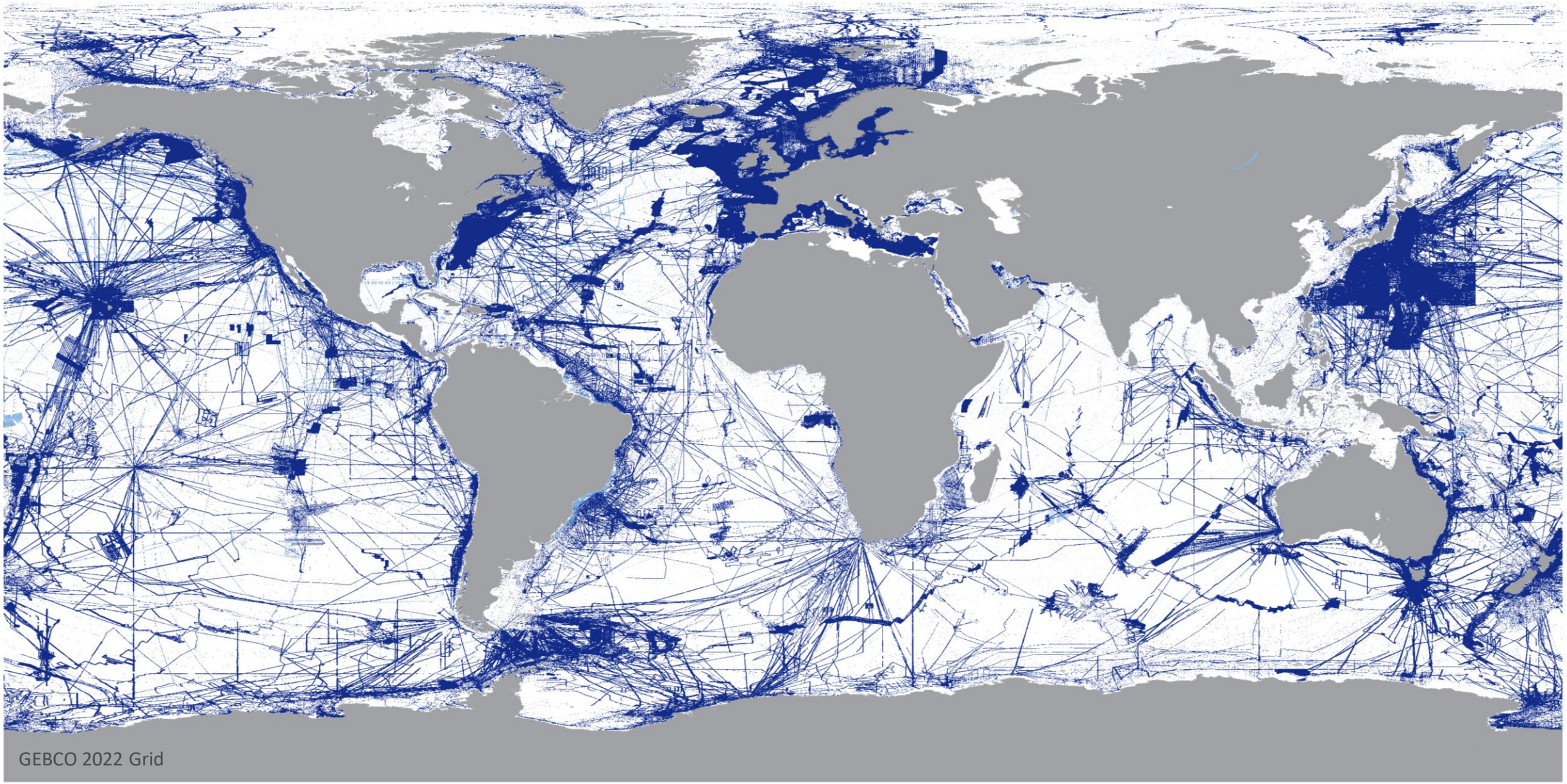
COUCH SURVEYING

THE NEW WEBAPP “SDB-ONLINE“

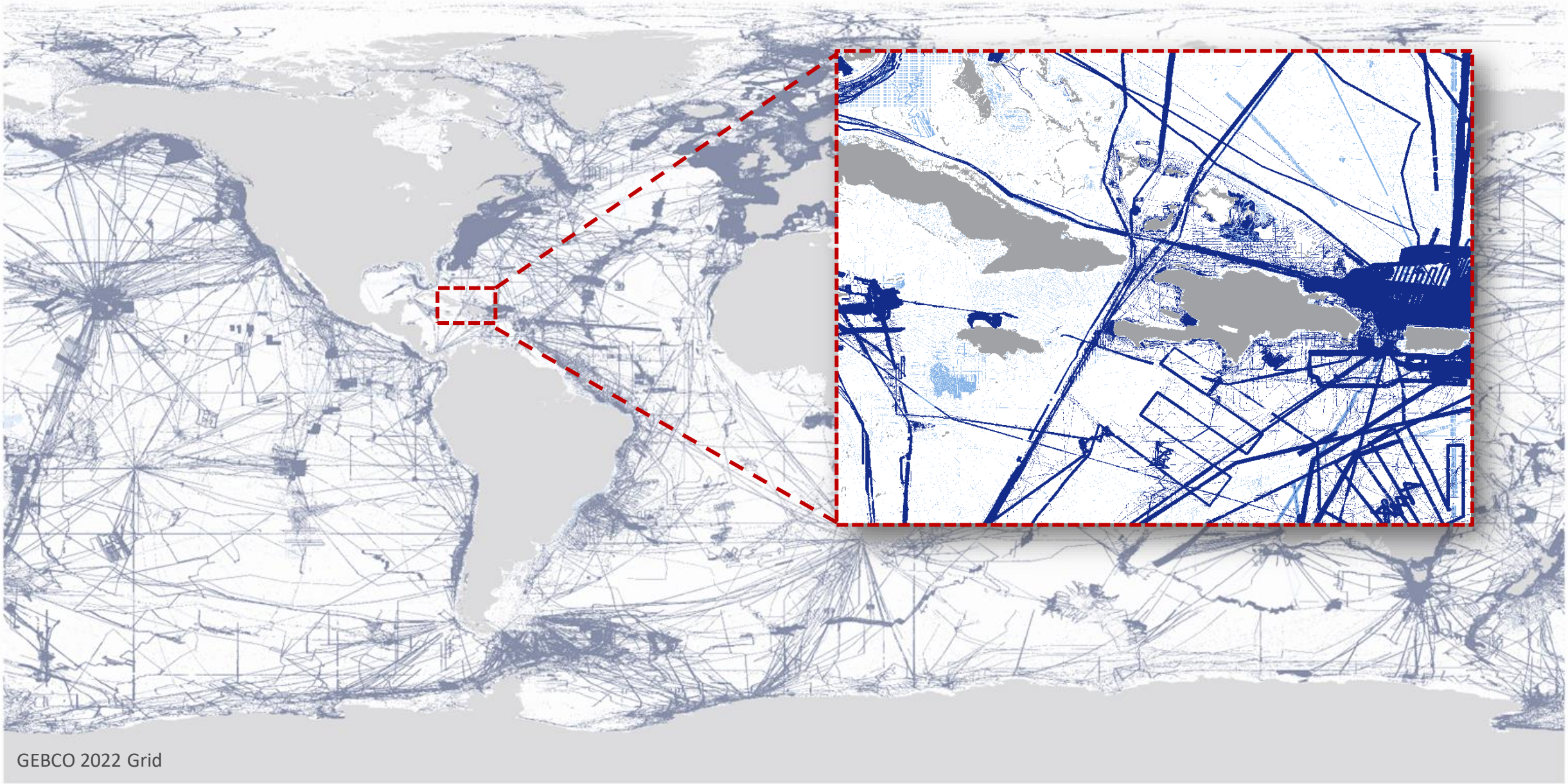
EOMAP | Mona Reithmeier | reithmeier@eomap.de

