

Global Tropics Hazards And Benefits Outlook

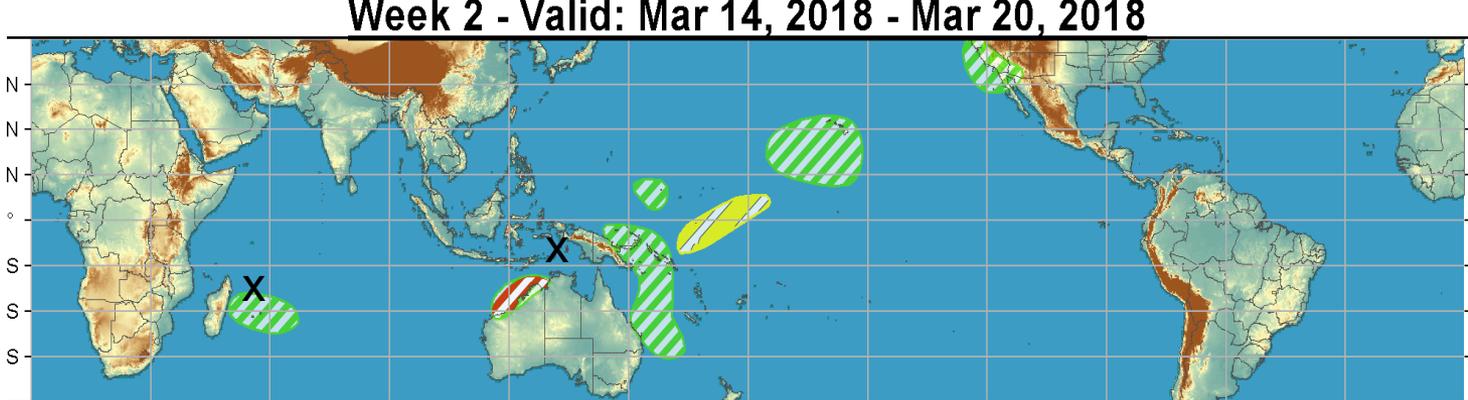
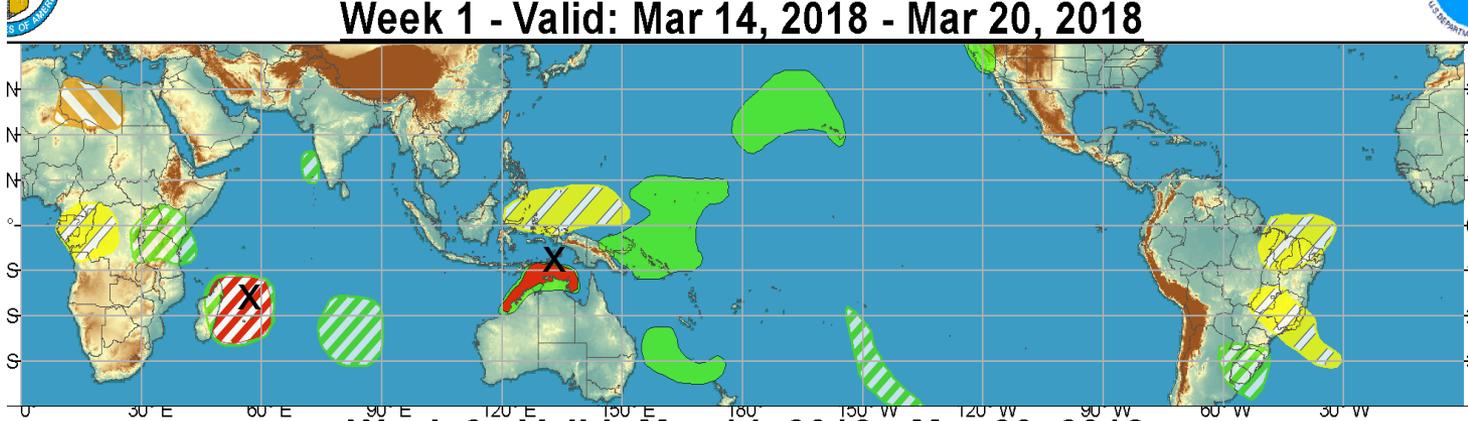
3/20/2018

Anthony Artusa

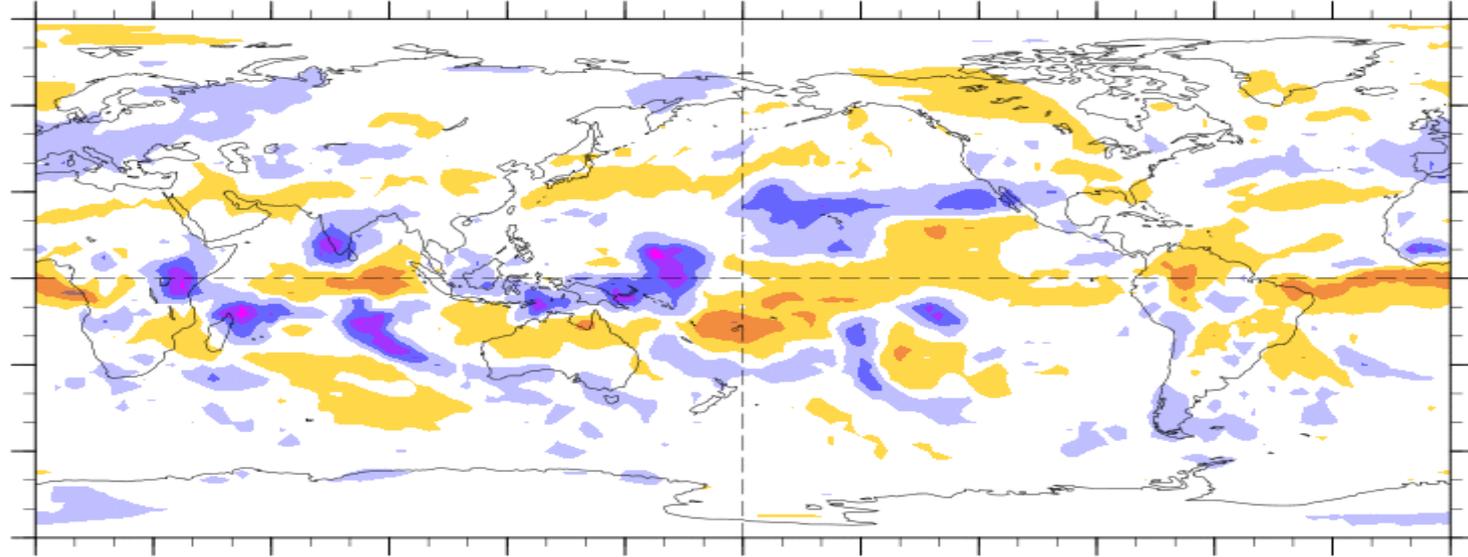
Outline

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

Outlook Review



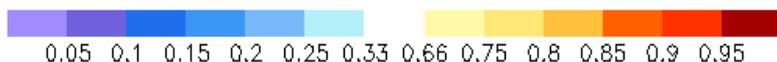
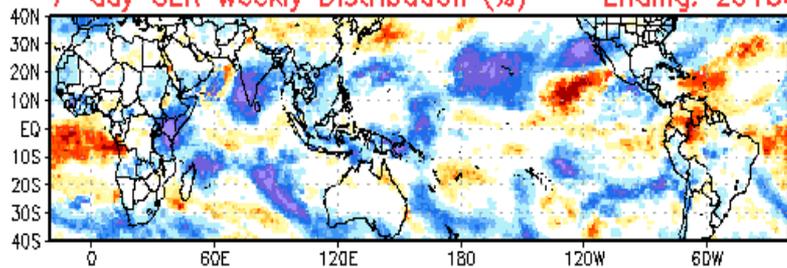
7-Day Average OLR Anomaly 2018/03/12 - 2018/03/18



