

# Tidal level and currents

## TITLE: Integrated Coastal Environmental Monitoring Platform (ICEMP)

Earth Observation Support to Water Quality estimation and Land-use change

•**Users:** Public sector states and local authorities, Coastal Municipalities, NATURA2000 protection agencies, Port Authorities, Water Agencies, Tourism Development Agencies, but also private sector users such as environmental companies/NGOs, insurance companies, real estate agencies, as well as international organizations such as EEA, EMSA etc.

•**Need:** The European legislation (Marine Strategy, Water Framework Directive) demands the monitoring of the water quality and the coastal environmental changes in high valued areas (touristic, industrial, urban areas). Thus a cost-efficient tool is needed in order to follow properly the legislation.

**Challenge:** The first main challenge of developed service was to combine the user needs with the status of the current technology and also be fully compliant with the European legislation. The second main challenge was to provide a service with the maximum automation possible with the following functionality: i.) Map and monitor the water quality of coastal waters, ii.) Map and detect changes in the land-use of coastal land are, iii.) Monitor protected areas, such as NATURA 2000, iv.) Posidonia Oceanica Mapping, v.) Coastline monitoring.

**Initiative:** In the framework of the collaborative research project ACRITAS and the si-cluster (Hellenic Space Cluster), Planetek Hellas develops the Integrated Coastal Environmental Monitoring Platform for the public authorities of the Ionian Water Directorate (Decentralized Administration of Peloponnese, Western Greece, Ionian) and the Special Secretariat for Water (Hellenic Ministry for the Environment, Energy & Climate Change).

**Results:** The developed service was initially applied on Corfu (Island, Greece) with very promising results (Fig. 2, 3). One of milestones in the ICEMP is the fusion sub-system which spatially enhances the water quality products based on VHR images.

**Service provider:** Planetek Hellas [www.planetek.gr](http://www.planetek.gr)

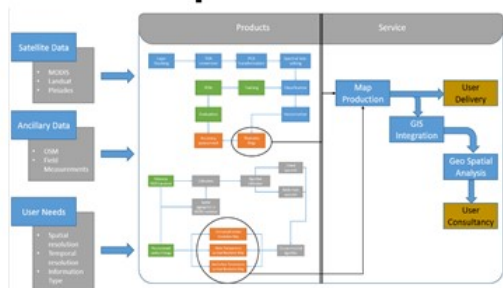


Fig 1. Integrated Coastal Environmental Monitoring Approach

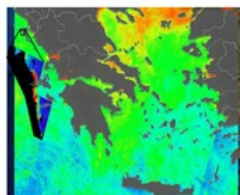


Fig 2. Water Quality Map of Greece and part of the coast of Corfu, Layer Chlorophyll concentration



Fig 3. Coastal land-use mapping for urban pressure characterization