Global Tropics Hazards And Benefits Outlook

12/10/2019

Anthony Artusa

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

- Pawan (45 mph) (Somalia)
- * Deep Depr ARB 06
- * Deep Depr ARB 08
- * Belna (90-100 mph) (Madagascar)

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO:** (Nov 14, 2019 Update)
- ENSO Alert System Status: **Not Active**

- ENSO-neutral is favored during Northern Hemisphere winter 2019-20 (~70% chance) continuing through spring 2020 (60-65% chance).

**MJO and other subseasonal tropical variability:**
- The MJO remained weak, and enhanced phase was located over the western Indian Ocean. Competing modes of variability over this region. Constructive interference with positive IOD (Indian Ocean Dipole)

- Dynamical models indicate a weak signal throughout the next 2 weeks, though the enhanced phase may be located anywhere between Phases 1-6.

**Extratropics:**
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by MJO activity.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Dec 11, 2019 - Dec 17, 2019

Week 2 - Valid: Dec 18, 2019 - Dec 24, 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: 12/10/2019
Forecaster: Artusa

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-1 with enhanced DIV over Eastern Hemisphere; CON over Western Hemisphere.

Noisy VPA pattern globally, but good constructive interference between MJO/IOD over Indian Ocean/Maritime Continent.

Similar to previous week, though not as amplified in Phases 2/3/4 region.
Wheeler-Hendon based analyses of model forecasts are in poor agreement regarding the forecast phase of the MJO (anywhere between Phases 1-6), but in good agreement on a weak MJO signal.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
MJO
- equatorial Rossby wave
- Kelvin wave
- Low frequency signal (IOD)
Connections to U.S. Impacts
Week-2

0z EC-ENS

GFS-Superens
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

**Week 1 - Valid: Dec 11, 2019 - Dec 17, 2019**

**Week 2 - Valid: Dec 18, 2019 - Dec 24, 2019**

Produced: 12/10/2019
Forecaster: Artusa

**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.

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.