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Characteristics of Water Chemistry in Degraded Peatland Groundwater and Riverwater in Indonesia

Masayuki Itoh[1*], MUHAMMAD, Ahmad[2], NEOH, Kok-Boon[1], WATANABE, Kazuo[1], GUNAWAN, Haris[2], SYAHRONI, Reza[2], FURNANDO, Edo[2], KOZAN, Osamu[1]

[1]Center for Southeast Asian Studies, Kyoto University, [2]Faculty of Mathematics & Natural Sciences, Riau University

Tropical peatland forests in Southeast Asia are considered to be one of the most important parts of larger ecosystems due to the huge amount of carbon stock and biodiversity they contain. Yet, recent rapid and intensive deforestation to procure timber and land for commercial plants or crops (Oil palm or rubber plantations) must have induced fundamental changes in the material cycling.

We focused on the effects of human impacts such as deforestation, plantation, and manmade fires on groundwater chemistry in the degraded peatland area in East part of Sumatra Island, Indonesia.

We measured dissolved organic and inorganic matters in peatland groundwater both in wet and dry seasons by using piezometers which are installed in degraded peatland sites. We compared the results of both bare land site after the deforestation and the fires and oil palm site planted after the fire.

Keywords: Tropical Peatland, Groundwater, Biogeochemistry, Dissolved Organic Matter