

Global Tropics Hazards And Benefits Outlook

02/20/2018

Christina Finan

Outline

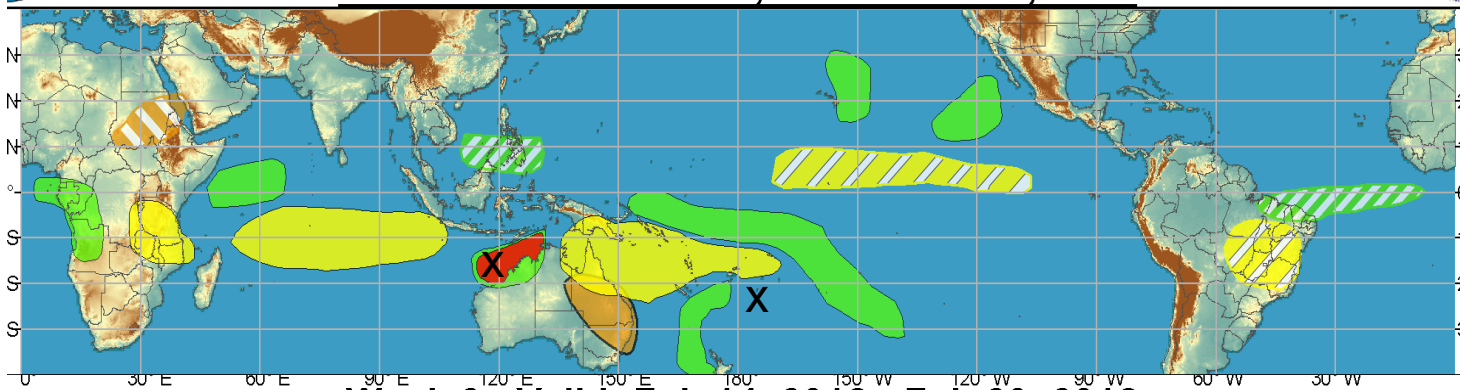
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

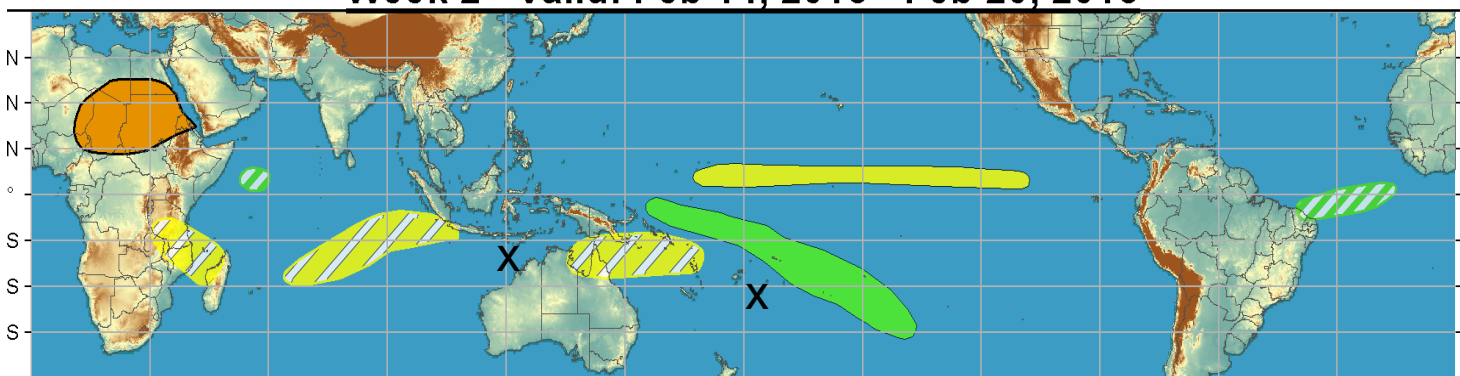
TC Kelvin
2/16-2/18

TC Gita
2/9-2/19

Week 1 - Valid: Feb 14, 2018 - Feb 20, 2018

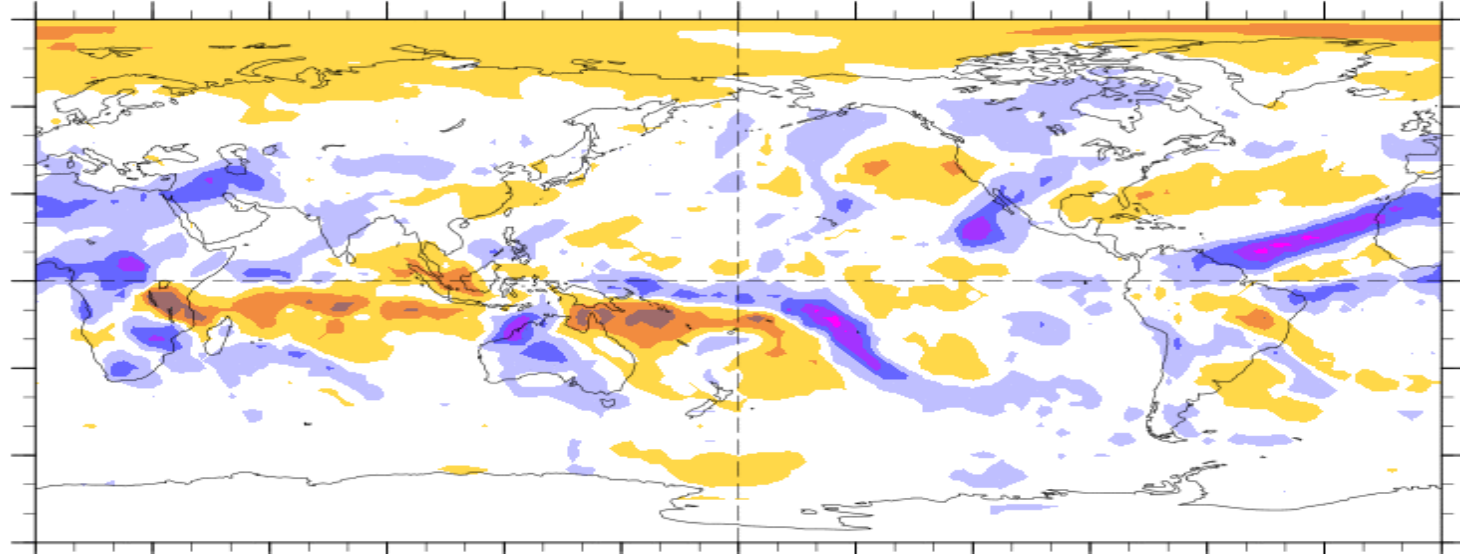


Week 2 - Valid: Feb 14, 2018 - Feb 20, 2018



7-Day Average OLR Anomaly

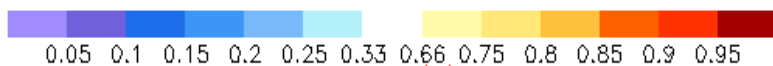
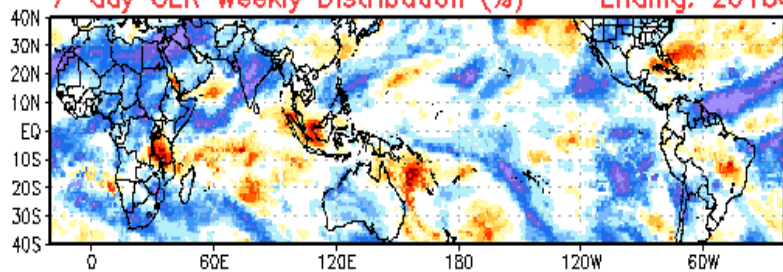
2018/02/12 - 2018/02/18



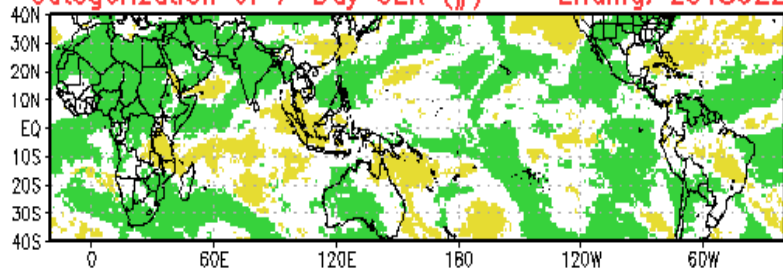
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

