and published continuously.



# ENC Direct to GIS

Coast Survey has translated the data from S-57 to a GIS-friendly format, for “non-traditional” users



While features in an ENC represent the geographic region that is depicted in that particular ENC cell, **ENC Direct to GIS** provides a continuous depiction of the U.S. coastal and marine environment.

ENCs shown in GIS format can contain any of the predefined IHO object classes and attributes of ENCs.

# NOAA Hydrographic Survey Platforms

*Ferdinand R. Hassler*



S250

124 Ft

*Fairweather*



S220

231 Ft

*Thomas Jefferson*



S222

208 Ft

*Rainier*



S221

231 Ft

*Survey Launch*



*Navigation Response Team*



*Bay Hydro II*



h 62 Wk

80

28 Ft

h

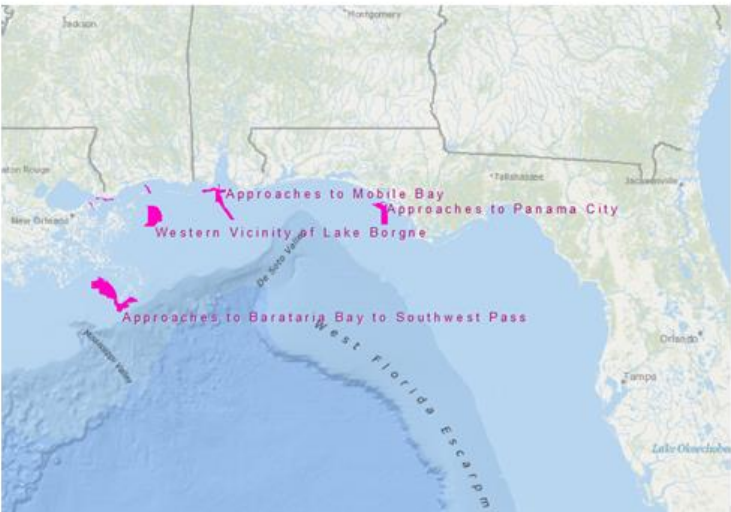
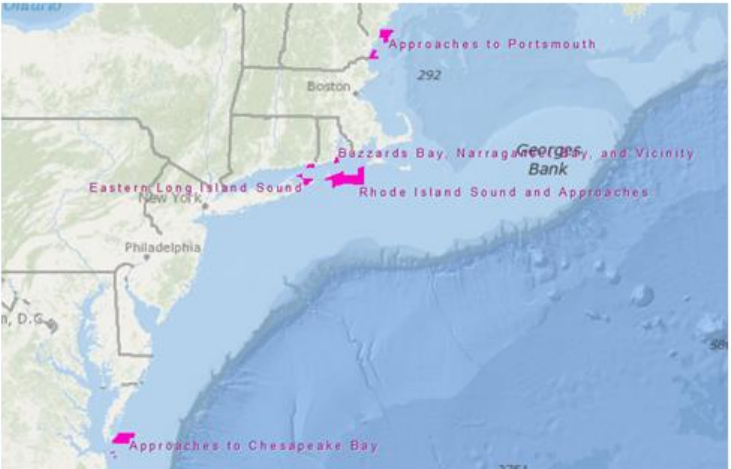
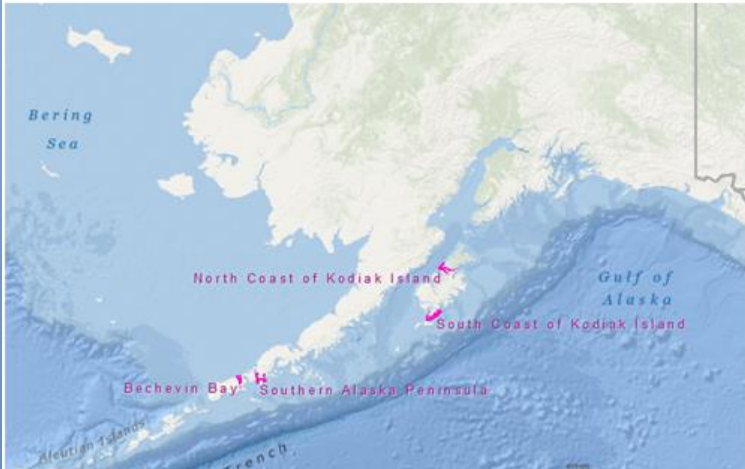
R "8C"

