Air-sea feedbacks in the Indian Ocean related to the MJO: A proposed assessment based on comprehensive radar / ocean measurements during DYNAMO

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The ship-based atmospheric and oceanographic observations from the R/V Revelle offer a unique opportunity to investigate air-sea feedback mechanisms in the Indian Ocean during DYNAMO. NOAA P-3 aircraft and buoy observations near the ship provide an additional perspective of these phenomena. Various air-sea interactions relevant to the MJO have been shown to enhance or inhibit atmospheric convection, but the causes and effects have not been distinguished or quantified in this region. This proposed assessment entails ways in which oceanographic and radar remote sensing data collected during DYNAMO could be combined to characterize how the ocean and atmosphere evolve, and perhaps coevolve, with respect to MJO phase. For instance, efforts will be focused on wind stress applied by convective systems, fresh water puddles deposited by rain, and surface fluxes due to the varying spectrum of clouds and precipitation.

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