

Global Tropics Hazards And Benefits Outlook

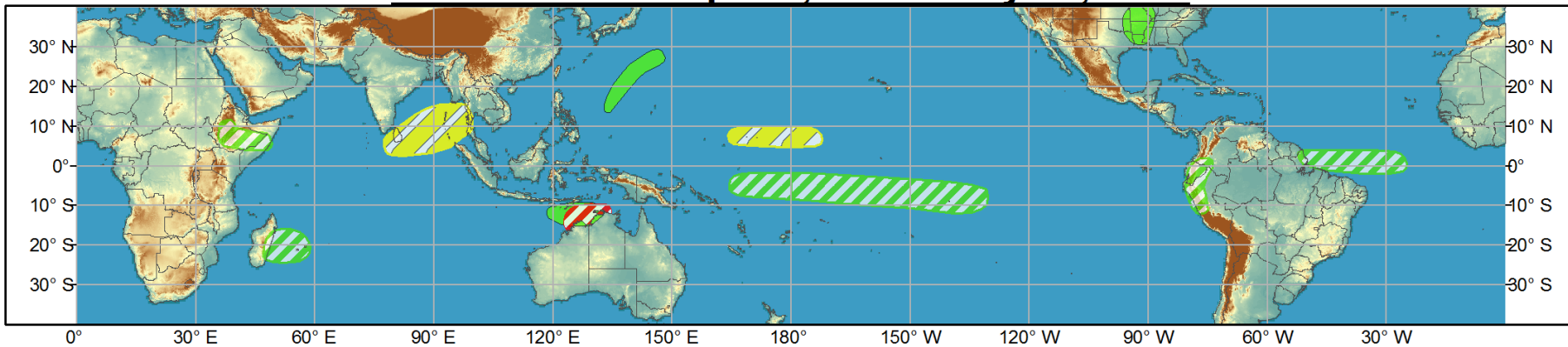
5/2/2017

Adam Allgood

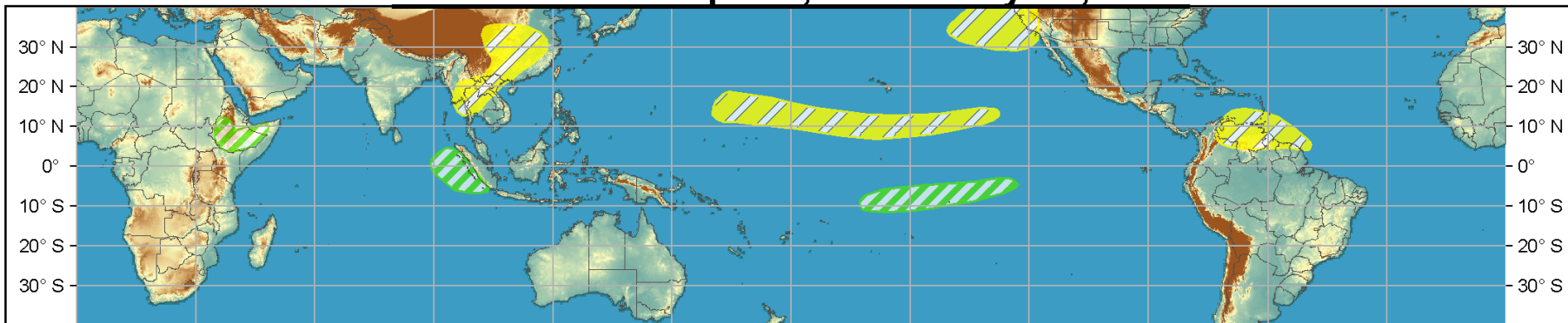
Outline

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

Week 1 - Valid: Apr 26, 2017 - May 02, 2017

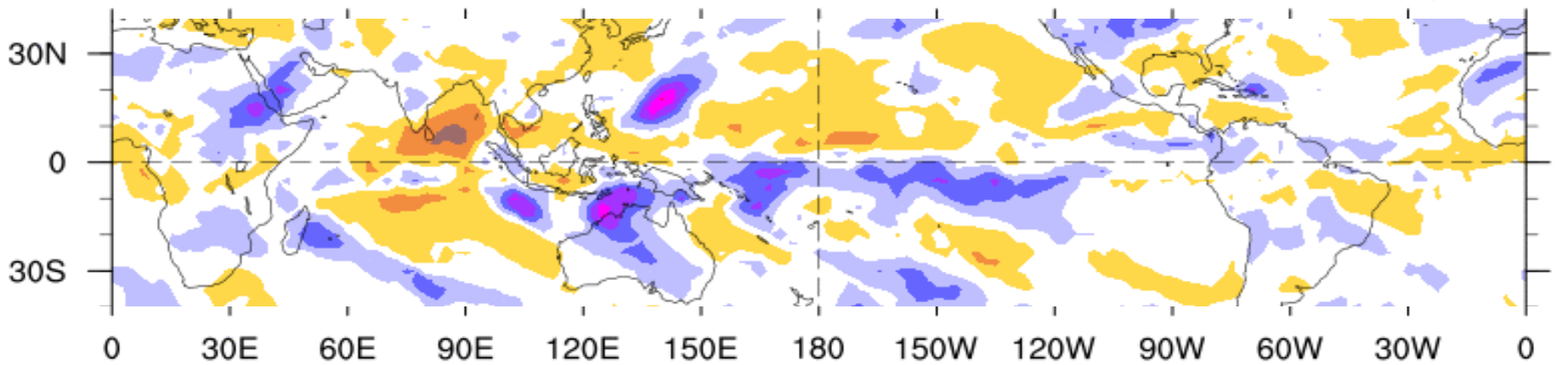


Week 2 - Valid: Apr 26, 2017 - May 02, 2017



7-Day Average OLR Anomaly

2017/04/24 - 2017/04/30



NOAA/ESRL/PSD

Base Period: 1981-2010



Synopsis of Climate Modes

ENSO:

- ENSO-neutral conditions are favored to continue through at least the Northern Hemisphere spring 2017, with increasing chances for El Niño development by late summer and fall (April 13 assessment).
- The next ENSO diagnostic discussion will be released on May 11.

MJO and other subseasonal tropical variability:

- Both the RMM-based and CPC velocity potential based MJO indices showed increased amplitude during the last week, with eastward propagation not robustly established.
- Dynamical models are split, with the GFS depicting a weakening signal and no propagation, and the ECMWF showing a coherent MJO event entering the Indian Ocean.

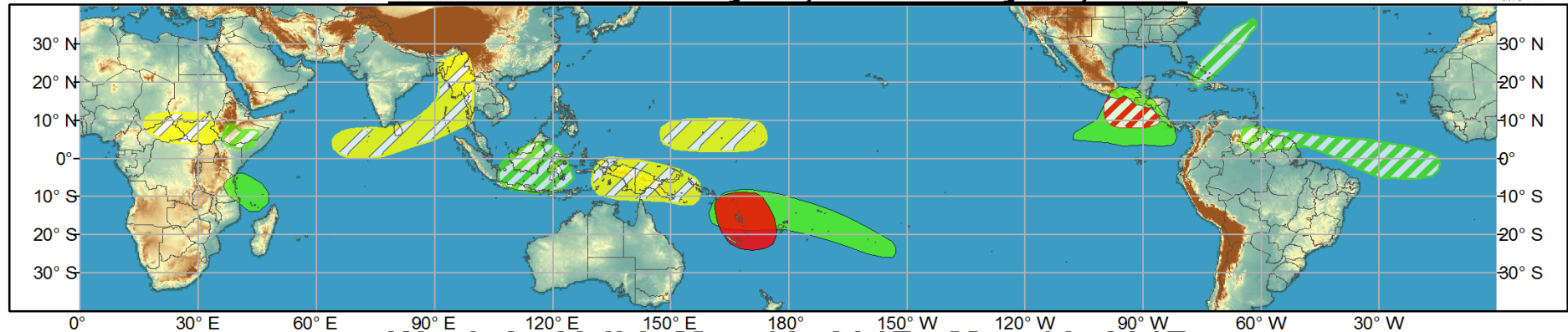
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be influenced by the MJO.
- The intraseasonal signal (or convection generated by a recent Kelvin Wave) may help promote a pre-season tropical cyclone formation over the East Pacific.

