

Global Tropics Hazards And Benefits Outlook

4/14/2020

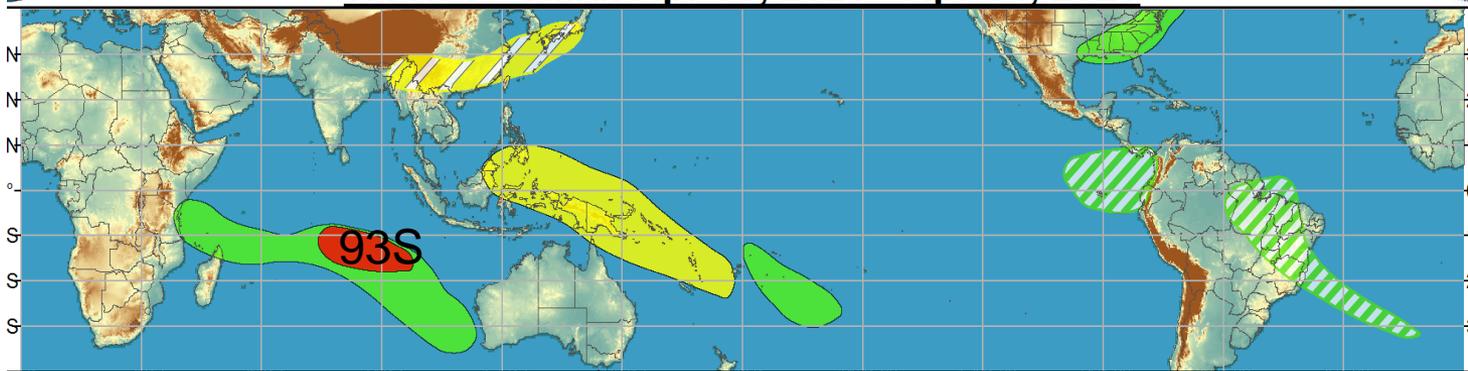
Nick Novella

Outline

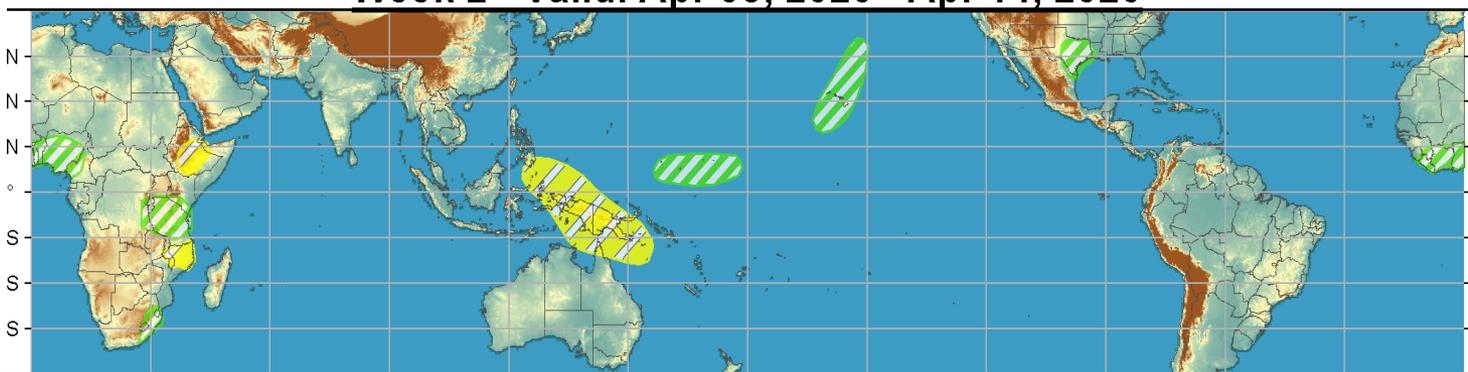
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

Week 1 - Valid: Apr 08, 2020 - Apr 14, 2020

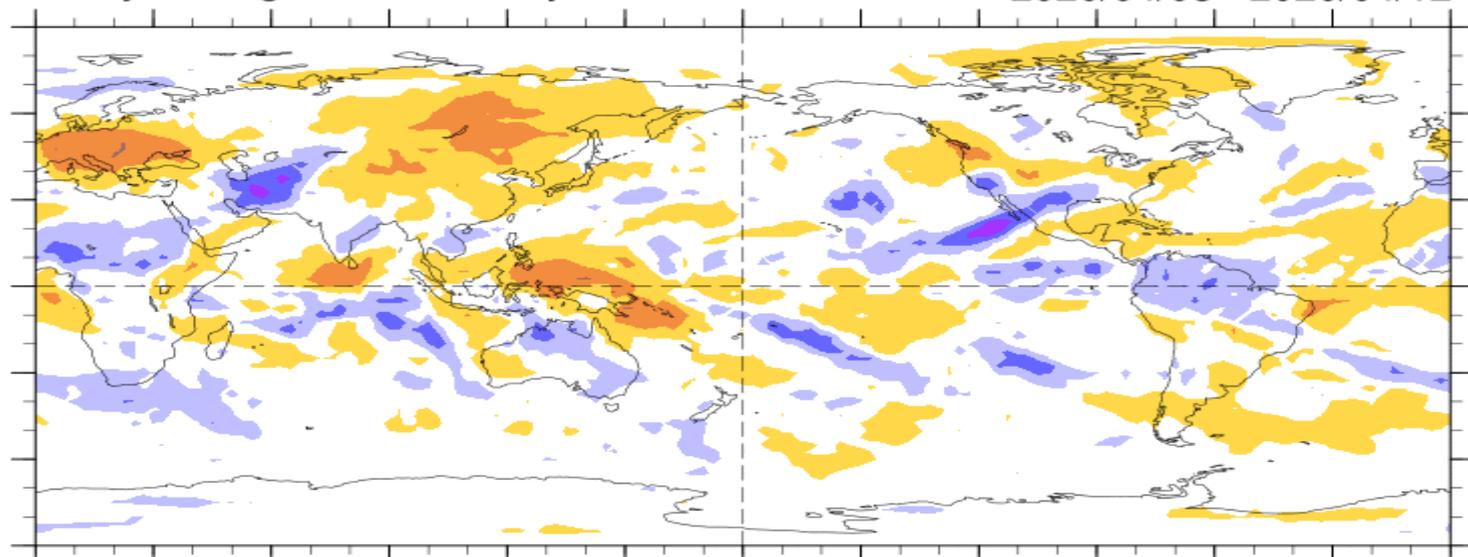


Week 2 - Valid: Apr 08, 2020 - Apr 14, 2020



7-Day Average OLR Anomaly

2020/04/06 - 2020/04/12



No TC's
during last
week

Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (April 9, 2020 Update)

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored during the Northern Hemisphere spring (~60% chance), remaining the most likely outcome through autumn.

