

Global Tropics Hazards And Benefits Outlook

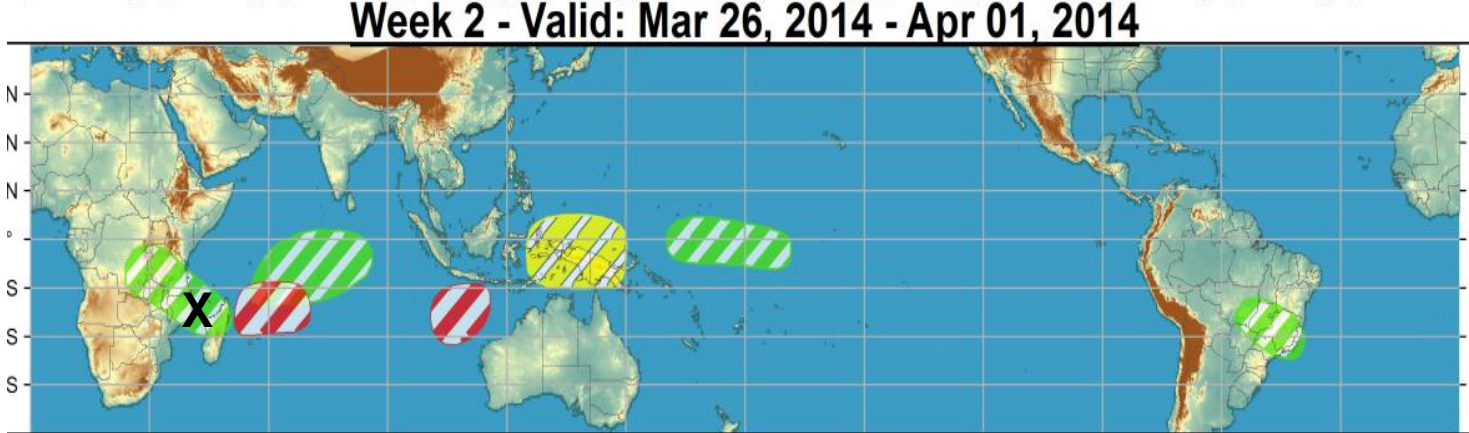
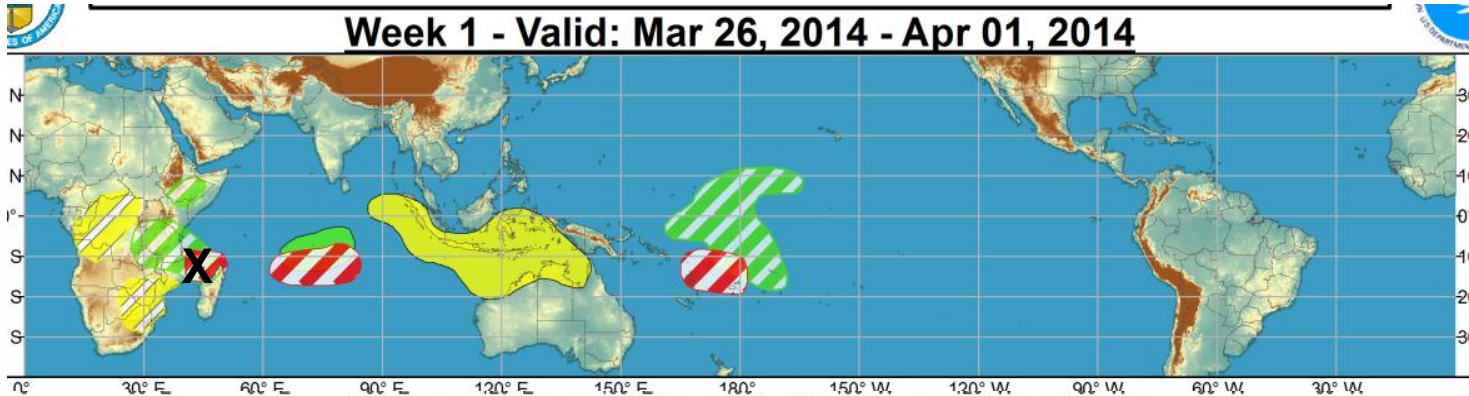
April 1, 2014

Matthew Rosencrans

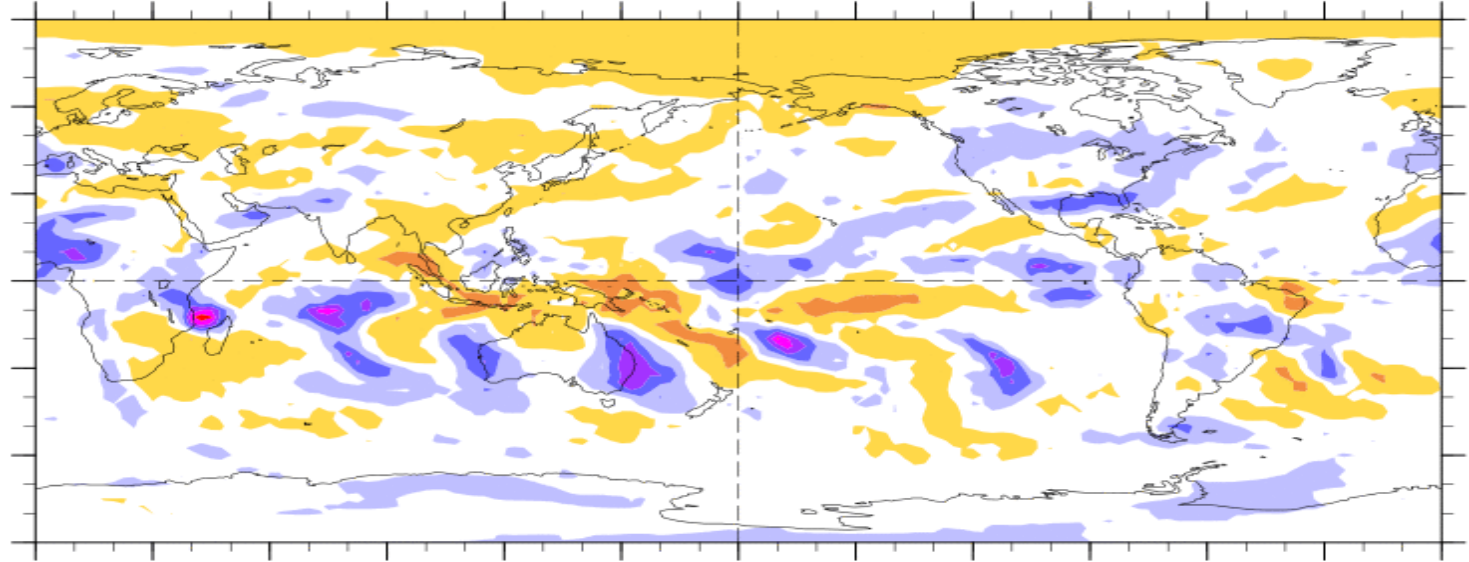
Outline

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 2014/03/24 - 2014/03/30



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO:

- ENSO-neutral is expected to continue through the Northern Hemisphere spring 2014, with about a 50% chance of El Niño developing during the summer or fall.
- ENSO Alert System Status: El Niño Watch

MJO and other subseasonal tropical variability:

- The MJO remained weak during the past week. Other modes of variability are aliased into some of the MJO indices.
- Dynamical model MJO index forecasts differ on the strength of the signal during Week-2, with indications of a weak signal and rapid propagation, hinting that the models are keying in on Kelvin Waves and Equatorial Rossby waves.