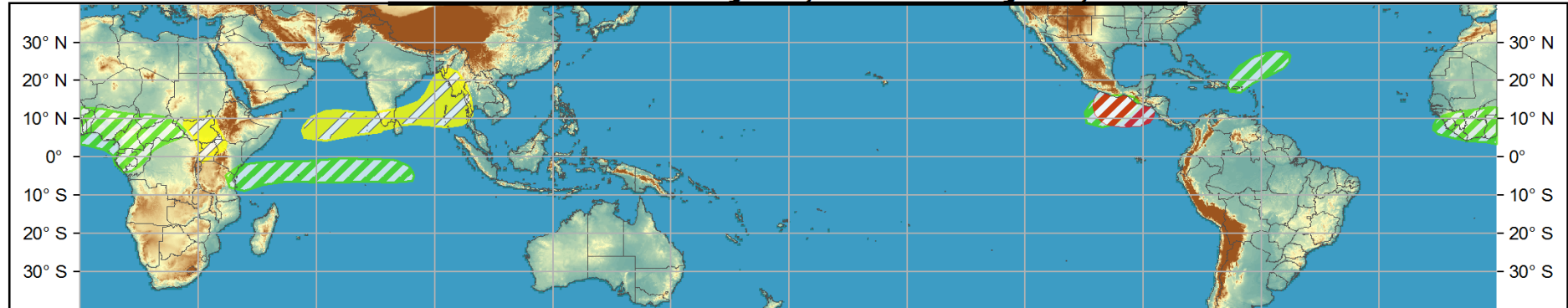


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 03, 2017 - May 09, 2017



Week 2 - Valid: May 10, 2017 - May 16, 2017



Produced: 05/02/2017

Forecaster: Allgood

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.

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IR Satellite & 200-hpa Velocity Potential Anomalies

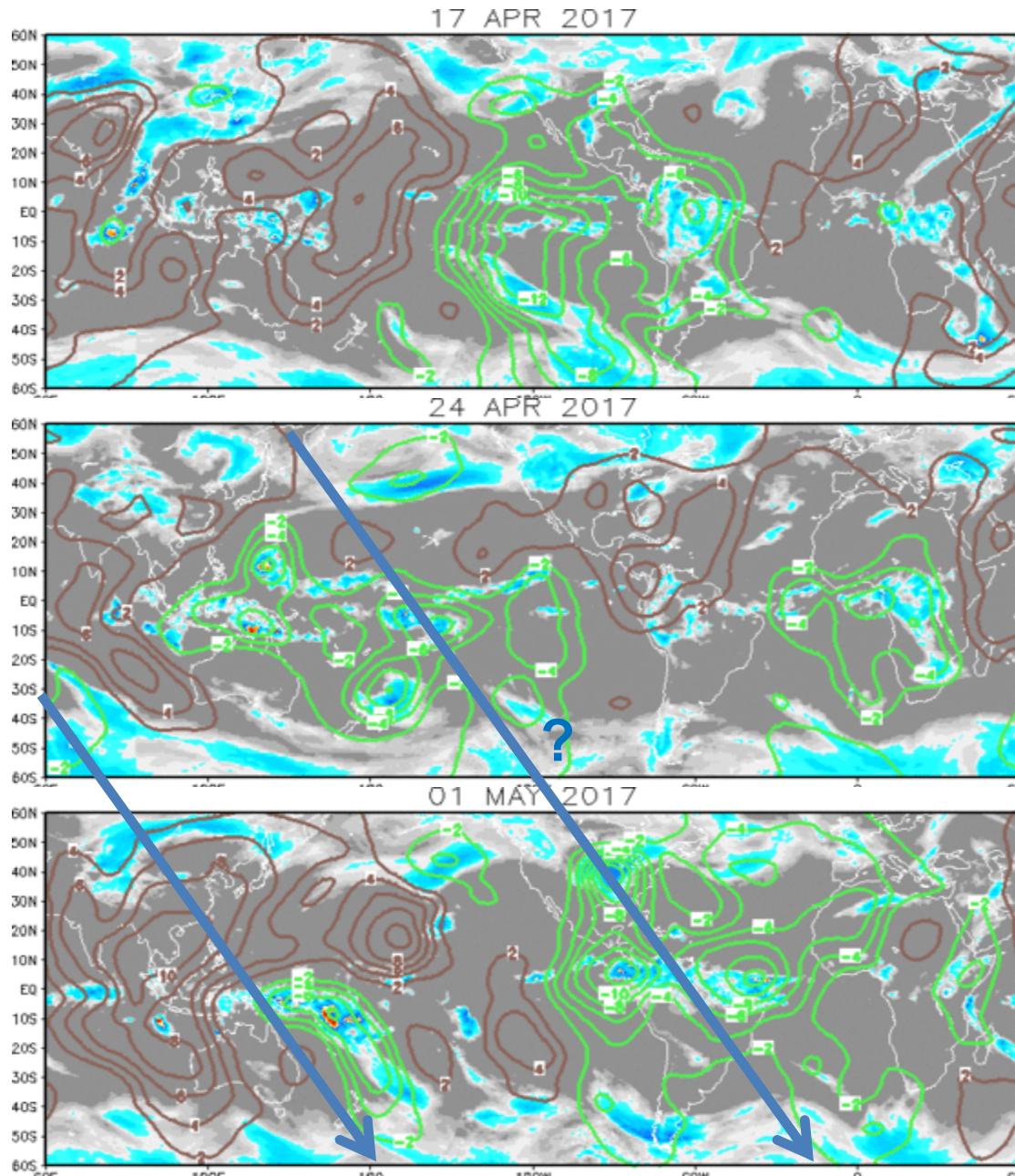
Green: Enhanced Divergence

Brown: Enhanced Convergence

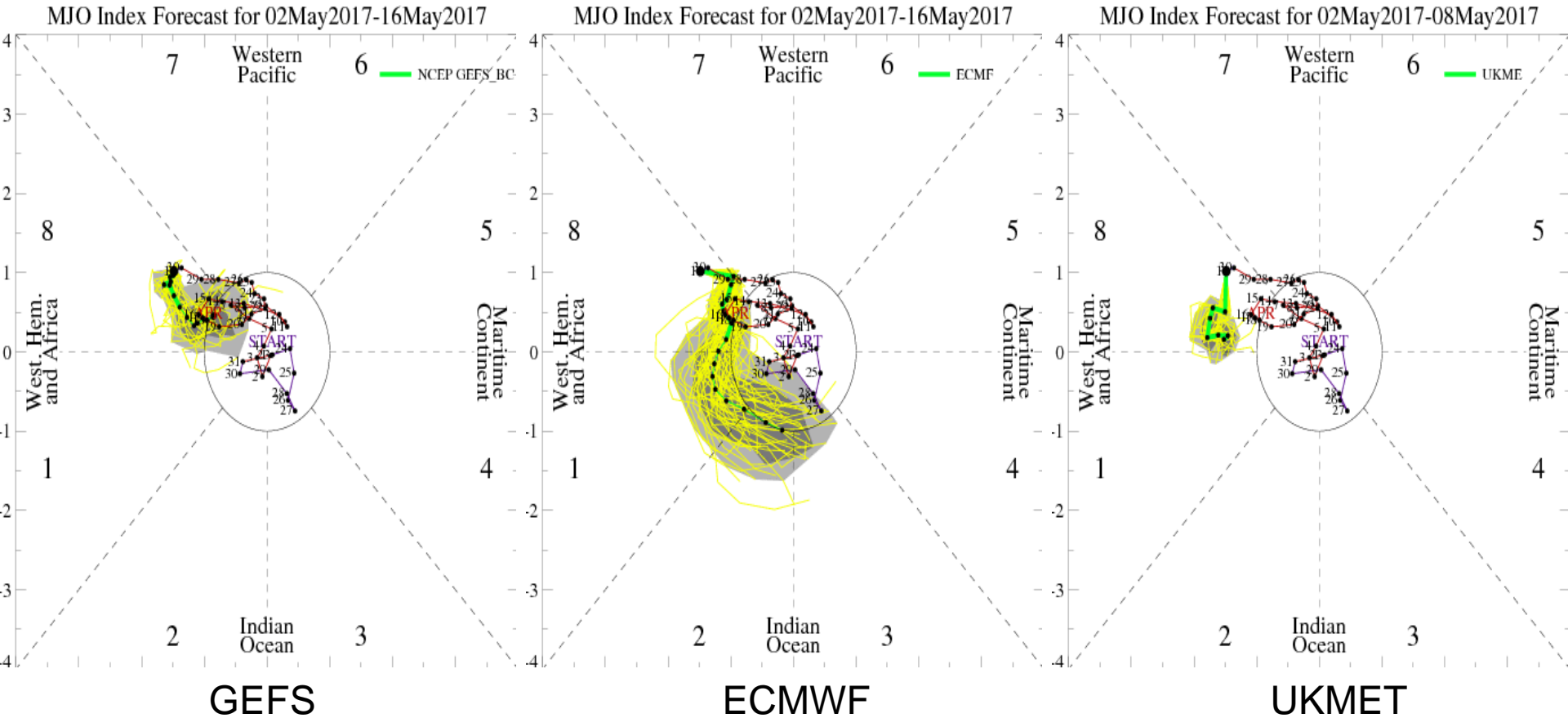
Coherent spatial pattern in mid-April was reflecting a robust Kelvin Wave

A second Kelvin Wave crossed the Pacific in late April.

