Global Tropics Hazards And Benefits Outlook

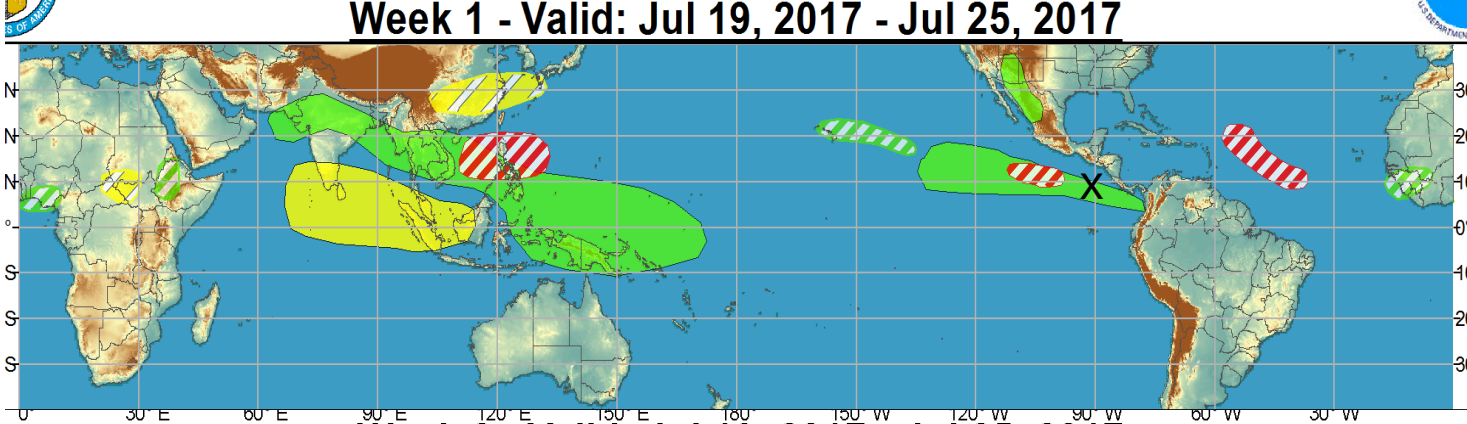
7/25/2017

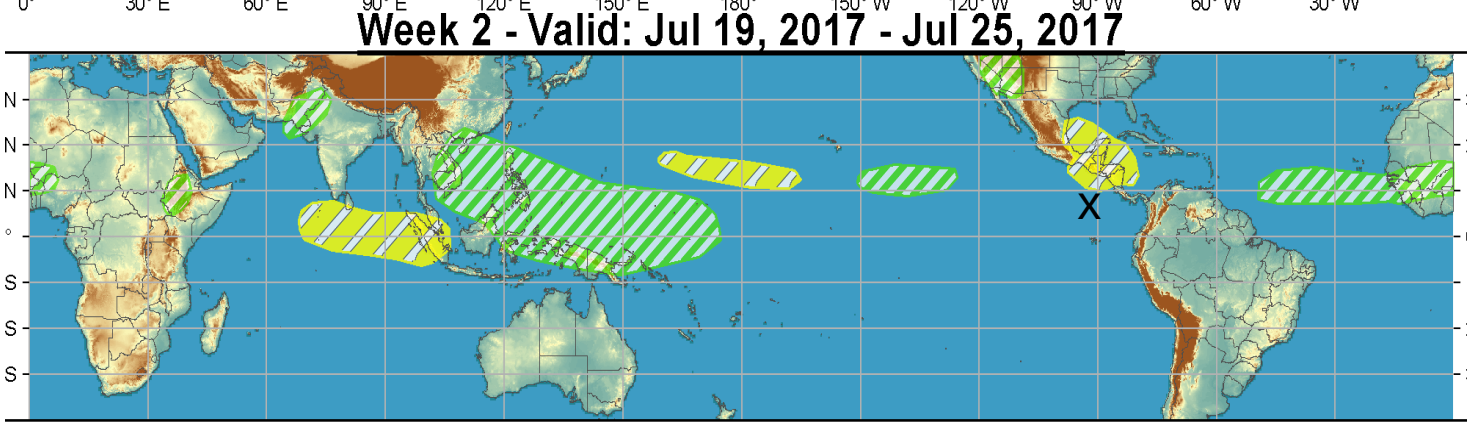
Matthew Rosencrans

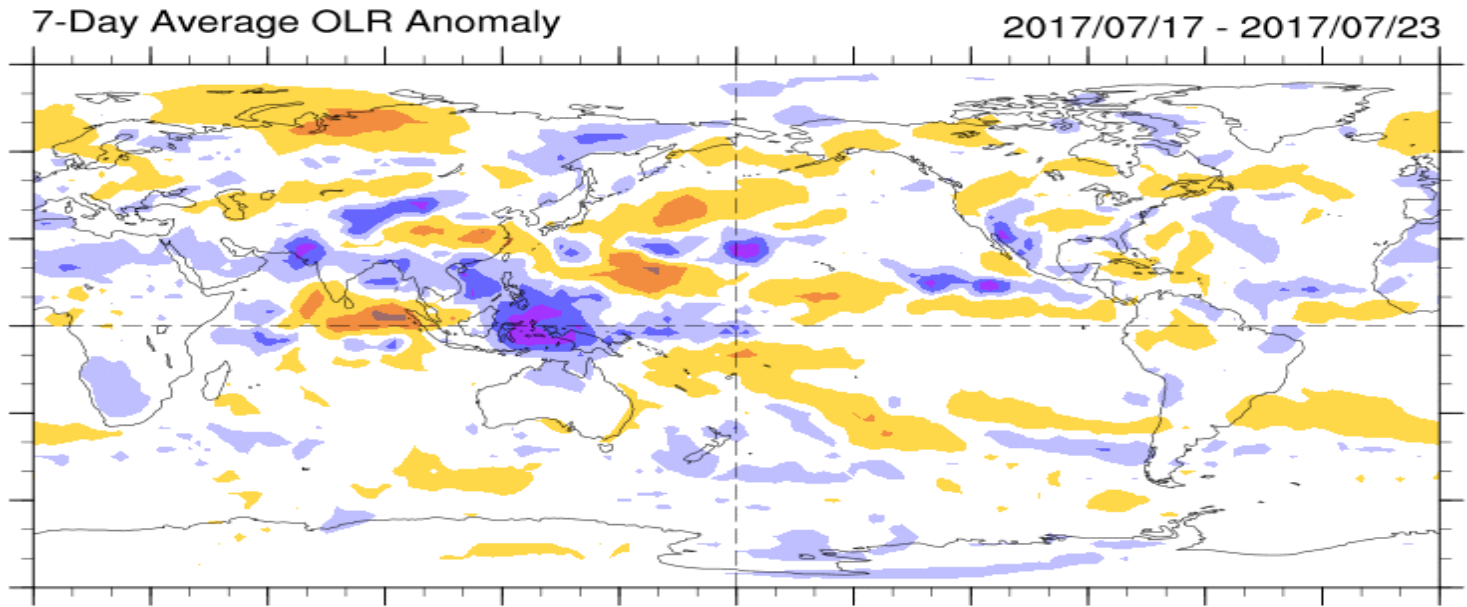
Outline

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

Outlook Review

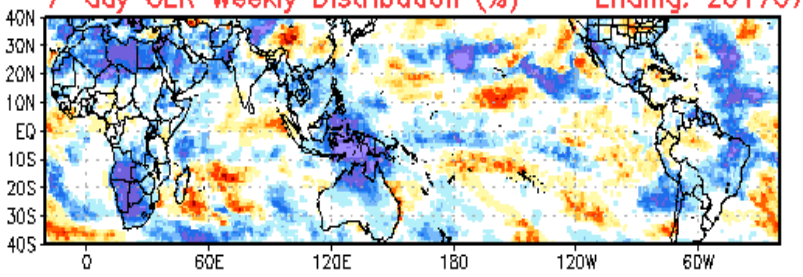


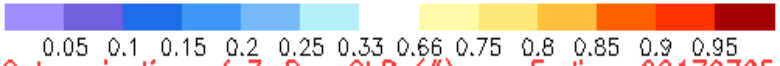


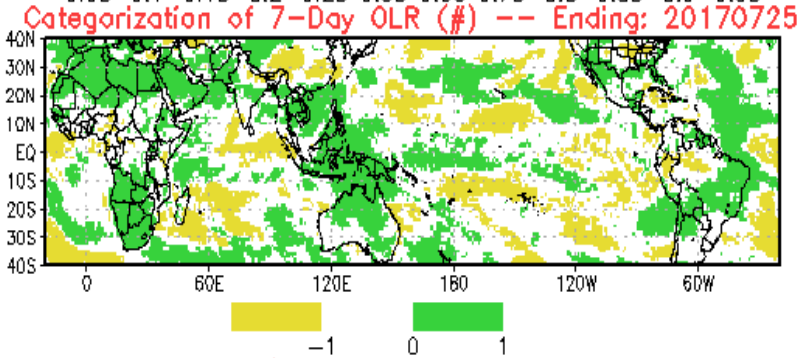


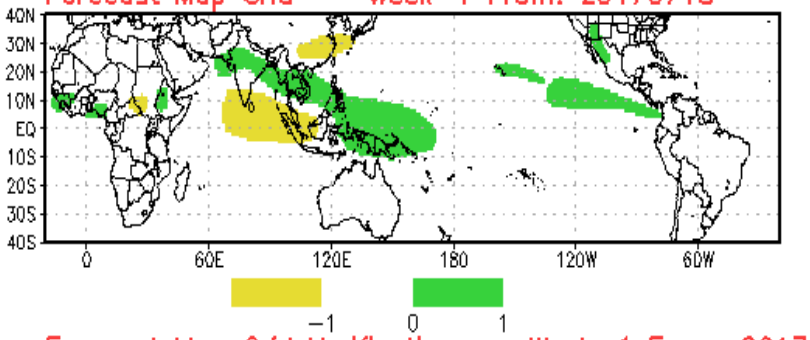
Cool shading
More clouds/rain

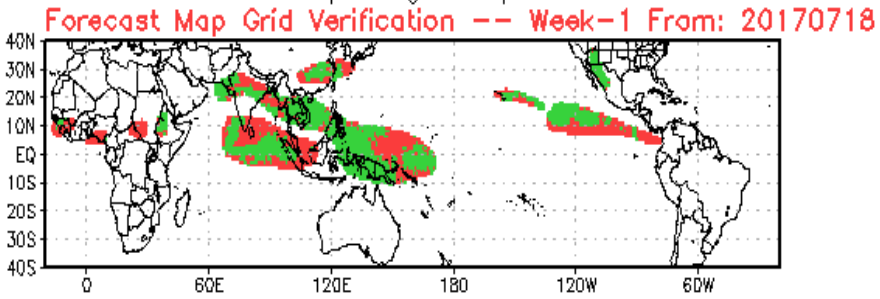
Warm shading
Less clouds/rain



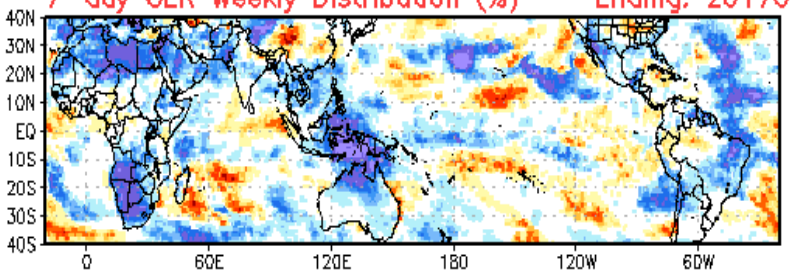


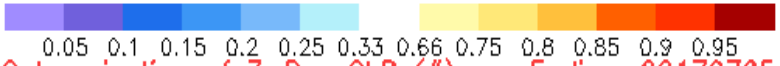


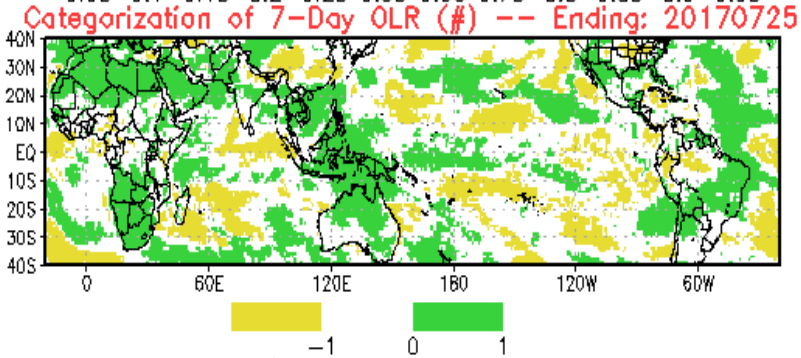


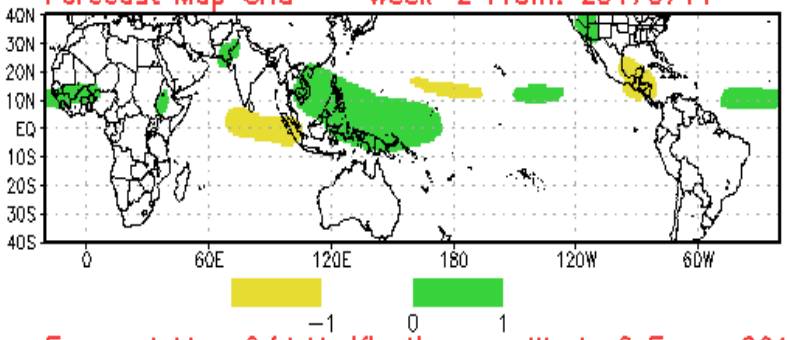


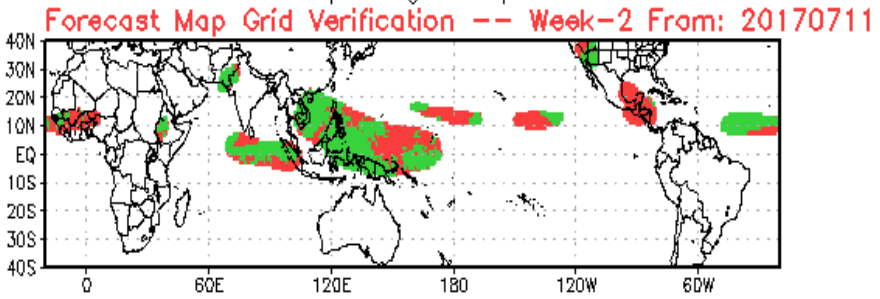
Hit: Green, Miss: Red
Heidke Skill Score: 33.0256











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Heidke Skill Score: 34.6147

Synopsis of Climate Modes

ENSO:

- ENSO-neutral is favored (~50 to 55% chance) into the Northern Hemisphere winter 2017-18.