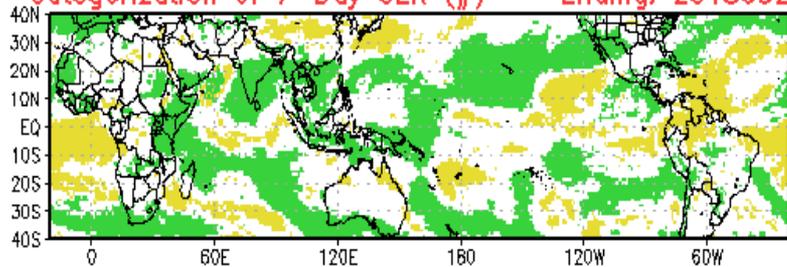
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

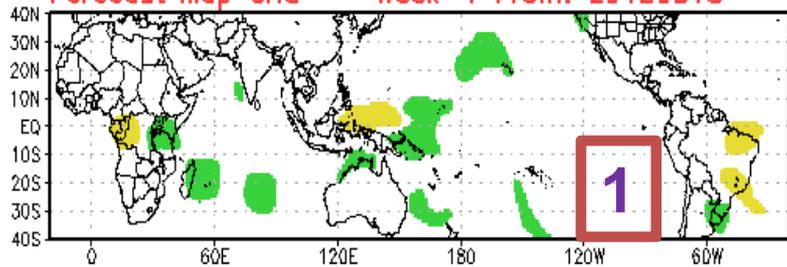
7-day OLR Weekly Distribution (%) -- Ending: 20180320



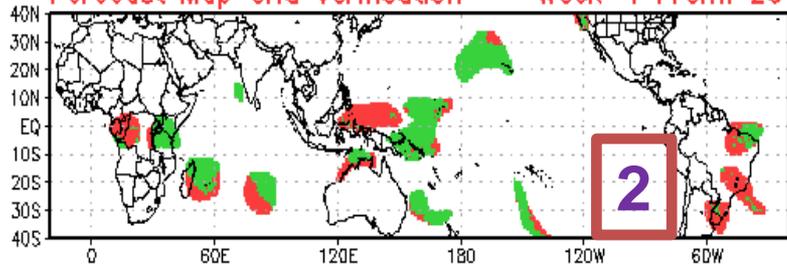
Categorization of 7-Day OLR (#) -- Ending: 20180320



Forecast Map Grid -- Week-1 From: 20180313

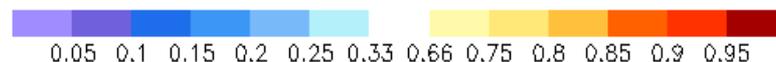
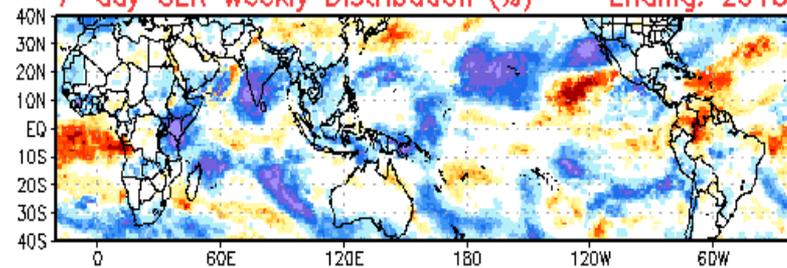


Forecast Map Grid Verification -- Week-1 From: 20180313

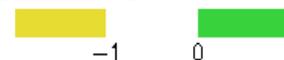
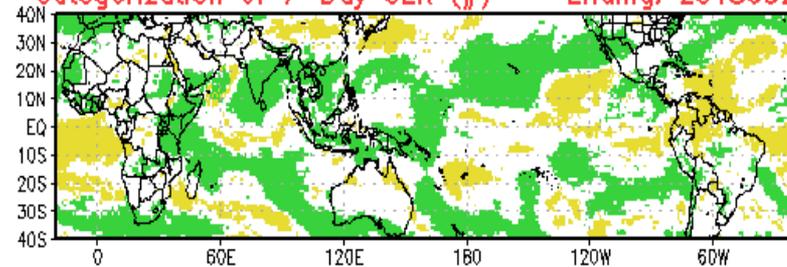


Hit: Green, Miss: Red
Heidke Skill Score: 36.5033

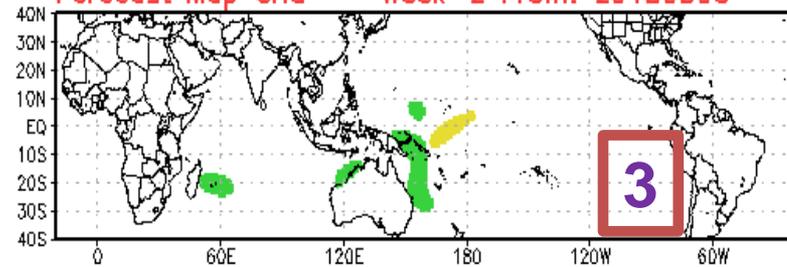
7-day OLR Weekly Distribution (%) -- Ending: 20180320



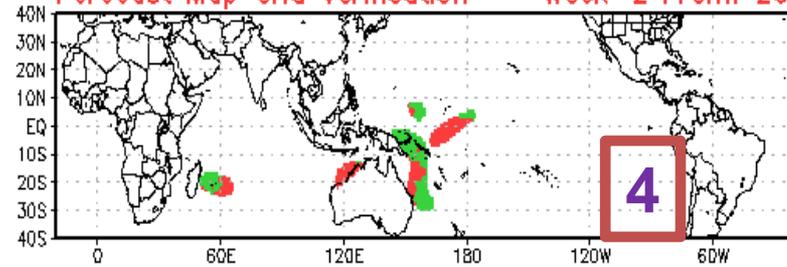
Categorization of 7-Day OLR (#) -- Ending: 20180320



Forecast Map Grid -- Week-2 From: 20180306



Forecast Map Grid Verification -- Week-2 From: 20180306



Hit: Green, Miss: Red
Heidke Skill Score: 28.1655

Synopsis of Climate Modes

ENSO:

- A transition from La Nina to ENSO-neutral is most likely (~55% chance) during the March-May season, with neutral conditions likely to continue into the second half of the year (ENSO Diagnostic Discussion, March 8, 2018)

MJO and other subseasonal tropical variability:

- The MJO was weak, and destructively interfering with an ERW over the Indian Ocean.
- Dynamical models indicate a lot of uncertainty, primarily with respect to phase. Most models (except CFS) predict a weak signal during the 2-week period.

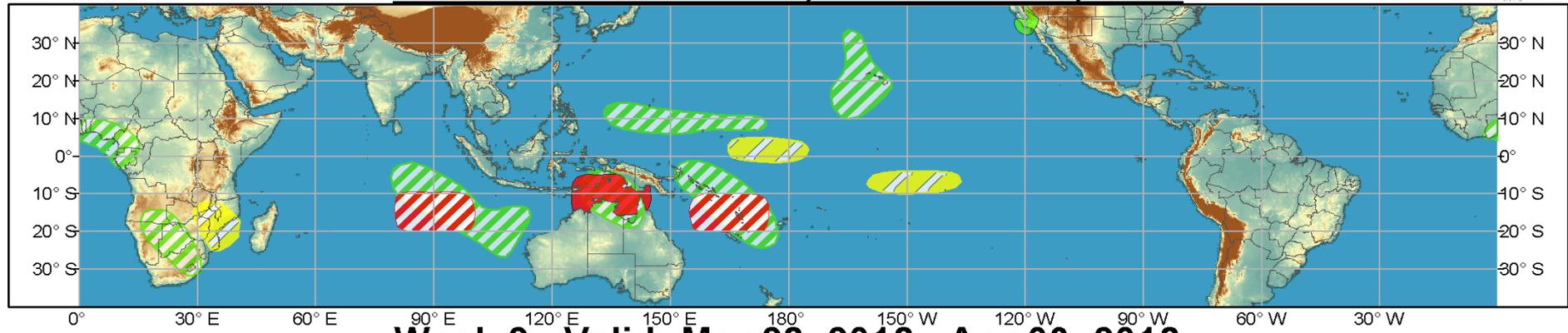
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by MJO activity

