Global Tropics Hazards And Benefits Outlook

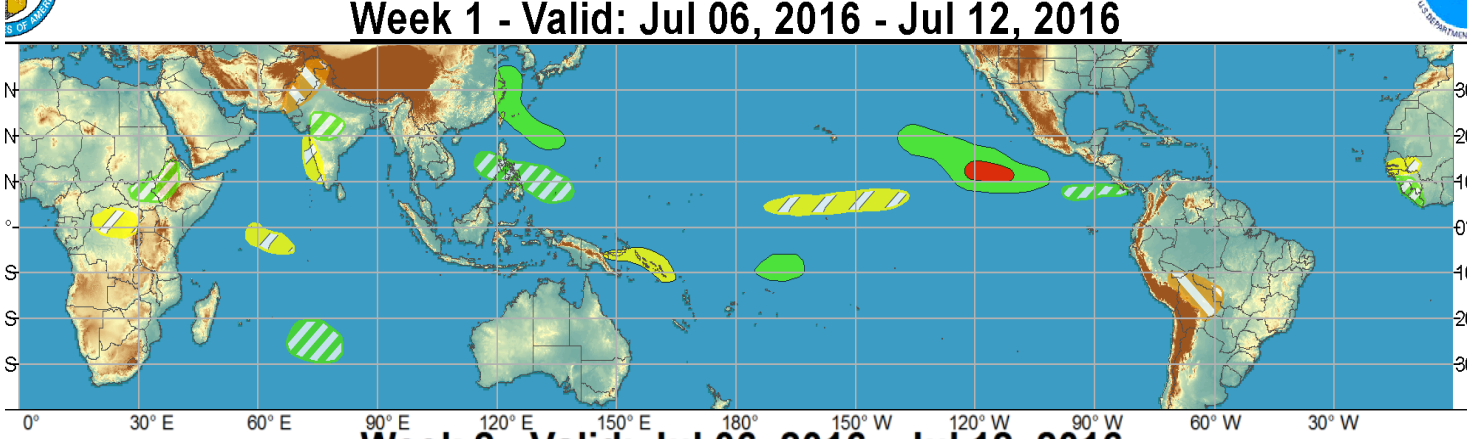
July 12, 2016

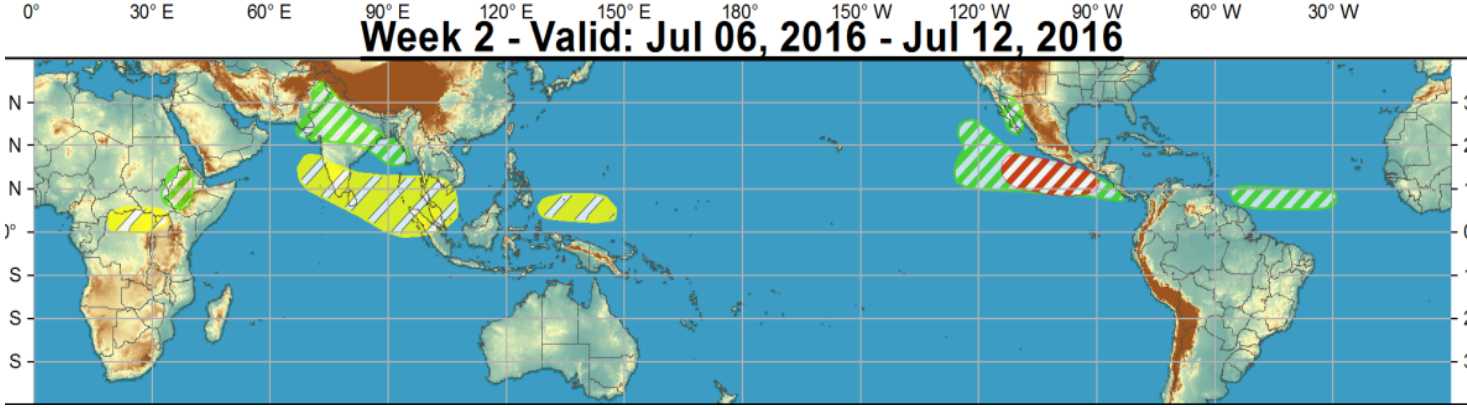
Matthew Rosencrans

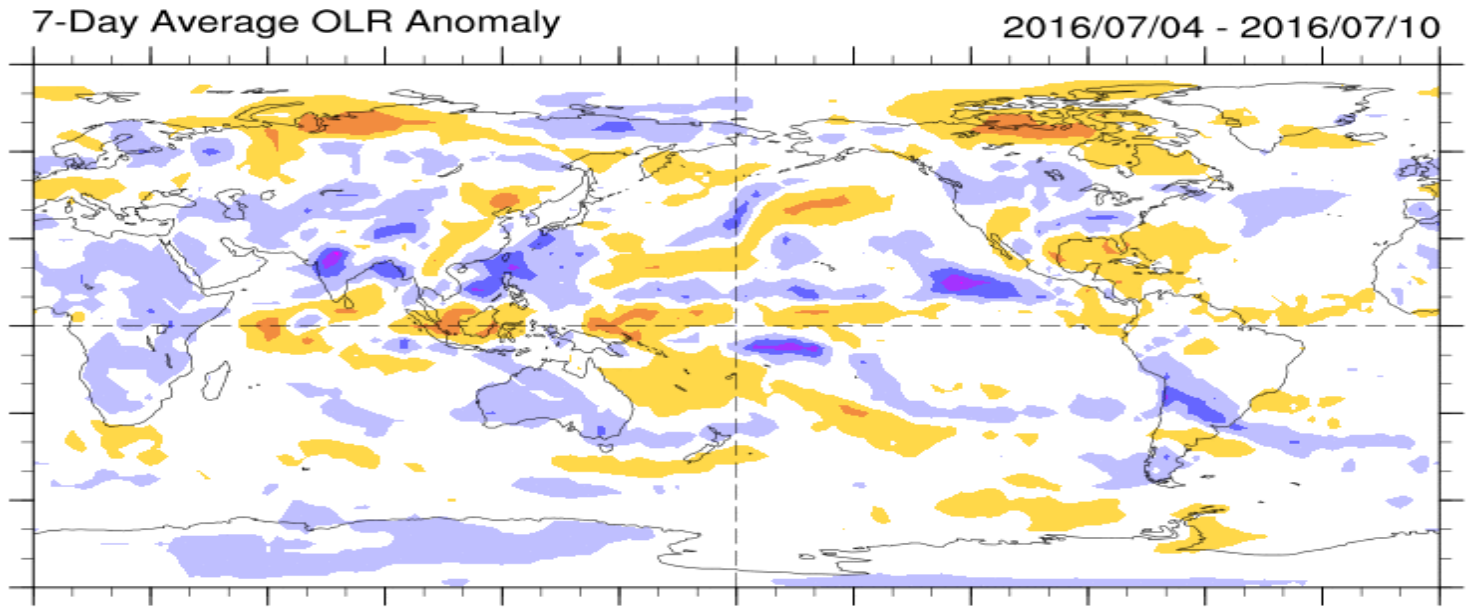
Outline

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

Outlook Review



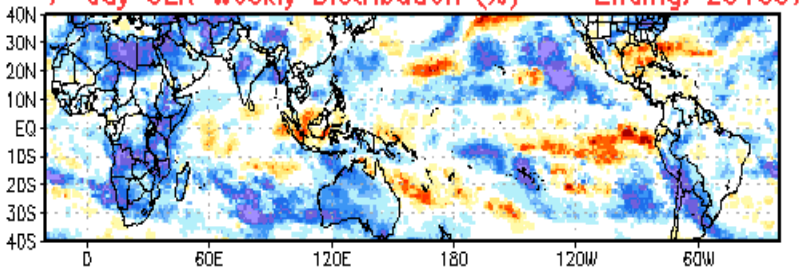




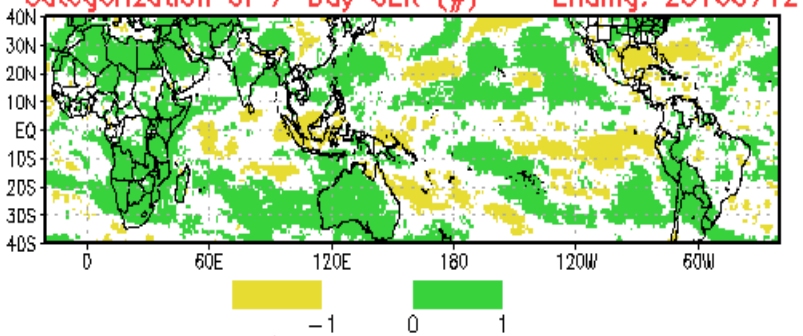
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

