

Bathymetric data processing for nautical products at BSH



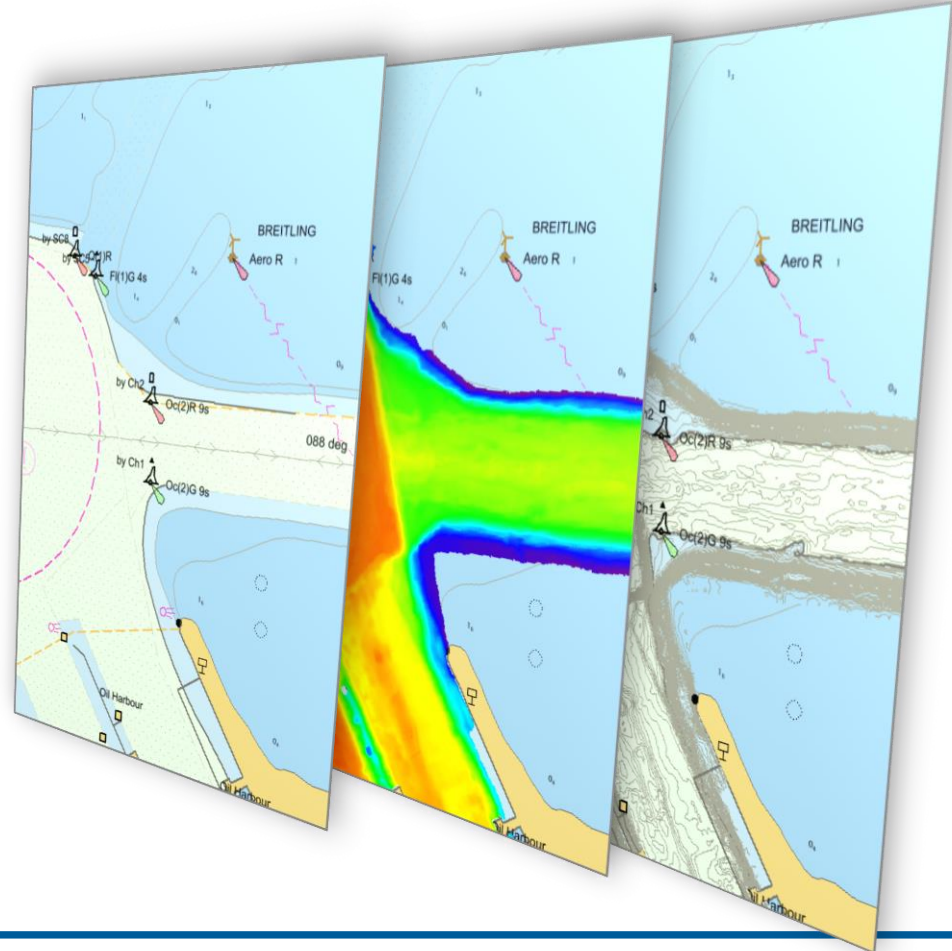
Bathymetry Workshop 09 - 11 April 2019 BSH Hamburg

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Workshop on bathymetric data processing for nautical products