57 Ft



# 2014 Survey

FY14 Hydrographic Surveys (NOAA Ships & Contractors)  
1681 SNM Completed



# Public access

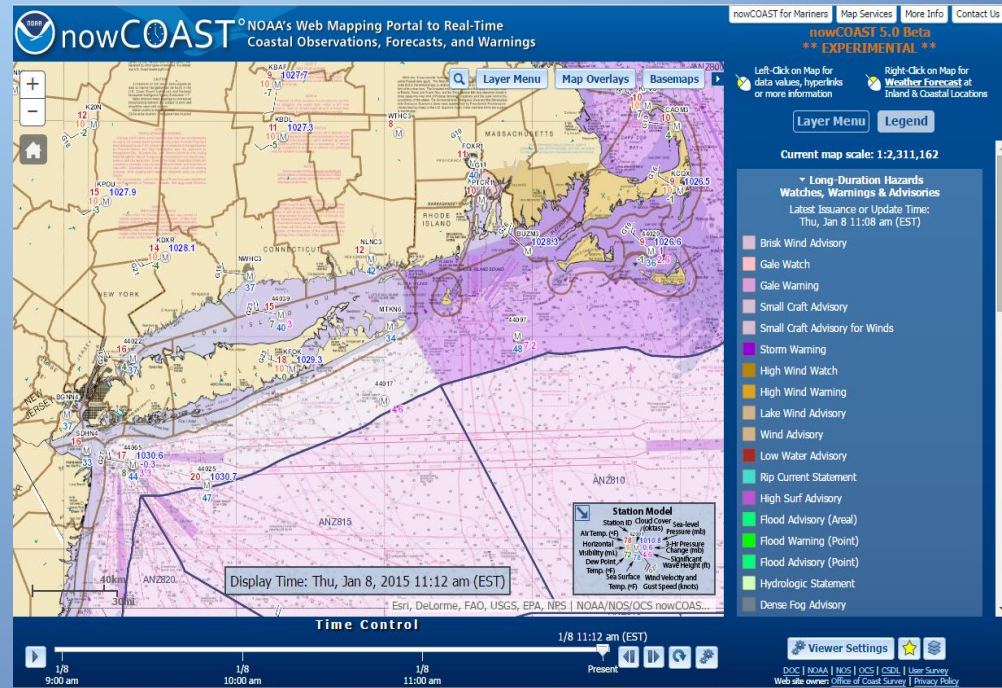
- Planned survey areas for the next three years are shown on a web service
  - soon be available to the public: [survey plans](#)
- Once the surveys are accepted, they are publicly available through the National Geophysical Data Center: [survey data at NGDC](#)
- NGDC is also creating a database to receive crowdsourced sounding data from around the world
  - under the auspices of the International Hydrographic Organization
  - Coast Survey developing policies and procedures to use that data

# nowCOAST

NOS/OCS' GIS web mapping portal providing near-real-time coastal intelligence for U.S. via map services and interactive map viewer

