Global Tropics Hazards And Benefits Outlook

2/4/2020

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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

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO**: (January 9, 2020 Update)

- ENSO Alert System Status: Not Active

- ENSO-neutral is favored through Northern Hemisphere spring 2020 (~60% chance), continuing through summer 2020 (~50% chance).

**MJO and other subseasonal tropical variability:**

- The Indian Ocean Dipole remains near neutral. However there is a +IOD-esque pattern over the Indian Ocean.

- The MJO is weak and model agreement is poor regarding its future.
  - GEFS is the most bullish model: moderate Phase 5 during Week-1 and very strong Phase 6 during Week-2.
  - ECMWF forecasts a weak Phase 5 MJO instead. This seems more realistic than GEFS.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 05, 2020 - Feb 11, 2020

Week 2 - Valid: Feb 12, 2020 - Feb 18, 2020

Produced: 02/04/2020
Forecaster: MacRitchie

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.
Wave-2 pattern throughout the globe. Enhanced convection over the eastern Indian Ocean.

Wave-2 pattern breaks down.

Strong dipole pattern over the Indian Ocean (probably related to Kelvin wave).
GEFS forecasts very strong MJO development during Weeks 1-2.

ECMWF and JMA forecast a more measured response.

Does the forecast discrepancy have something to do with mid-latitude/tropical interaction?
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.

If GEFS is correct, this is what we might expect.
January’s **MJO** signal is weak in OLR field but stronger in velocity potential.

**Rossby** and **Kelvin** wave activity over Indian Ocean.

**Low frequency** contours from +IOD are very weak but still present in OLR field.
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Connections to U.S. Impacts
Week 2 – Temperature and Precipitation

8-14 DAY OUTLOOK TEMPERATURE PROBABILITY
MADE 3 FEB 2020
VALID FEB 11 – 17, 2020

8-14 DAY OUTLOOK PRECIPITATION PROBABILITY
MADE 3 FEB 2020
VALID FEB 11 – 17, 2020
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