Global Tropics Hazards And Benefits Outlook

5/2/2017

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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
Synopsis of Climate Modes

**ENSO:**
- ENSO-neutral conditions are favored to continue through at least the Northern Hemisphere spring 2017, with increasing chances for El Niño development by late summer and fall (April 13 assessment).

  - The next ENSO diagnostic discussion will be released on May 11.

**MJO and other subseasonal tropical variability:**
- Both the RMM-based and CPC velocity potential based MJO indices showed increased amplitude during the last week, with eastward propagation not robustly established.

  - Dynamical models are split, with the GFS depicting a weakening signal and no propagation, and the ECMWF showing a coherent MJO event entering the Indian Ocean.

**Extratropics:**
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be influenced by the MJO.

  - The intraseasonal signal (or convection generated by a recent Kelvin Wave) may help promote a pre-season tropical cyclone formation over the East Pacific.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 03, 2017 - May 09, 2017

Week 2 - Valid: May 10, 2017 - May 16, 2017

Produced: 05/02/2017
Forecaster: Allgood

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.
Coherent spatial pattern in mid-April was reflecting a robust Kelvin Wave.

A second Kelvin Wave crossed the Pacific in late April.

Enhanced large-scale upper-level divergence remains over the East Pacific. Developing intraseasonal signal?
GEFS and UKMET show little eastward propagation.

ECMWF depicts a coherent MJO event entering the Indian Ocean during Week-2.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
• Low frequency signal still apparent (slow eastward shift?)

• Several Kelvin waves traversed the Pacific during April – aliasing as slower intraseasonal signal?

• Rossby wave activity over the West Pacific/Maritime Continent
May Tropical Storm Formation by MJO phase

Phase 1 (85 days) 7 storms
Phase 2 (76 days) 5 storms
Phase 3 (73 days) 9 storms
Phase 4 (65 days) 9 storms
Phase 5 (66 days) 9 storms
Phase 6 (67 days) 10 storms
Phase 7 (111 days) 15 storms
Phase 8 (111 days) 11 storms
Null (349 days) 33 storms
CFSv2 45-Day Forecasts
Week 2: 0509–0515

a) Forecast Tracks

b) Filtered Tracks

c) Track Anomaly

d) False Alarm Climatology
TROPICAL CYCLONE FORMATION ALERT

UTC 21: 012100
011800E POSITION: NEAR 12.7S 170.2E
MOVING EAST-SOUTHEAST AT 06 KNOTS
MAXIMUM SUSTAINED WINDS: 25 TO 30 KNOTS
Connections to U.S. Impacts
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Confidence
High
Moderate

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