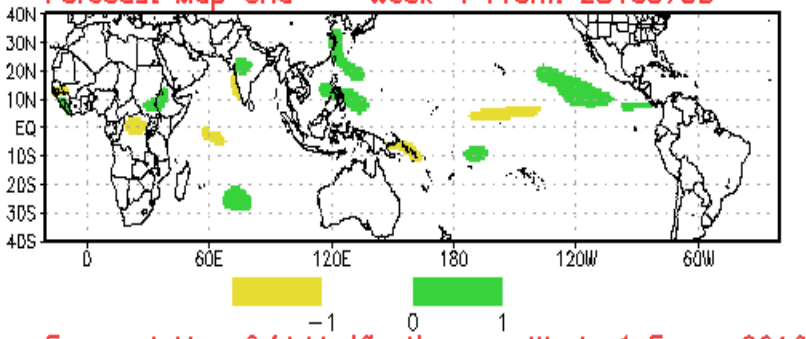
7-day OLR Weekly Distribution (%) -- Ending: 20160712



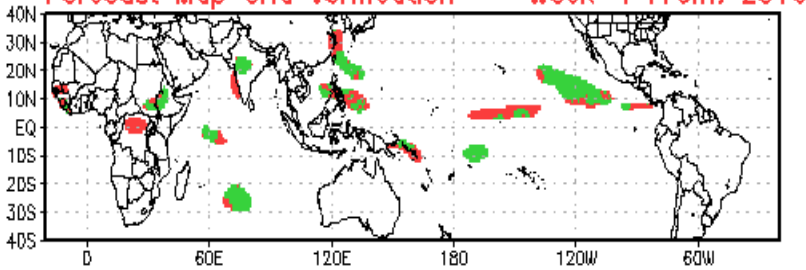
Categorization of 7-Day OLR (#) -- Ending: 20160712



Forecast Map Grid -- Week-1 From: 20160705

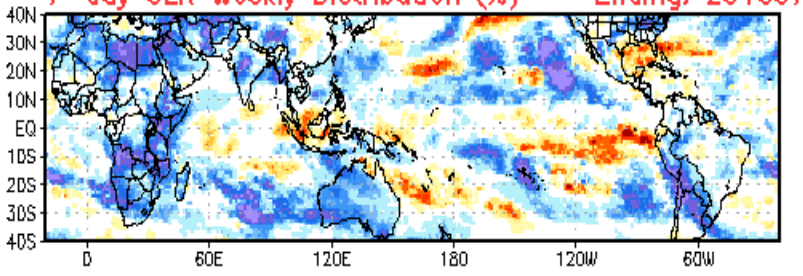


Forecast Map Grid Verification -- Week-1 From: 20160705

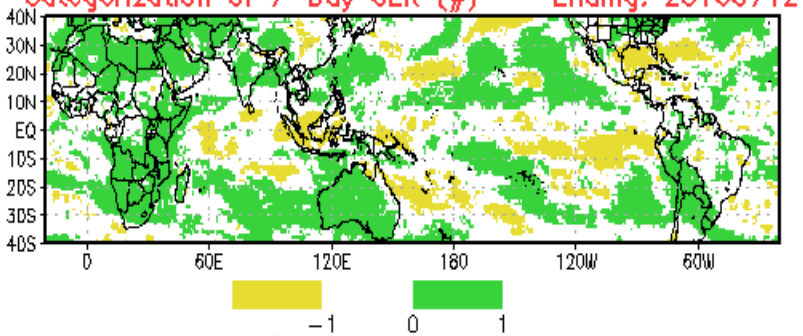


Hit: Green, Miss: Red
Heidke Skill Score: 35.1288

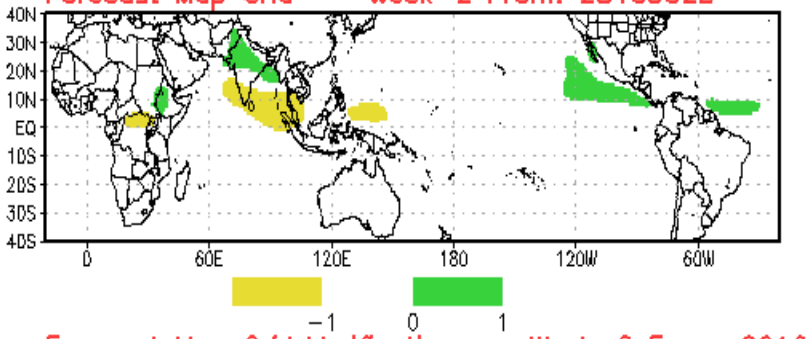
7-day OLR Weekly Distribution (%) -- Ending: 20160712



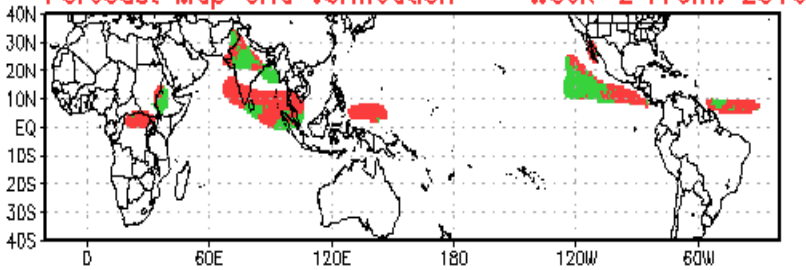
Categorization of 7-Day OLR (#) -- Ending: 20160712



Forecast Map Grid -- Week-2 From: 20160628



Forecast Map Grid Verification -- Week-2 From: 20160628



Hit: Green, Miss: Red
Heidke Skill Score: 3.2087

Synopsis of Climate Modes

ENSO:

- **La Niña Watch**

ENSO-neutral conditions are present and La Niña is favored to develop during the Northern Hemisphere summer 2016, with about a 75% chance of La Niña during the fall and winter 2016-17.

MJO and other subseasonal tropical variability:

- Residual MJO over Africa/Western Indian Ocean

- Dynamical models indicate strengthening, in place, during Week-1, then a large disagreement later in Week-1 and into Week-2. Some models key on westward moving features (GFS, UKME), others move a weak MJO signal eastward (EC, CMET).

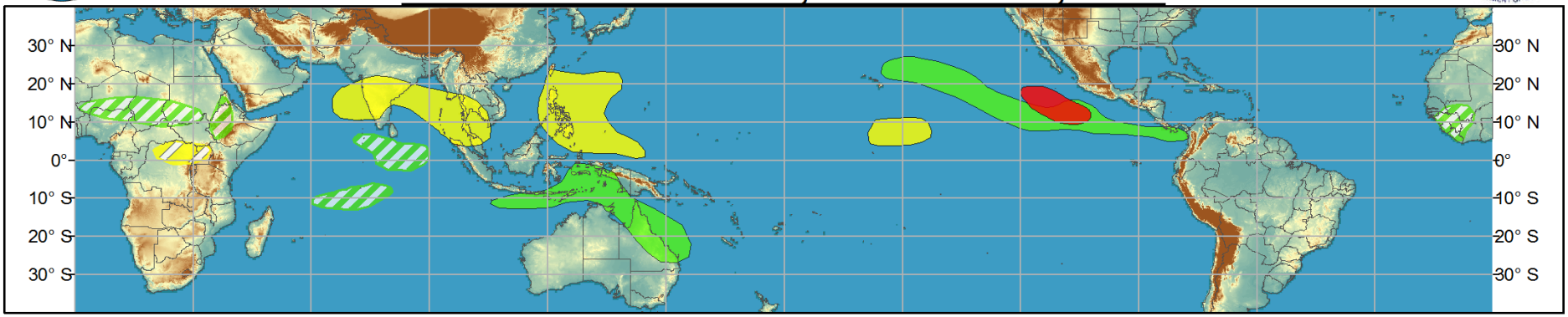
- Kelvin waves also influencing the pattern.

Extratropics:

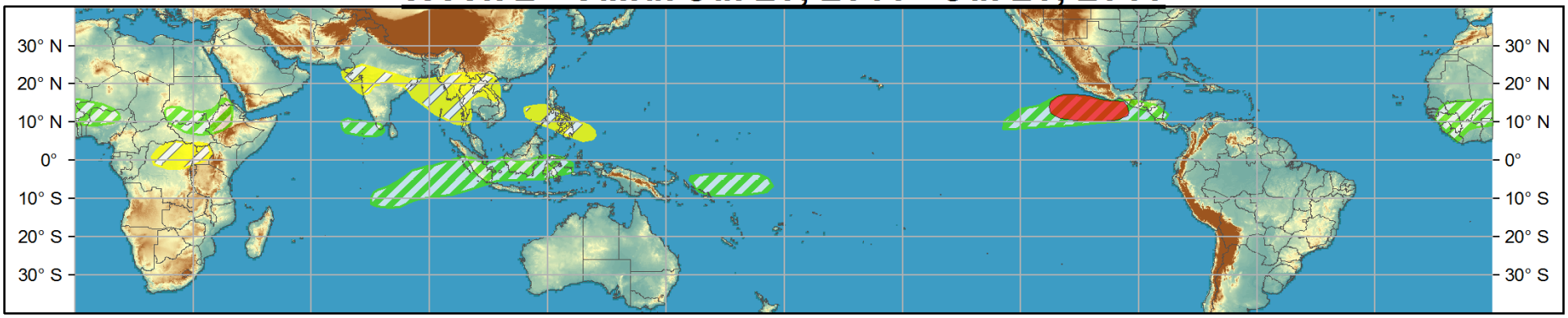
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO, but more likely to be impacted by indirectly by tropical cyclones (Hawaii).

