EMODnet Chemistry 3 Kick-off

Improving the performance, maps and graphics of the viewing servicesr

A. Barth, C. Troupin, S. Watelet, A. Alvera Azcarate,
G. Santinelli, G. Hendriksen & J.-M. Beckers

GHER-ULg
Deltares

DIVA: Data Interpolating Variational Analysis

Objective: derive gridded fields from in situ observations

Method: variational inverse method: derive continuous field

Solver: finite-element mesh

Code: switched from SVN to github:
www.github.com/gher-ulg/DIVA (+ DOI for each release)

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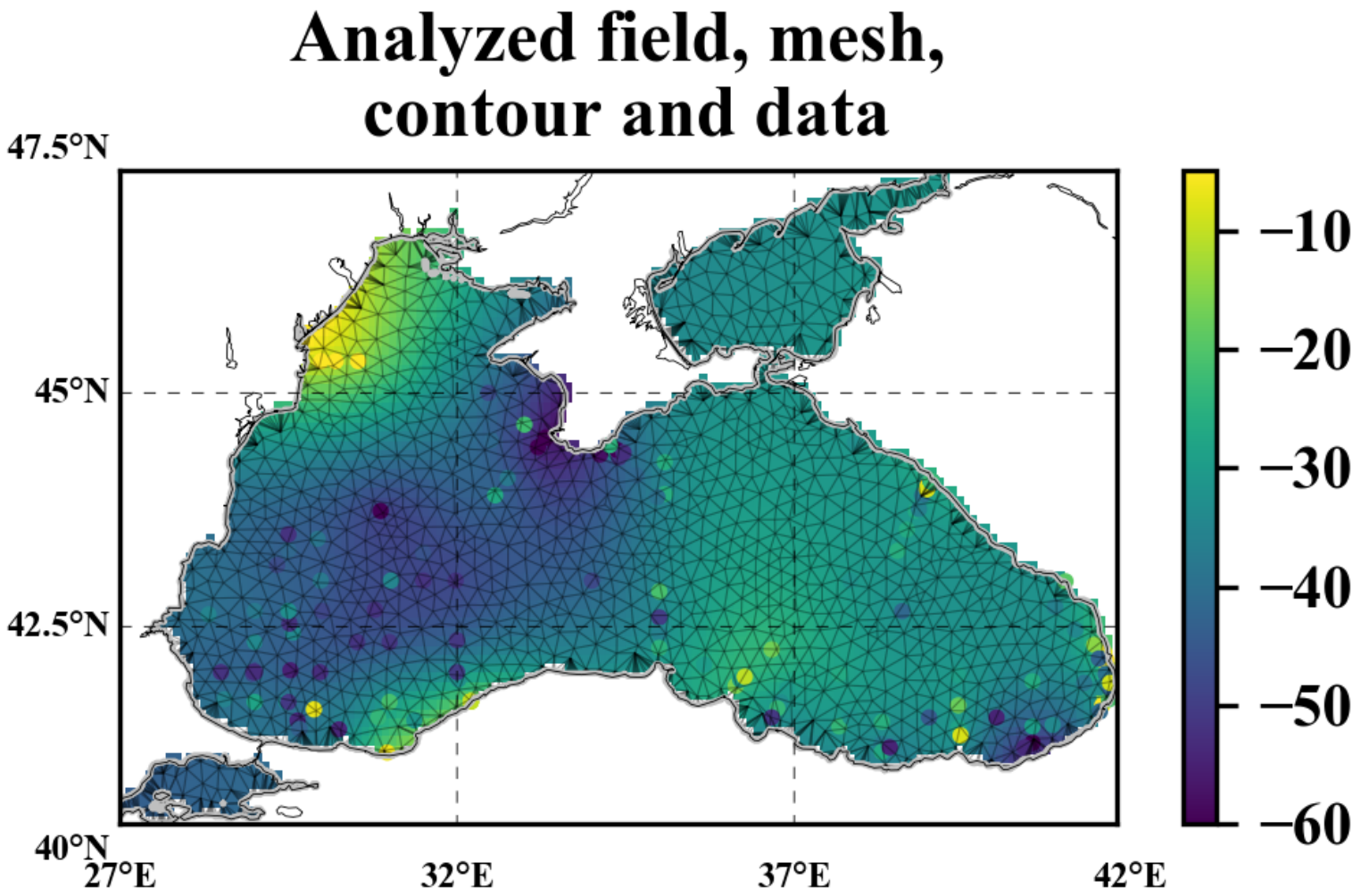
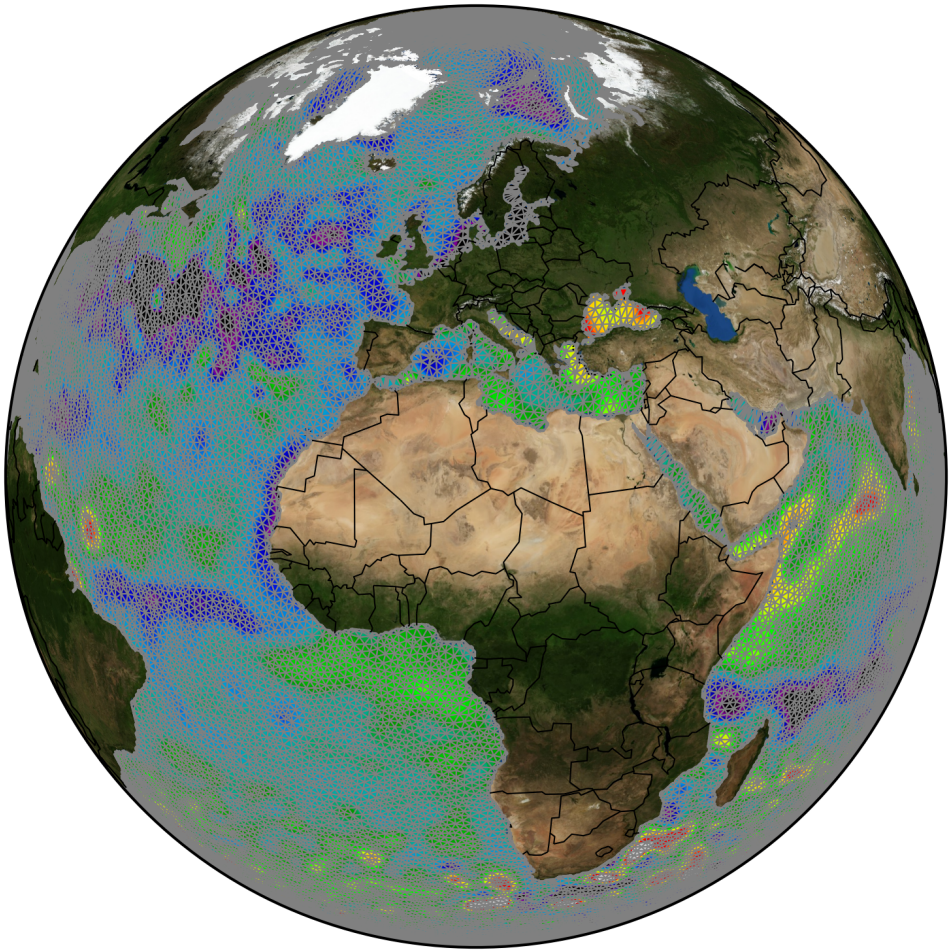
DIVA: Data Interpolating Variational Analysis