Enhanced large-scale upper-level divergence remains over the East Pacific. Developing intraseasonal signal?



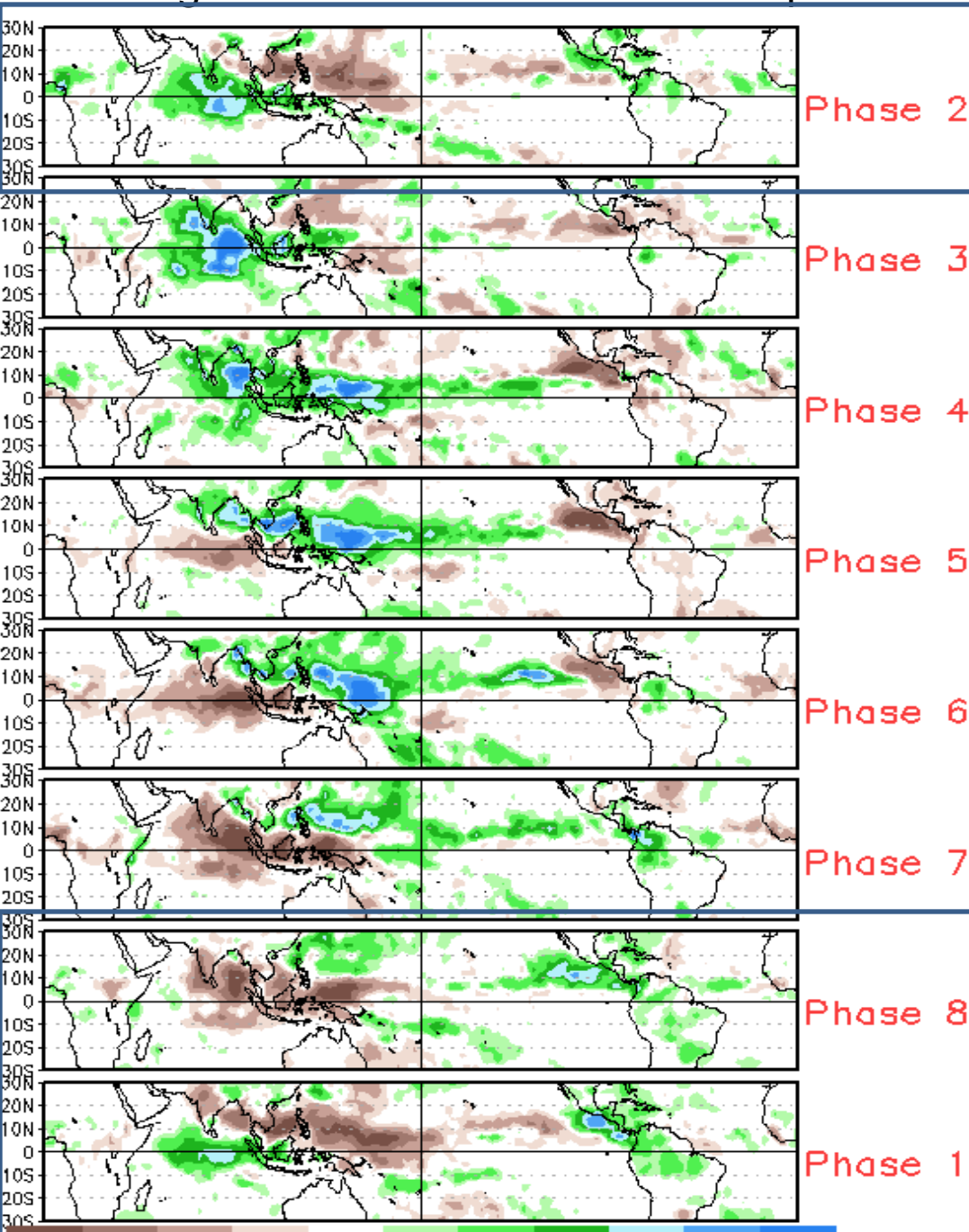
MJO Observation/Forecast



GEFS and UKMET show little eastward propagation.

ECMWF depicts a coherent MJO event entering the Indian Ocean during Week-2.

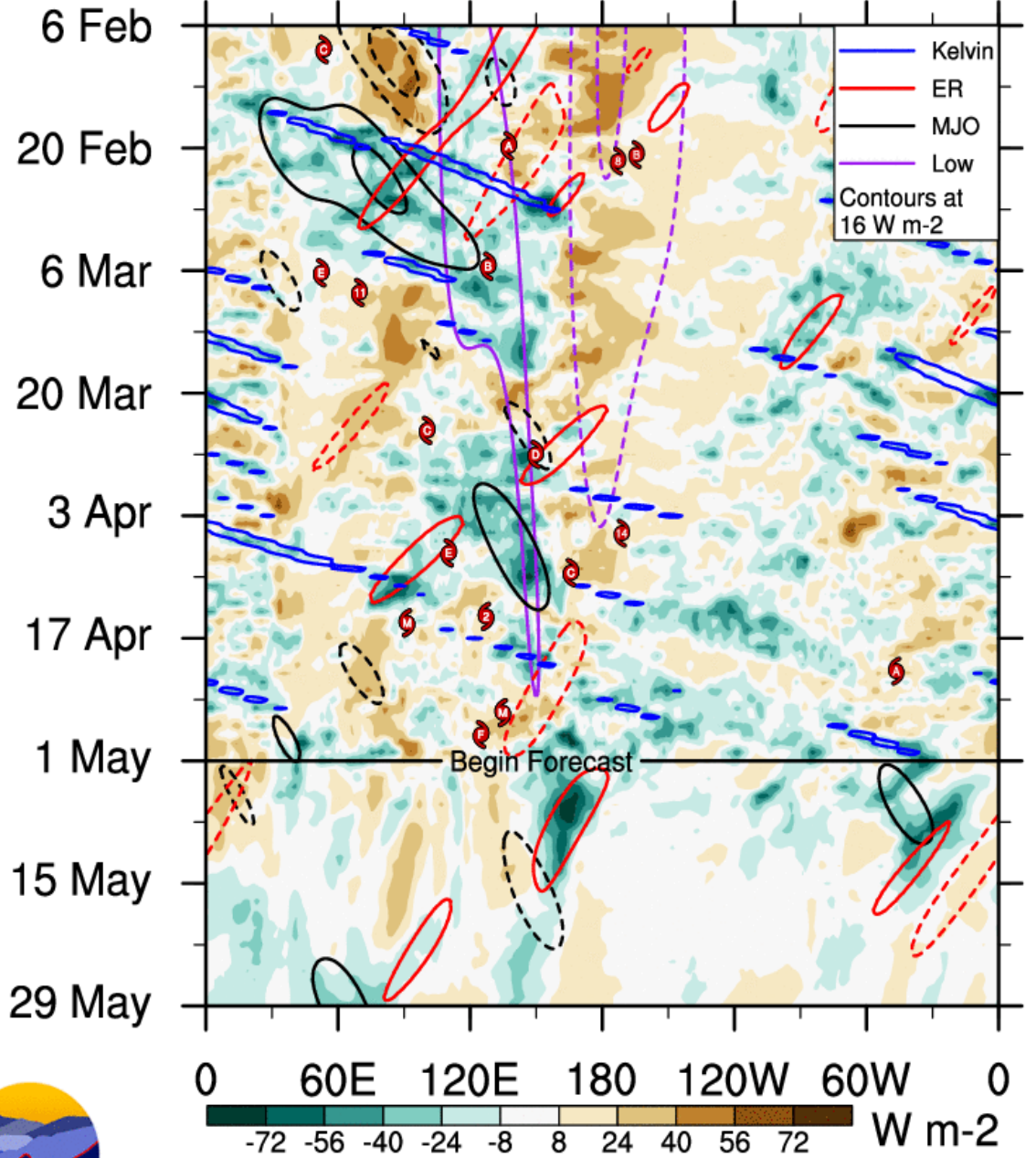
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

