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IHO Data Centre for Digital Bathymetry (DCDB)

Lee Shoemaker*

CSB Data Manager

lee.shoemaker@noaa.gov



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IHO DCDB CSB Dashboards & Data Access





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IHO Data Centre for Digital Bathymetry (DCDB)

The [International Hydrographic Organization \(IHO\)](#) Data Centre for Digital Bathymetry (DCDB) was established in 1990 to steward the global collection of bathymetric data. The Centre archives and shares, freely and without restrictions, depth data contributed by mariners and other stakeholders consistent with IHO direction and guidance. The IHO DCDB is hosted by the [U.S. National Oceanic and Atmospheric Administration \(NOAA\)](#) on behalf of the IHO Member States.

The DCDB archive includes over 70 terabytes (uncompressed) of oceanic depth soundings acquired with multibeam and single beam sonars by hydrographic, oceanographic and industry vessels during surveys or while on passage.



25% of the deep ocean floor has been mapped with direct measurement and approximately 50% of the world's coastal waters remain unsurveyed. (Source: GEBCO)



IHO Crowdsourced Bathymetry

The IHO defines crowdsourced bathymetry as navigation information collected from a network of "Trusted Nodes," which may be organizations, companies or universities serving as data liaisons between mariners (data collectors) and the DCDB. Trusted Nodes may supply data logging equipment, provide technical support to vessels, download data from data loggers, or be responsible for data transfer directly to the DCDB.

In 2014, the IHO recognized that there was a need to enable mariners to collect and supplement their bathymetric data from the world.

Contribute

Access

IHO Guidance

The IHO's Crowdsourced Bathymetry guidance document provides hydrographic data loggers, and

The guidance document addresses the uncertainty associated with

Contribute CSB Data

The DCDB accepts CSB contributions through a network of "Trusted Nodes," which may be organizations, companies or universities serving as data liaisons between mariners (data collectors) and the DCDB. Trusted Nodes may supply data logging equipment, provide technical support to vessels, download data from data loggers, or be responsible for data transfer directly to the DCDB.

CSB data must be provided in either CSV or GeoJSON, and capture the minimum required information (XYZ, timestamp). The IHO DCDB intends to publicly release the Trusted Node's data in its original form under the [CC0](#) or public domain dedication via the [IHO DCDB Viewer](#).

The following documents clarify some aspects on CSB related to the submission of data to IHO DCDB:

- [IHO CSB Trusted Node Agreement Form Template](#)
- [Guidance for Submitting CSB Data to the IHO DCDB](#)
- [Sample CSB File Formats](#)
- [Example CSB GeoJSON file](#)
- [CSB Schema on GitHub](#)

Those interested in contributing data or becoming a Trusted Node should contact the DCDB at bathydata@iho.int . Existing Trusted Nodes may refer to the [CSB Provider Dashboard](#) for submission statistics.

The collection of crowdsourced bathymetry information contributions is authorized under the OMB Control Number included in the [Paperwork Reduction Act and Privacy Act statements](#).



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CSB Providers Dashboard

<https://main.d2vtqx126xb7vf.amplifyapp.com/providers/>

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Providers

- Alcatel Submarine Networks
- Anonymous
- AquaMap
- CIDCO
- COMIT USF
- Carnival
- FarSounder
- GLOS
- M2Ocean
- MacGregor
- OMS Group
- Orange Force Marine
- PGS
- Rosepoint
- SB2030
- SeaKeepers
- Signal K

red indicates no data reported in the last 30 days

- *Only data that has passed through the IHO Geographic Filter is published and available to our APIs, dashboards, map services, and S3 bucket*
- *Some providers in red may have submitted data recently, but it may not be published due to national restrictions*



Signal K

Status: Active

Soundings collected from 2022-01-03 to 2025-12-08.

Submissions to DCDB from 2026-01-20 to 2026-02-06.

2 unique platform(s) with 10,706,306 total soundings.

