



Understanding Aerosol Direct Radiative Forcing – How Satellites Fit In

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The aerosol data products from the NASA Earth Observing System's MISR and MODIS instruments provide significant advances in regional and global aerosol optical depth (AOD) mapping, aerosol type measurement, and source plume characterization from space. Although these products have been and are being used for many applications, ranging from regional air quality assessment, to aerosol air mass type identification and evolution, to aerosol injection height and aerosol transport model validation, uncertainties still limit the quantitative constraints these satellite data place on global-scale direct aerosol radiative forcing.

Some further refinement of the current aerosol products is possible, but a major advance in this area seems to require a different paradigm, involving the integration of satellite and suborbital data with models. This presentation will briefly summarize where we stand, and what incremental advances we can expect, with the current aerosol products, and will then elaborate on some initial steps aimed at the necessary integration of data from multiple sources and models.