Extratropics:

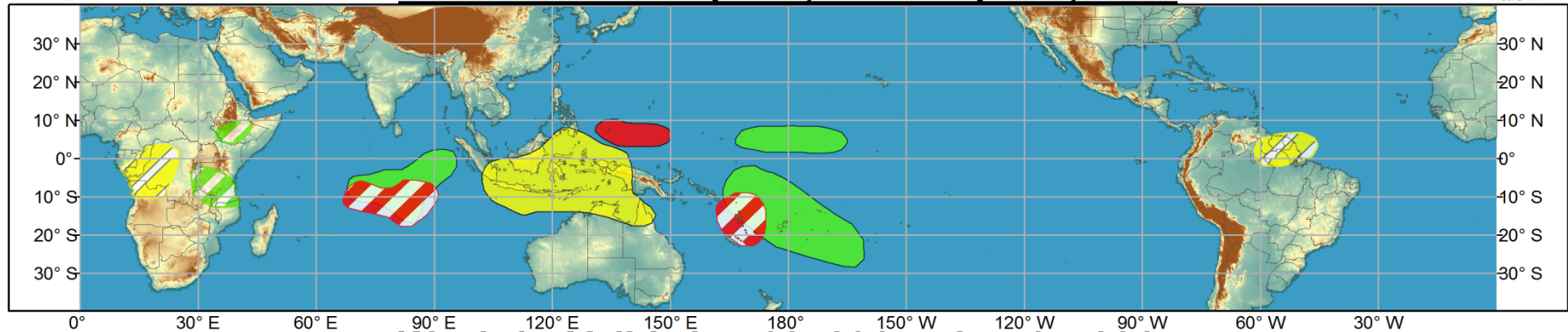
- The extended range forecast for the U.S. is not expected to be impacted greatly by the MJO. Current outlooks indicate above-normal temperatures are favored from the West Coast to the Great Plains and portions of the south-central CONUS, with below-normal temperatures favored from the Northern Great Plains to the Mid-Atlantic and New England, along with the Gulf coast from TX to FL. An active precipitation pattern is expected across the Great Basin and northern tier from MT to the Northeast, with drier conditions expected for the Pacific Northwest.



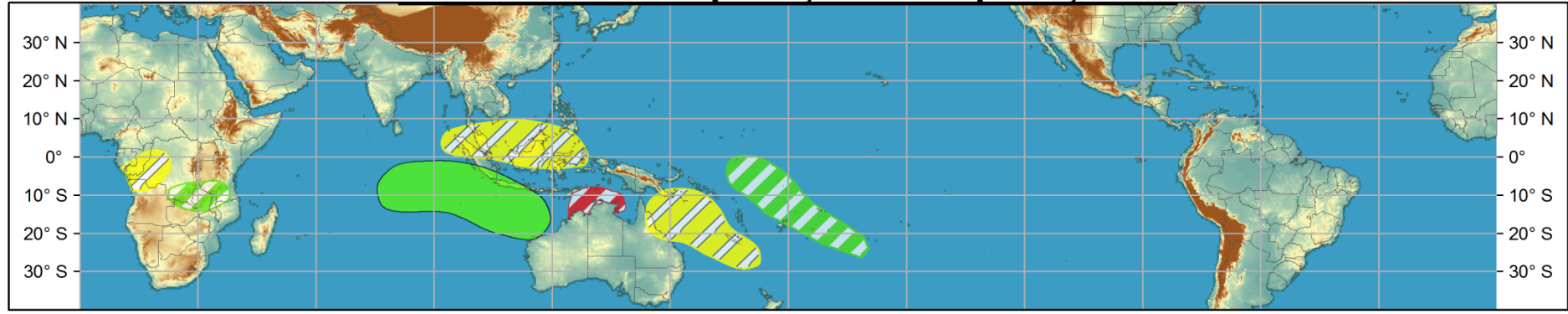
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Apr 02, 2014 - Apr 08, 2014



Week 2 - Valid: Apr 09, 2014 - Apr 15, 2014



Confidence

High Moderate

- Tropical Cyclone Formation** Development of a tropical cyclone that eventually reaches tropical storm/cyclone 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.
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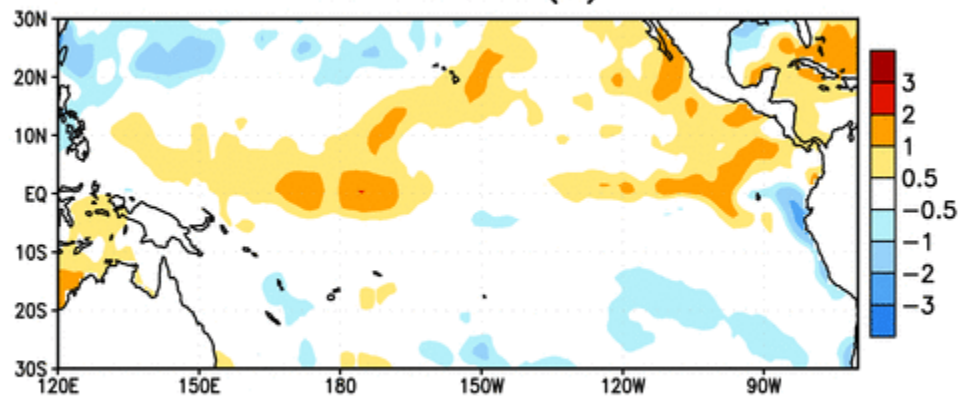
Produced: 04/01/2014

Forecaster: Rosencrans

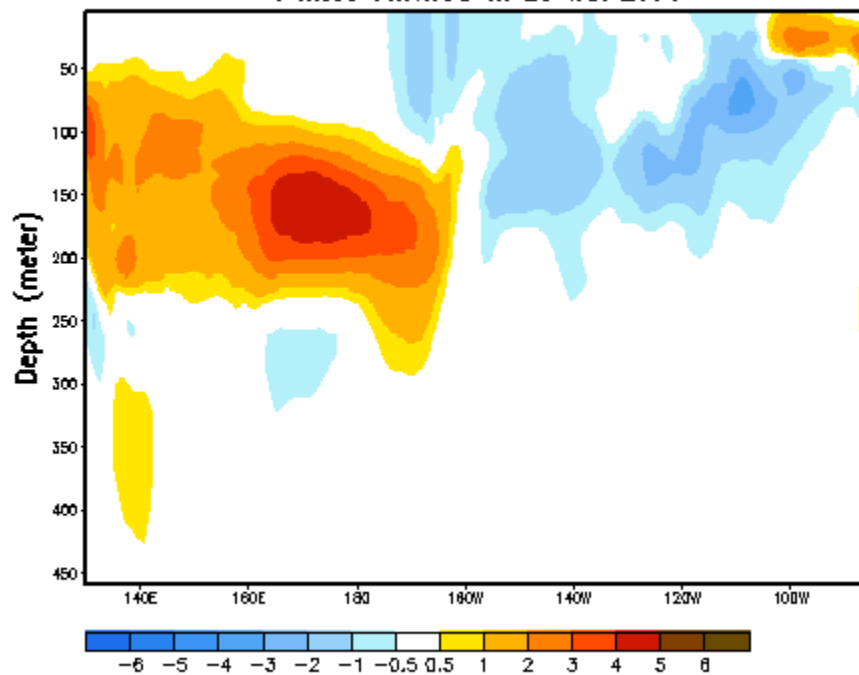
Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



