A web portal for accessing, viewing and comparing in situ observations, EO products and model output data

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The GreenSeas project (Development of global plankton data base and model system for eco-climate early warning) aims to advance the knowledge and predictive capacities of how marine ecosystems will respond to global change. A main task has been to set up a data delivery and monitoring core service following the open and free data access policy implemented in the Global Monitoring for the Environment and Security (GMES) programme.

A key feature of the system is its ability to compare data from different datasets, including an option to upload one's own netCDF files. The user can for example search in an in situ database for different variables (like temperature, salinity, different elements, light, specific plankton types or rate measurements) with different criteria (bounding box, date/time, depth, Longhurst region, cruise/transect) and compare the data with model data. The user can choose model data or Earth observation data from a list, or upload his/her own netCDF files to use in the comparison. The data can be visualized on a map, as graphs and plots (e.g. time series and property-property plots), or downloaded in various formats.

The aim is to ensure open and free access to historical plankton data, new data (EO products and in situ measurements), model data (including estimates of simulation error) and biological, environmental and climatic indicators to a range of stakeholders, such as scientists, policy makers and environmental managers. We have implemented a web-based GIS(Geographical Information Systems) system and want to demonstrate the use of this.

The tool is designed for a wide range of users:

- Novice users, who want a simple way to be able to get basic information about the current state of the marine planktonic ecosystem by utilizing predefined queries and comparisons with models.

- Intermediate level users who want to explore the database on their own and customize the prefedined setups.

- Advanced users who want to perform complex queries and inventory searching and compare the data in their own way or with their own models.