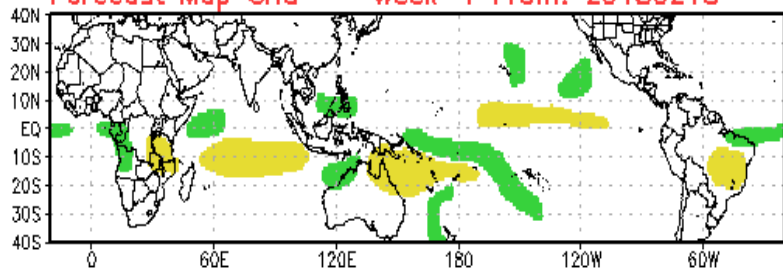
7-day OLR Weekly Distribution (%) -- Ending: 20180220



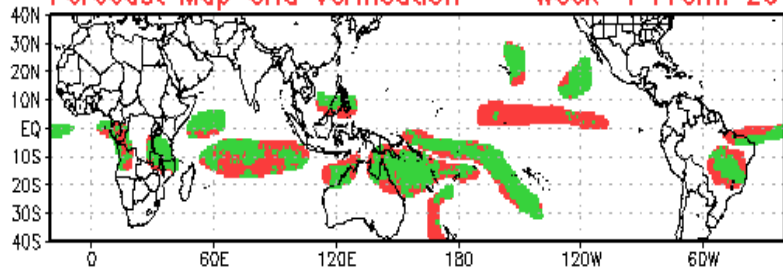
Categorization of 7-Day OLR (#) -- Ending: 20180220



Forecast Map Grid -- Week-1 From: 20180213

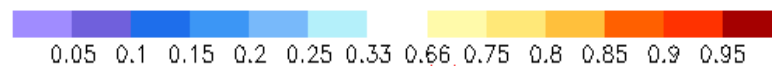
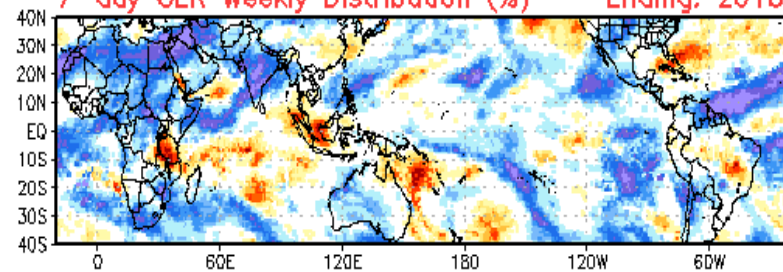


Forecast Map Grid Verification -- Week-1 From: 20180213

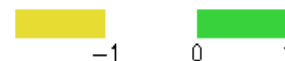
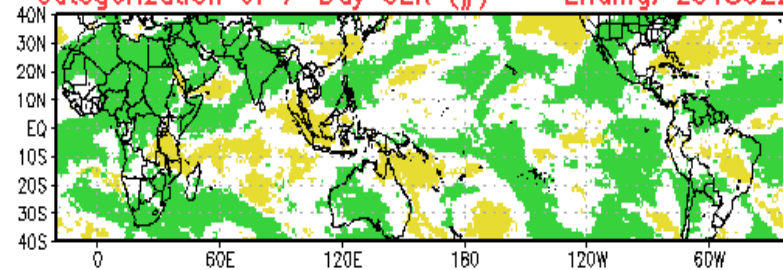


Hit: Green, Miss: Red
Heidke Skill Score: 37.6562

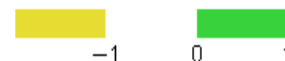
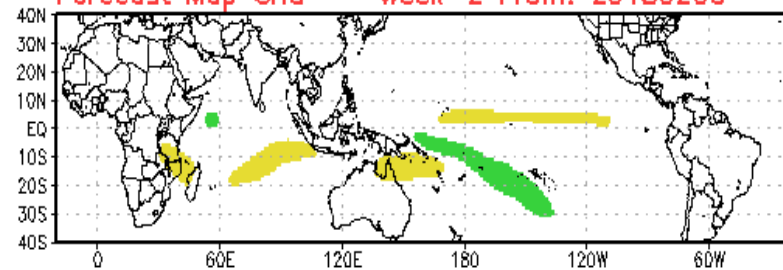
7-day OLR Weekly Distribution (%) -- Ending: 20180220



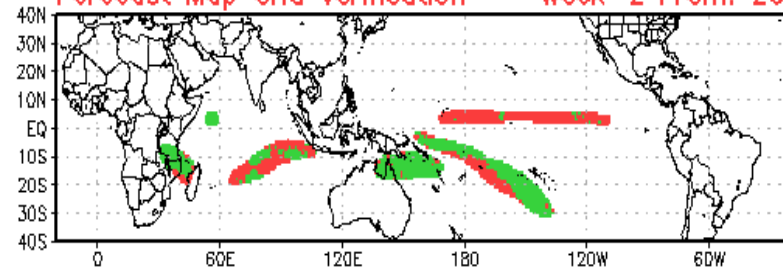
Categorization of 7-Day OLR (#) -- Ending: 20180220



Forecast Map Grid -- Week-2 From: 20180206



Forecast Map Grid Verification -- Week-2 From: 20180206



Hit: Green, Miss: Red
Heidke Skill Score: 32.4090

Synopsis of Climate Modes

ENSO:

- ENSO Alert System Status: [La Niña Advisory](#)
- February 8th Update: A transition from La Niña to ENSO-neutral is most likely during the Northern Hemisphere spring (~55% chance of ENSO-neutral during the March-May season).

MJO and other subseasonal tropical variability:

- The MJO remained active, with the enhanced phase crossing the Pacific.
- Dynamical and statistical models continue to propagate the MJO with slowly eastward across the Pacific with a significant reduction in amplitude, especially during Week-2.

Extratropics:

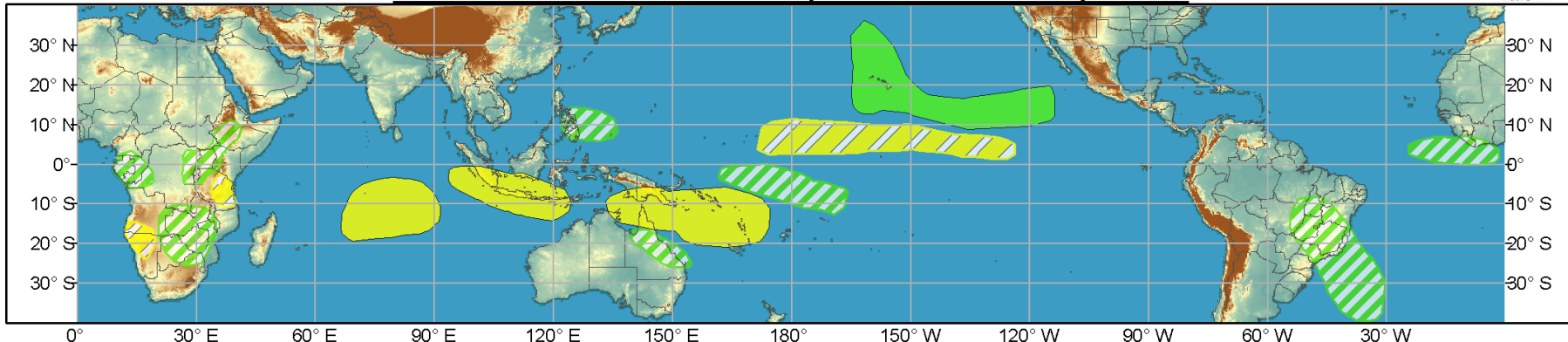
- Dynamical models forecast the Arctic and North Atlantic oscillations to turn negative within the Week-1 period and remain negative into Week-2.