## New version:

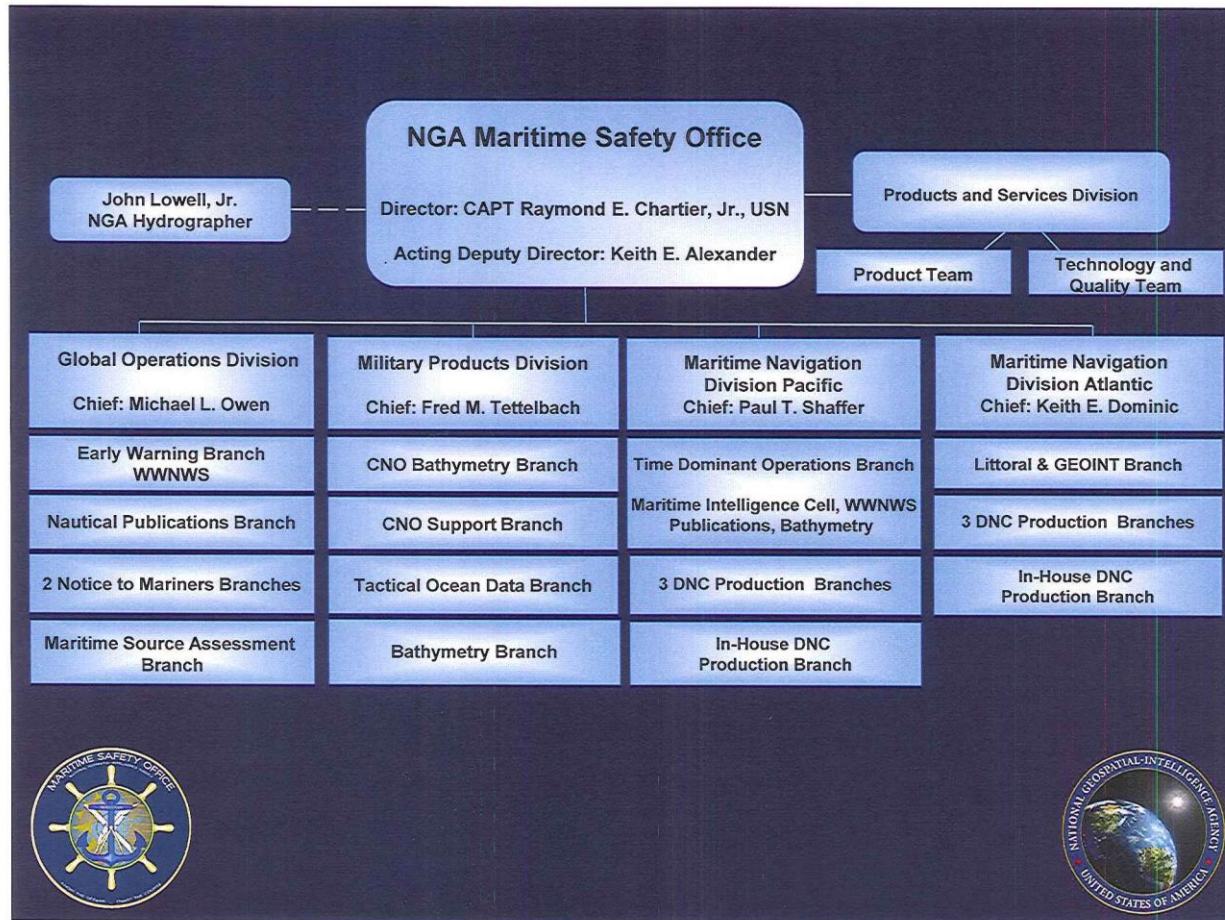
- Ability to animate observations, weather satellite imagery, marine weather forecasts, and oceanographic model forecast guidance
- Displays latest marine weather watches/warnings/advisories
- Provides time-enabled map services (ArcGIS REST & OGC WMS)
- Uses new visualization technique for displaying surface wind fields (curved wind barbs) from the NOAA-UNH Joint Hydrographic Center/Center for Coastal and Ocean Mapping
- To be implemented operationally in 2015 at NOAA Integrated Dissemination Program's 24 x 7 GIS Hosting Facility in MD and CO.



