

DECISION SUPPORT SYSTEM for the monitoring and management of the Romanian littoral's bathing areas

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The Competence Centre COSMOMAR is part of NIMRD/National Institute for Marine Research and Development "Grigore Antipa", from Constanta, Romania, being mainly involved in EO research and applied technology, fundamental for the understanding, protection and management of coastal and marine environment of western Black Sea coast/basin.

The Earth Observation (EO) activities performing in COSMOMAR were extended with the intention to act in the direction of meeting coastal users' necessities, thus enhancing certain relevant tools that improve the access to data and information and also allow stakeholders to perform different analyses and run scenarios for specific actions, such as precise mapping and evaluation of water mass circulation, upsetting the coastal ecosystems resources, in order to increase the efficiency of their conservation measures.

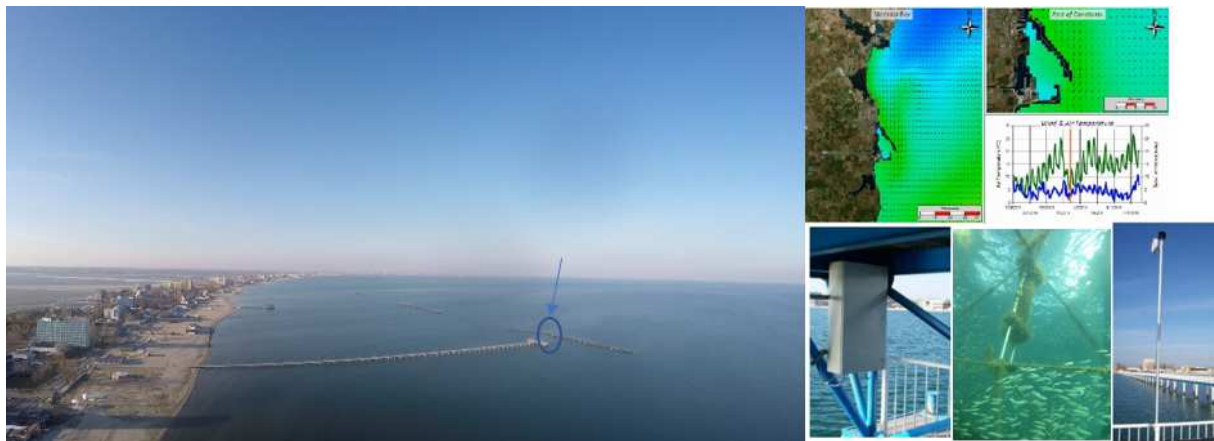


Figure 1: Oceanographic station of Mamaya Bay/central unit of Romanian littoral

The same purposes were followed in the implementation of a dynamic web-based mobile-friendly decision support system to enhance the management, monitoring and forecasting of the water quality (iSWIM, <http://iswim.rmri.ro>) for the Romanian marine and coastal zone, integrating numerical models (downscaled from Copernicus Marine Environment Monitoring Service - CMEMS - local solution) with in-situ measured data and CMEMS remote sensing products. The operational system also integrates in near real time specific oceanographic data from a coastal station as a base of documentation of water quality of marine bathing areas on central transitional unit of Romanian littoral.

In this specific application, the coastal station data provide an important input of hydrometric, physical, chemical and biological parameters for the description of the coastal/marine waters' ecological status. The system is developed for public health and touristic/navigation purposes and provides data and information through a monitoring-modeling service for bathing areas of the Romanian touristic littoral.