

The MJO remained weak over the past week with much of the pattern of anomalous tropical convection related to higher frequency variability. This includes faster, eastward moving atmospheric Kelvin wave activity, where enhanced phases are currently located over the eastern Indian Ocean and another over the Americas. The enhanced phase of an equatorial Rossby wave is located over the far western Pacific region.

Enhanced convection was observed over many areas across the global tropics during the past week and included much of equatorial Africa and the western Indian Ocean, parts of the western Pacific the Maritime Continent, the eastern Pacific, and areas across Central America, South America and the Caribbean. Suppressed convection was observed over the northern Indian Ocean and southern India and the southern Continetal U.S.. Tropical cyclones Alberto, Bud and Sanvu developed over the past week in the Atlantic, eastern Pacific and western Pacific oceans respectively.

The latest forecasts of the MJO index from dynamical models indicate continued incoherent, weak MJO activity during the period as several different areas of enhanced convection are likely to be active. The

MJO did not play any substantial role in the forecast this week and La Nina has transitioned to ENSO neutral conditions. The outlooks are based on an assessment of the current atmospheric Kelvin and equatorial Rossby wave activity and numerical model guidance.

During Week-1, the combination of enhanced phases of an atmospheric Kelvin wave and an equatorial Rossby wave, along with forecast guidance favors elevated odds for above-average rainfall across a region from the extreme eastern Indian Ocean, parts of Southeast Asia and the Maritime continent. Although the chances are low, there is some potential for tropical cyclone development across the eastern Bay of Bengal associated with the westward moving Rossby wave and potential westerly wind anomalies towards the equator associated with the passage of the atmospheric Kelvin wave. Model guidance does not forecast any development at this time.

Enhanced rainfall is favored to continue for much of the equatorial Africa region into the western Indian Ocean due to atmospheric Kelvin wave activity and forecast model guidance from the GFS and CFSv2. Drier-than average conditions are expected to continue for portions of the northern Indian Ocean and southern India as indicated by model guidance.

A boundary forecast to stretch from the western Caribbean Sea across the Bahamas to off the southeast U.S. continues elevated chances for above-average rainfall for an area from eastern Central America, to the Caribbean and the Bahamas. Although there are likely to be many disturbances in this unsettled region, high vertical wind shear decreases chances for tropical storm development. There is a chance for a similar system as Alberto to develop off the southeast U.S. coast. Tropical storm Bud is forecast to strengthen to a hurricane during the upcoming week and may make landfall across the southern Mexico coast and produce heavy rainfall in some localized areas. Above average SSTs also favor enhanced rainfall for some areas of the eastern Pacific. Drier than average conditions are favored for parts of northern South America.

The threat for above-average rainfall for parts of Southeast Asia and the far western Pacific and tropical cyclone development for the eastern Bay of Bengal continue during Week-2. Rainfall across the equatorial Indian Ocean and just south of India is forecast to increase. Areas of enhanced rainfall across the eastern Pacific, Central America, the Caribbean Sea and the Bahamas are forecast to continue. There is an elevated threat for tropical cyclone development for the eastern Pacific during Week-2 associated with a potential Kelvin wave later in the period.