



Weeks 2-3 Global Tropics Hazards Outlook 5/13/2025

Adam Allgood NWS / NCEP / Climate Prediction Center

Outlook Review: TC development & anomalous precipitation during the past week

- With both ENSO and MJO incoherent, the overall precipitation pattern has been challenging to forecast
- Low-frequency enhancement was well forecast across the Maritime Continent south of the Equator
- A late season depression (32P) formed north of the Gulf of Carp (X – bottom graphic)







ENSO: (May 8, 2025 Update) next update on Thursday, June 12th

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored through the Northern Hemisphere summer 2025 (74% chance during June-August), with chances exceeding 50% through August-October 2025.

MJO and other subseasonal tropical variability:

- The upper-level pattern has exhibited a more coherent structure consistent with a Pacific MJO event; however, eastward propagation has not been established and other atmospheric fields remain incoherent and inconsistent with robust Pacific activity.
- RMM-index forecasts depict weak MJO evolution (ECMWF) or show high variability (GEFS) therefore the evolution of any intraseasonal signal is highly uncertain over the next few weeks.
- Due to the lack of coherent subseasonal and seasonal tropical convective signals, the GTH outlook relies heavily on a skill weighted consensus of dynamical model guidance.
- The main remaining low frequency signal appears to be supporting enhanced convection over portions of the Maritime Continent.

GTH Outlook:



Forecaster: Allgood

200-hPa Velocity Potential Anomaly Maps:

- Very rapid sign changes between late April and early May appear tied to convectively coupled Kelvin wave activity rather than a MJO response.
- Increasing incoherence is favored by mid-May as Kelvin wave activity becomes more decoupled from the lowfrequency signal over the Maritime Continent.
- Kelvin wave activity (or weak MJO activity per the objective filtering) may return to the East Pacific by Week-3.



RMM Index Observations & Forecasts:



- The CFS is most consistent with MJO evolution, and may be showing a broader signal evolving from Kelvin wave activity.
- The ECMWF ensemble members generally depict weak activity over the next few weeks.
- The GEFS has more amplified ensemble members, but there are large differences in phase among them.

Outgoing Longwave Radiation (OLR) Anomaly Time/Lon Plots:





Consolidated Probabilistic Precipitation: Weeks 2 & 3



Historical Precipitation Anomalies By MJO Phase:

AMJ MJO Composite: GPCP1DD (mm/day)







Phase 6



Phase 3



Phase 7



Phase 4



Phase 8





Historical TC Origin Anomalies By MJO Phase & Weeks 2+3 Genesis Climo:



Experimental

Tropical Cyclone Monitoring/Forecast: JTWC







15 Mar

15 Apr

01 Apr

01 May

15 May

-2 -3 -4 15 Jan

01 Feb

15 Feb

01 Mar

PNA Index: Observed & GEFS Forecasts

AO Index: Observed & GEFS Forecasts



Historical 500-hPa Height & U.S. Temperatures By MJO Phase:



-50 -40 -30 -20 -10 10 20 30 40 50

-2 -1.5 -1 -0.5 -0.25 0.25 0.5 1 1.5 2

Mean 500-hPa Height Anomaly Forecasts: Weeks 2+3



Official Temperature & Precipitation Forecasts:





Forecaster: Allgood