Global Tropics Hazards And Benefits Outlook

12/28/2021

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Outline

1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts
Outlook Review

No TCs formed during the last week

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO: (December 9, 2021 Update)**

- **ENSO Alert System Status:** La Niña Advisory

- La Niña is favored to continue through the Northern Hemisphere winter 2021-22 (~95% chance) and transition to ENSO-neutral during the spring 2022 (~60% chance during April-June).

**MJO and other subseasonal tropical variability:**

- The MJO remains active, but has generally been fairly stagnant in the West Pacific during the past few weeks.

- Despite some indications of renewed intraseasonal activity, RMM forecasts generally favor the westward retreat with some weakening of the MJO signal over the Western Pacific during week-1. Renewed eastward propagation is possible later in week-2, but there is still much uncertainty given destructive interference with the background La Nina state in the outlook.

- The large scale environment is expected to be favorable for TC formation in the South Pacific, with reduced chances in the Indian Ocean and northwestern Pacific.

- Downstream impacts tied to the MJO also remain uncertain, as guidance continues to favor a negative Pacific North American (-PNA) pattern, suggestive of La Nina dominating the extratropical response over North America well into January.
Enhanced convection over the southwest Pacific, with enhanced convection also expanding over Africa in the wake of the MJO and increased upper level divergence.

Increased convection developed across the Central Pacific and Hawaii.

Incoherent pattern persists in late December. Strengthening suppressed conditions over Indian Ocean and enhanced convection returning over South Pacific.
The GEFS and CFS remains the most progressive on the near-term, but dynamical models generally favor the MJO signal either returning to or remaining in phase 7 during the next two weeks.

Ensemble spread remains high, with an increased number of members entering the RMM unit circle in the recent forecasts.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
A convectively coupled Kelvin wave is analyzed in the observed OLR field.

Rossby wave and MJO activity is coming through the filtering in the forecast OLR field.

Low frequency contours near the Date Line represents low frequency La Nina base state.

Suppressed convection looks to become established over the Indian Ocean.
Connections to U.S. Impacts
Since we are in an amplified, stable pattern today’s outlooks are likely to be similar.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Dec 29, 2021 - Jan 04, 2022

Week 2 - Valid: Jan 05, 2022 - Jan 11, 2022

Confidence
High     Moderate

Tropical Cyclone Formation
Development of a tropical cyclone (tropical depression - TD, or greater strength).

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.

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Forecaster: Novella

Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.