



Biogenic fluxes of VOCs estimated from aircraft measurements

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Concentrations of several Volatile Organic Compounds (VOC) were measured throughout boundary layer. Measurements were performed 21/03 - 02/04/2003 using light aircraft. The measurements took place above boreal forests, near Hyytiälä forestry field station, located in Southern Finland.

Due to early spring and cold weather conditions, the concentrations of biogenic compounds were relatively low. Highest concentrations were those of α -pinene, average value being 15 ppt. Relative abundances of monoterpenes within boundary layer were compared with surface observations.

Mixed box method including O_3 and OH sinks was applied for flux estimation. O_3 concentration was obtained from Hyytiälä measurements at 68 m height where average daytime concentration was 43 ppb. OH concentration was kept at a constant value of 0.02 ppt.

Total fluxes of monoterpenes varied between 0 and 20 $ng\ m^{-2}\ s^{-1}$. Highest fluxes were those of α -pinene, peaking up to 13 $ng\ m^{-2}\ s^{-1}$.