



Asian dust properties from 10 years of MISR data.

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We use the 10-year aerosol data record from the Multi-angle Imaging SpectroRadiometer (MISR) aboard the Terra satellite to investigate climatological linkages between the dust source activities, mid-range, and long-range transport of Asian dust. The inter-annual and seasonal variability of Asian dust loadings and properties as retrieved by MISR at selected regions along the transport routes was investigated. In particular, we examine the Taklamakan and East and Central Gobi regions (dust sources), South Korea and Japan regions (mid-range transport), and the North Pacific region along the northwestern U.S. coast (long-range transport). To avoid the gridding and averaging effects in Level 3 products, we use the Level 2 MISR data. Within each selected region, the analysis was performed to examine the multi-annual mean and variability of the aerosol optical depth and particle nonsphericity as well as time-lag correlation between the regions, taking into account the effects of MISR sampling and cloud coverage. The results will be presented and interpreted in the context of atmospheric dynamics variability, including variability of meteorological regimes in dust sources and the large-scale atmospheric circulation features controlling the trans-Pacific transport of Asian dust.