MJO and other subseasonal tropical variability:

• The MJO remained weak, but propagated eastward. The signal might be related to other modes of variability.

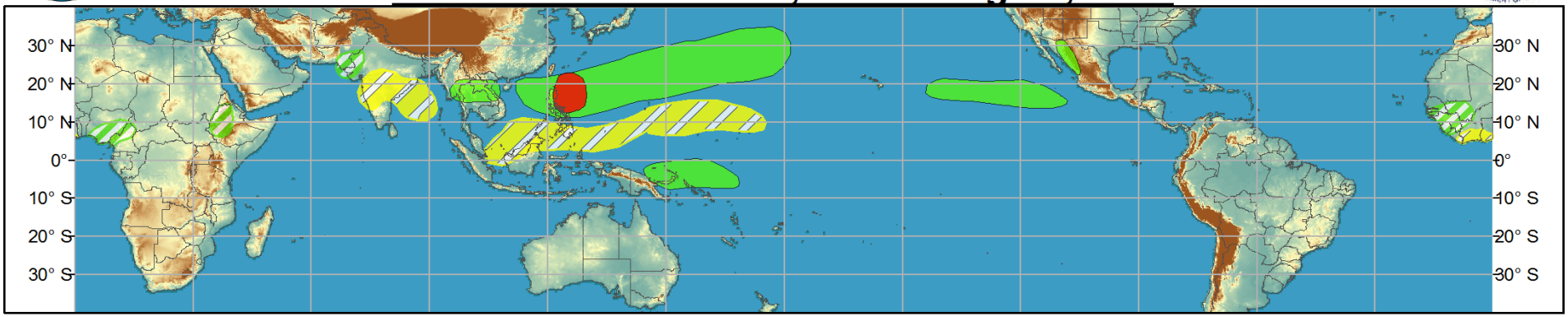
• Dynamical models indicate a continuation of the signal in Week-1, then a weakening signal in Week-2 due to the signal breaking down into other modes of variability.

Extratropics:

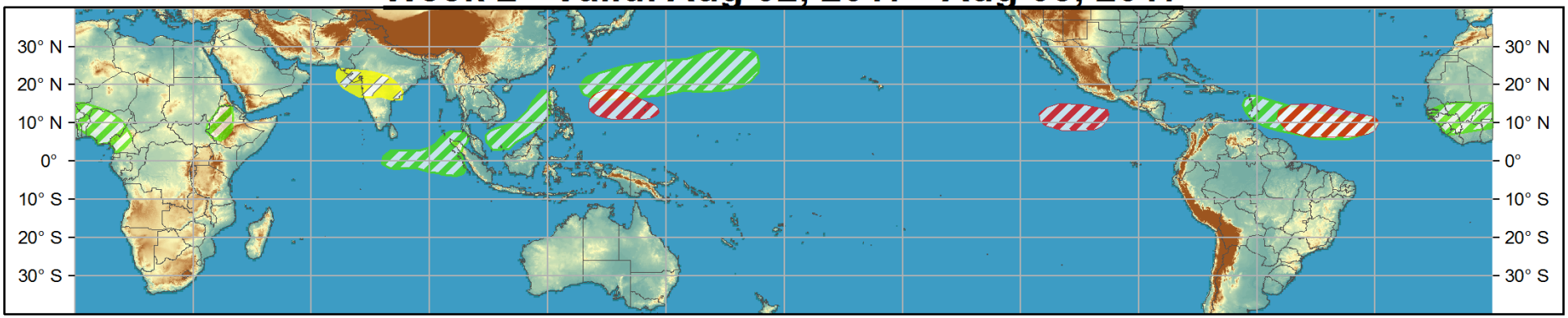
• The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by MJO activity

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jul 26, 2017 - Aug 01, 2017



Week 2 - Valid: Aug 02, 2017 - Aug 08, 2017



Produced: 07/25/2017

Forecaster: Rosencrans

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EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

Australian Government Bureau of Meteorology

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NPS PRAESTANTIA PER SCIENTIAM

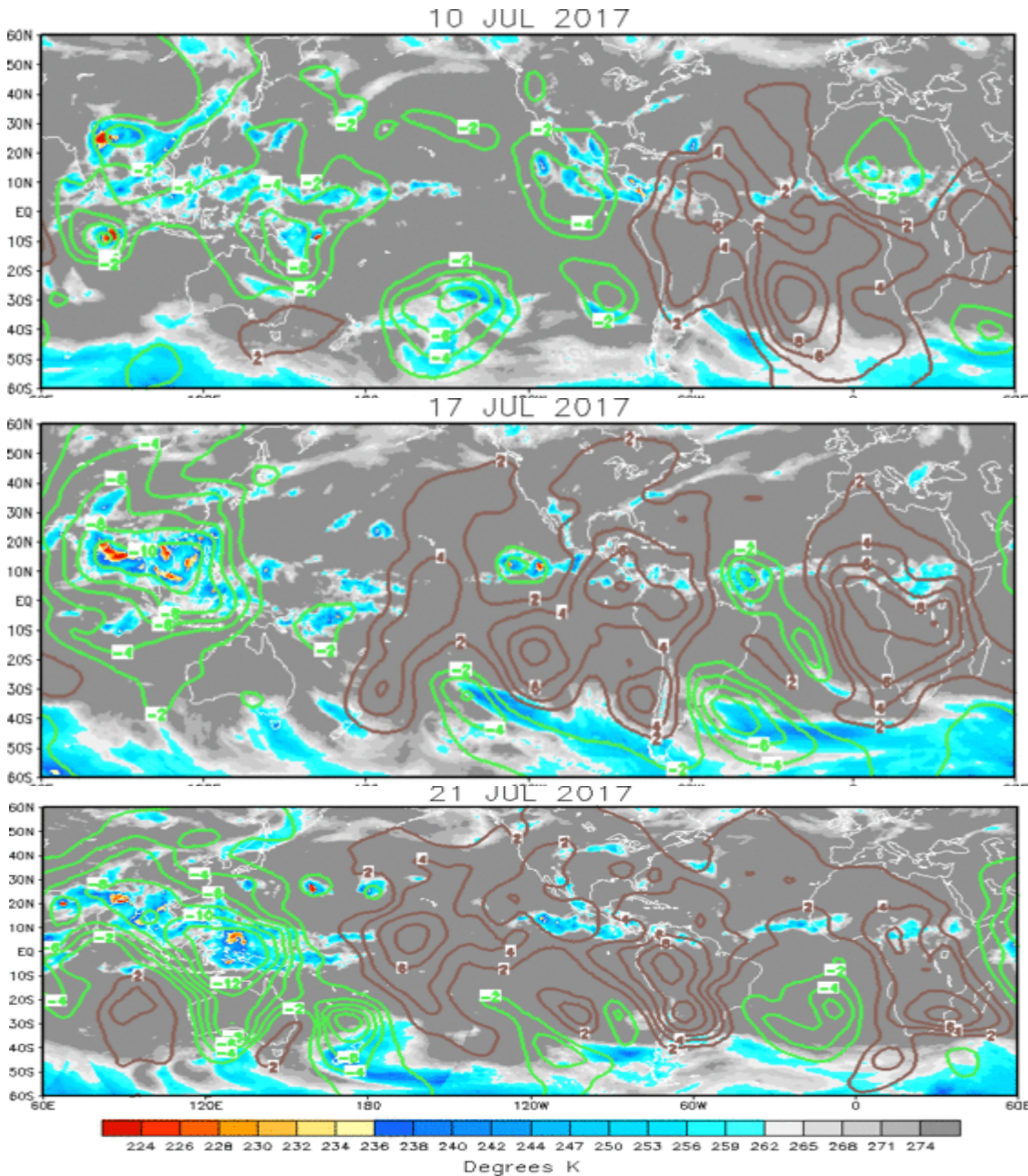
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