OLR with CFS forecasts

5S - 5N

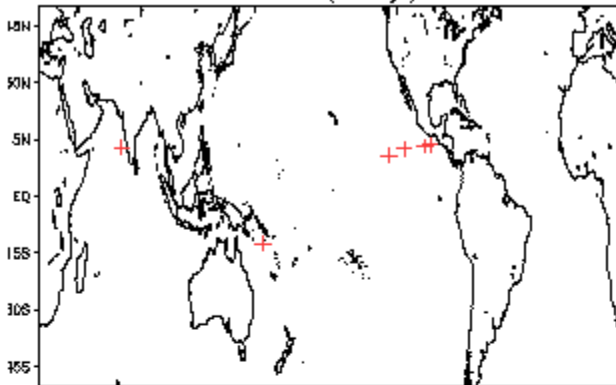


- Low frequency signal still apparent (slow eastward shift?)
- Several Kelvin waves traversed the Pacific during April – aliasing as slower intraseasonal signal?
- Rossby wave activity over the West Pacific/Maritime Continent

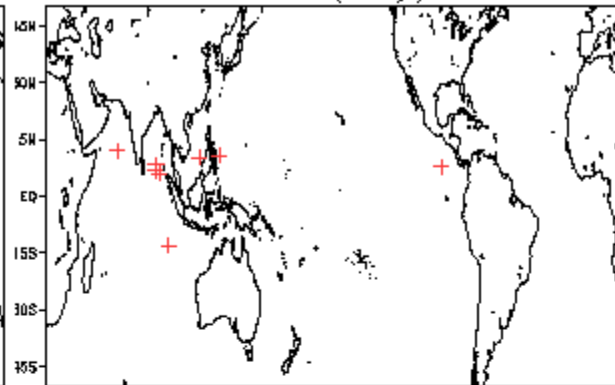


May Tropical Storm Formation by MJO phase

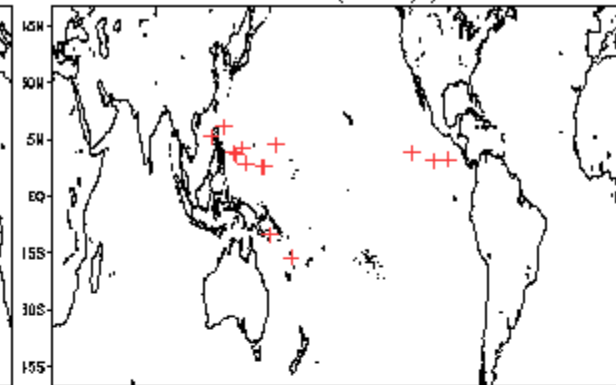
Phase 1 (85 days) 7 storms



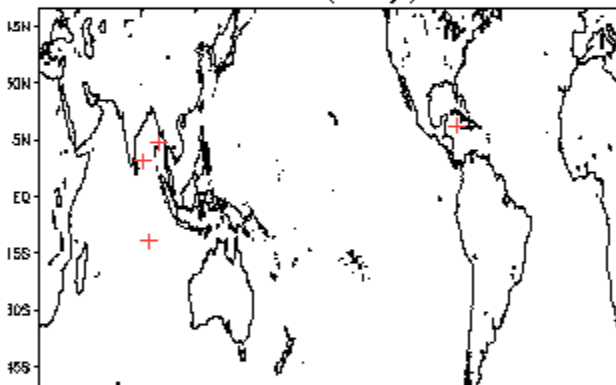
Phase 4 (85 days) 9 storms



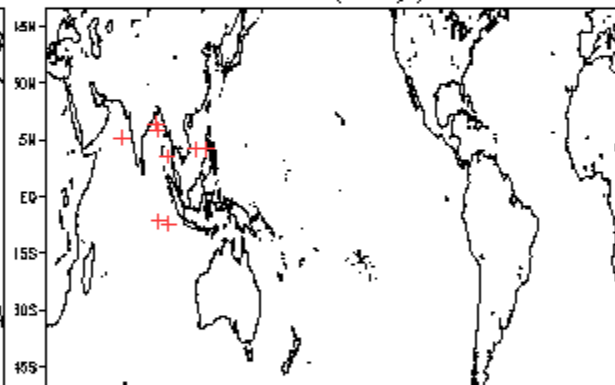
Phase 7 (111 days) 15 storms