close to the observations

smooth / regular

DIVA: Data Interpolating Variational Analysis



- ✔ basin decoupling
- ✔ ocean currents considered
- ✔ trends detection
- ✔ outliers removal
- ✔ consistent error variance estimation

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OceanBrowser: a web-interface to visualize gridded products

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- Horizontal and vertical sections
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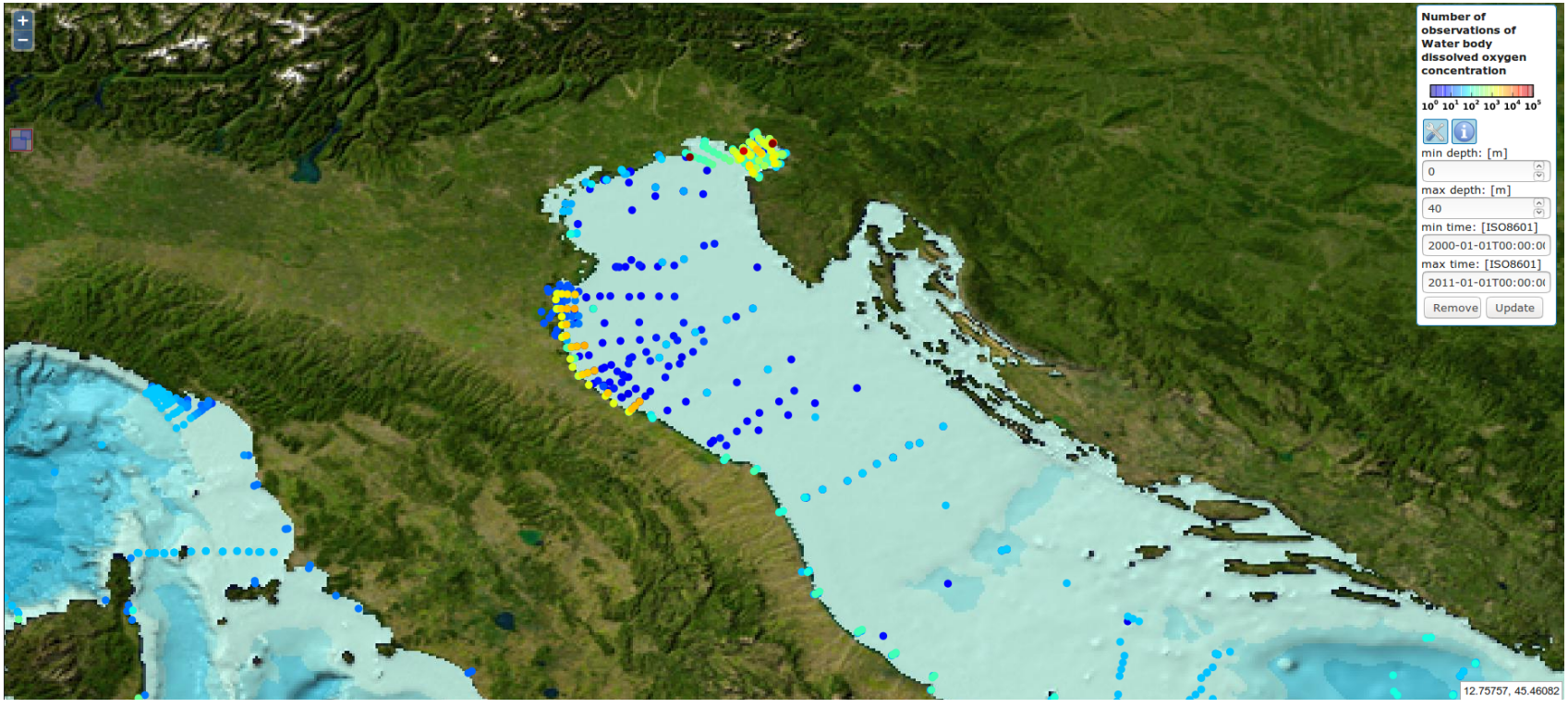
Uses:
Visualisation of DIVA products in:

- SeaDataNet - SeaDataCloud
- EMODnet Chemistry

Observation location: WFS / WPS

Web Feature/ Processing Service

Deltares



Before: **WFS** $\rightarrow$ location of every observation $(10^4 - 10^5)$

Now: **WPS** $\rightarrow$ image with the observation location

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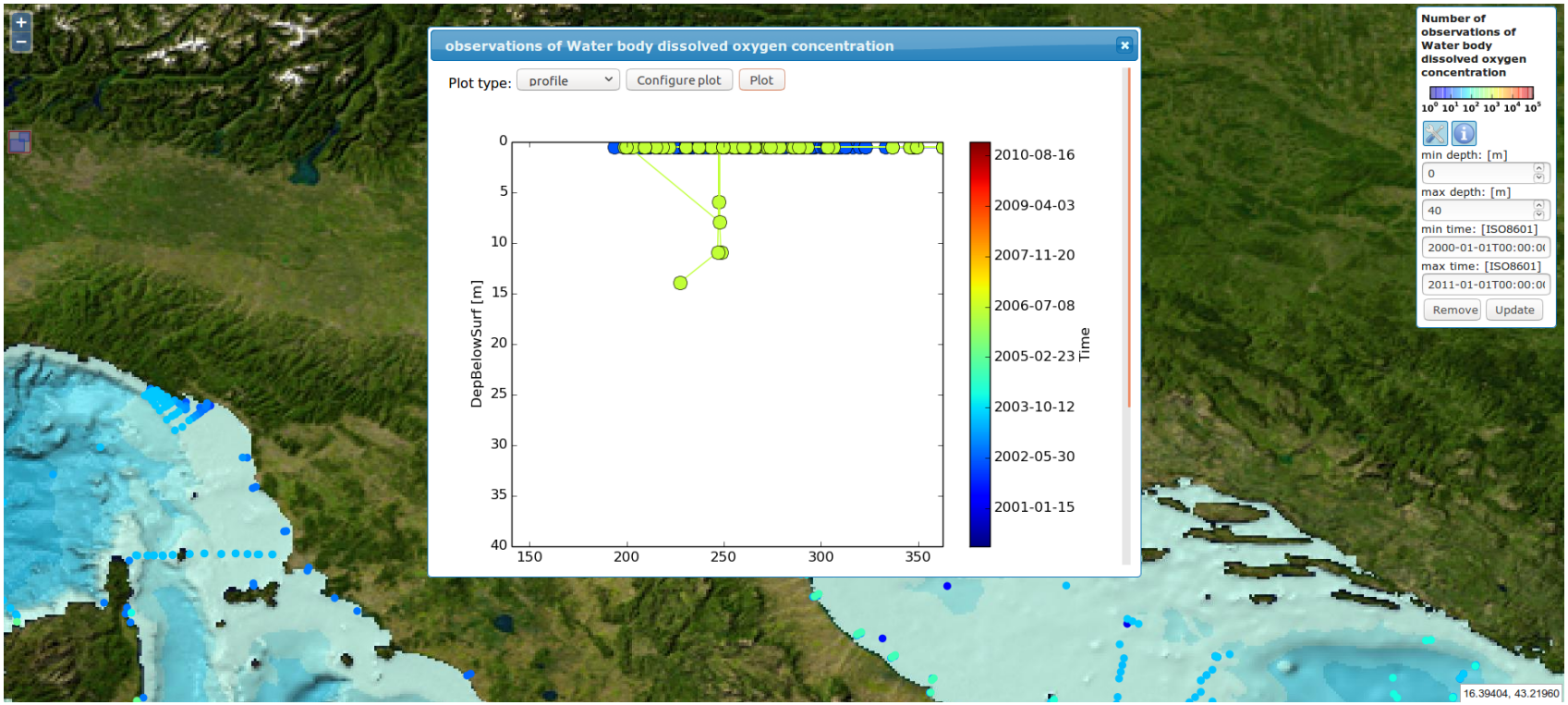
Dynamic plots