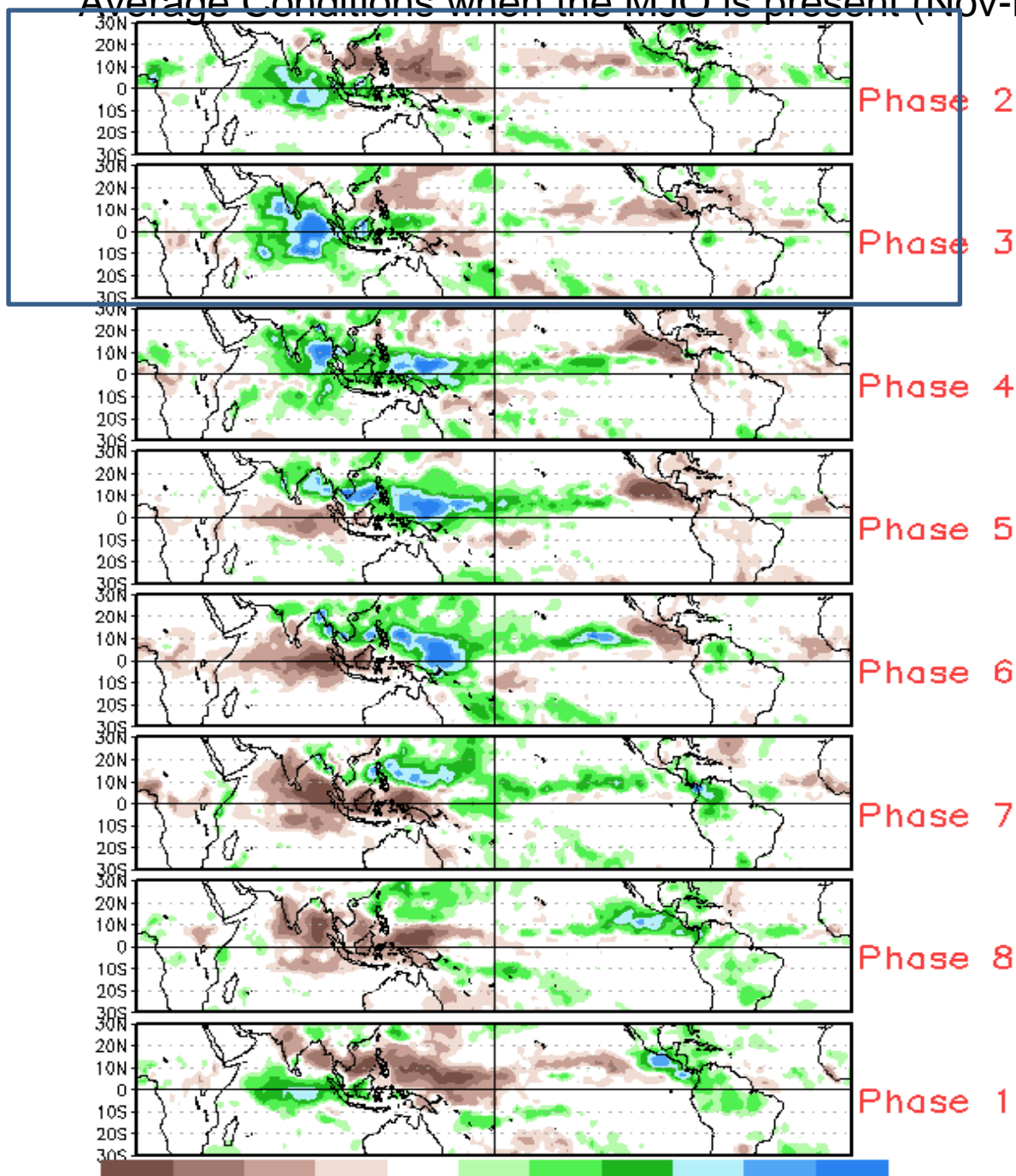
Week centered on 26 MAR 2014
SST Anomalies (°C)



Equatorial Temperature Anomaly (°C)
Pentad centered on 23 JAN 2014

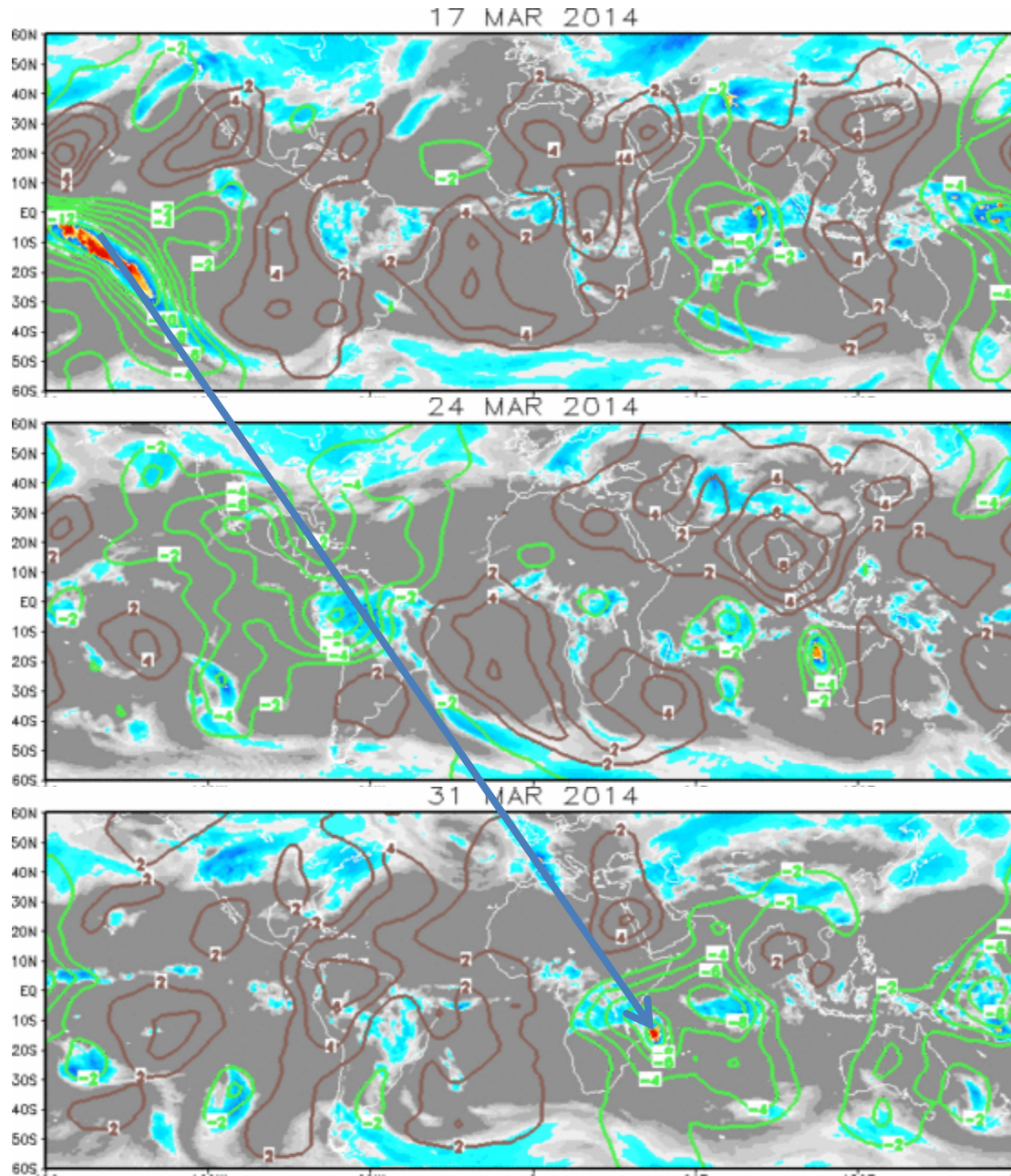


Average Conditions when the MJO is present (Nov-Mar)



IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence



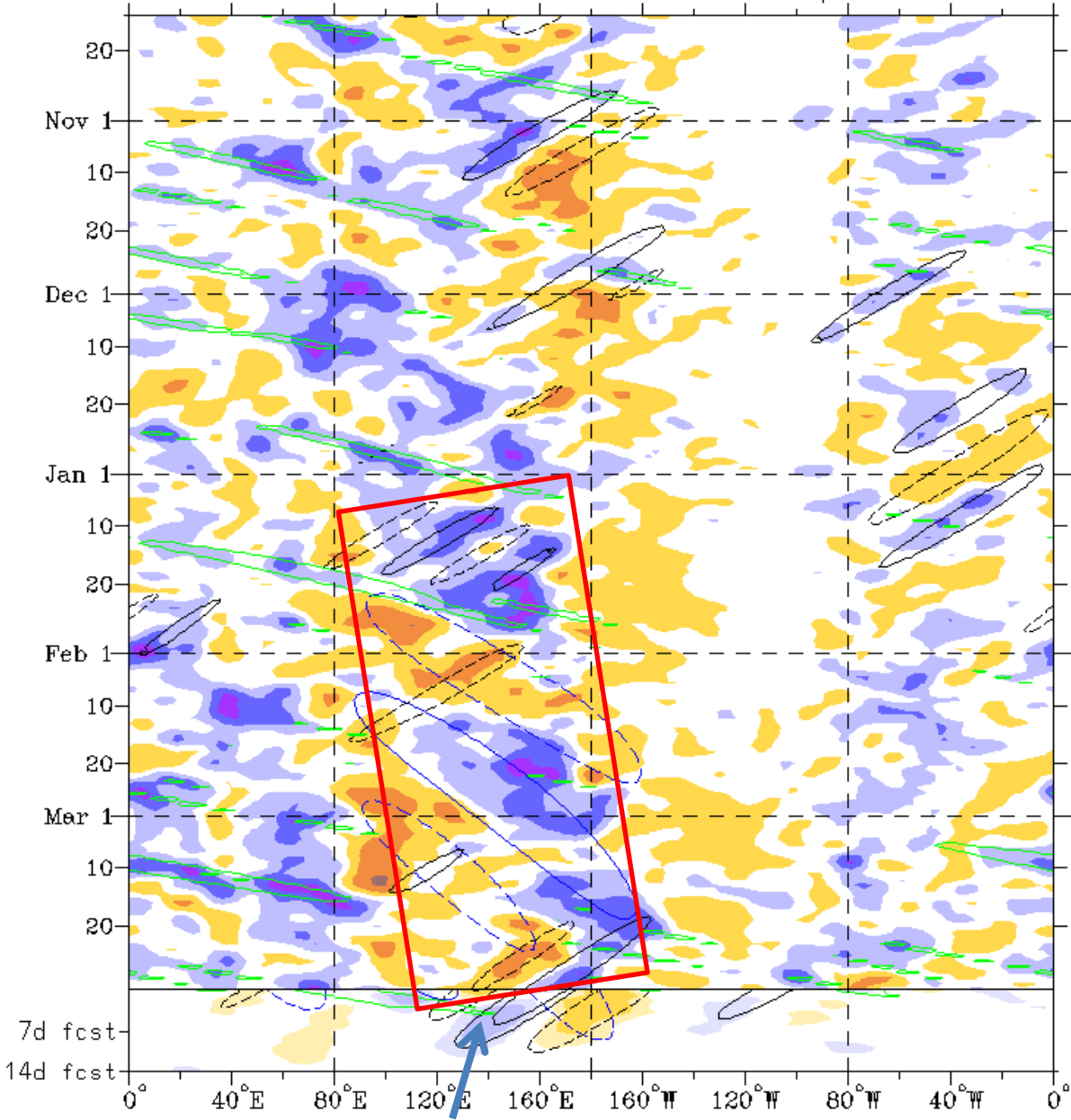
Pattern is not coherent with MJO activity.

Evidence of other modes of variability.

MJO signal faded about 2 weeks ago.

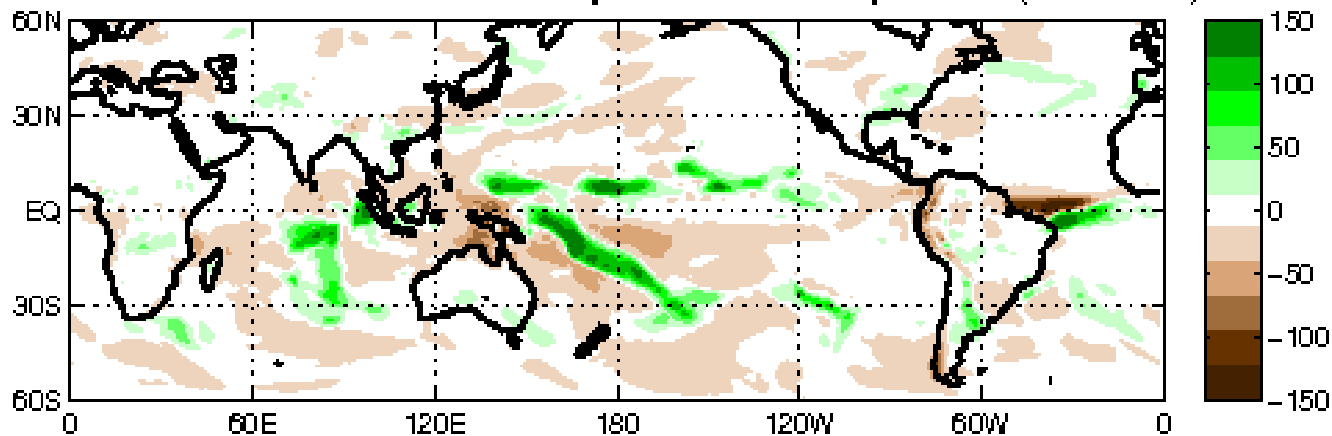
Main drivers are now:

- 1) Atmospheric Kelvin waves (green ovals)
- 2) Equatorial Rossby Waves (black oval, tilted to bottom left)
- 3) Interseasonal state (red box)

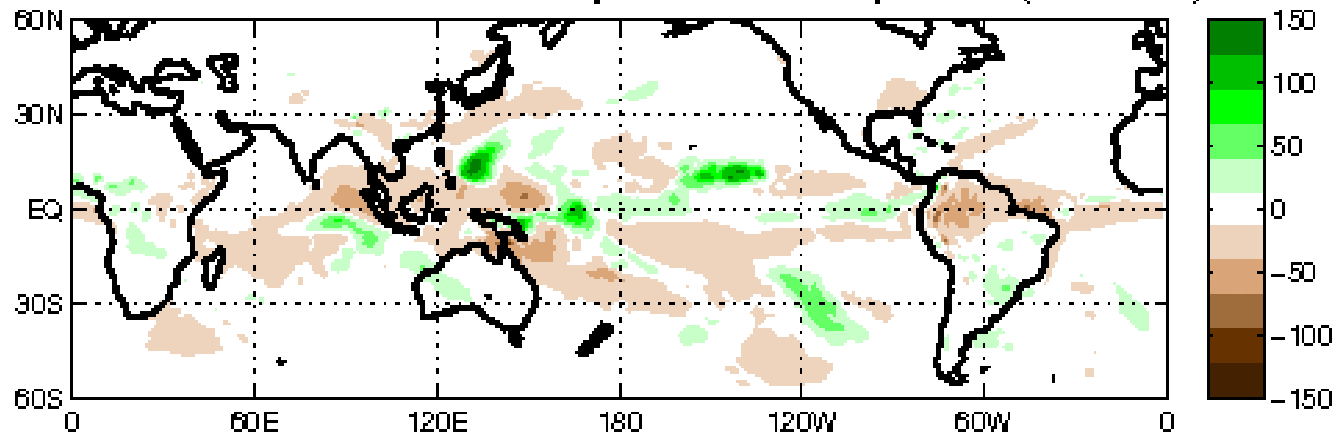


Enhanced convection over Indian Ocean, western Maritime Continent

CFS: Anom. PREC Week1: 01-Apr-2014 to 07-Apr-2014 (mm/week)

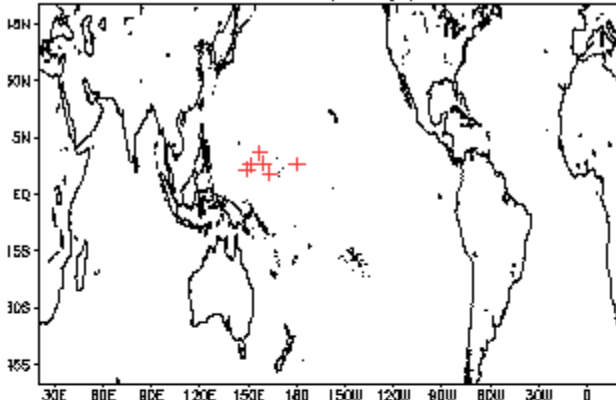


CFS: Anom. PREC Week2: 08-Apr-2014 to 14-Apr-2014 (mm/week)

