Dynamo Intraseasonal State Summary
See commentary on pages 2 and 4.

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The timescale of the recent adjustment to active convection over the Indian basin has been much shorter than would normally be associated with an MJO event. OLR projections suggest that the suppressed convective phase of the MJO is presently located over the Indian basin, but strong active convective signals in the band of convectively coupled Kelvin waves is locally higher amplitude, yielding net anomalous active convection. Further analysis suggests that Rossby wave propagation from the extratropics might be responsible for the initial enhancement of the convection. This type of swap from suppressed to active convection on this timescale is an infrequent event, but the relevant dynamics might not differ substantially from the dynamics of MJO initiation.

In spite of this activity over the Indian basin, active convection in the MJO band of the wave number frequency domain is presently located over the southwestern Pacific basin, where the the SPCZ is anomalously enhanced. The easterly phase of an equatorial Rossby wave might explain most of the surge in the trade winds over the equatorial western Pacific. The combination of the Indian basin convection, plus some emerging contributions from La Nina and that ER wave might explain the recent westward adjustment in the RMM PCs over the Maritime Continent zones.

Since the amplitude of high frequency features is presently higher than features in the MJO band, a period of poor predictability both from these OLR projections and numerical weather prediction models is likely in the coming weeks. The OLR projection forecast into 2012 is posted on the next slide.
Shading represents OLR anomalies (i.e., the seasonal cycle and its first 3 harmonics have been subtracted). Heavy blue contours represent 10–120 day band dynamic height on the equator from the TAO buoy array (with missing values reconstructed from sea level gauge data). Other contours represent OLR anomalies projected onto a modified version of the first extended EOF modes of Roundy and Schopf (2008, QJRMS). Equatorial dynamic height anomalies are plotted only on the diagrams for the 7.5S to 7.5N band.

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MJO active convection is located over the southwest Pacific basin with some activity also over the western hemisphere. Much of the recent activity over the Indian basin is in the band of convectively coupled Kelvin waves, and this signal is progressing eastward. That activity might have been initiated by forcing from extratropical Rossby waves. The recent and ongoing surge in the trade winds of the equatorial western Pacific basin is largely from the combination of ENSO and an equatorial Rossby wave.

In spite of the high amplitude high frequency and ENSO timescale activity, the OLR projections continue to suggest that the suppressed convective phase of signals in the band of the wave number frequency domain commonly associated with the MJO are located over the central and eastern Indian basin. That said, this band might not have a monopoly on MJO dynamics, and the recent and ongoing active convection over the Indian basin might have much in common with the MJO.