Profiles



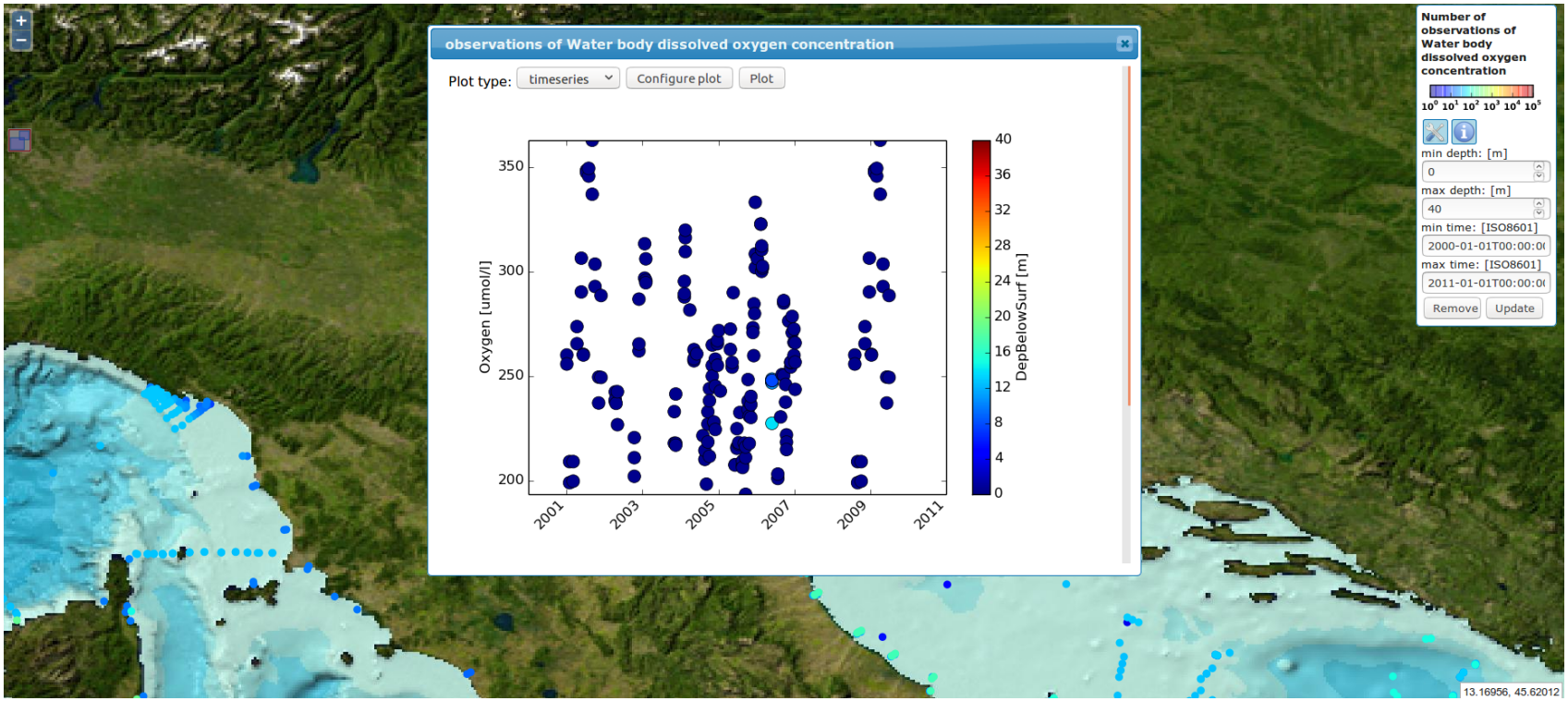
x: field value

y: depth

color: time

Dynamic plots

Time series



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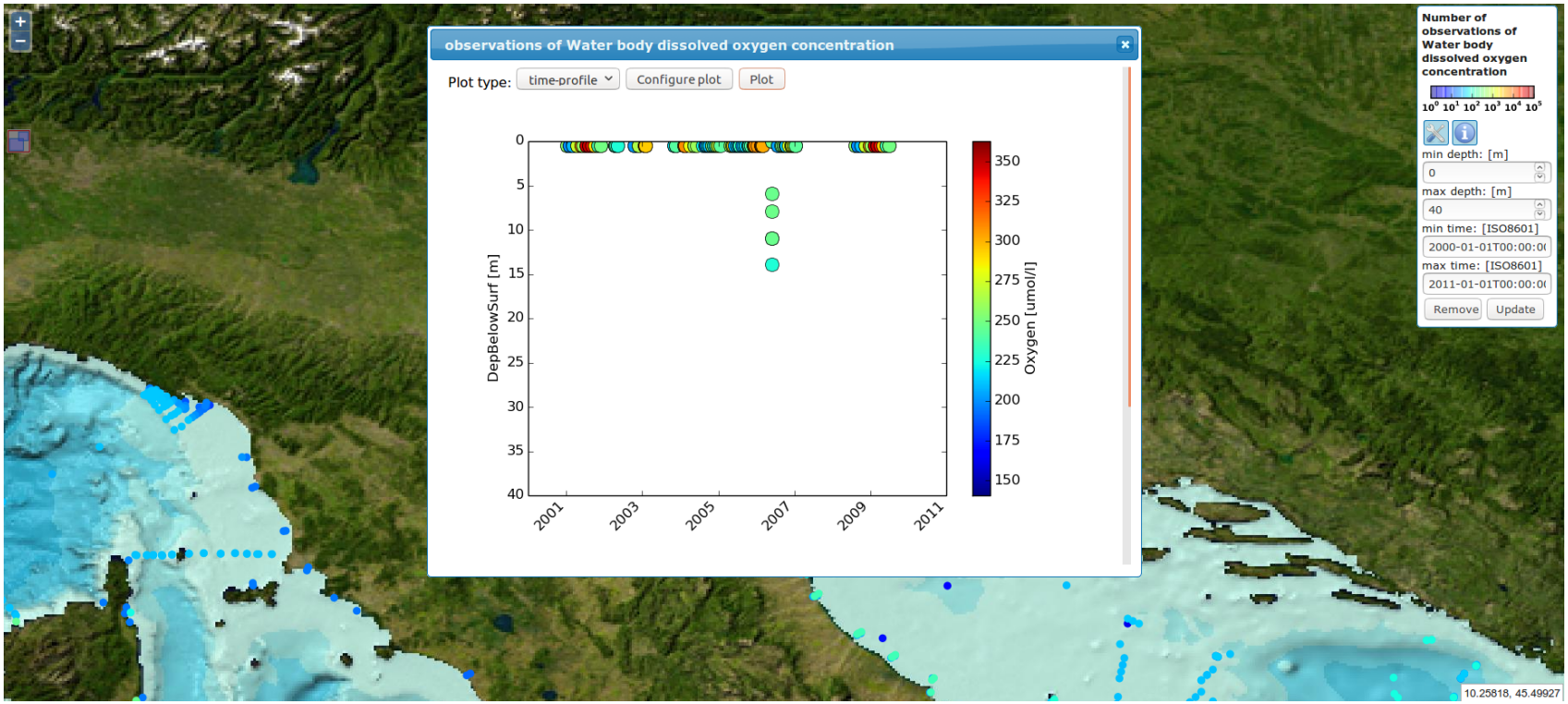
Dynamic plots