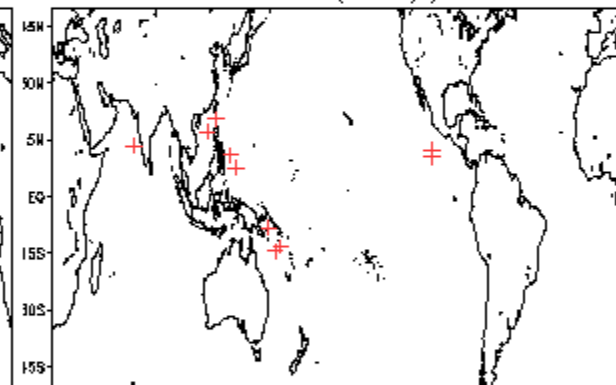
Phase 2 (76 days) 5 storms



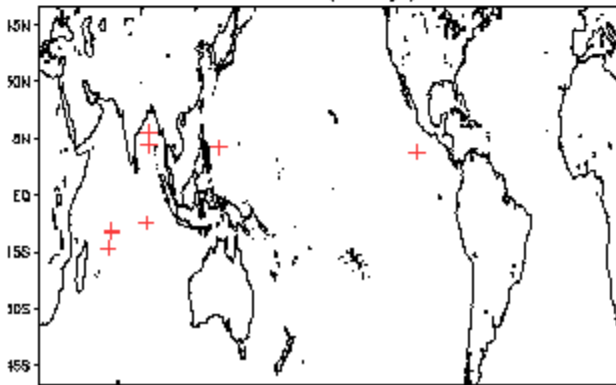
Phase 5 (66 days) 9 storms



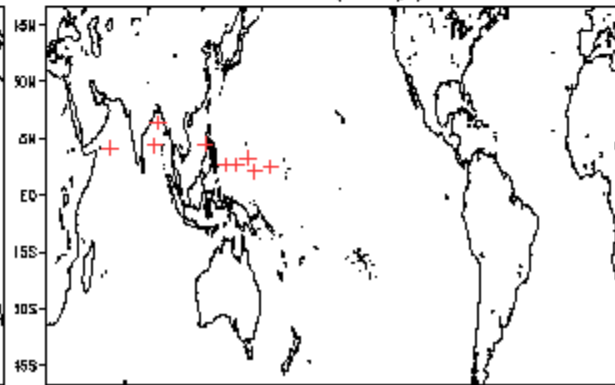
Phase 8 (111 days) 11 storms



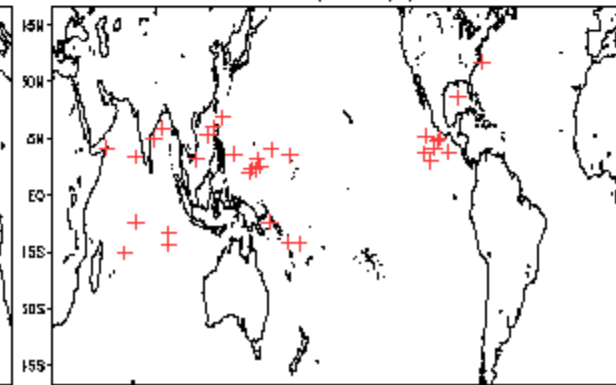
Phase 3 (73 days) 9 storms

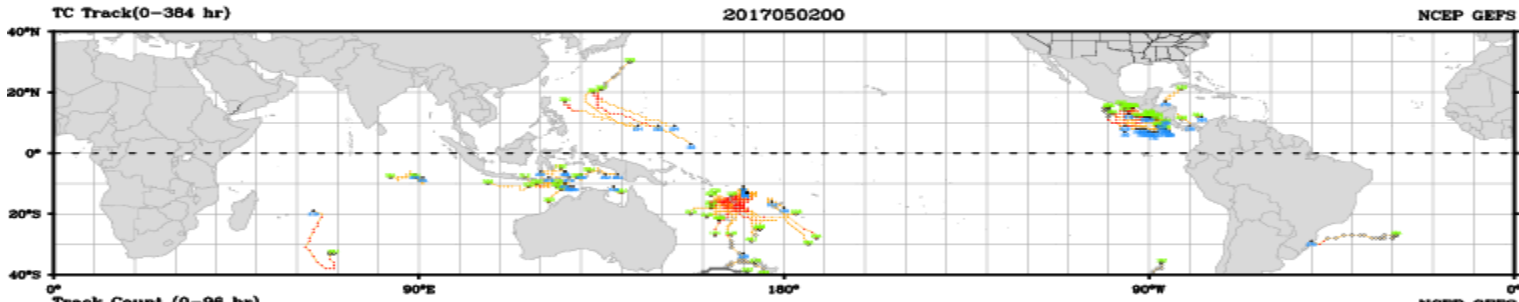


Phase 6 (87 days) 10 storms



Null (349 days) 33 storms



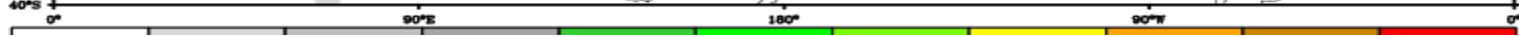
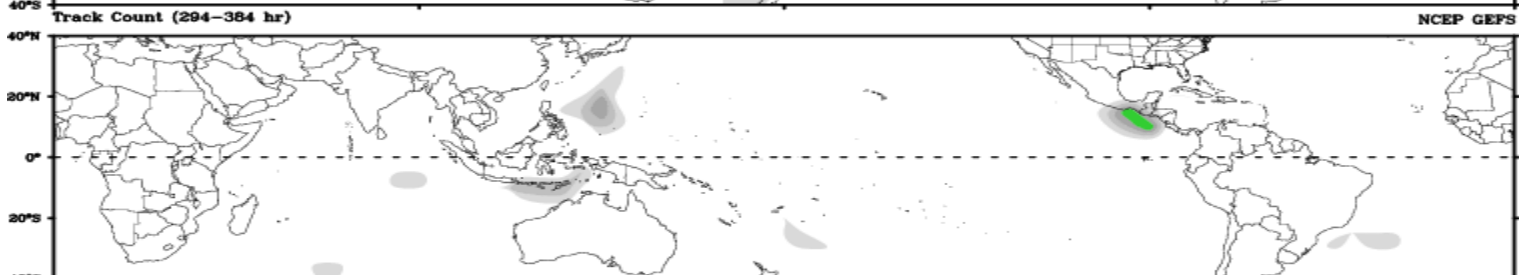
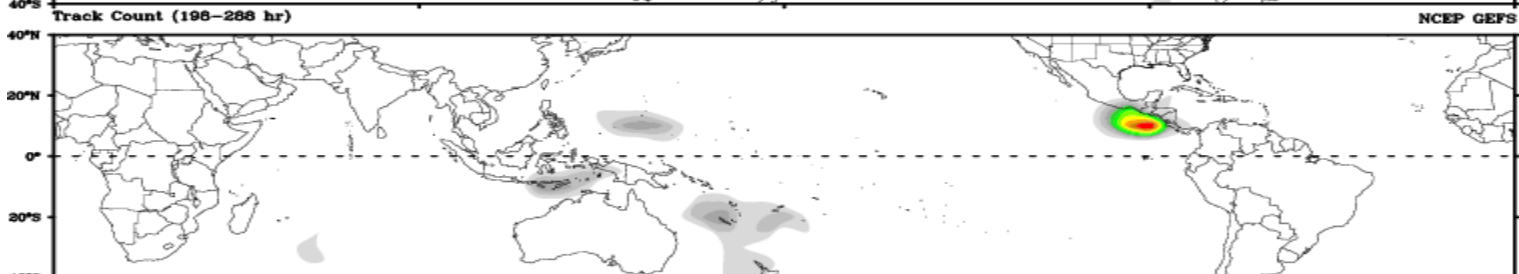
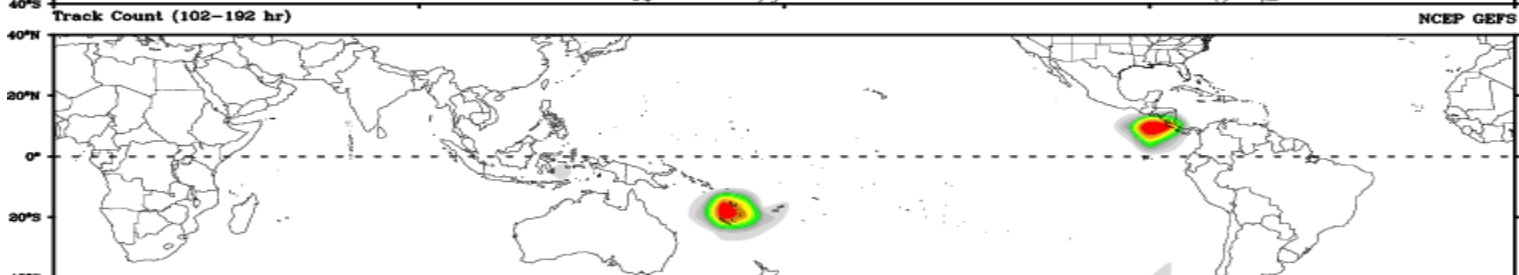
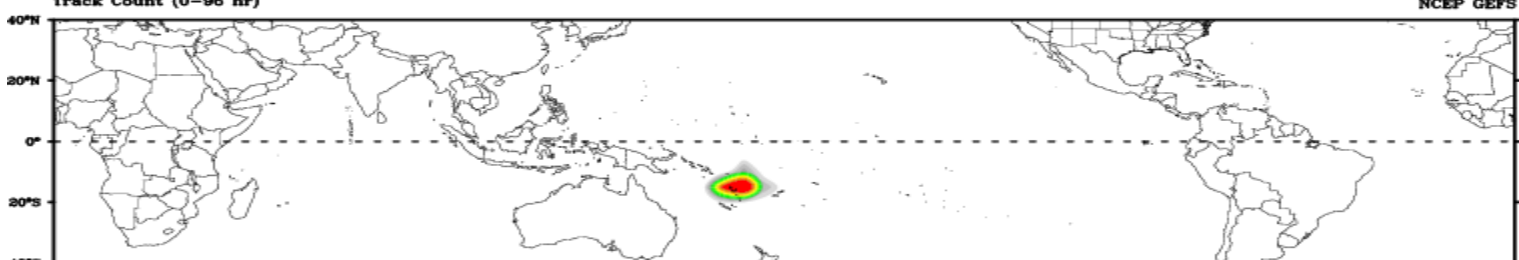