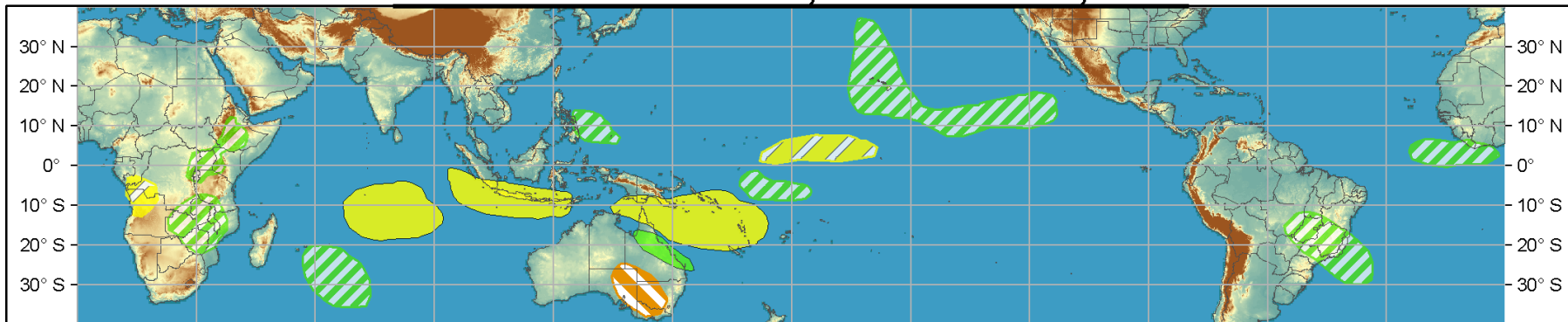
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Feb 21, 2018 - Feb 27, 2018



Week 2 - Valid: Feb 28, 2018 - Mar 06, 2018



Produced: 02/20/2018

Forecaster: Finan

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. |

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

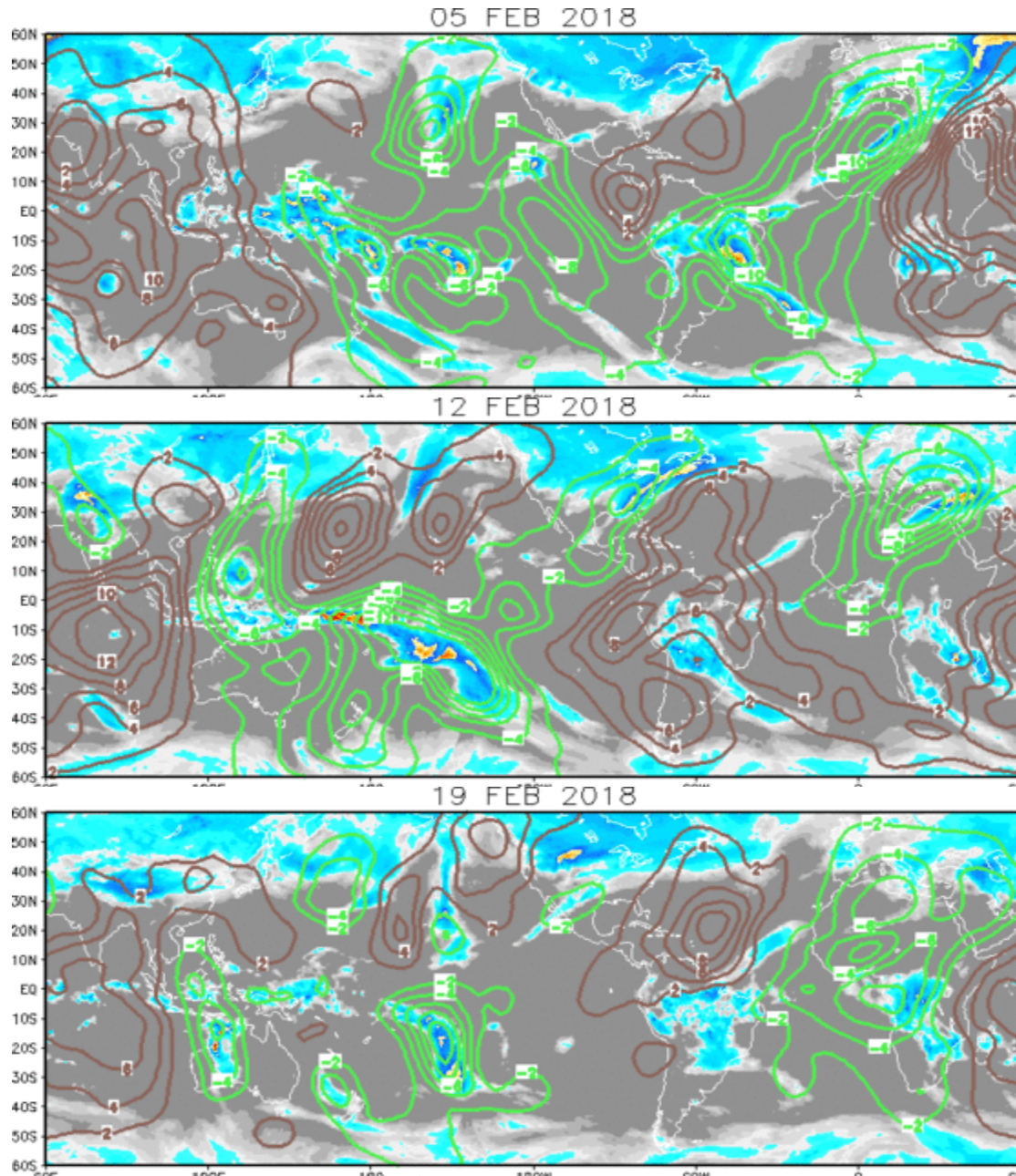
Green: Enhanced Divergence

Brown: Enhanced Convergence

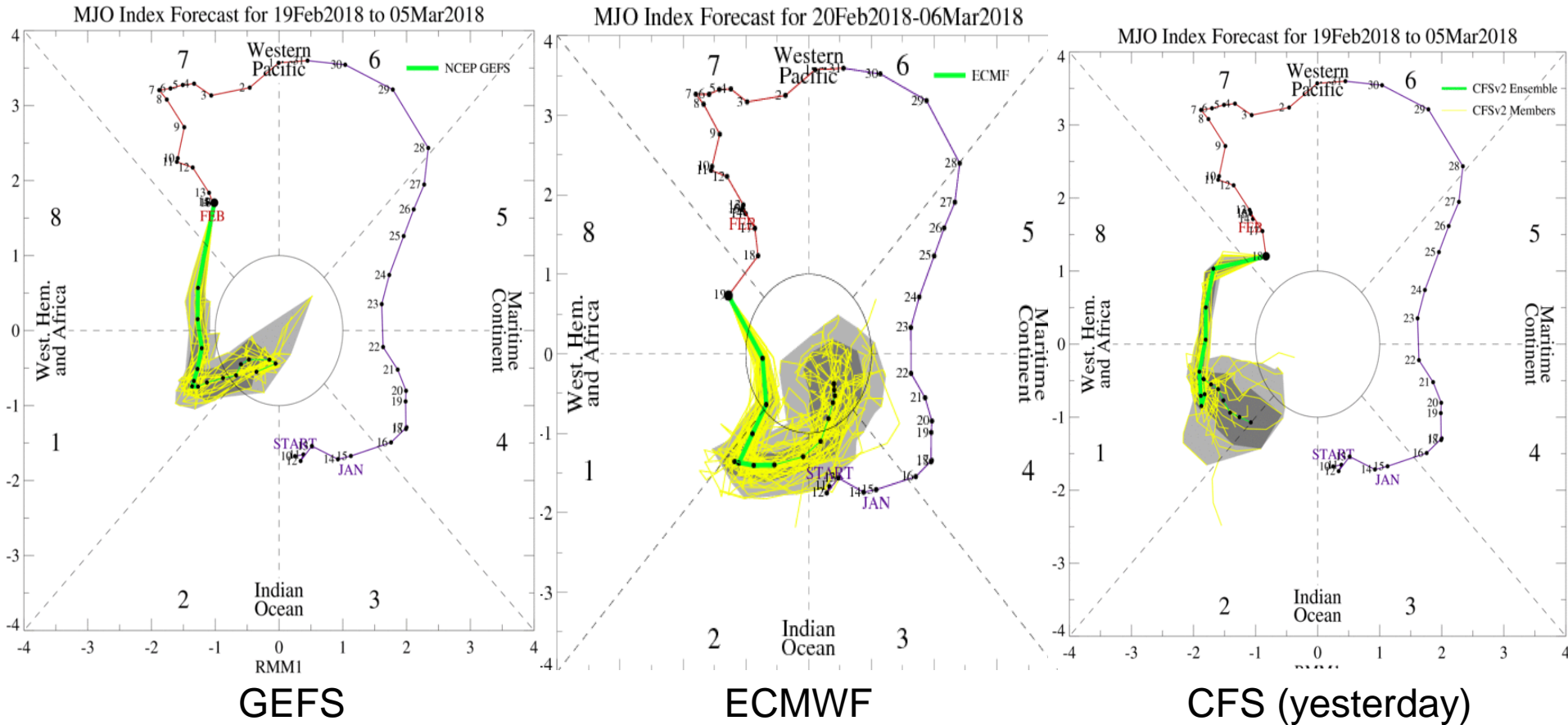
Enhanced phase of the MJO is seen over the Central Pacific while the suppressed phase spreads over the Maritime Continent and Indian Ocean.

