

DYNAMO (Dynamics of the MJO): The US participation in CINDY2011

Scientific Problems: Skills of extended weather prediction (>10 days) are particularly low during periods of MJO initiation in the Indian Ocean; Understanding of MJO initiation mechanisms remains fragmental and limited.

Program Objective: Collecting in situ observations through an entire MJO life cycle to advance our understanding of the mechanisms for MJO initiation and maintenance and to improve our simulations and prediction of the MJO

Scientific Hypothesis: Moistening and diabatic heating in the lower troposphere by shallow convective processes play key roles in MJO initiation and maintenance.

Planned major observations: ship-borne Doppler radar and radiation/surface flux package (AMF2), air-sea boundary layer turbulence and mixing measurements, GPS sonde array, extended surface and subsurface mooring array (RAMA), ARM Manus site + cloud radar (AMIE)

Modeling component: regional and global models for operation and research

Current status: Ship (Ron Brown) time request (April 3); planning workshop (April 13-14), followed by inter-agency briefing (time to be determined) and pre-proposals to NOAA, NSF, and DOE; exploring the feasibility of upgrading mobile Doppler radars (MIT, TOGA) for mounting on UNOLS ship(s)