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jul 13, 2016 - Jul 19, 2016



Week 2 - Valid: Jul 20, 2016 - Jul 26, 2016



Produced: 07/12/2016

Forecaster: Rosencrans

	Confidence: High	Confidence: 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.

Central Weather Bureau 中央氣象局 · University at Albany, State University of New York · Earth System Science Interdisciplinary Center, University of Maryland · Australian Government Bureau of Meteorology · cics.nc · NPS Praestantia per Scientiam

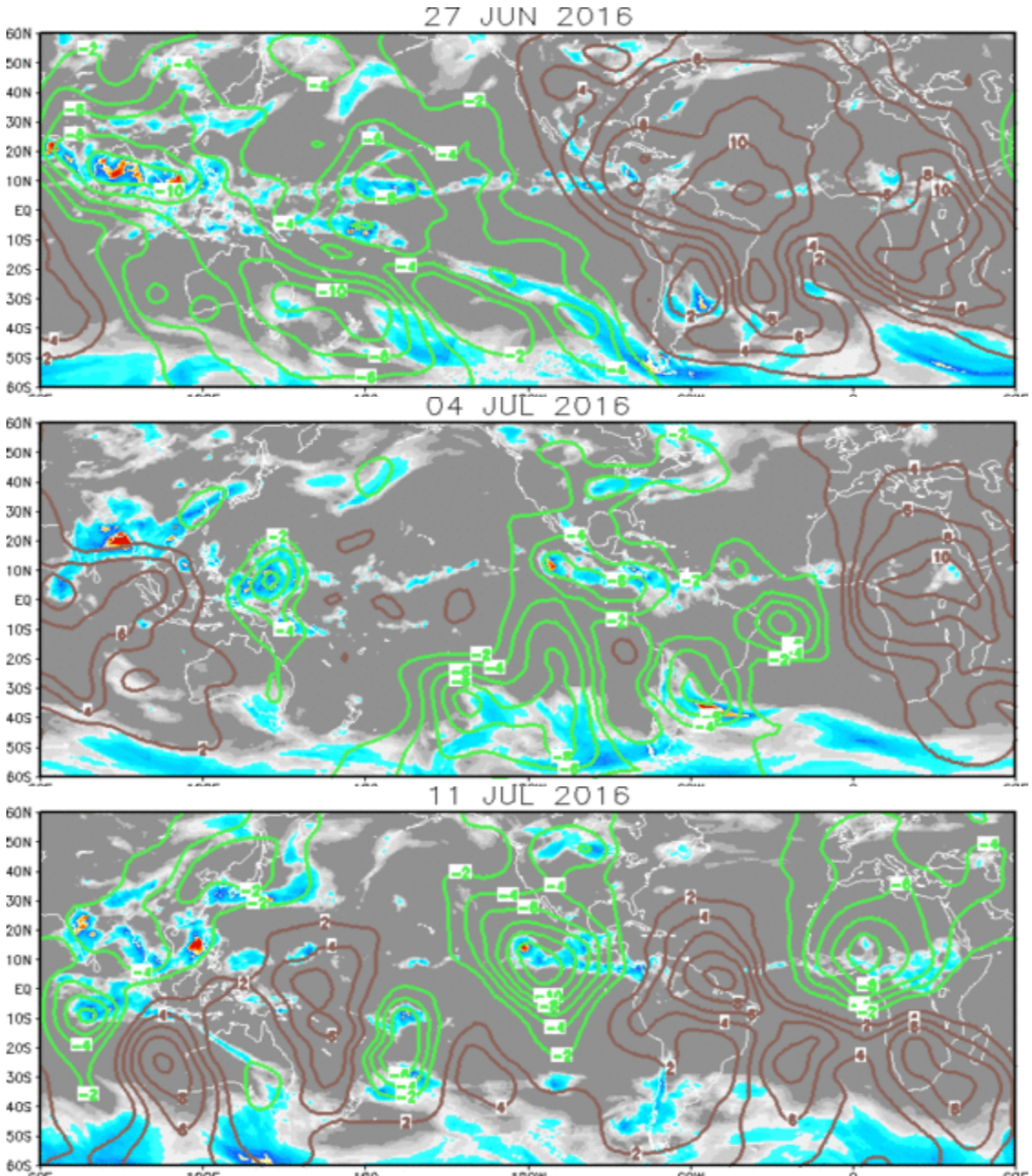
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

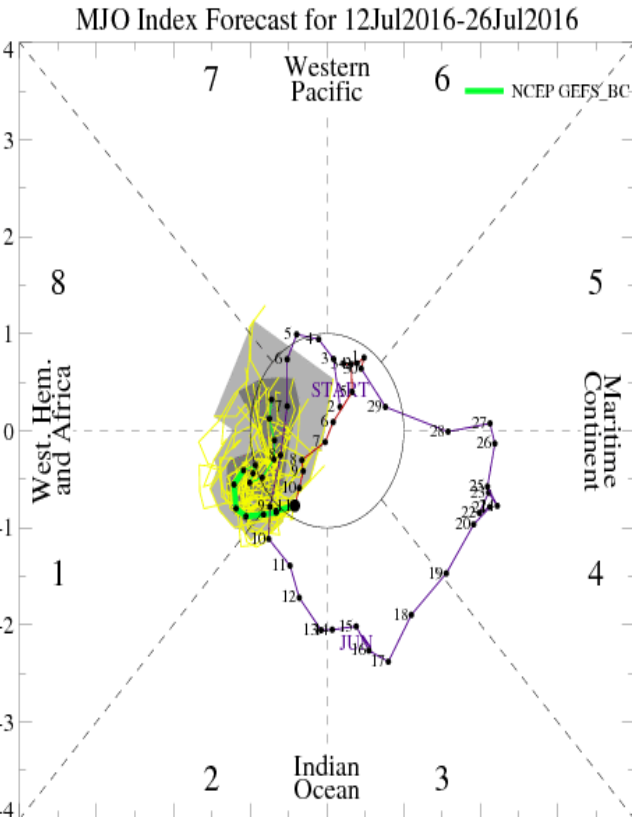
Wave-1 pattern with 200-hPa divergence over Indian Ocean to WestPac.

Change to Wave-2 pattern with TC evident.

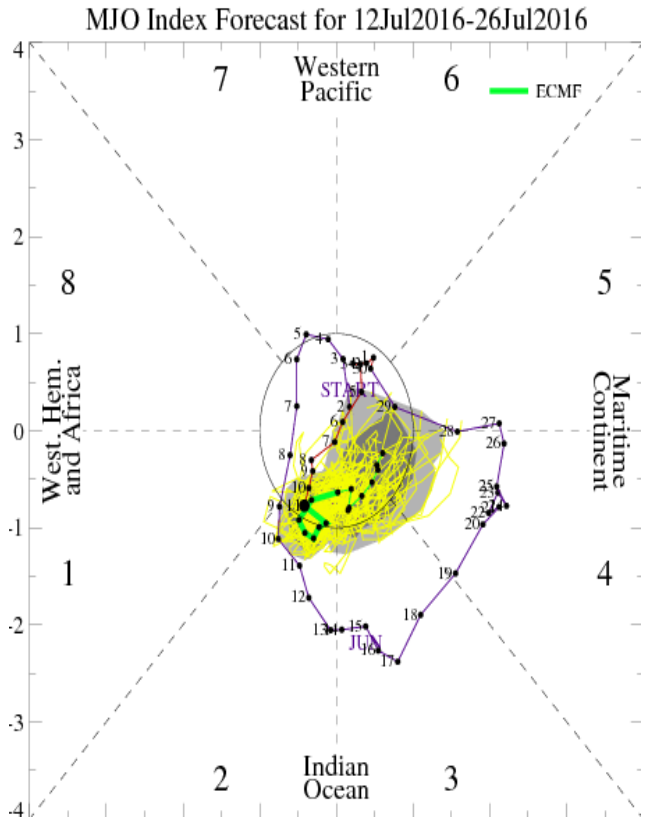
Upper-level divergence over EastPac, Africa, and IO.



