

Sequential Kelvin Wave interactions with the upper ocean during DYNAMO.

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Madden Julian Oscillation (MJO) initialized over tropical Indian Ocean in November 2011 was measured by CINDY2011/DYNAMO observational array. Data collected include remote sensing data, atmospheric soundings and upper ocean stratification measurements. Based on available datasets and modeling we investigate air-sea interactions during MJO propagation with particular emphasis on ocean interaction with two sequential Kelvin waves that were part of November 2011 MJO package. Kelvin Waves are known as important element of eastward propagating tropical disturbances and are commonly associated with MJO. Variation of upper ocean heat content associated with diurnal cycle of the oceanic mixed layer is investigated. Observational data are complemented with numerical simulations. Global shallow water model is used to study importance of upper ocean diurnal cycle in forcing observed Kelvin Wave response.