



Energy and CO₂ turbulent fluxes measurements on a floating platform at Alqueva reservoir, Portugal

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Exchanges of energy, CO₂ and momentum are measured between water and air with the IRGASON eddy-covariance system installed on a floating platform at Alqueva reservoir, southeast of Portugal, with a surface area of 250 km² and total capacity of 4150 hm³. This system is composed by a 3D sonic anemometer and an open-path CO₂/H₂O gas analyser. The measurements are performed during the ALOP (ALentejo Observation and Prediction systems), starting on April 2017. This project includes an integrated field campaign with measurements of chemical, physical and biological parameters at different experimental sites in the reservoir and its shores, at least during one year. Together with the turbulent fluxes, also radiative fluxes, both short and long wave, are measured in the platform with the aim of assessing the radiative balance. Also water temperature profiles are continuously recorded at fourteen levels down to the bottom (60 meters). Dissolved CO₂ measurements are also carried out from the same platform at 1.5 meters depth, thus CO₂ flux can be checked with the gradient obtained between air and water concentrations. This campaign counts with the collaboration of a Finnish team that will deploy at Alqueva reservoir a closed-path CO₂ analyser in parallel with the IRGASON open-path for intercomparing purposes.

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