The pattern becomes noisier as the MJO weakens and suppressed convection spreads out over South America.

The MJO signal continues to weaken and the large-scale pattern becomes more noisy. Kelvin and Rossby wave activity contribute to the noise, especially over the Pacific.

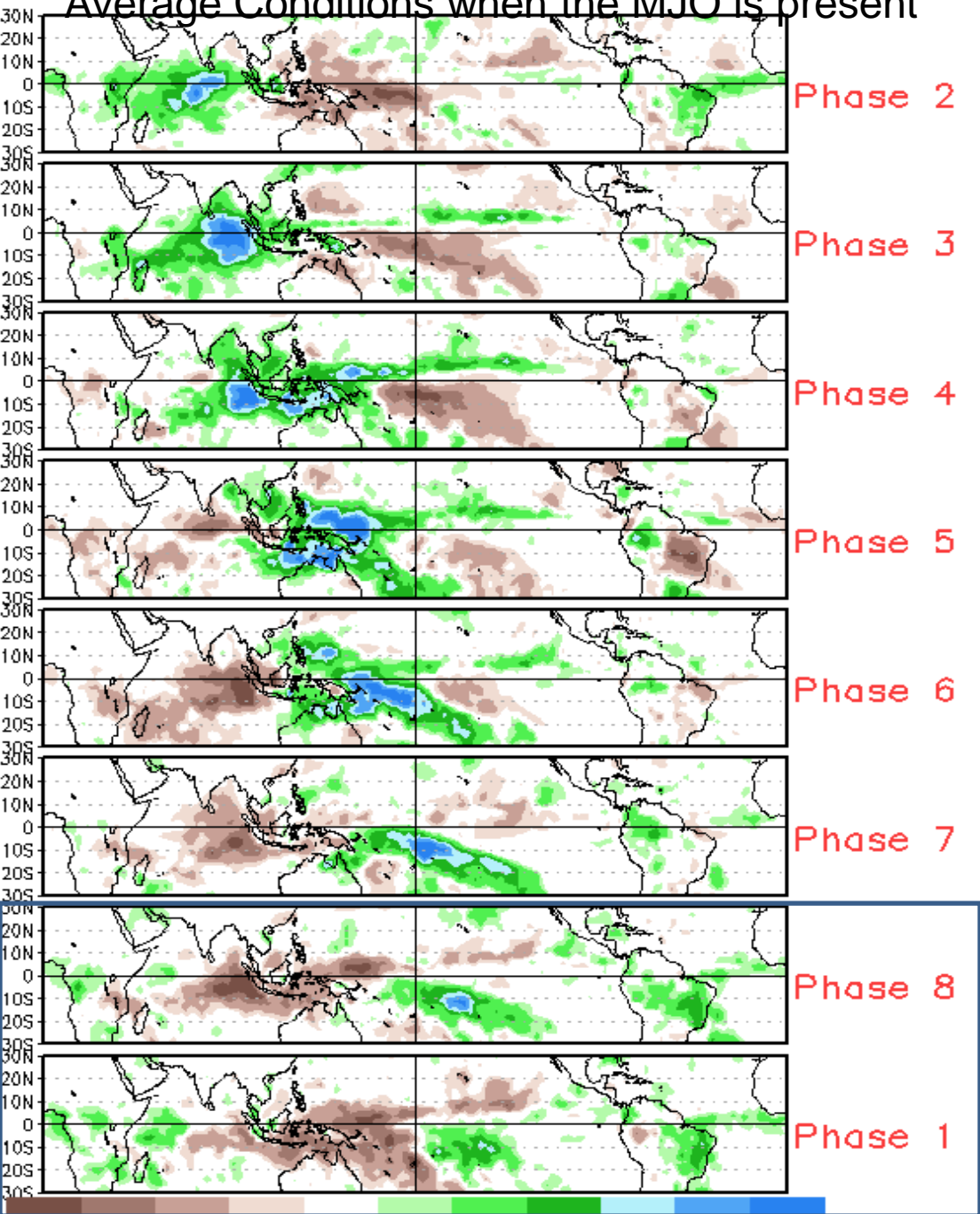


MJO Observation/Forecast



Models continue to propagate the MJO envelope eastward the next two weeks after stalling in Phase 7 this week. The GEFS and CFS are slower than the ECMWF model, as these two models suggest more interaction with Rossby waves. All three models do portray a significant weakening of the MJO amplitude the next two weeks.

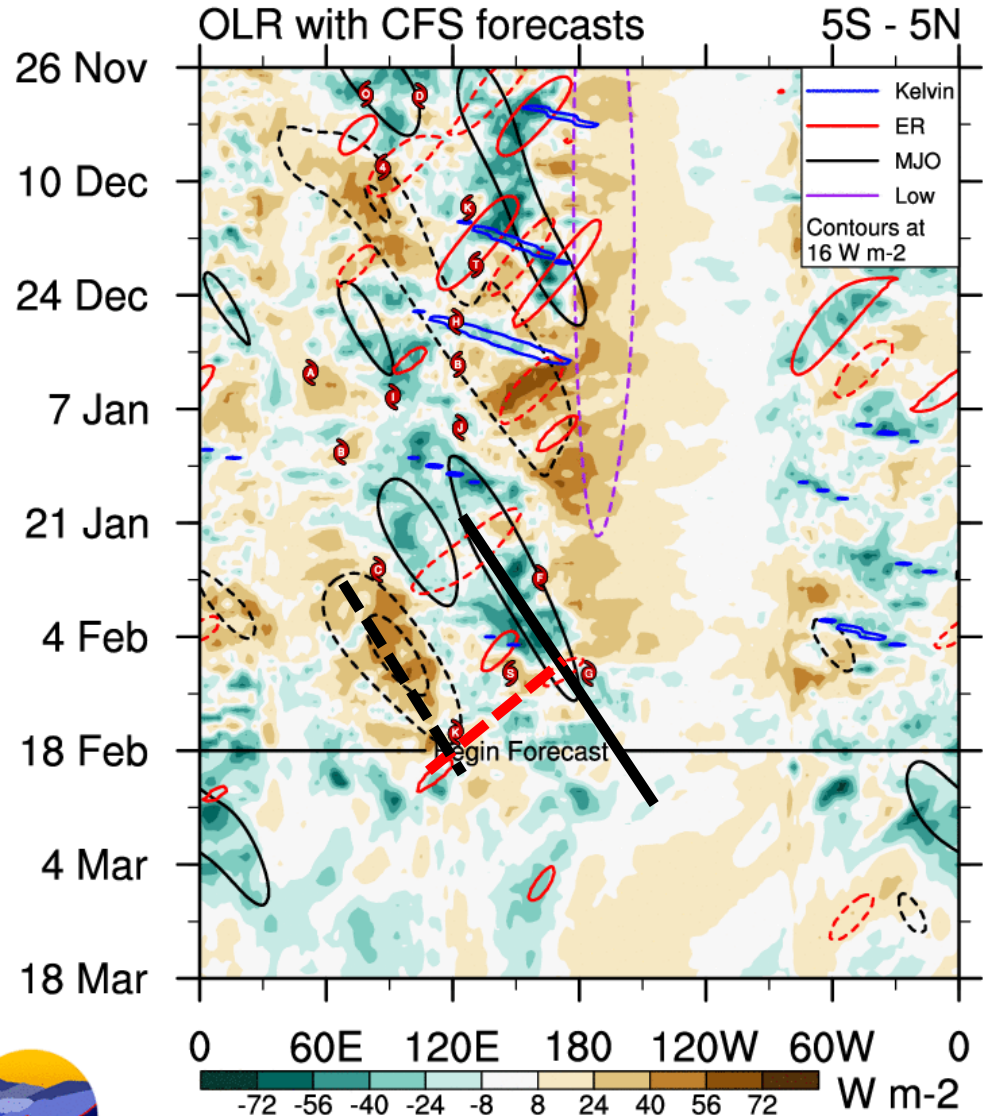
Average Conditions when the MJO is present