- The BSHC and NSHC decided at their last meetings to arrange a workshop about processing of bathymetric data.
 - The goal of the workshop was to discuss and collect general requirements concerning high density ENCs using the current S-57 and concerning future S-102 gridded data.
 - The BSH conducted a joint workshop with data producers and software developers in April 2019 to exchange technical potential and requirements regarding the processing of bathymetric data
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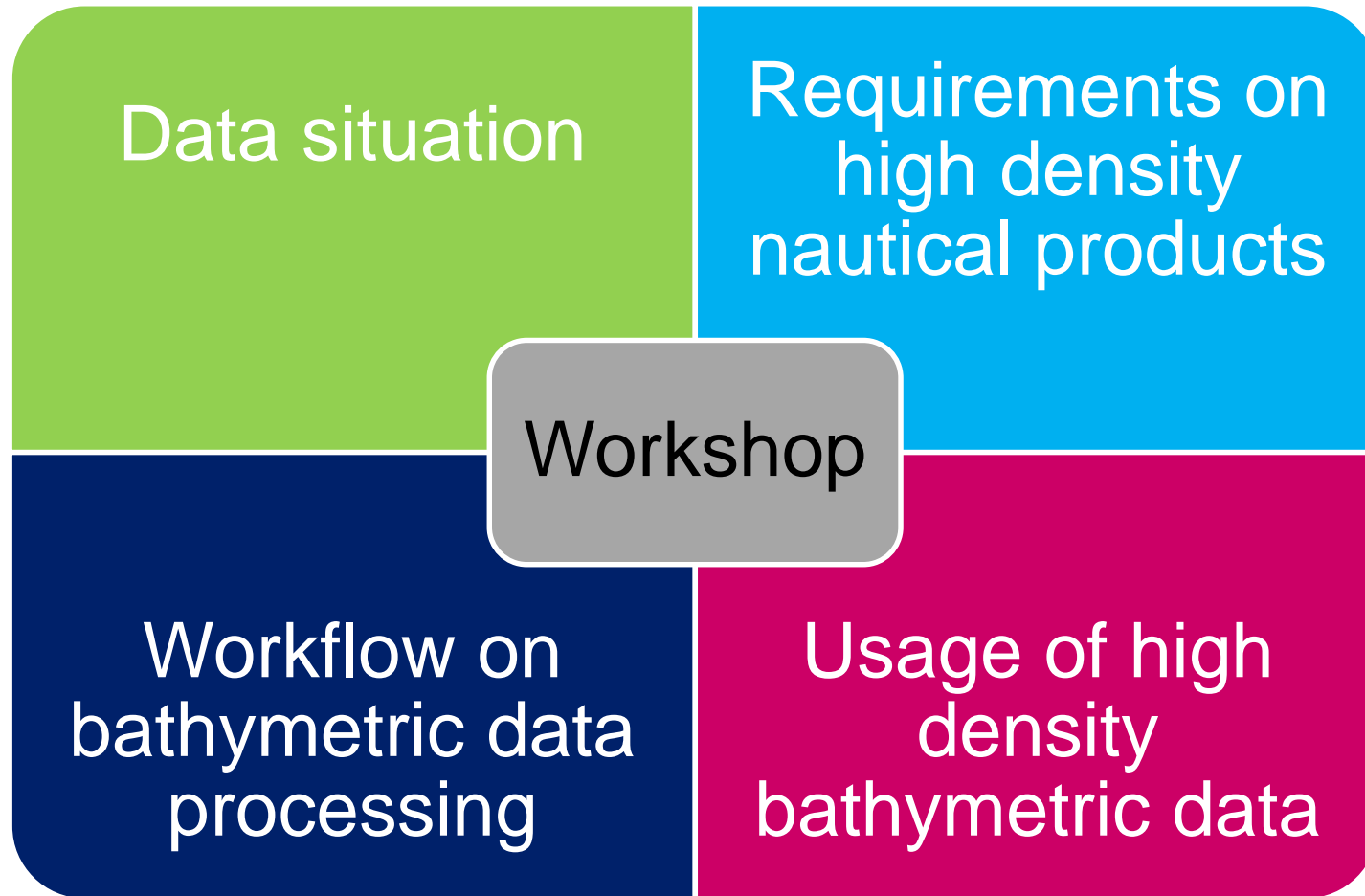
Workshop on bathymetric data processing for nautical products

- The workshop started with presentations of the NSHC and BSHC members of their current workflows on bathymetric data processing, their future plans and developments.
- The representative of ECC/PRIMAR gave an overview of the current and future projects concerning the S-1XX products especially the upload, validation and distribution of S-102 data as well as the development of the S-102 demonstrator.
- The representatives of the software developing companies introduced the functionalities of their tools and explained the processing of the BSH sample data.

