Global Tropics Hazards And Benefits Outlook

4/5/2022

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

X = Tropical Storm Fili (Coral Sea)

Cool shading - More clouds/rain

Warm shading - Less clouds/rain

NOAA/PSL Base Period: 1981-2010
**Synopsis of Climate Modes**

**ENSO: (March 10, 2022 Update) next update on 14th of Apr.**

- ENSO Alert System Status: [La Niña Advisory](#)

- La Niña is favored to continue into the Northern Hemisphere summer (53% chance during June-August 2022), with a 40-50% chance of La Niña or ENSO-neutral thereafter.

**MJO and other subseasonal tropical variability:**

- The MJO remains weak after enhanced convection failed to cross the Pacific, but the upper-level signature remains fairly robust.

- Warm equatorial SSTs near the western coast of South America are helping to generate enhanced convection and an enhanced East Pacific ITCZ.

- Dynamical models favor a new intraseasonal signal developing and moving from the Maritime Continent quickly to the West Pacific. This is out of phase with the previous MJO event and may be partly tied to anticipated tropical cyclone activity.

- Should renewed MJO activity over the West Pacific or substantial tropical cyclone activity generate westerly wind bursts, a downwelling oceanic Kelvin wave may be initiated that could begin weakening the ongoing La Niña event.
Week 1 - Valid: Apr 06, 2022 - Apr 12, 2022

Week 2 - Valid: Apr 13, 2022 - Apr 19, 2022

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: 04/05/2022
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.
Coherent Wave-1 upper-level VP pattern is typical of robust MJO events. The convective response appears fairly weak in comparison.

Wave-1 pattern continues with evidence of interference from Kelvin wave activity (near the Prime Meridian) and the Pacific La Niña.

Wave-2 pattern as widespread convection persists over the Maritime Continent while the remnant MJO crosses the Western Hemisphere.
GEFS and ECWMF both depict some enhancement potential over the West Pacific, with the ECMWF more progressive (may be keying in on the CCKW currently over Africa).

West Pacific tropical cyclone activity may be playing a role in the GEFS solutions.
Average Conditions when the MJO is present

Note: April is an “in-between” month with regard to these composites

CAVEAT: These panels are representative of robust MJO events.
MJO activity is depicted by the filtering algorithm over the Maritime Continent, with Rossby wave activity also prominent.

Kelvin wave activity is coupled with convection near the Prime Meridian.

Low frequency contours depict ENSO cold conditions, and are currently the most prominent signal.
April Tropical Storm Formation by MJO phase

Phase 1 (70 days) 7 storms
Phase 2 (66 days) 4 storms
Phase 3 (68 days) 4 storms
Phase 4 (85 days) 17 storms
Phase 5 (77 days) 12 storms
Phase 6 (66 days) 8 storms
Phase 7 (87 days) 8 storms
Phase 8 (76 days) 7 storms
Null (360 days) 45 storms
Connections to U.S. Impacts
Warm east, cool west
Fairly amplified pattern, potential for much-above average temperatures early in the period for the East.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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