Week-1: Phase 8/1
Week-2: Phase 1/2,
weakening

CAVEAT: These panels are representative of robust MJO events.

The **MJO** enhances convection into the central and eastern Pacific, weakening as it interacts with the **low-frequency pattern**. The enhanced convection is forecast to re-emerge in the western Indian Ocean. **Rossby wave** activity is expected to interact with the **MJO** suppressed convective envelope over the western Pacific and Maritime Continent, possibly slowing its eastward propagation.

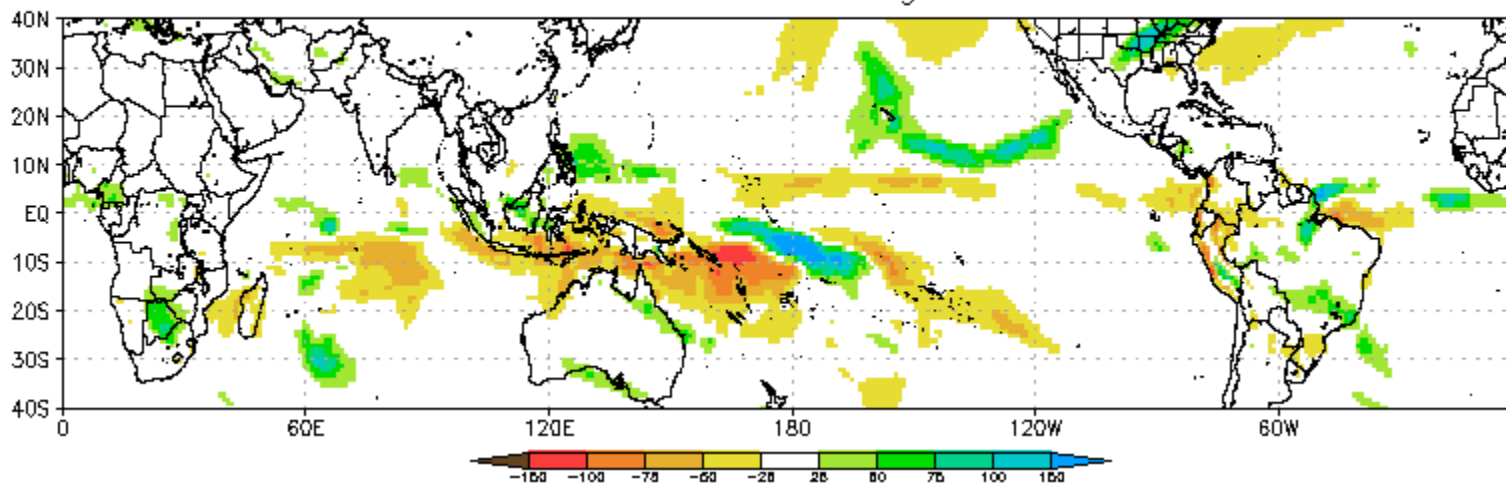


ncics.org/mjo

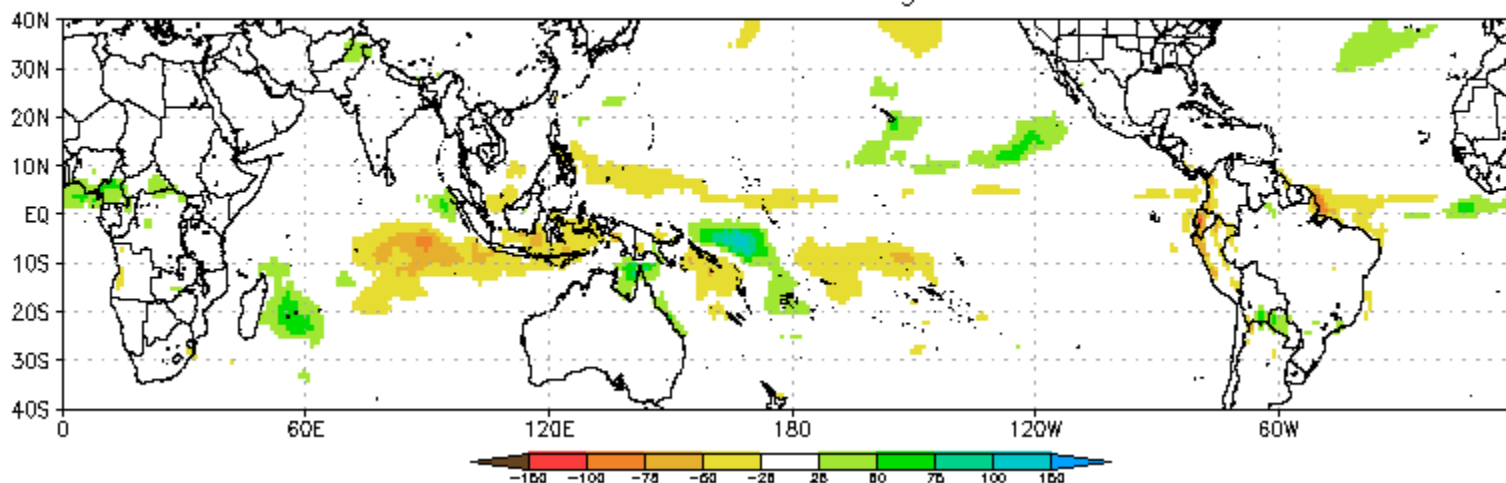
Mon 2018-02-19 1624 UTC

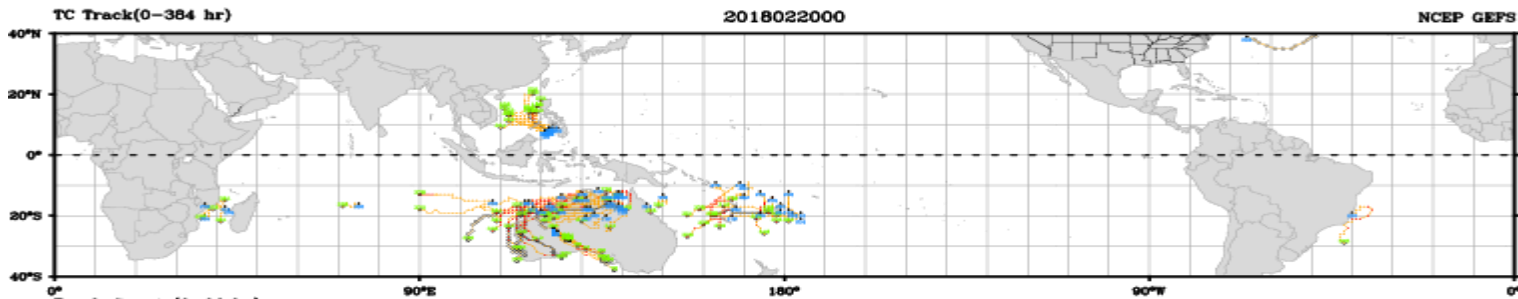
Carl Schreck (cjschrec@ncsu.edu)

