



HIGH NORTH PROGRAM



NEW HYDROGRAPHIC DATA IN THE ARCTIC

Maurizio DEMARTE Roberta IVALDI Luigi SINAPI



Mission:

... to support and to contribute to the **safety of navigation** and to the National Defence as **National Charting Authority**, to promote the study of all **sea-related matters** and the protection of the **marine environment**.

IHO Standards since 1921

Activity:

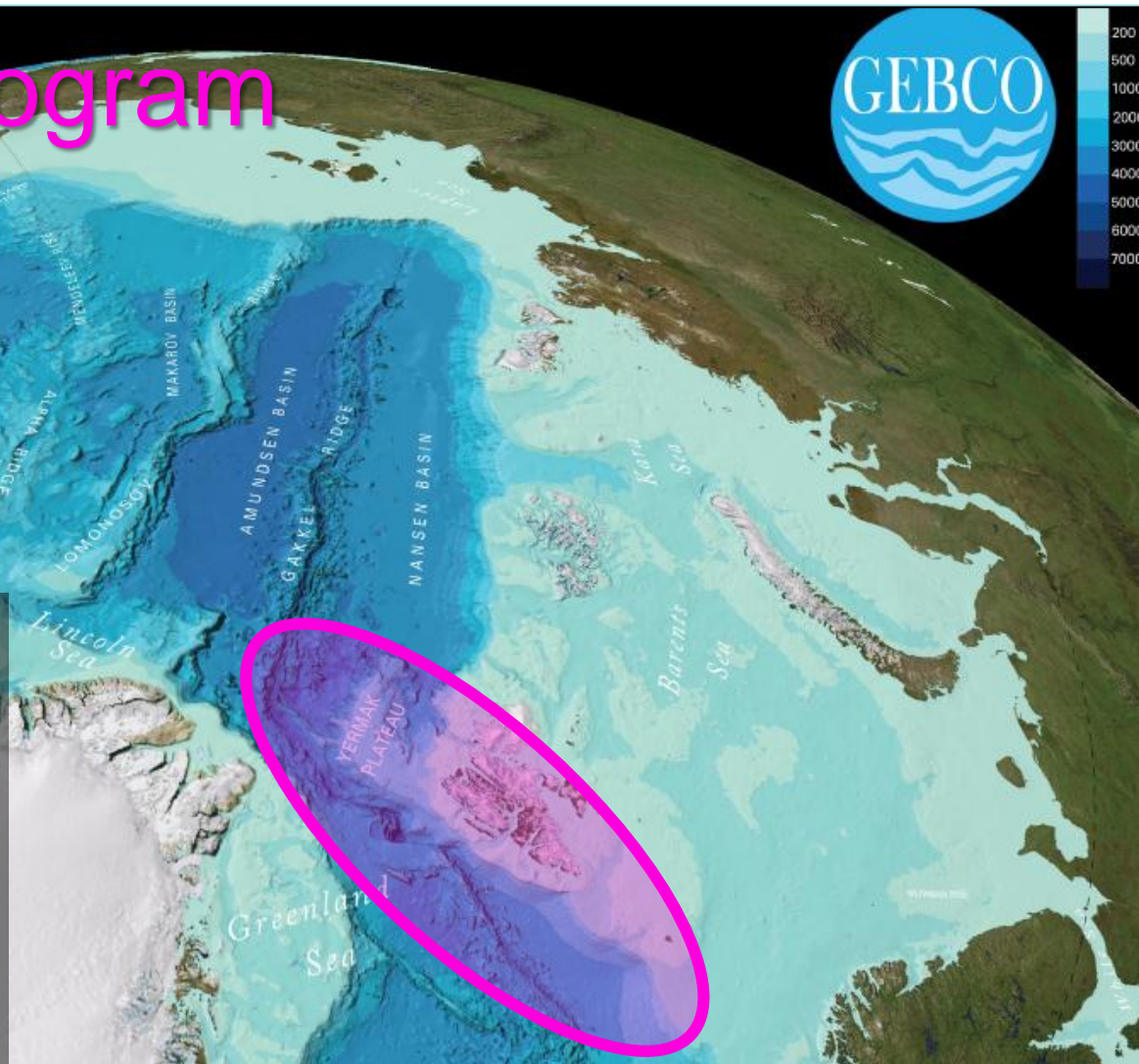
- Charting - 1872
- **Research** - **1887**
- Education and Training - 1907