2022-10-04, WATERDAYS 2022



GEBCO 2022 Grid

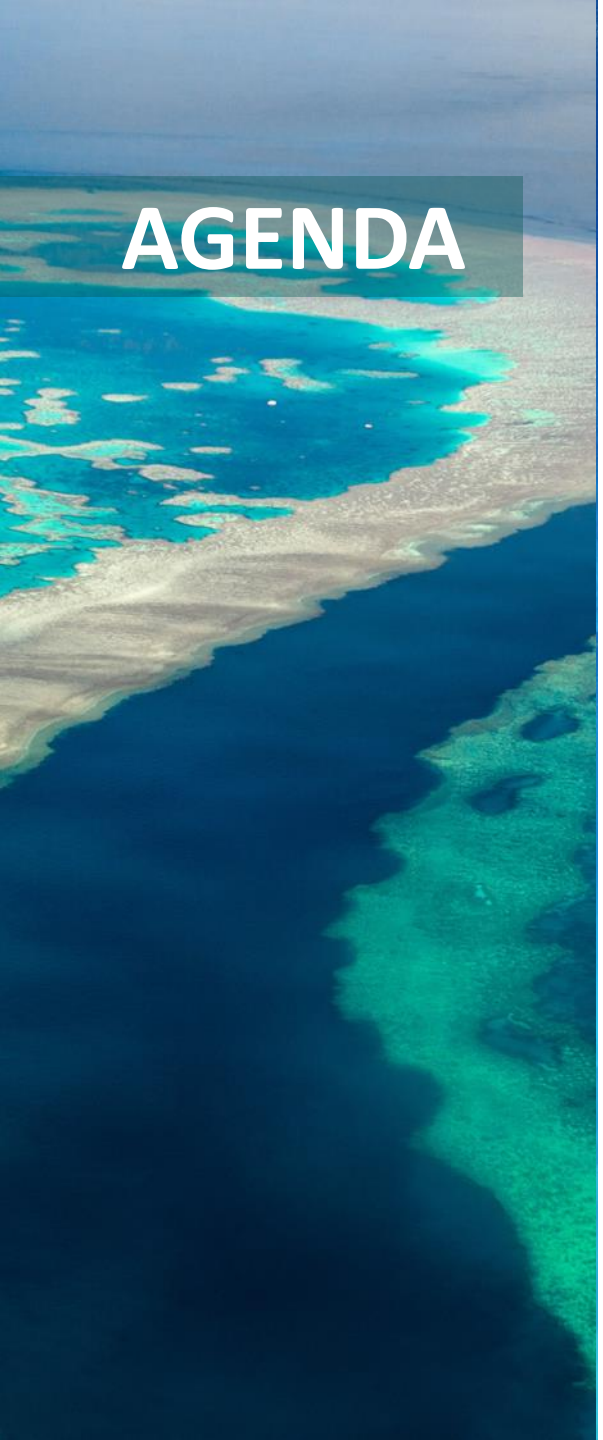
EOMAP



GEBCO 2022 Grid

EOMAP


SDB Online
REQUEST SDB
MY ORDERS
Web Viewer
WELCOME MONA
EOMAP
2017-08-12 to 2021-09-09
Colorized
RGB
Hillshade
3D View
Elevation
Transect
DRAW
RESET
Depth [m]
Length [m]
1000
2000
mapbox