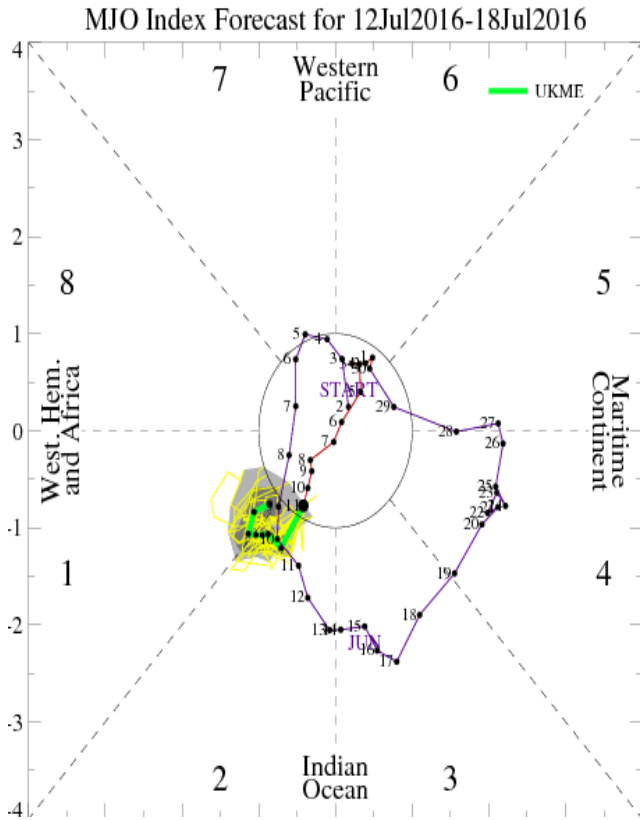
MJO Observation/Forecast



GEFS



ECMWF

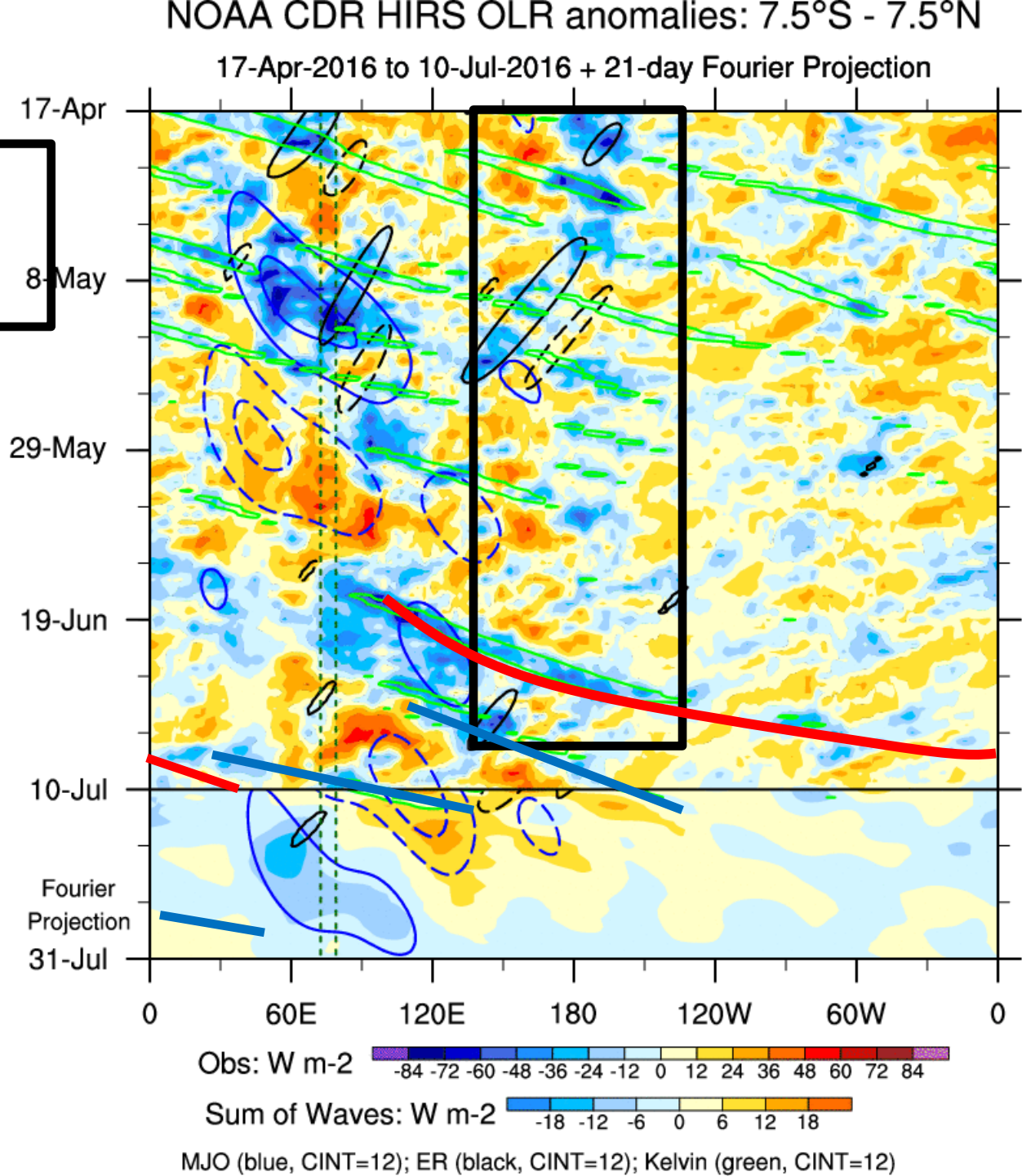


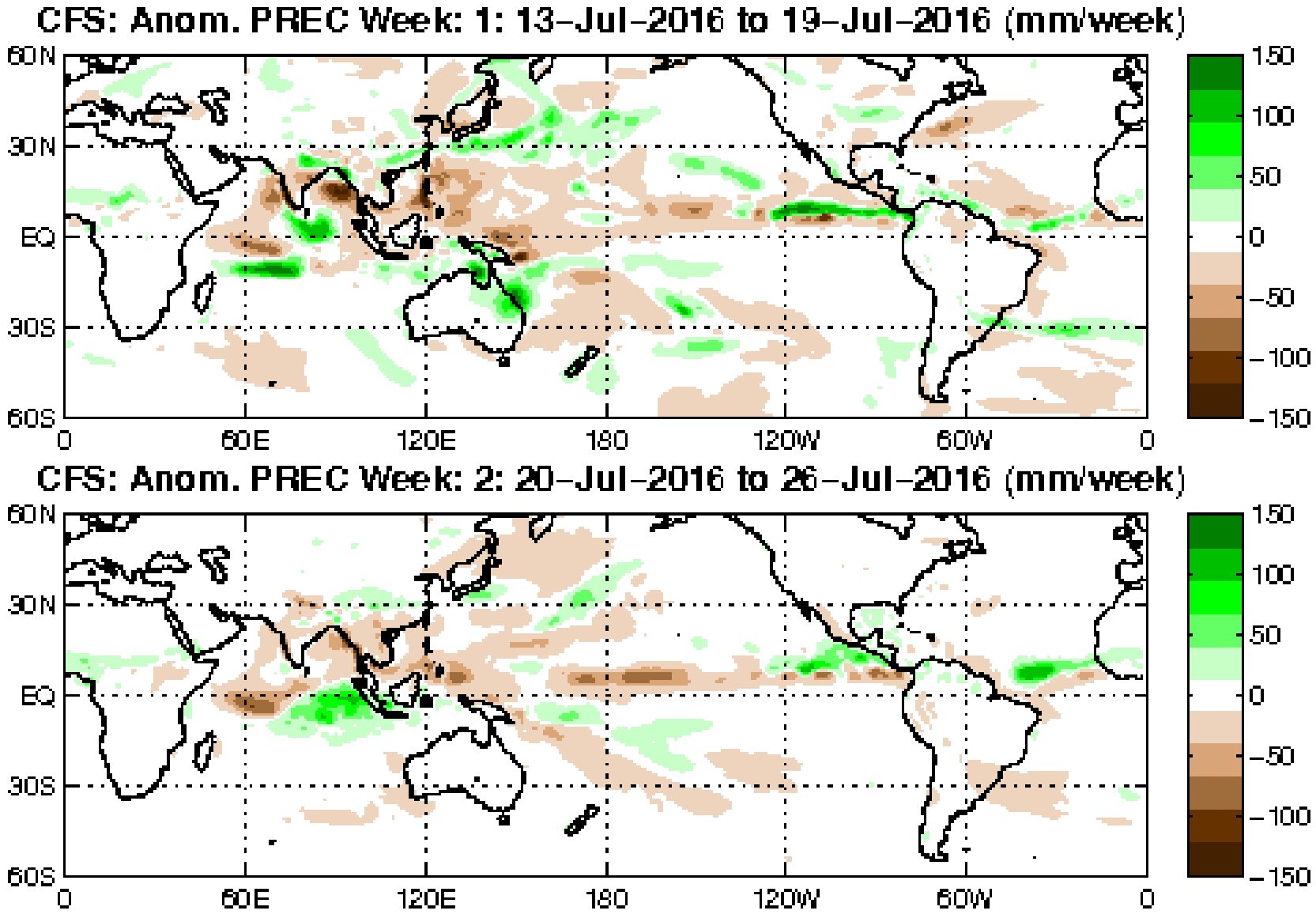
UKMET

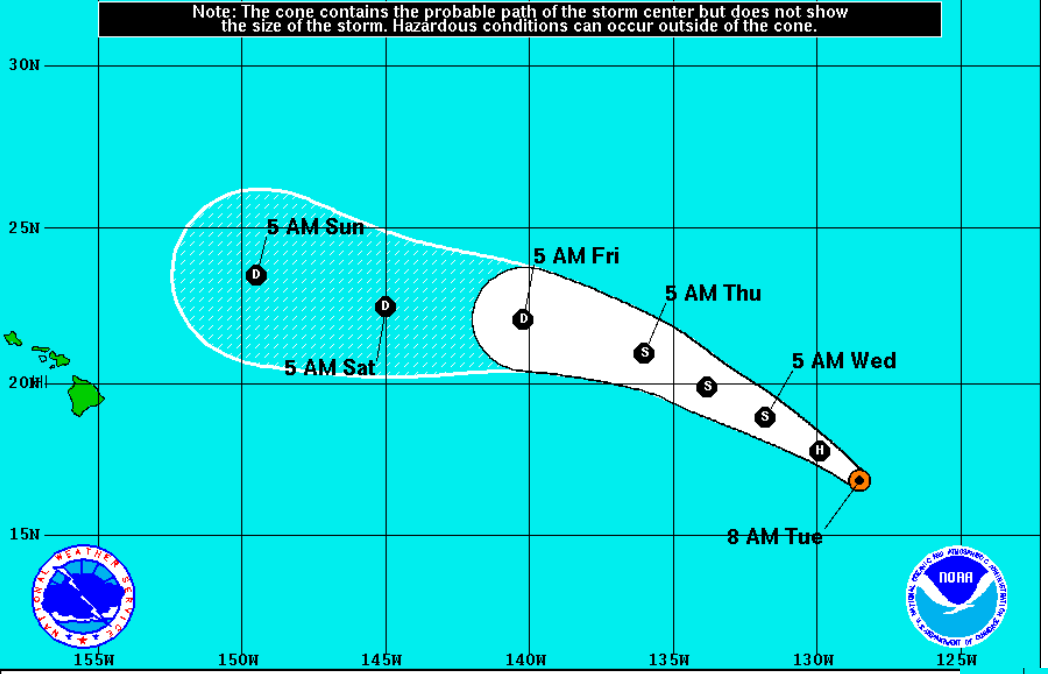
Wheeler-Hendon based analyses of model forecasts indicate a continued signal through Week-1, but diverge in Week-2..

El Niño appearance suppressed relative to earlier this year.

Complicated pattern with **MJO** and **Kelvin waves** as the major influences.




CFS: Anom. PREC Week: 1: 13-Jul-2016 to 19-Jul-2016 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150
CFS: Anom. PREC Week: 2: 20-Jul-2016 to 26-Jul-2016 (mm/week)
60N
30N
EQ
30S
60S
0
60E
120E
180
120W
60W
0
150
100
50
0
-50
-100
-150



Hurricane Celia
Tuesday July 12, 2016