High North Program

2017 - 2019

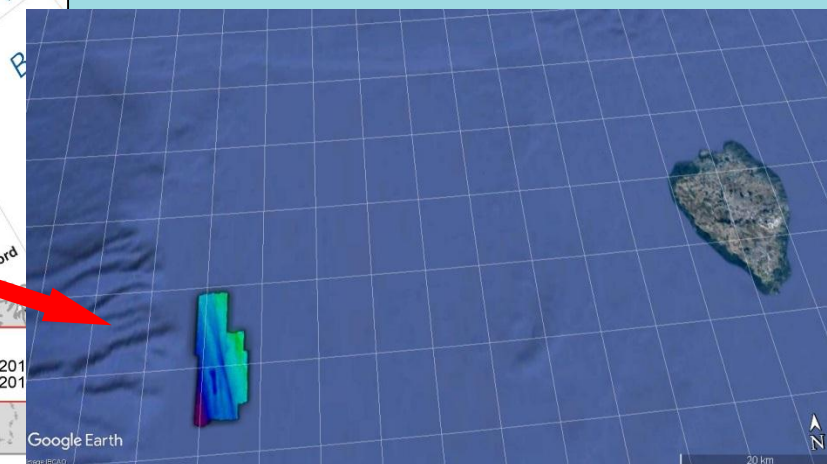
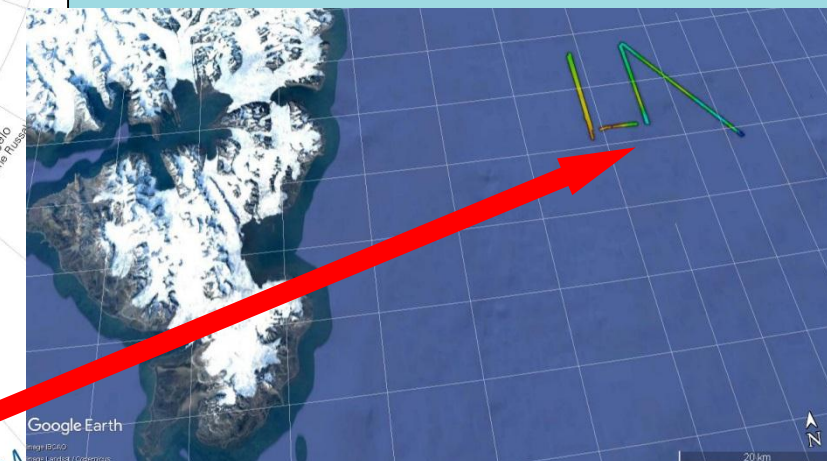
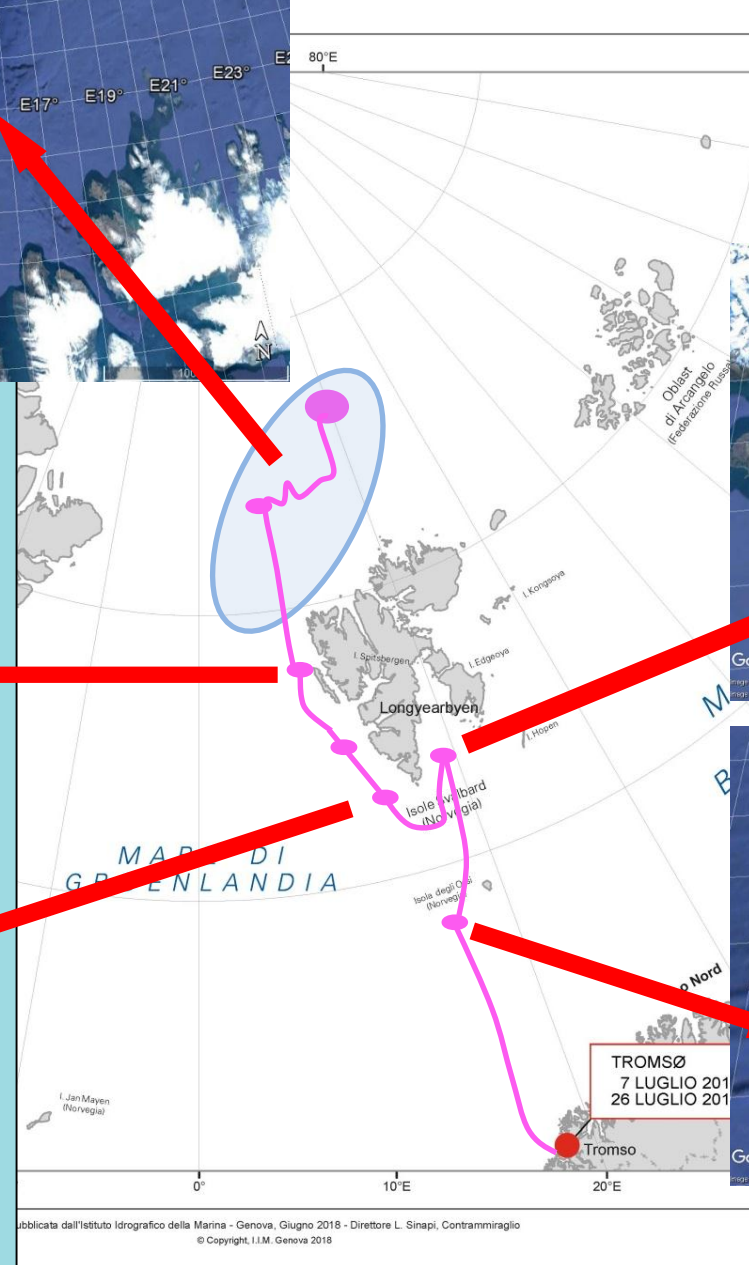
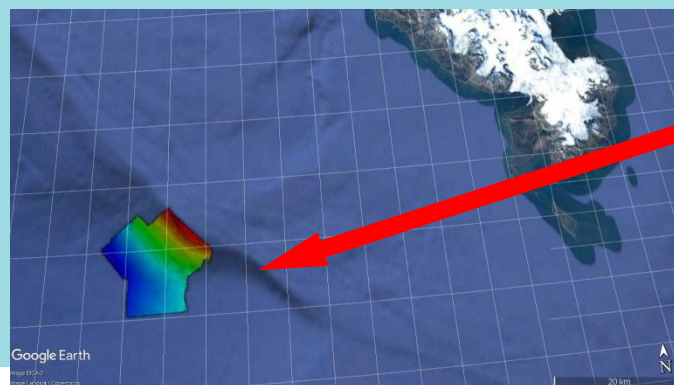
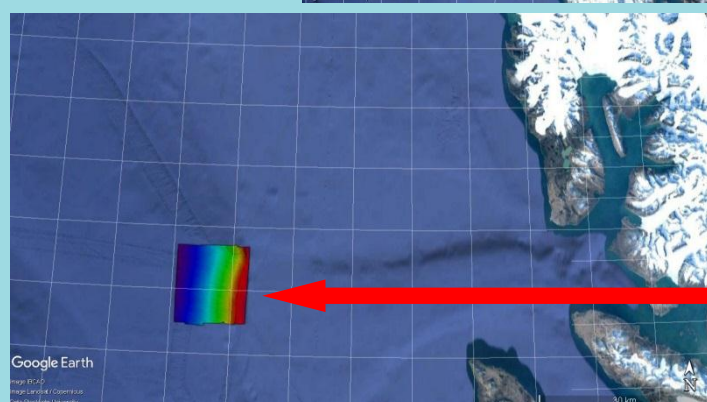
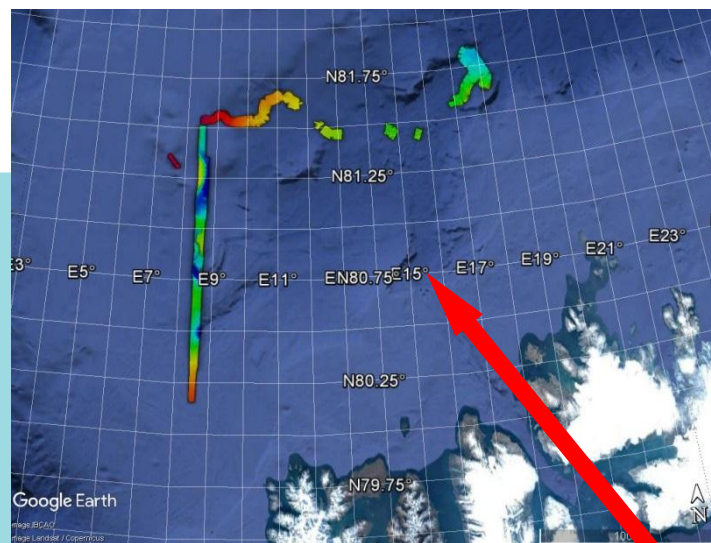
- Data sharing
- Ocean knowledge
- Exploration
- Monitoring
- New technology
- Education