Days 1-4

Day 5-8

Day 9-12

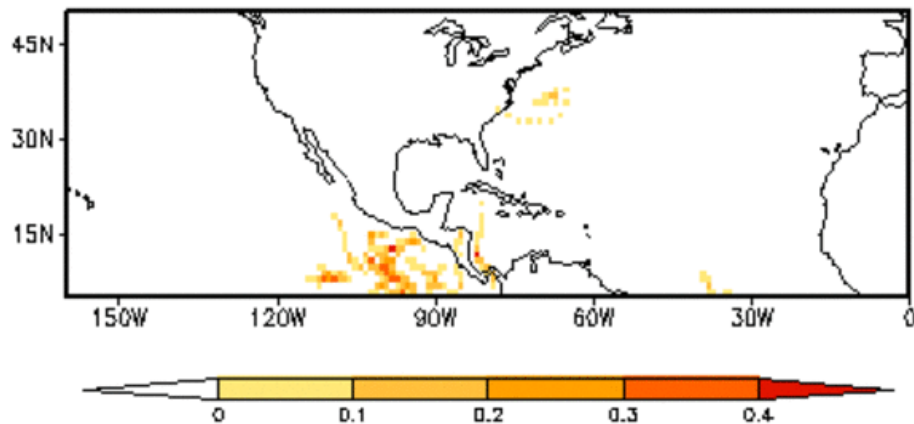
Day 13-15



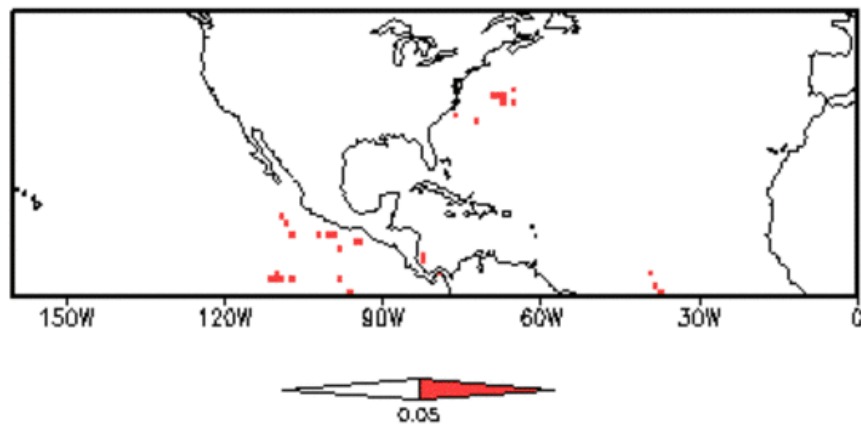
CFSv2 45-Day Forecasts

Week 2: 0509-0515

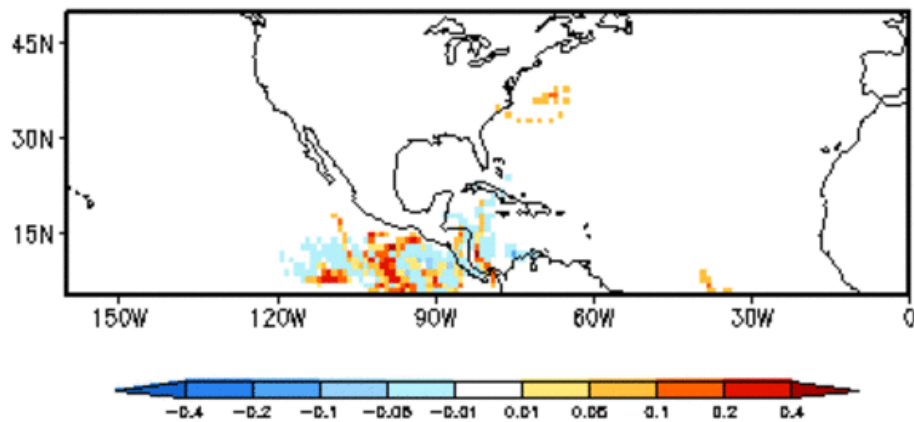
a) Forecast Tracks



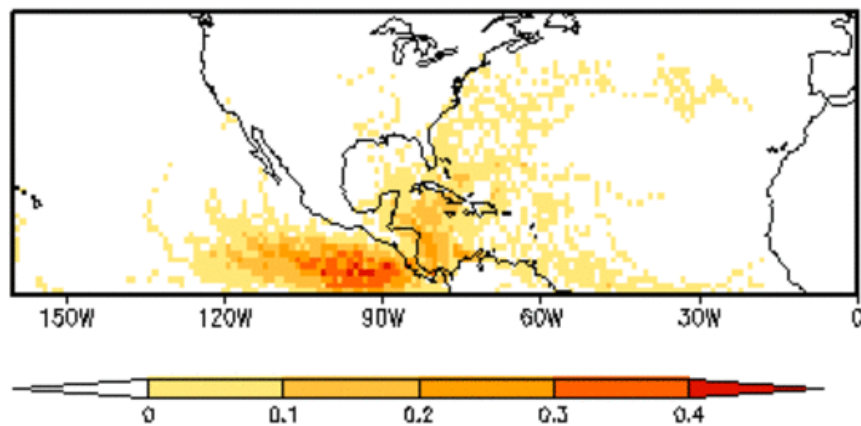
b) Filtered Tracks



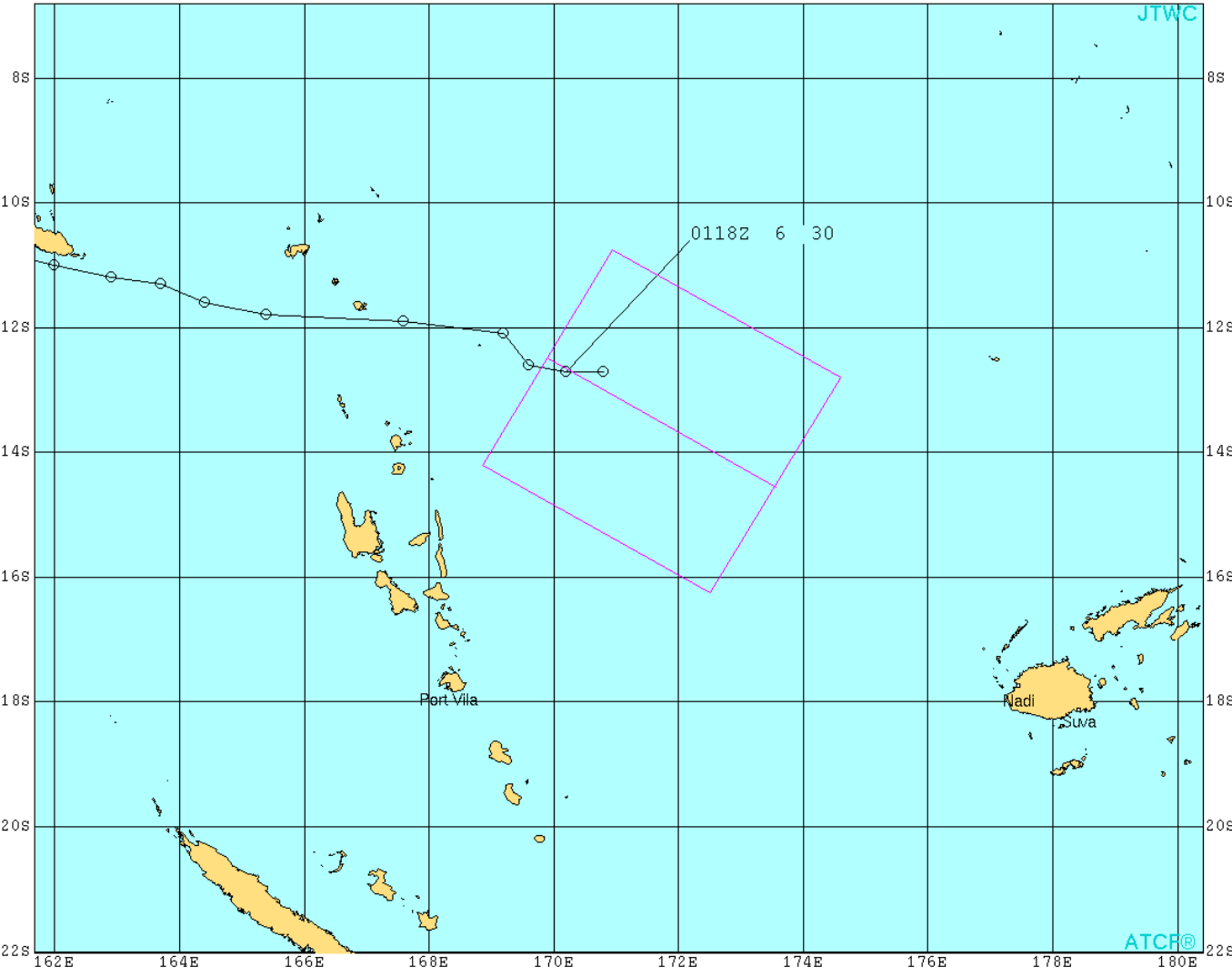
