

Harmonising Water Quality

Water quality is a key worldwide issue relevant to human consumption, food production, industry, and environment.

The European Copernicus programme includes satellite sensors designed to observe water quality - however, water quality data production is split across three Copernicus services with different approaches, and with some areas, notably transitional waters, not supported by any service.

The aim of CERTO is to *harmonise* between the variety of Copernicus services to produce water quality data for the continuum from lakes to oceans, adding capabilities for near coastal waters, estuaries, lagoons, bays and river systems.

Monitoring and maintaining good water quality is pivotal to fulfilling the UN Sustainable Development Goals and is enshrined in European policy through the *Water Framework Directive* and the *Marine Strategy Framework Directive*.



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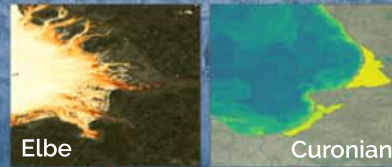
Copernicus Evolution – Research for harmonised and Transitional water Observation

About the project

Transitional, inland and near-shore waters are challenging for satellite-based Earth Observation because of the heterogeneity and variety of water conditions, impact of nearby land, and bottom visibility.

Satellites offer a cost-effective solution to monitor water quality at a global scale. A variety of methods and approaches are currently used for different water bodies such as oceans and lakes.

CERTO will provide a harmonised capability to monitor water quality from lakes, through deltas, coastal waters and to the open ocean.



Case study areas

The project has six European case-study regions which will be used as test sites for the CERTO prototype.

- Elbe estuary, Germany
- Curonian lagoon, Russia/Lithuania
- Tamar estuary, UK
- Razelm-Sinoe lagoon, Romania
- Tagus estuary, Portugal
- Venice lagoon, Italy

In-situ observations will be taken and combined with existing data records to characterise and validate each site. Direct interaction with local entities in coastal industry and monitoring will help to define the product requirements, and validate the prototype system.

Objectives

- Harmonise between the different Copernicus services approaches.
- Develop indicators relevant to management, policy and science users operating in transitional waters.
- Develop specific in-water and atmospheric correction methods for water quality in transitional waters.
- Interact and consult with commercial, industrial, scientific, policy and monitoring stakeholders.
- Provide a prototype system for use by the Copernicus Services.



In-situ data collection in the Venice Lagoon