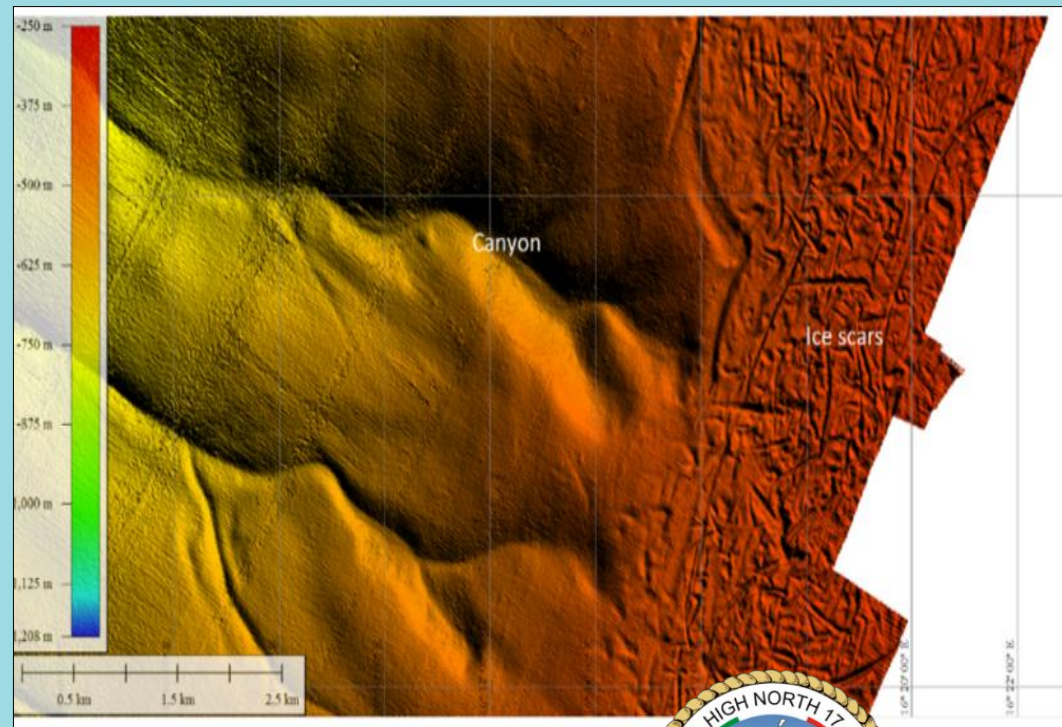






80 min on-ship SAPR ops.



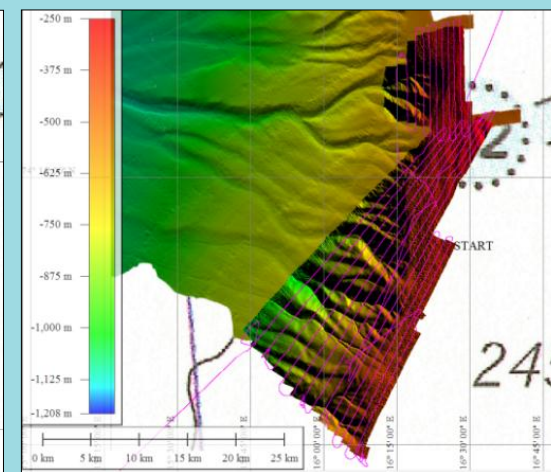
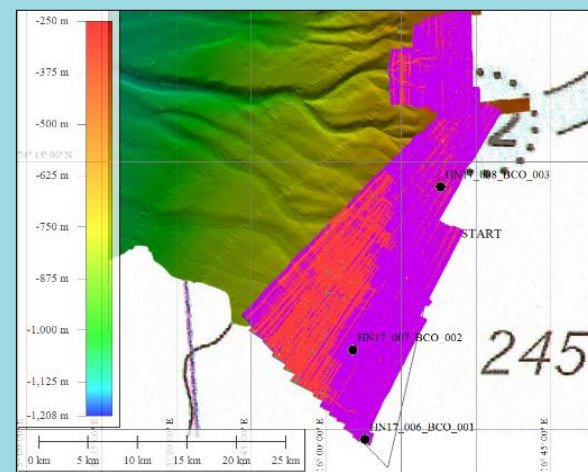
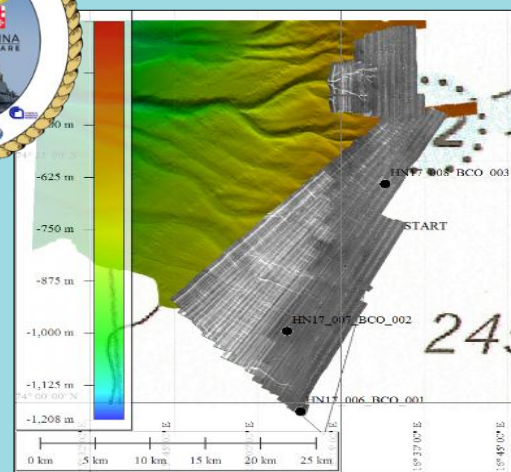


