Global Tropics Hazards And Benefits Outlook

12/25/2018

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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

Week 1 - Valid: Dec 19, 2018 - Dec 25, 2018

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Week 2 - Valid: Dec 19, 2018 - Dec 25, 2018

7-Day Average OLR Anomaly

2018/12/17 - 2018/12/23

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO: (July 12, 2018 Update)**
- ENSO Alert System Status: El Niño Watch

- El Niño is expected to form and continue through the Northern Hemisphere winter 2018-19 (~90% chance) and through spring (~60% chance).

**MJO and other subseasonal tropical variability:**
- The MJO remained active, with the enhanced phase currently over the Maritime Continent.

- Strong Rossby wave activity over the Indian Ocean and Maritime Continent has slowed the eastward propagation of the MJO signal during the past week.

- Dynamical model and statistical guidance favor continued MJO activity, with the enhanced phase propagating across the Pacific over the next two weeks.

**Extratropics:**
- Pacific MJO events teleconnect well with the midlatitude pattern over the Northern Hemisphere, and tend to favor a transition towards a negative AO pattern and an increased potential for cold air outbreaks over the central or eastern CONUS.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Dec 26, 2018 - Jan 01, 2019

Week 2 - Valid: Jan 02, 2019 - Jan 08, 2019

Produced: 12/25/2018
Forecaster: Allgood

Tropical Cyclone Formation
- High: Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Moderate: 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, 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.
Wave-2 asymmetry as other modes, including possibly the low frequency state, interfered with the MJO signal.

By mid-December, the upper-level field became increasingly consistent with canonical MJO anomalies.

The upper-level field remains organized, with a Wave-1 pattern indicative of continued MJO activity.
GEFS – very high amplitude Pacific MJO event.
ECMWF – lower amplitude Pacific MJO event, with faster propagation.
JMA – Week-1 similar to ECMWF.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
Interactions between the **MJO** and **Rossby waves** are the dominant influencer of the large scale convective pattern.

**Low-frequency pattern** less of an influence.
December Tropical Storm Formation by MJO phase

Phase 1 (46 days) 7 storms

Phase 2 (67 days) 11 storms

Phase 3 (101 days) 16 storms

Phase 4 (72 days) 13 storms

Phase 5 (73 days) 14 storms

Phase 6 (69 days) 15 storms

Phase 7 (103 days) 19 storms

Phase 8 (76 days) 9 storms

Null (416 days) 52 storms
Connections to U.S. Impacts
Week 2 – Temperature and Precipitation
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Dec 26, 2018 - Jan 01, 2019

Week 2 - Valid: Jan 02, 2019 - Jan 08, 2019

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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