Global Tropics Hazards And Benefits Outlook

2/25/2020

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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

TC Ferdinand – 2/23

TC Esther - 2/23

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO: (February 13, 2020 Update)**
- ENSO Alert System Status: Not Active
  - ENSO-neutral is favored during the Northern Hemisphere spring 2020 (~60% chance) continuing through summer 2020 (~50% chance).

**MJO and other subseasonal tropical variability:**
- The MJO is weak in an RMM sense.
- There is a weak, but coherent, upper-level MJO signal, evident in zonal wind and OLR fields.
- Models indicate that the MJO may strengthen during the end of Week-1/early Week-2 over the Maritime Continent.
- There is also important atmospheric Kelvin and equatorial Rossby wave activity over the western Indian Ocean.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 26, 2020 - Mar 03, 2020

Week 2 - Valid: Mar 04, 2020 - Mar 10, 2020

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: 02/25/2020
Forecaster: MacRitchie

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 pattern anchored by convection in the Indian Ocean and north of Australia.

The enhanced convection spreads eastward over the SPCZ. Suppressed convection doesn’t move much.

Enhanced convection over the western Indian Ocean, associated with tropical waves, helps to anchor the Wave-1 pattern.
The ECMWF forecasts the most coherent MJO to develop during late Week-1/early Week-2.

The GEFS and JMA have somewhat unconventional forecasts, but both hint at the fact that enhanced convection might develop over the Maritime Continent.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.

Possibly late Week-1/early Week-2
**MJO** zonal wind field over the western Indian Ocean. **Rossby** and **Kelvin wave** constructively interfere with **MJO** over western Indian Ocean. **Low frequency** footprints persist near the Date Line.
Update from last week:
- westerly wind burst continues along the Date Line.
- Starting to see some impact of these persistent westerly anomalies on ocean heat content.
7-day CHI200 with CFS forecasts

Contours at -2, -6 x10^6 m2 s-1

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February Tropical Storm Formation by MJO phase

Phase 1 (41 days) 7 storms

Phase 2 (51 days) 7 storms

Phase 3 (89 days) 16 storms

Phase 4 (82 days) 21 storms

Phase 5 (70 days) 14 storms

Phase 6 (92 days) 12 storms

Phase 7 (125 days) 24 storms

Phase 8 (84 days) 13 storms

Null (308 days) 60 storms
Connections to U.S. Impacts
Highest daily value on record = 6.34
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