650 km² MBES

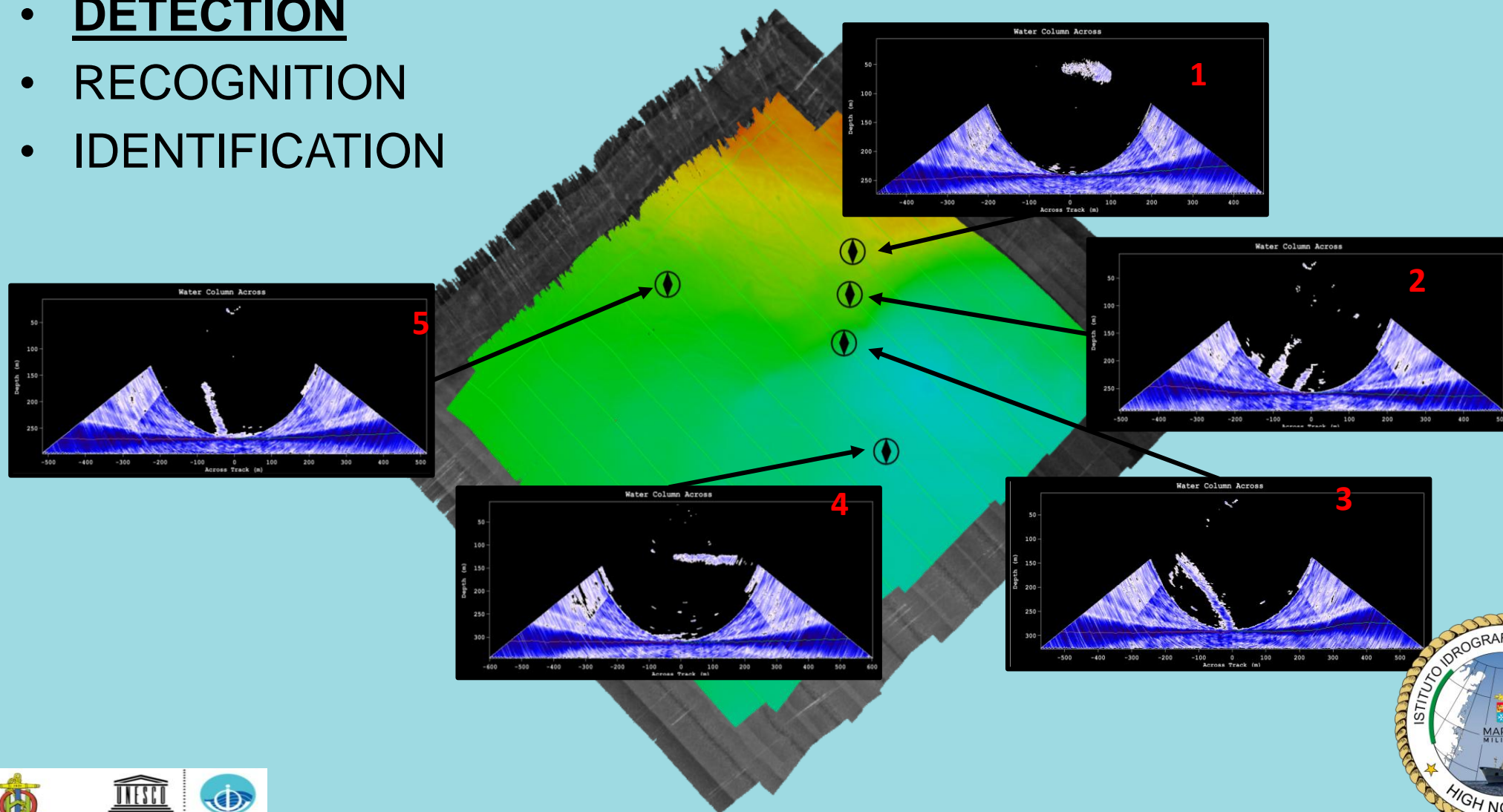
Morphology and seabed nature

Water column acoustic features

DTM and acoustic mosaicing (30m cell)



- DETECTION
- RECOGNITION
- IDENTIFICATION



SEABED MAPPING

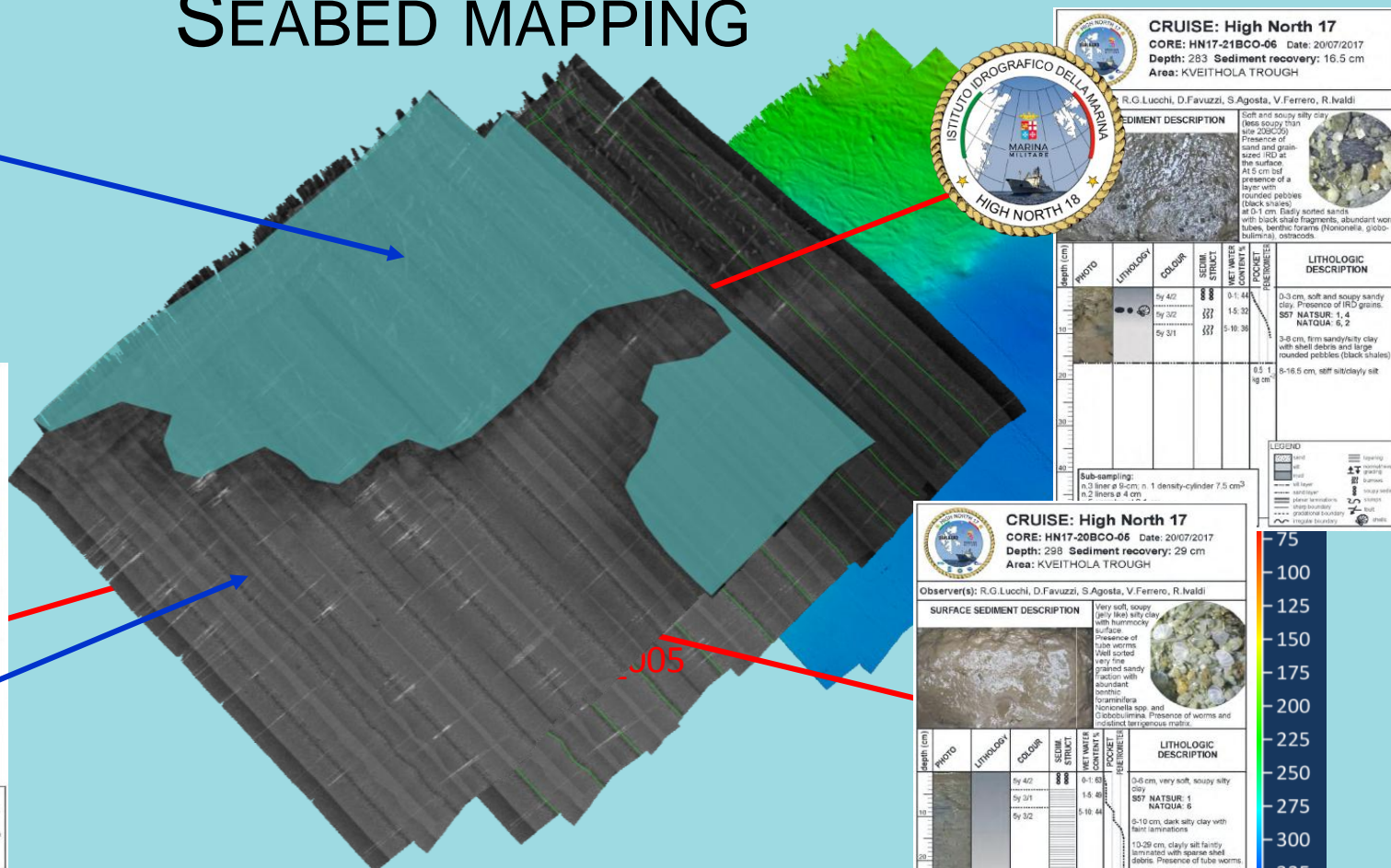
FOLK: muddy Sand
S-57:

- NATSUR: 4,1
- NATQUA: 2,6
- S-4/INT1: S, sM



FOLK: sandy - Mud
S-57:

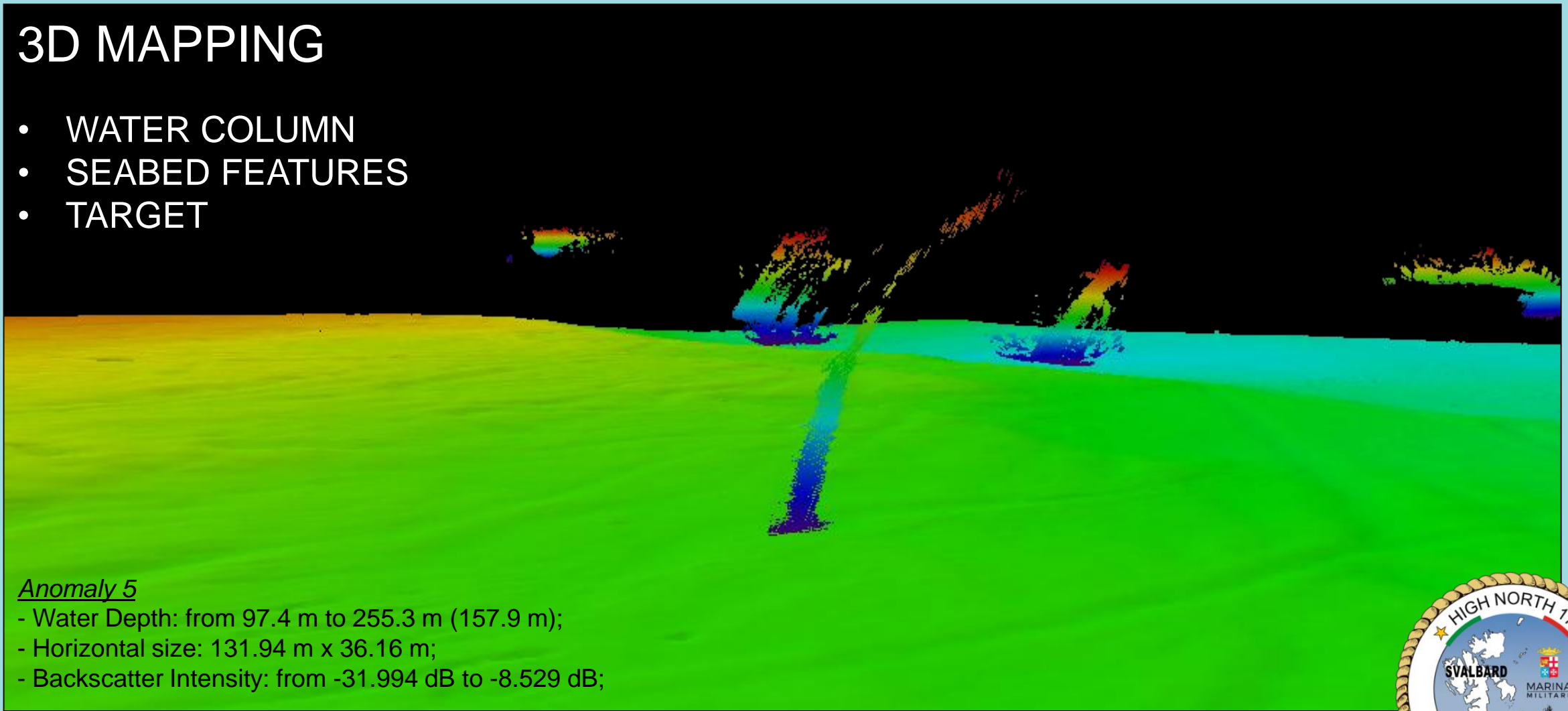
- NATSUR: 1
- NATQUA: 6
- S-4/INT1: sM



- Backscatter mosaic
- Sediment classification