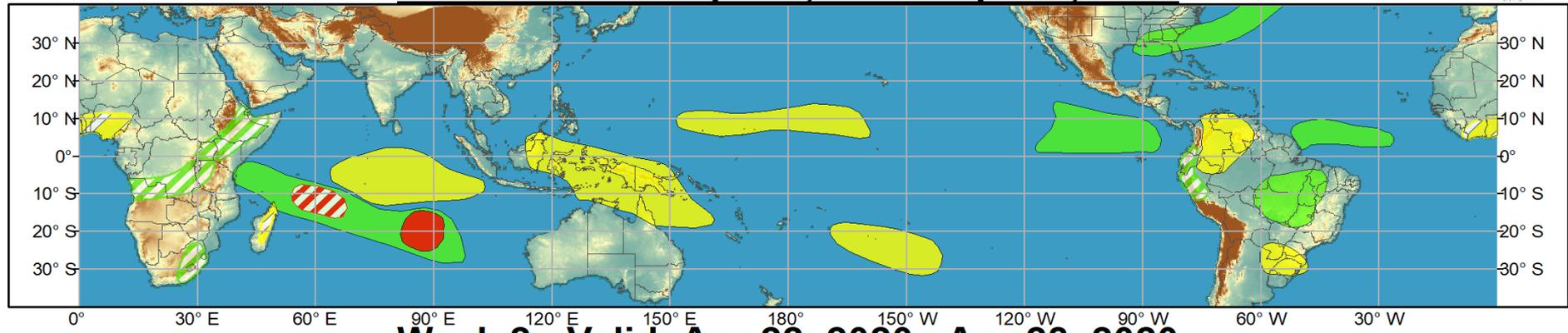
MJO and other subseasonal tropical variability:

- Given the rapid propagation of upper-level velocity potential anomalies (4 phases in 12 days), it is likely a convectively coupled Kelvin wave is present over the Western Hemisphere. It is forecast to decelerate and cross Africa during Week-1 (Phase 1) and enter the Indian Ocean during Week-2 (Phases 2/3).
- Given disagreements relative to the amplitude of the signal in dynamical models, as well as, a not yet observed slowdown of this rapid signal, chances for extratropical impacts remain low.
- Chances for an unprecedented April TC in East Pacific basin have been lowered.

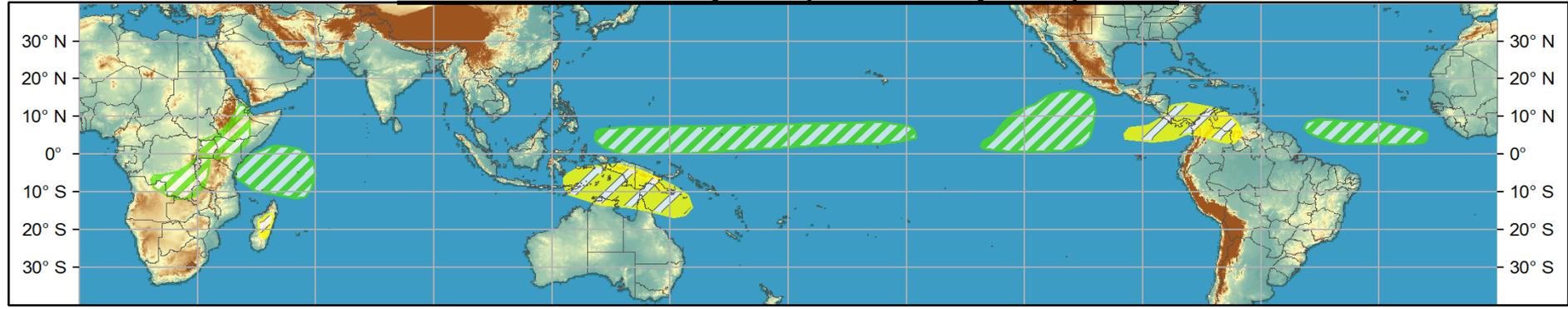


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Apr 15, 2020 - Apr 21, 2020



Week 2 - Valid: Apr 22, 2020 - Apr 28, 2020



Produced: 04/14/2020
Forecaster: Novella

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

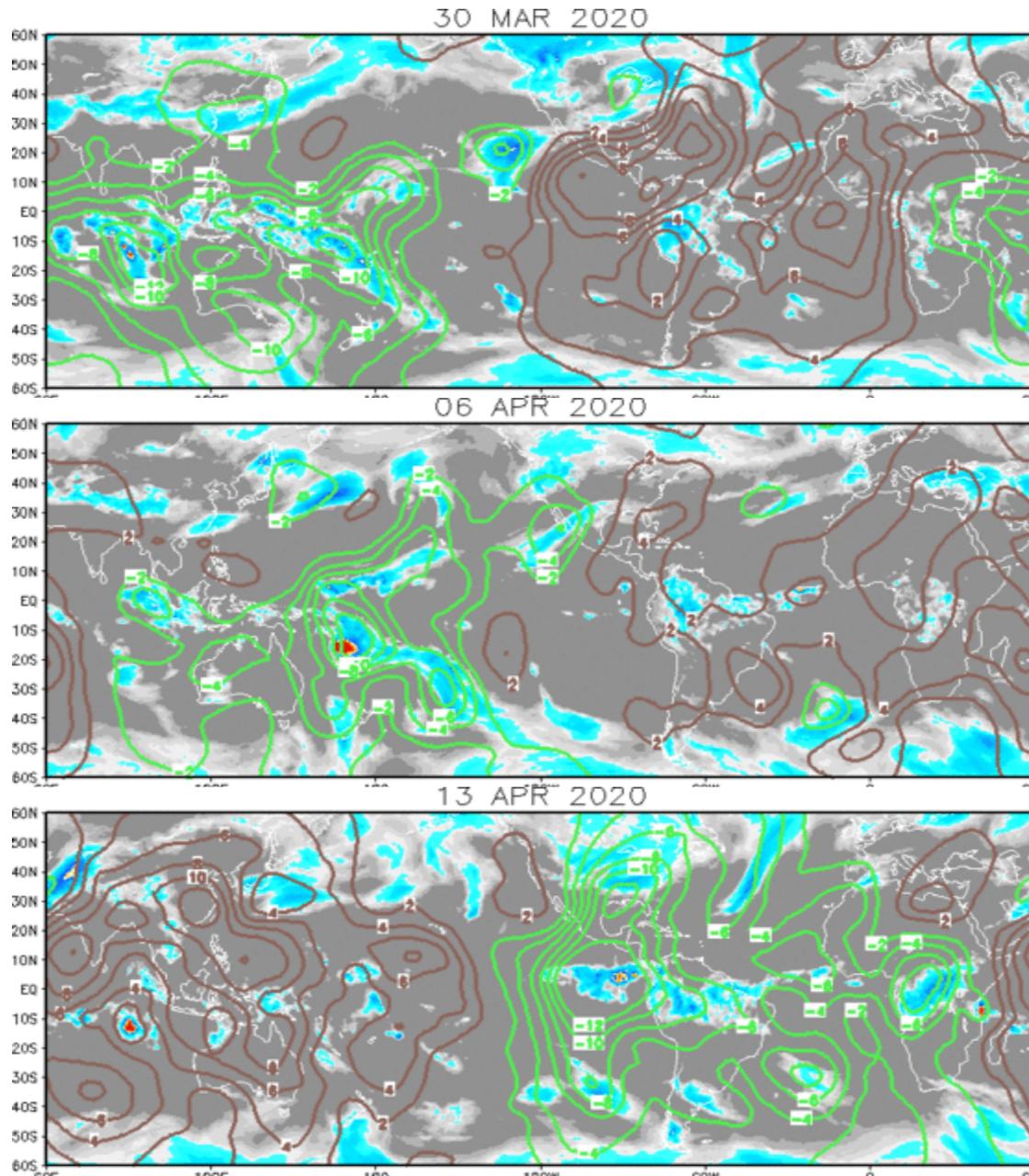
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-1 pattern with enhanced (suppressed) convection over the Indian Ocean through West Pacific (Americas through Maritime Continent).

