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One year continuous CO_2 flux observations above an Indonesian upland rainforest

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Since 2003 the energy, water vapour and CO_2 fluxes between the atmosphere and a tropical rain forest in Indonesia were measured using an eddy correlation system.

The eddy correlation system based on a 3D sonic anemometer USA-1 (METEK, Germany) and an open path CO_2 and H_2O IRGA-sensor LI-7500 (LI-COR, USA).

The instruments were installed on a 70 meters high meteorological tower rough about 15m above a 35m high forest canopy in the Lore Lindu National Park, Central Sulawesi, Indonesia.

Results indicate that the natural rain forest is taken up CO_2 from the atmosphere at this site. There is a seasonality in the CO_2 flux: higher uptake rates at two rainy (November-December and March-April) and lower uptake rates during the dry (rest) seasons. The average daytime Bowen ratios (sensible heat/latent heat fluxes) range between 0.6 and 0.8.