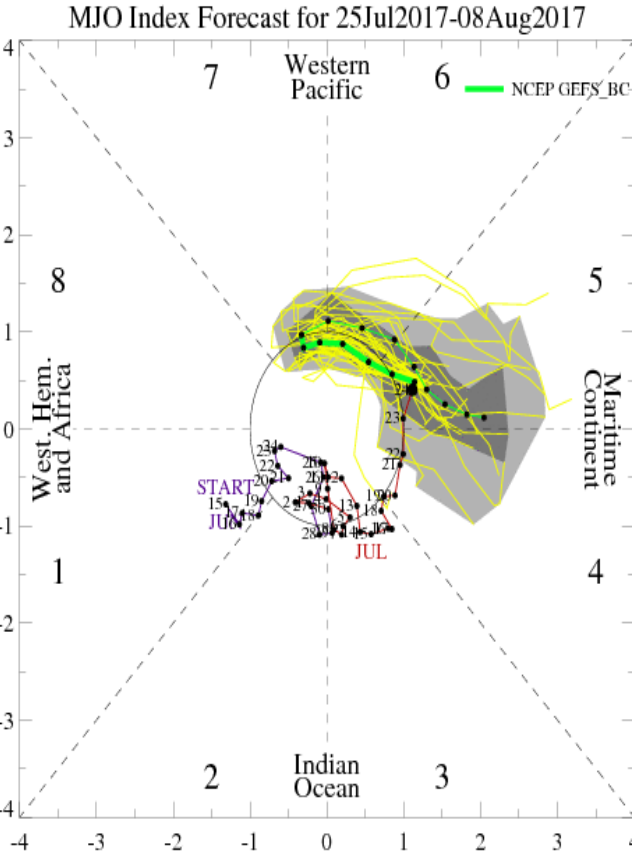
Weak projection onto MJO with wave-2 structure.

Larger structures, more consistent with MJO.

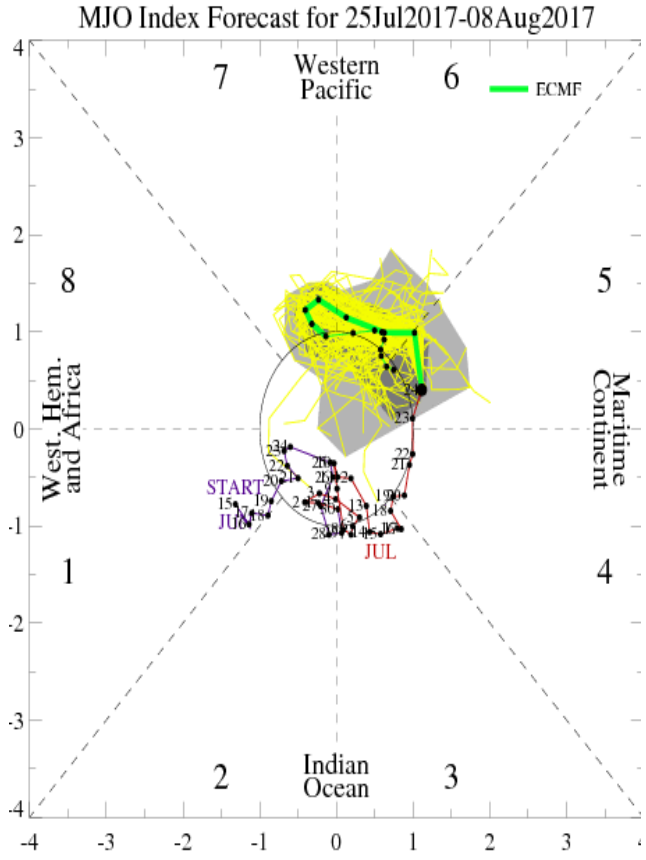
Largely wave-1, and consistent with summer MJO.



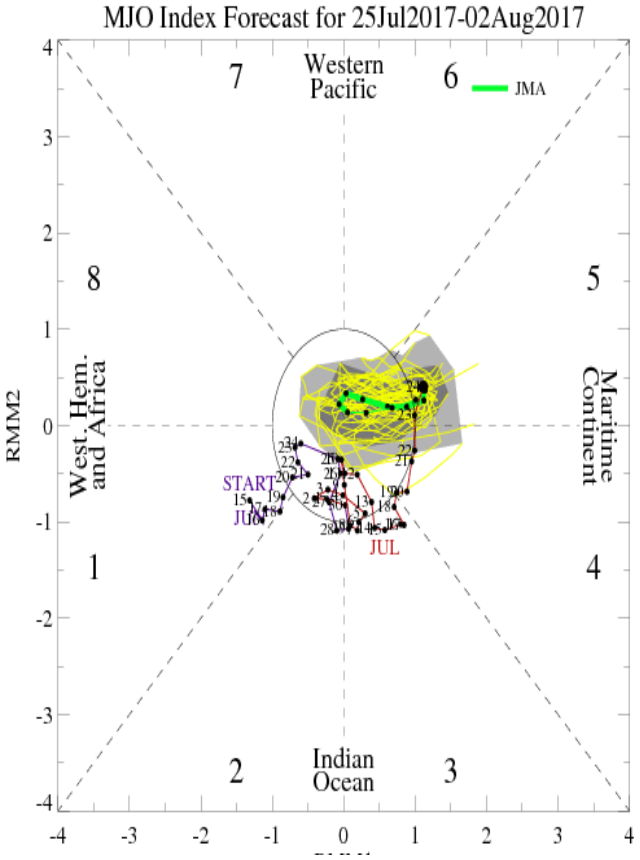
MJO Observation/Forecast



GEFS



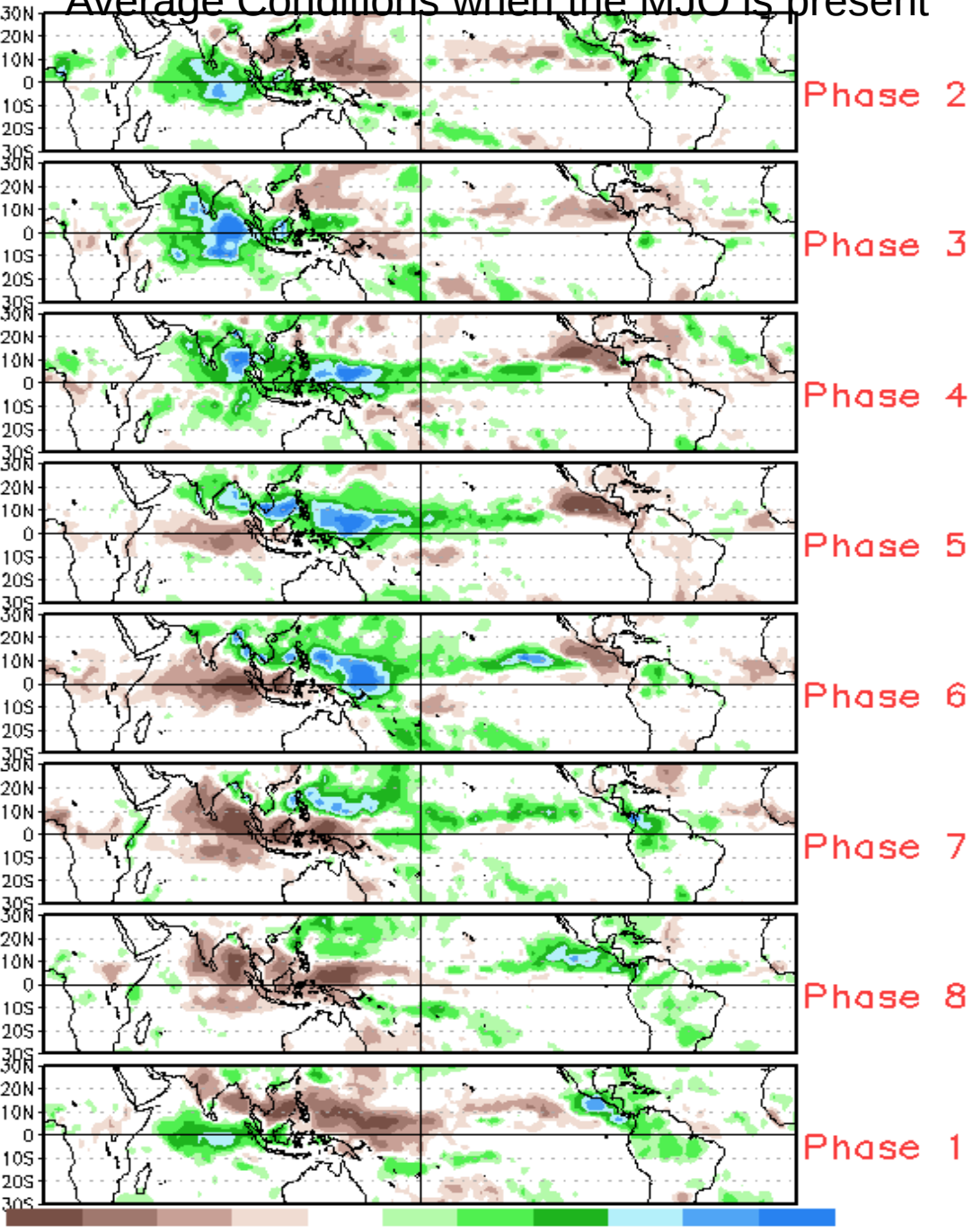
ECMWF



JMA

Wheeler-Hendon based analyses of model forecasts indicate propagation to the east. Uncertainty on when the signal breaks down, and the impact of competing modes.

