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The impact of peatlands on the carbon dioxide emissions from rivers

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Abstract

Rivers are an important part of the global carbon cycle. They transport terrestrial carbon to the ocean, store carbon in sediments and release greenhouse gases like carbon dioxide (CO₂) to the atmosphere. More than three quarters of global riverine CO₂ emissions occur in the tropics. It has been shown that the presence of wetlands is an important factor in this context. Particularly tropical peatlands, as present in Southeast Asia, act as strong sources of carbon to aquatic systems. However, only a small fraction of this carbon seems to actually be transformed to CO₂. As a consequence, the CO₂ emissions from peat-draining rivers are much smaller than expected. In this talk, I will present current research on this matter, including a case study at the Rajang River in Malaysia.