AGENDA

01 Satellite-Derived Bathymetry and SDB-Online

02 SDB-Online – Basic Workflow

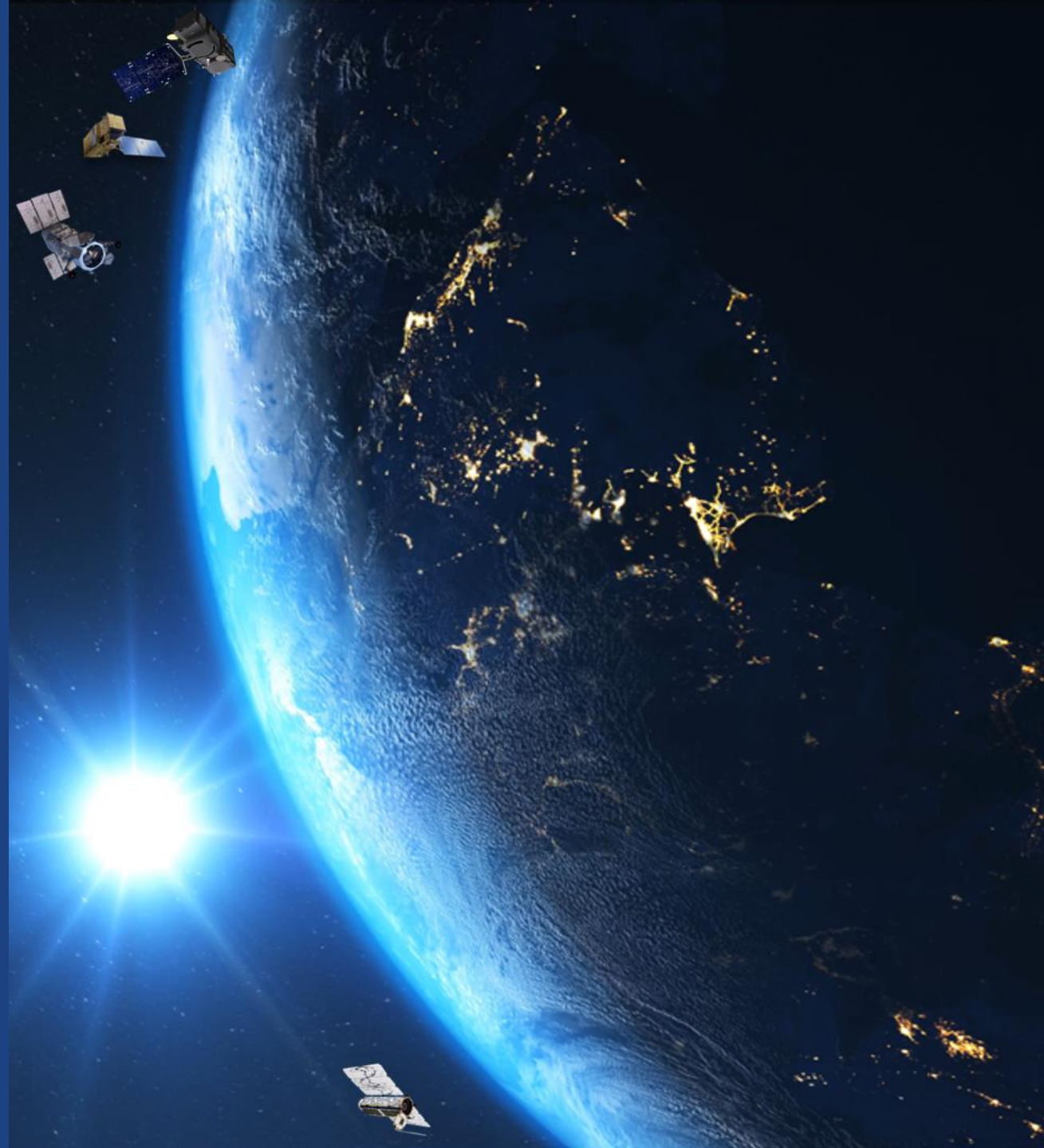
03 SDB-Online – Use cases

01

SATELLITE-DERIVED BATHYMETRY AND SDB-ONLINE

WHY SATELLITES?

- Continuous data aquisition
- Global coverage
- Multiply years of archived data
- Excellent sensors for a systematical and automised data analysis



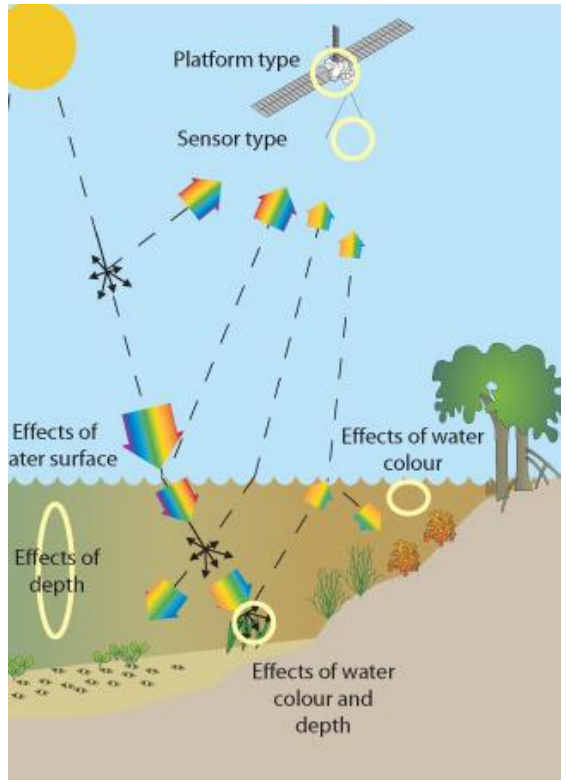
SATELLITE DERIVED BATHYMETRY

- **Data basis:**
  Multispectral satellite imagery in 0.3 - 10m spatial resolution

- **EOMAP's patented method:**
  Inversion of radiative transfer equation, physics-based depth retrieval