SIGNALK-ac020bdf-5c0e-4c82-844f-1db2bc73383a

Name: Lille Oe

10694474 total soundings

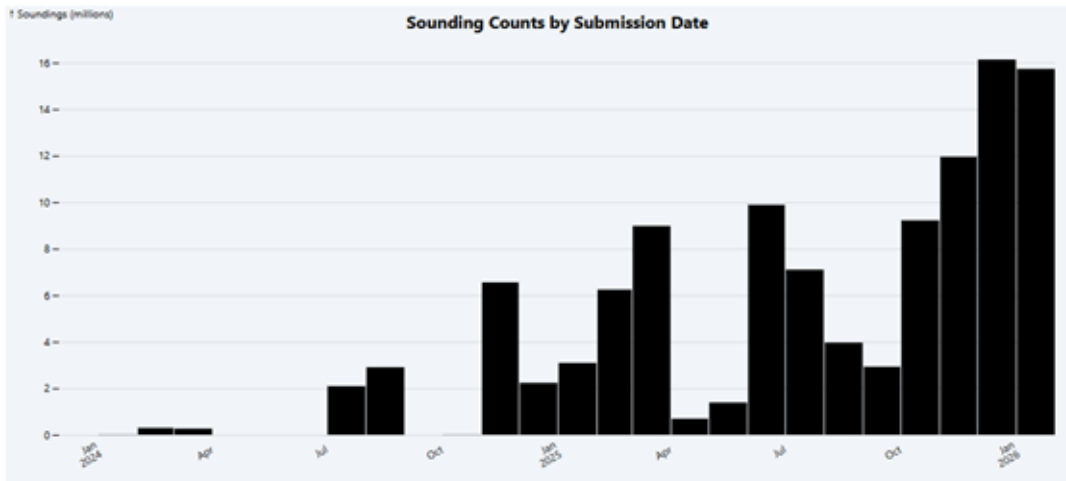
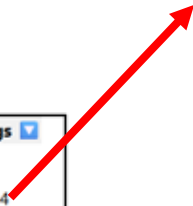
First Collection: 2022-01-03

Last Collection: 2025-11-13

First Submission: 2026-02-05

Last Submission: 2026-02-06

Platform	Unique Id	Soundings
Cerulean	SIGNALK-b0a6561e-970b-48d2-8a17-5862e6a795bc	11832
Lille Oe	SIGNALK-ac020bdf-5c0e-4c82-844f-1db2bc73383a	10694474



SeaKeepers submissions over time graph from SeaKeepers Dashboard



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CSB Point Store Dashboard

<https://main.d28ynt8exokw88.amplifyapp.com/>

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Report Date: 2026-02-20

Total Count: 2,005,613,309

Archive Dates: 2017-04-25 to 2026-02-17

204 orders in the last 30 days

Providers

- Rosepoint 1,402,618,547 (70%)
- AquaMap 166,491,832 (8%)
- Carnival 154,810,211 (8%)
- SeaKeepers 115,938,141 (6%)
- PGS 54,341,442 (3%)

Archive Growth

Growth Chart | Fiscal Year Table

Counts by Fiscal Year

Year	Soundings	Growth	Total Archive
FY17	42,999,831		42,999,831
FY18	41,731,710	49%	84,731,541
FY19	53,211,046	39%	137,942,587
FY20	204,946,214	60%	342,888,801
FY21	271,374,190	44%	614,262,991
FY22	181,124,301	23%	795,387,292
FY23	146,030,476	16%	941,417,768
FY24	292,955,084	24%	1,234,372,852
FY25	514,745,270	29%	1,749,118,122
FY26	256,495,187	13%	2,005,613,309

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547 (70%)

32 (8%)

11 (8%)

41 (6%)

2 (3%)

8 (2%)



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25% of the deep ocean floor has been mapped with direct measurement and approximately 50% of the world's coastal waters remain unsurveyed. (Source: GEBCO)



IHO Crowdsourced Bathymetry

The IHO defines crowdsourced bathymetry (CSB) as data collected by navigation instruments, while engaged in routine operations.

In 2014, the IHO recognized that traditional surveying methods were not always able to provide the depth data needed to enable mariners and professionally manned vessels to safely navigate. Data collected on vessels with common commercial electronic charting systems can supplement the more rigorous and scientific bathymetry of the world.

Contribute CSB Data

Access CSB Data

IHO Guidance on Crowdsourced Bathymetry

The [IHO's Crowdsourced Bathymetry Working Group](#), composed of hydrographic experts, was tasked by the IHO to develop guidance on data loggers, preferred data formats, and instrument specifications.

The guidance document also provides information on data quality, uncertainty and accuracy issues with crowdsourced bathymetry.

[B-12 Edition 3.0 IHO Guidance Document on Crowdsourced Bathymetry](#)

Access CSB Data

There are several ways to access CSB data, including:

CSB File Access

Download Comma Separated Value (CSV) or GeoJSON files, including full metadata as contributed, via the [IHO DCDB Viewer](#) or NOAA's [Bathymetric Data Viewer](#). Data is delivered as a gzipped tar file with the contents nested in directories several levels deep.

