Detection and Countermeasures » Infrared Detection and Detectors

Continental Aerosol Effects on Stratocumulus Microphysics During MAST 1994

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Abstract: Variations in marine stratocumulus **clouds** during the MAST (Monterey Area Ship Tracks) Experiment of June 1994 are observed and analyzed through the use of NOAA-9/10/11/12 AVHRR satellite data. The relationship between channel 3 reflectance and cloud microphysical properties is examined through direct observation of pixel brightness and aerosol trajectories based on a pollutant transport and dispersion model. Satellite observations show significant regions of continental influence over the ocean through higher channel 3 reflectance values as a result of the injection of anthropogenic aerosols. Forward and backward aerosol trajectories are used to show correlation of cloud albedo enhanced regions and the probable routes of continental aerosol injection in the marine environment. This technique may prove useful for determining climatic implications of cloud reflectance changes due to the influence of natural and **man-made** aerosol sources, and a means for predicting enhanced cloudiness in littoral regions.

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