Global Tropics Hazards And Benefits Outlook
9/7/2021

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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 formed since 8/25
- Ida (8/26)
- Nora (8/25)
- Kate (8/27)
- Julian (8/28)

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

ENSO: (August 12, 2021 – Next update – Sept 9)
• ENSO Alert System Status: La Niña Watch

• ENSO-neutral is favored for the remainder of the Northern Hemisphere summer and probabilities of La Niña increasing to 60 percent by September-October-November.

MJO and other subseasonal tropical variability:

• The MJO continues to be disorganized following a period of interference with other modes of tropical variability. RMM index analysis shows the core MJO signal emerging over the Maritime Continent.

• There are indications in the RMM dynamical models forecasts for renewed eastward propagation of the MJO, but differ in regards to its evolution and strength.

• Model support tropical cyclone activity in the eastern Pacific and Atlantic is weak.
  • East Pacific - Early in Week-1 near the tip of Baja California.
  • Atlantic – later week-1 near Africa, weak signals over the Gulf of Mexico throughout.
  • West Pacific – 2 current systems, then over SCS in Week-2.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Sep 08, 2021 - Sep 14, 2021

Week 2 - Valid: Sep 15, 2021 - Sep 21, 2021

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: 09/07/2021
Forecaster: Rosencrans

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.
The pattern became much less coherent, wrt MJO during late Aug.

Near the end of August, the pattern became more coherent. Upper-level pattern showed two centers of action associated with the stalled MJO envelope over Indian Ocean and a Kelvin Wave over the Americas / Atlantic.

Recently, the Kelvin wave moved eastward and pattern is getting closer to Wave-1 with notable divergence over the IO and MC.
During Week-1, the apparent westward propagation is likely from MJO/KW interaction and westward moving TCs over the West Pacific. Most models indicate a renewed eastward propagation during later Week-1, though the eventual strength of the MJO is very uncertain in Week-2. The GEFS is an outlier to the strong side.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
MJO activity is still evident, though the low frequency signal and Kelvin wave activity are interfering.

MJO and KW activity may have contributed to tropical cyclone formations over the West Pacific.
September Tropical Storm Formation by MJO phase

Phase 1 (81 days) 31 storms
Phase 4 (70 days) 30 storms
Phase 7 (38 days) 22 storms
Phase 2 (127 days) 50 storms
Phase 5 (51 days) 27 storms
Phase 8 (57 days) 29 storms
Phase 3 (51 days) 16 storms
Phase 6 (38 days) 16 storms
Connections to U.S. Impacts
Week 2 – Temperature and Precipitation
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