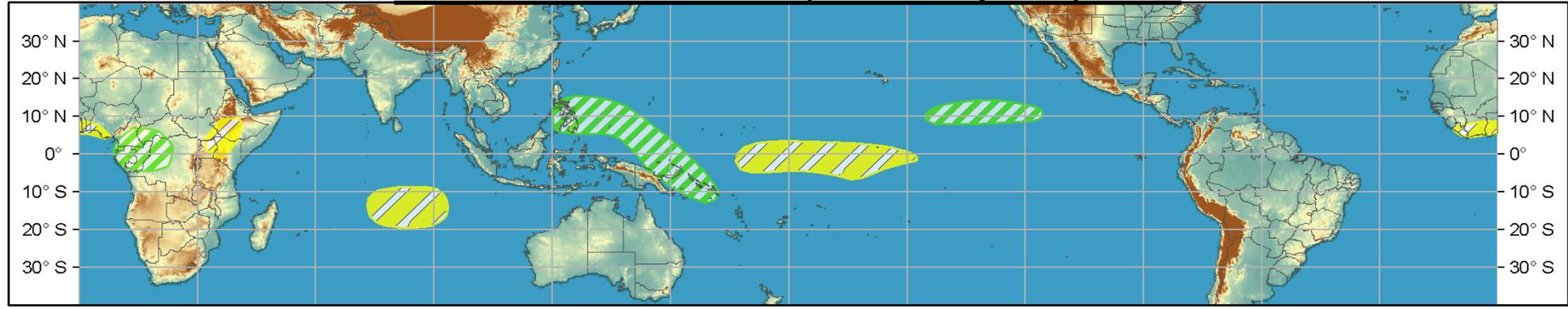


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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



Week 2 - Valid: Mar 28, 2018 - Apr 03, 2018



Confidence

	High	Moderate
Tropical Cyclone Formation		
Above-average rainfall		
Below-average rainfall		
Above-normal temperatures		
Below-normal temperatures		

- Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Weekly total rainfall in the upper third of the historical range.
- Weekly total rainfall in the lower third of the historical range.
- 7-day mean temperatures in the upper third of the historical range.
- 7-day mean temperatures in the lower third of the historical range.

Produced: 03/20/2018
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.



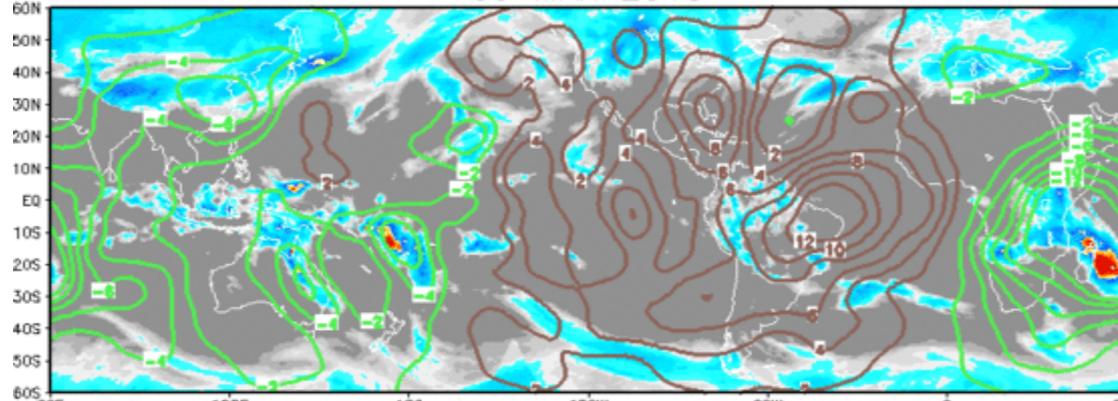
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence

Brown: Enhanced Convergence

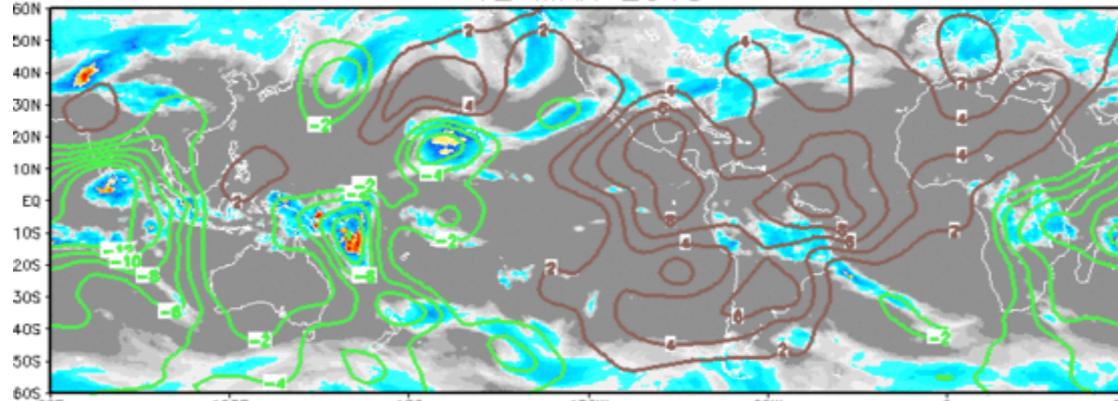
Wave-1 pattern; DIV (mostly in EH), and CON (mostly in WH).

05 MAR 2018



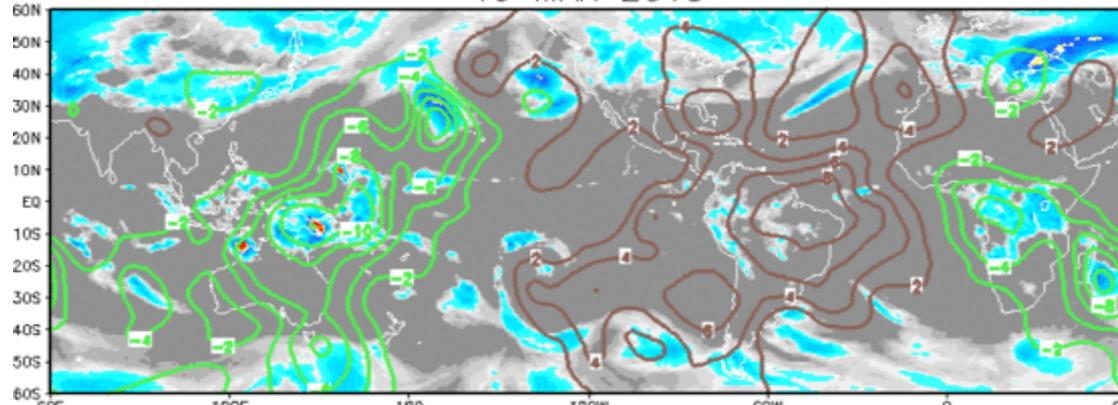
Wave-1 pattern continues with little overall progression