Workshop on bathymetric data processing for nautical products

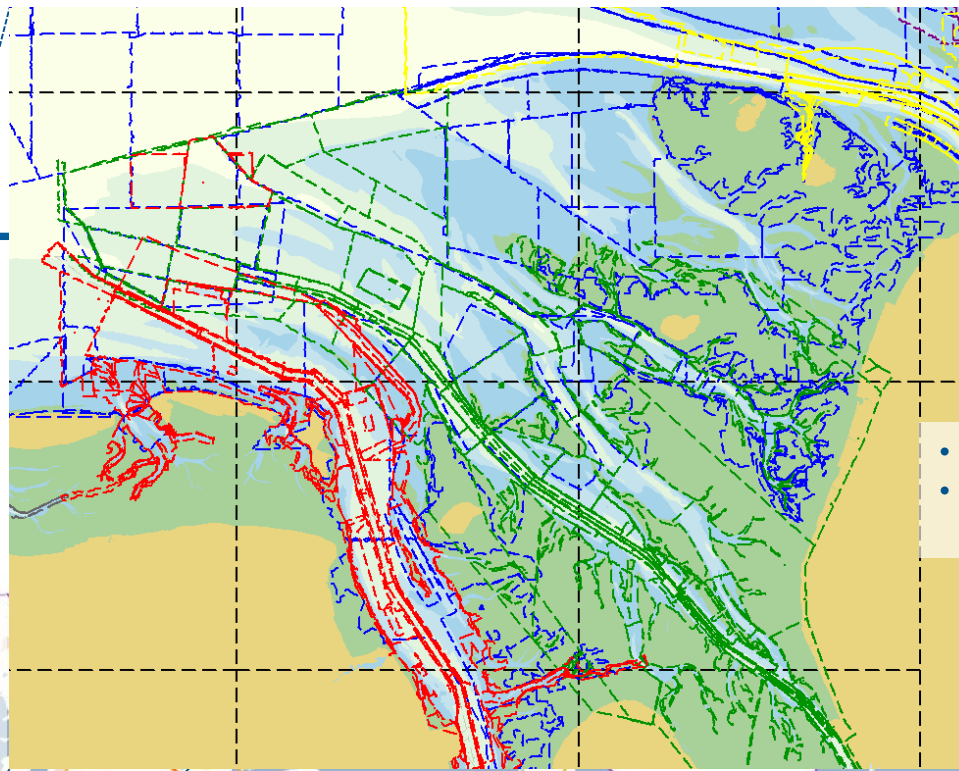
- The chair of the ENC WG, presented the IHO activities on HD ENC's at the beginning of the second day. The information will form a new annex to IHO S-65 advising HO's on how to produce ENC data which will contain additional contours. The status and content of S-102 and bathymetric data processing were discussed.
- The third day of the workshop was concluded by a review of the new S-65 and a summary of general requirements for the S-102.

Detailed conclusions



1. Data situation

- Complete coverage with current data
- Continuous and systematic surveys by different authorities
- Different surveying methods (SBES, MBES, laser) depending on efficiency, terrain structure and political requirements
- Surveying intervals depending on the dynamic of the sea area, e.g. nearly two-week rhythm in confined, highly frequented and rapidly changing waterways in the North Sea
- 2000 new surveying data sets per year, in the future 3000 estimated



