Global Tropics Hazards And Benefits Outlook

2/12/2019

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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**

**Cool shading**
More clouds/rain

**Warm shading**
Less clouds/rain
Synopsis of Climate Modes

**ENSO: (Jan 10, 2019 Update)**
- ENSO Alert System Status: [El Niño Watch](#)
- El Nino is expected to form and continue through the Northern Hemisphere spring 2019 (~65% chance)

**MJO and other subseasonal tropical variability:**
- The MJO remained of moderate strength, and propagated to the Western Pacific (Phase 7).
- Dynamical models generally indicate interference with an equatorial Rossby wave (ERW) in Week-1, followed by resumed eastward propagation across Western Hemisphere (Phases 8,1).

**Extratropics:**
- Expected evolution of MJO may have an impact on the extended range temperature forecasts for the U.S. Active phase of MJO (centered near Date Line & propagating east) favors a risk of colder temperatures late in Week-2 across the Northern Great Plains and Great Lakes region.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 13, 2019 - Feb 19, 2019

Week 2 - Valid: Feb 20, 2019 - Feb 26, 2019

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: 02/12/2019
Forecaster: Artusa

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.
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence   Brown: Enhanced Convergence

1) Torrential rain in Queensland, Australia (esp. Townsville)

2) TC’s (Funani/Gelena)

3) Atmospheric River

4) ERW/MJO/ENSO/TC-activity
Wheeler-Hendon based analyses of model forecasts indicate varying degrees of interference with an ERW, then eastward propagation of a subseasonal signal. ECMWF is fastest. GEFS is most amplified.
JOINT TYPHOON WARNING CENTER

TC 13S "GELENA"

TC 15P (OMA)

TC development unlikely within 24 hours

TC development likely, but expected to occur beyond 24 hours

TC development likely within 24 hours (Reference TCFA)

Tropical Cyclone (Reference Warning)

IMAGE TIME: 12/0515Z
(PRODUCT OF JTWC/SATOPS)
Connections to U.S. Impacts
ARCTIC OSCILLATION

AO: Observed & ENSM forecasts

1000mb Z (Obs: 16Oct2018 - 12Feb2019) AO index
mean = -0.3930

1000mb Z (7day Forecast) AO index
mean = -0.5882 cor(w/obs) = 0.8616

1000mb Z (10day Forecast) AO index
mean = -0.7219 cor(w/obs) = 0.6494

1000mb Z (14day Forecast) AO index
mean = -0.9559 cor(w/obs) = 0.3383
Seattle (SEA-TAC) reports snowiest February on record (so far!) **20.2”** (old record was 13.1” in 1949)… (Source: KOMO and KVAL local news)
“Heads up”: Southeast ridge often goes with ice storms on north/west flanks