

Thomas Karl, NCAR – 28 August 2008

### Volatile and Semivolatile Organic Compounds in the Atmosphere

Based on recent field studies the seminar will highlight insights into the surface/atmosphere exchange of Volatile and Semivolatile Organic Compounds (VOC, SVOC). Vegetation contributes the largest fraction of this reactive organic carbon released into the atmosphere. Tropical ecosystems are of particular interest because high isoprene emissions are thought to drastically change the oxidation capacity of the clean tropical atmosphere.

Regional isoprene and monoterpene fluxes were measured during the dry season in 2004 and are compared to the biogenic emission Model MEGAN. The impact of biogenic emissions on tropical atmospheric chemistry is investigated using a detailed photochemical box model setup for the lower atmosphere.

This seminar will also address uncertainties in budgets of VOCs and SVOCs in urban (e.g. emissions from developing Megacities) and forested environments (e.g. biogenic and biomass burning emissions). In particular the question of unmeasured organic carbon will be addressed based on findings obtained above an Agroforest in California.