Global Tropics Hazards And Benefits Outlook

9/24/2019

Adam Allgood

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

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
ENSO: (July 12, 2018 Update)
• ENSO Alert System Status: Not Active

• ENSO-neutral is favored during the Northern Hemisphere fall 2019 (~75% chance), continuing through spring 2020 (55-60% chance).

MJO and other subseasonal tropical variability:
• The MJO amplified during the past week, moving from the Pacific to the Western Hemisphere.

• Model guidance shows the MJO signal stalling and weakening over the Western Hemisphere. This may be due to competing signals: The MJO propagating to the Indian Ocean/Maritime Continent and the developing stationary atmospheric response to the positive Indian Ocean Dipole (IOD) event.

Extratropics:
• The MJO/IOD constructive interference may help keep the window open for Atlantic MDR tropical cyclone development over the next two weeks.

• A trough/ridge pattern over the western/eastern CONUS is typical this time of year during a Western Hemisphere MJO event. This pattern may change during October.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Sep 25, 2019 - Oct 01, 2019

Week 2 - Valid: Oct 02, 2019 - Oct 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.

Produced: 09/24/2019
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 wavenumber-1 asymmetry reflects a Pacific MJO event. Low-level fields were not in phase (weak RMM)

As the intraseasonal signal crossed the Pacific, a robust low-level westerly wind burst developed, and ITCZ activity picked up.

The upper-level enhanced signal more recently was over the Western Hemisphere.
The RMM index is currently highly amplified. The GEFS and ECMWF show little eastward propagation, with gradual weakening. A developing +IOD atmospheric response would favor stationary enhanced (suppressed) convection over the western Indian Ocean (eastern IO/Maritime Continent), which may be contributing to the RMM solutions.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
MJO, while not analyzed by the filter, does show up somewhat in the wide band OLR T-Lon plot.

Low-frequency pattern reflecting positive IOD shows up in the obs and strengthens in the CFS.
September Tropical Storm Formation by MJO phase

- Phase 1 (81 days) 31 storms
- Phase 2 (122 days) 56 storms
- Phase 3 (51 days) 16 storms
- Phase 4 (70 days) 30 storms
- Phase 5 (106 days) 45 storms
- Phase 6 (61 days) 27 storms
- Phase 7 (39 days) 22 storms
- Phase 8 (67 days) 29 storms
- Null (393 days) 169 storms
Connections to U.S. Impacts
CFS 500hPa Height Anomalies Issued 23Sep2019
Week-3/4 Forecast Ending 22Oct2019
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Sep 25, 2019 - Oct 01, 2019

Week 2 - Valid: Oct 02, 2019 - Oct 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.

Produced: 09/24/2019
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.