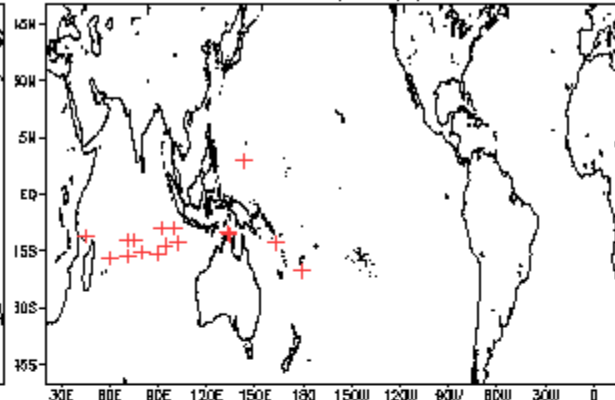


April Tropical Storm Formation by MJO phase

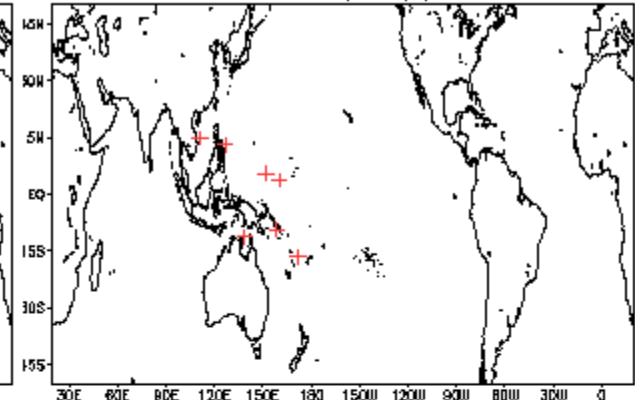
Phase 1 (70 days) 7 storms



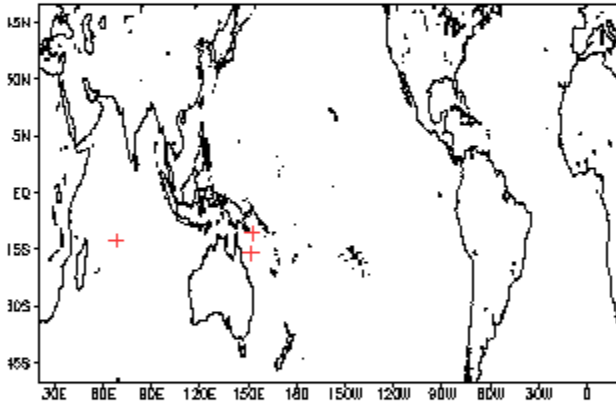
Phase 4 (95 days) 17 storms



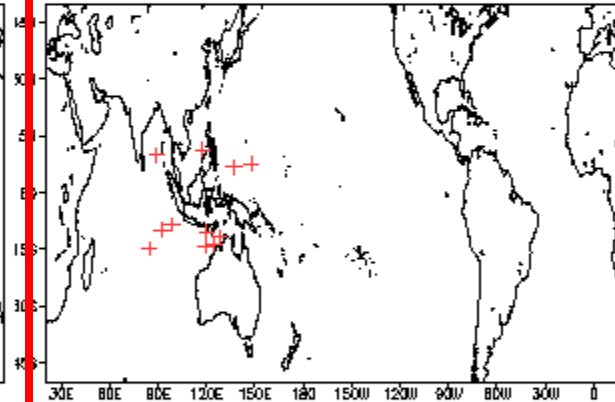
Phase 7 (87 days) 8 storms



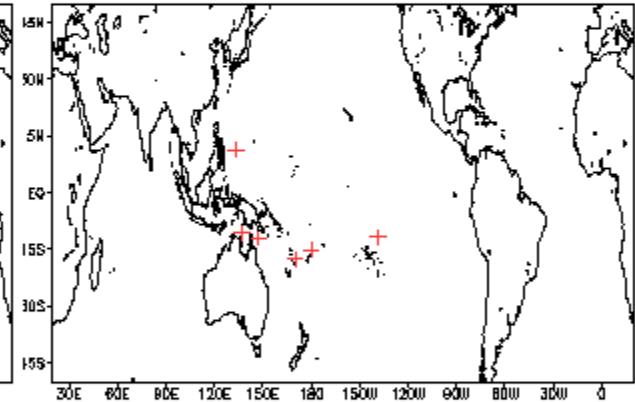
Phase 2 (65 days) 4 storms



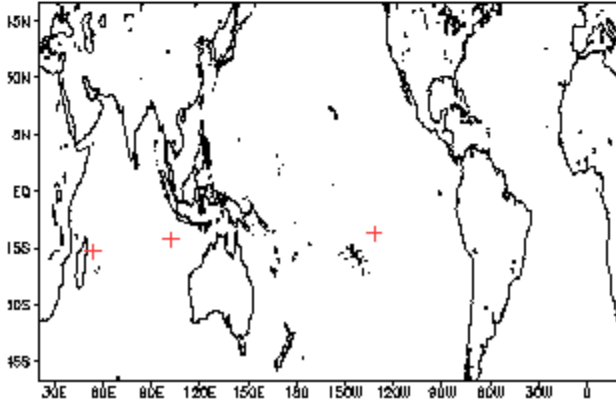
Phase 5 (77 days) 12 storms