CFS Precipitation Anomalies (mm) Issued 19Feb2018
Week-1 Forecast Ending 27Feb2018

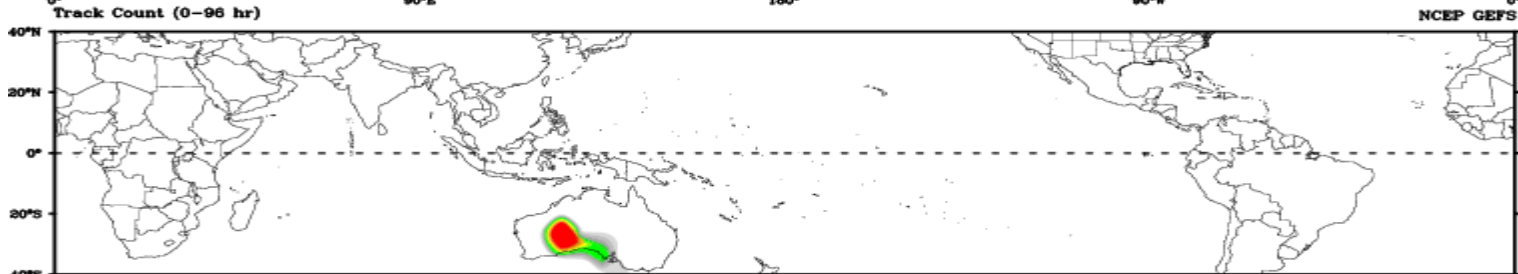


CFS Precipitation Anomalies (mm) Issued 19Feb2018
Week-2 Forecast Ending 06Mar2018