- Seabed classification

3D MAPPING

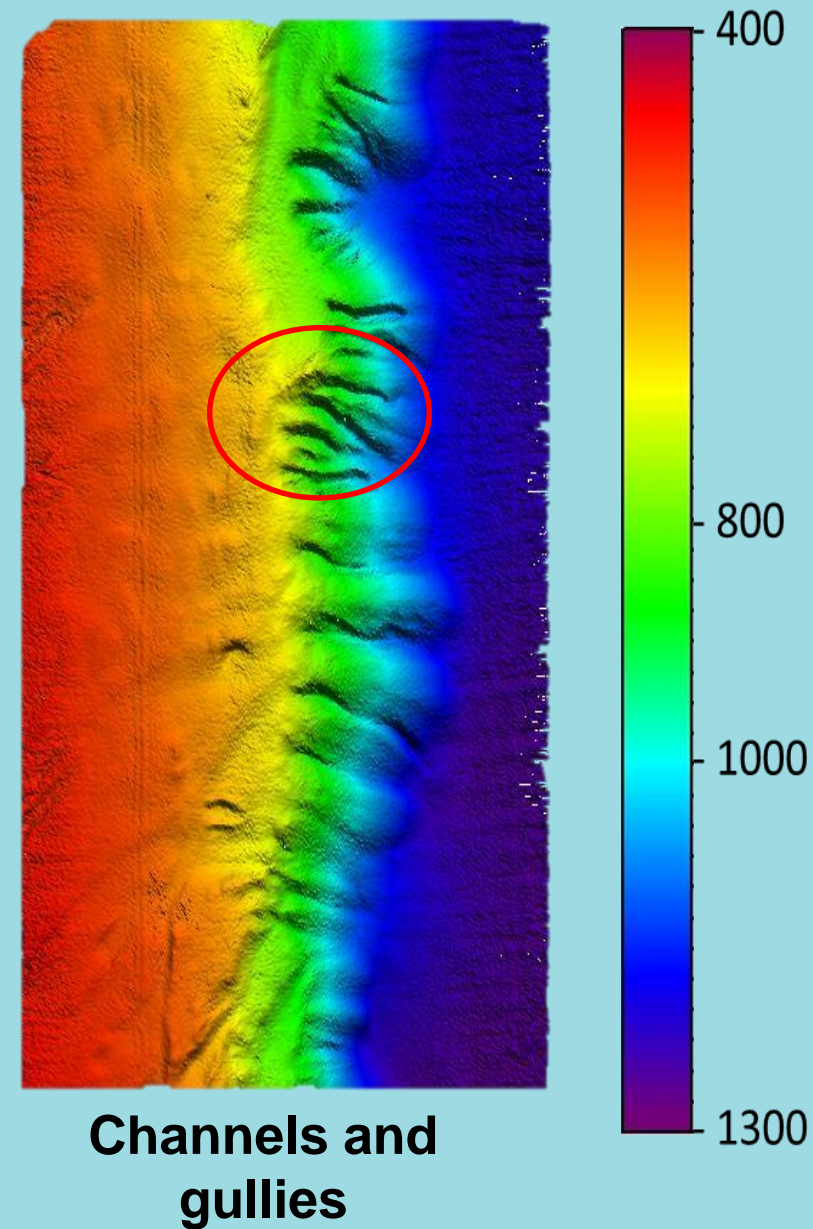
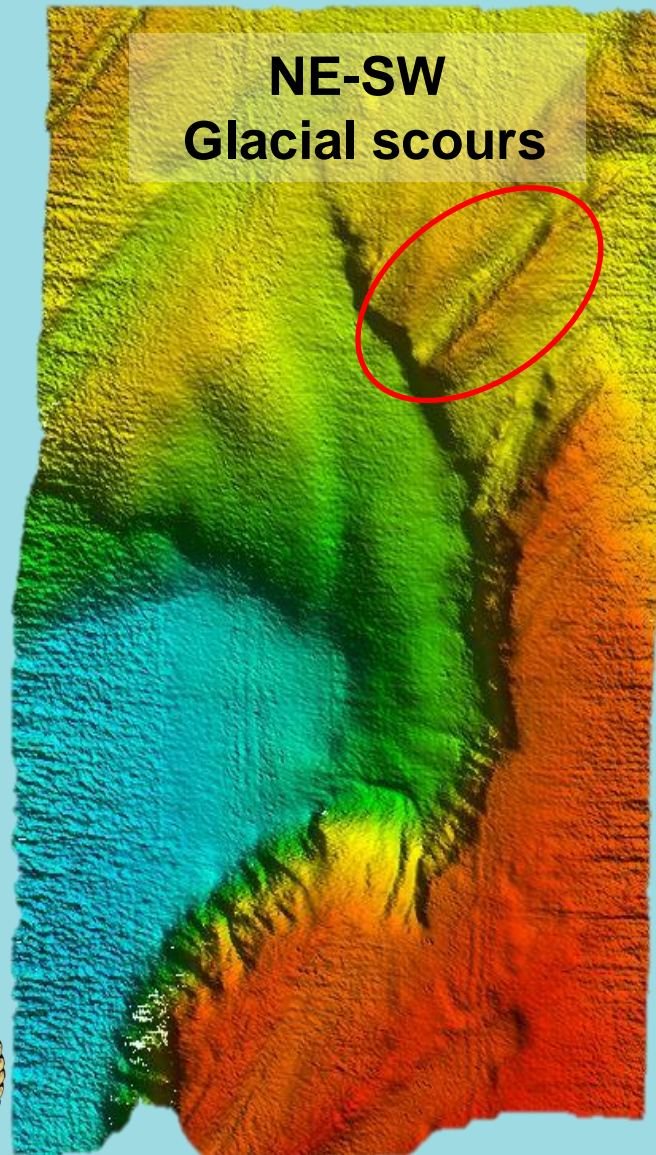
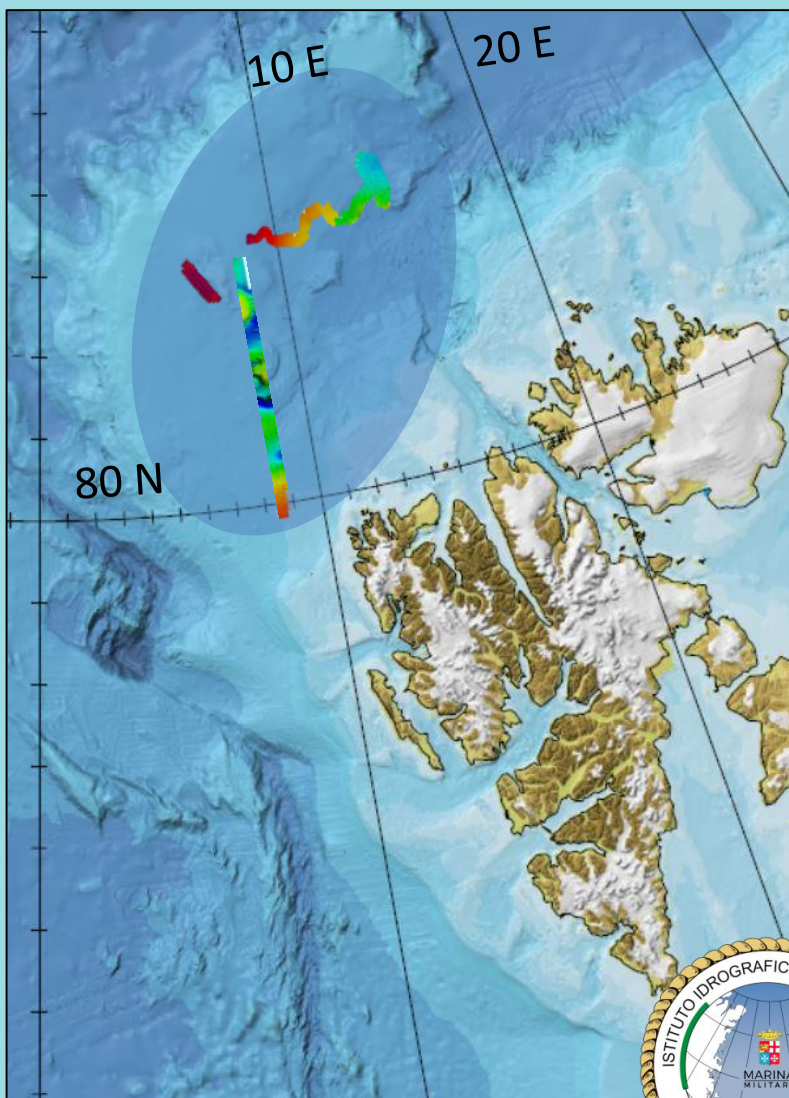
- WATER COLUMN
- SEABED FEATURES
- TARGET