12 MAR 2018

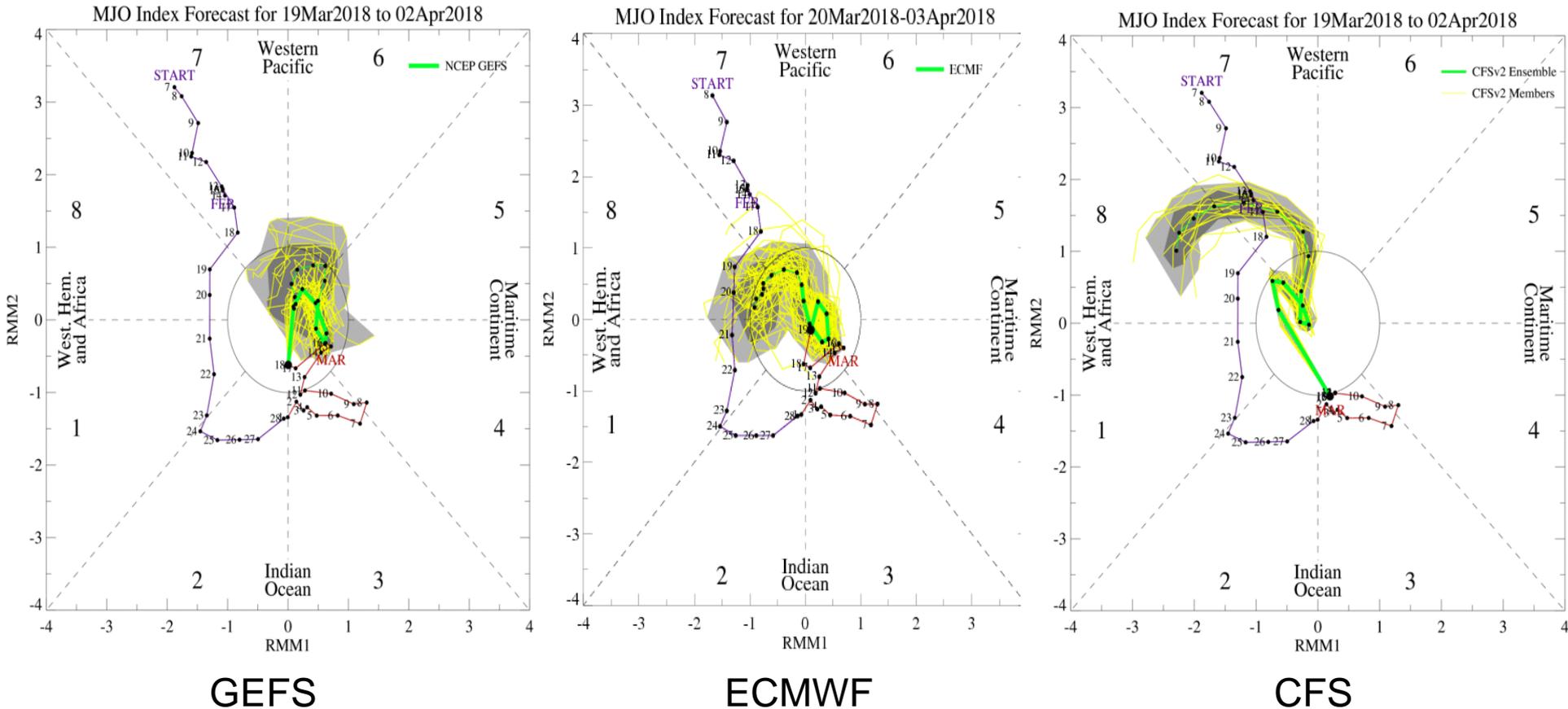


Persistent Wave-1 pattern

19 MAR 2018

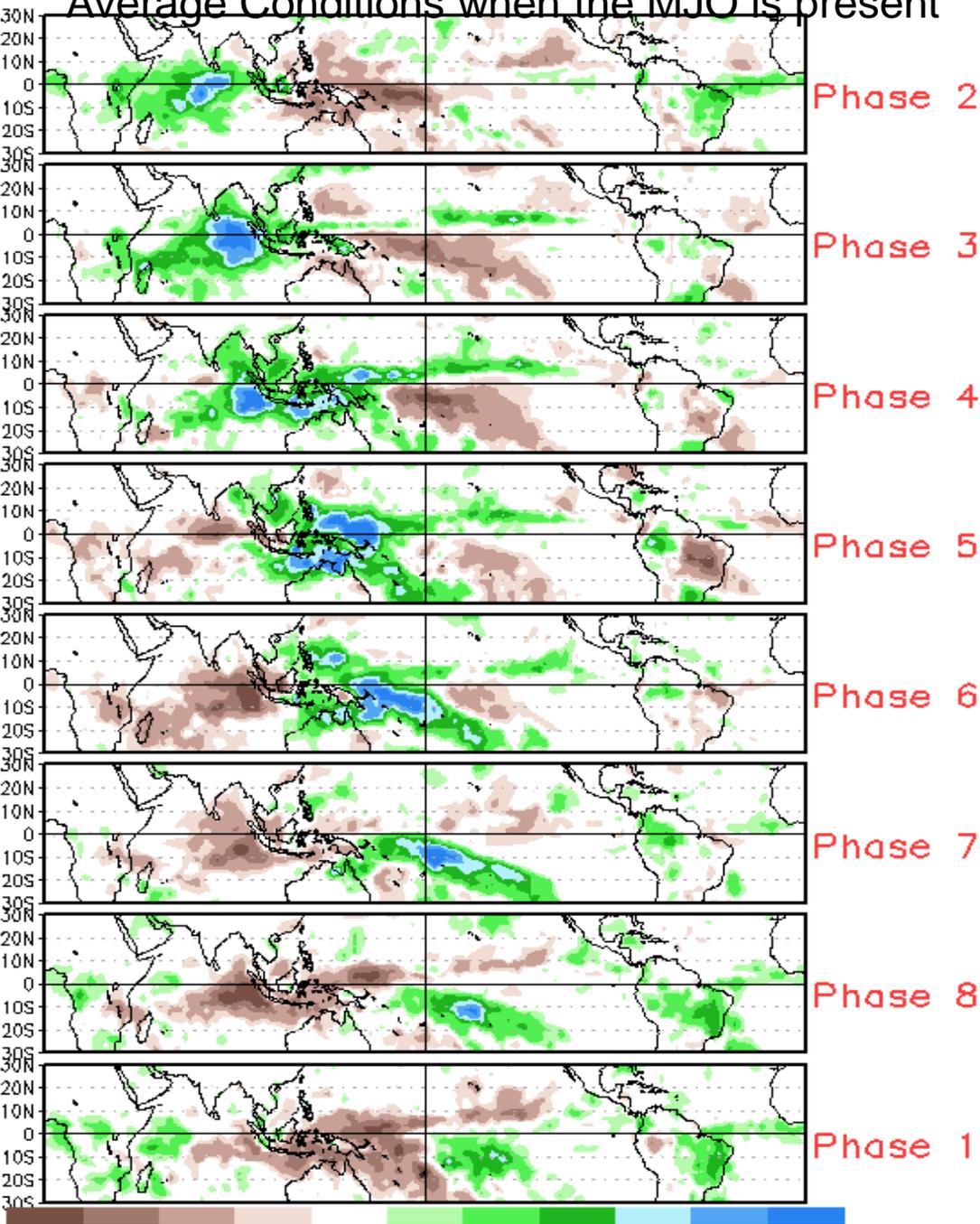


MJO Observation/Forecast



Wheeler-Hendon based analyses of model forecasts indicate a weak, incoherent MJO signal during most of 2-week period (GEFS & ECMWF). CFS develops a potent MJO signal during Week-2 over phase 7, which propagates into phase 8.

