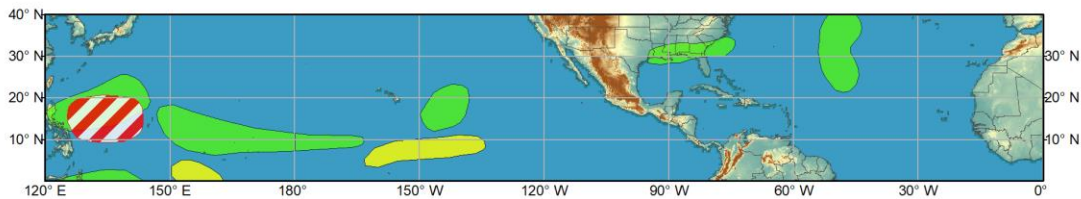




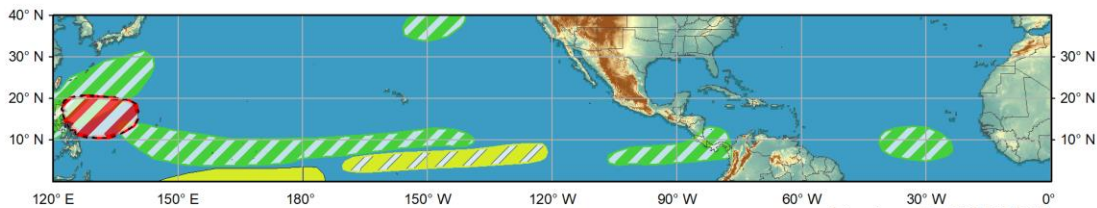
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Nov 28 2020 - Dec 01 2020



## Week 2 - Valid: Dec 02 2020 - Dec 08 2020



Confidence  
High Moderate

Produced: 11/27/2020  
Forecaster: Novella

- 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.



There has been little change to the MJO perspective since earlier this week. The enhanced phase of the MJO has shifted eastward over the eastern Indian Ocean during this past week and has entered phase 4 in RMM space. Although there was a brief uptick in amplitude observed in the RMM index recently, dynamical models continue to favor the weakening of the intraseasonal signal as most ensemble means remain within the RMM unit circle into early December. While several ensemble members in the GEFS, and few in the ECMWF maintain the possibility of some reemergence of the signal over the Maritime Continent by week-2, there remains much uncertainty with the predicted evolution of the MJO due to the overall tenuous signal and the large degree of spread among the ensemble members.

No new tropical cyclones (TC) have formed since Tuesday. Across the Atlantic, the National Hurricane Center (NHC) is continuing to monitor a potential disturbance located several hundred miles south of Bermuda with at least a 30% chance for formation during the next five days. Environmental conditions are expected to be generally unfavorable for development over the next several days, and there is not enough confidence to include as a formation area in the updated outlook. NHC is also monitoring another area of low pressure over the far eastern Atlantic which also might gain subtropical characteristics by early next week, but maintain a low chance of development and is omitted from

today's outlook. In the Caribbean, the last several runs of the deterministic GFS feature the development of a tropical low to the east of Nicaragua during the days 5-11 period. However, there is much less support in the ECMWF and probabilistic TC tools regarding this potential disturbance, so no corresponding formation area is posted.

There continues to be little to no support for TC formation across the eastern Pacific into early December. In the western Pacific, model guidance and TC tools continue to favor TC development in the Philippine Sea. However, a key change since the original outlook concerns the potential for earlier TC development in the region as suggested in the latest deterministic and ensemble guidance. To address this uncertainty, a moderate confidence area is added during the days 1-4 period and the moderate confidence area is maintained for the latter outlook period. Areas of enhanced and suppressed precipitation are updated to reflect the latest forecast TC tracks in addition to the latest guidance from the CFS and ECMWF models. For hazardous weather concerns during the next two weeks across the U.S., please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Outlook, and CPC's Week-2 Hazards Outlook.

