GLOBE 3D: an new software for Geosciences data processing and 3D/4D viewing

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Within EUROFLEETS project, and linked to EMODNet and Geo-Seas European projects, GLOBE (GLobal Oceanographic Bathymetry Explorer) is an innovative and generic software combining all necessary functionalities for cruise preparation, for collection, linking, processing and display of scientific data acquired during sea cruises, and for export of data and information to the main marine data centers and networks.

The first version was delivered by the end of 2012 and was dedicated to MBES (Multi Beam Echo Sounder) data processing. The new releases are designed to accept further functionalities

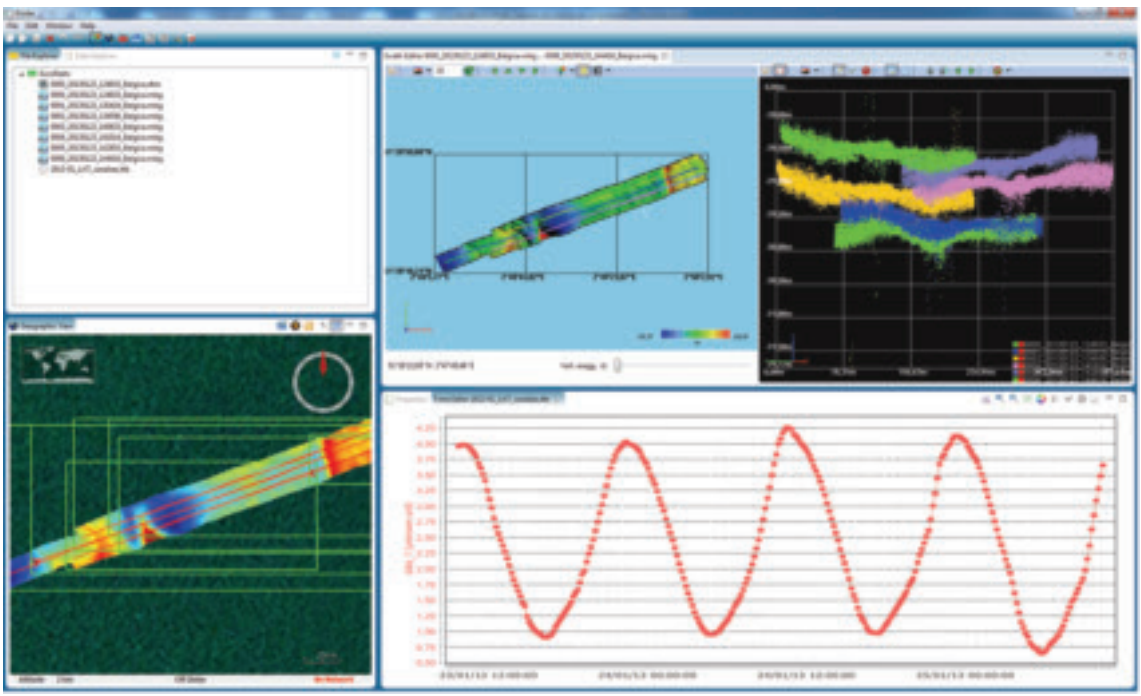

Fig. 1 - GLOBE software.

such as image and video. It can be used onboard during the survey to get a quick view of acquired data, or later, to re-process data with accurate environmental data.

Technically, the concept of the software relies on Eclipse RCP for the hosted client, Java and Nasa World Wind for the 3D views.

The user interface offers several perspectives to split several domains: swath editor, navigation editor, imagery editor, ...All views are dynamically relied

The version shown at IMDIS-2013 will present several key items :

- 3D visualization: DTM multi-layers from EMODNet, Water Column echogram, Seismic lines, ...
- Bathymetry Plug-In: manual and automatic data cleaning, integration of EMODNet methodology to introduce CDI concept, filtering, spline, data gridding, ...
- Photo/Video Plug-In
- Navigation 3D including tide correction, MRU corrections, GPS offsets correction,
- WMS/WFS interfaces.

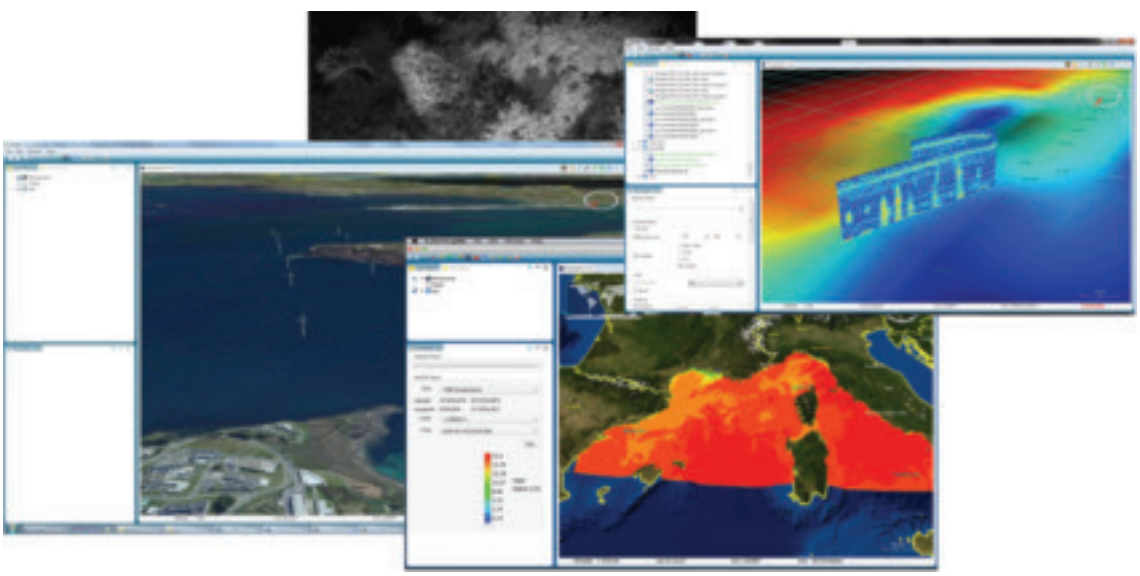

Fig. 2 - GLOBE software key items.

Oriented to data center and networking activities

A main objective of the EMODNet European project is to elaborate a common processing flow for gridding the bathymetry data and for generating harmonized digital terrain model (DTM) : this flow includes the definition of the DTM characteristics (geodetic parameters, grid spacing, interpolation and smoothing parameters…) and also the specifications of a set of layers which enrich the basic depth layer : statistical layers (sounding density, standard deviation,…) and an innovative data source layer which indicates the soundings origin and which links to the associated metadata.

GLOBE Software provides the required tools for applying this methodology and is offered to the project partners.