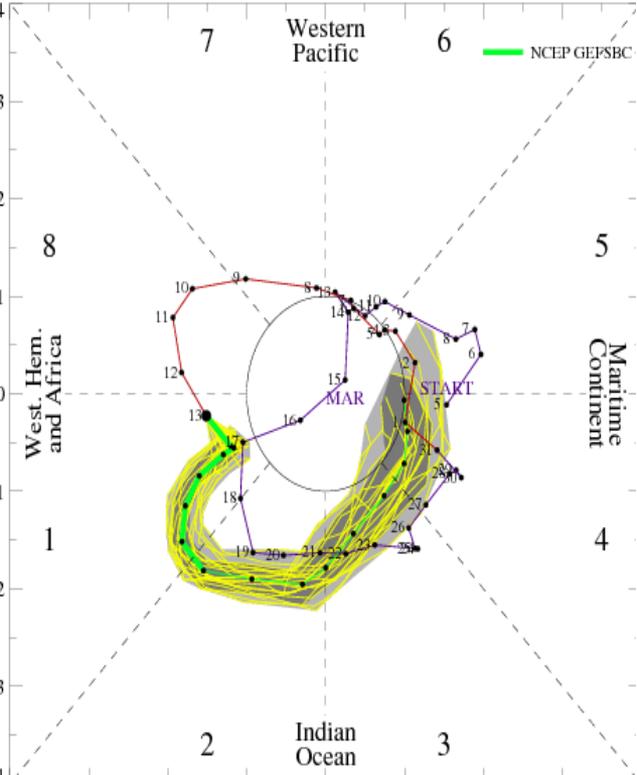
Continued eastward propagation, but more disorganized pattern.

Returned to a robust Wave-1 pattern, nearly inversely mirrors pattern during observed late March.



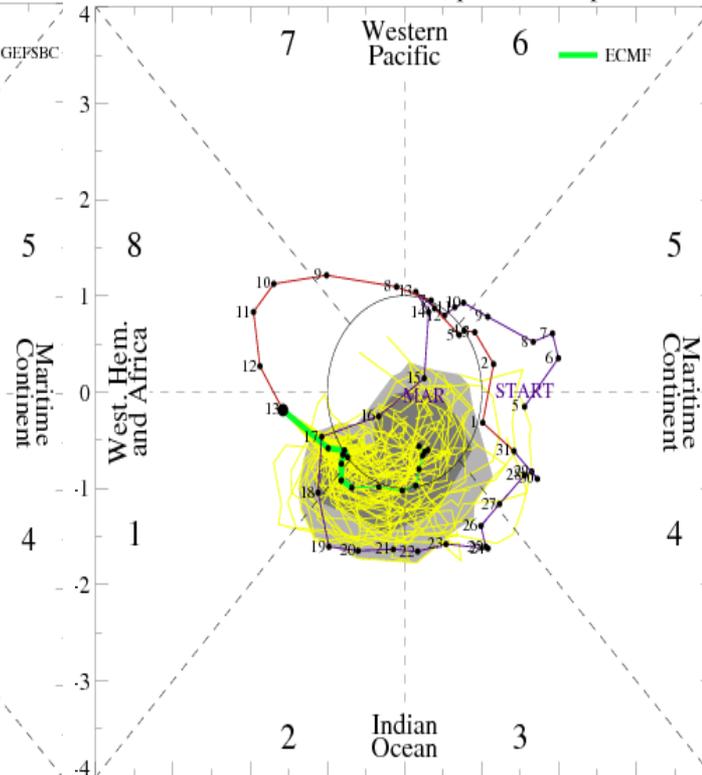
MJO Observation/Forecast

[RMM1, RMM2] forecast for Apr-14-2020 to Apr-28-2020



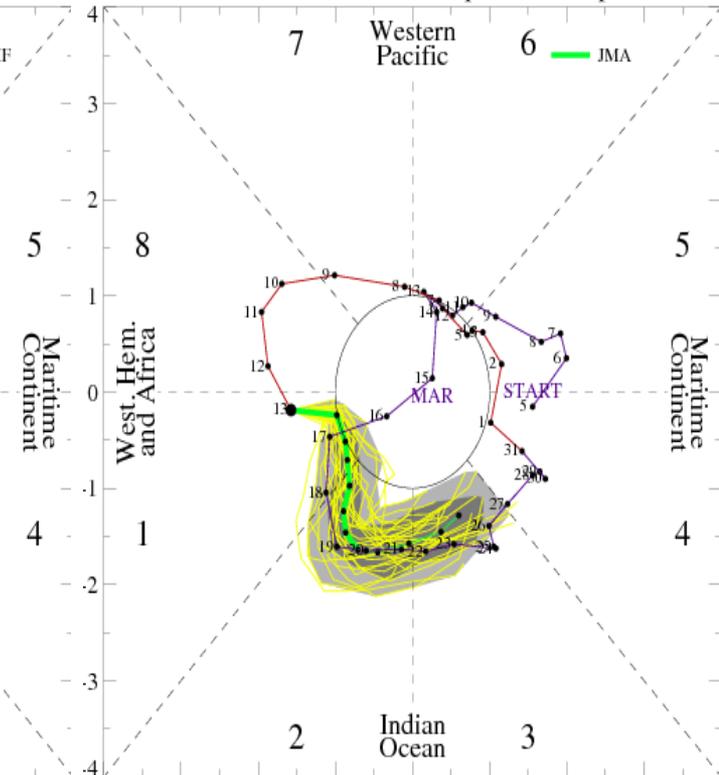
GEFS

MJO Index Forecast for 14Apr2020-28Apr2020



ECMWF

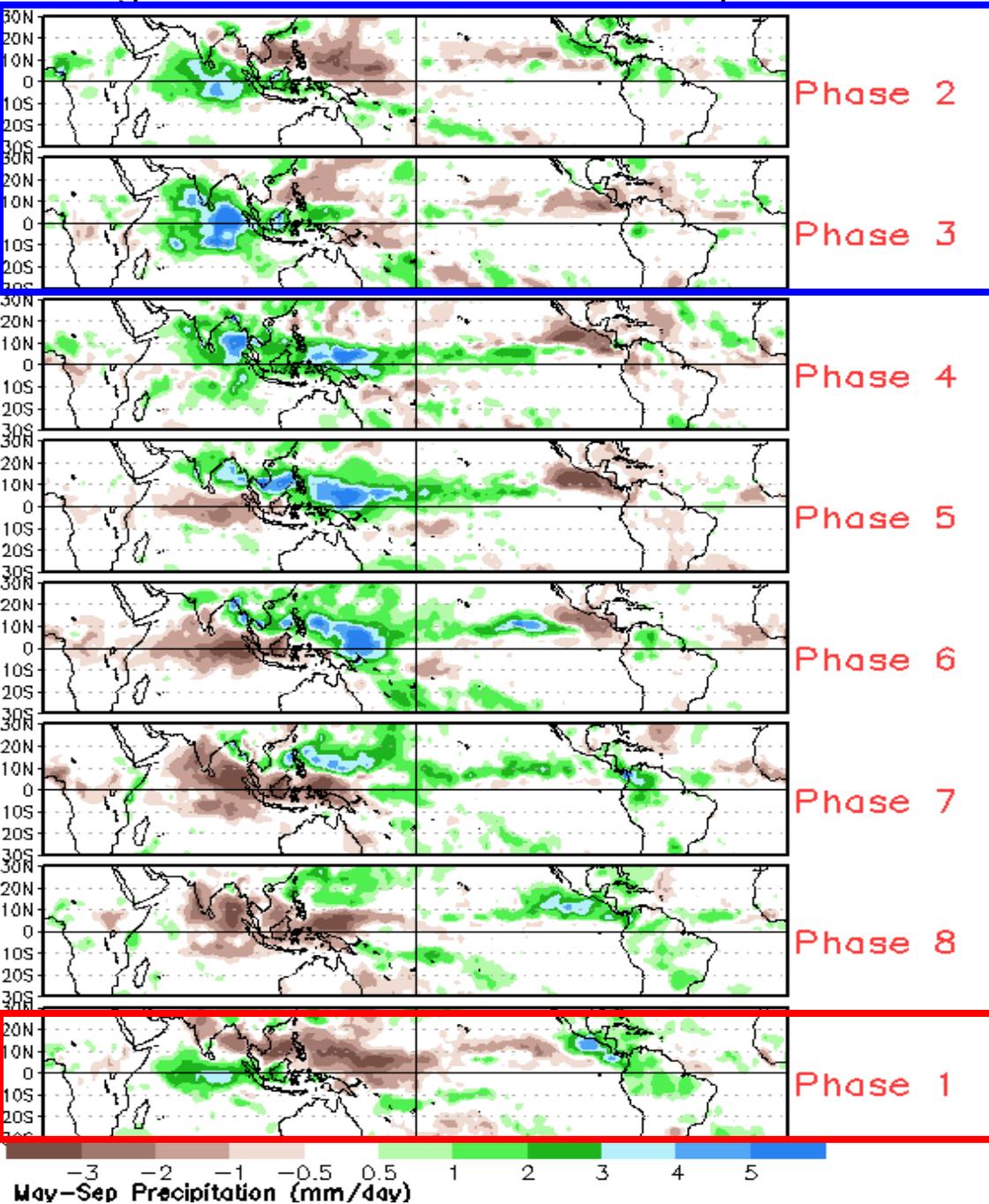
MJO Index Forecast for 14Apr2020-22Apr2020



