Overview of DYNAMO Operations and Support

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The Dynamics of the Madden-Julian Oscillation (DYNAMO) project was conducted 2011-2012. A group of meteorologists, oceanographers, and climate scientists gathered in the equatorial Indian Ocean for the project to observe the development of the MJO at its source. A variety of continuous and special focused observations were made during this period. Three MJO events and the associated synoptic/mesoscale structure in the atmosphere and ocean before during and after the events were sampled. 13 nations participated in various activities during the 6-month project period. Some 19 universities, 80 students, 11 National Centers and Laboratories were involved in the study. An overview of the major facilities involved in DYNAMO is shown in Figure 1. A complex International data and voice communications network was implemented to allow real and near real-time sharing of data and information to keep the observations coordinated across large distances. A Super-Site was established on Addu Atoll in the Maldives where100 people from 6 nations supported 6 radars that made simultaneous measurements including the NCAR S-PolKa, several DOE/ARM systems and the OU SMART-R. Four ships from India, Indonesia, Japan and the US were on station in the Indian Ocean along 95^0 East Longitude at various times during the Intensive Observing Period (IOP) and Special Observing Period (SOP) periods. An array of specialized ocean buoys, moorings and ship deployed sensors were deployed to make detailed measurements of the upper ocean currents, fluxes, and salinity to better understand conditions. An operational summary of the project including the highlights of implementation accomplishments and lessoned learned are provided.

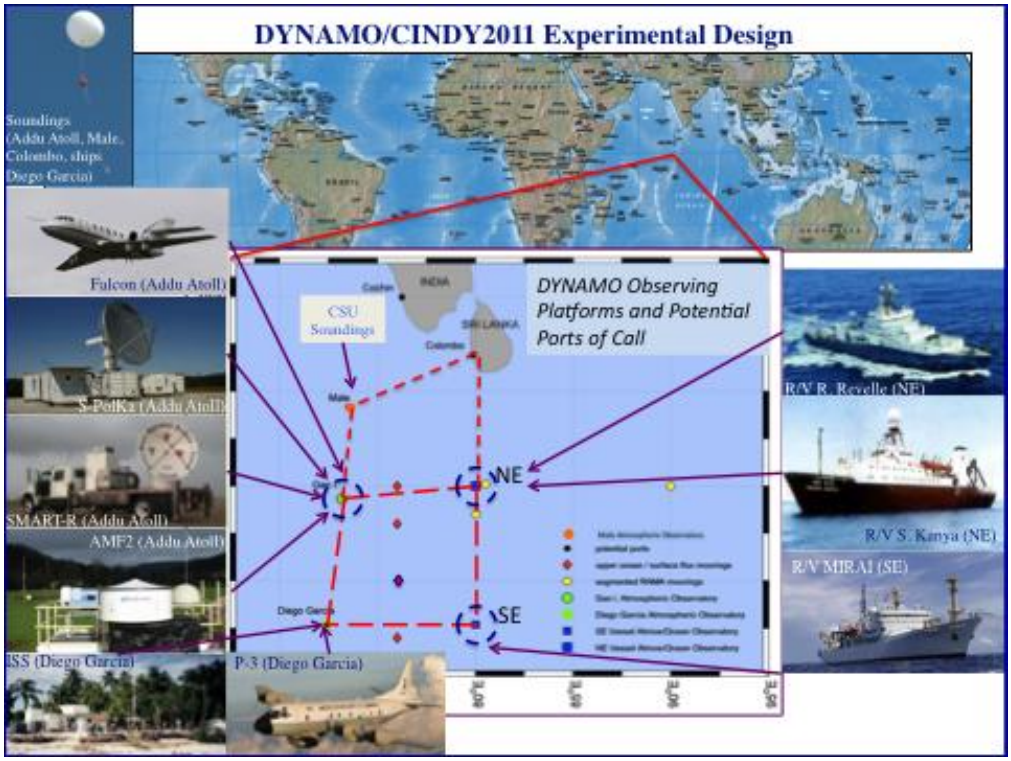

Figure 1. DYNAMO observing facilities deployment in the central Indian Ocean. Ships aircraft and ground based radars, profilers and sounding systems as well as ocean moorings and buoys were spread across the region to measure the MJO as it formed and moved across the region.