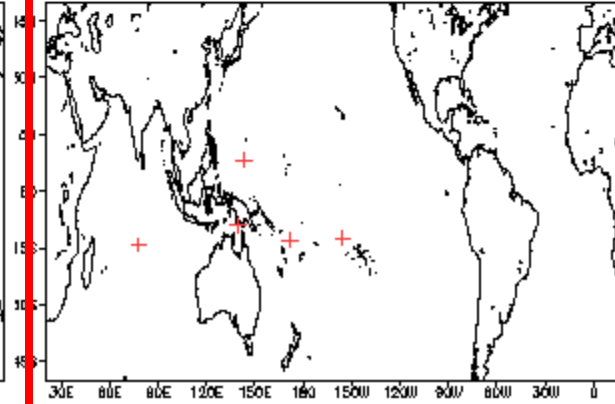
Phase 8 (75 days) 7 storms



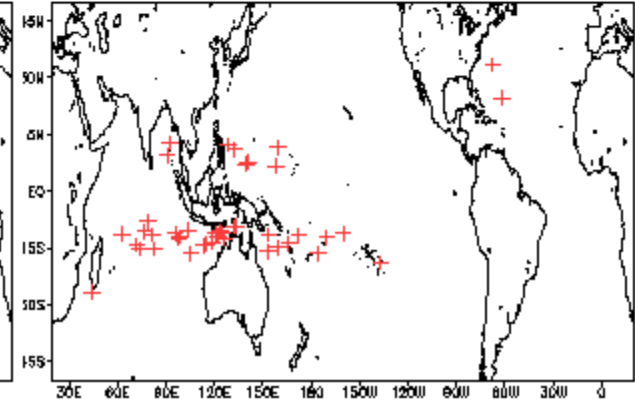
Phase 3 (68 days) 4 storms

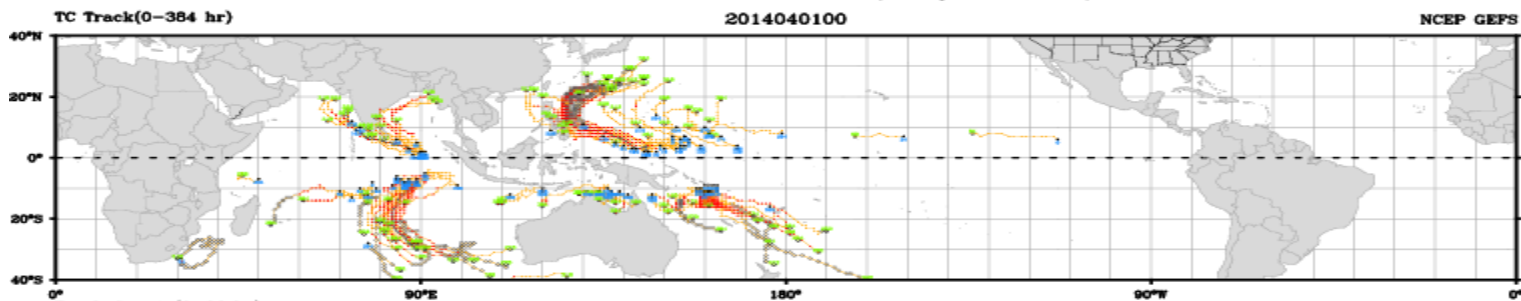


Phase 6 (65 days) 8 storms

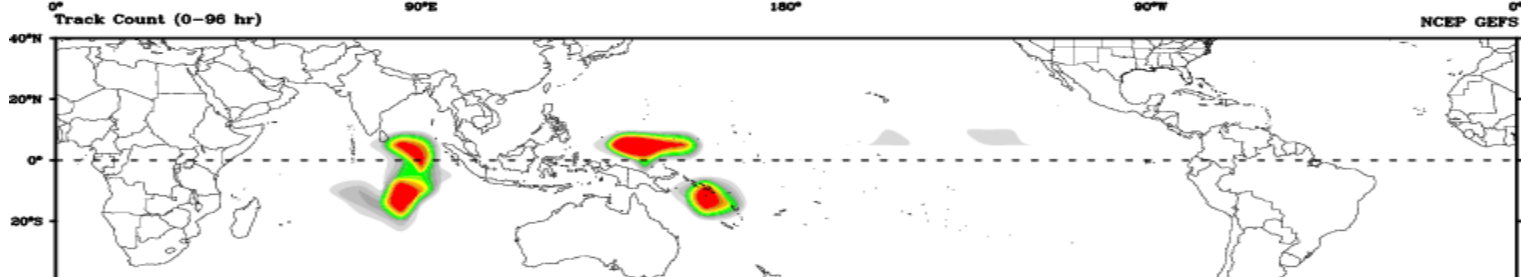


Null (388 days) 43 storms

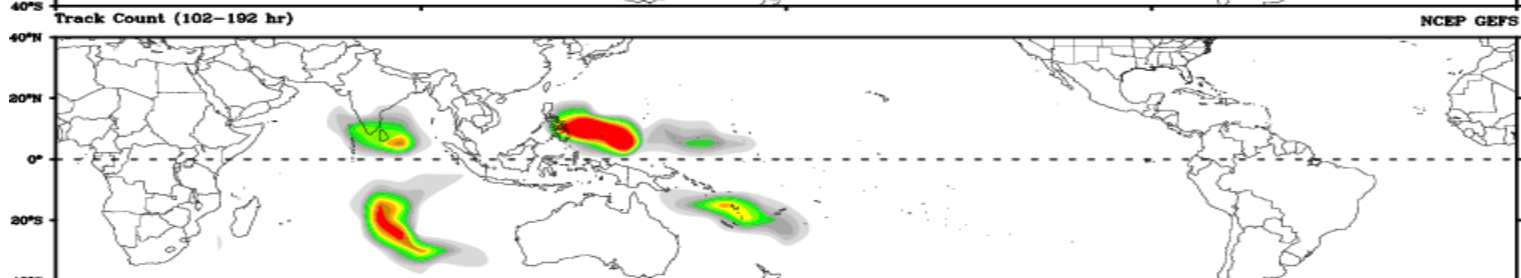




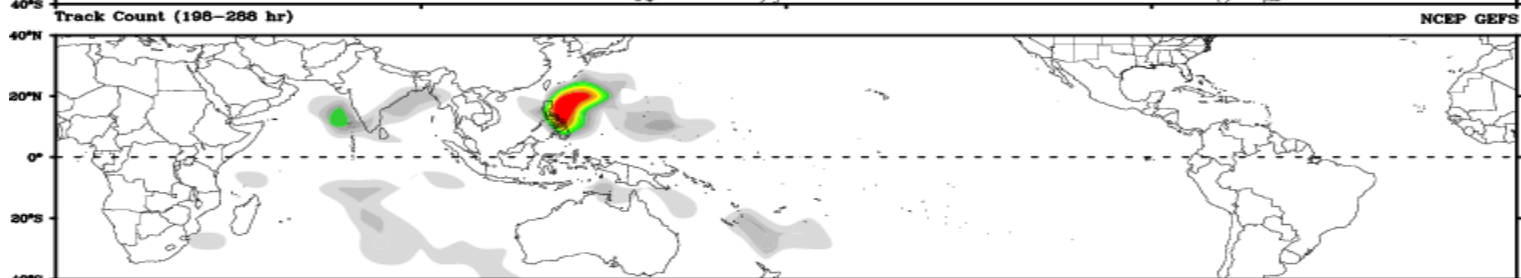
Days 1-4



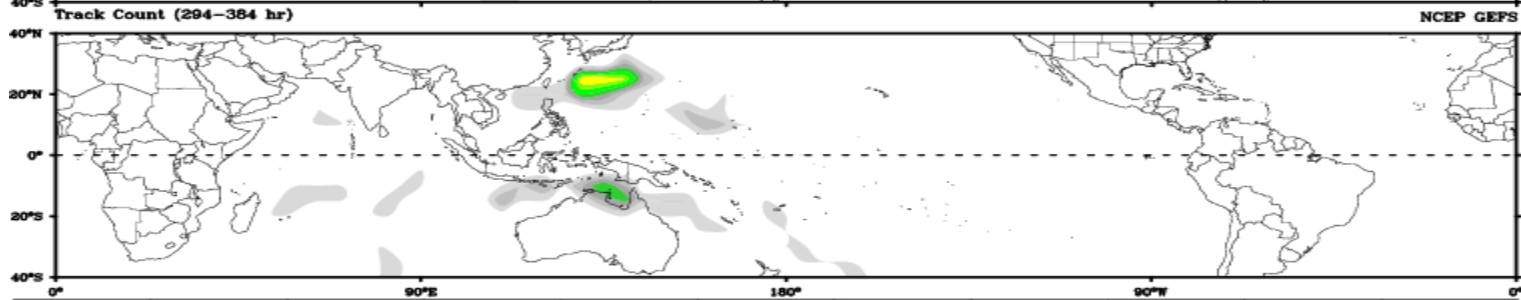
Day 5-8



Day 9-12

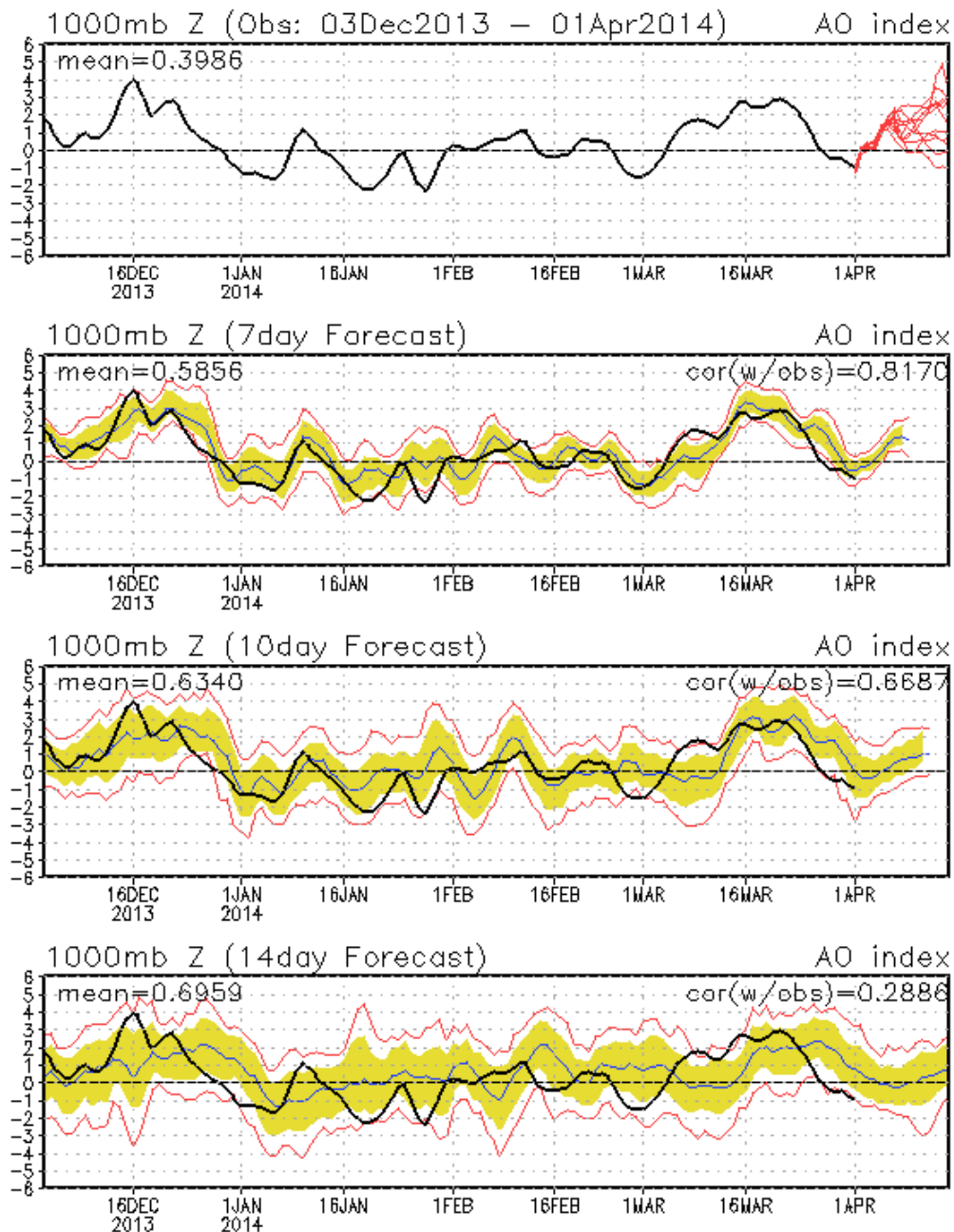


