

## عنوان مقاله:

Characterizing Dust to Identify Dust Sources in the Middle East

## محل انتشار:

اولین کنفرانس بین المللی گرد و غبار (سال: 1394)

تعداد صفحات اصل مقاله: 7

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## خلاصه مقاله:

Mineral dust is the most abundant atmospheric aerosol, largely generated in arid and semi-arid regions of world, including large regions throughout the Middle East (Buseck et al., 1999; Edgell, 2006; Goudie, 2006; Muhs et al., 2014; Tanaka and Chiba, 2006; Washington et al., 2003). Over the past decades airborne mineral dust and dust storms are found to be increasing, adding to the amount of dust from natural undisturbed areas. In the Middle East this can be ascribed to the following: Desertification, following continued droughts in several regions of the world, including regions in Iran, ascribed to Global climate change. Agriculture with disturbance of the land surfaces, and over-exploitation of limited and diminishing water resources Diversion and damming of rivers to supply water to growing city populations, agriculture, and industries. Fast growing industrial and commercial cities along the coastal regions of the Persian Gulf and Red Sea, resulting in anthropogenic dust and other aerosols from the building industry, cement factories, road construction, as well as emissions from power and desalination plants, and oil refineries. In several of the above-mentioned examples, newly exposed land surfaces (lakebeds), and disturbance by agriculture and construction practices of previously consolidated land surfaces, are responsible for increased mineral dust in the atmosphere. Dust has a profound impact on global climate, ocean geochemistry, ecology, air quality, visibility, human and animal health, as well as general quality of life. Recent studies are also directed at better understanding the optical properties of dusts, and applying these parameters to interpreting satellite data, and to dust transport and other modeling. The goal of any airborne mineral dust study in the Middle East should be to manage dust concentrations dust in the atmosphere where possible, by emissions control and remediation. To accomplish this requires the identification of dust sources, and an assessment of the amount and nature of dust emitted by each source. The dust concentrations in the atmosphere need to be measured on a regular schedule (e.g. hourly monitoring, 24 hour sampling every 3rd day, etc.) for several months or years, not only during dust events. The aerosol samples are gravimetrically and chemically analyzed, and the results modelled to identify contributing sources in the region and provide an assessment of the frequency and contribution of each source to particulate matter (PM) in the air

## کلمات کلیدی:

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