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Abstract:

Widespread marine Stratocumulus (Sc) fields are of particular interest to the global radiation budget because these clouds contribute about 30 - 40 % of the surface albedo. This feature makes them an essential component for climate modeling, yet Sc clouds are poorly represented in models due to the deficit in understanding the role of aerosol. Hence, a major goal of the VOCALS airborne experiment in 2008 was to study aerosol-cloud interactions over the South East Pacific (SEP) harboring the largest Sc deck in the world.

Because the nature and variability of aerosol effective as cloud condensation nuclei (CCN) impact cloud microphysical properties through cloud droplet number concentration (N_d), size-resolved aerosol