Day 13-15



Connections / U.S. Impacts

AO: Observed & ENSM forecasts

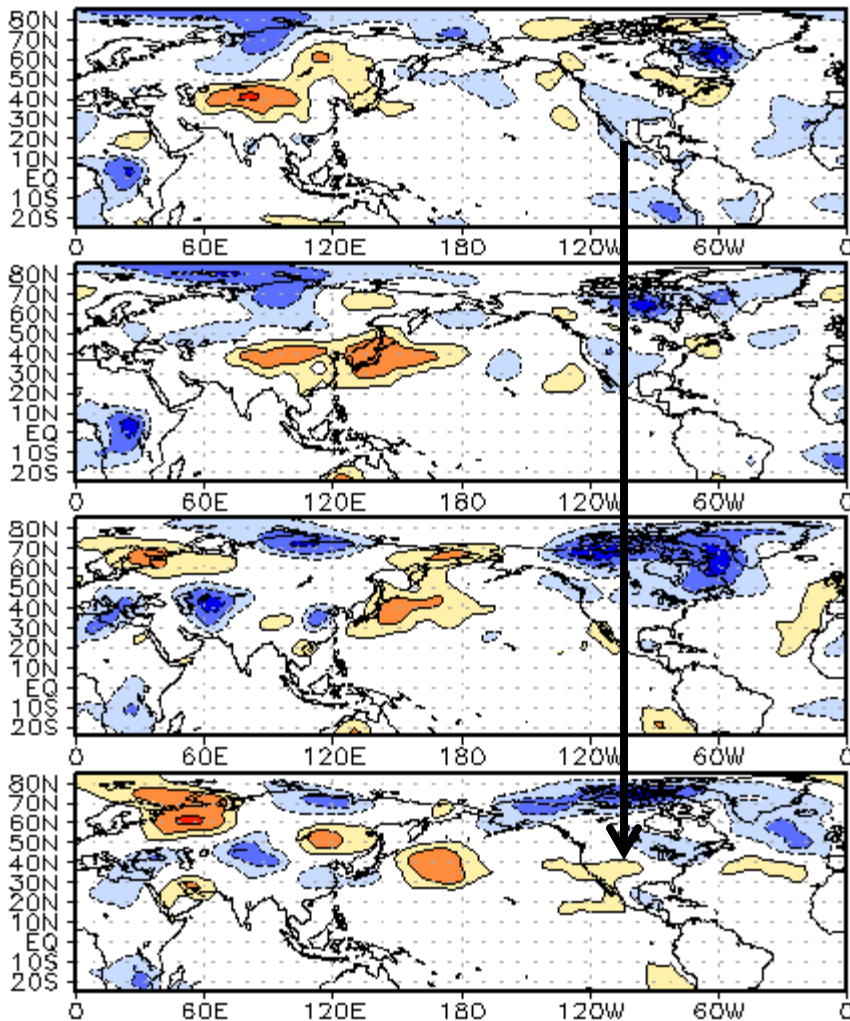


US Composites based on MJO Phase

Indicates a shift toward warmer conditions across the central and southwest CONUS.

Signal is weak at best.

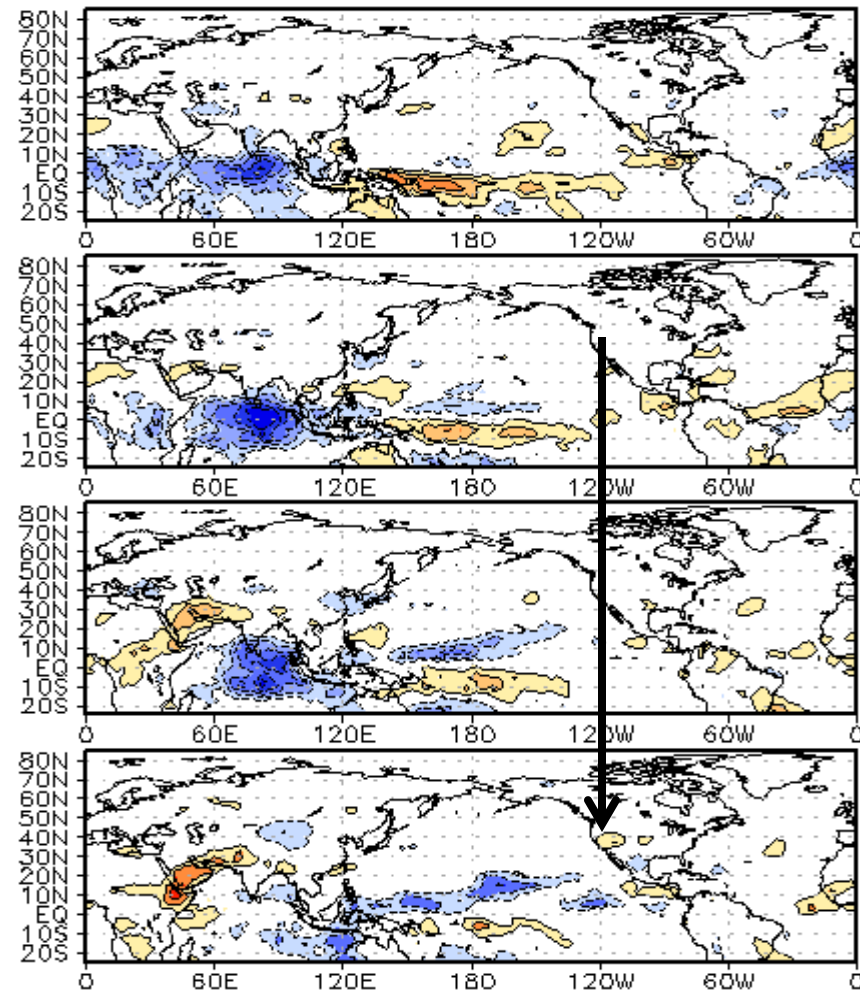
WHMJO Phase 2 t850 Lagged Composite (mam)



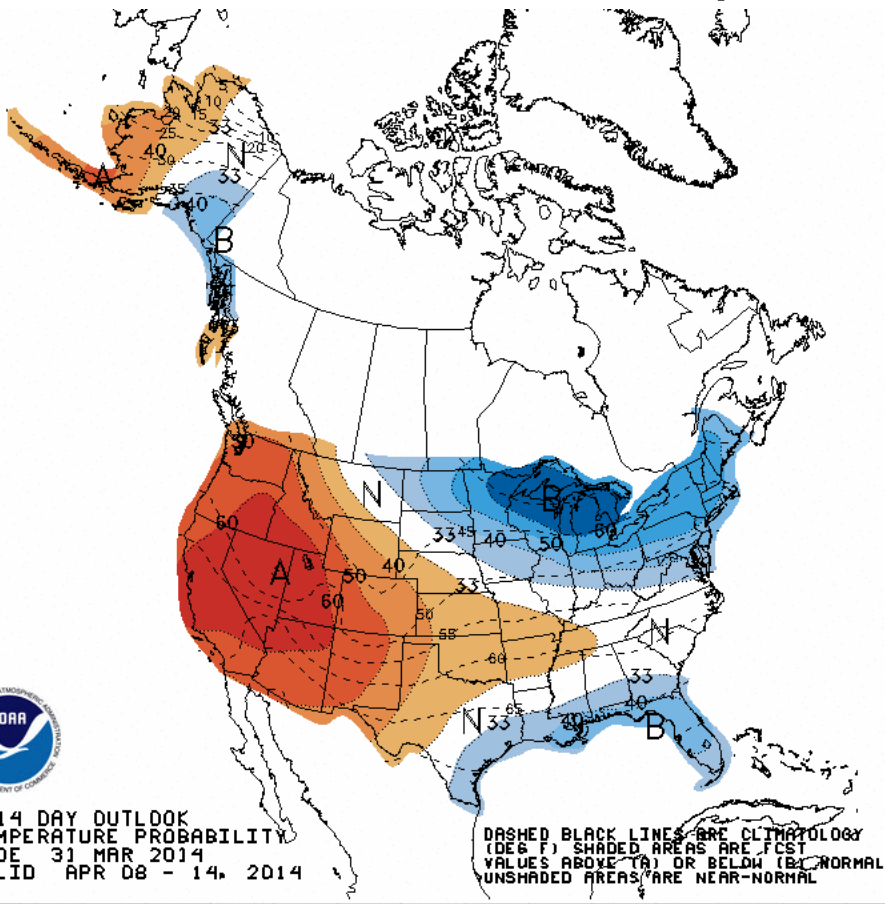
Would also support dryness over the southwest.

