Global Tropics Hazards And Benefits Outlook
April 26, 2016

Anthony Artusa

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:**
- La Nina Watch in effect as of 14 April 2016

ENSO Neutral likely during late spring/early summer 2016; possible La Nina conditions to develop by late summer/early fall. El Nino is weakening, though large area of +30°C SSTs still exists over central South Pacific (0-15S, DL-150W). More than sufficient to sustain convection.

**MJO and other subseasonal tropical variability:**
- In general, MJO indices are indicating a very weak, incoherent pattern.

- Most dynamical model MJO index forecasts depict a weak, fairly incoherent signal during the next two weeks. The European Center predicts a wider range of possibilities, underscoring the uncertainty.

**Extratropics:**
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO, but more likely impacted by the ongoing El Nino and mid-latitude frontal/cyclonic activity.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 27, 2016 - May 03, 2016

Week 2 - Valid: May 04, 2016 - May 10, 2016

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: 04/26/2016
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.
Enhanced upper-level divergence northeast and east of Australia; tied to SPCZ

Upper-level divergence over eastern Pacific and the Americas; also over eastern Indian Ocean/western Maritime Continent & central Pacific

Wave-1 pattern with 200-hPa divergence over the WH; convergence over the EH.
Wheeler-Hendon based analyses of model forecasts indicate a weak signal (GEFS, UKMET) during the next 1-2 weeks, with a stronger signal indicated by the ECMWF over the eastern Indian Ocean during Week-2.
April Tropical Storm Formation by MJO phase

Phase 1 (70 days) 7 storms
Phase 2 (66 days) 4 storms
Phase 3 (68 days) 4 storms
Phase 4 (85 days) 17 storms
Phase 5 (77 days) 12 storms
Phase 6 (65 days) 6 storms
Phase 7 (87 days) 8 storms
Phase 8 (76 days) 7 storms
Null (306 days) 43 storms
Connections to U.S. Impacts
AO: Observed & ENSM forecasts

1000mb Z (Obs: 29Dec2015 - 26Apr2016)  AD index

mean=-0.4149

cor(w/obs)=0.6916

1000mb Z (7day Forecast)  AD index

mean=-0.5977

cor(w/obs)=0.6816

1000mb Z (10day Forecast)  AD index

mean=-0.6397

cor(w/obs)=0.6436

1000mb Z (14day Forecast)  AD index

mean=-0.7341

cor(w/obs)=0.4466
Week 2 – Temperature and Precipitation
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 27, 2016 - May 03, 2016

Week 2 - Valid: May 04, 2016 - May 10, 2016

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: 04/26/2016
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.