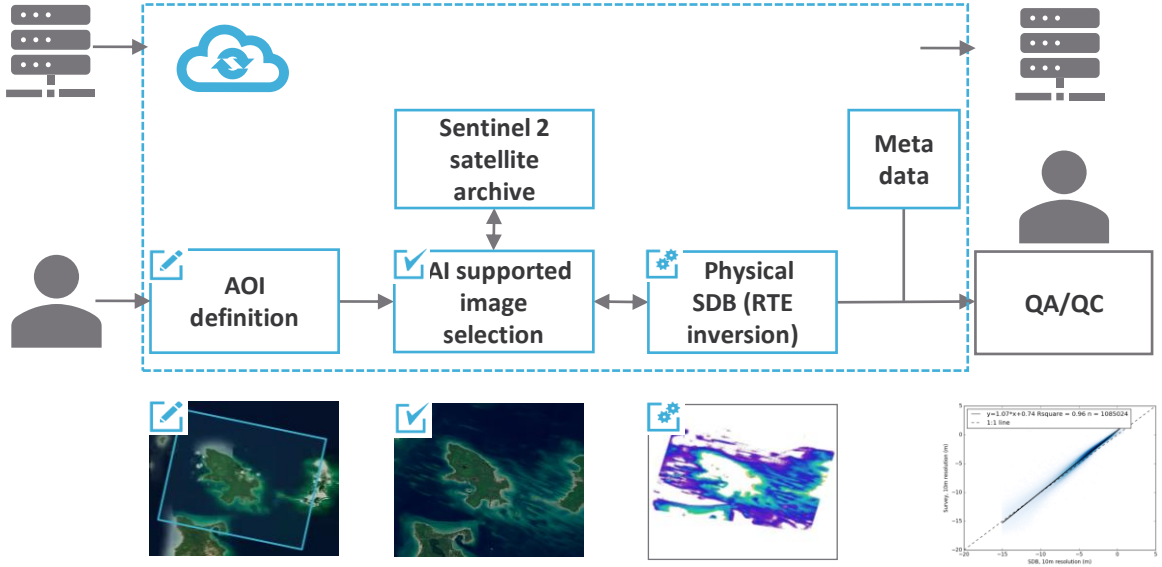
- **Depth:**
  Shoreline to 1 - 1.2 secchi disc depth

- **Advantages:**
  Worldwide access, no cost- and time intensive on-site survey necessary



SDB-ONLINE

- **Physics-based SDB:** applicable to all optical shallow waters worldwide
- **Cloud backend:** completely scalable
- **Easy access:** User interface, API
- **AI evaluation of satellite scenes:** automatic scene selection for clear water conditions
- **Multi-image processing:** more robust results
- **Tidal correction:** integrated tidal model



02

BASIC WORKFLOW

SDB Online | REQUEST SDB | MY ORDERS | WELCOME | EOMAP detect more.