Signal is weak at best.

WHMJO Phase 2 air Lagged Composite (mam)

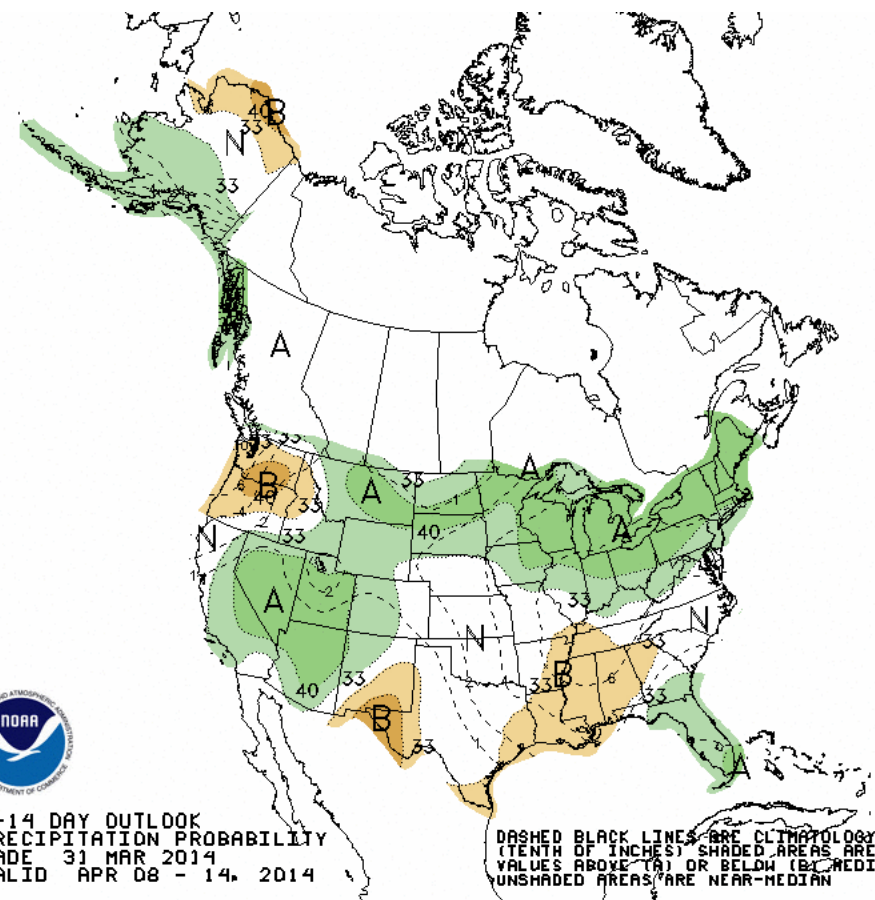
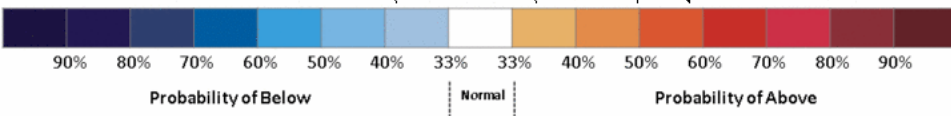


Week 2 – Temperature and Precipitation



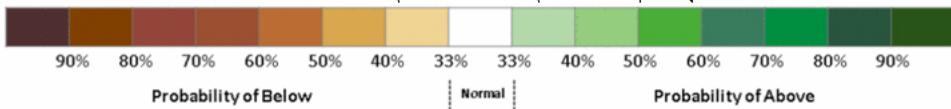
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 31 MAR 2014
VALID APR 08 - 14, 2014

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



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 31 MAR 2014
VALID APR 08 - 14, 2014

DASHED BLACK LINES ARE CLIMATE
(TENTH OF INCHES). SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) MEDIAN
UNSHADED AREAS ARE NEAR-MEDIAN

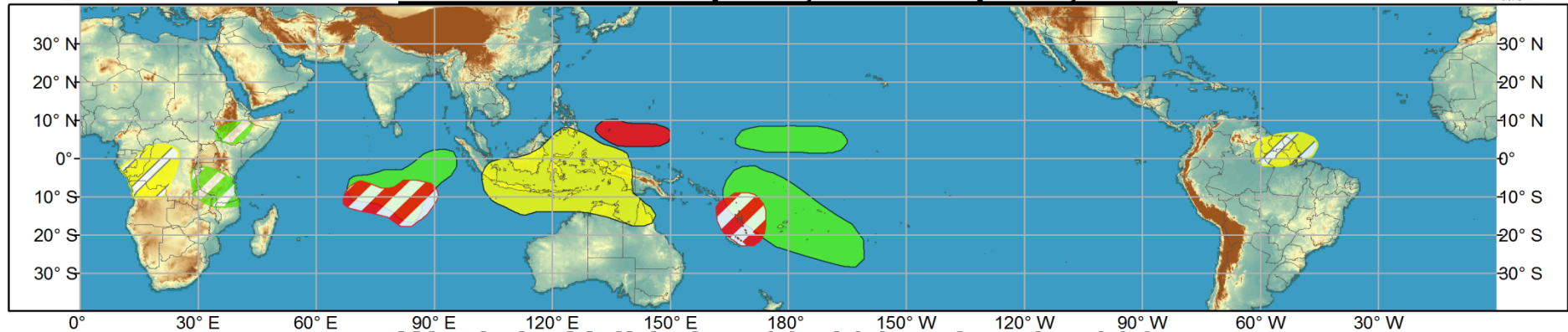




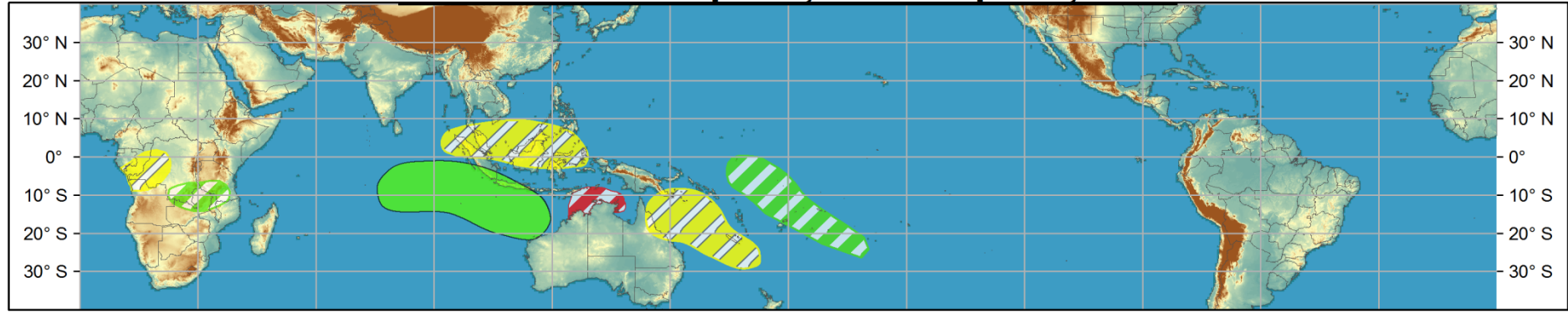
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