c) Track Anomaly



d) False Alarm Climatology

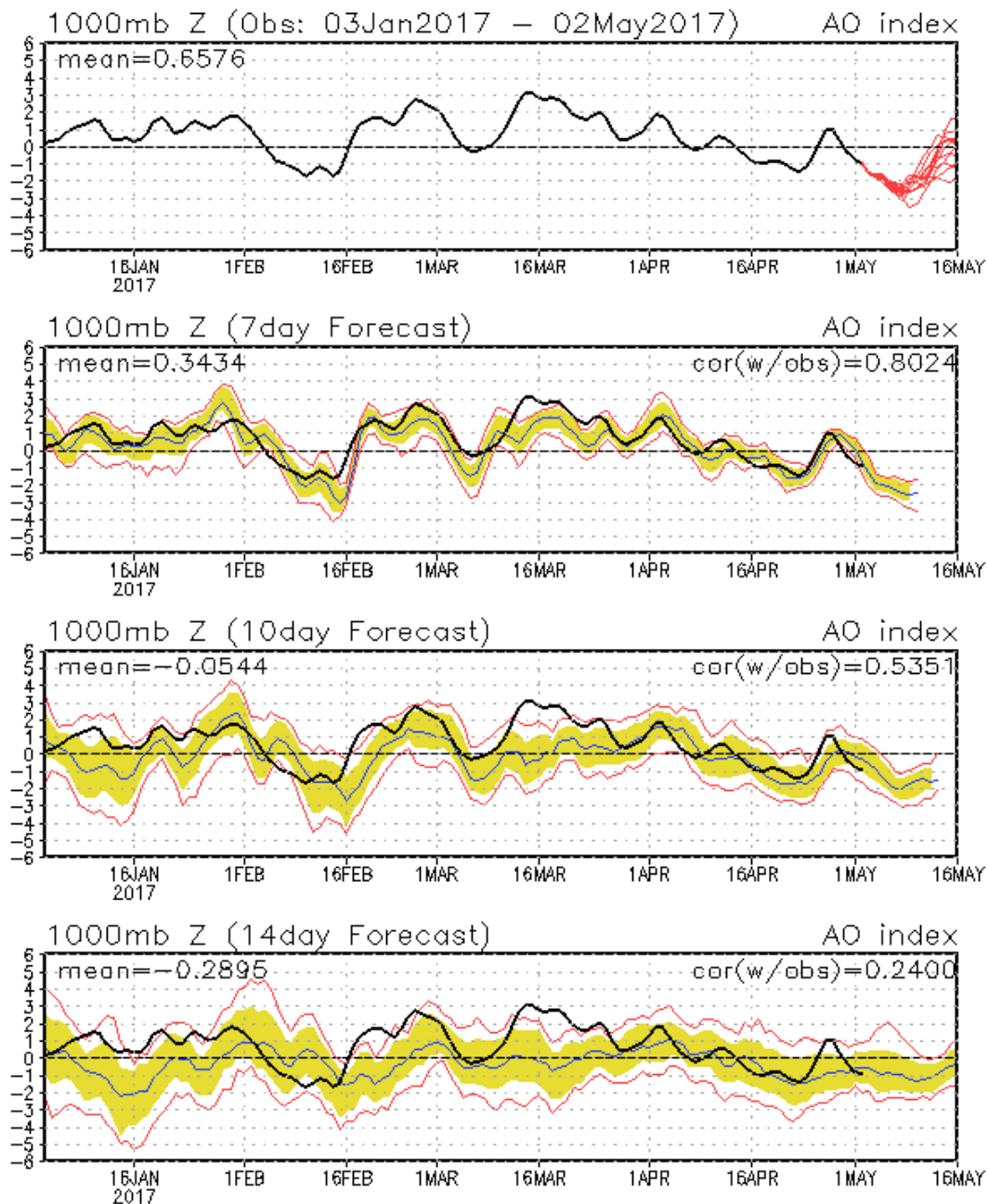


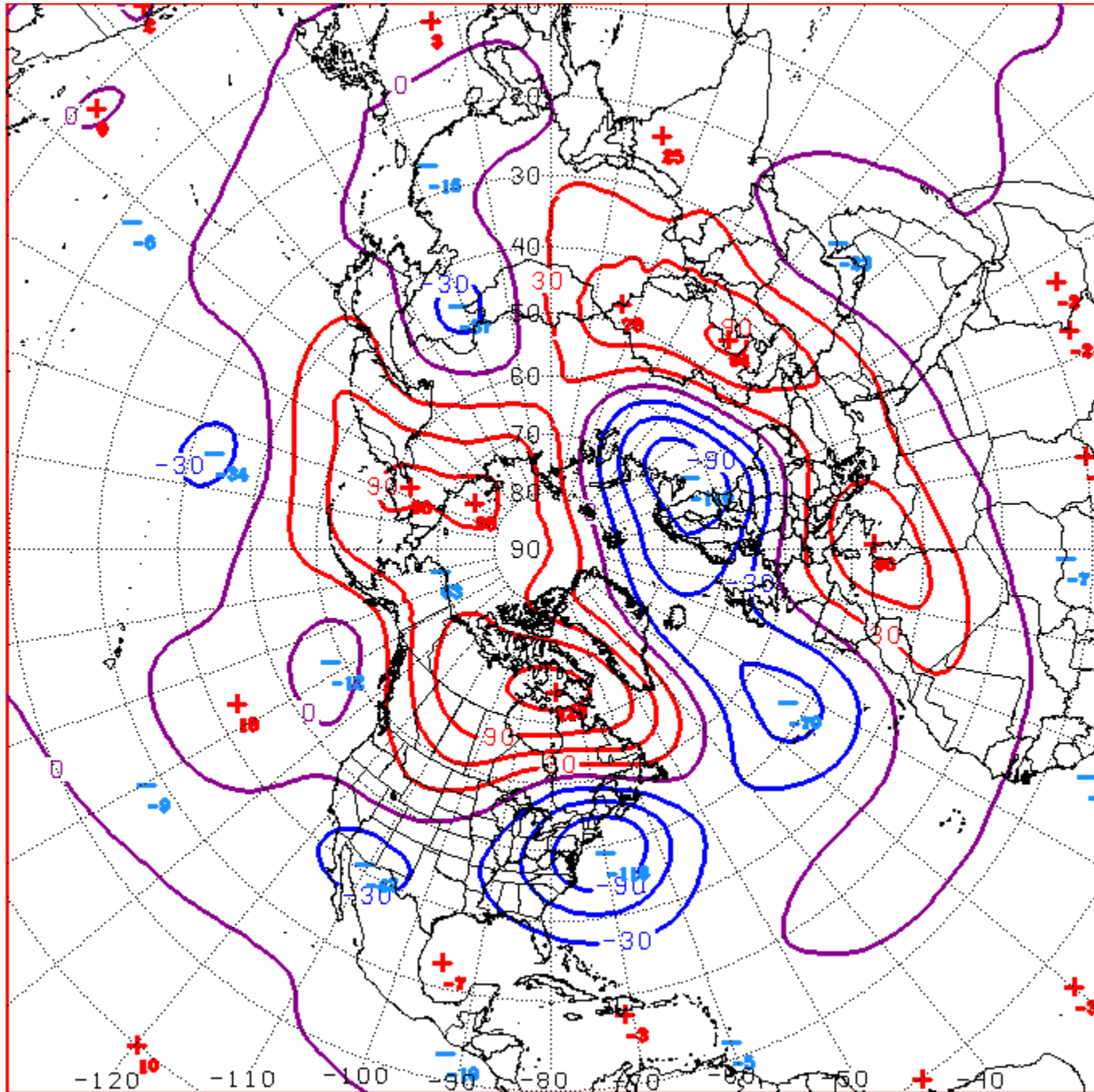
TROPICAL CYCLONE FORMATION ALERT
WTPS21 PGTW 012100
011800Z POSITION: NEAR 12.7S 170.2E
MOVING EAST-SOUTHEASTWARD AT 06 KNOTS
MAXIMUM SUSTAINED WINDS: 25 TO 30 KNOTS



