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# The export of particulate organic carbon from the largest multi-biome tributary of the Congo River

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Tropical forest in the Congo basin have substantially declined over the past decades because of population growth, accelerating agricultural land conversions, and climate change. It is predicted that this forest will continue to deteriorate drastically over the coming decades. These changes may lead to a large unconstrained flux of sediment and organic carbon to fluvial systems. Few studies have examined how land-use change affects sediment transport in fluvial systems and how these fluxes are linked to C-cycling in tropical Africa. The Kasai River Basin, the largest tributary of the Congo River, makes for an ideal study area to explore factors influencing soil erosion, because it spans both climatic (biomes, rainfall, soil mineralogy) and anthropogenic (agricultural transitioned areas) gradients. At a high spatial coverage, we present concentrations, C saturation, fluxes, and isotopic composition of total suspended solids (TSS), particulate organic carbon (POC), and particulate nitrogen (PN), in fluvial sediments during the wet and dry season. In total, 44 rivers were sampled across biomes such as savannahs, tropical forests, and woodland mosaics with varying cropland cover. preliminary analysis shows that POC percentage of TSS is increasing with increasing cropland coverage. At very high cropland coverage, however, generally low proportions of POC in TSS were observed. This is likely due to the erosion of subsoil at these high cropland covers and supported by $\Delta^{14}C$ and $\delta^{13}C$ measurements. While modern and $\delta^{13}C$-depleted particulate carbon were mostly found in high percentage deciduous forests, older and $\delta^{13}C$ enriched sediments were associated with high percentage cropland coverages.This study provides a first insight on driving factors on the TSS and POC within this large river system flowing over multiple biomes.