You can also download CSV files directly from the [NOAA Open Data Dissemination Program](#) AWS S3 bucket. Users can [review the registry of open data](#), [browse data in the bucket](#) and download individual files, or use standard AWS-provided and third-party S3 tools and SDKs for programmatic access. The files are organized by date and are as provided by the Trusted Nodes.

Note: CSV files downloaded from the S3 bucket contain the following attributes:

- *unique_id*
- *depth*
- *file_uuid*
- *time*
- *lon*
- *platform name*
- *lat*
- *provider*

The metadata record can be accessed separately from the [Crowbar API](#) (described below).

CSB Soundings Access

Use the [CSB Data Extract API](#) to download soundings from a virtual seamless collection. You can call the API directly, or use the [DCDB map viewer](#) for a more human-friendly experience. Soundings are in CSV format with attributes including location, depth, time, platform name, and unique file identifier. Gridded soundings are also available by request at a specified resolution.

The [Crowbar API](#) is a RESTful API that can query for sounding metadata. To test queries, follow the link and select 'Search API' under 'Select a definition'.

See [Crowdsourced Bathymetry Frequently Asked Questions](#) for additional information.



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See [Crowdsourced Bathymetry Frequently Asked Questions](#) for additional information.

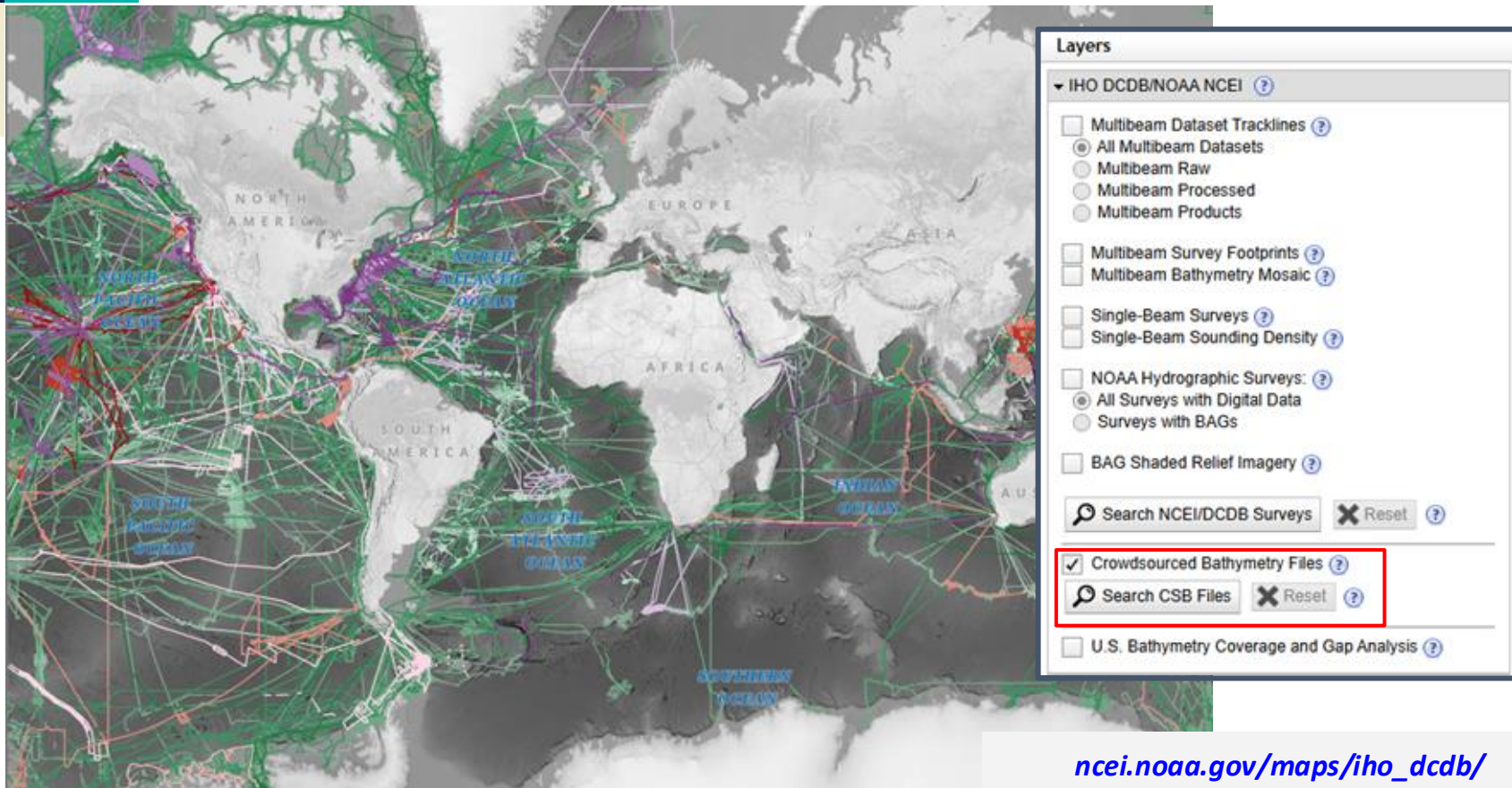


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CSB File Access - Interactive Map/Data Viewer

“Basic Access”

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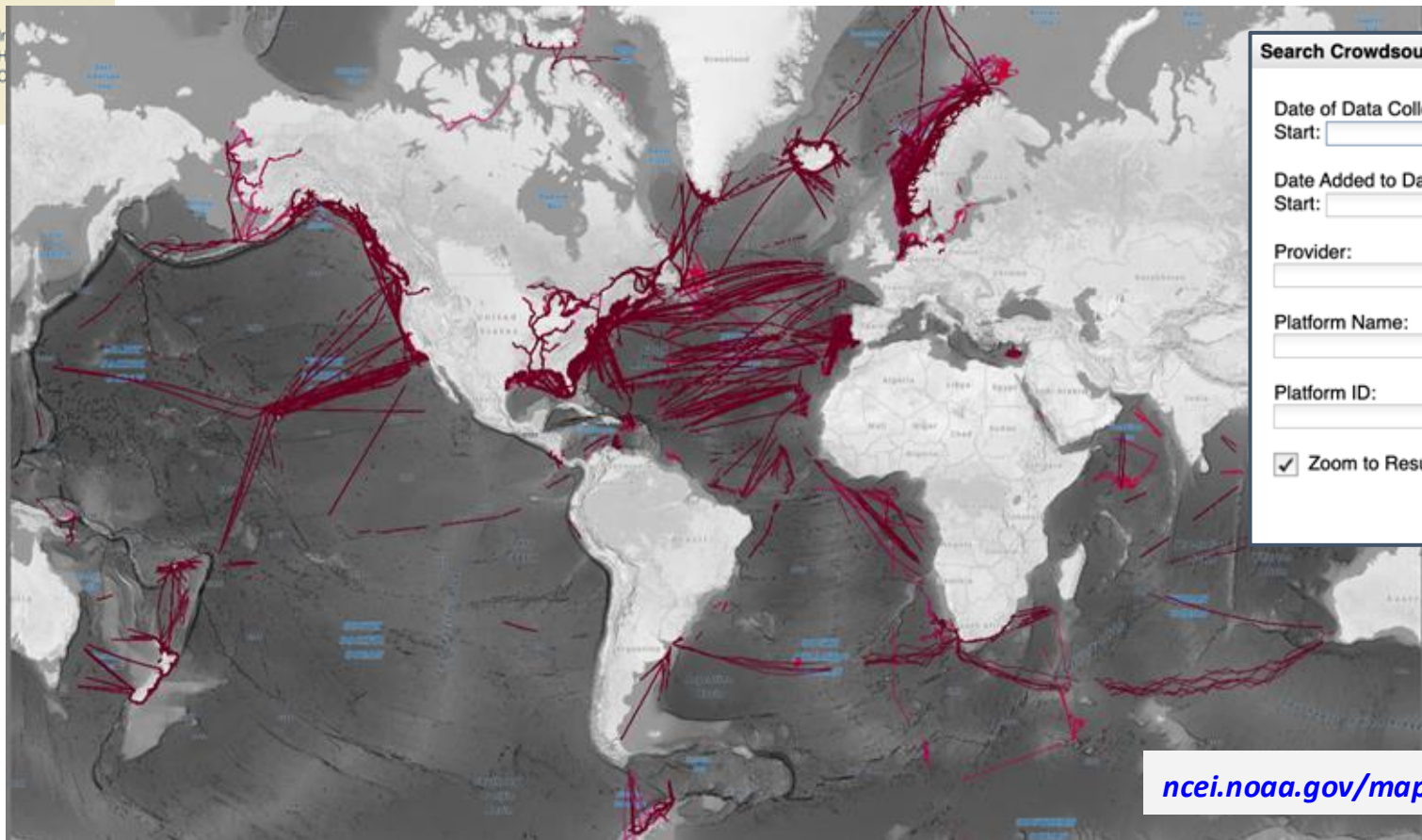
ncei.noaa.gov/maps/iho_dcdb/



