

Date: February 4th, 2005

Time: 10:30 AM

Location: Olin 305

Speaker: Dr. Ilan Koren
NASA's Goddard Space Flight Center

Title: “Does Smoke Kill Clouds?
A Brief Overview on Aerosol Forcing”

Abstract

Urban air pollution and smoke from fires have been modeled to reduce cloud formation by absorbing sunlight, thereby cooling the surface and heating the atmosphere. Satellite data over the Amazon region during the biomass burning season showed that scattered cumulus cloud cover was reduced from 38% in clean conditions to 0% for heavy smoke (optical depth of 1.3). This response to the smoke radiative effect reverses the regional smoke instantaneous forcing of climate from +28 watts per square meter in cloud-free conditions to +8 watts per square meter once the reduction of cloud cover is accounted for. We will be discussing these results.