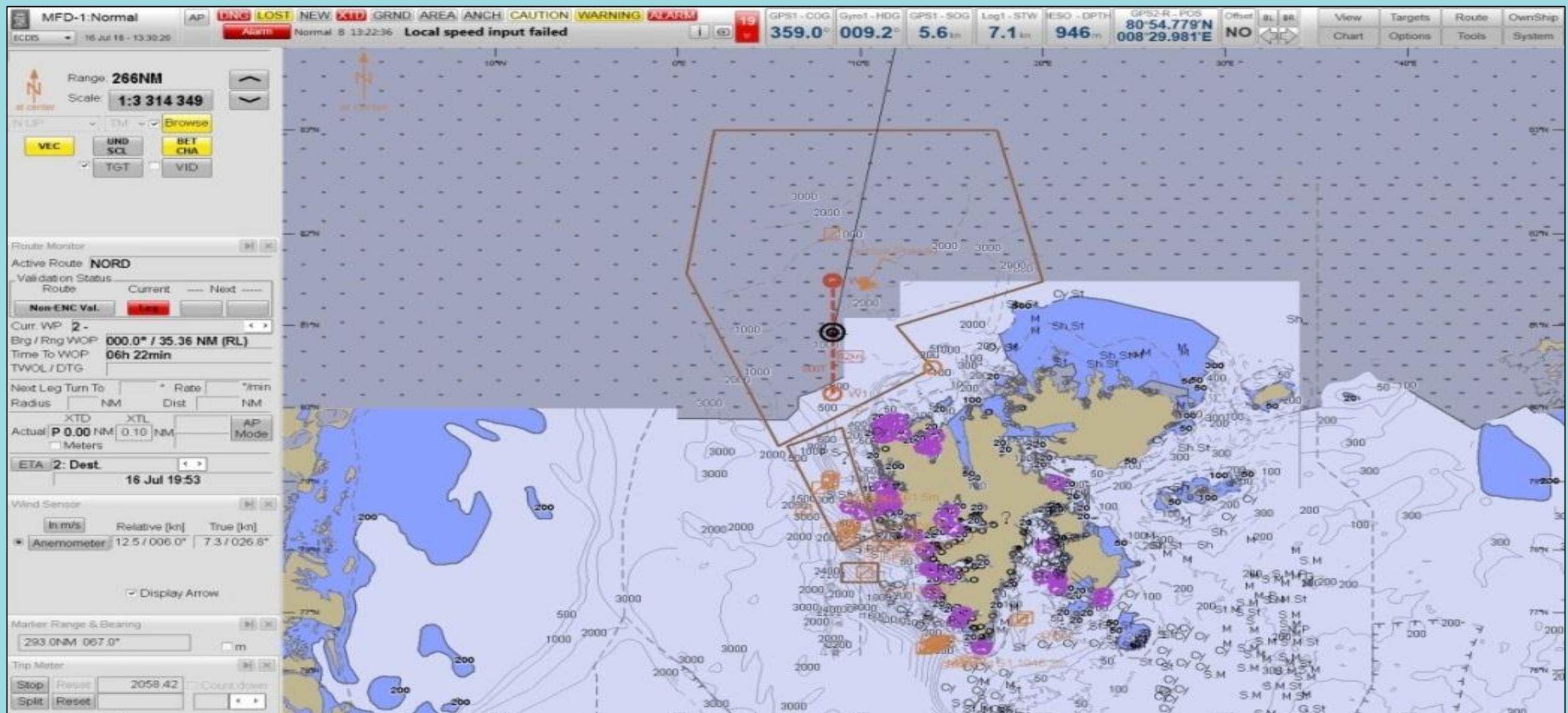


Anomaly 5

- Water Depth: from 97.4 m to 255.3 m (157.9 m);
- Horizontal size: 131.94 m x 36.16 m;
- Backscatter Intensity: from -31.994 dB to -8.529 dB;