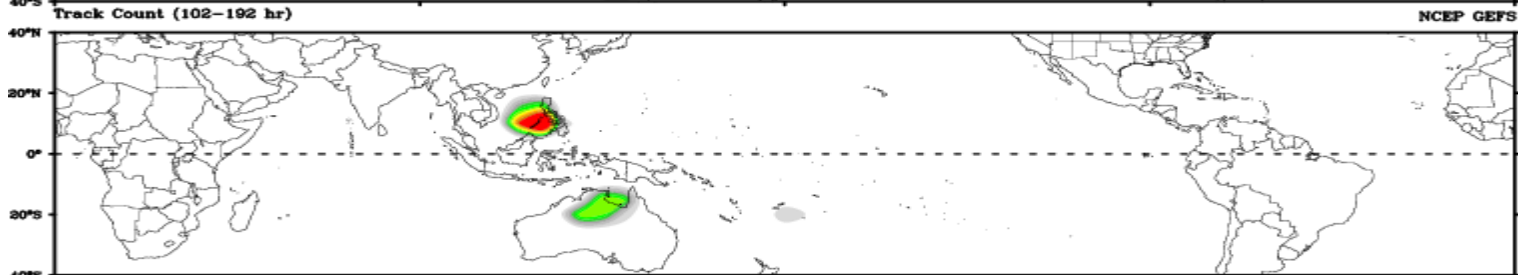




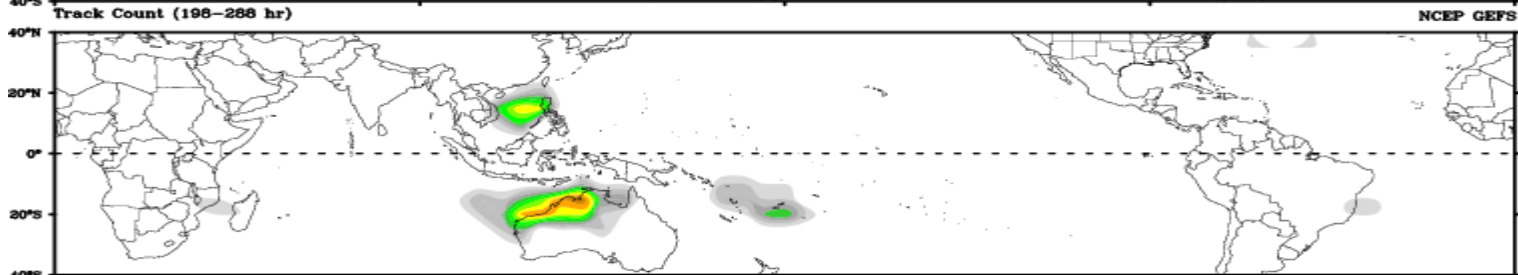
Days 1-4



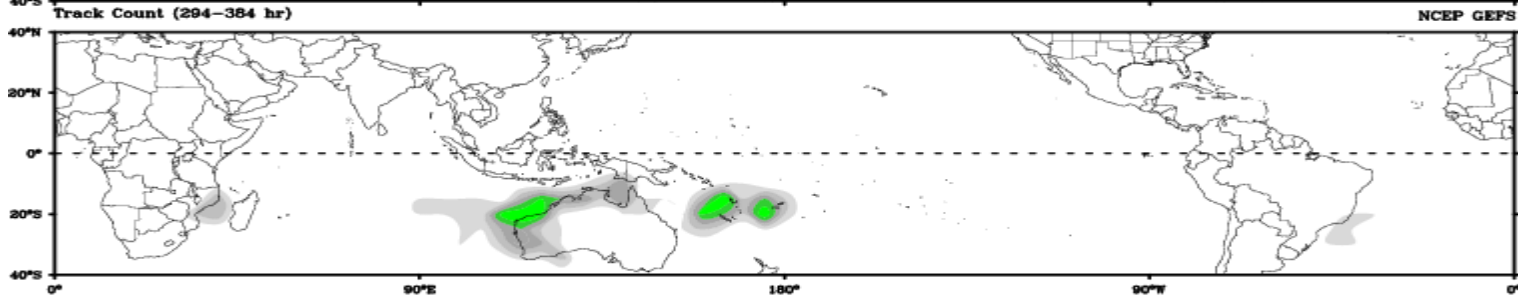
Day 5-8



Day 9-12

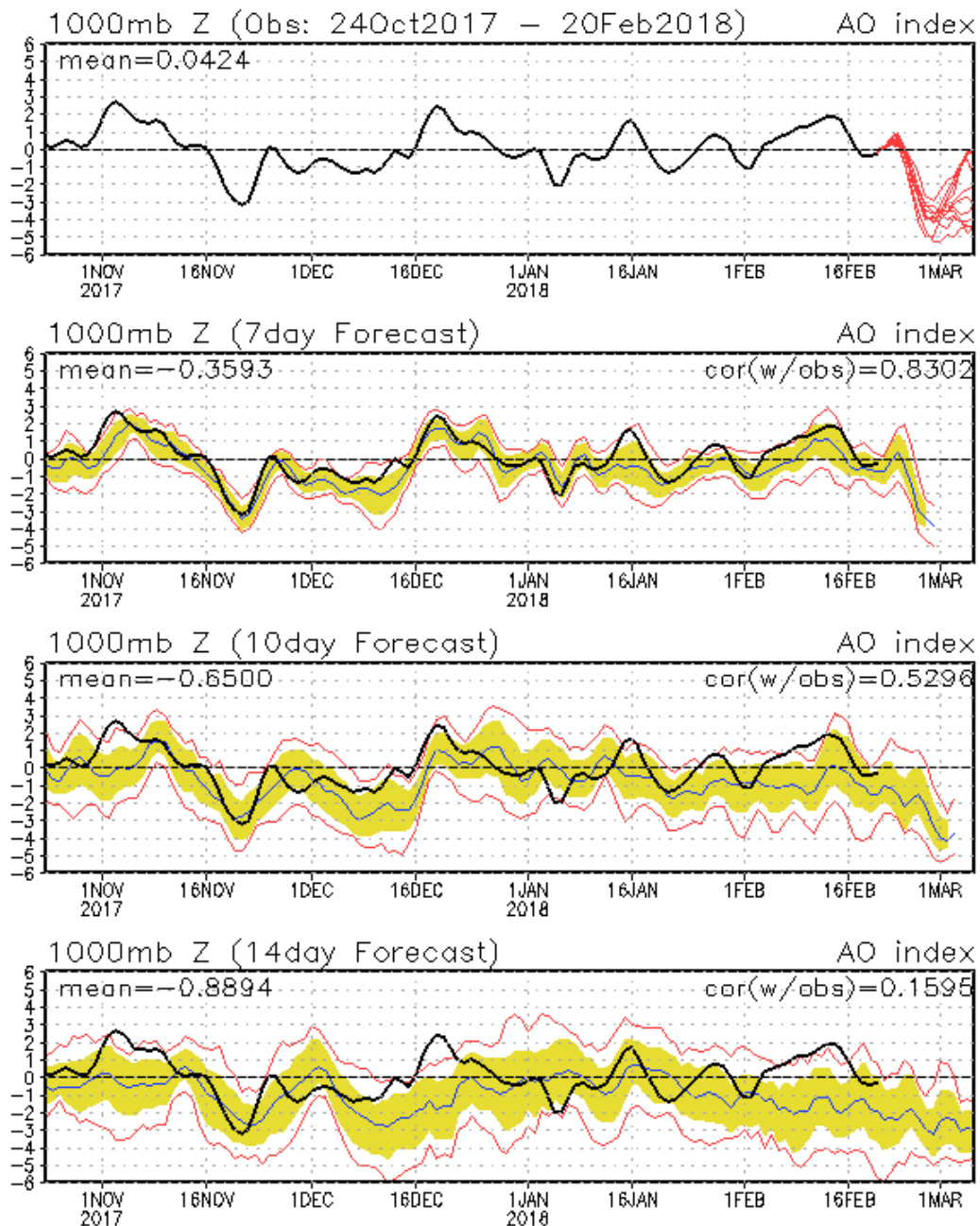


Day 13-15

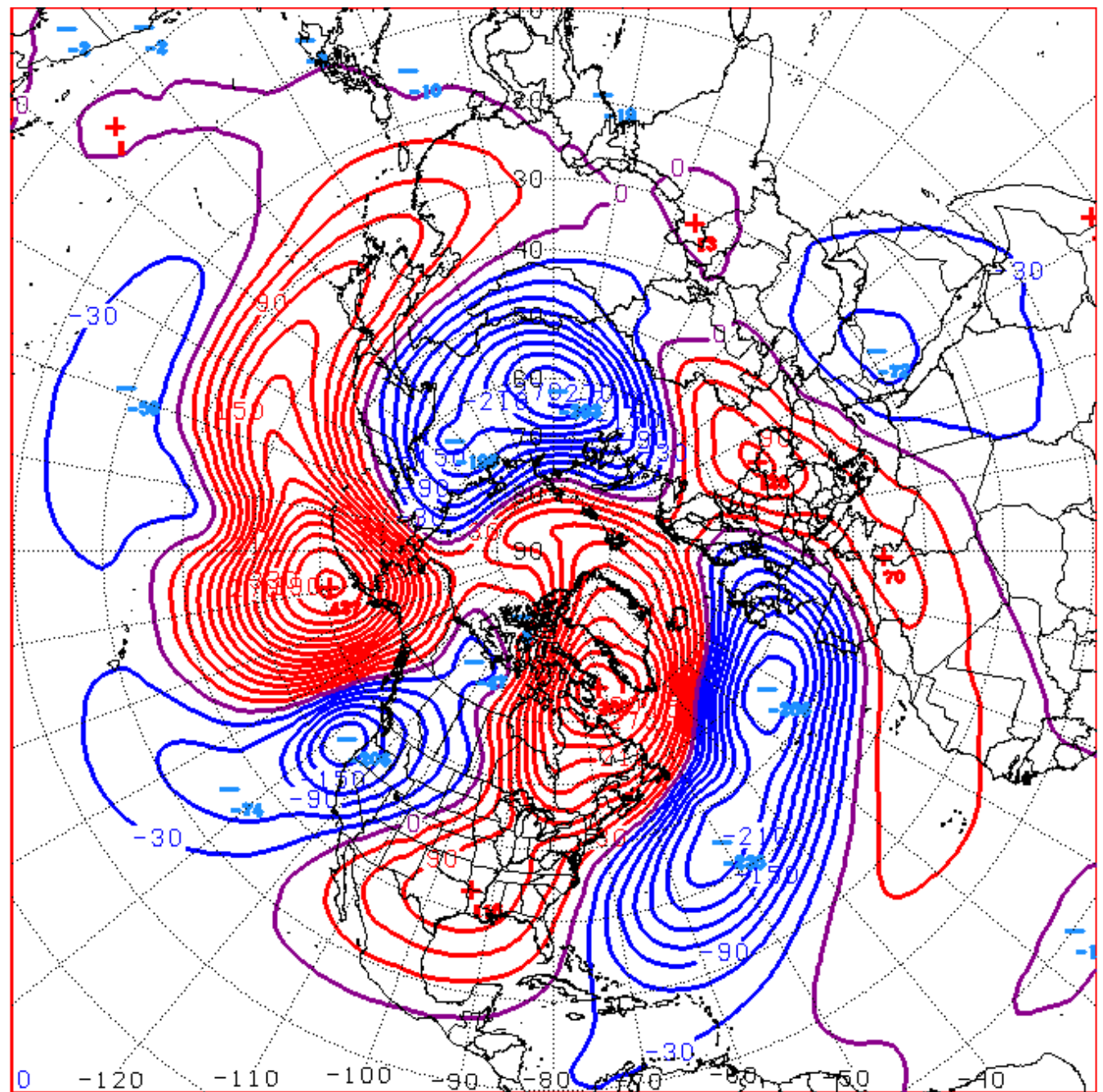


Connections to U.S. Impacts

AO: Observed & ENSM forecasts

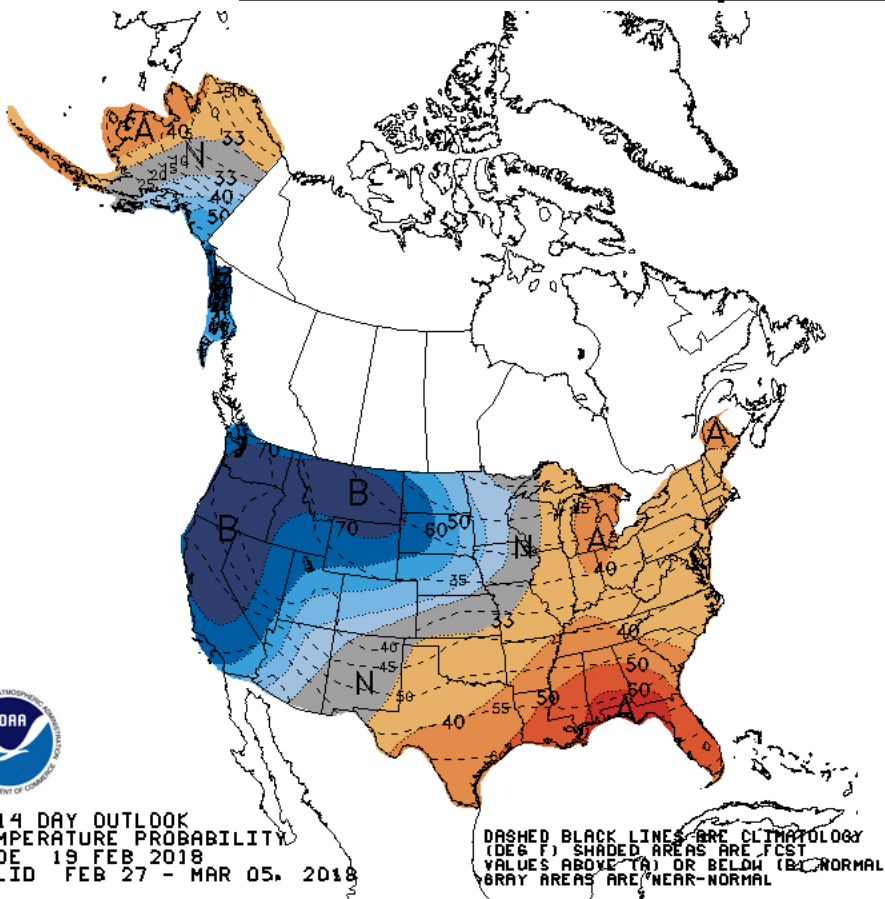


Week 2 Forecast From GFS



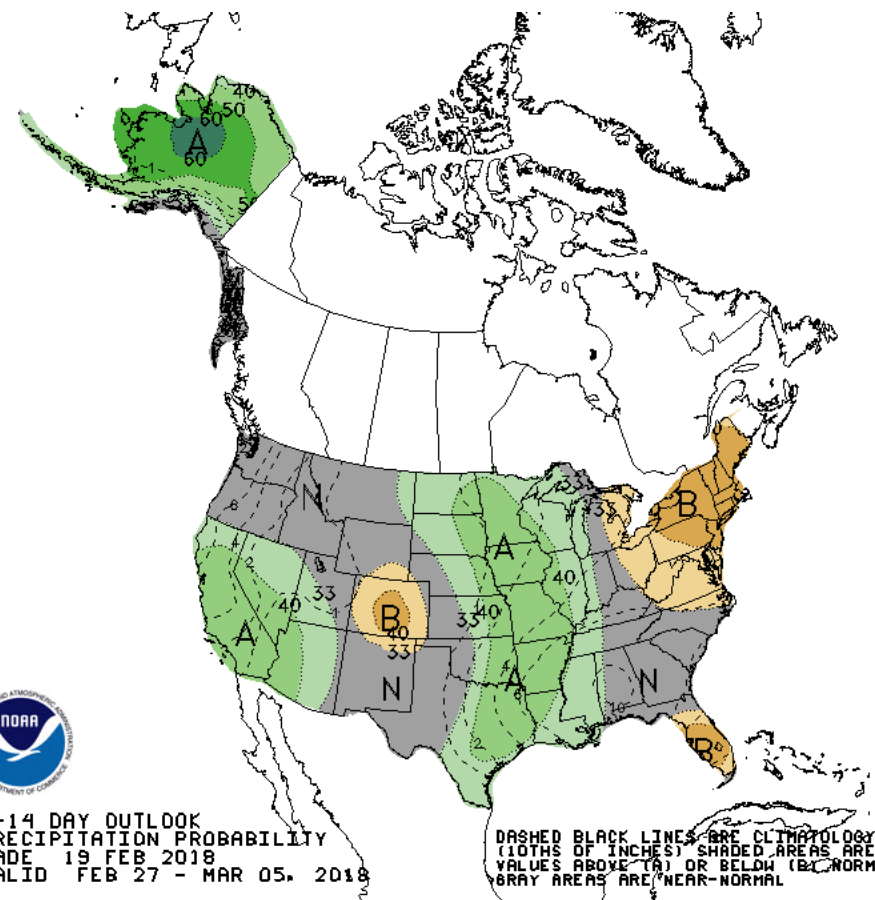
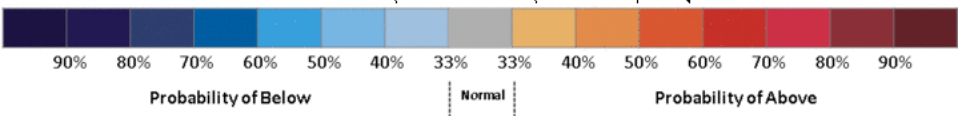
0 -120 -110 -100 -90 -80 -70 -60 -50
D+11 500 MB ANOMALIES FROM 12Z GFS
CPC MAP MADE FEB 19 2018 1704 UTC CNTD MAR 02 2018

Week 2 – Temperature and Precipitation



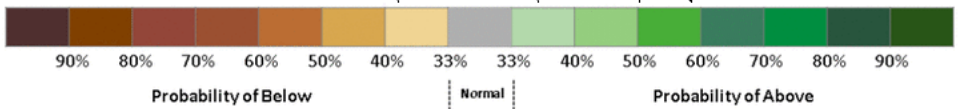