----- Original Discussion from Tuesday, November 24, 2020 follows: -----

After a period of destructive interference between the MJO and La Niña over the Western Hemisphere earlier this month, the MJO became better organized and strengthened during mid-November. Upper-level velocity potential anomalies show a better defined wave-1 pattern, with the enhanced phase of the MJO propagating eastward over the Indian Ocean and a broad envelope of suppressed convection prevailing across much of the Western Hemisphere. However, the RMM index indicates the intraseasonal signal has decreased in amplitude during the past several days, while accelerating through phase 3 over the Indian Ocean and nearing phase 4 of the Maritime Continent. Objective decomposition of tropical modes of variability suggests this recent acceleration may be associated with a Kelvin wave currently traversing the Pacific. Consistent with previous guidance since last week, dynamical models suggest a continued weakening of the MJO as many models favor the intraseasonal signal to remain within the unit circle in RMM space during week-1 and week-2. Compared to the CFS and ECMWF, the GEFS continues to be most progressive with the signal, suggesting possible renewed MJO activity over the Maritime Continent during week-2. However, the large degree of spread among the ensemble members continues to limit forecast confidence on the predicted evolution of the MJO and its associated impacts on the extratropics.

Three tropical cyclones (TC) formed during the last seven days. In the East Pacific, TC Polo formed on 11/18 and peaked at 40kts before dissipating in open waters on 11/19. Across the eastern Hemisphere,

TC Nivar formed yesterday in the Bay of Bengal to the east of Sri Lanka (10N/84E). The Joint Typhoon Warning Center (JTWC) forecasts Nivar to gradually strengthen and track northwest into the Andhra Pradesh state of India by the start of the week-1 period. While Nivar is expected to dissipate after landfall, JTWC notes that the remnants of Nivar may track over the Arabian Sea, but maintain low chances for regeneration. Farther east, TC Gati formed in the Arabian Sea on 11/21 and made landfall as a Category 2 storm near Xaafuun, Somalia on 11/22. Remarkably, Gati strengthened from 40mph to 115mph over a 12-hour period prior to making landfall, and was the first Hurricane strength system on record to make landfall in Somalia, bringing heavy rainfall amounts, flooding and damages to infrastructure to the country.

Despite the uncertainty regarding the predicted evolution of the MJO, the enhanced phase of the MJO over the Indian Ocean is anticipated to favor increased chances of TC development. Both the GEFS and ECMWF ensembles have shown good continuity with an area of low pressure developing near (8S/90E) during week-1. With anomalously warm sea surface temperatures exceeding 1.5 degrees C in this region of the southern Indian Ocean, a moderate confidence of TC formation is posted in the outlook. Guidance also depicts some potential for TC formation to the northeast of Madagascar during week-1, however probabilistic TC tools are less supportive of this and a TC formation area is omitted in the outlook. In the Bay of Bengal, both the GEFS and the ECMWF model ensembles indicate an elevated potential for TC formation following the dissipation of TC Nivar late during week-1 and a moderate confidence region is added to the forecast. In the West Pacific, models favor a deepening area of low pressure over the Philippine Sea late in week-1 and into week-2. Although there is some uncertainty relative to the timing of potential formation, probabilistic TC tools show greater chances during the week-2 period and a moderate confidence area for TC development is added for week-2 to the east of the Philippines.

With the suppressed phase of the MJO forecast over the western Hemisphere, TC activity looks to quiet down across the East Pacific and the Atlantic into early December. The National Hurricane Center (NHC) is, however, monitoring an area of low pressure to the south of Bermuda with at least a 30% chance of formation during the next 5 days. There remains some uncertainty regarding whether this low merges or separates from a predicted frontal passage during week-1. This morning's GEFS and ECMWF ensembles depict the low remaining in the wake of the front, where it may possibly develop subtropical characteristics and linger over the Central Atlantic but there is not enough confidence to include it as a formation area in today's outlook. Beyond this potential disturbance, no additional TC activity is favored across the Atlantic for the remainder of the outlook period. In the East Pacific, there is little to no support for TC formation through early December.

The precipitation outlook during the next two weeks is based on the consensus among the CFS and ECMWF ensemble means, the low frequency state, MJO composites, and anticipated TC tracks. For temperatures, there are increased chances for excessive heat over southern Australia associated with a

mid-level ridge predicted by the models during week-1. The GEFS show widespread positive temperature departures of 8 to 12 degrees C, with daytime ensemble mean maximum temperatures approaching 45 degrees C over southeastern Australia. For hazardous weather concerns over the U.S. during the next two weeks, please refer to your local NWS Forecast Office, the Weather Prediction Center's Medium Range Hazards Forecast, and CPC's Week-2 U.S. Hazards Outlook. Forecasts over Africa are made in consultation with the International Desk at CPC, and can represent local-scale conditions in addition to global-scale variability.