JMA

Consensus among models features a decelerated signal, moving across Africa during Week-1 and into the Indian Ocean during Week-2. ECMWF favors a generally weaker signal.

Average Conditions when the MJO is present



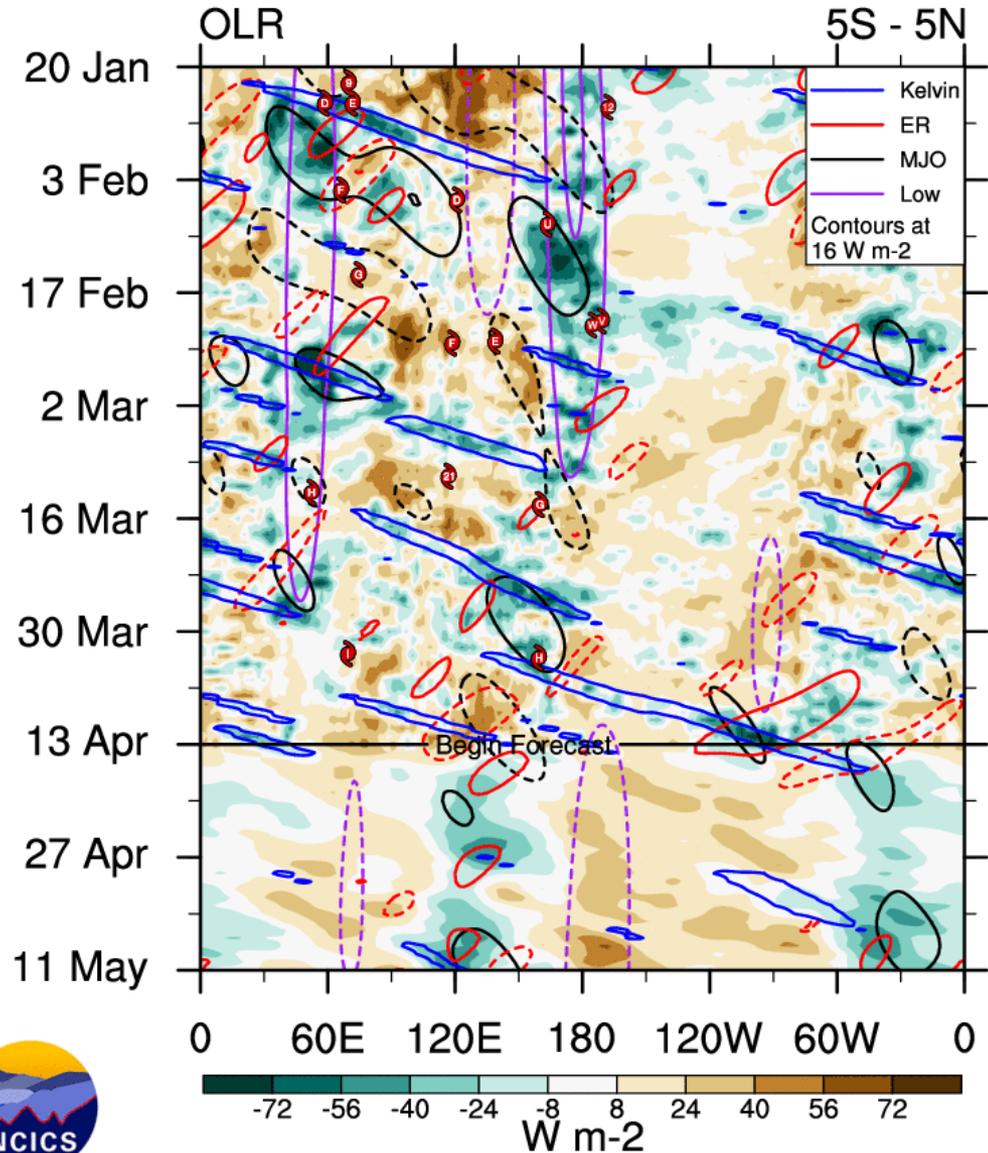
Week-1: Phases 1

Week-2: Phases 2/3

CAVEAT: These panels are representative of robust MJO events.

A **Kelvin wave** is observed crossing the Western Hemisphere.

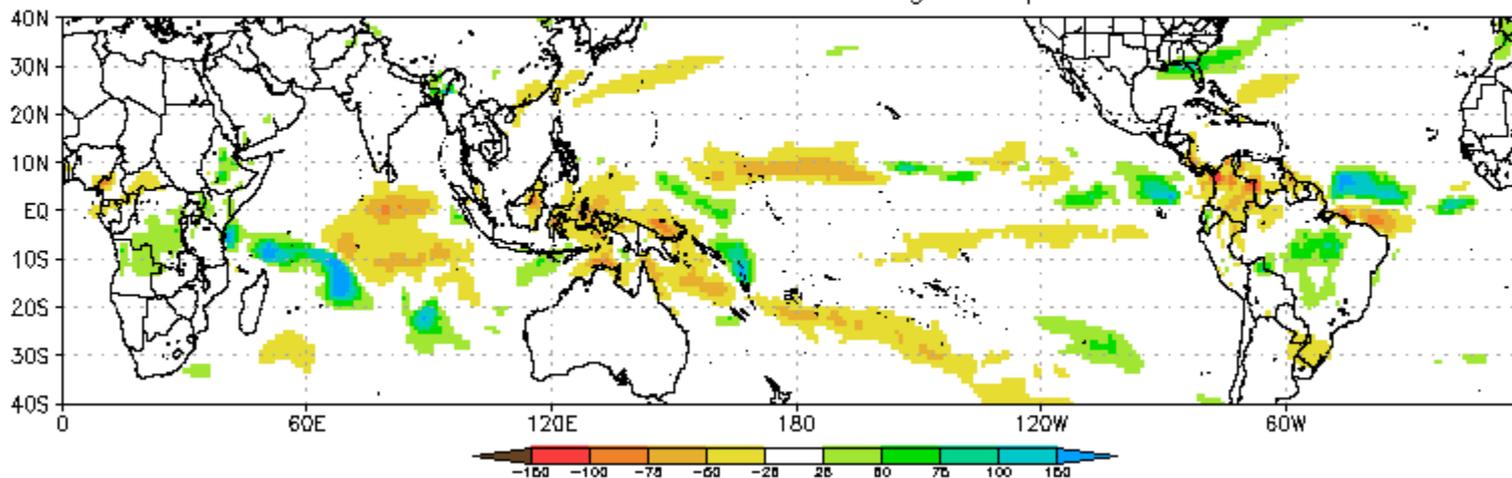
A **low frequency** signal is not apparent, but CFS maintains a westward shift of enhanced convection from the Date Line since early this year, to near 120E into May.



