

**Office of Coast Survey  
National Oceanic Atmospheric Administration**



**Use of External Source Data for Nautical Charting  
(DRAFT for Public Notice)**

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## Overview

The [Office of Coast Survey \(https://www.nauticalcharts.noaa.gov/\)](https://www.nauticalcharts.noaa.gov/) has a policy of using external source data (ESD), where appropriate, to improve its nautical charting products. This document provides guidance to our users, customers and stakeholders on how to make ESD available the National Oceanic and Atmospheric Administration (NOAA), and describes how NOAA intends to use ESD in developing and maintaining its nautical charting products. Coast Survey defines ESD as “data that may have value for NOAA navigation product improvements, but was not originally requested by, produced intentionally for, or contracted by the National Ocean Service for the purpose of updating NOAA nautical charts.”

## Background

Coast Survey produces and maintains a nationwide suite of nautical charts, encompassing 3.4 million square nautical miles of water and 95,000 miles of U.S. coastline, including the Great Lakes. These products include raster navigational charts (NOAA RNC<sup>®</sup>), electronic navigational charts (NOAA ENC<sup>®</sup>), and the *United States Coast Pilot*<sup>™</sup>.

A nautical chart is a compilation of many different inputs, from hydrographic and shoreline data to navigation aids and warnings of discovered hazards. Without sufficient resources to acquire all the data needed for every single nautical chart product, Coast Survey relies on external providers to contribute data for chart updates in addition to the hydrographic and shoreline mapping data acquired by NOAA assets. For example, Coast Survey routinely charts information received from:

- U.S. Coast Guard on its aids to navigation;
- U.S. Army Corps of Engineers on navigation channel conditions;
- U.S. Power Squadron and U.S. Coast Guard Auxiliary on approximate locations of reported wrecks and obstructions and other point feature data; and
- mariners in general who report chart discrepancies.

## Policy

NOAA uses the best available data to update nautical charts.

In support of this policy, Coast Survey will actively seek out ESD from both traditional and new data sources to improve its nautical charting products, following NOAA Recommended Practice for the Use of External Data available at [https://nosc.noaa.gov/EDMC/documents/NOAA\\_RP\\_for\\_the\\_Use\\_of\\_External\\_Data\\_v1.0.pdf](https://nosc.noaa.gov/EDMC/documents/NOAA_RP_for_the_Use_of_External_Data_v1.0.pdf). Coast Survey, at its discretion, may choose to use data from a NOAA source, a NOAA contracted source, a NOAA partner, or any other external source.

Coast Survey intends to catalogue and evaluate for utility all data offered to NOAA as ESD, whether for direct chart application, reconnaissance to assess chart adequacy, survey and chart update planning, or other decision support. ESD does not necessarily need to meet NOAA’s charting standards to be useful. For example, a modern bathymetric survey that does not detect

all objects on the seafloor can still improve our knowledge of the seabed, improve the chart, and help Coast Survey personnel make crucial decisions about survey resource allocations. Coast Survey will acknowledge receipt of submitted data and provide the person or organization offering the data a preliminary assessment of utility.

Consistent with applicable federal law, Coast Survey will honor any use constraints or conditions associated with a candidate data set, whether the data was sent to NOAA directly, or if Coast Survey retrieves the data from a public repository such as the NOAA National Centers for Environmental Information (NCEI). For more information, please see the [NOAA privacy policy](#).

There is far more relevant geospatial data available than NOAA can systematically evaluate. Coast Survey will prioritize incorporation of data that will make the most difference to the accuracy of our charts, data of assessable high quality, and data that can most readily be incorporated into our charting system. In particular, Coast Survey will seek resolution to known chart discrepancies by seeking out relevant data to resolve them.

#### **National Centers for Environmental Information**

NOAA maintains an interagency data center for geophysical data – such as bathymetry – at NCEI in Boulder, Colorado. The center archives and publicly redistributes data. NCEI also maintains the International Hydrographic Organization Data Centre for Digital Bathymetry. Coast Survey encourages all holders of U.S. bathymetric data sets to archive their data at NCEI, which also satisfies the requirements of the public access to research results (PARR) requirements. Coast Survey can retrieve data from NCEI at any time for chart evaluation. Find more information about PARR requirements at:

[https://docs.lib.noaa.gov/noaa\\_documents/NOAA\\_Research\\_Council/NOAA\\_PARR\\_Plan\\_v5.04.pdf](https://docs.lib.noaa.gov/noaa_documents/NOAA_Research_Council/NOAA_PARR_Plan_v5.04.pdf)

#### **Offering Bathymetric Data to NOAA**

If data holders consider a data set to have particularly high immediate charting value, Coast Survey encourages them to submit the data directly to Coast Survey. Sharing ESD with a bathymetric component starts with Coast Survey's external source data team, who will conduct a rapid assessment and channel the data into Coast Survey's handling processes with appropriate priority. In cases where the data is owned by a private entity, a memorandum of agreement on data submission, data sharing and other commitments by NOAA and the data partner may be needed. Find recommended formats for the data at:

- Integrated Coast and Ocean Mapping: Seafloor Mapping Standards  
[https://iocm.noaa.gov/reports/NOAA\\_IOCm\\_seafloor\\_mapping\\_standards2.0.pdf](https://iocm.noaa.gov/reports/NOAA_IOCm_seafloor_mapping_standards2.0.pdf)
- Federal Geographic Data Committee: Standards for Nautical Charting Hydrographic Surveys  
<https://www.fgdc.gov/standards/projects/accuracy/part5/FGDC-STD-007.5-2005.pdf>
- NOAA Office of Coast Survey: Hydrographic Specifications and Deliverables  
<http://www.nauticalcharts.noaa.gov/hsd/specs/specs.htm>

Data may be submitted to Coast Survey by emailing to [esdteam@noaa.gov](mailto:esdteam@noaa.gov) . If data is too large to submit via email (either raw or in .zip), please contact the ESD team for assistance in the data submission process.

### **Metadata**

All external source data should include applicable metadata, submitted concurrently with the source data. It is important to supply accurate metadata in order for Coast Survey to make better informed decisions on the appropriate use of ESD. Coast Survey may not be able to use data submitted without adequate metadata. Coast Survey may reach out to the data provider and request additional metadata information to make more informed decisions on its overall use and application. The links above include recommendations for metadata, and the ESD team is also available to assist on what constitutes sufficient metadata.

### **Potential Uses of ESD**

External source data may be adequate to supersede the affected bathymetry and charted features in whole or in part. Coast Survey will consider the following in deciding how to use a particular data set:

- accuracy of candidate data, and the ability to assess accuracy (documentation);
- resolution of candidate data, including suitability to address charted features such as shoals, wrecks and obstructions;
- quality and age of existing charted data;
- likelihood that Coast Survey will acquire future data in the area;
- adequacy of existing charts;
- intended use of charts in the area; or
- the potential for new charting products in the area.

The ESD team will assess data for utility and will prioritize it. If the data is determined inadequate to supersede charted data, Coast Survey may still use it for informative purposes. Informative purposes include, but are not limited to, evaluating chart adequacy, hydrographic survey planning, inclusion in the Data Centre for Digital Bathymetry and reconnaissance.

### **Contact Information**

If you have any questions regarding submission of ESD, please contact the ESD team at [esdteam@noaa.gov](mailto:esdteam@noaa.gov). If you have general questions for the Office of Coast Survey, please visit <http://www.nauticalcharts.noaa.gov/> and choose a contact method from the lower right corner of the page.