
[EE] Evening Poster | A (Atmospheric and Hydrospheric Sciences) | A-CG Complex & General

[A-CG36]Satellite Earth Environment Observation

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In recent years, we cannot avoid facing issues on global environmental changes that occur in various spatiotemporal scales. The earth environmental observation data by satellites became the necessary basic data to tackle and solve those issues. Due to the recent advancement in the observation sensor technique and the data processing technique, the satellite observation has been showing rapid progress, and the time is changing from examining the accuracy of the observation sensor data to the advancement of the data application, leading to broaden potential users. In these days application became synergetic, so we comprehensively pick

up this topic in the Atmospheric and Hydrospheric Sciences Session of this Union Meeting that enables to comprise the atmospheric, oceanic and land sciences; by combining the intelligence and the knowledge of the party, we propose a session that aims to prompt further studies towards the issues on earth environmental change, the advancement in the data application and future plans of Earth Observation missions.

[ACG36-P32]Global distribution of anthropogenic dust aerosol from CALIOP satellite

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Anthropogenic dust aerosols are those produced by human activity, which mainly come from cropland, pasture, and urban in this paper. Because understanding of the emissions of anthropogenic dust is still very limited, a new technique for separating anthropogenic dust from natural dust using CALIPSO dust and planetary boundary layer height retrievals along with a land use dataset is introduced. Using this technique, the global distribution of dust is analyzed and the relative contribution of anthropogenic and natural dust sources to regional and global emissions are estimated. Local anthropogenic dust aerosol due to human activity, such as agriculture, industrial activity, transportation, and overgrazing, accounts for about 22.3% of the global continental dust load. Of these anthropogenic dust aerosols, more than 52.5% come from semi-arid and semi-wet regions.