Global Tropics Hazards And Benefits Outlook

7/4/2017

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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
Outlook Review

TS Nanmadol
Peak: 60 mph
July 2 - present
Synopsis of Climate Modes

**ENSO:**
• ENSO-neutral is favored (50-55%) through Northern Hemisphere fall 2017.
• The next ENSO diagnostic discussion release will be next Thursday (13 July).

**MJO and other subseasonal tropical variability:**
• The RMM index shows continued weakness of the MJO, while overall tropical convective anomalies are weak and fairly incoherent.

• Low frequency enhancement of convection is stationary over the Maritime Continent, while another region has drifted slowly eastward from near the Prime Meridian in late April to ~140W at present (too slow to be considered the MJO).

• Ensemble guidance is mixed regarding the intraseasonal state of the global tropics, but consistent in not forecasting an emerging MJO signal over the coming two weeks.

**Extratropics:**
• The extended range temperature and precipitation forecasts for the extratropics and U.S. are not likely to be impacted by MJO activity, but could be influenced by tropical cyclone activity (i.e. recurving Tropical Storm Nanmadol).
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jul 05, 2017 - Jul 11, 2017

Week 2 - Valid: Jul 12, 2017 - Jul 18, 2017

Confidence

Tropical Cyclone Formation
High
Moderate 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: 07/04/2017
Forecaster: D.Harnos

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.
Pattern not consistent with MJO.

High wave number, not consistent with MJO. Highlights other modes of variability.

Up to a wave-5 pattern, inconsistent with organized MJO. Lower frequency signals apparent over Maritime Continent and entering East Pacific.
GEFS loops back towards a signal emerging over the western Indian Ocean. This signal appears tied to the changing low frequency state, rather than intraseasonal activity.

ECMWF shows weak intraseasonal signal drifting slowly eastward toward Maritime Continent.

JMA forecasts uncharacteristic westward propagation of a weak signal.
The **Low-frequency pattern** is stationary and enhancing convection over Maritime Continent, with another signal pushing eastward into the E. Pacific.

A series of **equatorial Rossby waves** are forecast to suppress/enhance convection across the West Pacific, but the CFS has a tendency to overdo these features.
Five-Day Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida

0-48 hrs: 70%
5 days: 80%

Graphical Tropical Weather Outlook
National Hurricane Center Miami, Florida

0-48 hrs: ~0%
5 days: 70%

0-48 hrs: ~0%
5 days: 20%
Days 1-5

Consensus-based Probability (%) of TC genesis using deterministic models: GFS, NAVGEM, CMC, ECMWF

For forecasts during the 00–120h period from initial time = 2017070400

- **●** = position at 00 or 12 UTC
- Forecast hour shown at beginning of each track is first lead time the storm was detected in model
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Connections to U.S. Impacts
AO: Observed & ENSM forecasts

1000mb Z (Obs: 07Mar2017 – 04Jul2017)  AD index
mean=0.2429

1000mb Z (7day Forecast)  AD index
mean=0.0982  cor(w/obs)=0.8223

1000mb Z (10day Forecast)  AD index
mean=-0.0995  cor(w/obs)=0.6029

1000mb Z (14day Forecast)  AD index
mean=-0.1761  cor(w/obs)=0.4508
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