



Intraseasonal to Interannual Influences on Surface Radiation and Cloud Forcing at the ARM TWP Sites

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The Atmospheric Radiation Measurement (ARM) Program operates three long-term measurement sites in the tropical western Pacific (TWP) area. The Manus site in Papua New Guinea lies in the heart of the warm pool area, and experiences ubiquitous cloudiness. The site on the island nation of Nauru is on the eastern edge of the warm pool and exhibits strong variability associated with the El Nino-Southern Oscillation (ENSO). The Darwin, Australia site is an important example of a tropical land site, and also exhibits strong variability associated with the Australian monsoon. The two equatorial sites now have accumulated over a decade of measurements, with the Darwin site less than a year away from a 10-year record. These long-term data sets allow an assessment of the decadal time series of the surface radiation budget and cloud radiative forcing, as well as investigation of the dominant intra-seasonal modes affecting them.

We will present analyses of the long-term surface radiation budgets, cloud radiative forcing, and cloud cover in general, plus assesment broken down by El Nino/La Nina occurrences for the equatorial sites, and monsoon/dry season for the Darwin site.