Free Trial

1 Define an Area of Interest
Draw on map or upload a shapefile

Draw on map

DRAW RECTANGLE | DRAW POLYGON

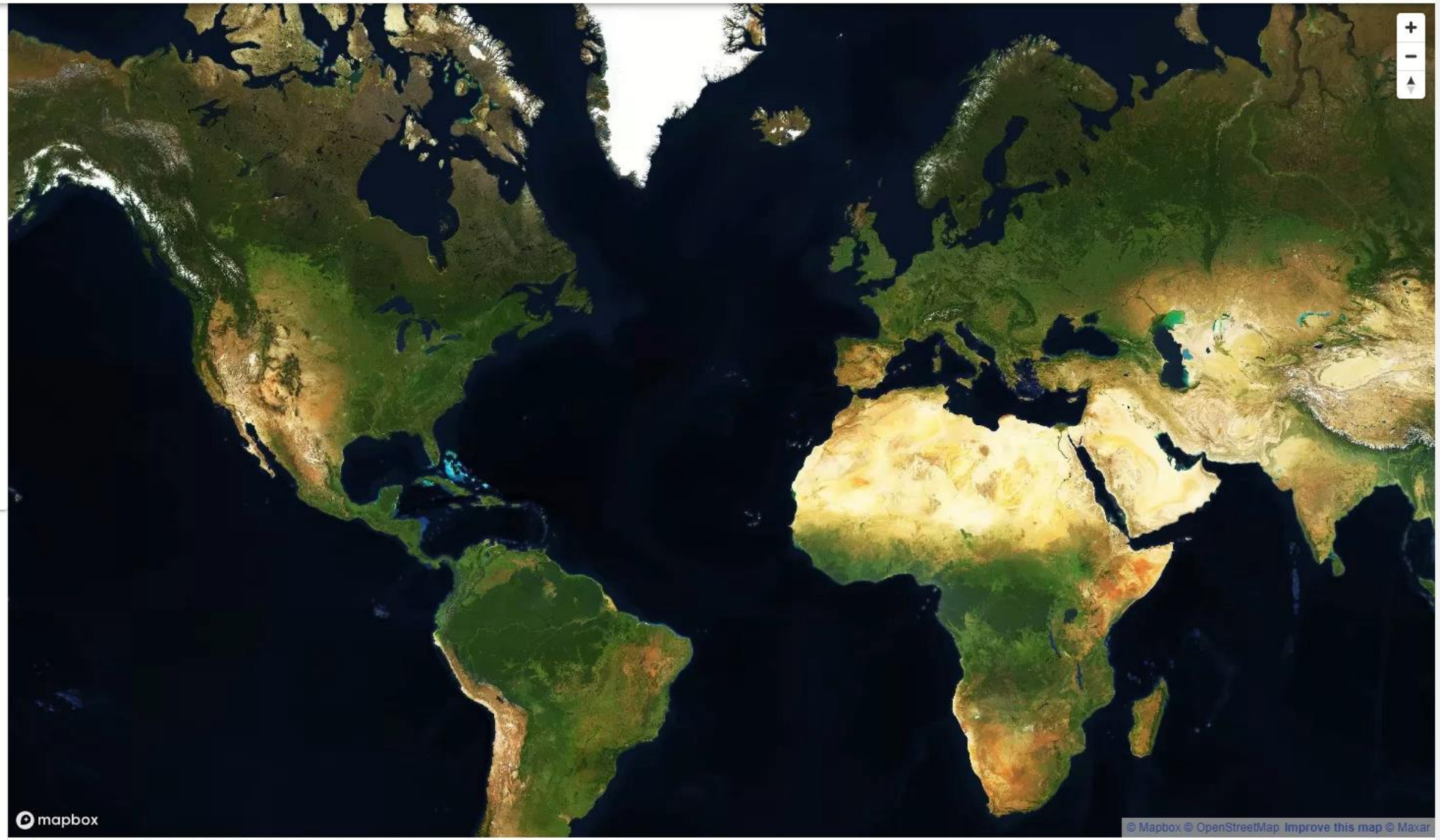
Or upload a shapefile

Select Shapefile

CONTINUE

2 Scene Selection

3 Customize Order



03

USE CASES

Use cases


1
SDB in remote areas
- Northern Canada -
2
Monitoring
- North Carolina -

Use cases