8 AM PDT Advisory 24
NWS National Hurricane Center

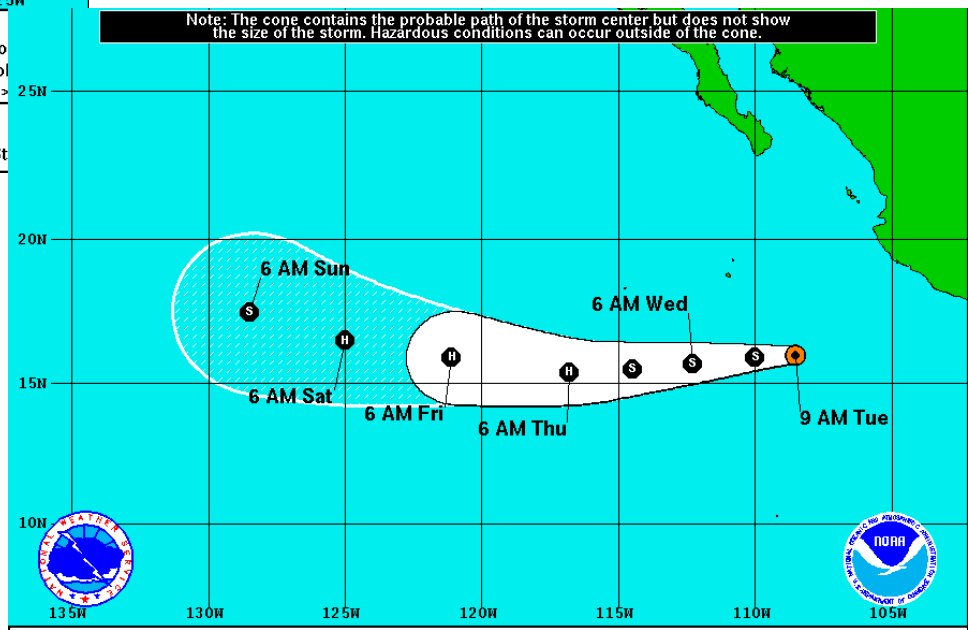
Current Information:
Center Location 16.8 N 128.5 W
Max Sustained Wind 90 mph
Movement NW at 12 mph

Forecast Positions:
Tropical Cyclone Post-Tro
Sustained Winds: D < 39 mpl
S 39-73 mph H 74-110 mph M >

Potential Track Area:
Day 1-3 Day 4-5

Watches:
Hurricane Trop.Storm

Warnings:
Hurricane Trop.St



Tropical Storm Darby
Tuesday July 12, 2016
9 AM MDT Advisory 4
NWS National Hurricane Center

Current Information:
Center Location 16.0 N 108.5 W
Max Sustained Wind 40 mph
Movement W at 10 mph

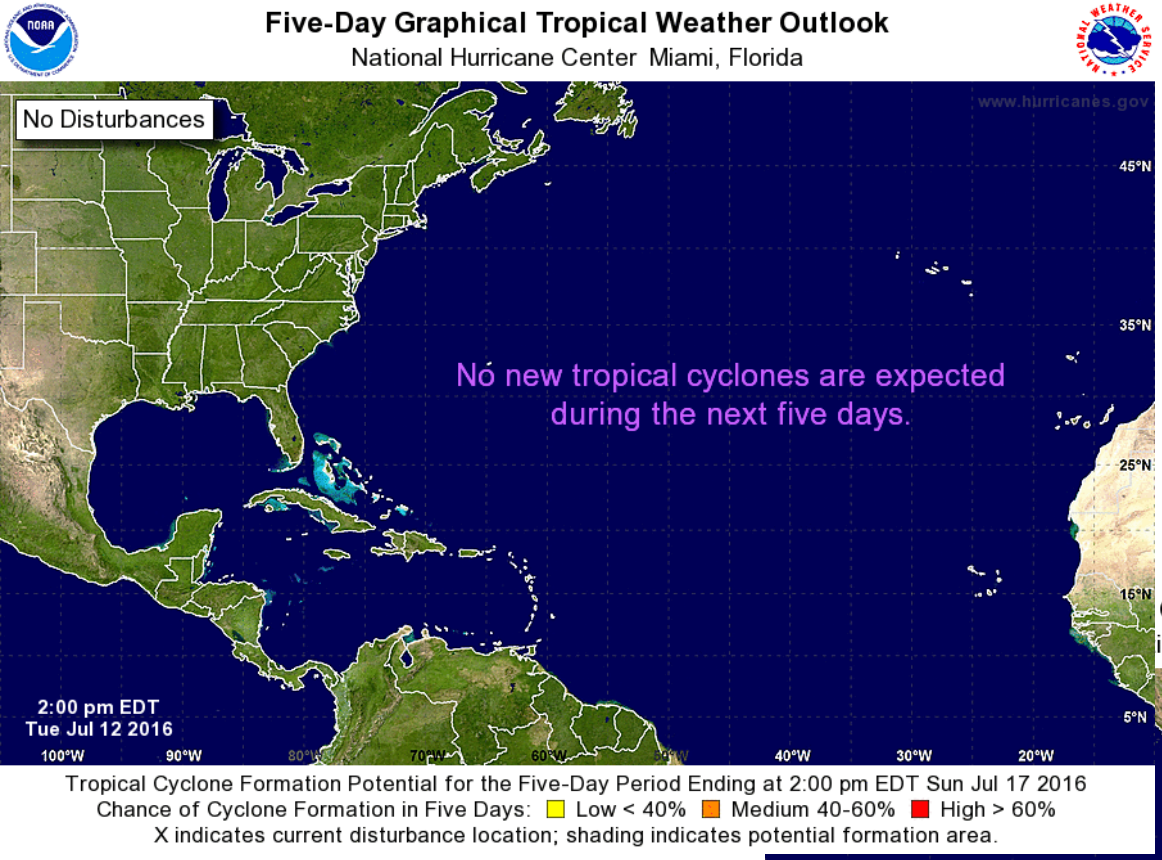
Forecast Positions:
Tropical Cyclone Post-Tropical
Sustained Winds: D < 39 mph
S 39-73 mph H 74-110 mph M > 110mph

