



Aerosol Removal by Scavenging in Rain and Clouds

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The largest uncertainty in the global aerosol burden lies in the removal rate, currently dominated by scavenging during rain and fog events. As such, understanding the scavenging process is critical to understanding both aerosol radiative forcing and the interactions between aerosols, clouds, and rain in the hydrologic cycle. This presentation will investigate the interactions between aerosol chemistry and rain and fog through recent field measurements and process modeling. Ambient aerosol size distributions and chemical composition were measured at several East Coast sites during summer 2003 and 2004. In addition, drizzling stratus clouds were sampled with airborne measurements in the western Pacific in 2001. These data are used to assess the efficiency and chemical dependence of aerosol removal by precipitation and related scavenging processes.