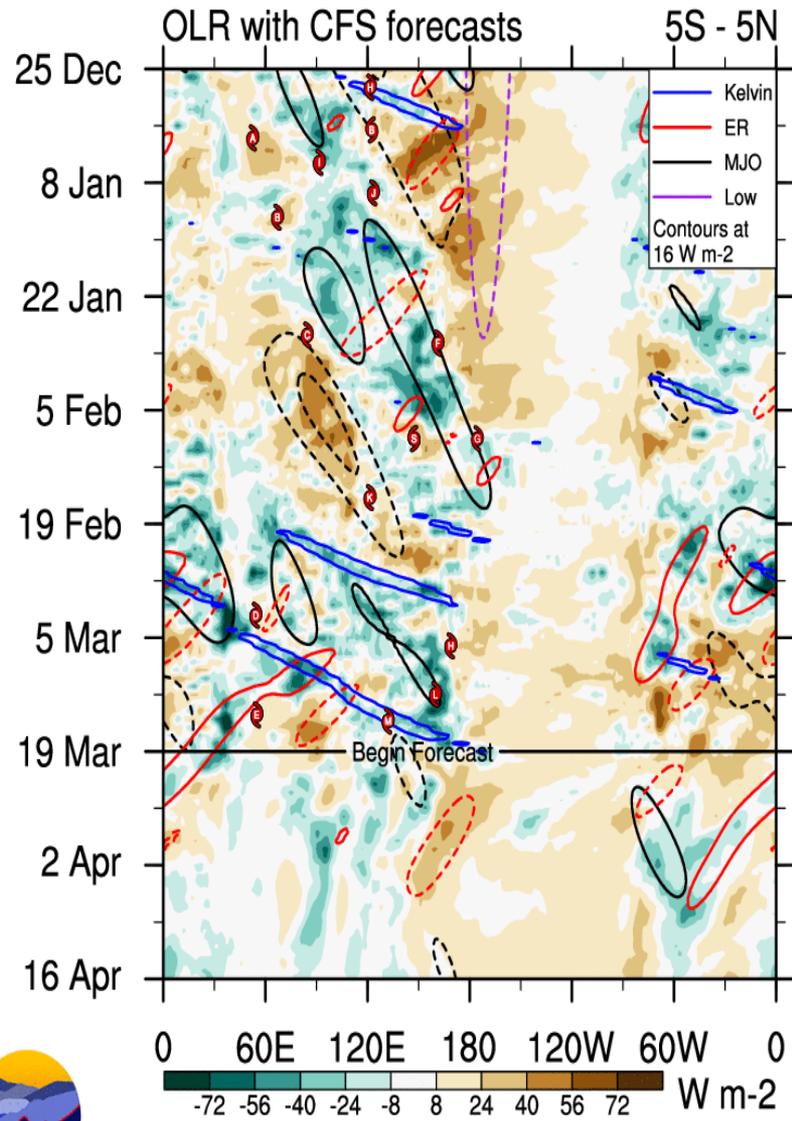
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

MJO & Rossby wave at odds with each other around Maritime Continent/Western Pacific.

Low-frequency pattern less of an influence



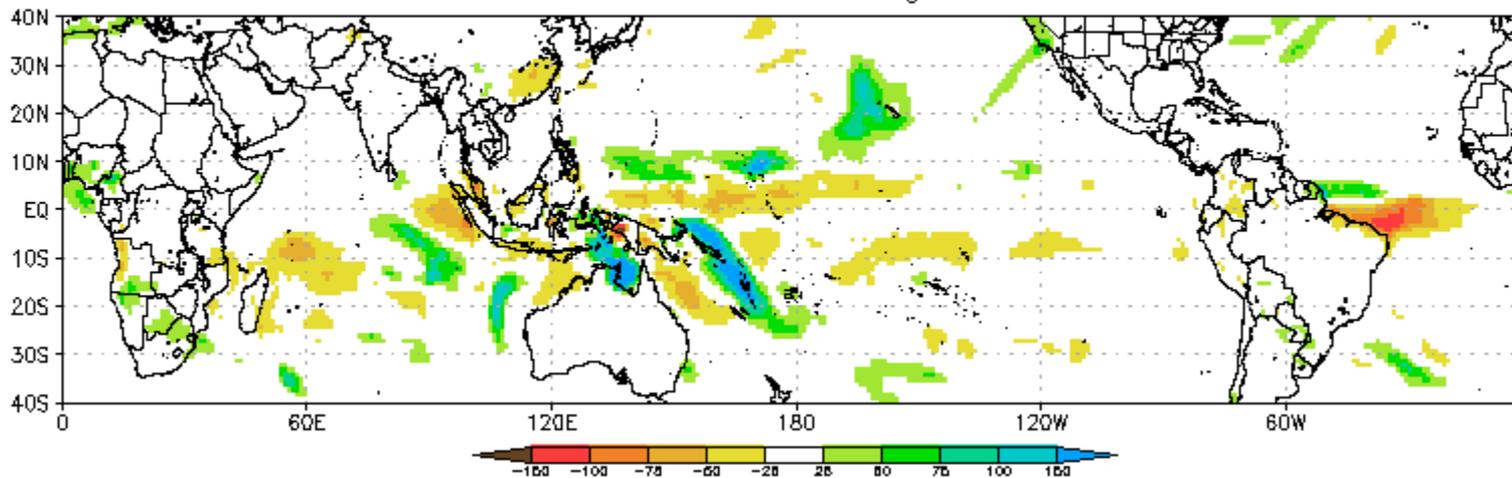
ncics.org/mjo

Tue 2018-03-20 15:13 UTC

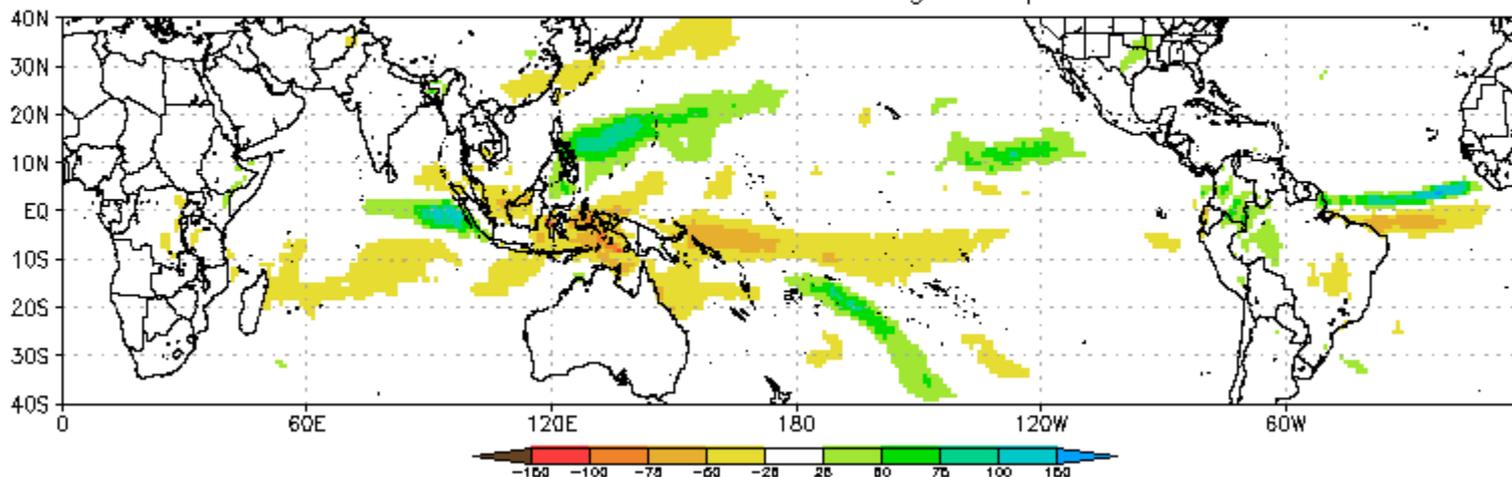
Carl Schreck (cjschrec@ncsu.edu)

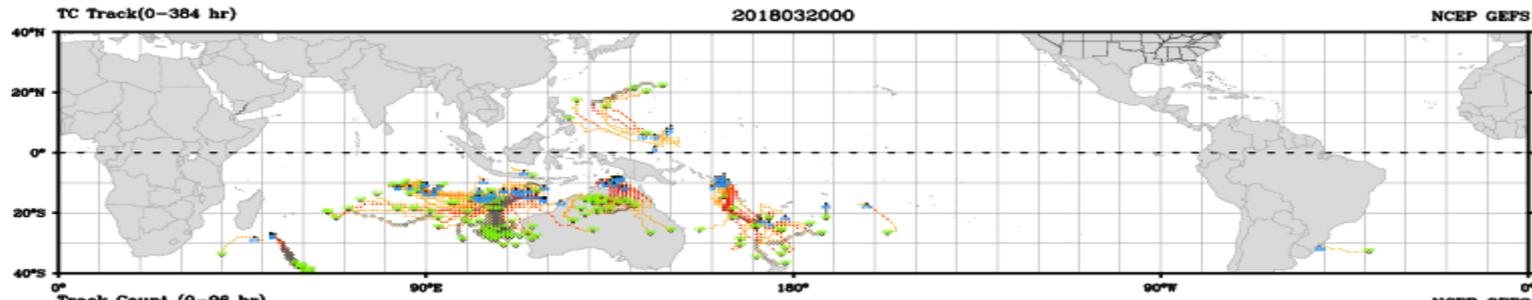


CFS Precipitation Anomalies (mm) Issued 19Mar2018
Week-1 Forecast Ending 27Mar2018



