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

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Active convection in the MJO band now extends across a narrow band from the middle of the Maritime Continent across the western equatorial Pacific just north of New Guinea southeastward across the south Central Pacific, where it is expressed as an anomalously active south Pacific convergence zone. Negative OLR anomalies associated with a convectively coupled Kelvin wave are presently moving eastward across the eastern equatorial Indian basin and the western Maritime Continent. Negative OLR anomalies associated with a convectively coupled Kelvin wave are presently amplifying over the western equatorial Indian basin, but this signal is not yet sufficient to overcome moderate suppression of convection in the same region in the MJO band. Equatorward propagation of extratropical waves over South America is increasing the amplitude of active convective signals in the Kelvin band over the eastern Atlantic and Africa, and the OLR projections suggest that these signals are likely to combine with the Kelvin wave developing over the western Indian basin to yield an increase in convection near the Dynamo array January 8-12. The OLR projections also suggest increasing positive OLR anomalies in the MJO band in the same region at the same time. Since the Kelvin wave signals are associated with higher frequencies, they are likely underrepresented in the forecast product. Thus another short period of active convection is possible over the Indian basin, similar to the active period centered around December 22. My level of confidence in that outcome is low, because of the suppressed signal in the MJO band at the same time, but a similar intraseasonal base state was present December 20-25 as well. I reiterate my personal view that although this potential convective event and the one centered around December 22 are characterized by timescales shorter than those we normally associate with the MJO, the spatial structures and evolutionary features are similar, suggesting similar dynamics.
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 time extended EOF modes of Roundy and Schreck (2006, 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 south Pacific basin with another center of activity over the Maritime Continent. Suppressed convection in the Kelvin band is over the eastern equatorial Indian basin and the Maritime Continent. Active convection in the Kelvin band is located over Africa and the western Indian basin. Low frequency convective signals continue to be modulated by La Nina, but the region of suppressed convection over the central Pacific continues to be displaced to the west of the dateline, with OLR anomalies near zero over the eastern Pacific cold tongue. However, OLR projections are beginning to indicate weak anomalous low frequency active convection over the western Maritime Continent and western Australia—in a pattern more consistent with past La Nina events than has been observed so far this season.