Global Tropics Hazards And Benefits Outlook

1/23/2018

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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

Cyclone Berguitta had already formed

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 (~85-95%) through Northern Hemisphere winter, with a transition to ENSO-neutral expected during the spring.

**MJO and other subseasonal tropical variability:**
- The MJO remained active, with the enhanced phase now over the Maritime Continent.
- Constructive interference with the La Niña base state is resulting in an amplified anomaly pattern.
- Dynamical and statistical models strongly favor continued propagation to the West Pacific by Week-2. Longer range models (ECMWF) show an amplified signal over the Western Hemisphere during Weeks 3-4.
- Tropical cyclone development over the Indian Ocean/Maritime Continent may slow the propagation as depicted on the RMM index.

**Extratropics:**
- This MJO event has teleconnected well with the North American longwave pattern, and will likely continue to play a role. A West Pacific MJO event may help bring a pattern change in early to mid-February, with ridging (troughing) over western (eastern) North America.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 24, 2018 - Jan 30, 2018

Week 2 - Valid: Jan 31, 2018 - Feb 06, 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.

Produced: 01/23/2018
Forecaster: Allgood/MacRitchie

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.
Indian Ocean MJO event, with enhanced convection over South America disrupting the suppressed phase.

Increasingly organized upper-level response as the MJO began propagating over the Maritime Continent.

Continuation of the organized pattern, with some destructive interference between KWs ahead of the MJO envelope and the low frequency Pacific suppression.
Dynamical models depict robust MJO propagation.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
Previous MJO event disrupted the La Niña base state (December)

Current MJO currently constructively interfering with the base state. May cause eastward shift in the enhanced/suppressed envelopes.
January Tropical Storm Formation by MJO phase

Phase 1 (67 days) 14 storms
Phase 4 (69 days) 11 storms
Phase 7 (81 days) 11 storms

Phase 2 (101 days) 15 storms
Phase 5 (67 days) 8 storms
Phase 8 (105 days) 16 storms

Phase 3 (112 days) 20 storms
Phase 6 (68 days) 18 storms
Null (364 days) 67 storms
Connections to U.S. Impacts
AO: Observed & ENSM forecasts

1000mb Z (Obs: 26Sep2017 - 23Jan2018)  AD index
mean=0.0247

1000mb Z (7day Forecast)  AD index
mean=-0.2589  cor(w/obs)=0.8467

1000mb Z (10day Forecast)  AD index
mean=-0.4491  cor(w/obs)=0.6082

1000mb Z (14day Forecast)  AD index
mean=-0.7102  cor(w/obs)=0.2834
RMM Phase 7 200-hPa Height Lagged Composite (djf)

Lag=0

Lag=1

Lag=2

Lag=3

Lag=4

Lag=5
Week 2 – Temperature and Precipitation

8-14 DAY OUTLOOK TEMPERATURE PROBABILITY
MADE 22 JAN 2018
VALID JAN 30 - FEB 05, 2018
DASHED BLACK LINES ARE CLIMATOLOGY (DEC F) SHAD ED AREAS ARE FCC VALUES ABOVE 90% OR BELOW 10% NORM AL SHAD ED AREAS ARE NEAR-NORMAL

8-14 DAY OUTLOOK PRECIPITATION PROBABILITY
MADE 22 JAN 2018
VALID JAN 30 - FEB 05, 2018
DASHED BLACK LINES ARE CLIMATOLOGY (INCHES) SHAD ED AREAS ARE FCC VALUES ABOVE 90% OR BELOW 10% NORM AL SHAD ED AREAS ARE NEAR-NORMAL

90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%
Probability of Below | Normal | Probability of Above

NOAA
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