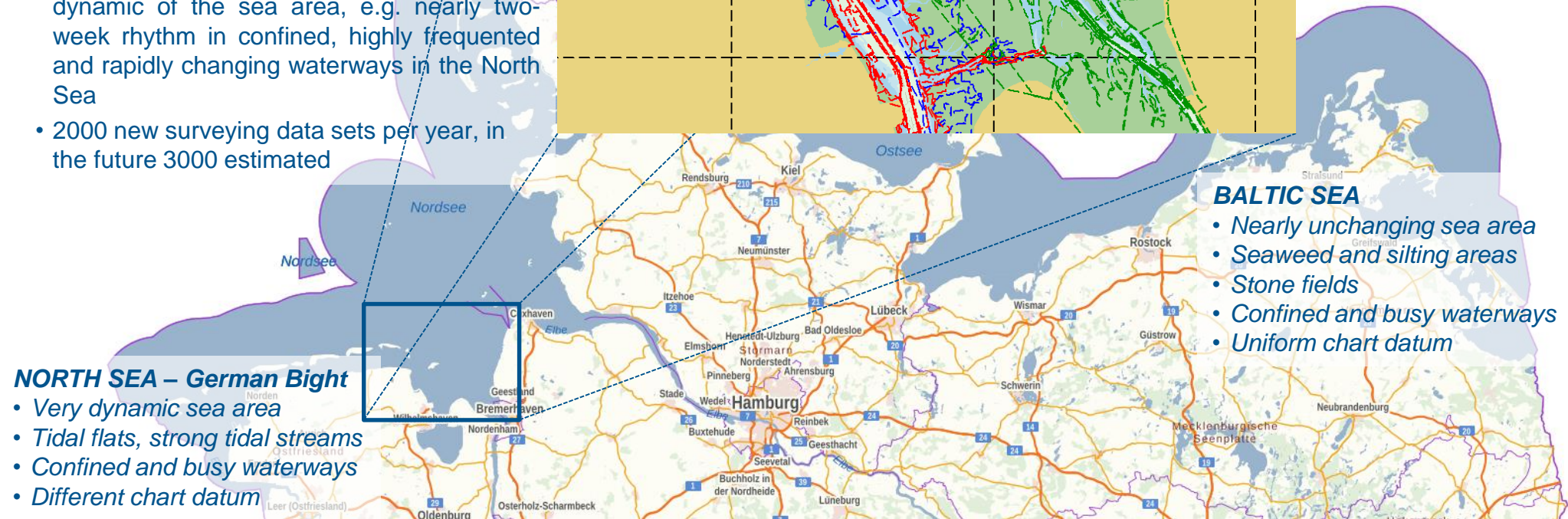
- 6 different data providers
- ~ 850 blended surveying data sets

NORTH SEA – German Bight

- *Very dynamic sea area*
- *Tidal flats, strong tidal streams*
- *Confined and busy waterways*
- *Different chart datum*

BALTIC SEA

- *Nearly unchanging sea area*
- *Seaweed and silting areas*
- *Stone fields*
- *Confined and busy waterways*
- *Uniform chart datum*