Time section



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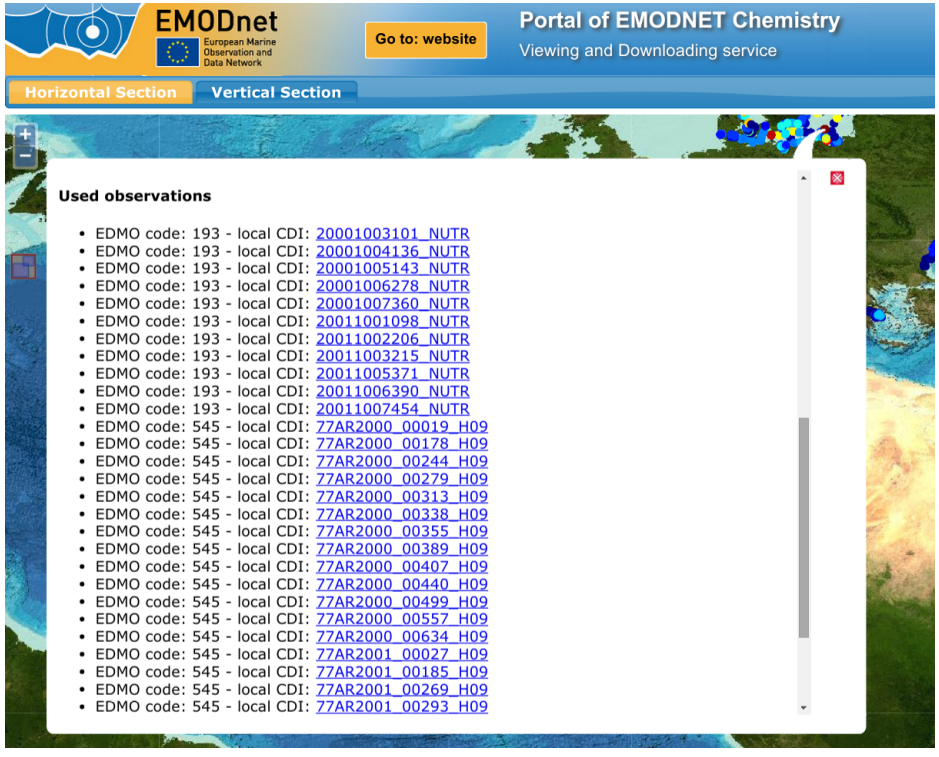
List of all observations

Observations in SeaData{Net,Cloud} and EMODnet Chemistry identified by:

- EDMO code: institution
- CDI: identifier
- For each plot: list of all used observations + link to central repository