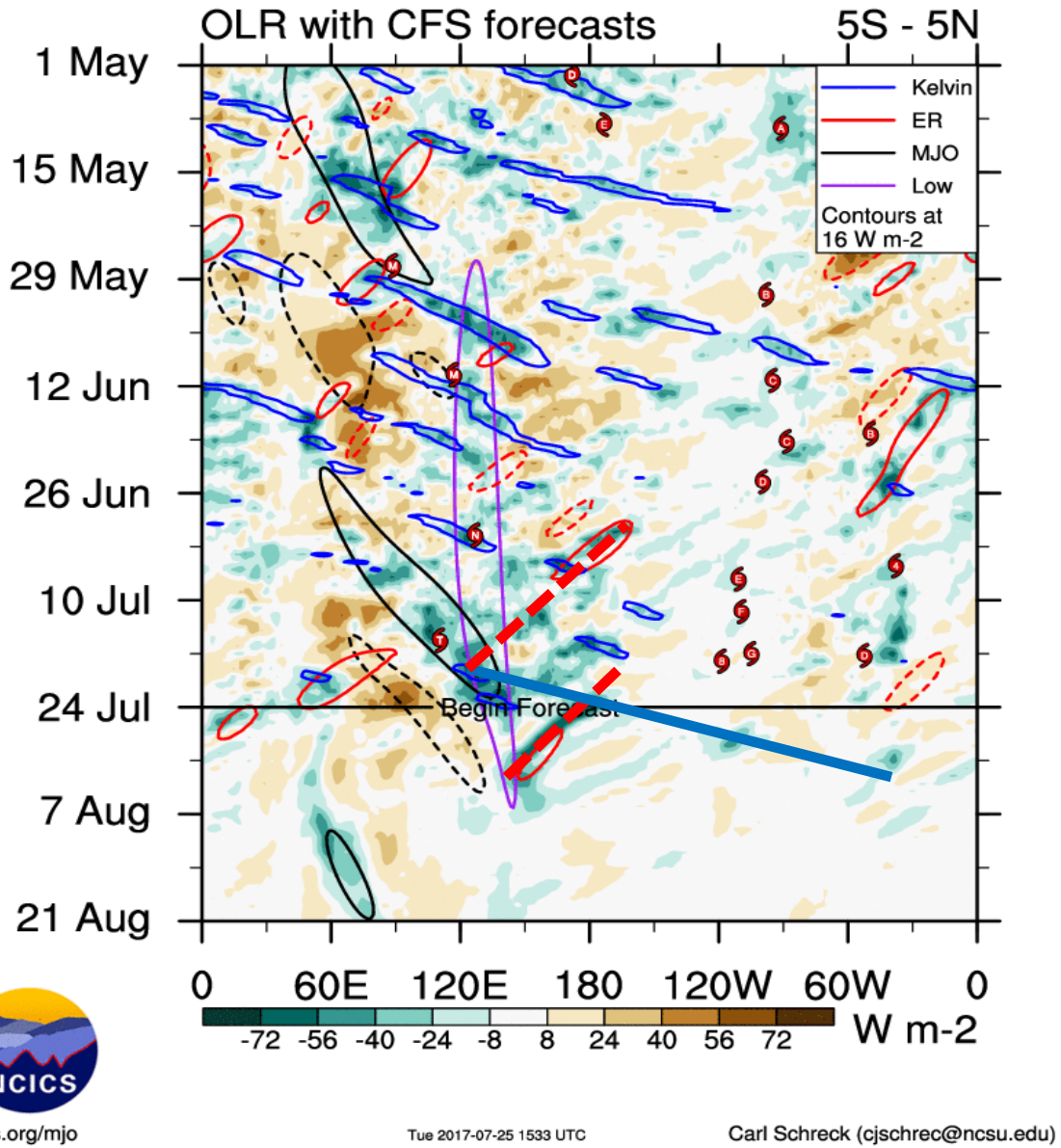
Average Conditions when the MJO is present



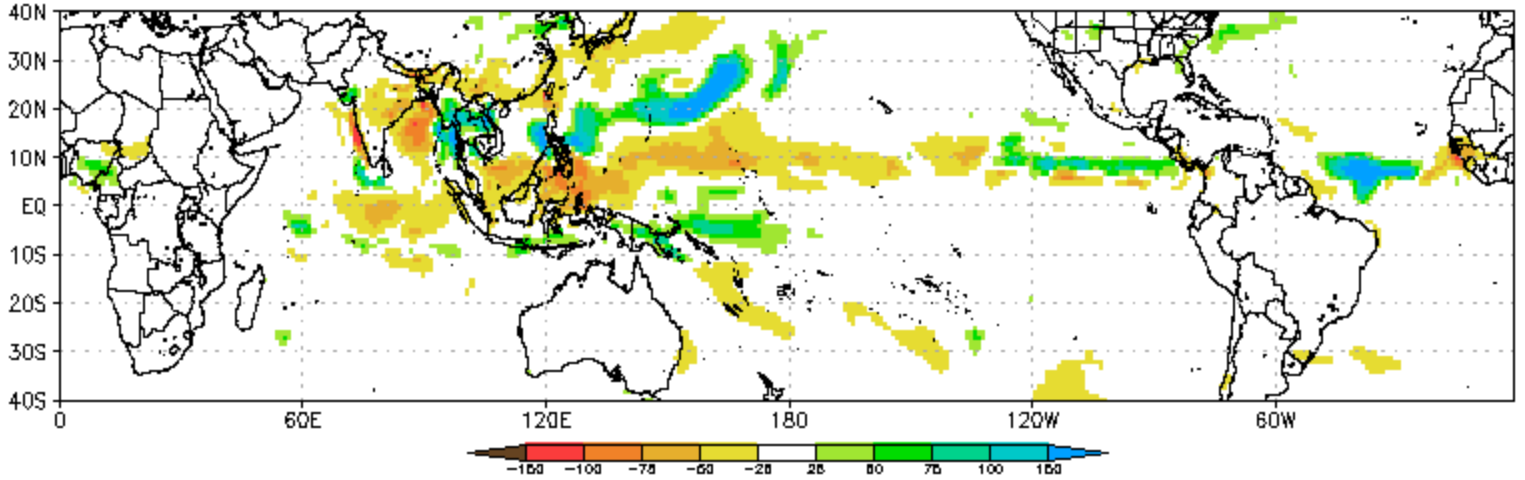
CAVEAT: These panels are representative of robust MJO events.

MJO, Rossby wave and Kelvin wave having an influence

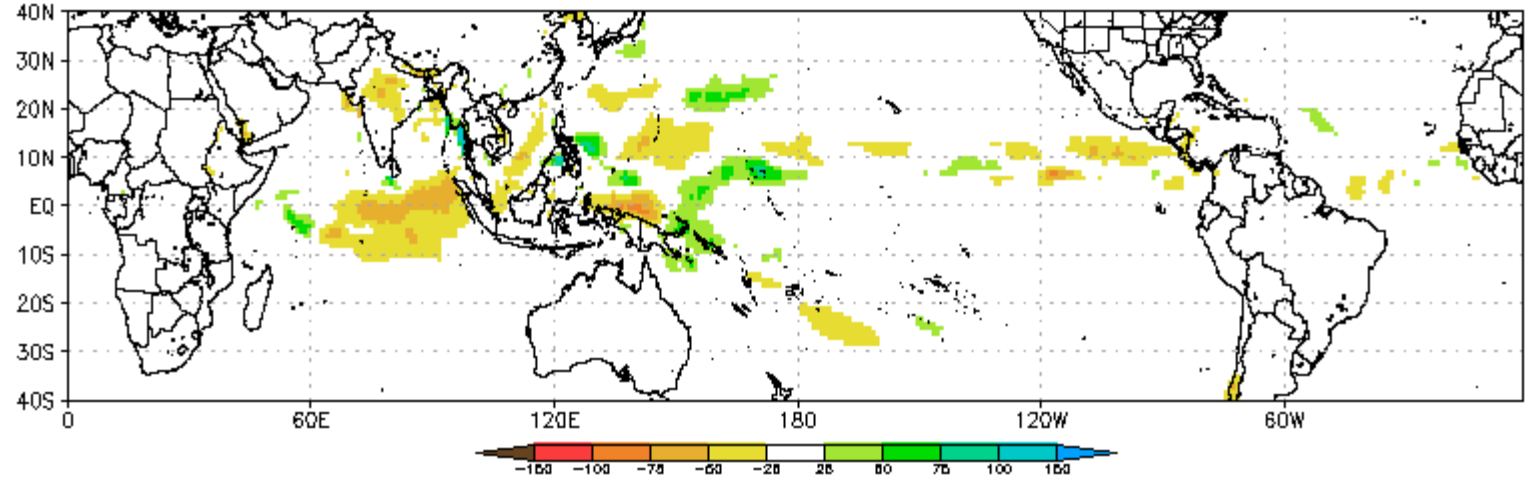
Low-frequency pattern less of an influence