SDB in remote areas
- Northern Canada -

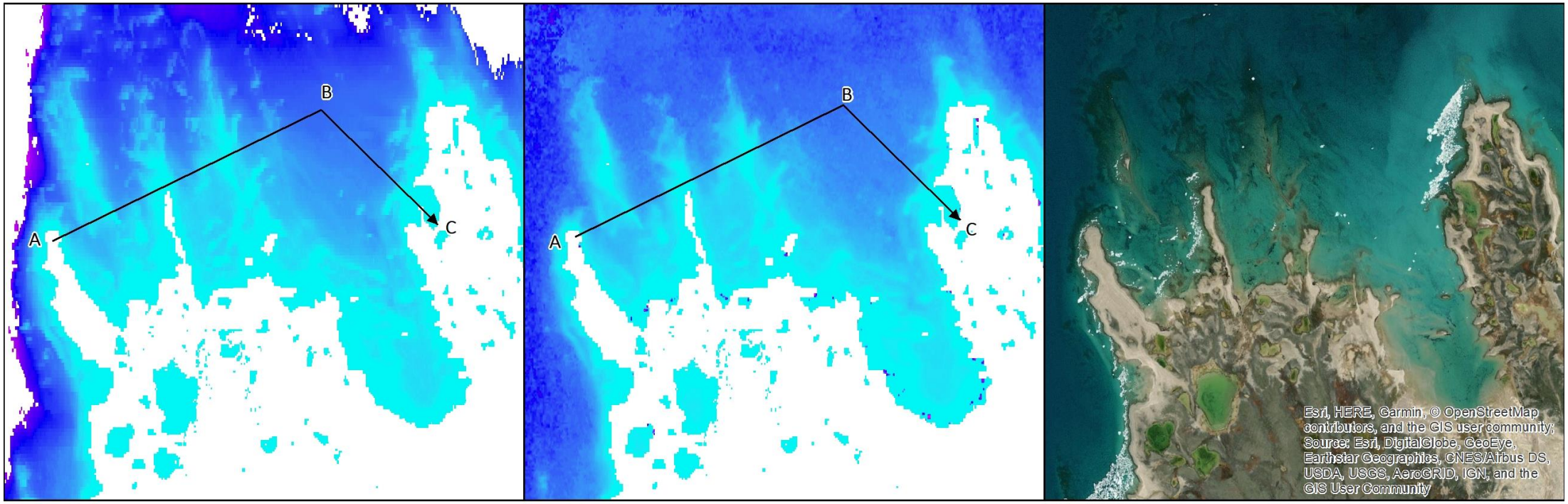
- Rough environmental conditions
- Remote location
- Difficult to access for surveys

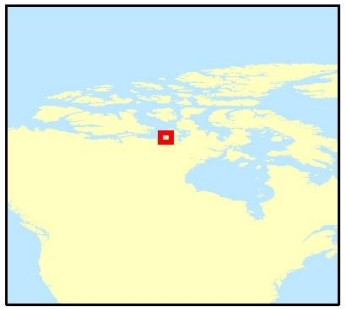
1 Northern Canada

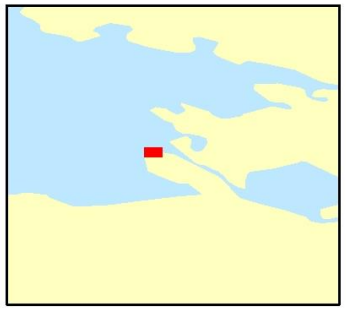
CHS survey data

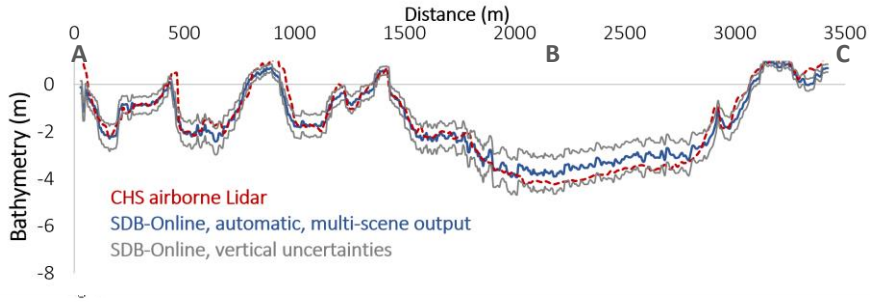
SDB-Online (automatic, multi-scene modus)