Recent developments

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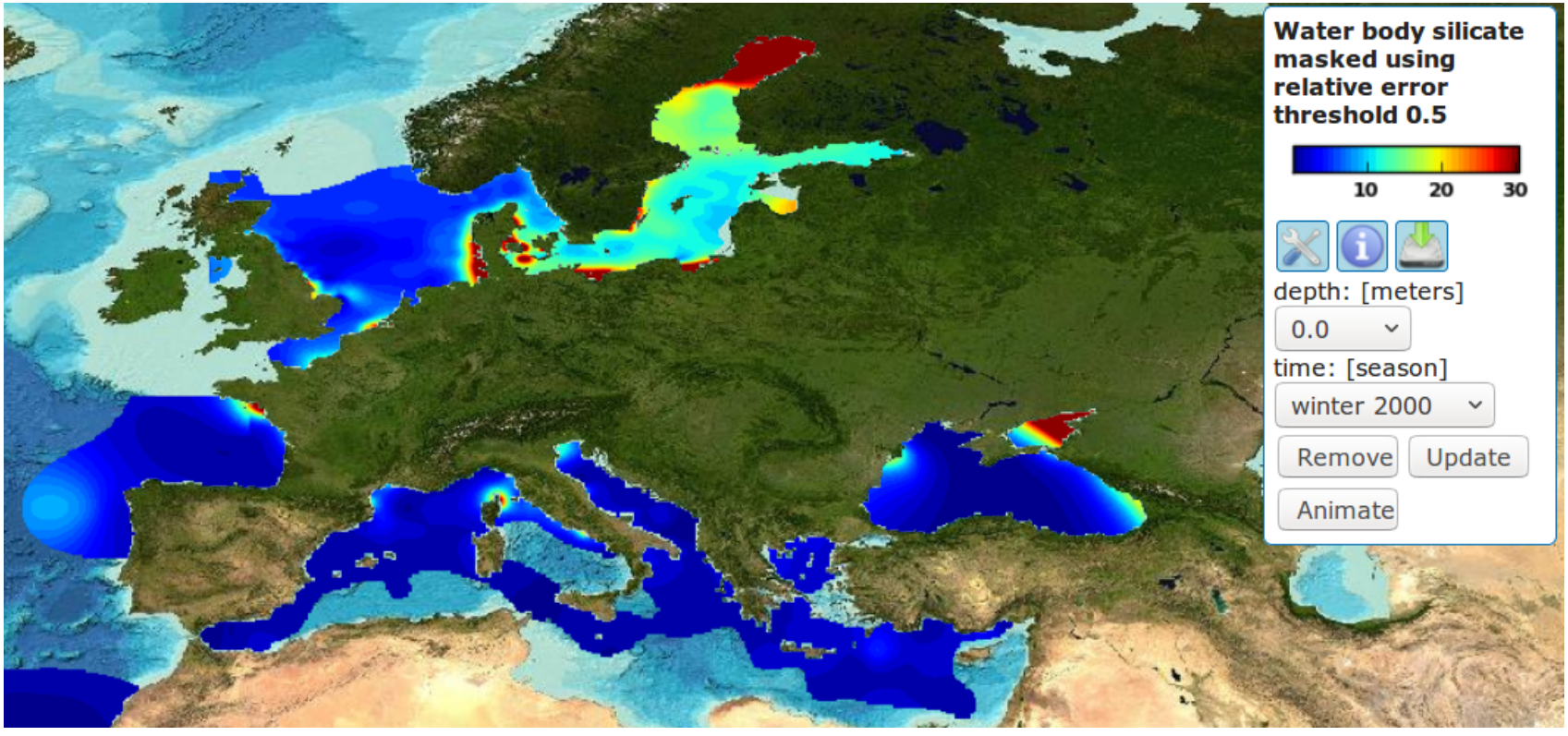
Combined European product

Origin: analyses performed by EMODnet partners
Features: all seasons, several depths, 5 variables
Boundaries: smooth filter to ensure continuity



Summary & conclusions

1. **Visualization** of gridded data sets:
   - along a horizontal section (given time and depth)
   - along a vertical section (e.g. at a fixed distance from coast)

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6. **Innovative** developments in spatial interpolation methods

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