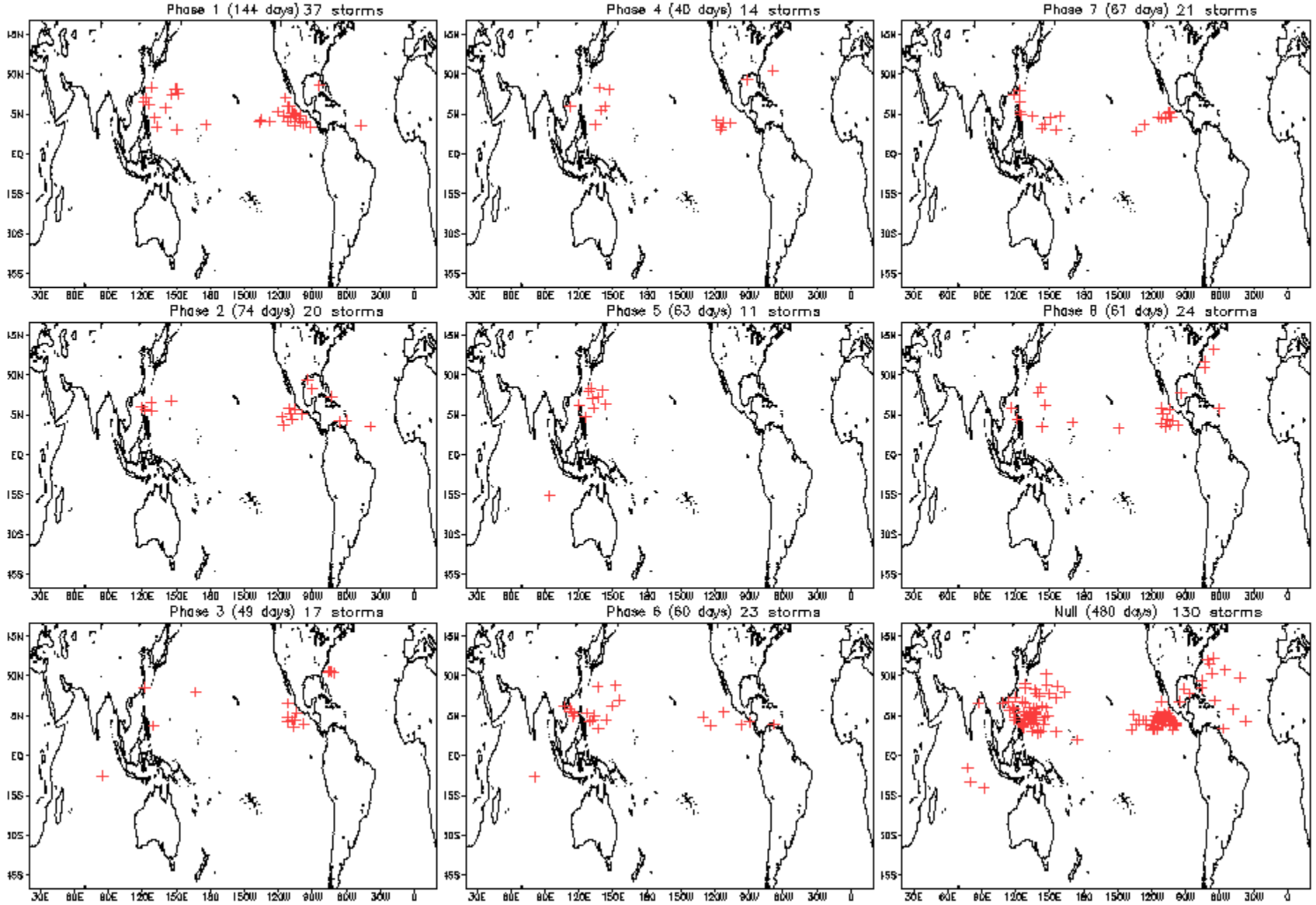
CFS Precipitation Anomalies (mm) Issued 24Jul2017
Week-1 Forecast Ending 01Aug2017



CFS Precipitation Anomalies (mm) Issued 24Jul2017
Week-2 Forecast Ending 08Aug2017



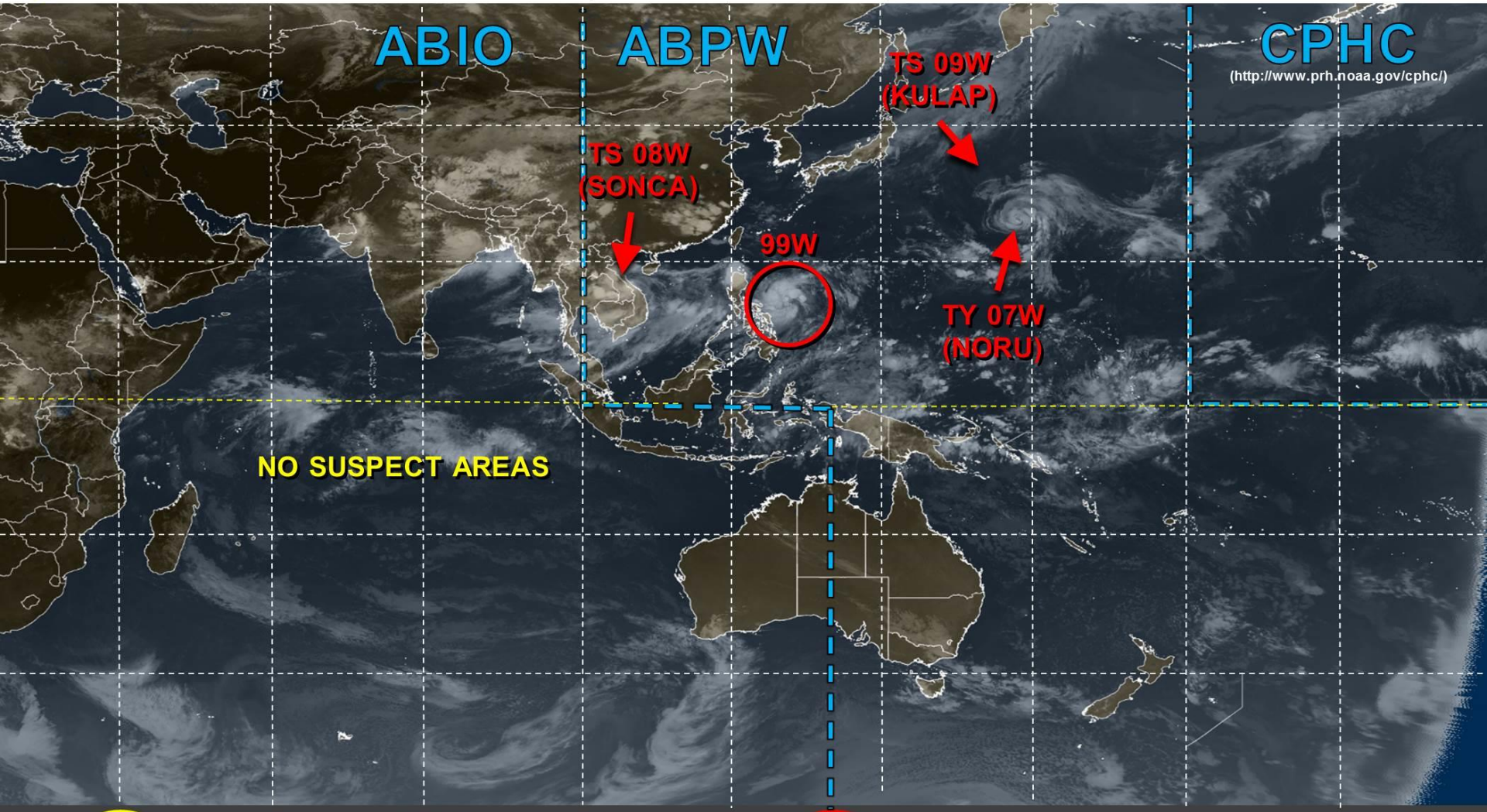
July Tropical Storm Formation by MJO phase



Tropical Cyclone Development Potential

IMAGE TIME: 25/1200Z

(PRODUCT OF JTWC/SATOPS)



LOW — TC formation unlikely within 24 hours

MEDIUM — TC development likely, but expected to occur beyond 24 hours

HIGH — TC development likely within 24 hours (Reference TCFA)

Tropical Cyclone (Reference Warning)

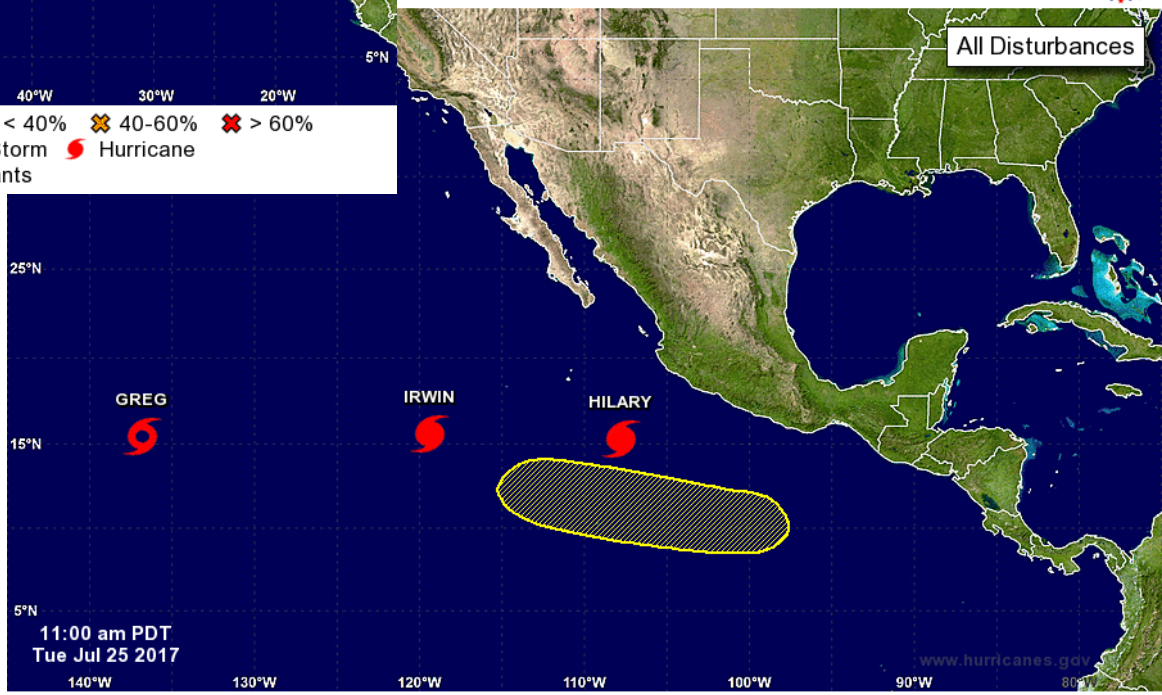
Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane
Post-Tropical Cyclone Remnants