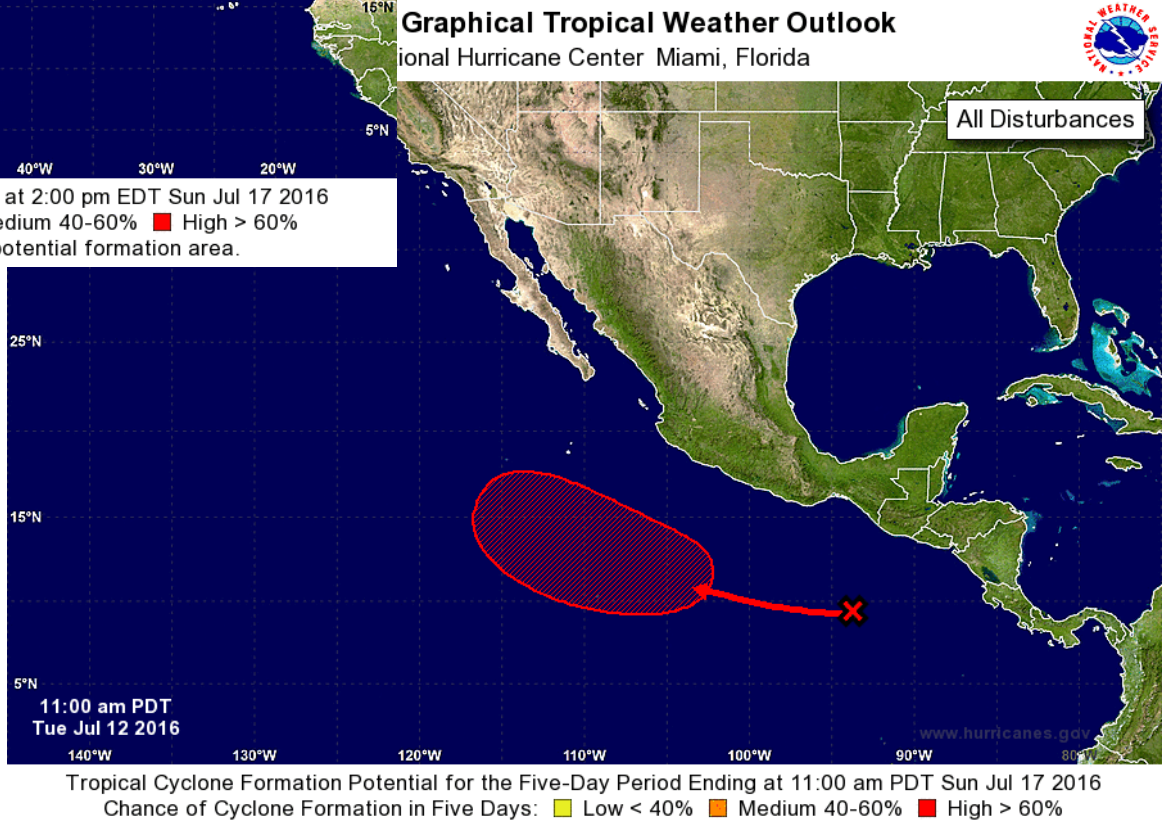
Potential Track Area:
Day 1-3 Day 4-5

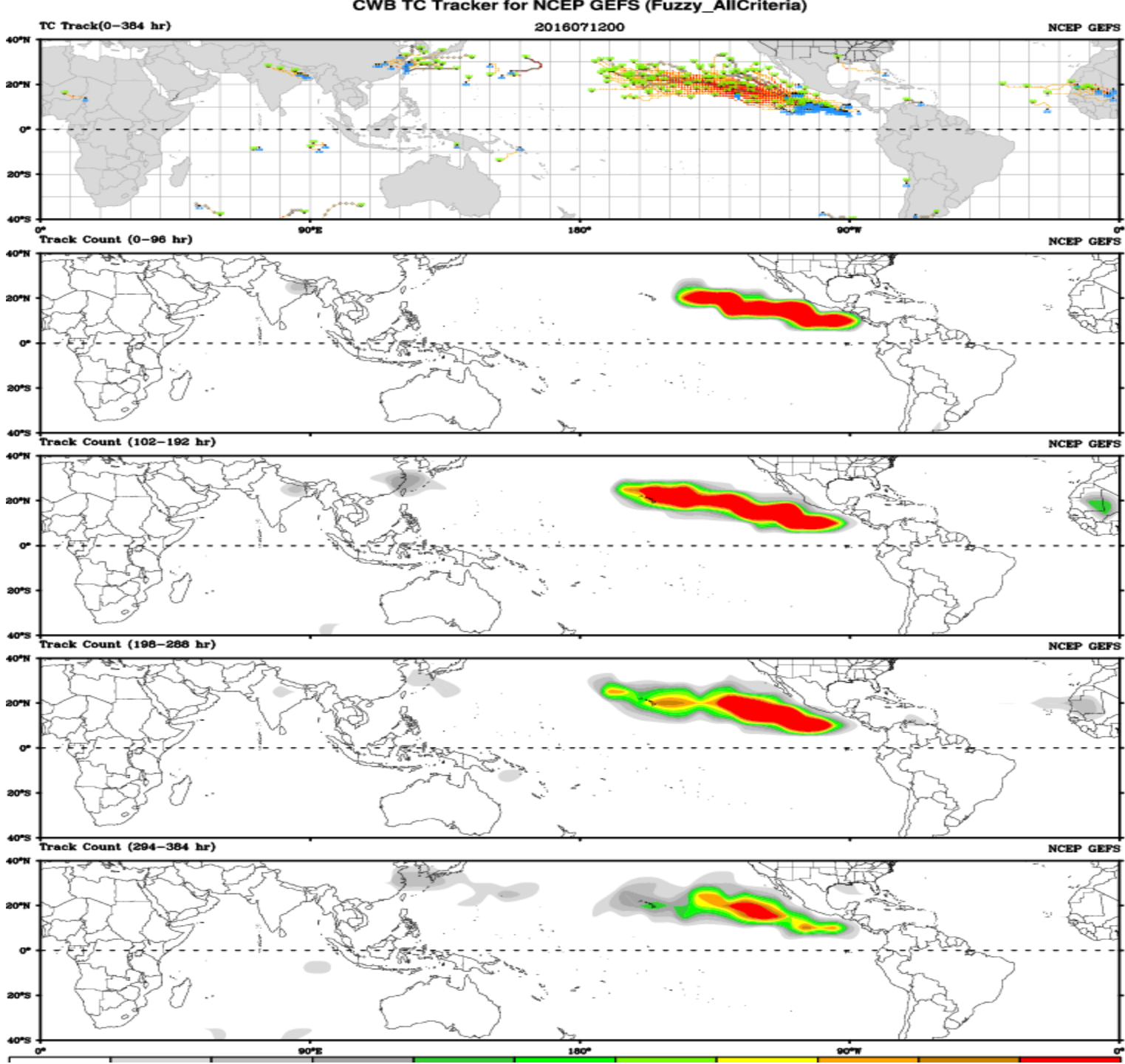
Watches:
Hurricane Trop.Storm

Warnings:
Hurricane Trop.Storm

Graphical Tropical Weather Outlooks







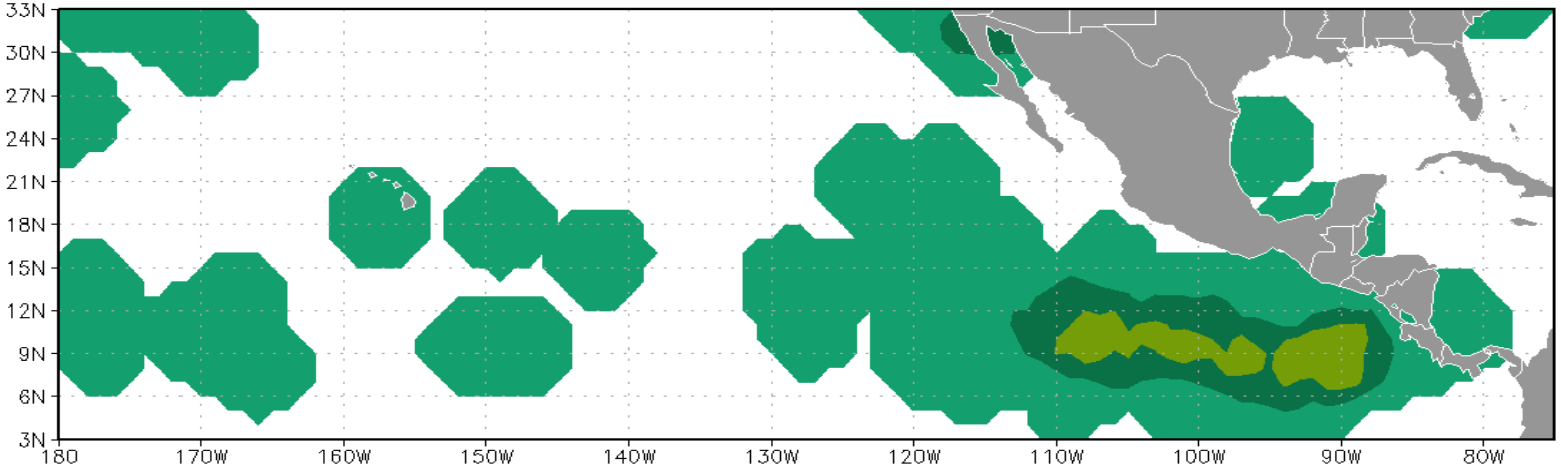
