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**The ups and downs of being an atmospheric aerosol:  
Interpreting particle flux measurements over tropical and  
temperate forests**

Hosted by Jeff Collett

**Thursday, November 3, 2011**

**ATS room 101; Discussion will begin at 3:30pm  
Refreshments will be served at 3:00pm in the coffee lounge**

We made the first chemically-resolved aerosol flux measurements over temperate and tropical forests during the BEARPEX-07 (Biosphere Effects on AeRosols and Photochemistry EXperiment, Blodgett Forest, California) and AMAZE-08 (AMazonian Aerosol characteriZation Experiment, Brazil) campaigns using a high resolution time-of-flight aerosol mass spectrometer and eddy covariance measurements. While we observed net deposition of submicron aerosol, different chemical components had fluxes of varying magnitudes and directions. The observation of simultaneous upward and downward fluxes over the forest suggests that while competing factors influence aerosol fluxes (aerosol deposition, thermal gradients shifting gas-particle partitioning, secondary organic aerosol production within the forest canopy), the observed flux is the sum of these components. Using our observations, we can constrain the impact of in-canopy chemistry on the biosphere-atmosphere exchange of aerosols.