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CSB File Access - Interactive Map/Data Viewer

“Basic Access”



Search Crowdsourced Bathymetry Files

Date of Data Collection:
Start: End:

Date Added to Database:
Start: End:

Provider:

Platform Name:

Platform ID:

Zoom to Results

ncei.noaa.gov/maps/iho_dcdb/?layers=csb

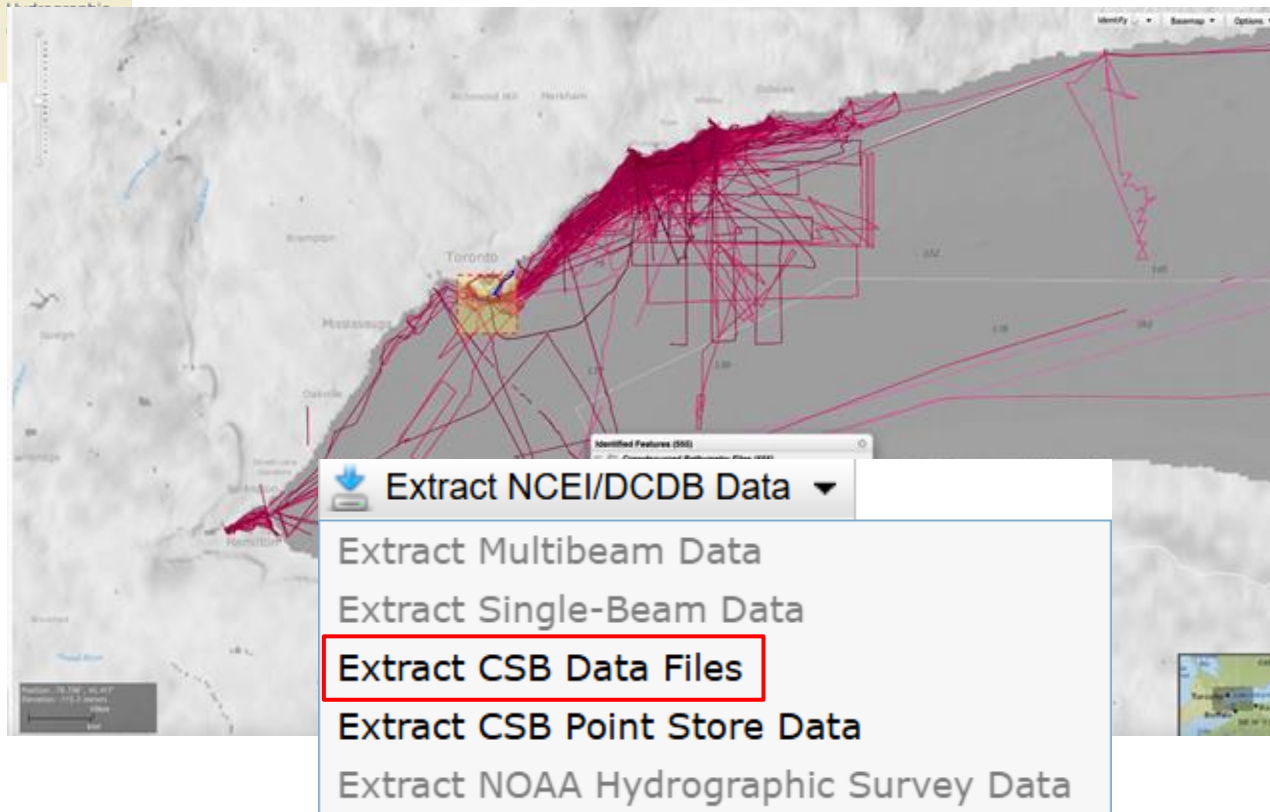


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CSB File Access - Interactive Map/Data Viewer

“Basic Access”

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- Users provide their email address and receive a link to download the data.
- Download CSV or GeoJSON files, including full metadata as contributed.
- The package is delivered as a gzipped tar file with the contents nested in directories several levels deep.
- The process is asynchronous, it may take a few minutes to deliver your data order.