Days 1-4

Day 5-8

Day 9-12

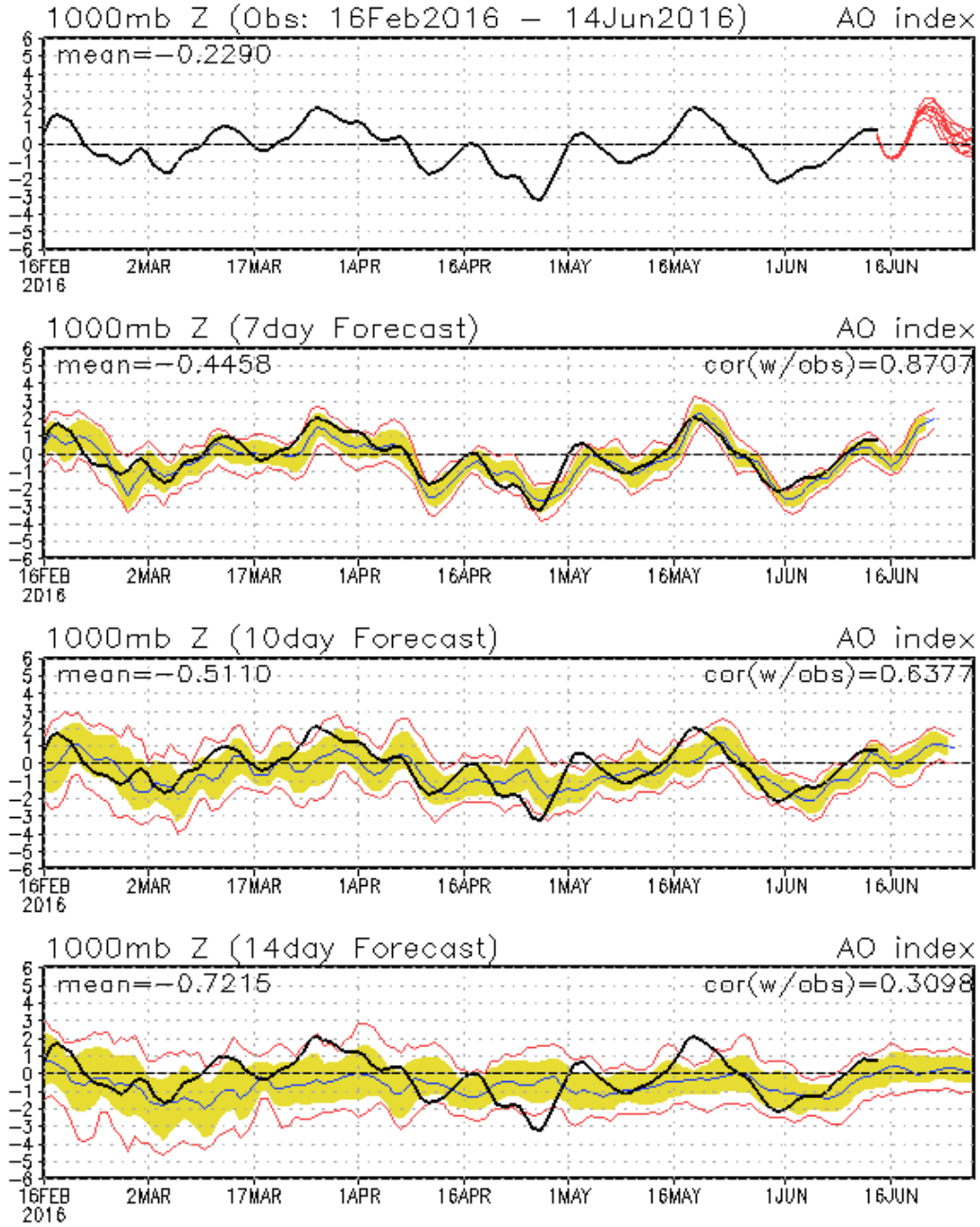
Day 13-15

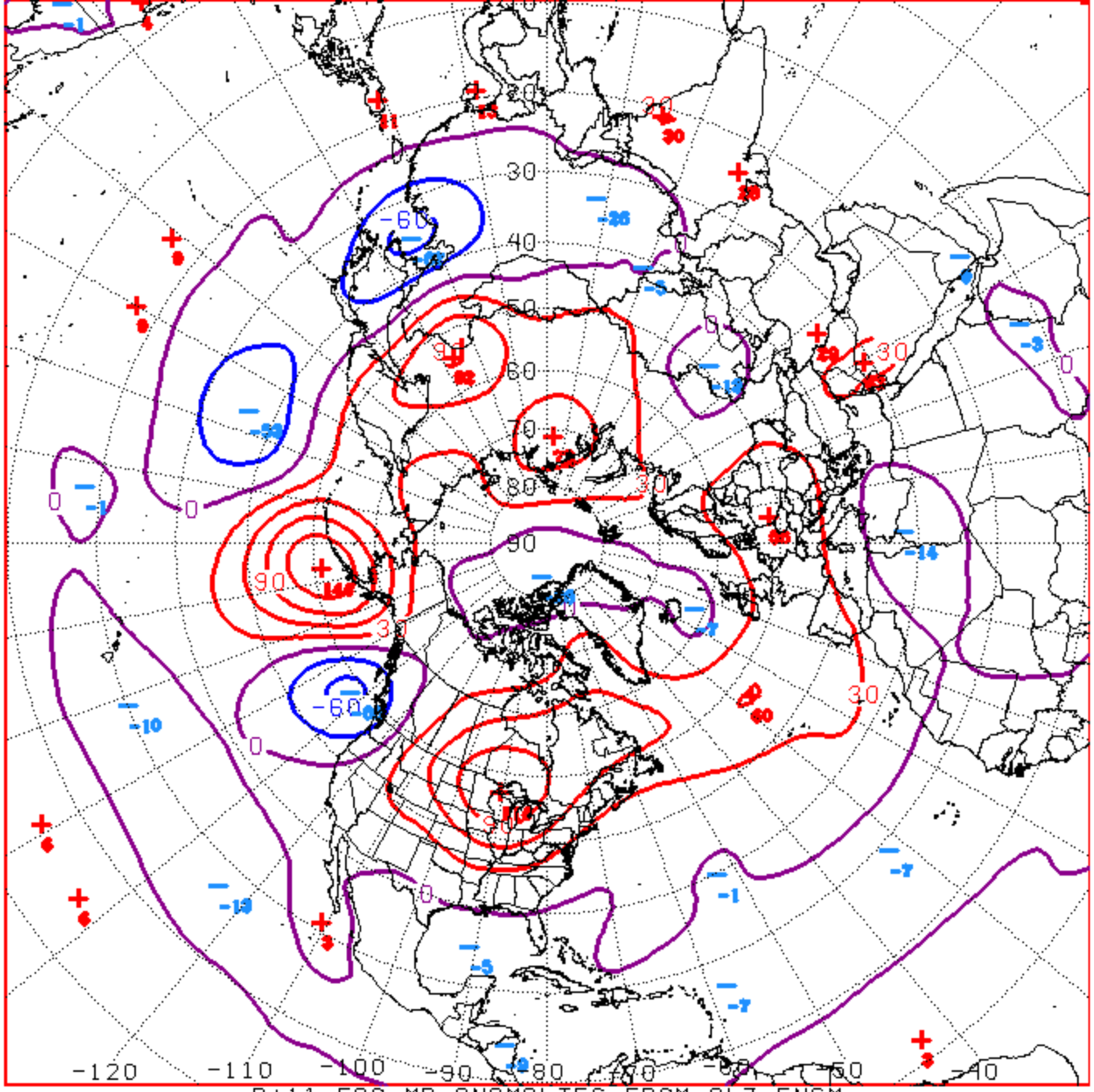
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF
For forecasts during the 120-240h period from initial time = 2016071200



