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

S. Ind: TC Berguitta
1/11-Present

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 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 is currently over the Maritime Continent.
- Dynamical models portray continued eastward propagation of the MJO envelope across the Maritime Continent and into the western Pacific over the next two weeks, with possible interference from Rossby wave activity which will reduce the strength of the signal.

**Extratropics:**
- Circulation responses across North America from MJO presence over the Maritime Continent are fairly common during boreal winter. Ridging over the continental US and North America is favored, with warming likely for the eastern US.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 17, 2018 - Jan 23, 2018

Week 2 - Valid: Jan 24, 2018 - Jan 30, 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: 01/16/2018
Forecaster: Finan

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.
Wave-1 projection with the enhanced convection over Africa and the Indian Ocean.

Wave-2 structure with the continued enhanced convection over Indian Ocean, and interference in the Atlantic due to Rossby wave activity.

Return to a wave-1 structure with enhanced convection over the Maritime Continent. Some noise over the Americas due to Kelvin and Rossby wave activity.
The MJO Index forecast eastward propagation into Phase 4 for Week-1 and into Phase 5 for the latter half of Week-2. There is likely to be decay in the signal strength as the MJO moves through Phase 4. The GEFS solution is slightly slower and has a greater reduction to the amplitude than the ECMWF solution.
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events.
MJO continues over the Maritime Continent into the western Pacific. **Equatorial Rossby wave activity** is likely over the Pacific, and expected to interfere with the MJO signal.

**Low frequency** La Niña footprint remains anchored near the Date Line.
January Tropical Storm Formation by MJO phase
Connections to U.S. Impacts
AO: Observed & ENSM forecasts

1000mb Z (Obs: 19Sep2017 – 16Jan2018)    AD index
mean= -0.0024

1000mb Z (7day Forecast)    AD index
mean= -0.2570    cor(w/obs)= 0.8576

1000mb Z (10day Forecast)    AD index
mean= -0.4293    cor(w/obs)= 0.6074

1000mb Z (14day Forecast)    AD index
mean= -0.7553    cor(w/obs)= 0.3227
Week 2 – Temperature and Precipitation
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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