



Project Funded
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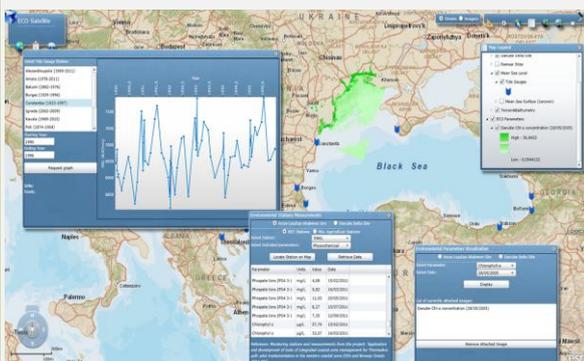


ECO-SATELLITE

Development of a common intraregional monitoring system for the environmental protection and preservation of the Black Sea

The Eco-Satellite Environmental Monitoring System

The ECO-Satellite environmental monitoring system was developed in the frame of the homonymous project by scientists specialized in different disciplines. Although the system is a result of multidisciplinary collaboration, significant effort was made in order to provide the end-users with a system that is simple to use, provides useful and straightforward decision support tasks and appeals to a broad range of users (for example scientists, policy makers, civil servants, etc.). This integrated multi-level system is based on the technological assets provided by satellite Earth observation data and Geo-Informatics innovative tools and facilities, as well as on the development of a unified, easy to update geodatabase including a wide range of appropriately selected environmental parameters. The system is designed in a way that is easily expandable and adaptable for environmental management in local, regional, national and trans-national level and as such it will increase the capacity of decision makers who are related to Black Sea environmental policy.



The ECO-Satellite system contains multiple layers of information related to the environment for the two test areas of the ECO-Satellite project, i.e., the Danube Delta (Romania and Ukraine) and the Axios-Loudias-Aliakmon Delta (Greece). Both current and historical data have been included from terrestrial and satellite sources. The environmental data include, among others:

Image 1: Data representation capabilities of the ECO-Satellite system

- biological parameters (e.g., macrophytes, phytoplankton, fish species, zooplankton, etc.),
- land cover and habitats maps,
- in-situ vegetation identification information,
- mean sea level models,
- location of mussel farms,
- protected areas (e.g., Natura 2000, etc.),
- physico-chemical parameters (e.g., dissolved oxygen, temperature, etc.),
- water quality information from permanent stations,
- tide gauge stations data and
- terrain and bathymetry models.

More information about “ECO-SATELLITE” can be found on the web site www.eco-satellite.eu

All the aforementioned information may be viewed and analyzed in various ways (charts, queries, table views, vector and raster entities) through the ECO-Satellite system by using standard Geographical Information System (GIS) tools as well as assessed through a specially designed Decision Support component, which includes 13 decision support tasks that are listed next:

1. Evaluation of the ecological status of a water body
2. Examination of water quality of freshwater body in relation to the support of fish life
3. Examination of water quality of saltwater body in relation to the growth and reproduction of shellfish
4. Examination of quality of water for bathing
5. Examination of water quality of a surface body in relation to specific pollutants and physiochemical parameters
6. Comparison of measured values at environmental stations against user-defined threshold values
7. Evaluation of water quality based on the trophic index
8. Evaluation of the water quality and trophic conditions using phytoplankton indexes
9. Evaluation of the water quality and trophic conditions using zooplankton indexes
10. Assessment of the Ecological Class using macrophyte's morphofunctional indexes
11. Evaluation of the water quality and trophic conditions using meiobenthos indexes
12. Evaluation of the water quality and trophic conditions using macrozoobenthos indexes
13. Evaluation of water quality from mussel settlements

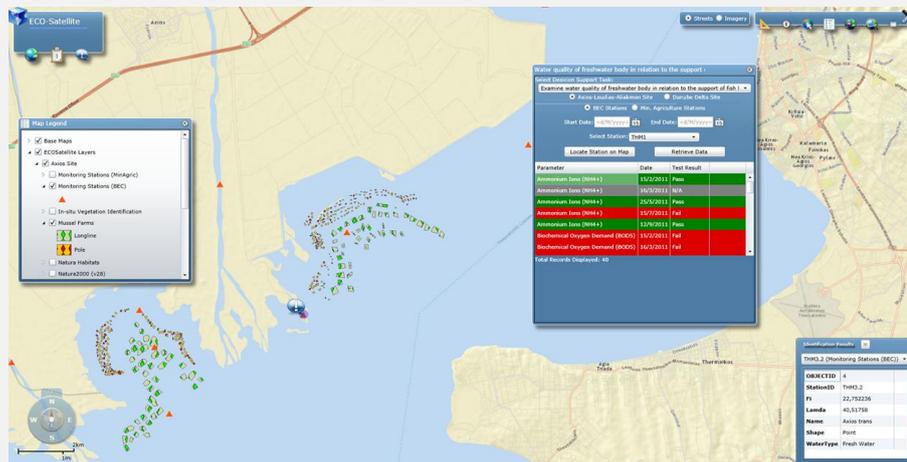


Image 2 - ECO-Satellite Decision Support component— Examining the water quality in support of fish life using a Pass/Fail analysis for a specific environmental monitoring station

How to get access

The steps in order to get access to the ECO-Satellite Environmental Monitoring System are:

- Connect to <http://www.eco-satellite.eu>
- Click on the “WebGIS” button
- Log in (by using your user name and your password)

Prior to using the system, it is necessary for the end-user to have an account in it. A username and password may be provided upon request by contacting the lead partner of the ECO-Satellite project (k.michailidis@rdfcm.gr).

Technical prerequisites:

- Web-browser that supports the Microsoft Silverlight plugin (at least version 4)
- Recommended browser: Microsoft Internet Explorer

There are no other software requirements for using the ECO-Satellite system. On the other hand and in terms of hardware, any modern computer may be used.

Training Material

The training material can be found online on the ECO-Satellite project website (<http://www.eco-satellite.eu>) after having log in to the website. The training material focuses on methods and applications of Geographical Information Systems (GIS), Remote Sensing, Altimetry and Bathymetry, Environmental Monitoring and Water Quality Monitoring from in-situ measurements and telemetric stations and Water Quality Assessment as well as on the use of the ECO-Satellite system. The use of the system is demonstrated through video presentations that provide step by step instructions on exploiting the available functionality and tasks.

ECO-SATELLITE is co-financed by 90% from the “Black Sea Basin Joint Operational Programme” and by 10% from national resources. The total budget of the project is 650.000,00. The Grant amount is 585.000,00 €.

The “Black Sea Basin Joint Operational Programme” is co-Financed from the European Union through the European Neighborhood and Partnership Instrument and the Instrument for Pre-Accession Assistance. More information about the Black Sea Basin Joint Operational Programme could be found at: <http://www.blacksea-cbc.net>

For more information about the project “ECO-SATELLITE” visit the web site www.eco-satellite.eu or contact the project managers:

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This press release has been produced with the assistance of the European Union. The content of this press release is the sole responsibility of the Decentralised Administration of Macedonia - Thrace and the Regional Development Fund of Central Macedonia and can in no way reflect the views of the European Union