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CSB File Access - Interactive Map/Data Viewer

“Basic Access”

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✓ Your Request Has Been Received



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Welcome to the NCEI Data Extract System (NEXT)

Check the Status of a Request

Check Status

Request ID 599156

Status: NOTIFIED

(Refresh count: 1)

[Download your request](#)

HELP

Request

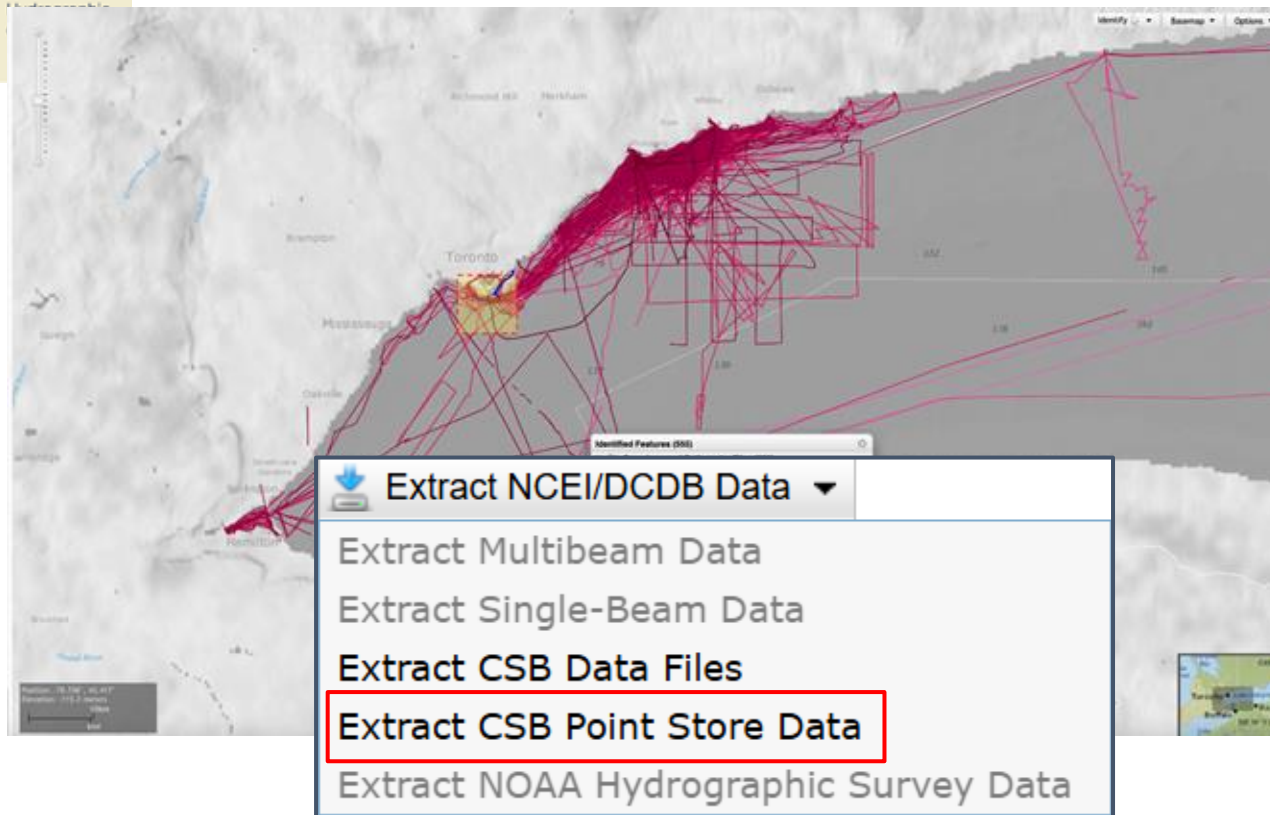


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CSB Soundings Access - CSB Data Extract API

“Intermediate Access”

