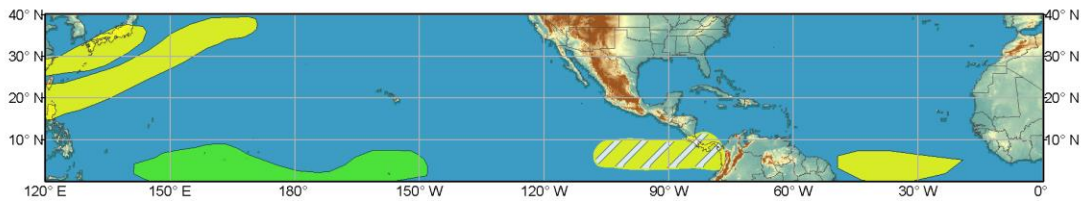




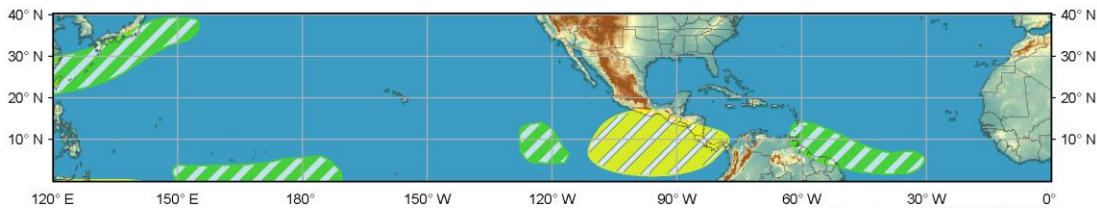
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jun 15 2019 - Jun 18 2019



Week 2 - Valid: Jun 19 2019 - Jun 25 2019



Confidence
High Moderate

Produced: 06/14/2019
Forecaster: MacRitchie

- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Prior TC Formation Outlook** Tropical cyclone outlook from previous release.
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



中央氣象局
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The MJO continues to move slowly over the Maritime Continent. Dynamical models forecast the MJO to weaken as it moves over the Maritime Continent during Week-2, but much of the weakening signal is probably because of interference with Kelvin and equatorial Rossby waves, as described below. Our thoughts on the progression of the MJO have not changed since Tuesday's discussion.

There have been a few tweaks to the GTH forecast compared to Tuesday in order to bring areas of above-average rainfall over the central Pacific and below-average rainfall over the eastern Pacific in-line with the latest model guidance. The deterministic GFS and GFS ensemble models predict a tropical cyclone to spin up about 10 degrees of longitude east of Guam during the beginning of Week-2, however there is no indication of this in the ECMWF and the GFS does not suggest that the storm's track will impact Guam. Confidence is insufficient for TC formation to include an associated on the forecast map at this time.

The original discussion from Tuesday follows:

The MJO has moved slowly during the past week and is still over the eastern Indian Ocean. Model guidance is in good agreement that the MJO will speed up and strengthen over the next few days and make its way across the Maritime Continent by the end of the Week-2 period. The anomalous convection over the Indian Ocean is currently enhanced by a superposition of the MJO, Kelvin, and equatorial Rossby waves; but this is expected to weaken as the higher frequency waves move out of the region. The MJO during the next couple of weeks is expected to be dominated by its upper-level circulation; the models predict that the MJO will project more strongly on the 200-hPa zonal wind field than the OLR field.

The location and strength of the MJO are likely to play an important role in the development of the monsoon over India during the next several weeks. Anomalously warm waters in the Arabian Sea have led to anomalous easterlies over the Indian Ocean and a significantly delayed monsoon onset. The CFS forecasts anomalous dryness to continue over India through Week-1 and most of Week-2, which suggests that the monsoon onset will be delayed further. Late in Week-2, and into Week-3, the CFS builds anomalous moisture over southern India. If correct, this would jibe with the MJO forecast since the MJO-scale dry signal over India should diminish as the MJO propagates over the Pacific.

Tropical cyclone Vayu is located off the west coast of India and forecast to move northward, hugging the Indian coast by the end of Week-1. Models suggest that the rain field around this cyclone will be narrow and not likely to produce significant rainfall over a large area. Elsewhere, no tropical cyclones are forecast to form during the next two weeks and below normal rainfall is forecast over the eastern Pacific during both Weeks 1 and 2.

The main features of the Week-1 forecast are enhanced rainfall west of India related to TC Vayu's track. Above normal temperatures and below normal rainfall are expected over much of India as the monsoon continues to be delayed. Above normal precipitation is expected over mostly over southern Myanmar as well. Elsewhere, below normal precipitation is expected over parts of the northwestern Pacific and Papua New Guinea and the northern Solomon Islands. Above normal rainfall is forecast across the equator in-line with above normal SSTs related to El Nino.

During Week-2 the area of below normal rainfall over India should shift northward as the monsoon slowly works its way northward in the wake of the MJO. Also related to the MJO, below normal rainfall is expected to continue over the southern Maritime Continent and above normal rainfall is expected over the central Pacific.

Forecasts over Africa are made in consultation with CPC's international desk and can represent local-scale conditions in addition to global-scale variability.