Global Tropics Hazards And Benefits Outlook

1/2/2018

Dan Harnos

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

W. Pac: TD-1 1/1-Present

S. Ind: TS Hilda 12/27-12/28

Cool shading
More clouds/rain

Warm shading
Less clouds/rain
Synopsis of Climate Modes

**ENSO:**
- ENSO Alert System Status: *La Niña Advisory*
- La Niña is likely (exceeding ~80%) through the Northern Hemisphere winter 2017-18, with a transition to ENSO-neutral most likely during the mid-to-late spring.

**MJO and other subseasonal tropical variability:**
- The active phase of the MJO recently crossed Africa and has reached the Indian Ocean.
- Dynamical models portray eastward propagation of the MJO envelope across the Indian Ocean the next two weeks, after a brief delay due to equatorial Rossby wave activity near the start of the forecast period.

**Extratropics:**
- Robust circulation responses across North America from MJO presence over the Indian Ocean are fairly common during boreal winter. However, dynamical model guidance indicates that the forecast pattern is unlikely to match typical expectations of such a scenario (troughing over Alaska and the West, ridging over the East), suggesting other modes of variability may be driving the observed circulation.
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

## Week 1 - Valid: Jan 03, 2018 - Jan 09, 2018

![Map of tropical regions with various weather patterns marked on a world map.](map1.png)

## Week 2 - Valid: Jan 10, 2018 - Jan 16, 2018

![Map of tropical regions with various weather patterns marked on a world map.](map2.png)

### Confidence

<table>
<thead>
<tr>
<th><strong>Tropical Cyclone Formation</strong></th>
<th>High</th>
<th>Moderate</th>
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</thead>
<tbody>
<tr>
<td><strong>Above-average rainfall</strong></td>
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<tr>
<td><strong>Below-average rainfall</strong></td>
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<tr>
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</tbody>
</table>

- **Development of a tropical cyclone** (tropical depression - TD, or greater strength).
- **Weekly total rainfall** in the upper third of the historical range.
- **Weekly total rainfall** in the lower third of the historical range.
- **7-day mean temperatures** in the upper third of the historical range.
- **7-day mean temperatures** in the lower third of the historical range.

**Produced: 01/02/2018**

**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.
Constructive interference between a Rossby wave and the MJO over the West Pacific yielded a more organized response.

Weaker projection as the MJO traverses the Western Hemisphere and interferes with the base state.

Reversion to wave-1 structure with enhanced convection over Africa and the Indian Ocean.
MJO signal forecast to weaken and stagnate initially (tied to Rossby wave activity), before reaching the eastern Indian Ocean during Week-2. The faster ECMWF solution approaches the Maritime Continent.

Note: These are 1-day old.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
**MJO** pushing into the Indian Ocean. **Equatorial Rossby wave activity** is favored near 90W, that would slow the RMM index progression.

**Low frequency** La Niña footprint remains anchored near the Date Line.
TROPICAL CYCLONE FORMATION ALERT

WAK/21 FCTN 020930
020600Z POSITION: NEAR 15.5S 54.7E
MOVING WESTWARD AT 15 KNOTS
MAXIMUM SUSTAINED WINDS: 25 TO 28 KNOTS
Connections to U.S. Impacts
Today: Likely warmer out west, as models favor more ridging.
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Week 2 - Valid: Jan 10, 2018 - Jan 16, 2018

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.

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