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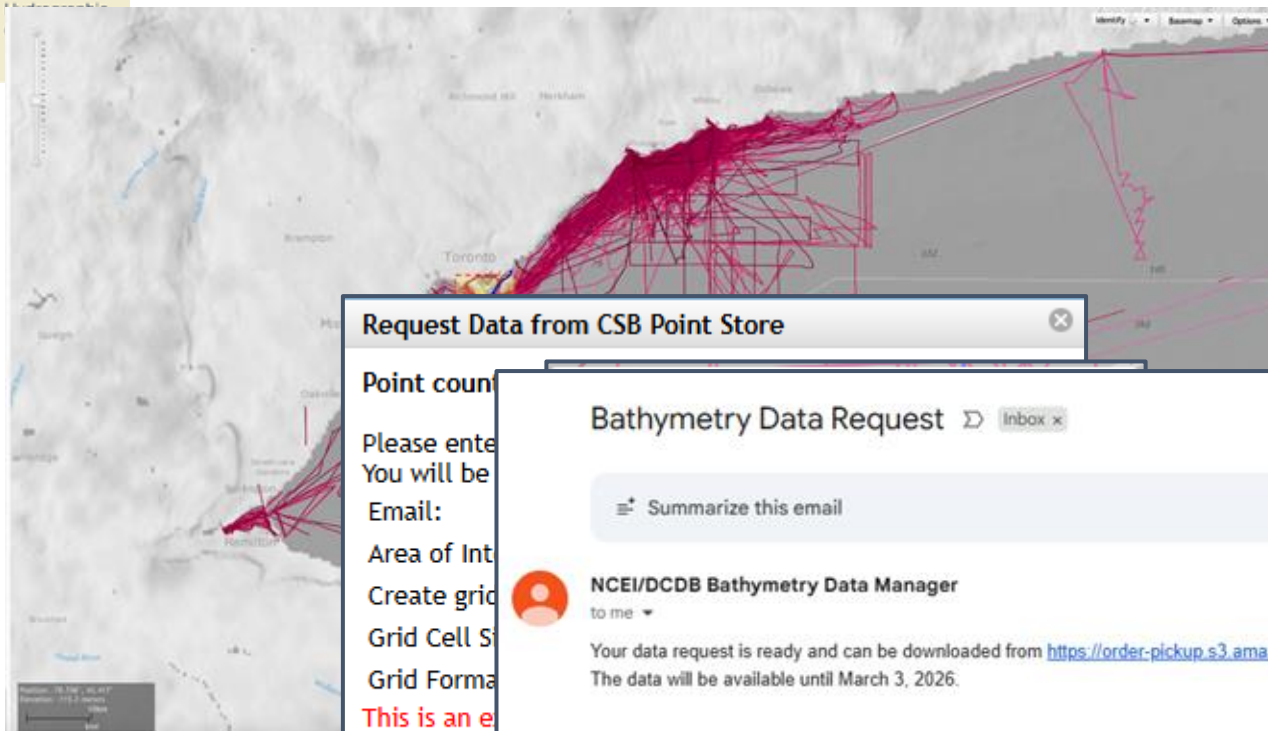
- Users looking for seamless CSB data (all points available, regardless of platform), should clear their search parameters and define a polygon or bounding box
- Select “Extract CSB Point Store Data” to prepare an API call to the CSB Data Extract API



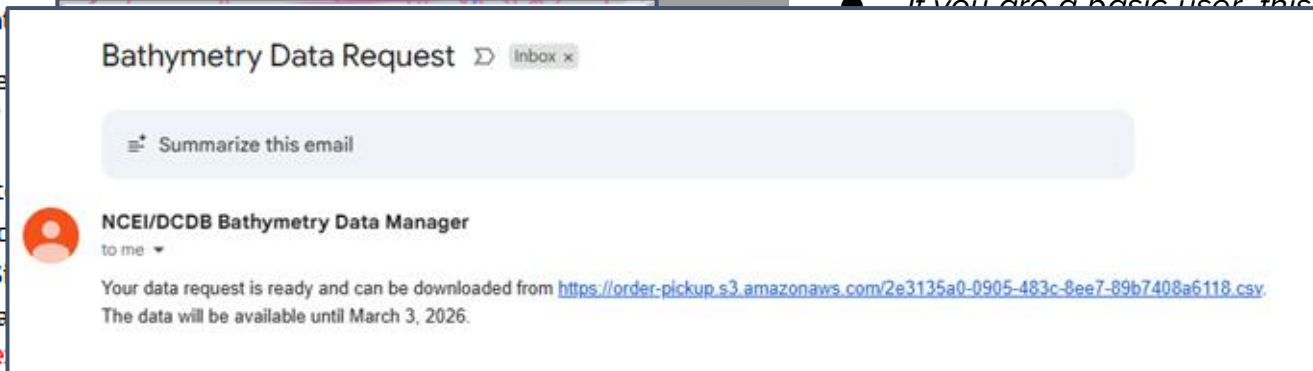
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CSB Soundings Access - CSB Data Extract API "Intermediate Access"

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- This API call is prepared on your behalf, using your drawn coordinates on the **DCDB Map Viewer**, for a more human-friendly experience.