Graphical Tropical Weather Outlook

ional Hurricane Center Miami, Florida



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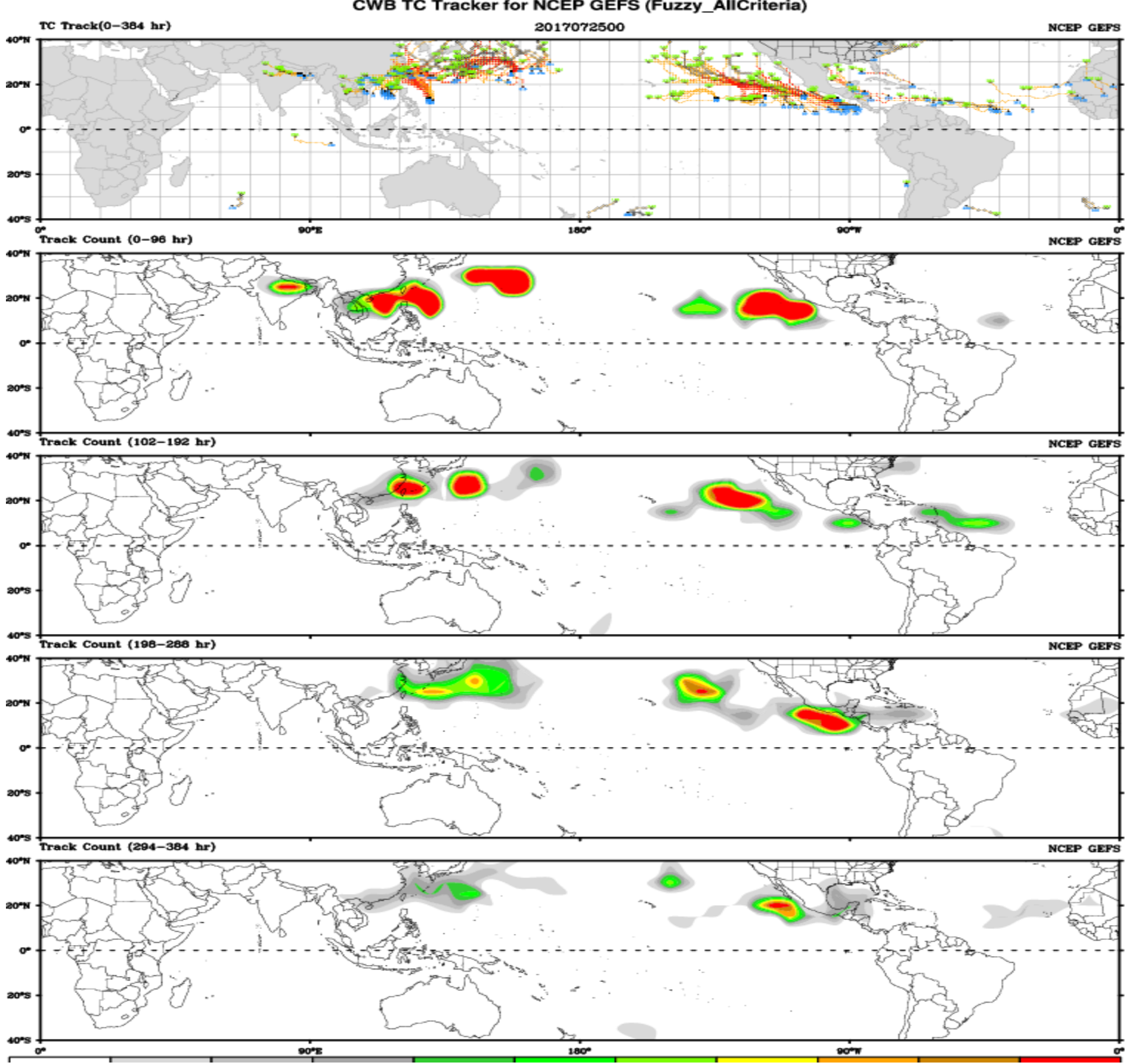


Days 1-4

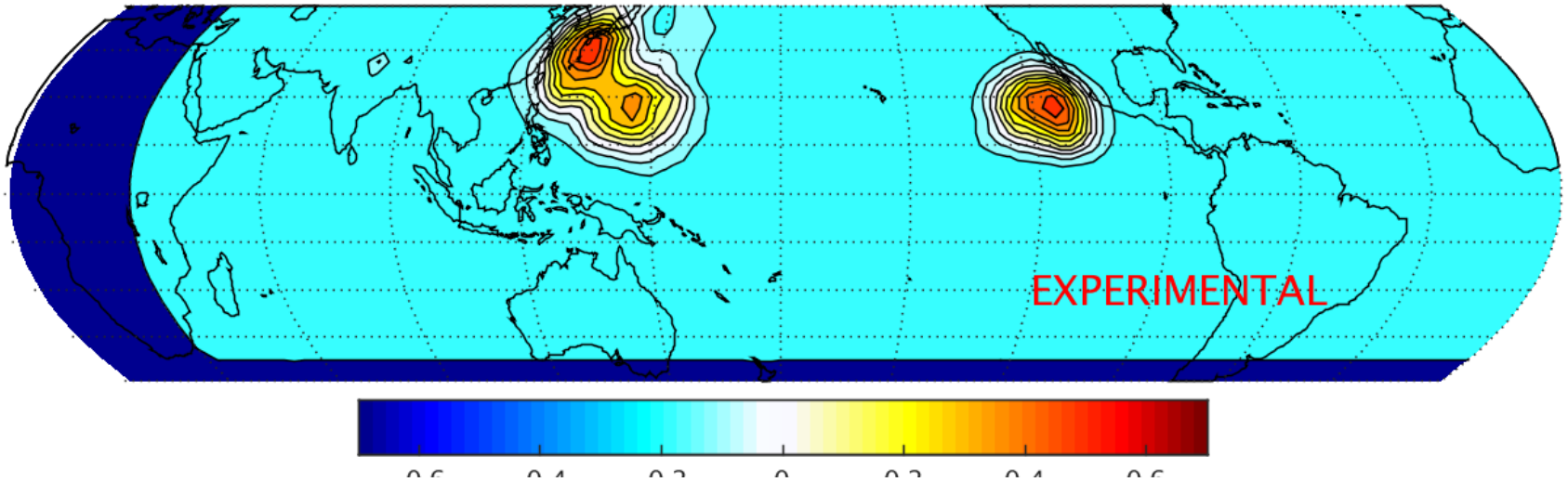
Day 5-8

Day 9-12

Day 13-15

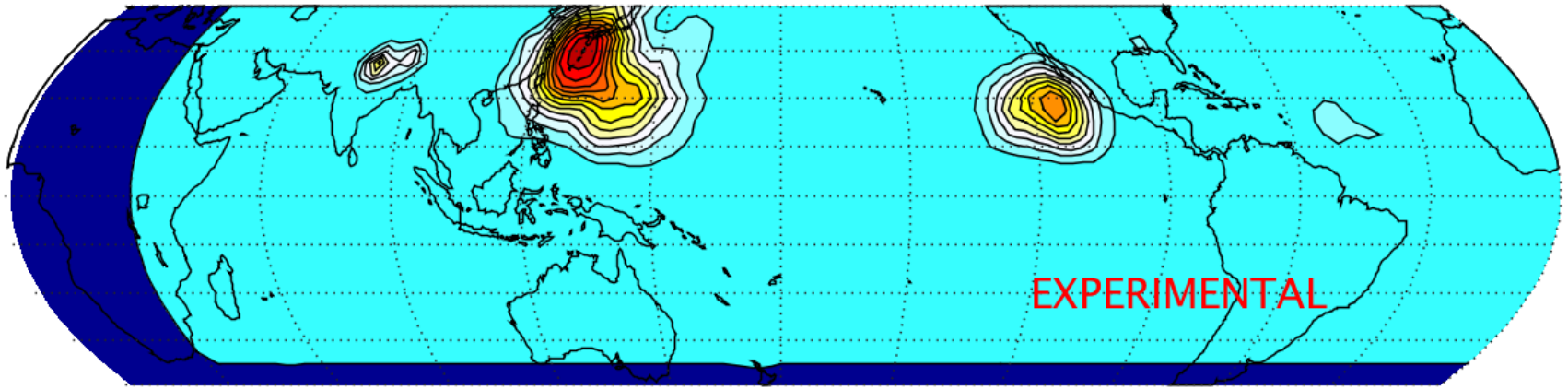
a. Probability of TC on 03-Aug-2017 forecast from 22-Jul-2017

330° W 300° W 270° W 240° W 210° W 180° W 150° W 120° W 90° W 60° W 30° W 0°



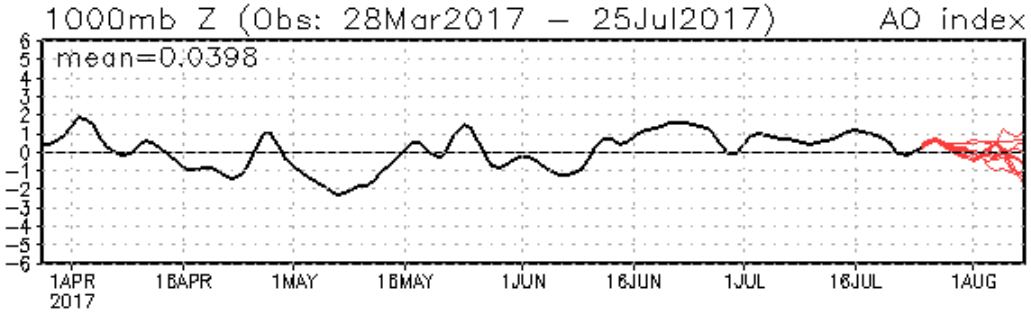
a. Probability of TC on 07-Aug-2017 forecast from 22-Jul-2017

