Global Tropics Hazards And Benefits Outlook
8/10/2021

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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

Lots of TC formations, no intense cyclones this week.

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO: (July 8, 2021 Update)**  
*next update on 12th of Aug. (stay tuned)!*

- ENSO Alert System Status: [La Niña Watch](#)

- ENSO-neutral is favored through the Northern Hemisphere summer and into the fall (51% chance for the August-October season), with La Niña potentially emerging during the September-November season and lasting through the 2021-22 winter (66% chance during November-January).

**MJO and other subseasonal tropical variability:**

- The MJO is active, with the enhanced phase crossing the Western Hemisphere (Atlantic and Africa).

- Interference from Rossby waves (and possibly Atlantic TC activity) may slow down the eastward propagation and amplify the signal over the next week.

- Resumed eastward propagation across the Indian Ocean is favored for Week-2.

- The current position of the MJO favors an increase in Atlantic tropical cyclone activity.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Aug 11, 2021 - Aug 17, 2021

Week 2 - Valid: Aug 18, 2021 - Aug 24, 2021

Confidence

Tropical Cyclone Formation
High Moderate
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.

Produced: 08/10/2021
Forecaster: Allgood

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.
Robust Wave-1 asymmetry very consistent with MJO (strong projection on CPC index), note northward displaced monsoon trough over the West Pacific.

Wave-2 asymmetry as a Kelvin wave ahead of the main MJO envelope crossed the Atlantic.

Enhanced phase now over the Western Hemisphere, note Rossby wave interference over the Maritime Continent.
GEFS and ECWMF in good agreement supporting slower propagation and amplification during Week-1, followed by eastward propagation across the I.O. during Week-2.

Both models have ensemble members returning to Phase-1, possibly in response to TC activity or strong Rossby wave activity.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
MJO activity apparent in the filtering during late June and early July

Kelvin wave activity over the East Pacific may have helped TC formation.

Rossby wave activity is not coming through the filtering, but is apparent over the Maritime Continent.
August Tropical Storm Formation by MJO phase

Phase 1 (101 days) 38 storms
Phase 2 (79 days) 31 storms
Phase 3 (51 days) 27 storms
Phase 4 (40 days) 12 storms
Phase 5 (117 days) 40 storms
Phase 6 (101 days) 50 storms
Phase 7 (43 days) 17 storms
Phase 8 (26 days) 17 storms
Null (466 days) 189 storms
GEFS-based tropical cyclone tracking tool from CWB Taiwan
Connections to U.S. Impacts
PNA: Observed & ENSM forecasts

500mb Z (Obs: 13Apr2021 - 10Aug2021) PNA index
mean=0.1026

500mb Z (7day Forecast) PNA index
mean=0.0785 cor(w/obs)=0.8876

500mb Z (10day Forecast) PNA index
mean=-0.0366 cor(w/obs)=0.7390

500mb Z (14day Forecast) PNA index
mean=-0.2098 cor(w/obs)=0.4280
AO: Observed & ENSM forecasts

1000mb Z (Obs: 13Apr2021 – 10Aug2021)  AD index
mean=0.1813

1000mb Z (7day Forecast)  AD index
mean=0.0535  cor(w/obs)=0.7743

1000mb Z (10day Forecast)  AD index
mean=0.0551  cor(w/obs)=0.4834

1000mb Z (14day Forecast)  AD index
mean=0.1789  cor(w/obs)=0.3105
Today’s manual blend is showing a stronger signal favoring below-normal temperatures for the West.
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- **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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