Basemap





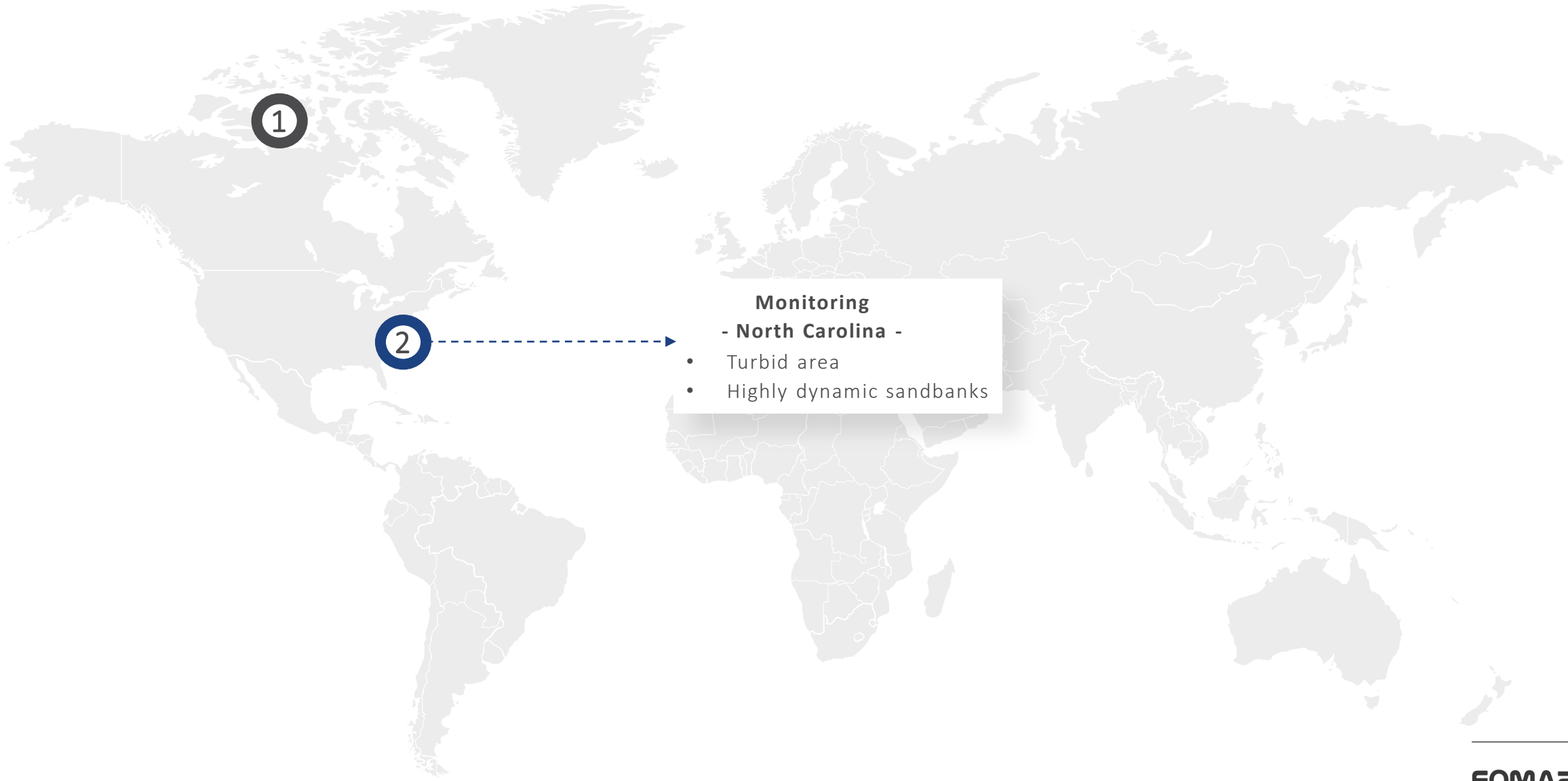




SDB results were created by SDB-Online (sdb-online.eomap.com) in the fully automatic, multi-image bathch modus. SDB results have not been manually post-processed and represent the results of SDB-Online 'as-is'. SDB methods are based on physics based SDB concepts (RTE inversion) without using any local survey or bathymetric data. CHS data were used for validation (not training) and accessed through CHS NONNA