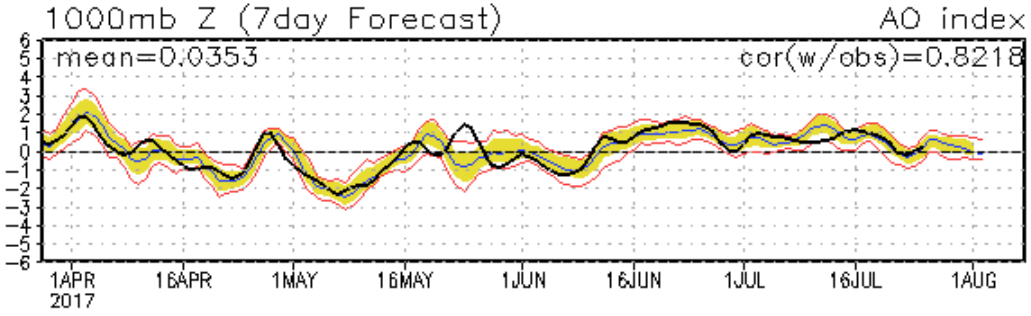
330° W 300° W 270° W 240° W 210° W 180° W 150° W 120° W 90° W 60° W 30° W 0°

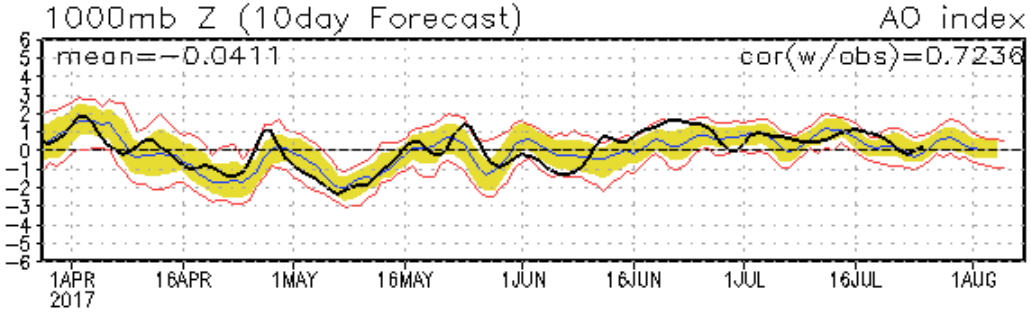


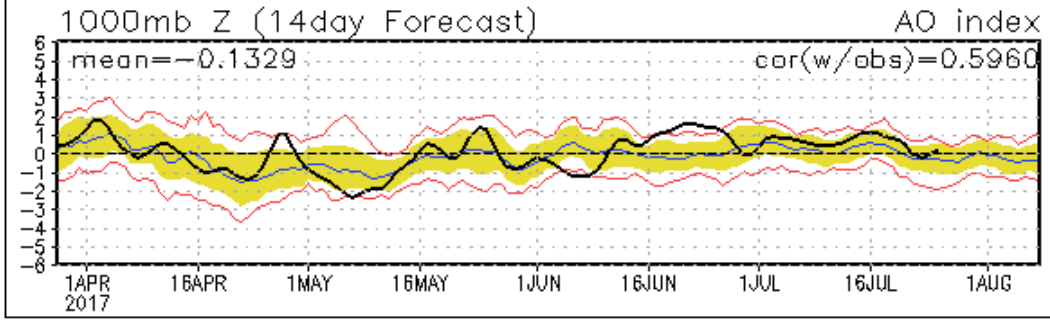
Connections to U.S. Impacts

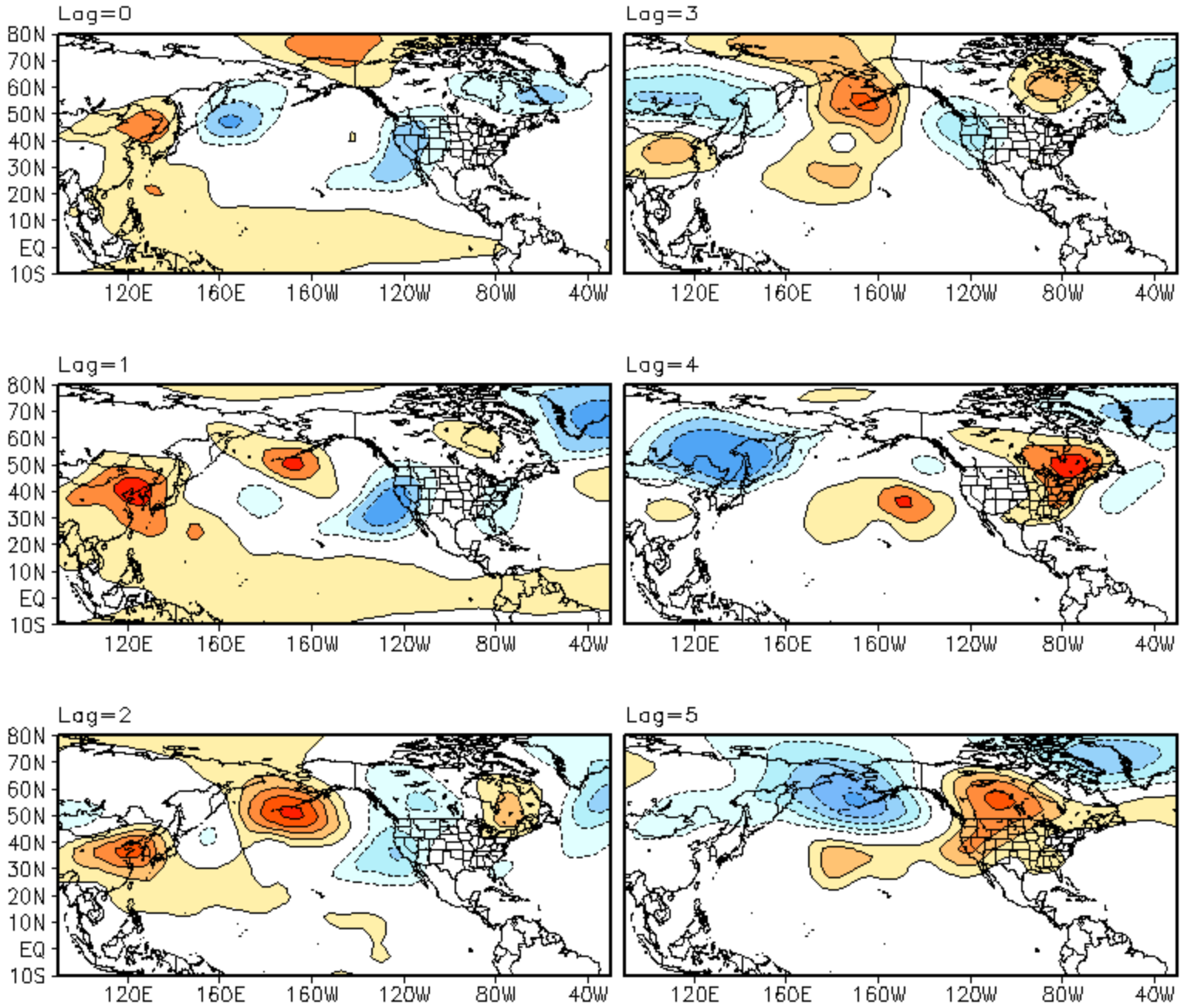
AO: Observed & ENSM forecasts

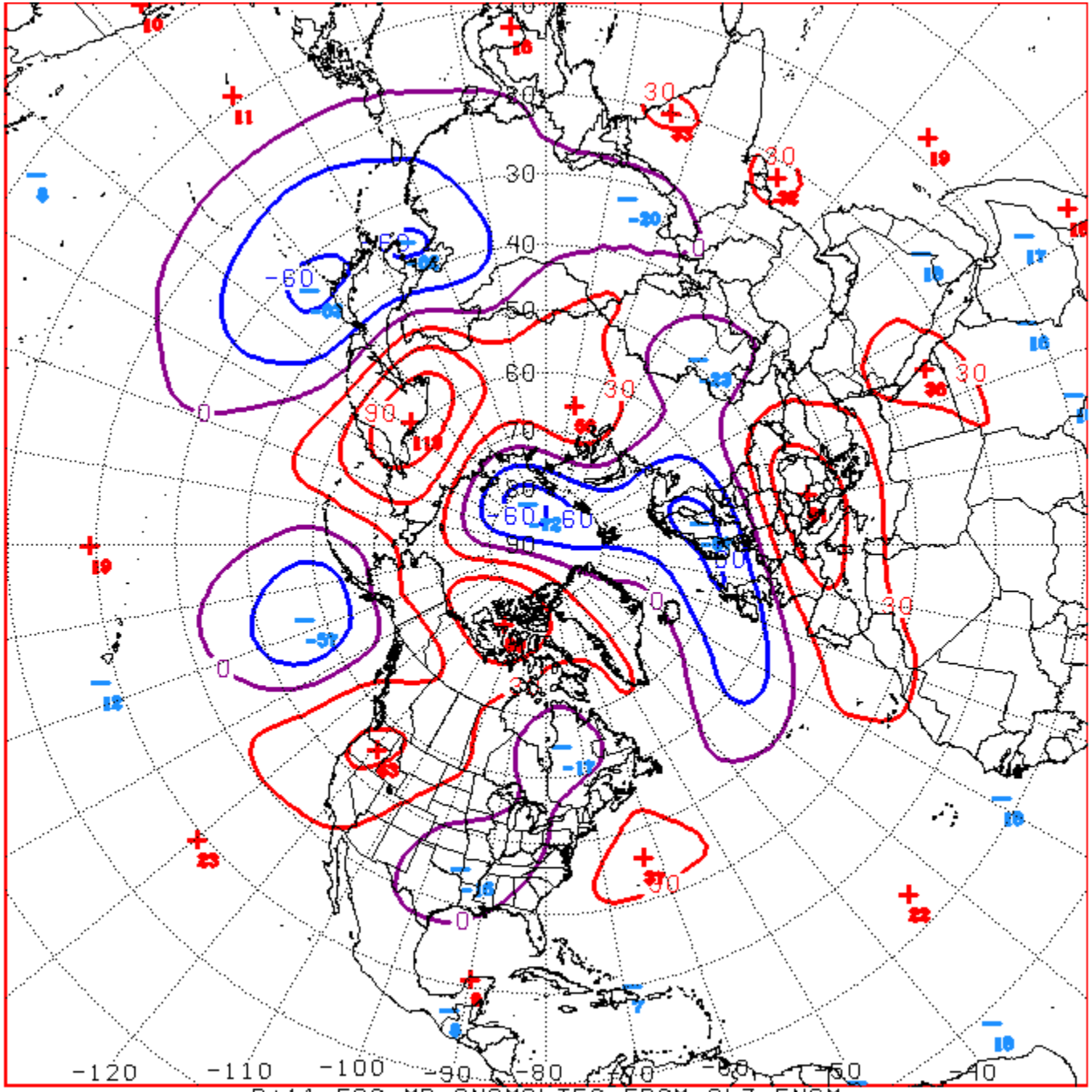




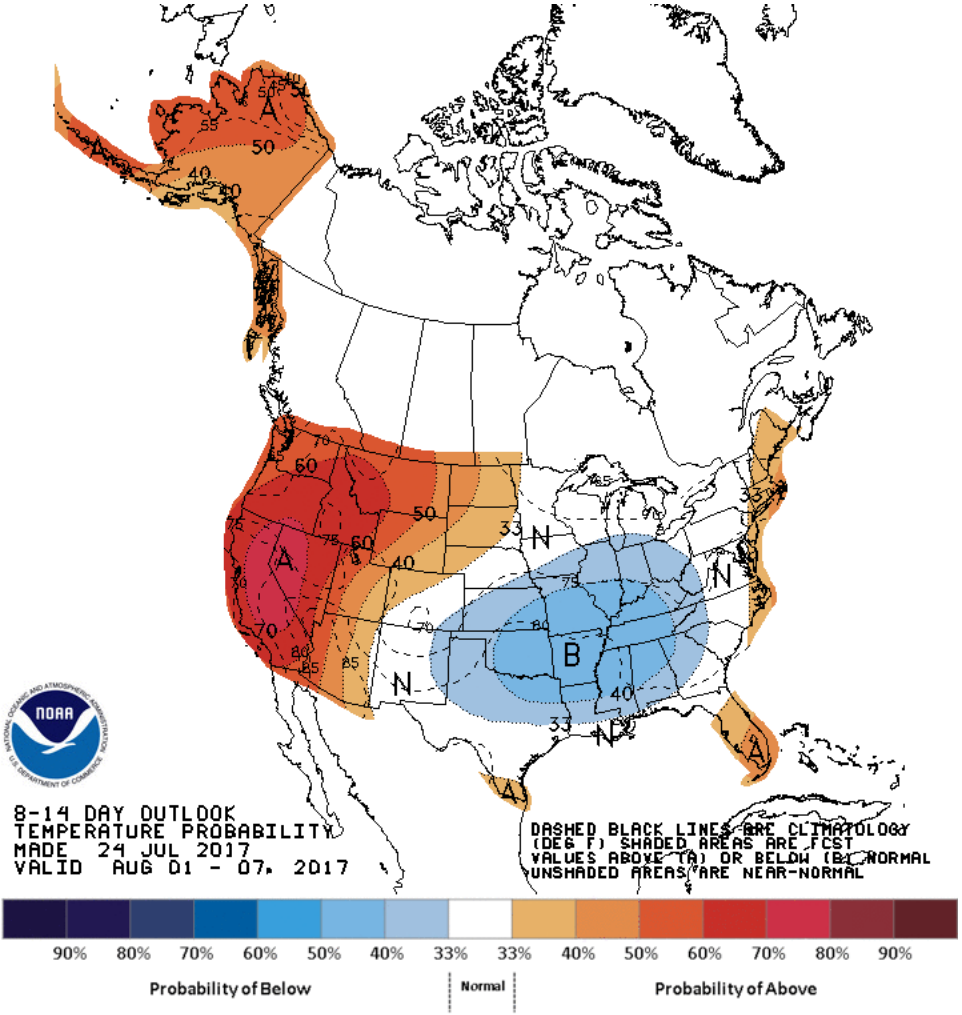


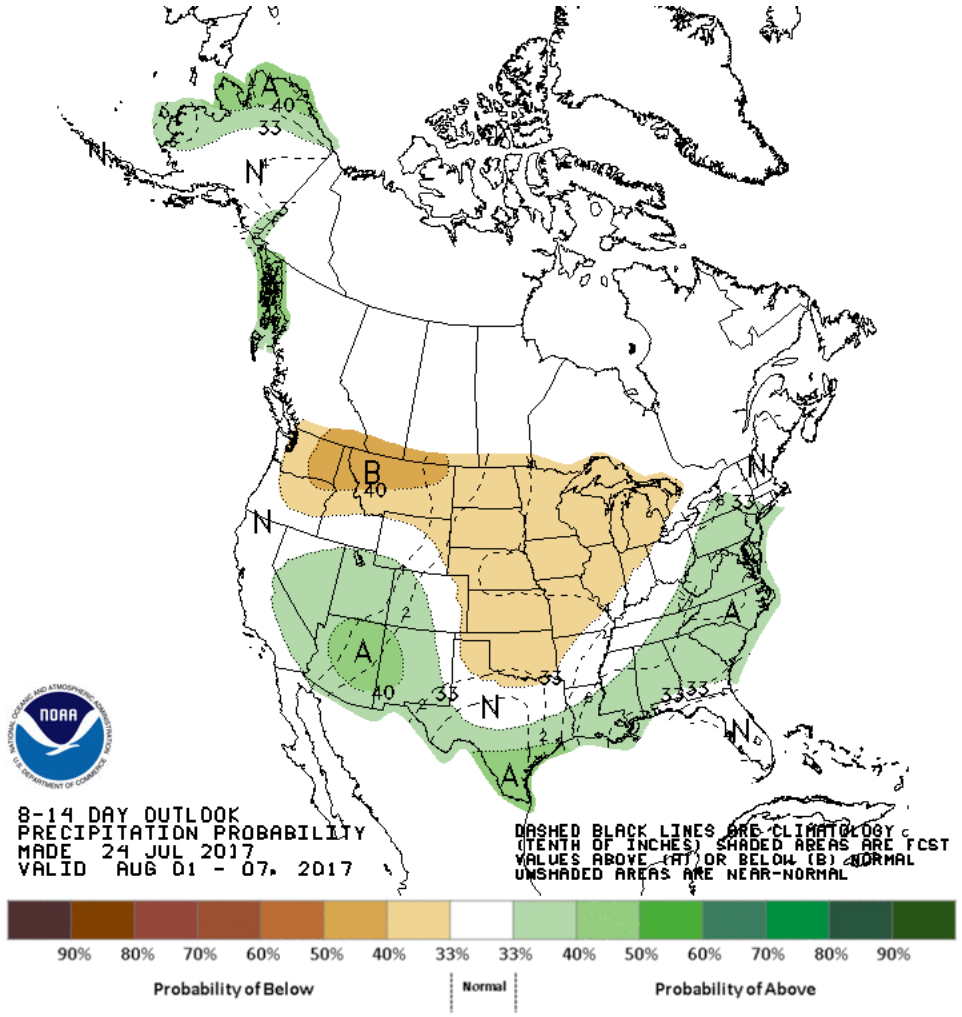



RMM Phase 5 200-hPa Height Lagged Composite (jas)
Lag=0
Lag=3
Lag=1