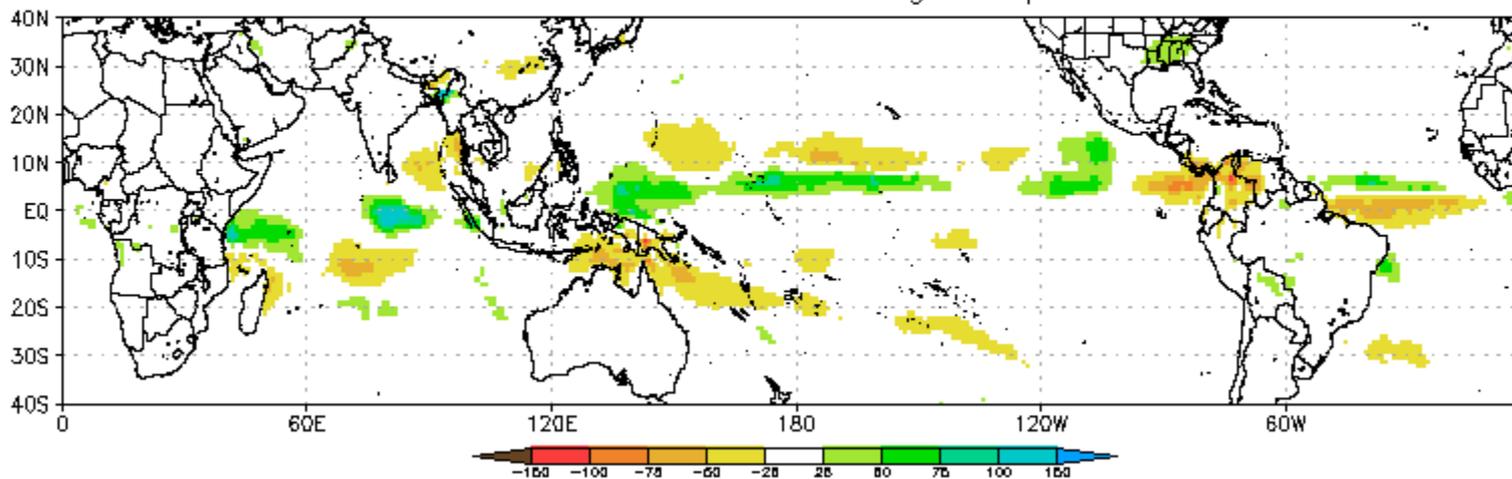
Tue 2020-04-14 15:16 UTC

Carl Schreck
carl_schreck@ncsu.edu

CFS Precipitation Anomalies (mm) Issued 13Apr2020
Week-1 Forecast Ending 21Apr2020

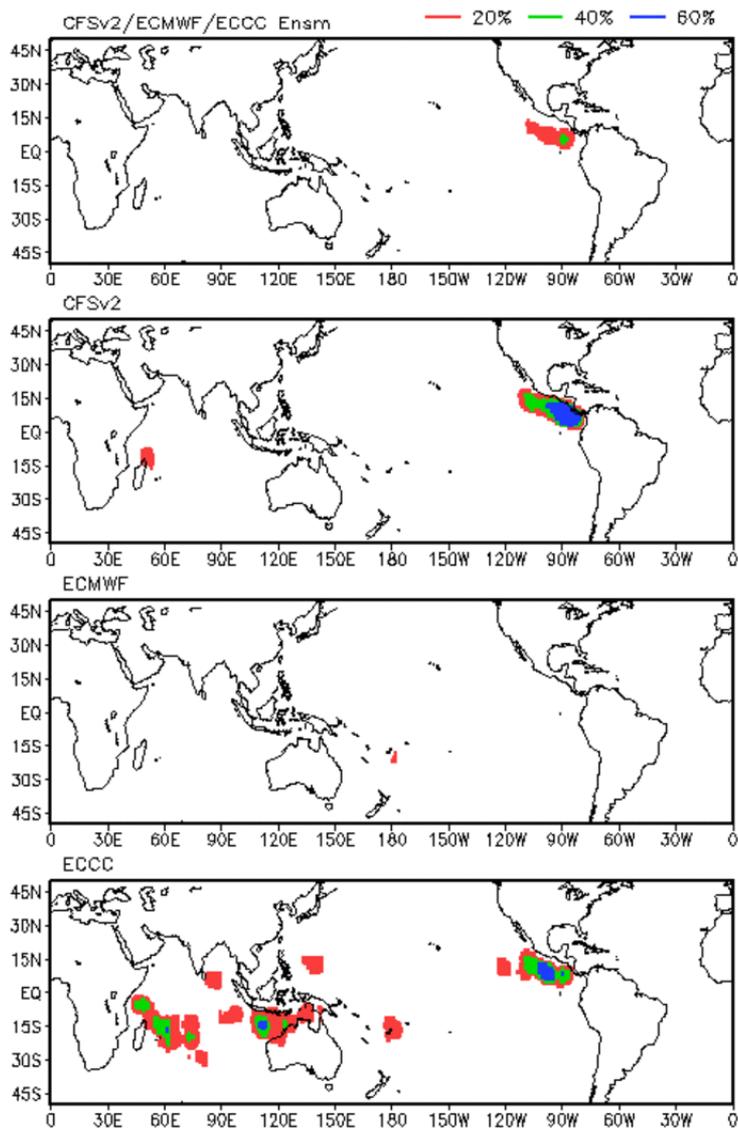


CFS Precipitation Anomalies (mm) Issued 13Apr2020
Week-2 Forecast Ending 28Apr2020



