Global Tropics Hazards And Benefits Outlook

2/22/2022

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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

Latest TCs

X = Emnati (2/16)
(Southern Indian Ocean)

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO: (February 10, 2022 Update)**

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

- La Niña is likely to continue into the Northern Hemisphere spring (77% chance during March-May 2022) and then transition to ENSO-neutral (56% chance during May-July 2022).

**MJO and other subseasonal tropical variability:**

- The MJO remains organized, but has been slow to continuously propagate eastward across the Indian Ocean during the past week.

- RMM forecasts favor the MJO to propagate eastward into the Maritime Continent, where there are differences among dynamical models in regards to the evolution and amplitude of the intraseasonal signal during the next two weeks.

- The enhanced phase of the MJO is expected to contribute to tropical cyclone (TC) activity over the southern Indian Ocean and South Pacific.

- Constructive interference with the low frequency footprint remains likely, with an anticipated extratropical response typical of La Niña downstream over the mid-latitudes by early March.
Week 1 - Valid: Feb 23, 2022 - Mar 01, 2022

Week 2 - Valid: Mar 02, 2022 - Mar 08, 2022

Production: 02/22/2022
Forecaster: Novella

Confidence

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.
A wave-1 spatial pattern in the velocity potential field developed in early February, with signs of a more coherent MJO emerging.

Enhanced convection persists west of the Date Line, particularly across the eastern Indian Ocean; convection remains suppressed over much of the Western Hemisphere.

Enhanced (suppressed) upper-level conditions remain predominately anchored over the eastern (western) Hemisphere indicative of little eastward propagation of the MJO during the past week.
The ECMWF and GEFS ensembles depict eastward propagation of the MJO into the Maritime Continent, but differ in regards to its amplitude during the next two weeks.

Similar to last week, the JMA remains an outlier as it favors little to no eastward propagation of the MJO.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
**Rossby** Wave activity contributed to the convective pattern over the Indian Ocean since early February.

**MJO** activity is coming through the filtering over the Indian Ocean and Maritime Continent, which is expected to constructively interfere with the enhanced convective footprint tied to La Nina.

**Low frequency** suppressed convection remains apparent along and to the west of the Date Line, where there is the potential for destructive interference with the MJO later in March.
February Tropical Storm Formation by MJO phase

Phase 1 (41 days) 7 storms
Phase 4 (32 days) 21 storms
Phase 7 (125 days) 24 storms
Phase 2 (51 days) 7 storms
Phase 5 (70 days) 14 storms
Phase 8 (84 days) 13 storms
Phase 3 (89 days) 16 storms
Phase 6 (92 days) 19 storms
Null (308 days) 60 storms
TC 13S "EMNATI"

ISSUE TIME: 22/1800Z

PRODUCT OF JTWC/SATOPS

TC development unlikely within 24 hours

TC development likely, but expected to occur beyond 24 hours

TC development likely within 24 hours (Reference TCMC)

MONITORING FOR POTENTIAL TRANSITION TO TC

Invest label color denotes tropical transition probability

TROPICAL CYCLONE (REFERENCE WARNING)
Connections to U.S. Impacts
Mid-level pattern change expected late in week-1 / early week-2, so outlooks are likely to be different today.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 23, 2022 - Mar 01, 2022

Week 2 - Valid: Mar 02, 2022 - Mar 08, 2022

Produced: 02/22/2022
Forecaster: Novella

Tropical Cyclone Formation
- High: Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Moderate: Weekly total rainfall in the upper third of the historical range.

Above-average rainfall
- Weekly total rainfall in the lower third of the historical range.

Below-average rainfall
- 7-day mean temperatures in the upper third of the historical range.

Above-normal temperatures
- 7-day mean temperatures in the lower third of the historical range.

Below-normal temperatures

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