Danish Geodata Agency

Instructions for submission of bathymetric data and metadata to the Danish Geodata Agency (henceforth DGA)

The DGA encourages communication during any stage of the survey. If you have any questions regarding the submission, you are welcome to contact us at dybdedataforvaltning@gst.dk. We recommend you compile the information and metadata as early as possible and bring this document on board during the survey.

Requirements for data submission:

- The submitted material must fully describe the acquisition, processing and quality control of the submitted survey.
- If an IHO S-44 Order is assigned to the submitted survey, supporting documentation and analysis must be provided.
- The full bathymetric dataset must be thoroughly cleaned for spikes and corrected for water level effects before it is submitted.
- For each survey line, data must be submitted as a cleaned point cloud, i.e. *not* gridded data, in survey data format, e.g. **.fau** or **.gsf** – alternatively **ascii text** (e.g. x, y, z)
- A polygon covering the survey must be provided. **Geopackage** or **shapefile** is preferable.
- If ancillary data has been collected during the survey, e.g. sound velocity profiles and tide measurements, these must also be submitted. The survey report should describe how these have been applied.
- If objects or depths are identified as dangerous to navigation and are less than the depth stated on navigational chart, the **Maritime Assistance Centre** (mas@sok.dk) and the **Danish Geodata Agency** (soeopmaalingstilladelser@gst.dk) must be notified immediately. Note the position(s) and information in the table at the bottom of this form “Identified significant features/dangers to navigation”.

Danish Geodata Agency

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For coordinate reference systems, the DGA refers to the official reference frames.

For **Denmark** the following *horizontal datum* and coordinate reference systems (CRS) are preferred:

- ETRS89 UTM32N (EPSG:25832) or ETRS89 UTM33N (EPSG:25833).

In the **Baltic Sea** and **Kattegat**, the preferred *vertical datums* are:

- DVR90(2023) (EPSG:10485) or BSCD2000 (EPSG:10678).

In the **North Sea**, the preferred *vertical datum* is:

- DKLAT(2023) (EPSG:10550).

For **Greenland**, the following *horizontal datum* and CRS are preferred:

- GR96 UTM18N to GR96 UTM28N (EPSG:3178-EPSG:3188).

For **Greenland**, the following *vertical datum* is:

- GLLAT(2025) (EPSG:11450)

Models for all mentioned vertical datums can be on **Klimadatastyrelsens** public FTP server at ftp://ftp.sdfe.dk/TransformationsGrids

Data may be submitted by contacting us at dybdedataforvaltningen@gst.dk for an upload link.

In case you wish the bathymetric data to be eligible for charts, please contact us at dybdedataforvaltningen@gst.dk for the current requirements.

In summary, the submission must include:

- Survey reports and supporting documentation.
- For each survey line a cleaned point cloud.
  - Optional: Any gridded product.
  - Optional: The unprocessed acquisition sensor files (raw files).
- Ancillary data e.g. tide, sound velocity etc.
- A clear description of the vertical datum used in the survey must be submitted. In the case of the survey relying on a custom datum, a model realizing this datum must be submitted along with the other files.
- Filled metadata tables on the following pages
- A survey polygon

Metadata

Survey information

Contact person (name and email)	
Survey identifier (if any)	
WorkZone ID (DGA survey permit)	
Company (data owner)	
Contractor (data collector)	
Survey type (e.g. multibeam, singlebeam)	
Survey intention (e.g. research, dedging)	
Area/location	
Start date of survey	
End date of survey	
Achieved IHO S-44 Order	
If delivered, has the gridded product been interpolated?	
Horizontal datum/CRS (ESPG code, if available)	

Vertical datum (ESPG-code, if available)	
Geoid/latoide (only if used)	
Tide correcedt (yes/no)	
Tide correction method (e.g. tidegauge, prediction, ellip-soidally referenced survey)	

Vessel and equipment

Name of velle(s)	
Echosounder (manufacturer and model)	
Echosounder frequency range used during survey	
Sound velocity profiler	
Sound velocity senor at transducer's head	
Inertial Measurement Unit (IMU)	
Positioning systems	
Position correction method	
Reference station/network	
Acquisition software (name and version)	

Processing software (name and version)	
Other acquisition-related equipment (e.g. side scan sonar, sub-bottom profiler)	

Ancillary files (number of files and filename)

Tide files (filename)	
Sound velocity profile files (amount)	
Survey polygon (Geopackage or Shapefile) (filename)	
Other	

Survey reports must contaion (may be submitted as a single document or individually)

Installation offsets and draft report (filename)	
Calibration report (filename)	
Acquisition report (file name)	
Post-processing report (file name)	

Identified significant features/dangers to navigation

Position (latitude/longitude)	Description of feature/danger	Reported to mas@sok.dk? Yes/No