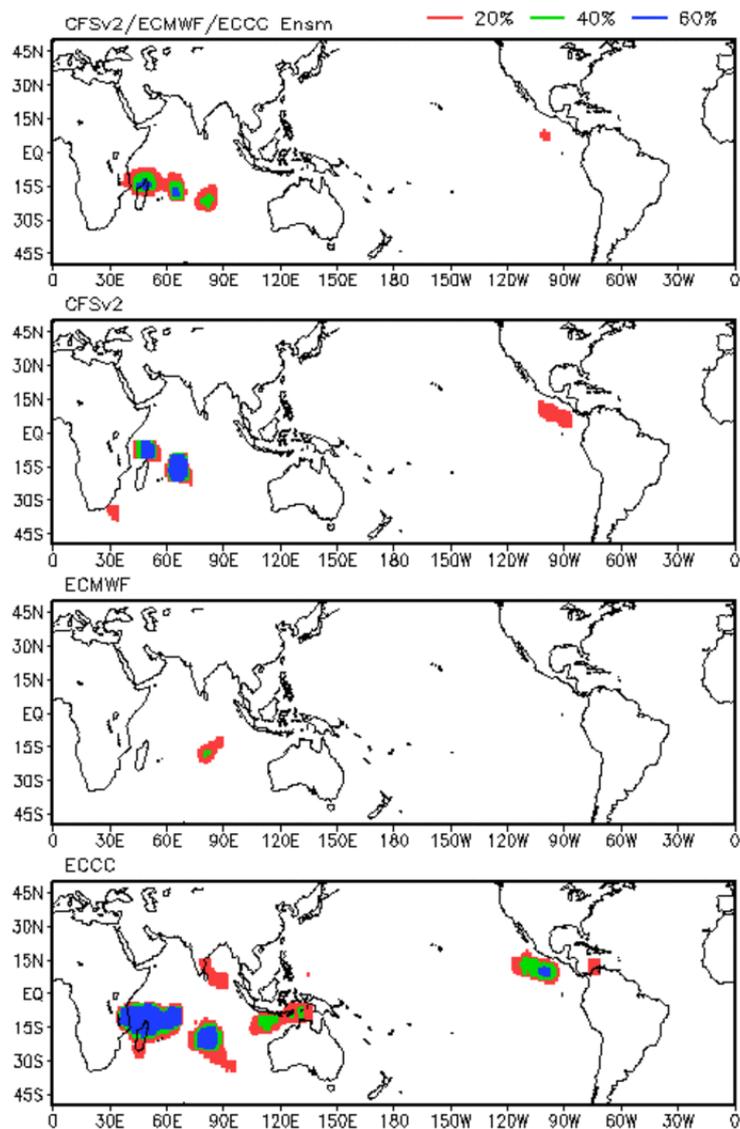
Storm Track Probabilities, IC=20200406

Week 2: 0415 - 0421



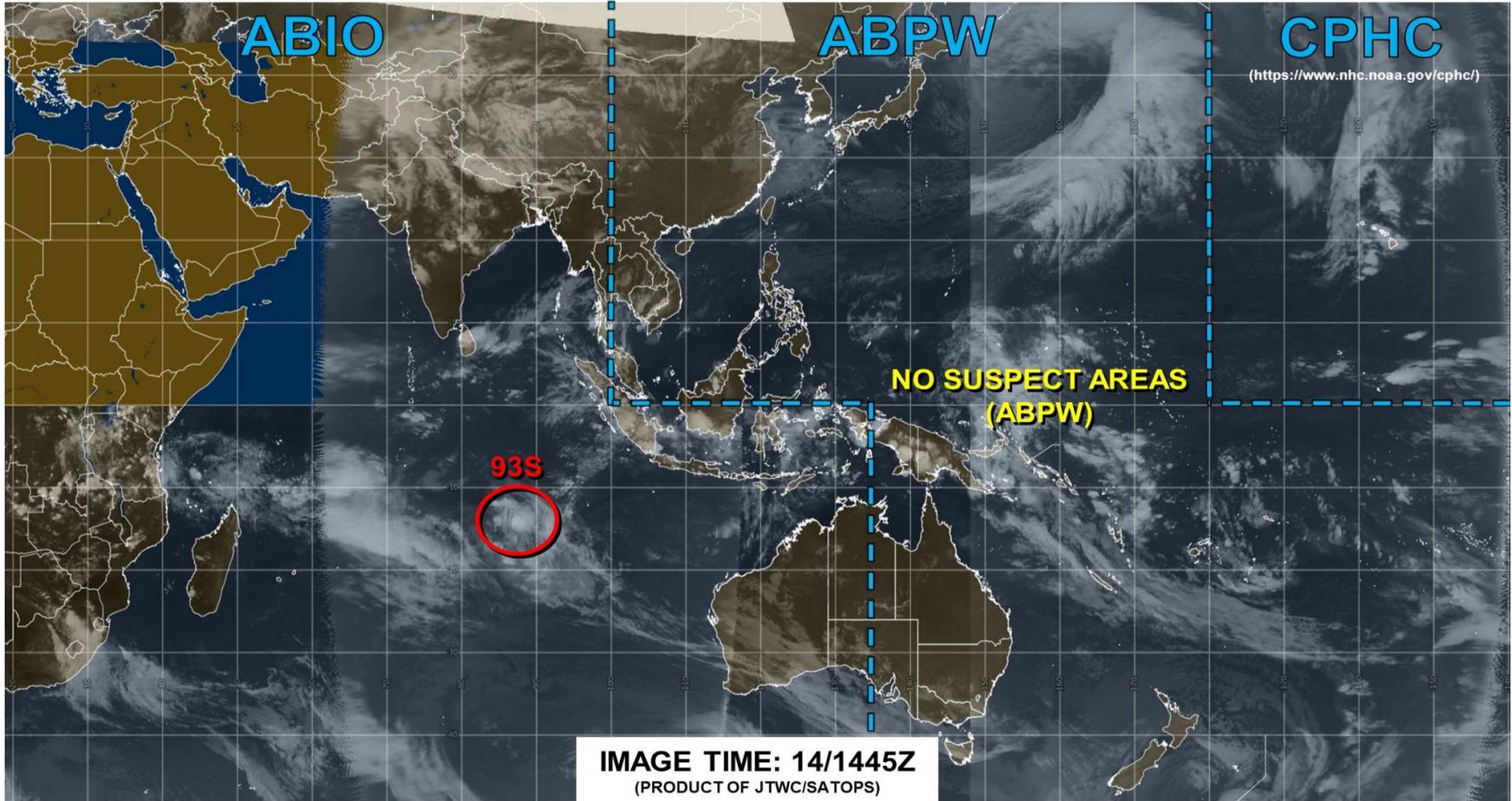
Storm Track Probabilities, IC=20200413

Week 1: 0415 - 0421





JOINT TYPHOON WARNING CENTER



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours



TC development likely within 24 hours (Reference TCFA)



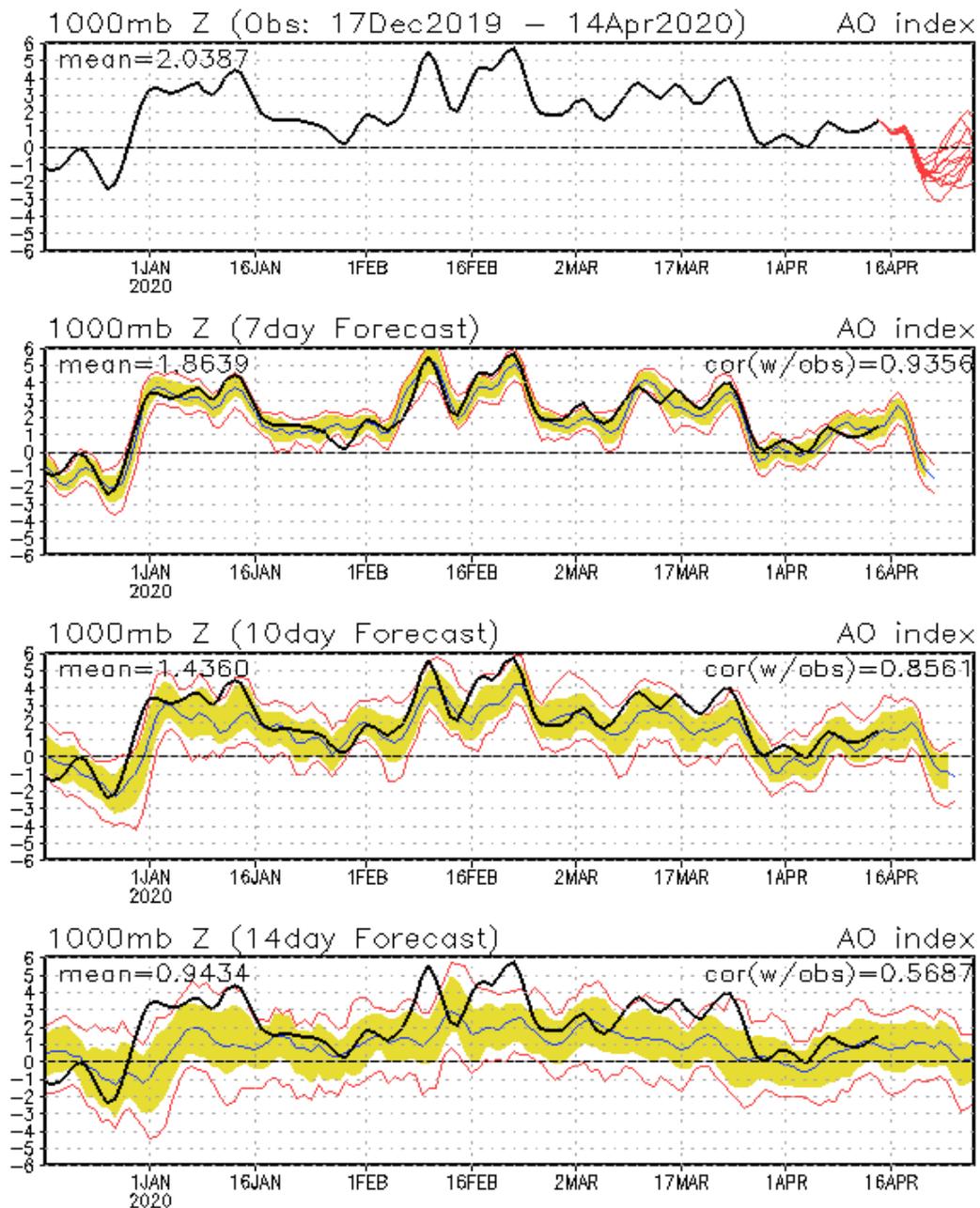
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