CFS Precipitation Anomalies (mm) Issued 19Mar2018
Week-2 Forecast Ending 03Apr2018



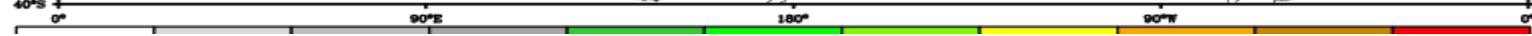
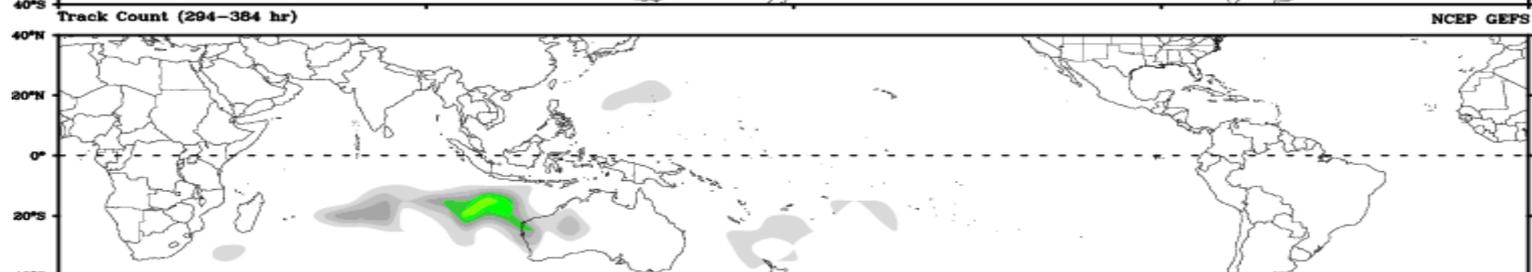
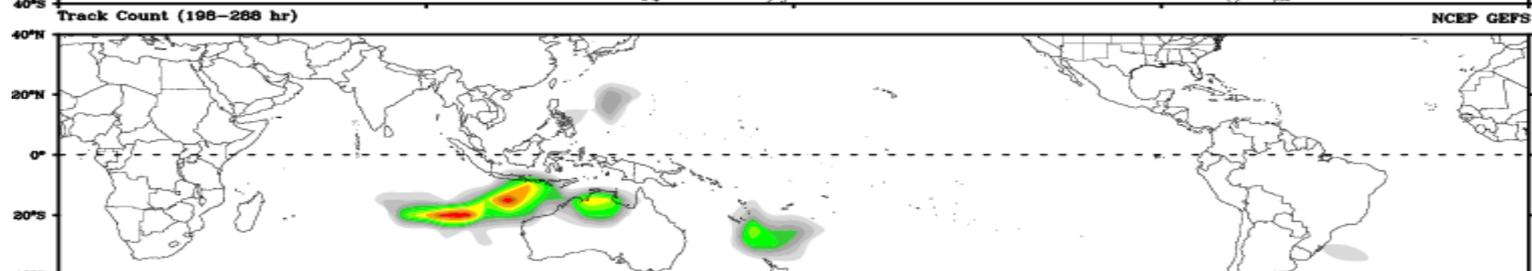
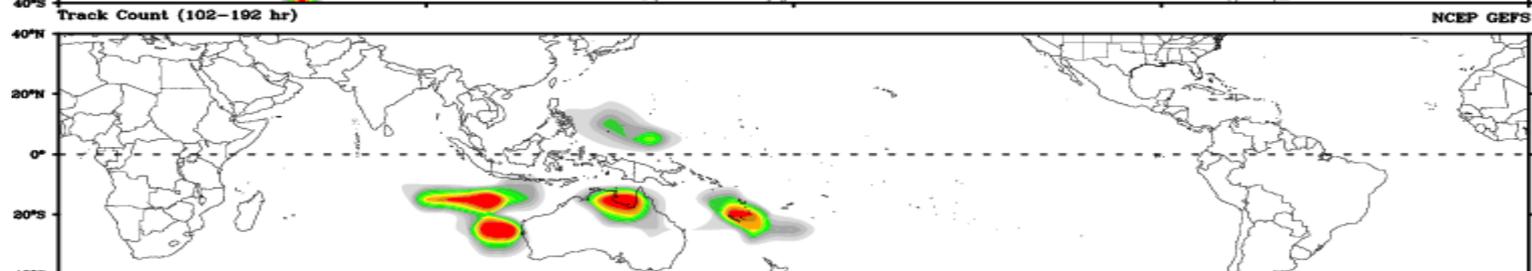
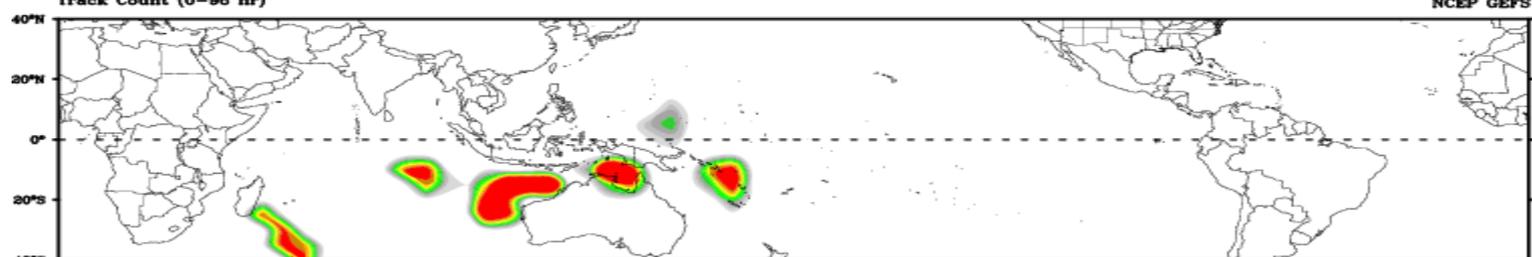