Lag=4
Lag=2
Lag=5
80N
70N
60N
50N
40N
30N
20N
10N
EQ
10S
120E
160E
160W
120W
80W
40W


-120
-110
-100
-90
-80
-70
-60
-50
-40
D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JUL 25 2017 1347 UTC CNTD AUG 05 2017

Week 2 – Temperature and Precipitation





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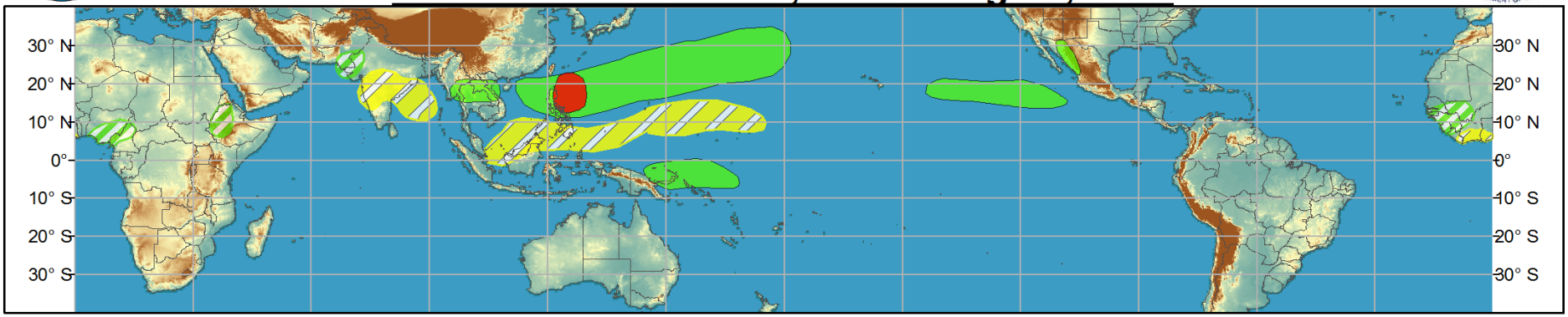

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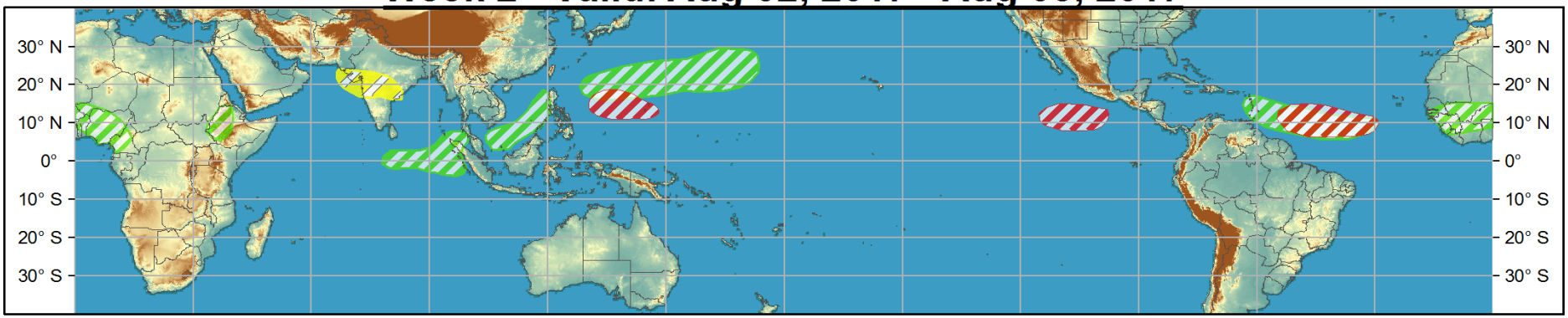

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