Connections to U.S. Impacts

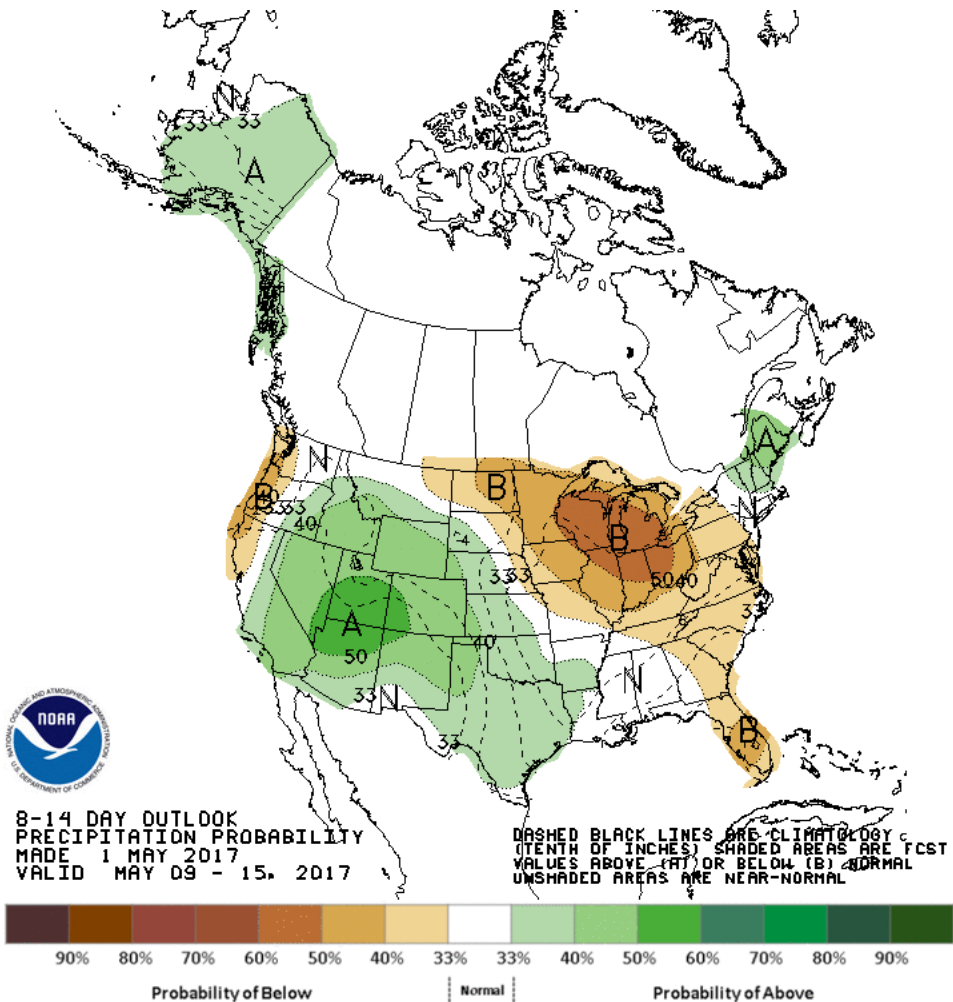
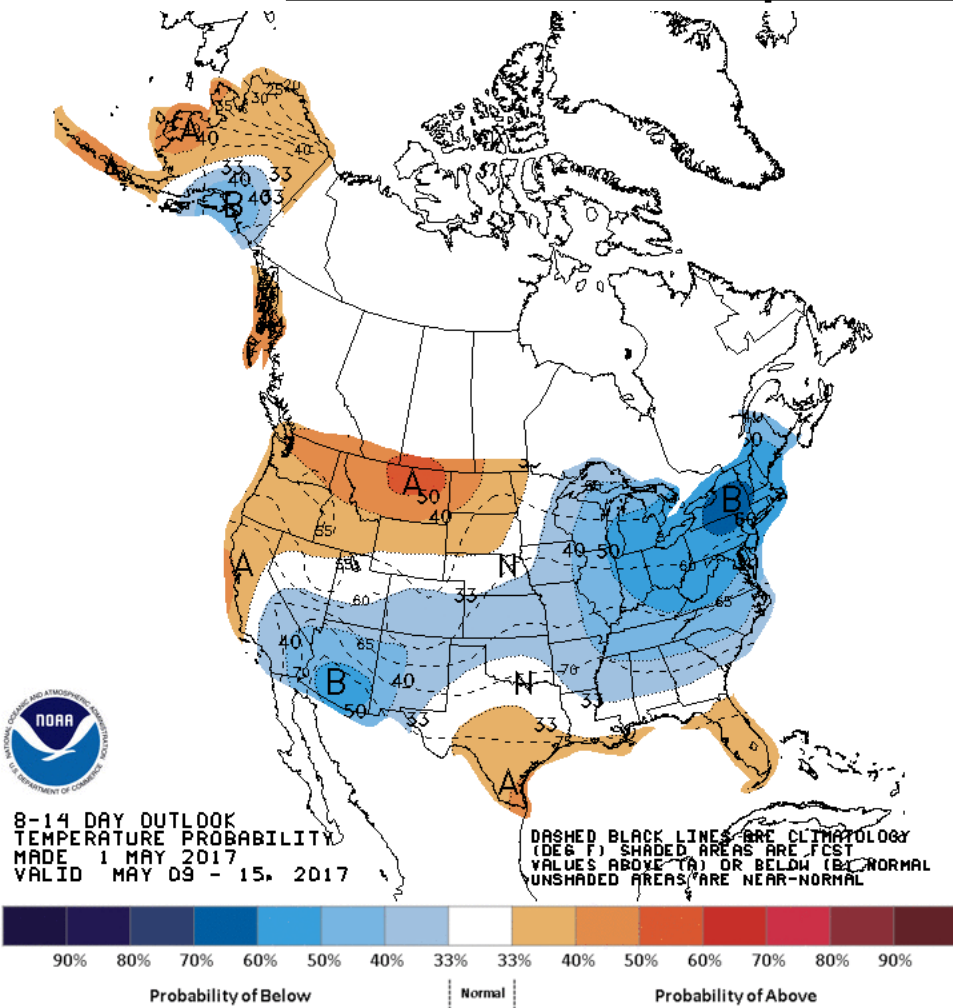
AO: Observed & ENSM forecasts

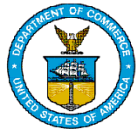




D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAY 02 2017 1331 UTC CNTD MAY 13 2017

Week 2 – Temperature and Precipitation

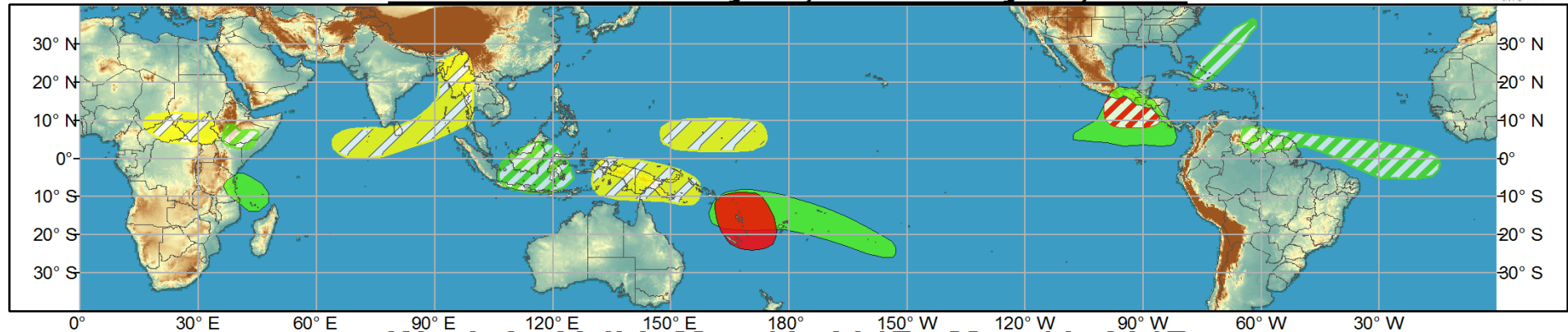




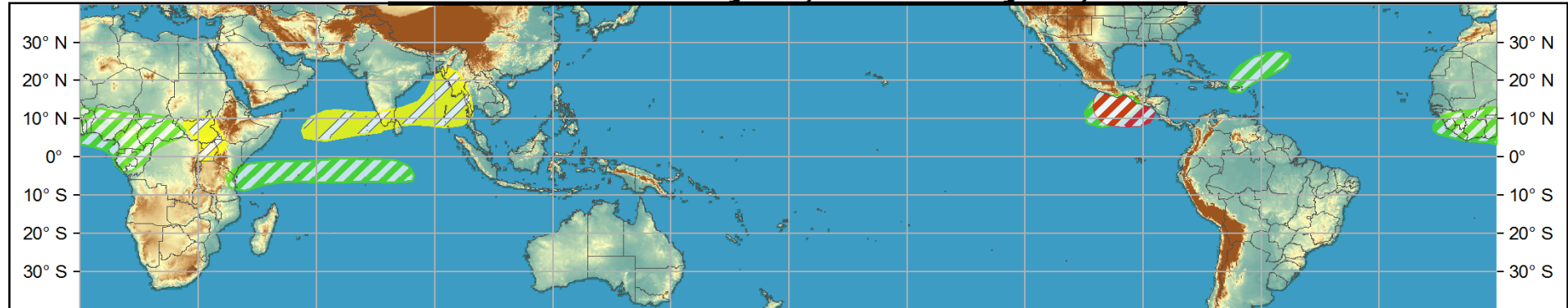
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