Charting Aides to Navigation in Changeable Inlets

North Carolina Beach and Inlet Waterway Association Annual Meeting

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Outline

• Intro to NOAA\OCS
  • Raster Chart Announcement
  • Rescheme ENCs
• Background to Changeable inlet issues
• Show examples
• Describe Request from USACE and USCG
• Show pilot finished products
• Sunset of raster charts
More than Two Centuries of Service

• First U.S. government science agency
• President Thomas Jefferson created the U.S. Coast Survey in 1807
• Over two centuries later, Coast Survey—now an office within NOAA in the DOC—continues to provide the navigation products and services that ensure safe and efficient maritime commerce.
U.S. Department of Commerce

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

U.S. Department of Defense

- Army Corps of Engineers – dredging and maintaining navigable channels and navigable inland waterways
- NAVOCEANO – surveying international waters
- National Geospatial-Intelligence Agency – charting international waters for U.S. military, National Notice to Mariners

U.S. Department of Homeland Security

- Coast Guard – maintenance of maritime aids to navigation, Local Notice to Mariners
- FEMA – disaster response and floodplain mapping

U.S. Department of Interior

- U.S. Geological Survey – interior to coastline base maps
NOAA Navigation Services Users

$7M/day lost due to UKC in Houston

Precision Navigation (pilots in ports)

Tens of thousands

SOLAS

Hundreds of thousands

Non-SOLAS Commercial

A million

Large recreational

Tens of millions

Small recreational

16M boats in use in US

$36B annually spent on boating*

*NMMA 2016
1.3 billion metric tons of cargo valued at $1.8 trillion comes in and out of U.S. ports every year.
Traditional Paper Charts to be Discontinued

Federal Register notice coming soon.

5 Things to Know about the End of Traditional NOAA Paper Nautical Chart Production

1. A five-year process to end all traditional paper nautical chart production will shut down all other raster chart products and services associated with traditional NOAA paper nautical charts, including:
   - Print-on-demand (POD) paper nautical charts
   - Full-size chart PDFs
   - NOAA raster navigational charts (NOAA RNC*)
   - BookletChart™ PDFs
   - NOAA RNC tile service
   - Online RNC viewer
   The expected cancellation date of these products and services is January 2025.

2. NOAA is seeking feedback from chart users and companies that provide products and services based on NOAA raster and electronic navigational chart (NOAA ENC®) products. This information will shape the manner and timing in which the product sunsetting process will proceed. Comments may be submitted with the ASSIST feedback tool at [https://nauticalcharts.noaa.gov/customer-service/assist](https://nauticalcharts.noaa.gov/customer-service/assist). A Federal Register Notice soliciting comments will also be released shortly.

3. NOAA is undertaking a three-pronged sunsetting process to ease the transition to ENC-based products while continuing to support safe navigation:
   - Improving data consistency and providing larger scale coverage of NOAA’s primary chart product, the ENC.
   - Providing access to paper chart products based on ENC data, either through the NOAA Custom Chart web app or third-party commercial data providers.
   - Shutting down all traditional paper and associated raster chart production.
   Efforts to improve ENCs and develop the NOAA Custom Chart web app have been ongoing for several years now. The cancelation of some paper and raster charts may start as early as mid to late 2020. NOAA does not have the resources to continue maintaining both traditional paper nautical charts and ENCs.

4. Paper Charts from ENC data can now be created with the NOAA Custom Chart web app at [https://devgis.charttools.noaa.gov/pod](https://devgis.charttools.noaa.gov/pod). Users can create charts from the latest NOAA ENC data, then download, view, and print the output to get a paper or digital backup for GPS-enabled chart displays or other electronic chart systems.

5. Historical editions of nautical charts - suitable for framing - back to the mid-1800s, may be downloaded for free at [https://historicalcharts.noaa.gov](https://historicalcharts.noaa.gov).
Rescheme ENCs – Existing Coverage
This policy is established with the justification that charting the information would present a false picture of reality that would be unsafe to the mariner. These sections state, “(i)n extreme cases...hydrography and aids to navigation are not charted” Section 1.2.3 and 4.3.2.8 of Volume 1 of the Nautical Charting Manual
Considerations

How fast do inlets change?
How quickly is updated data provided?
How quickly can products be updated?
How has the level of effort changed over time?
What are the expectations of mariners?
NOTE C

The aids in Oregon Inlet, Oregon Inlet Channel to junction of Old House Channel, and buoys in Walter Slough, Old House Channel and Davis Channel are not charted because they are moved frequently. Consult Local Notice to Mariners, 5th Coast Guard District at http://www.navcen.uscg.gov/?pageName=InmDistrict&region=5 for the latest positions of aids to navigation.

Hydrography in Oregon Inlet is not shown due to its continually shifting nature. The most recent hydrographic survey information, centerline waypoints and a centerline controlling depth are available from the United States Army Corps of Engineers, Wilmington District, at 910-251-4411 and http://www.saw.usace.army.mil/Missions/Navigation.aspx. Shoaler depths can be expected off the centerline.
Position for ATON in this graphic are taken directly from USCG Navigation Center XML links.

https://www.navcen.uscg.gov/?pageName=lightListWeeklyUpdates
Carolina Beach Inlet

Current ENC with USACE eHydro Data Converted to ENC Format.
Masonboro Inlet

Current ENC

ENC with AIS Heat Map
Masonboro Inlet
Bogue Inlet
Bogue Inlet

2018

2019
Ocracoke Inlet
Ocracoke Inlet USACE Surveys

2018

2019
Current Ocracoke Inlet ENC Display

Ocracoke Inlet
Oregon Inlet USACE 2018

Number of Surveys

6,790
1,104 last 60 days