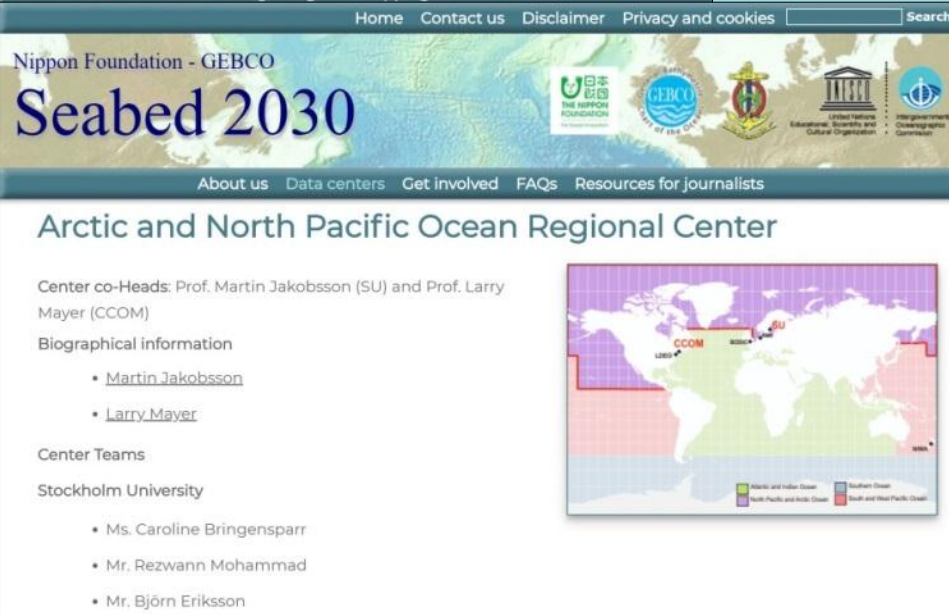
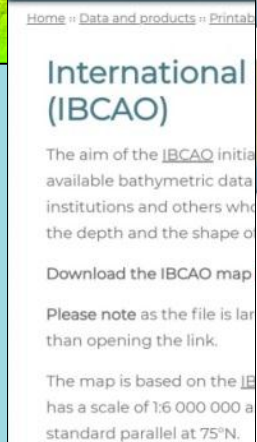
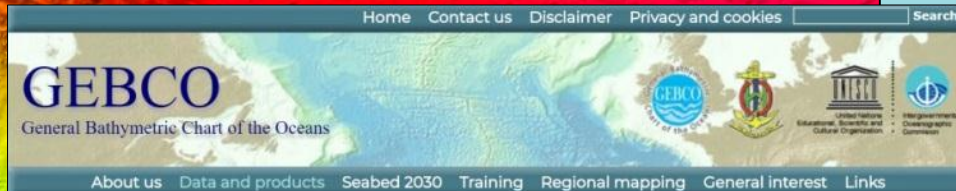


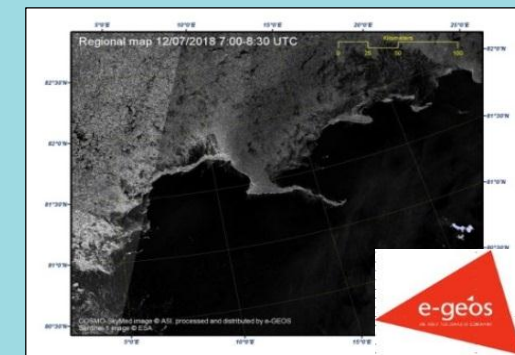
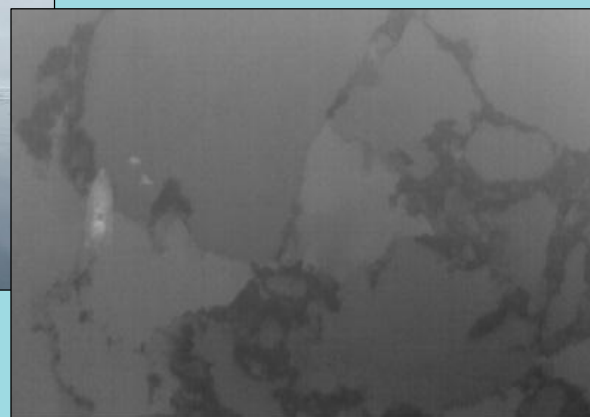
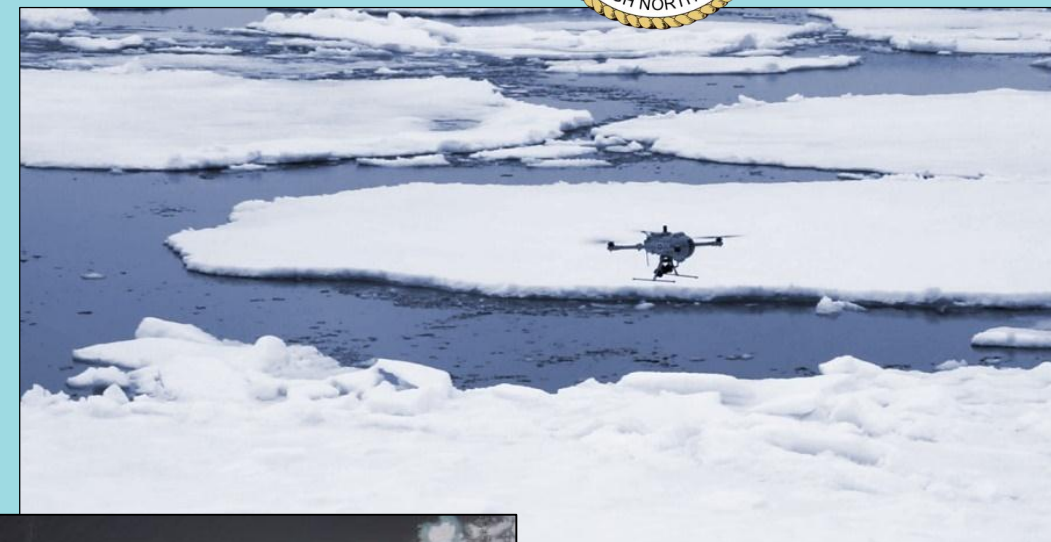
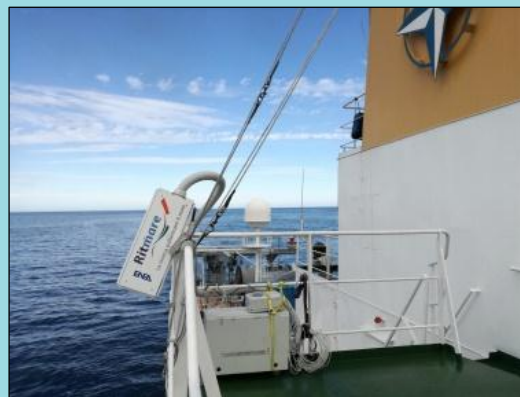
EXPLORATION



FULL DATA SHARING WITH:

- NORWEGIAN FFI
- GEBCO/IBCAO
- IHO DCDB – ARHC
- ARCTIC SCIENTIFIC PROJECT





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Collaboration
coordination
cooperation

work in progress ...

Exploration
Experimentation
Education