



2015 Aquatic Sciences Meeting

Aquatic Sciences: Global And Regional Perspectives — North Meets South

22-27 February 2015 — Granada, Spain

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ABSTRACT

BIOGEOCHEMISTRY OF THE CONGO RIVER: ANNUAL TRANSPORT FLUXES AND SOURCES OF CARBON IN THE UPPER CONGO RIVER (KISANGANI, DRC CONGO).

Biweekly sampling was initiated on the mainstem Congo River at Kisangani (DRC Congo) in December 2012, measuring a wide range of physico-chemical parameters, major elements and nutrients, concentrations and stable isotope ratios on different carbon (C) pools, optical characterisation of chromophoric dissolved organic matter (cDOM), and dissolved greenhouse gases (CH₄, N₂O). We report on the seasonality of biogeochemical proxies and annual transport fluxes for the initial year of measurements; the first such measurements in this part of the Congo River basin, and compare our data with data gathered on the Tshopo River (a tributary joining the Congo downstream of our mainstem site) and other regions within the basin. Suspended sediment yield (12 T km⁻² y⁻¹) was substantially higher than reported for the lower Congo River and major tributaries. Organic C transport was dominated by dissolved OC, comprising ~61% of the total organic C flux. Both particulate and dissolved OC were mainly of terrestrial C₃ origin, and showed increased concentrations during high flow periods. The river system acted as a source of CH₄ and N₂O to the atmosphere throughout the year.

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DETAILS

Oral presentation

Session #:023

Date: 2/25/2015

Time: 17:30

Location: Andalucia 2 (Floor 1)

Presentation is given by student: No



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