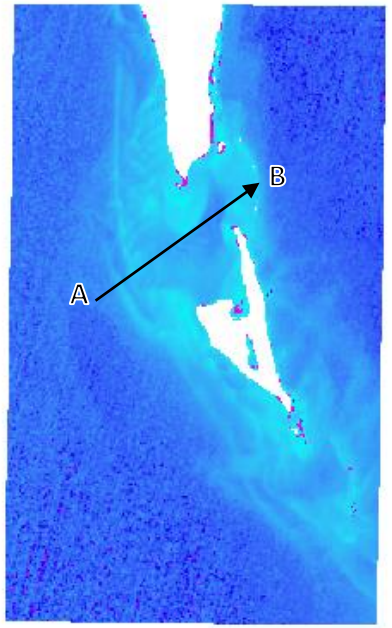
EOMAP

Use cases

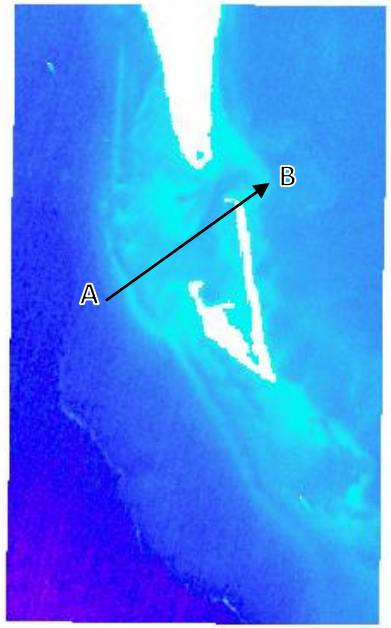

1
2
Monitoring
- North Carolina -
• Turbid area
• Highly dynamic sandbanks

2 North Carolina

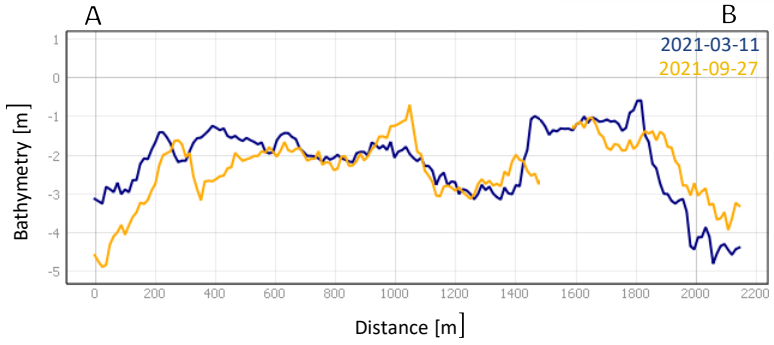
SDB-Online (single scene, 2021-03-11)



SDB-Online (single scene, 2021-09-27)



Basemap

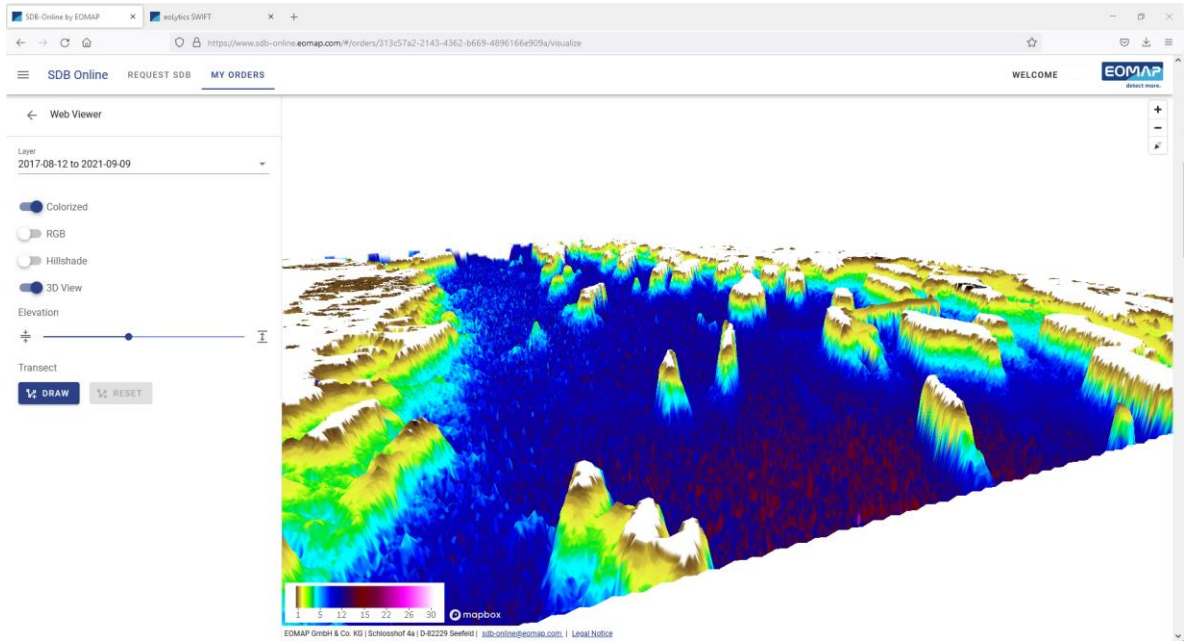


SDB results were created by SDB-Online (sdb-online.eomap.com) applying a manual scene selection and the single scene modus. SDB results have not been manually post-processed and represent the results of SDB-Online 'as-is'. SDB methods are based on physics based SDB concepts (RTE inversion) without using any local survey or bathymetric data.

EOMAP

Conclusion

- SDB-Online is a powerful tool for SDB processing even in areas with not optimal conditions
- The SDB processing is very speedy and fully scalable
- SDB-Online shows an efficient way to fill data gaps, to monitor seafloor changes or to plan on-site surveys



Contact us

Mail: sdb-online@eomap.com
Internet: sdb-online.eomap.com

Germany (HQ)

USA

Indonesia

UAE

Australia