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 19 FEB 2018
VALID FEB 27 - MAR 05, 2018

DASHED BLACK LINES ARE CLIMATE
NORMALS (DEG F). SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 19 FEB 2018
VALID FEB 27 - MAR 05, 2018

DASHED BLACK LINES ARE CLIMATE
NORMALS (TENTHS OF INCHES). SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL

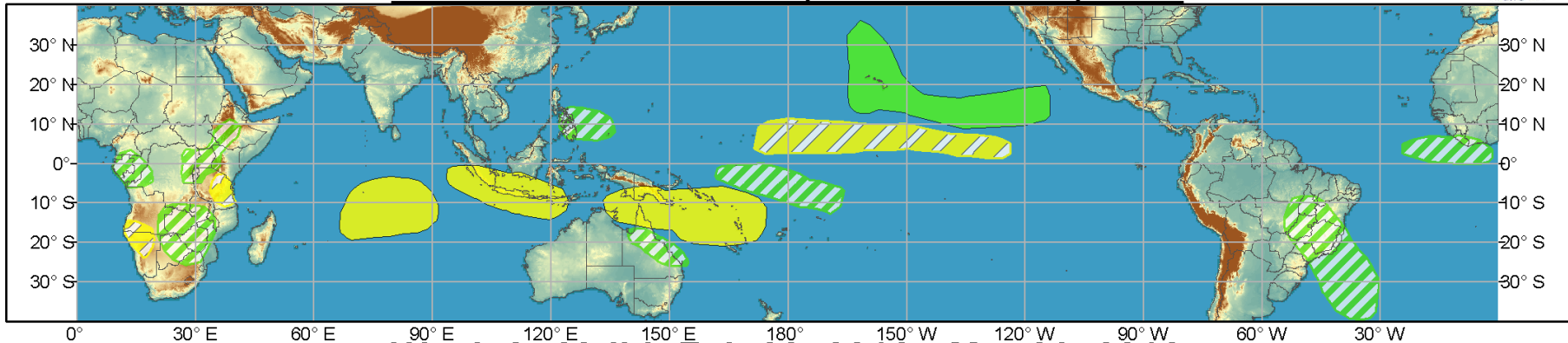




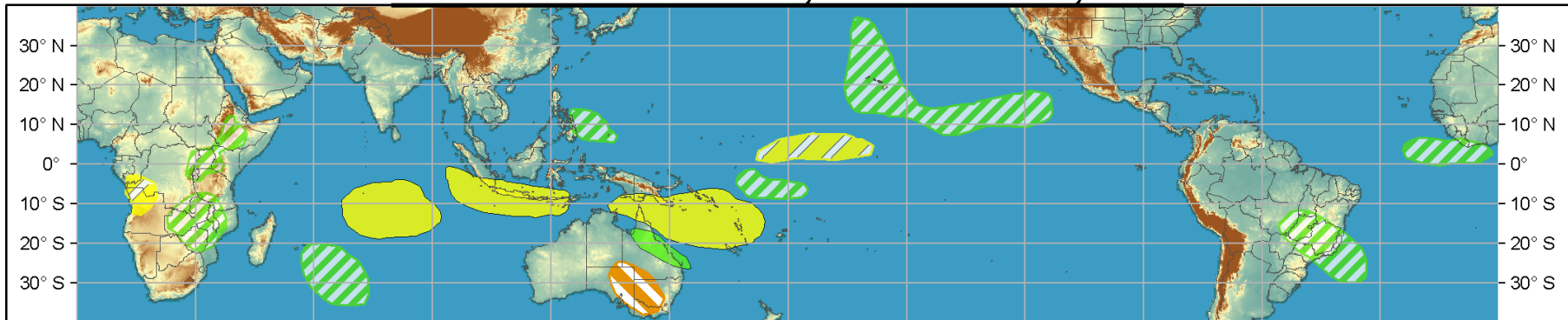
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Feb 21, 2018 - Feb 27, 2018



Week 2 - Valid: Feb 28, 2018 - Mar 06, 2018













Produced: 02/20/2018

Forecaster: Finan

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. |

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.

