

Forest logging and its impact on soil carbon dioxide efflux in the tropical forest, Peninsular Malaysia

Abstract

Forest harvesting is expected to have an impact on soil CO₂ efflux as it influences soil properties and changes in microclimatic conditions which can have implications on the regional carbon balance. Soil CO₂ efflux was measured using a continuous open flow chambers technique connected to a multi-gas-handling unit and infrared CO₂/H₂O gas analyser. Soil temperature, soil moisture, water potential, Total Organic Carbon (TOC), Soil Organic Carbon (SOC), Soil Organic Carbon stock (SOC_{stock}), Bulk density and pH were examined to ascertain their contribution to soil CO₂ efflux and effect of environmental factors in a canopy gap created through the logging of groups of trees in the Sungai Menyala forest, Peninsular Malaysia.

Keyword: Atmospheric carbon pool; Logged-over; Microbial; Organic carbon; Soil CO₂ efflux