OK Cancel

ncei.noaa.gov/maps/iho_dcdb/?layers=csb



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CSB Soundings Access - CSB Data Extract API

“Intermediate Access”

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CSB Data Extract API

Warning

This application is in active development and is being offered as a technology preview. No expectations should be made as to its availability and the API may change prior to public release.

Introduction

This API exposes three resources, the primary being **order** which represents a request to extract a subset of soundings from the Crowdsourced Bathymetry point store and optionally grid them. The soundings are delivered as points in a comma separated value (CSV) format file which is described below. The generated grid is provided in a user specified format and resolution. The two additional resources, **count** and **platforms**, return the number of soundings and a list of platforms respectively.

The order process is asynchronous with the flow being:

1. submit order via HTTP POST request. The response to the POST request will contain an acknowledgement if order is accepted and an URL that can be used to check processing status.
2. Once the order is complete, an email will be received with pickup instructions. If no email is provided, no notification is provided and the user is responsible for checking the order status to get the download URL. Processing time is generally less than 30 minutes.

Limitations and known issues

- if a grid is requested there is a limit on the number of points and grid cells which can be processed.
- the area of interest (i.e. bounding box) cannot cross the antimeridian
- base URL is temporarily hosted at <https://q81re0j12.execute-api.us-east-1.amazonaws.com/>

API

POST /order

Create a new **order**. Must include JSON payload described in the schema below. The *url* in the response can be used to check the status.

responses:

- Cloud-hosted scalable point data store to better handle and store CSB data as a seamless collection of points.
- This point data store can be accessed directly via an API
- Allows for programmatic query and extract from point store
- Power users can develop their own queries; basic and intermediate users are recommended to use the map service which sends the query on the users behalf



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CSB File Access - Cloud Access (S3 Bucket) “Intermediate Access”

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AWS S3 Explorer

[noaa-dcdb-bathymetry-pds](#) / [csb](#) / [csv](#) / 2026

The screenshot shows the AWS S3 Explorer interface. The breadcrumb path is [noaa-dcdb-bathymetry-pds](#) / [csb](#) / [csv](#). The table below lists the objects in the bucket:

Object	Last Modified	Timestamp	Size
2017/			
2018/			
2019/			
2020/			
2021/			
2022/			
2023/			
2024/			

Showing 1 to 8 of 8 entries

- Download CSV-format files directly from an **AWS S3 bucket**.
- Users can review the registry of open data, browse data in the bucket and download individual files, or use AWS-provided and third-party tools and SDKs for programmatic access.

Note: CSV files downloaded from the S3 bucket only contain UniqueID, File_UUID, lon, lat, depth, time, platform name, provider attributes - full metadata is not provided.

noaa-dcdb-bathymetry-pds.s3.amazonaws.com/index.html#csb/csv/



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Crowbar API

Schemas

File Metadata Search Parameters ▾ (

description:	Request parameters for sorting and filtering file metadata search results
page	integer(\$int32) minimum: 1 Desired page within paged results
itemsPerPage	integer(\$int32) maximum: 200 minimum: 1 Items per paged result
order*	> [...]
dataset	> [...]
traceId	> [...]
fileNameContains	> [...]
fileNameEquals	> [...]
lastUpdatedGe	string(\$date-time) Last updated time greater than or equal to (UTC)
lastUpdatedLt	string(\$date-time) Last updated time less than (UTC)
aoi	string Valid WKT (well known text) representation of a closed geometry. This query parameter returns data completely within the area of interest. Use aoiIntersects to return results that intersect the AOI.
aoiIntersects	string Valid WKT (well known text) representation of a closed geometry. This query parameter returns data that may be partially within the area of interest.
endTimeGe	string(\$date-time) End time greater than or equal to (UTC)
endTimeLt	string(\$date-time) End time less than (UTC)
startTimeGe	string(\$date-time) Start time greater than or equal to (UTC)

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[view/main/api-](#)



	Individual CSB Data Files	Seamless CSB Points	Full Detail Metadata	Instant Query Results	Instant Data Delivery
DCDB Map Service	Via “Data Files”	Via “Point Store Data”	X		
Crowbar API	X		X	X	X
NODD Bucket (S3) Browser	X			X	X
NODD Bucket (S3) CLI	X	X		X	X
CSB Data Extract API	X	X			



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