Carbon dioxide emission on recurrent burnt peat swamp forest in Raja Musa Forest Reserve, Selangor, Malaysia

ABSTRACT

Peatlands represent globally significant stores of soil carbon that have been accumulating for millennia and currently. However, the human activities have causes degradation which led to increase in forest fire incidences and emissions of green house gases into the atmosphere. However, not musch is known on emissions of green house gases on recurrent burnt peat forest. The objective of this study was to investigate carbon dioxide emission and its relationship with environmnetal factors on recurrent burnt tropical peat swamp forest. This study was conducted on plot which has been experiencing recurrent fires since 1996 in Raja Musa Forest Reserve, Selangor, Malaysia. The carbon diaoxide emission rates in recurrent burnt plot was in the ranges from 2.13 to 8.50 μmol m-2 s¯1. The result also showed the variation in relationship between soil CO_2 emission across time, weekly and monthly and statistically analysis showed a significant correlation between soil CO2 emission with soil temperature and soil humidity. In conclusion, soil temperature and relative humidity were the factors influencing the soil CO_2 variation significantly according to different months.

Keyword: Tropical peat samp forest; Carbon dioxide; Forest fire