



Tracking desert dust transport with satellite data

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The Cloud-Aerosol Lidar with Orthogonal Polarization (CALIOP) on the Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observations (CALIPSO) satellite, and the Multi-angle Imaging SpectroRadiometer (MISR) instrument on NASA's Earth Observing System (EOS) Terra satellite provide unique views of Earth using two different, state-of-the-art measurement technologies. Both capture the presence of aerosols and their properties, and can be used to track global and regional dust transport events. Examples of dust events viewed by these instruments will be shown.

CALIOP is a two-wavelength, polarization-sensitive lidar that measures vertical profiles of the atmosphere and provides information on the vertical and horizontal distributions of aerosol abundance, size, type, and layer features.

MISR makes simultaneous measurements at nine angles and four wavelengths. From the observed anisotropic radiances, aerosol characteristics such as optical depth, Angstrom exponent, type, and single scattering albedo are derived over both bright and dark surfaces. Under some conditions, the height of the aerosol layer can also be determined.

CALIPSO and MISR data products are archived and distributed at the NASA Langley Atmospheric Science Data Center (ASDC). The ASDC provides data access, services and tools for over 42 projects in the discipline areas of Earth's radiation budget, clouds, aerosols and tropospheric chemistry. Additional information is available from the ASDC web site, <http://eosweb.larc.nasa.gov>.