



VIEW ABSTRACT

SPATIAL AND TEMPORAL VARIABILITY OF CARBON TURNOVER AND FLUXES IN THE DANUBE DELTA (E)

Freshwaters are increasingly recognized as biogeochemical reactors for carbon transformation, releasing significant amounts of greenhouse gases to the atmosphere. To better understand temporal and spatial variability of carbon fluxes in a deltaic system, we analyzed the carbon system in the Danube Delta together with relevant physical and biological drivers and indicators. This rather pristine system represents the second-largest river delta in Europe and receives water from 19 European countries. With its closely-connected river branches, channels, and flow-through lakes, it presents a well-suited setting to study the seasonal variations of carbon fluxes in different aquatic environments. As part of the C-CASCADES project within the EU Horizon 2020 program, monthly campaigns, including flux chamber measurements, were carried out over a 1-year period at 20 different locations within the delta. They were accompanied by continuous multi-probe measurements upstream of the delta and at the river mouths of the three branches that enter the Black Sea. Based on our chemical observations and hydraulic data, we estimate the amount of carbon turnover and trace gas emissions along the aquatic network of the delta wetlands and compare those to the main river pathways.

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DETAILS

Oral presentation

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