

The convectively active portion of the MJO persisted over the western Hemisphere this week, with the MJO index centered in Phases 8 and 1 of the Wheeler-Hendon (WH) diagram. The propagation speed of the MJO signal (as measured by the WH index) is slightly faster than typical MJO speeds. Additionally, the wave-1 structure typical of robust MJO activity was only evident for a few days during the past week, with more rapidly moving features impacting the pattern. The conclusion is that Kelvin wave activity is impacting the index and the pattern of convective activity across the tropics.

Hurricane Carlottta formed over the eastern Pacific during the past week. Typically, one hurricane forms during the month of June across the eastern Pacific. Tropical Storm Talim formed over the South China Sea, and is forecast to move northeast and impact Taiwan, China, and Japan.

The forecast calls for continued MJO activity (WH index outside of the unit circle), but with little propagation of the signal during week-1. Uncertainty about the propagation during week-2 is higher than week-1, as some of the dynamical models and many of the statistical models have faster eastward propagation, while some dynamical models have little to no propagation. The Global Hazards Outlook

reflects the consensus of little to no propagation during week-1, with some eastward movement during week-2.

During week-1, heavy rains are expected over southeast China, Taiwan, and Japan, near the forecast tracks of Tropical Storm Talim and Tropical Storm Guchol. Enhanced odds for above-average precipitation are also indicated over much of Central America, Texas, Florida, the Caribbean, western Africa, and Ethiopia. Across the Americas, the convectively active phase of the MJO is expected to combine with the active phase of a Kelvin wave to produce an extended period of wet weather. Along with the enhanced convection, the likelihood of tropical cyclogensis is also enhanced across the eastern Pacific, Gulf of Mexico, and western Caribbean. Across southeast Asia and the Maritime Continent, drier than average conditions are more likely.

The forecast fore week-2 is less certain than for week-1. Enhanced odds for above-average rainfall are indicated to continue over Mexico, portions of the southern U.S., Central America, and the Western Caribbean. Fluctations in the West African Monsoon and a slight eastward shift in the MJO signal should allow for moisture to reach inland a bit farther to the east than during week-1. Drier than average conditions are anticipated over much of southeast Asia and the Philippines.