Global Tropics Hazards And Benefits Outlook

March 29, 2015

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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:**
- Current: [El Niño Advisory](#)
- Nino 3.4 – 1.5°C - down from 1.7 last week. All Nino regions down.
- Outlook: A transition to ENSO-neutral is likely during late Northern Hemisphere spring or early summer 2016, with close to a 50 percent chance for La Niña conditions to develop by the fall.

**MJO and other subseasonal tropical variability:**
- CPC MJO index indicates a moderate signal over the central Pacific, the RMM based index indicates a signal in the same region, but much weaker.
- Some analysis tools are picking up on ERW near 180 and KW near 90W. Increases uncertainty near the Maritime Continent.

**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 tropical cyclone activity.
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Mar 30, 2016 - Apr 05, 2016

Week 2 - Valid: Apr 06, 2016 - Apr 12, 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: 03/29/2016
Forecaster: Rosencrans

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 structure emerged again late in Mar, but there is noise in the pattern.
Wheeler-Hendon based analyses of model forecasts indicate some eastward propagation of a weak signal. Weakness likely due to interference from other modes and removal of 120day mean (had strong MJO events).
Average Conditions when the MJO is present

CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.
Rossby Wave near Date Late.

Weak projection of MJO near Date Line.

Kelvin wave over East Pacific
April Tropical Storm Formation by MJO phase
Ensemble-based Probability (%) of TC genesis using these global ensembles: NCEP CMC ECMWF
For forecasts during the 120–240h period from initial time = 2016032900
Connections to U.S. Impacts
AO: Observed & ENSM forecasts

1000mb Z (Obs: 01Dec2015 - 29Mar2016) AD index

1000mb Z (7day Forecast) AD index

1000mb Z (10day Forecast) AD index

1000mb Z (14day Forecast) AD index

mean=0.0734

mean=-0.0158 cor(w/obs)=0.9105

mean=-0.2239 cor(w/obs)=0.7994

mean=-0.3781 cor(w/obs)=0.5206
Week 2 – Temperature and Precipitation

8-14 Day Outlook
Temperature Probability
Made: 28 Mar 2016
Valid: Apr 05 - 11, 2016

Dashed black lines are climatology. (Des Plaines) Shaded areas are FCAST values above normal or below normal. Normal values are near-normal.

90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

Probability of Below: Normal
Probability of Above: Normal

8-14 Day Outlook
Precipitation Probability
Made: 28 Mar 2016
Valid: Apr 05 - 11, 2016

Dashed black lines are climatology. (Des Plaines) Shaded areas are FCAST values above normal, at normal, or below normal. Normal values are near-normal.

90% 80% 70% 60% 50% 40% 33% 33% 40% 50% 60% 70% 80% 90%

Probability of Below: Normal
Probability of At Normal: Normal
Probability of Above: Normal
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