+++ Northern array wet and active +++

• Current Conditions/Previous Day Recap

It was another active day over most of the DYNAMO area with scattered convection near all locations except for the RV Mirai, which remains in the SE trade winds. Both SPOL and Revelle radars saw deep, organized convection over last night, and at the Revelle scattered convection continued throughout the day as well. However, the most organized convection is just west of Male, apparently associated with a weak low pressure system. The 0Z GFS and ECMWF did not initialize this feature well, and they have the strongest convection east of Male. Convection greatly diminished in the eastern IO, presumably in part due to the Kelvin wave moving further east.

Twin cyclones continue in the western IO, but the southern one is very weak and has little convection. The mid-level (700-400 mb) dry wedge from the past two days’ discussions shifted eastward (now only affecting RV Mirai), and the latitude-mean TPW values over the array are the highest yet during DYNAMO.

Soundings: Slides 7-11. Male, Gan, and RV Revelle are moist throughout most of the troposphere, and there was convection in the vicinity. As has been the case for the past few days, Gan and the RV Revelle are much more moist than Diego Garcia and the RV Mirai.
• Day 1 (0Z 22 Oct. – 0Z 23 Oct.)

More of the same active conditions over the northern array, focused near Gan/Male, with scattered convection throughout the day and organized MCSs at night. Remaining relatively dry at Diego Garcia and very dry at RV Mirai.

Elsewhere, convection is most active associated with the two low pressure systems in the western IO. Limited convection with the Southern Hemisphere system at ~60E.

• Days 2-3 (0Z 23 Oct. – 0Z 25 Oct.)

A developing low pressure system, over or just west of the northern array. The specific location of the convection will depend on where and how strong the low pressure system is (It may be a weak tropical cyclone by day 3). If the low pressure system develops west of the northern array, convection will diminish over the northern array. The westward progression of this system in the Arabian Sea is opposite of the MJO eastward progression, and may be partly why the MJO signal weakens.

• Days 4-5 (0Z 25 Oct. – 0Z 27 Oct.)

The MJO is in Phase 2, but the signal is in a rapid weakening trend. As the MJO signal becomes weaker, the pattern should revert to near the climatological mean conditions, with the ITCZ setting up roughly through the center of the southern array, and the northern array much drier. ECMWF and GFS indicate a moist easterly wave axis approaching RV Mirai late on Day 5. NOTE: The GFS/ECMWF are much faster to weaken the MJO signal than statistical models. If the MJO signal remains strong, the northern array would continue to have active convection in days 4-5.
~0Z 22 Oct

~12Z 22 Oct
Male

Time series for 43555 from 10/15 to 10/23

Yesterday

CSU Skew-T

43555, VRMM
4.2N 73.5E
122 21 Oct. 2011

Note - Quick-look data
wind barbs (knots)

Today

CSU Skew-T

43555, VRMM
4.2N 73.5E
122 22 Oct. 2011

Note - Quick-look data
wind barbs (knots)
RV Revelle

Time series for 99991 from 10/15 to 10/23

Yesterday
CSU Skew-T

Today
CSU Skew-T
Diego Garcia

Yesterday

CSU Skew-T

61967, DDRG
7.35 72.4E
122 21 Oct. 2011

Note: Quick-look data
wind bars (knots)

Today

CSU Skew-T

61967, DDRG
7.35 72.4E
122 22 Oct. 2011

Note: Quick-look data
wind bars (knots)
RV Mirai

Yesterday

CSU Skew-T

99990, JNSR
7.9S 80.5E
12Z 21 Oct. 2011

Note: Quick-look data
wind bars (knots)

Today

CSU Skew-T

99990, JNSR
8.05 80.5E
12Z 22 Oct. 2011

Note: Quick-look data
wind bars (knots)
Begin Forecast Graphics

GFS fcst Precip for day 2 for: 20111024 from 00z
ECMWF ensemble weakens the MJO faster than GFS ensemble.