2. Nautical Products

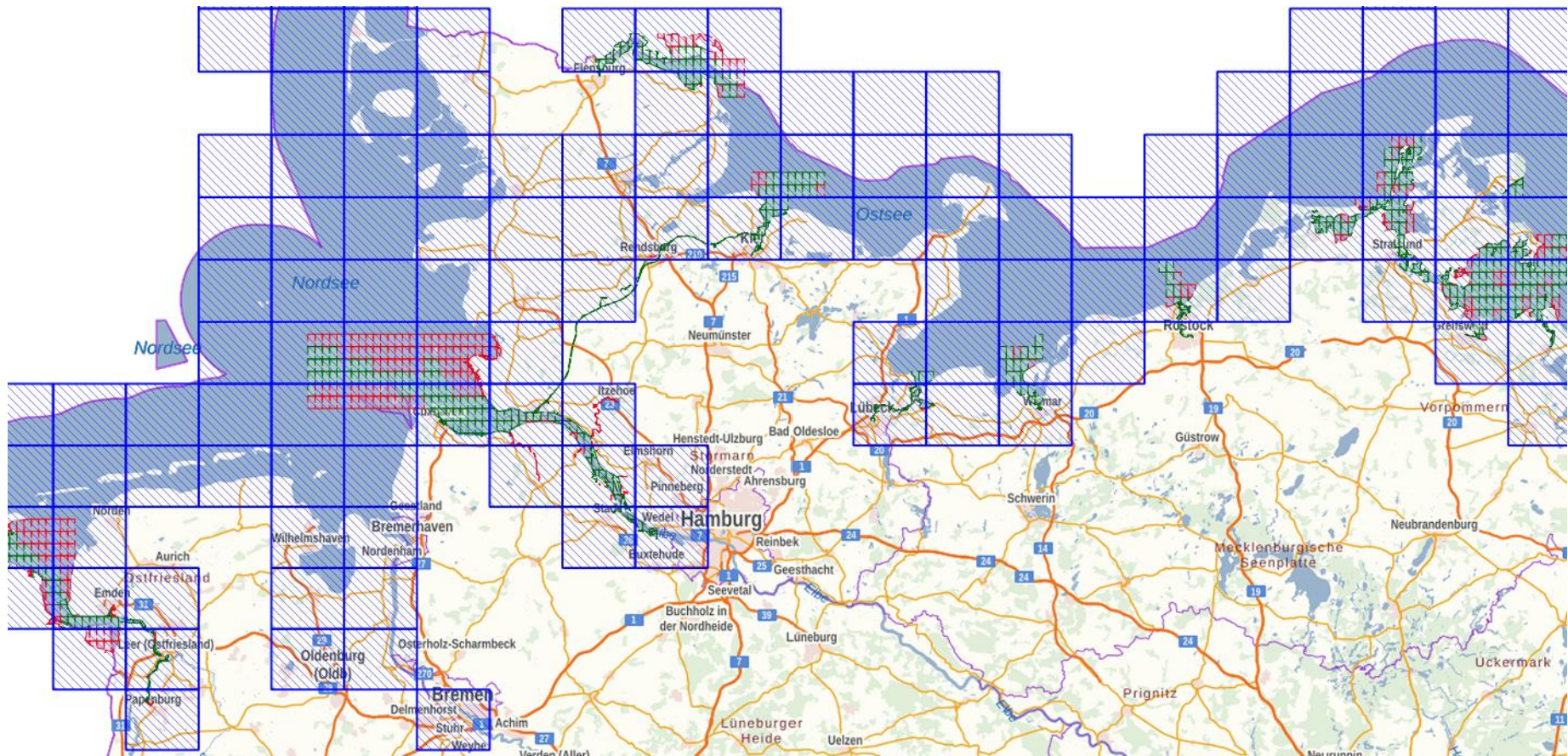


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Tiling schemes

ENCs (approach): size of tiles 20' x 10' minutes

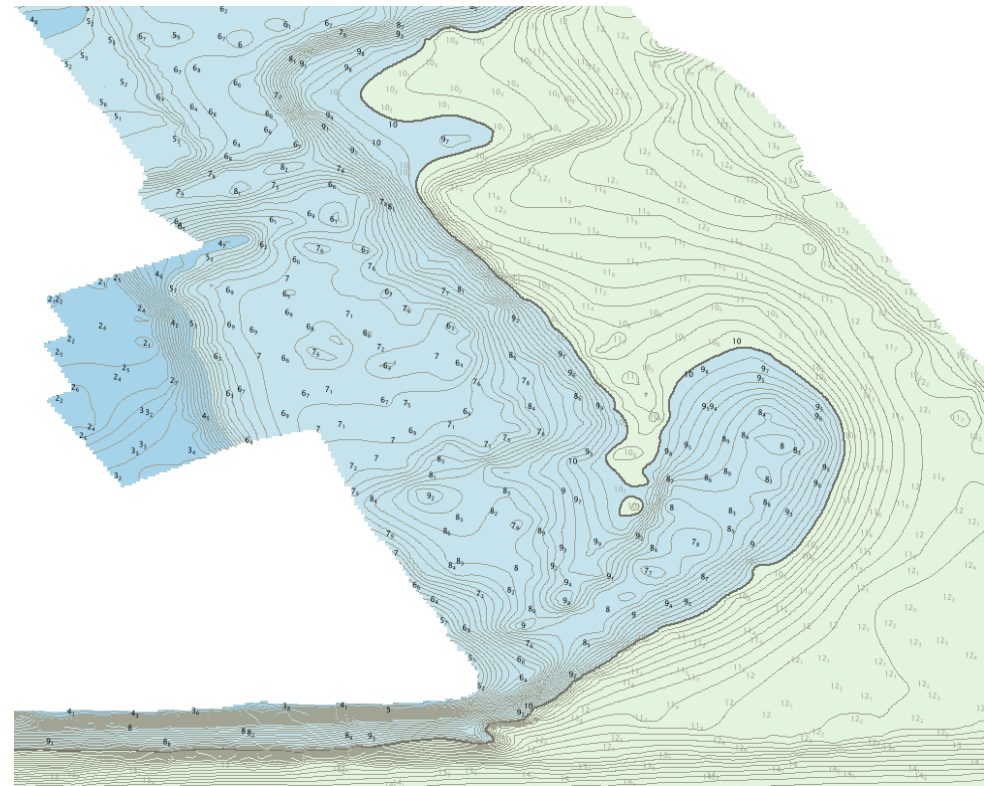
bENCs: size of tiles 2' x 2' minutes



2. Nautical Products

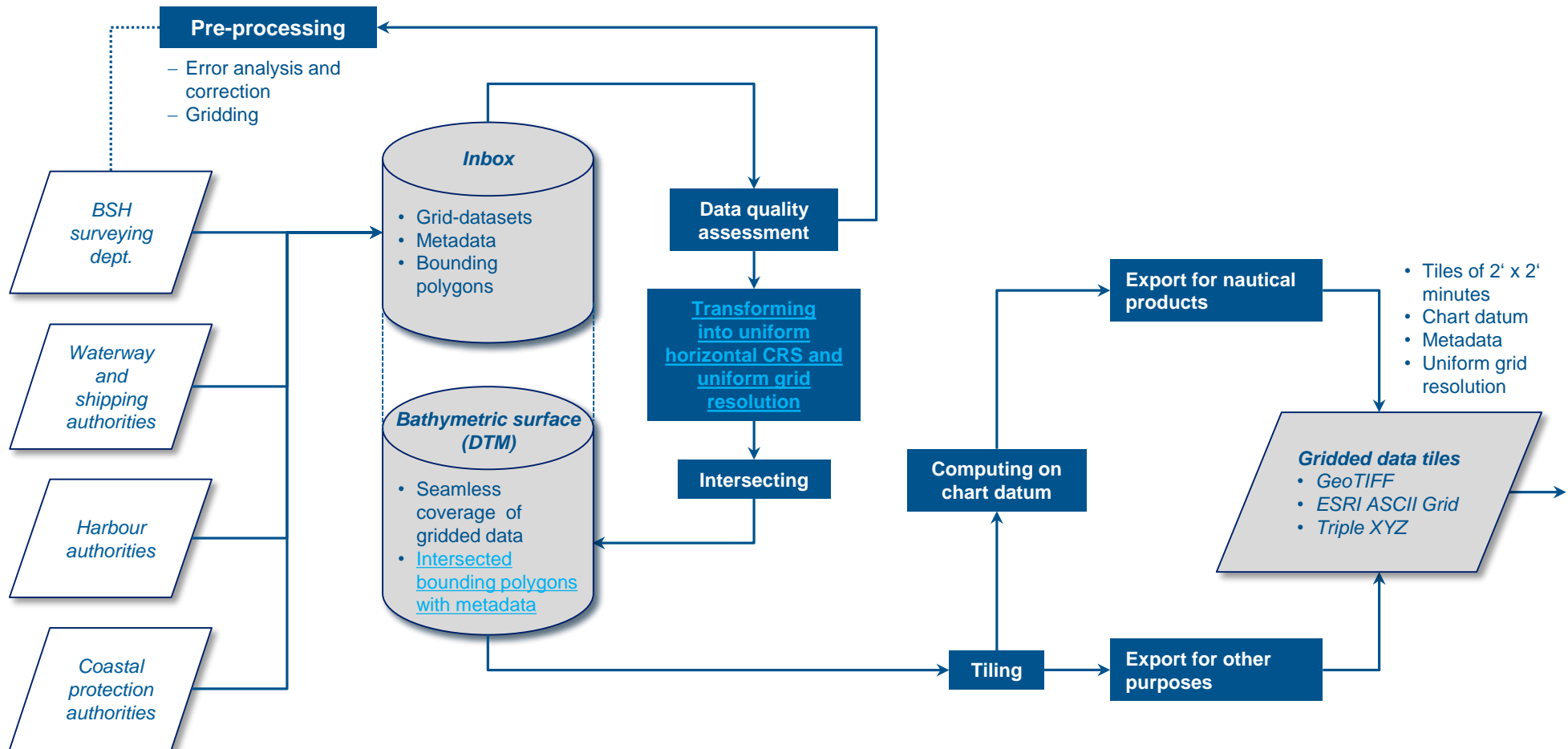
Additional Bathymetric Layer / bathymetric ENC (ABL / bENC)

- Produced in the pilotage waters along the German coast
- Harbour and approach scale bands
- Tile: 2*2 minutes
 - approx. 2.2km * 3.7km
- Interval of depth contours depending on specific local requirements, mostly 50cm
- Metadata:
 - currently → M_COVR and M_QUAL
 - later → M_SREL
- Updating process initialized by new source data set
- Recommended size - 5 MB