Days 1-4

Day 5-8

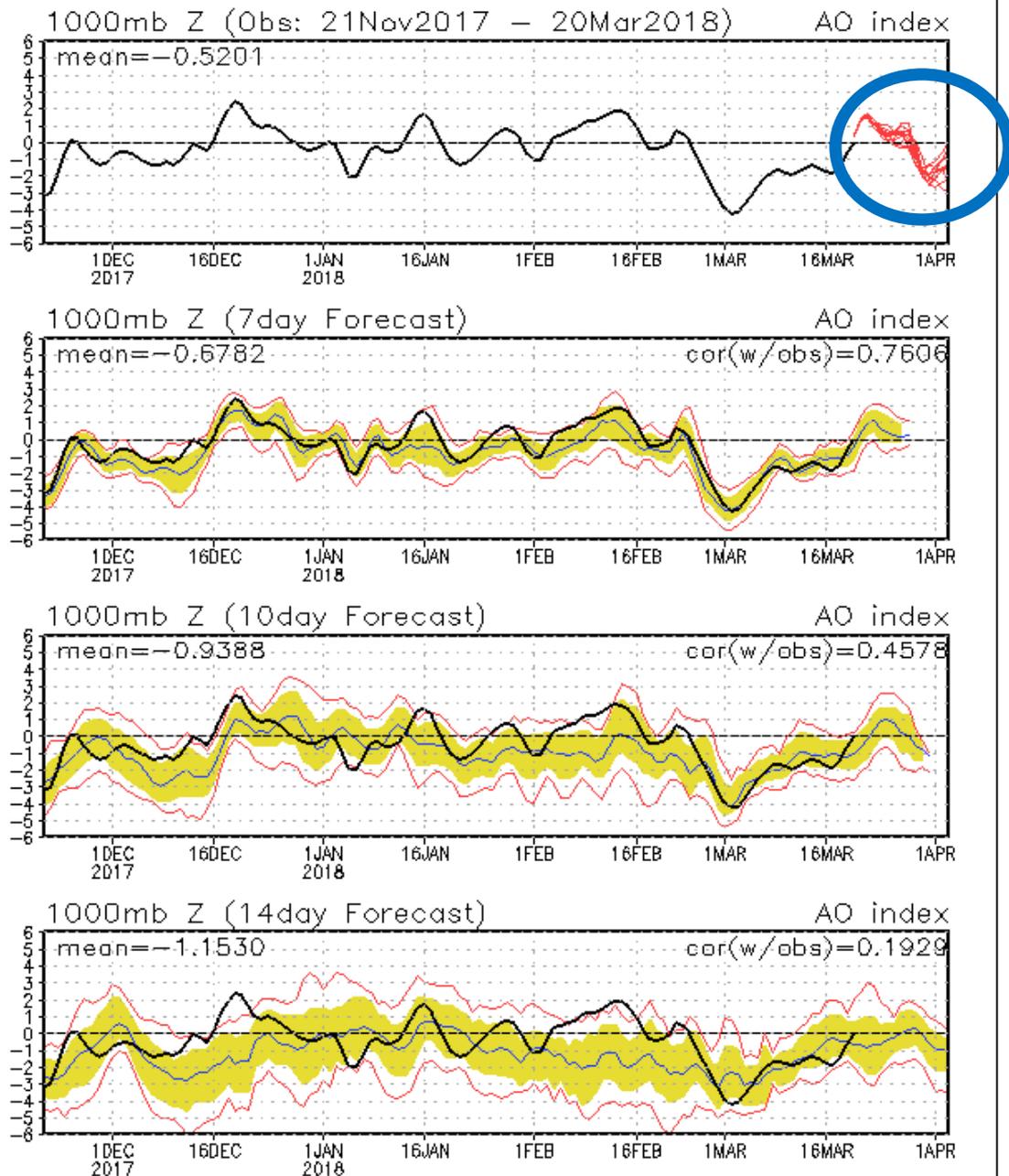
Day 9-12

Day 13-15

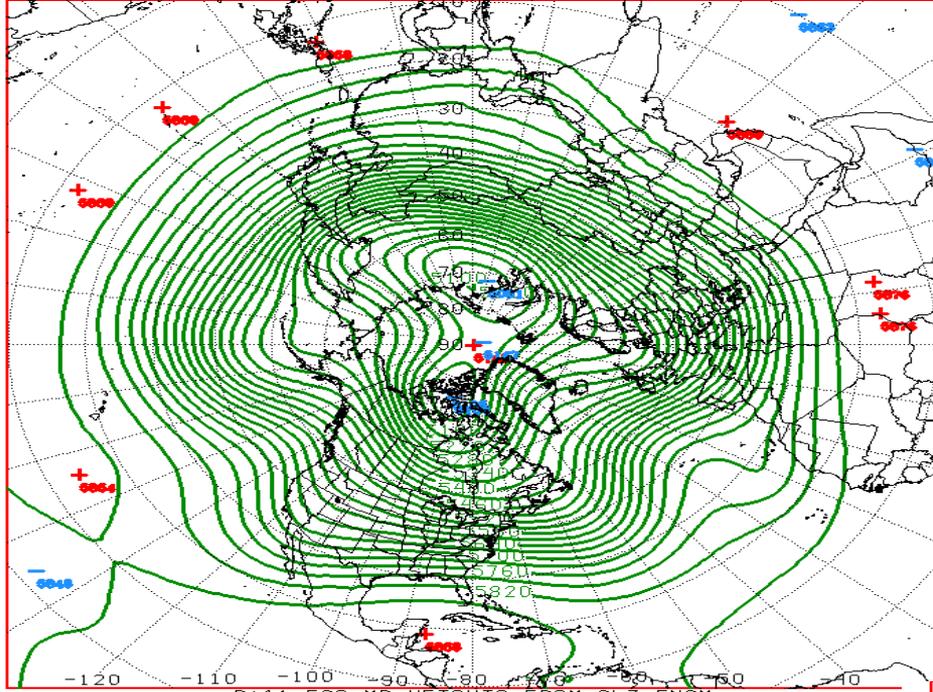


Connections to U.S. Impacts

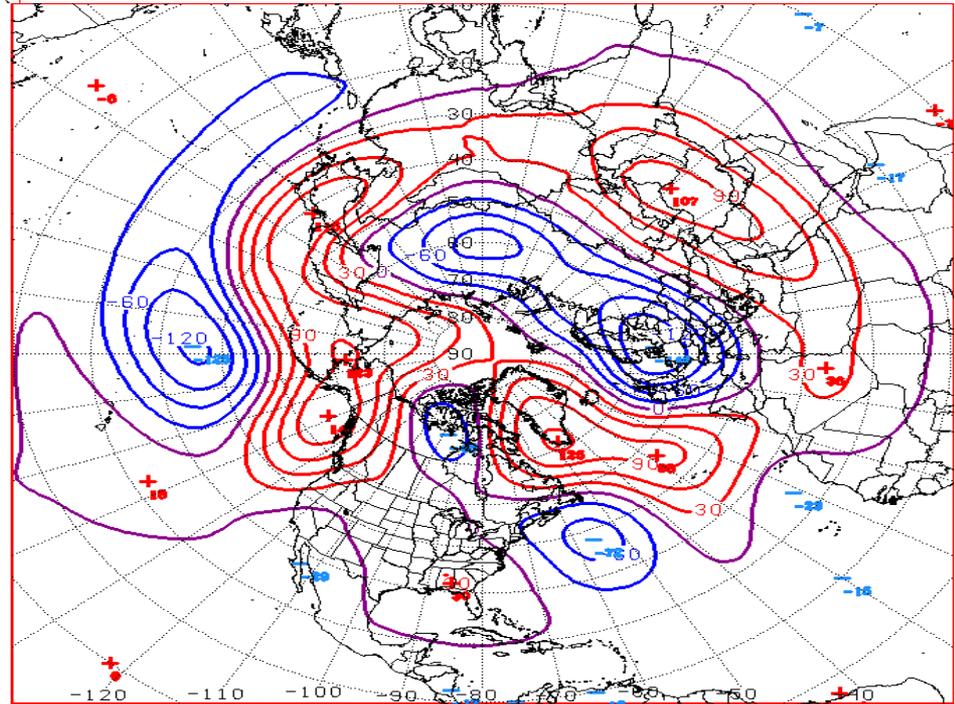
AO: Observed & ENSM forecasts



D+11 GFS Superensemble

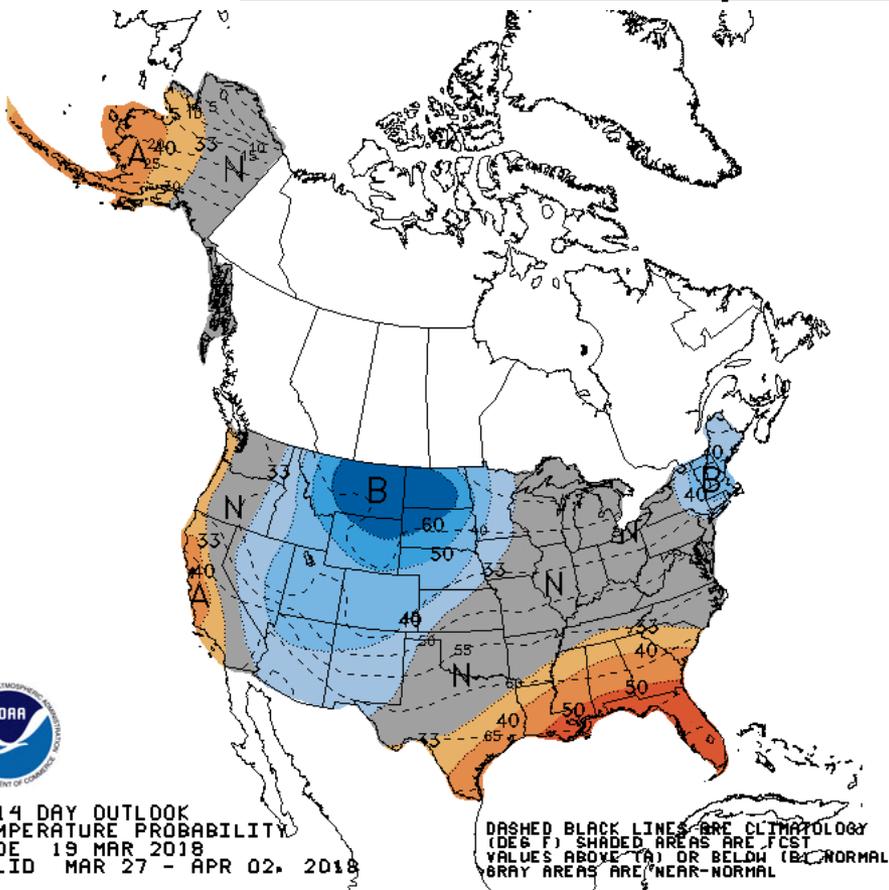


D+11 500 MB HEIGHTS FROM ALZ ENSM
CPC MAP MADE MAR 20 2018 1328 UTC CNTD MAR 31 2018

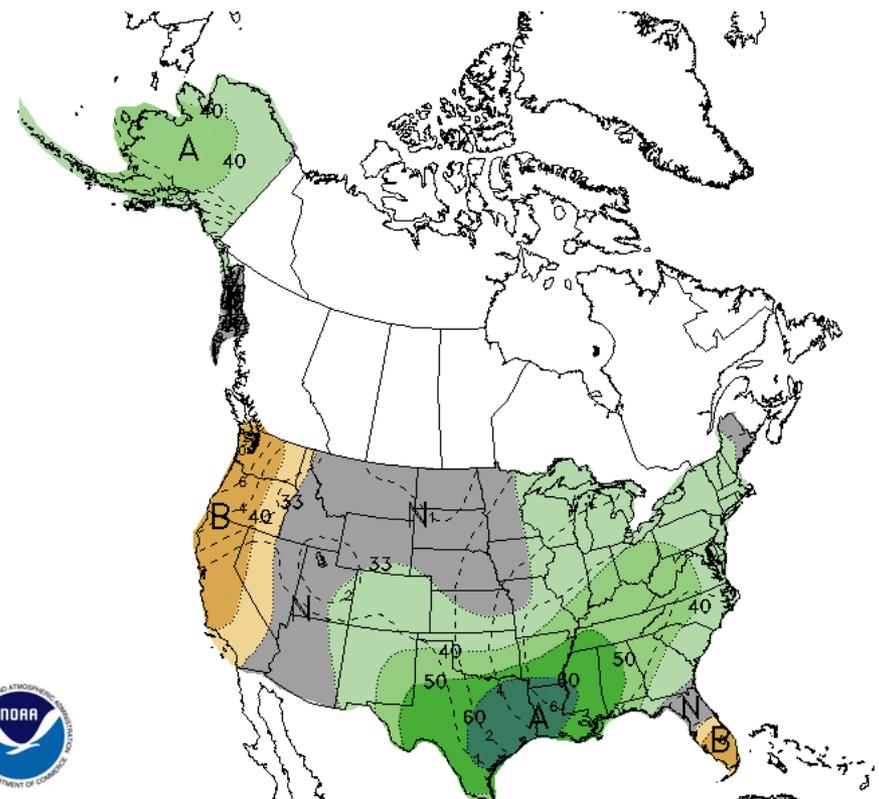
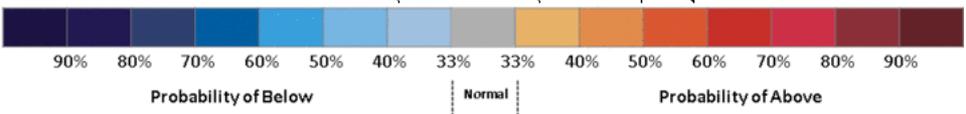


