



Micrometeorological Conditions at the ATTO – Site in the Amazon Basin

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The ATTO site is located in a pristine rainforest environment in the Amazon basin about 150 km north east of Manaus. The site is currently equipped with two walk-up towers (325 m and 80 m) and an 80 m high mast. The canopy height is about 35 m. A detailed description of the site and the ongoing measurements is given in the overview paper by Andreae et al. (2015). The 325 m tower was completed in 2015 and will be equipped in 2016. The 80 m walk-up tower is operational since 2012 with a full set of micrometeorological measurements (e.g. wind and temperature profile, radiation, and a few levels for flux measurements). Measurements of vertical profiles of wind velocity components, temperature, humidity, and energy fluxes, together with 3d sonic anemometer measurements at 150 m on the ATTO tower, are analysed to determine characteristics of momentum, heat and water vapour exchange. In addition, the day time influences of secondary circulation on energy fluxes is described, together with the interaction of these circulations with cloud development. The diurnal cycle of stability and the onset and development of convection is shown to be strongly dependent on the onset of cloud formation. Implications on trace gas transport are discussed.