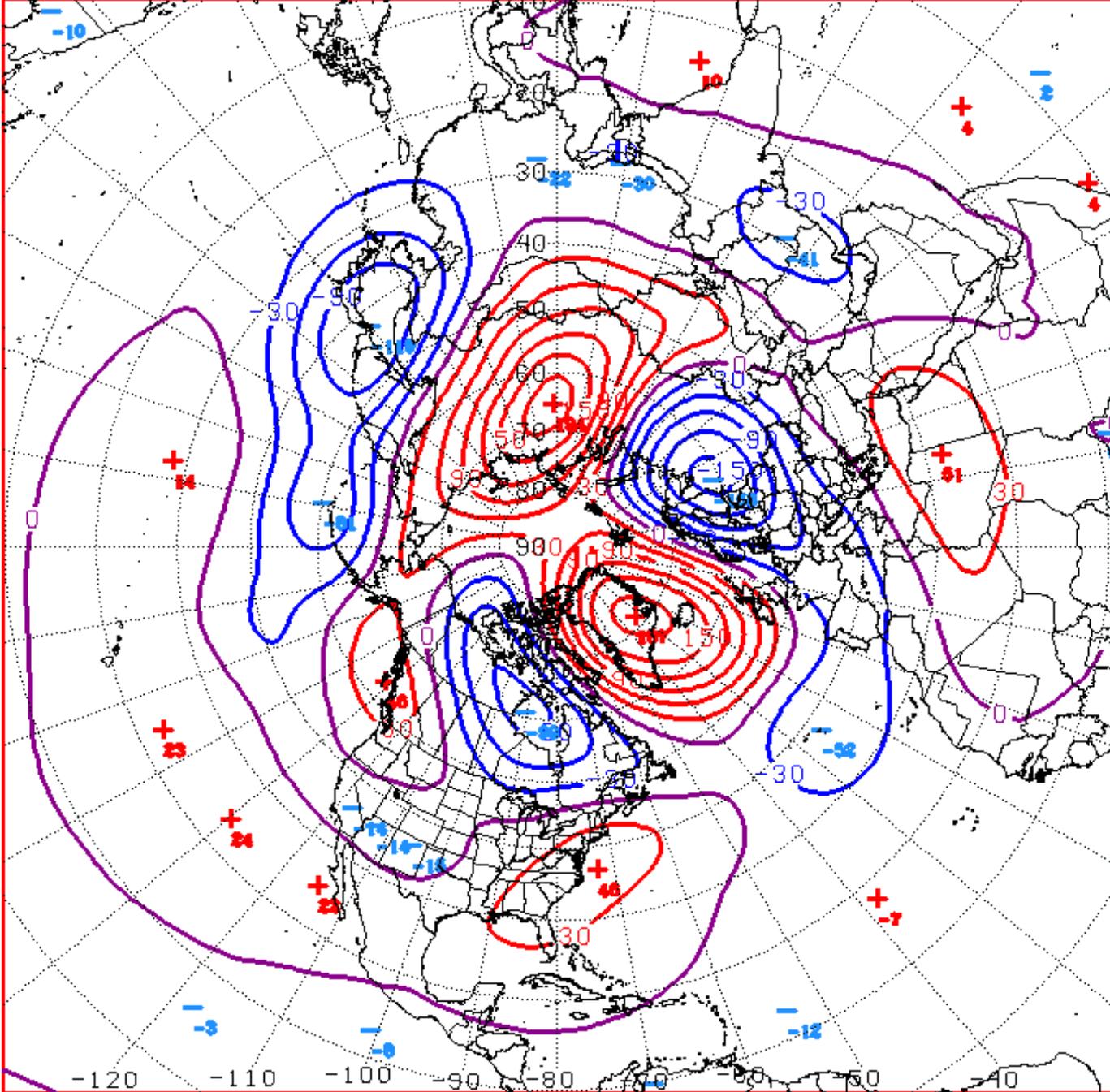


Tropical Cyclone (Reference Warning)

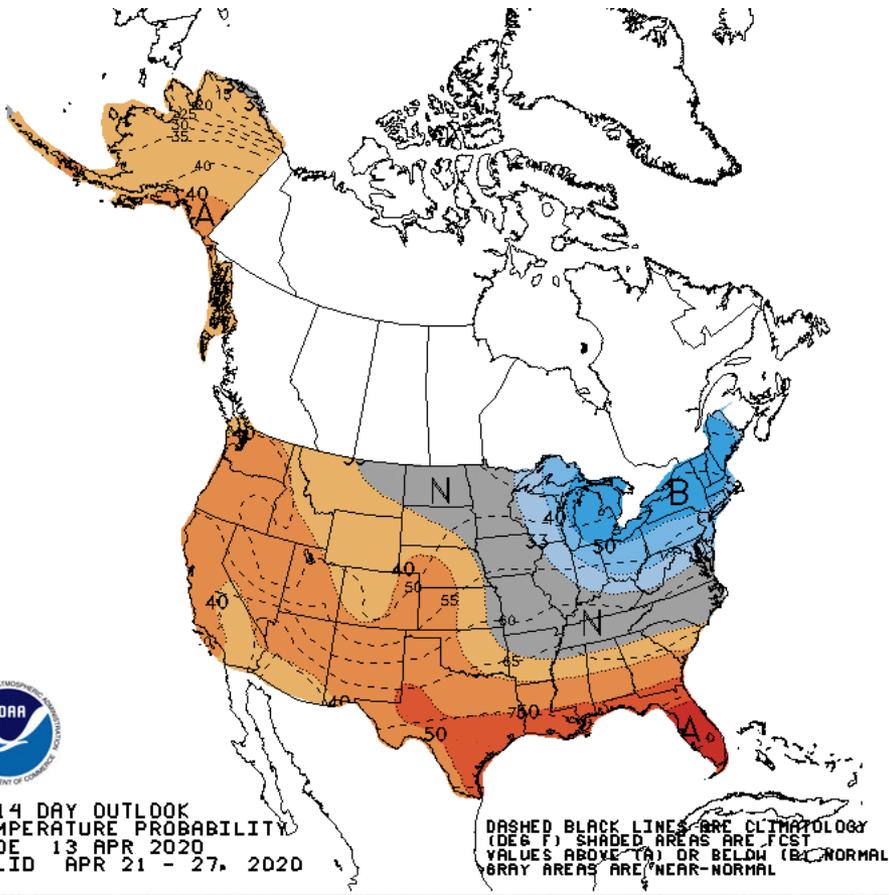
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



