Dynamo Intraseasonal State Summary

See commentary on pages 3 and 5.

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Although these OLR projections and filtering in the wave number frequency domain (not shown) continue to suggest a weak signal in the MJO band over the western Indian basin and (to a lesser extent) over equatorial Africa, these OLR projections suggest that superposition with opposite-signed anomalies in equatorial Rossby wave and extratropical wave signals in the Kelvin band are masking a stronger and amplifying signal in the MJO band over northern Australia and surrounding waters. As the higher frequency signals change phase, this convective event should express itself better and then continue eastward over the Coral Sea and the South Pacific ocean. Low frequency active convective signals associated with ENSO are presently growing over the far southeastern Indian basin, Northern Australia, and parts of the Maritime Continent islands region. However, the apparent developing MJO signal has nearly twice that amplitude in OLR anomalies.

RMM projections are now accounting for conflicting signals from both the western Indian basin and the vicinity of Australia. The RMM PCs also include some signal in phase 4-5 from La Nina, which the RMM algorithm does not completely remove when those signals change rapidly in time. The developing convective signature over Australia and the southwest Pacific is beginning to project onto RMM5, and will likely propagate across 6 and 7, even as competing signals over the western Indian basin remain present, but weak, then begin to amplify after February 10. RMM projections generated from the forecasts of many numerical weather prediction models agree with this general idea of progress of the signal from near Australia eastward over the south Pacific. Some models suggest less amplitude in RMM space than others, but use caution—this reduction of amplitude does not necessarily imply that the model’s Pacific signal is weak. Such lower amplitude RMM signals are also consistent with strong Pacific activity occurring at the same time as a growing western Indian basin signal—patterns that are opposite in RMM space, which would yield net outcome closer to the center.
MJO active convection is located over northern Australia, with a lower amplitude region extending over Africa and the western Indian basin. The activity near Australia has been offset in recent days by locally opposite signals in the equatorial Rossby wave and Kelvin bands. This interference is now switching sign, allowing the MJO band signal to express itself better. Low frequency active convective signals associated with La Nina are growing over the Maritime Continent and the region northwest of Australia, but the MJO signals in the same region seem to be stronger.