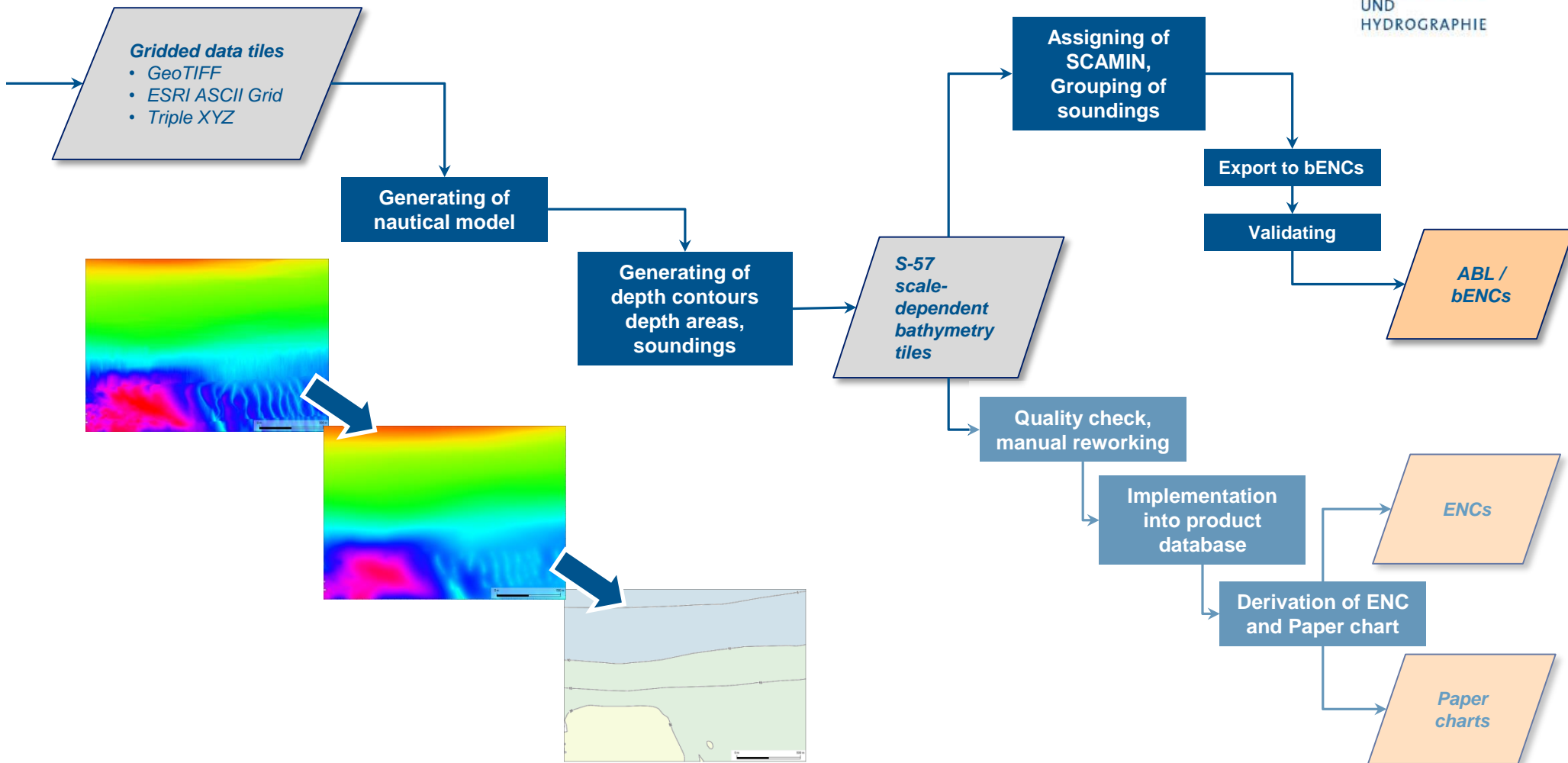


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3. Workflow of bathymetric data processing



4. Workflow of bathymetric data processing



Thank you!



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