*New version of nowCOAST depicting latest marine weather warnings and surface weather observations overlaid on NOAA Seamless Raster Navigational Charts zoomed into the New York City and southern New England Region.*



# NGA

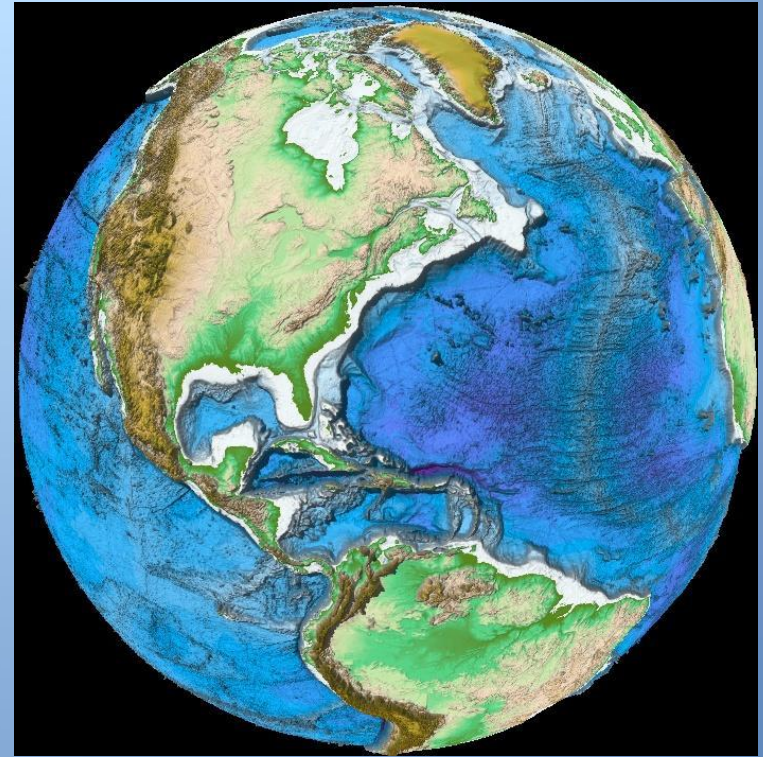
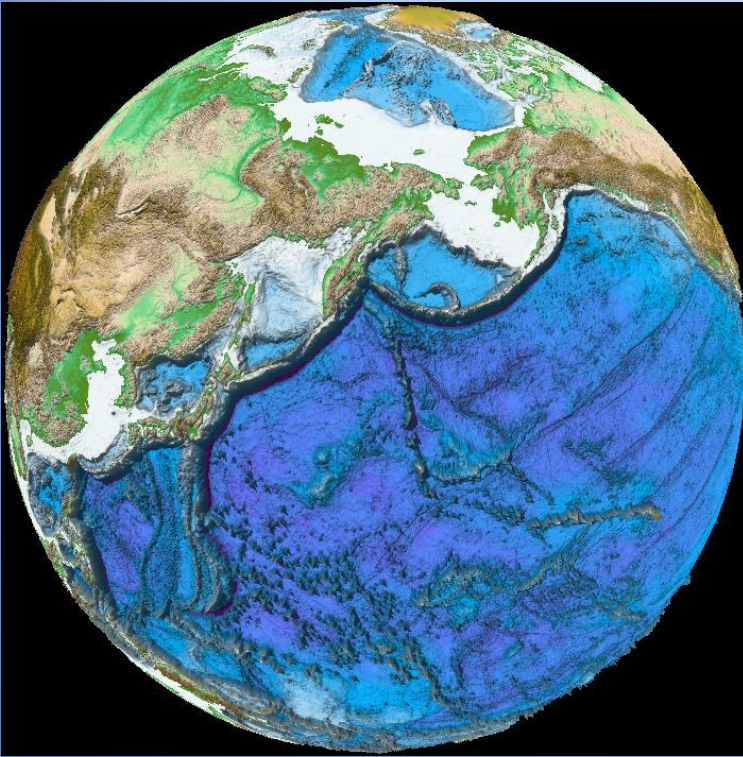


# Looking Ahead in 2015

- Preparing U.S. Extended Continental Shelf submission
- S-100 Registry and Working Group Chair
- New data policy for utilizing crowd sourced bathymetry in nautical products
- US Chair Arctic Council







Thank you

