Project Information

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Project Partners

1. Centre for Research and Technology Hellas, CERTH (Coordinator), Greece | www.certh.gr
2. Centro de Investigación Ecológica y Aplicaciones Forestales, CREAF, Spain | www.creaf.cat
3. EOMAP GMBH & CO KG, EOMAP, Germany | www.eomap.com
4. Centro Tecnologico Del Agua, Fundacion Privada, CETAQUA, Spain | www.cetaqua.com
5. Autorità di Bacino Distrettuale delle Alpi Orientali, AAWA, Italy | www.alpiorientali.it
6. SERCO ITALIA SPA, SERCO, Italy | www.serco.eu
7. Thessaloniki Water Supply and Sewerage Company S.A., EYATH, Greece | www.eyath.gr
8. Engineering Ingegneria Informatica S.p.A., ENG, Italy | www.eng.it/en
9. Suomen Ympäristökeskus, SYKE, Finland | www.syke.fi
10. PHOEBE Research and Innovations Ltd, PHOEBE, Cyprus | www.phoebeinnovations.com
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WQeMS- Copernicus Assisted Lake Water Quality Emergency Monitoring Service

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THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION ACTION PROGRAMME UNDER GRANT AGREEMENT NO 101004157

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WATER WE DRINK...

COPERNICUS ASSISTED LAKE WATER QUALITY EMERGENCY MONITORING SERVICE

WATER ENTERING THE CHANNEL TOWARDS THE TREATMENT PLANT FOR DRINKING WATER PRODUCTION (ALIAKMONAS RIVER WATER RESERVOIRS)

WQEMS.EU

Project Services Components

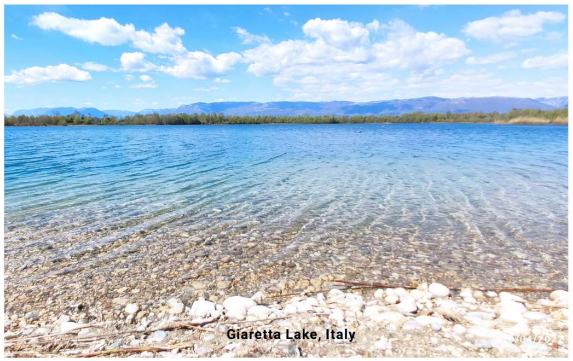
1. Water quality features that can be estimated through this service are: Chlorophyll-a; Turbidity; Water Surface Temperature; Secchi Disc Depth; and Coloured Dissolved Organic Matter.

2. The bloom events detection service line is focused on identifying and monitoring of harmful algae blooms (HAB) formed by cyanobacteria with potential of producing toxic compounds. Frequently updated information will lead to faster decision making about the risks by HAB changes and tuning of the treatment accordingly.

3. The land-water transition zone changes detection service will perform inundation mapping at areas of interest, detect possible changes that took place between dates or seasons and calculate the inundation regime of the land- water transition zones.

4. The extreme events service aims at identifying hydrocarbon formations or floods and muddy waters on the surface of open surface water reservoirs. The novel algorithm is specifically developed to target small-scale oil spill or flood events in inland waters.

5. Alerting Module: A mobile app where end- users are able to post text, photo, and location of an occurring water- related issue will be developed.
A social media crawler that collects public Twitter posts that refer to water- related incidents will be utilized to search for emerging instances at the water reservoir.



Giaretta Lake, Italy

WQeMS Platform

- WQeMS service components will be integrated, coupled with and exploit existing DIAS infrastructure and Copernicus services, while interfacing with GEOSS. Semantics and metadata are treated in a standardized, internationally compatible way that enables interoperability.

- User Training: Online training modules and material will be available to the public in the form of textual information, images, relevant videos, demonstrations and interactive videos/ animations.

WQeMS Pilot Areas

1. Lake Pien-Saimaa, Finland
2. Saxony drinking water reservoirs, Germany
3. Aliakmonas river water reservoirsr, Greece
4. Giaretta Lake, Italy
5. Ojós and downstream reservoirs, Spain

The five pilot areas are located in Finland, Germany, Greece, Italy, and Spain. They are selected for the service development and demonstration across Europe, representing a variety of geomorphological, anthropogenic and climatological conditions.

About WQeMS

WQeMS aims to provide an operational Water Quality Emergency Monitoring Service to the water utilities industry leveraging on the Copernicus products and services. Target is an optimized use of resources by gaining access to frequently acquired, wide covering and locally accurate water status information. Citizens will gain a deeper insight and confidence for selected key quality elements of the 'water we drink', while enjoying a friendlier environmental footprint.

WQeMS Objectives

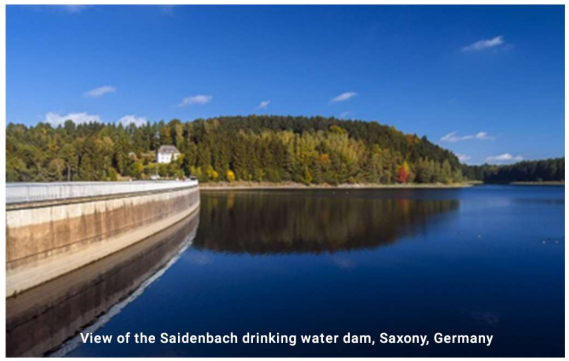
- Generate knowledge to support existing decision support systems (DSSs) and not develop a new one

- Provide a wide set of parameters useful for the quality assessment of raw water used for the production of drinking water, as captured by existing and emerging requirements of the water utilities industry

- Promote further alignment of existing decision support and implementation chains with the updated Drinking and Water Framework Directives

WQeMS Overall Ambition

The main ambition of WQeMS is to become a candidate service component of the Copernicus Emergency Management Service (CEMS); ultimately, to receive approval by the Member States to be embedded in the existing Copernicus Services portfolio. Activities and results are expected to contribute to Europe's endeavors towards GEO and priorities in the framework of the UN 2030 Agenda for Sustainable Development, the Paris Climate Agreement and the Sendai Framework for Disaster Risk Reduction.



View of the Saidenbach drinking water dam, Saxony, Germany