

## Development and application of Novel, Integrated Tools for monitoring and managing Catchments

### Project Abstract

INTCATCH project focuses on the development and implementation of innovative tools and services for monitoring surface water quality and integrated water resources management. Specifically, robotic boats are equipped with appropriate sensors to measure and record important parameters in real time.

A business model will transform water governance by facilitating sustainable water quality management by community groups and NGOs using a cloud data linked to a Decision Support System (DSS) applied in Lake Yliki (Greece) supported by eco-innovative technologies.



Figure 1. INTCATCH boat in Yliki Lake

### Location of sites

**Greece:** Lake Yliki

*Demonstrations in other Lakes:* Marathon, Koumoundourou, Beletsj, Pamvotis, Doxa, Trichonida, Water Treatment Plant of Thessaloniki & *Rivers:* Acheloos, Asopos

**Spain:** River Ter

**Austria:** River Danube

**Italy:** Lake Ganda

**UK:** Urban London rivers



Figure 2. Trichonida Lake

### Innovative technologies

- Autonomous and radio controlled boats equipped with innovative sensors
- Real-time water quality data
- Cloud based geo-referenced data management solutions for storing and communicating water quality information
- Development of a DSS for the evaluation of rivers and lakes Novel DNA test kits

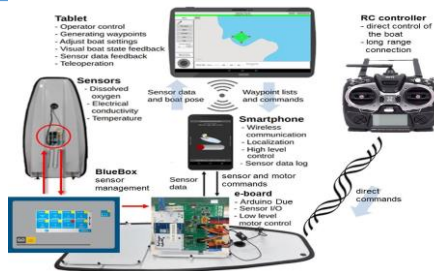


Figure 3. Architecture of the autonomous boat

### Activities of EYDAP in the project

- Demonstration of the autonomous and radio controlled boats in Lake Yliki and other sites in Greece
- Evaluate the current monitoring system and develop an innovative monitoring strategy in Lake Yliki, by greater frequency than the current sampling methods
- Based on water quality indicators and water quality real time results, EYDAP in collaboration with NTUA, will set up and validate a Decision Support System (DSS)
- Exploring transferability of the innovative water quality monitoring and management system



Figure 4. Pamvotis Lake

### Benefits for EYDAP

- A more comprehensive picture of the quality of Yliki lake in real time in order to take immediate countermeasures
- Generated pollution on the lake can be thoroughly investigated with the use of the robotic boats and their integrated sensors
- Full scale application of robotic boats in the future can complete the current tests for monitoring the quality of the lake
- A water quality model has been developed for Lake Yliki and is integrated to the DSS in order to improve monitoring strategies on catchment scale



Figure 5. INTCATCH autonomous boats in action

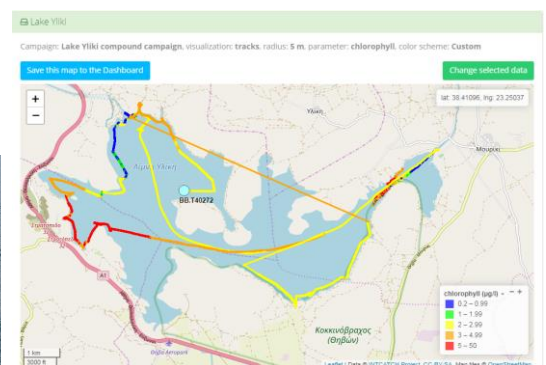


Figure 6. Chlorophyll in Yliki Lake



# Smarter Rivers & Lakes

[www.intcatch.eu](http://www.intcatch.eu)




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**INTCATCH Partners:**



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- Austria: River Danube
- Italy: Lake Garda
- UK: Urban London rivers



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**Innovative technologies**

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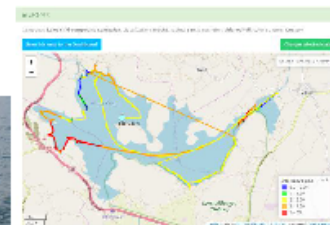


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