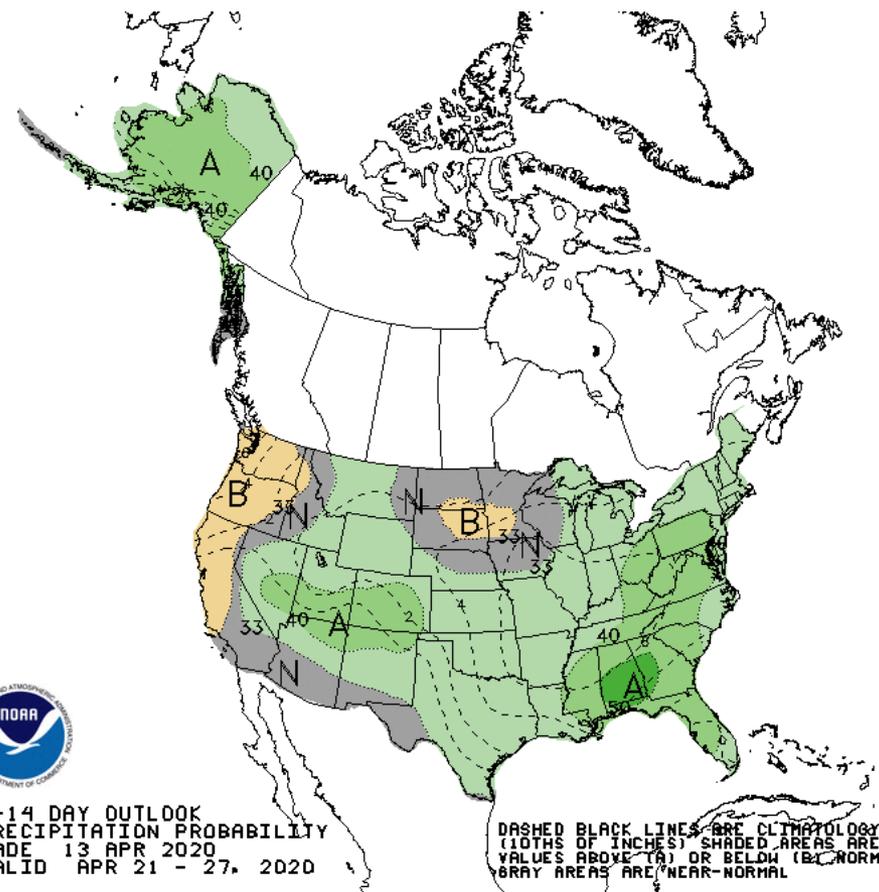
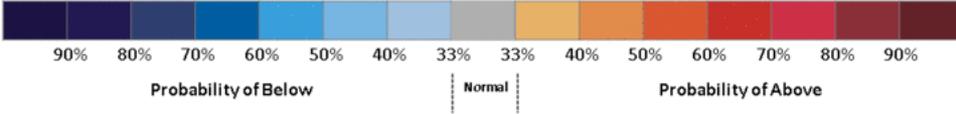


D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE APR 14 2020 1334 UTC CNTD APR 25 2020



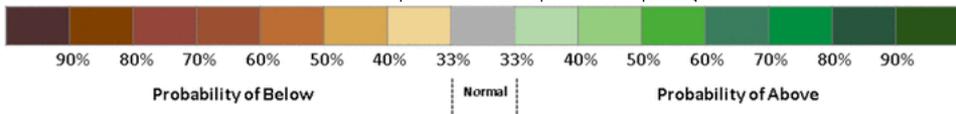
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 13 APR 2020
VALID APR 21 - 27, 2020

DASHED BLACK LINES ARE CLIMATOLOGY (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 13 APR 2020
VALID APR 21 - 27, 2020

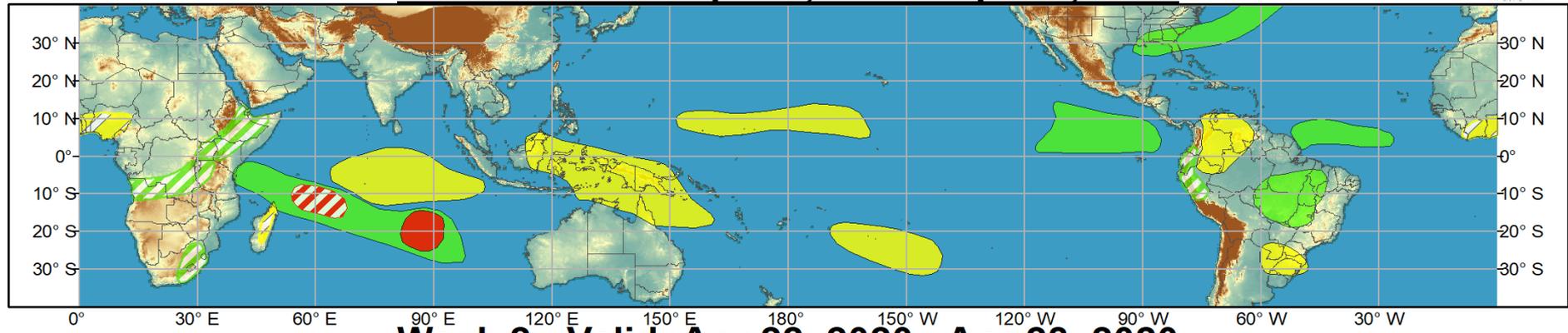
DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



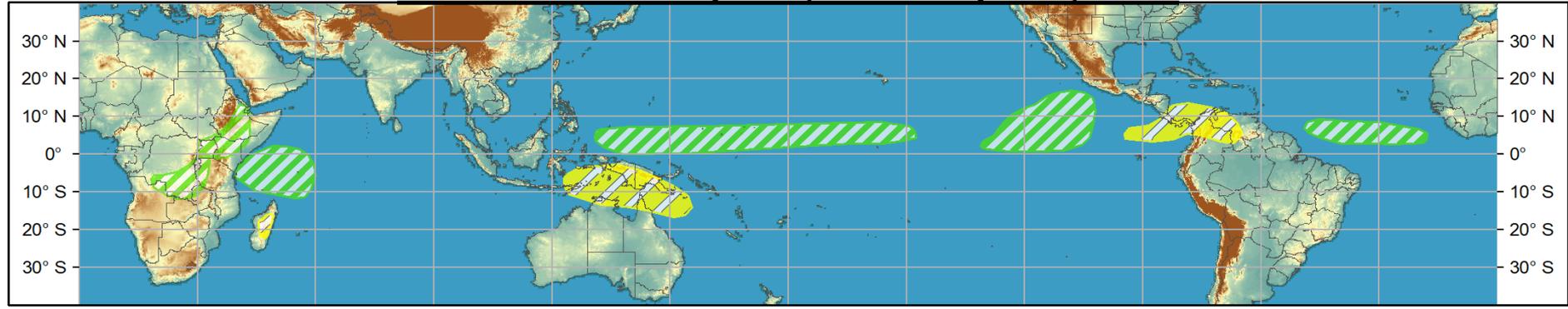


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