D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAR 20 2018 1329 UTC CNTD MAR 31 2018

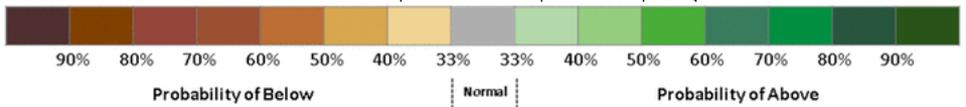
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 19 MAR 2018
VALID MAR 27 - APR 02, 2018



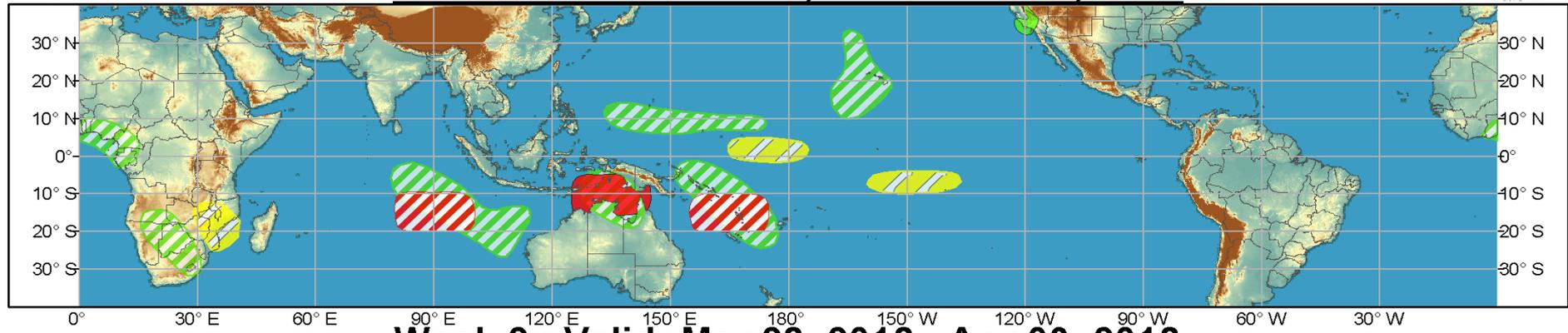
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 19 MAR 2018
VALID MAR 27 - APR 02, 2018



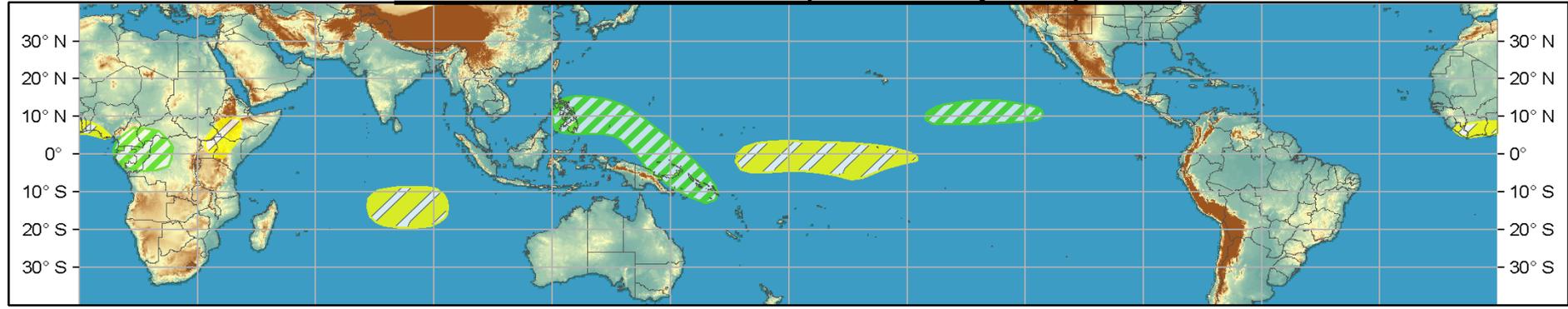


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