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MARINE BOUNDARY LAYER CLOUD PROPERTIES FROM AMF PT. REYES SATELLITE OBSERVATIONS

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ABSTRACT

Our objective is to use satellite observations to place the AMF surface-based and aircraft observations into a larger-scale context relevant to GCM-sized grids (e.g., 300 x 300 km). We use pixel-level satellite cloud products from the NASA Langley Cloud and Radiation Research group to quantify the marine boundary layer (MBL) cloud properties around the Pt. Reyes, California region during the time of the ARM Mobile Facility deployment (Mar.-Oct. 2005). For grids classified as primarily containing MBL clouds (i.e., little to no contamination from other cloud types) we characterize the macro-scale cloud organization using cloud fraction and effective cloud diameter (Jensen et al., 2007), in addition to the central tendencies and deviations of key microphysical properties including optical depth, liquid water path and cloud particle effective radius. We present the typical MBL cloud properties observed over the Pt. Reyes, California region during the AMF deployment emphasizing the temporal and spatial variability.

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