Connections to U.S. Impacts

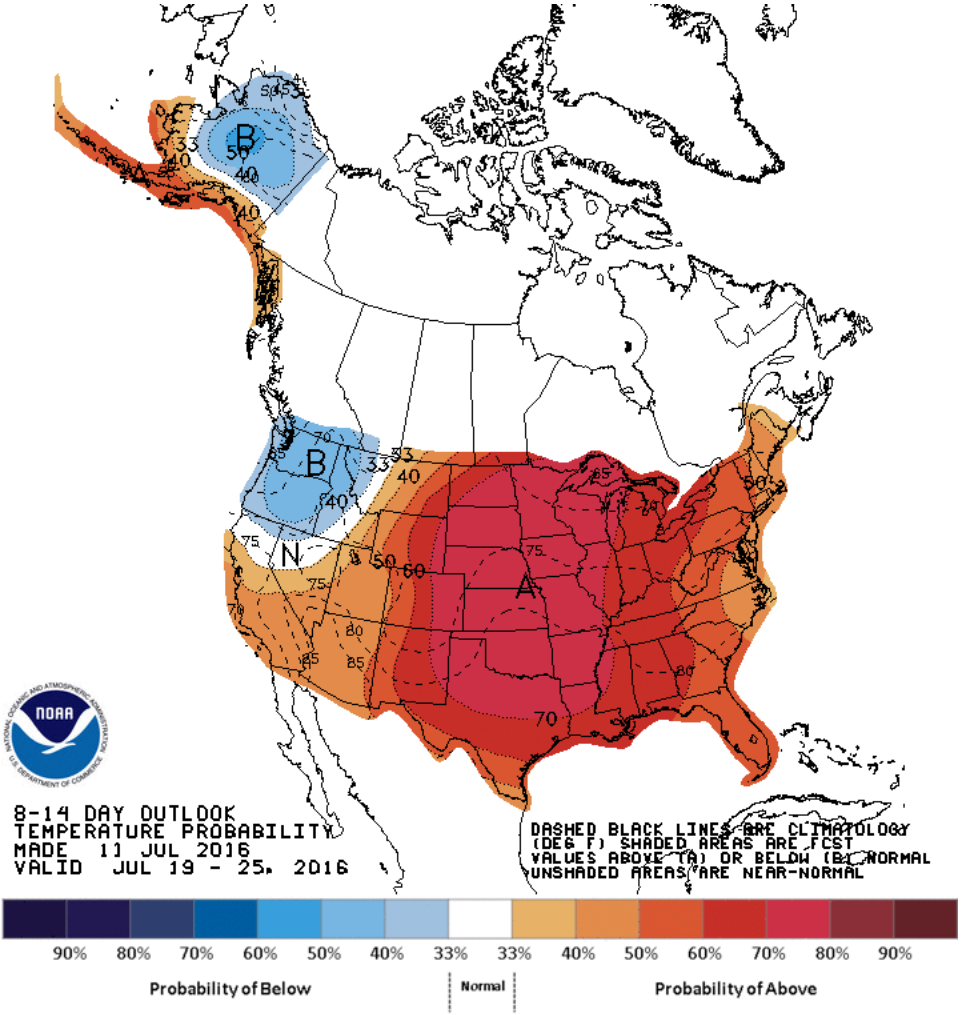
AO: Observed & ENSM forecasts

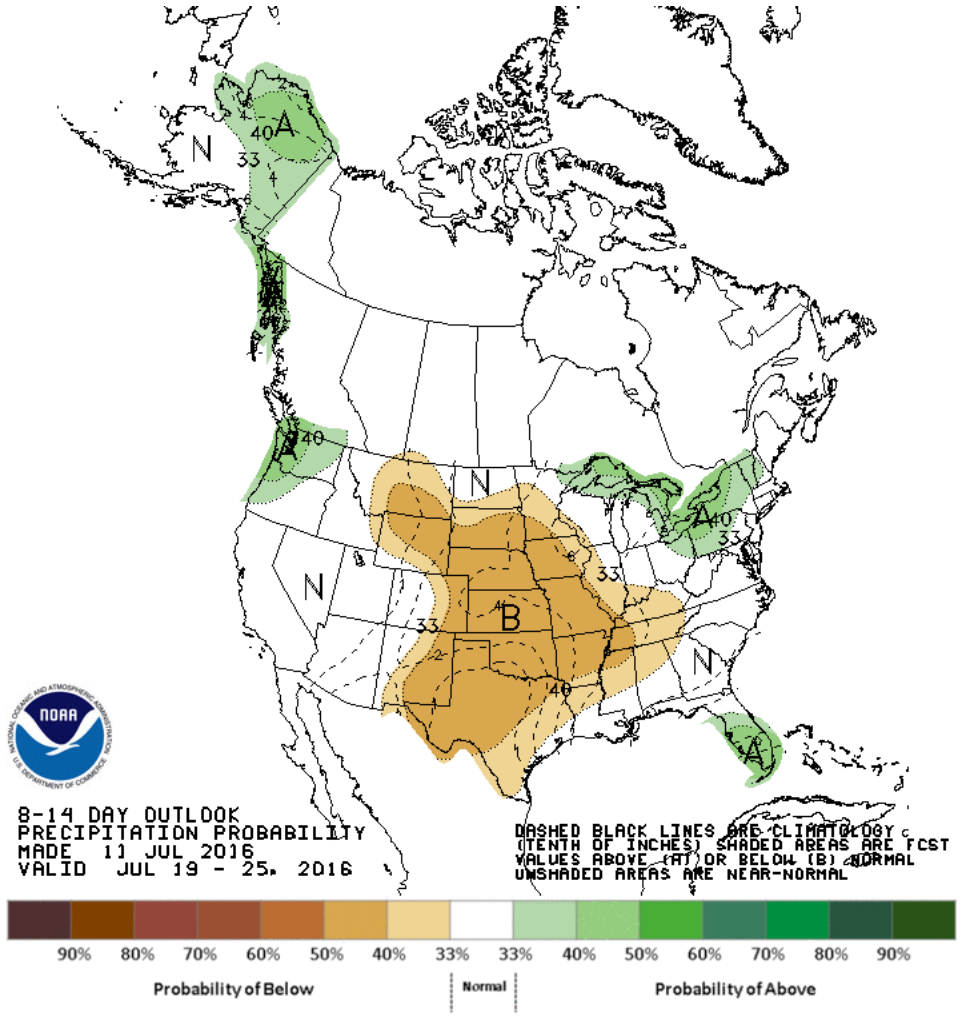




D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JUL 12 2016 1330 UTC CNTD JUL 23 2016

Week 2 – Temperature and Precipitation





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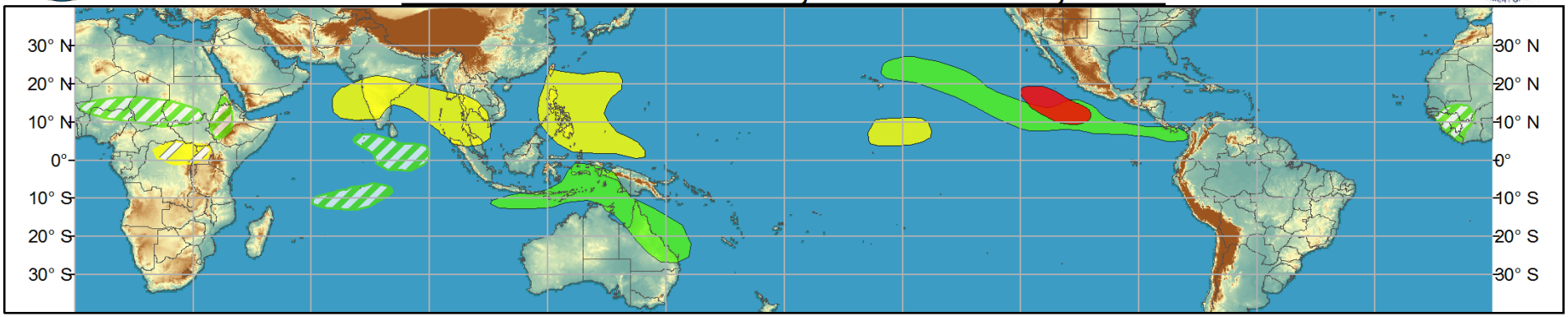

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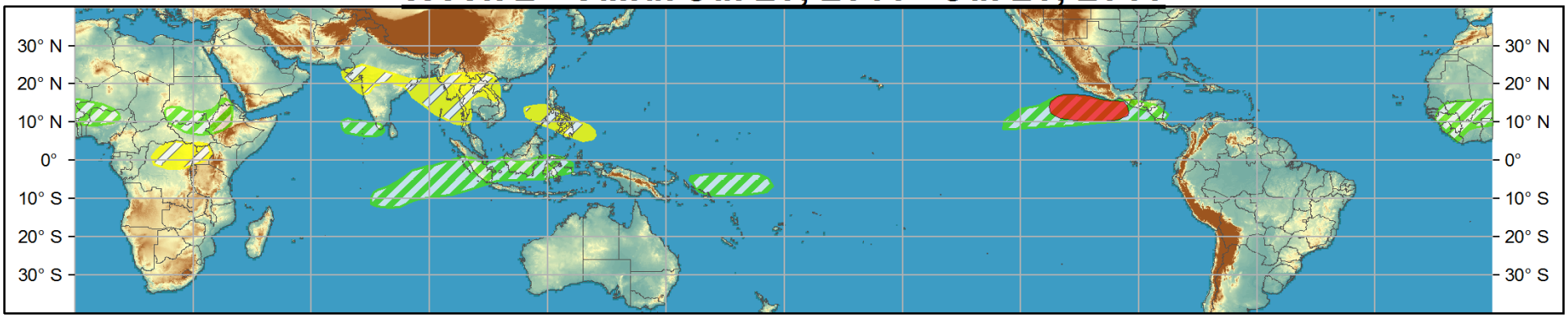

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