BOOK OF
ABSTRACTS

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Peat greenhouse gas emission factors: Concepts, applicability, and research needs

T2.34 Tropical Peatland Forest Conservation and Sustainability: Challenges and Opportunities

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Abstract: Over millennia, peatlands have slowly accumulated vast amounts of carbon (C) and nitrogen (N) in their soil. When disturbed through degradation, drainage, fire or land-use conversion, C and N dynamics in peat soils are profoundly altered as are their greenhouse gas (GHG) emission rates. Quantifying accurately peat GHG flux and flux changes resulting from disturbances is essential for appraising the potential of peatlands to mitigate climate change or the high burden caused to atmospheric GHG concentrations, depending on their fate. In its wetland supplement, the IPCC has developed guidelines for reporting national peat GHG emissions/removals and defined general concepts for developing peat GHG emission factors. While peat-rich countries are employing these guidelines and moving towards higher Tier reporting, some scientific barriers remain to fully and accurately report peat GHG emission/removals, especially in the tropics. Furthermore, anthropogenic activities for which default Tier 1 emission factors are available remain incomplete hampering some countries to report their peatlands emissions. This talk will navigate the wetland supplement, present existing default peat emission factors for the tropics, and explain conceptual basis for producing them. It will showcase two countries of the tropics, Indonesia and Peru, which contrast in terms of anthropogenic activity and emission rates and will highlight critical research gaps.