Comparison of the water quality of three rivers under different environmental pressures with the use of robotic boats

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Robotic boats equipped with basic and innovative sensors were employed for the first time in Greece by EYDAP, in collaboration with HCMR and LEC, in three rivers namely Acheloos, Asopos and Kifissos, representing different conditions and environmental pressures. The objective of this research was to obtain reliable, real time monitoring of chemical (DO, pH), physical (EC, T), and biological (Chlorophyll) parameters related to water quality.

The monitoring strategy applied was also innovative, combining a more thorough monitoring campaign both in terms of space and time, providing a significantly more comprehensive set of water quality data without labour-intensive and costly monitoring schemes, demonstrating that it could record even minute variations due to anthropogenic (urban, agricultural, industrial etc) or natural causes.

The use of autonomous boats optimizes water quality monitoring strategies and contributes substantially to an improved operation of the National Monitoring Water Network, under the supervision of the Special Secretariat for Water, in accordance with the requirements of the Water Framework Directive (2000/60/EC).

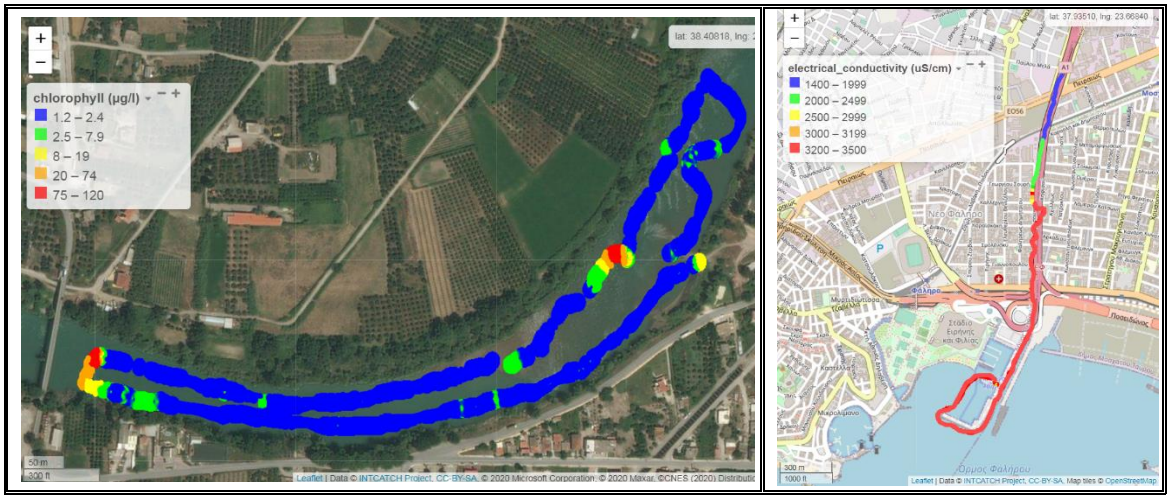

Figure 1: Chl-a in Acheloos River (left) and Conductivity in Kifissos estuaries (right)

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