

Global Tropics Hazards And Benefits Outlook

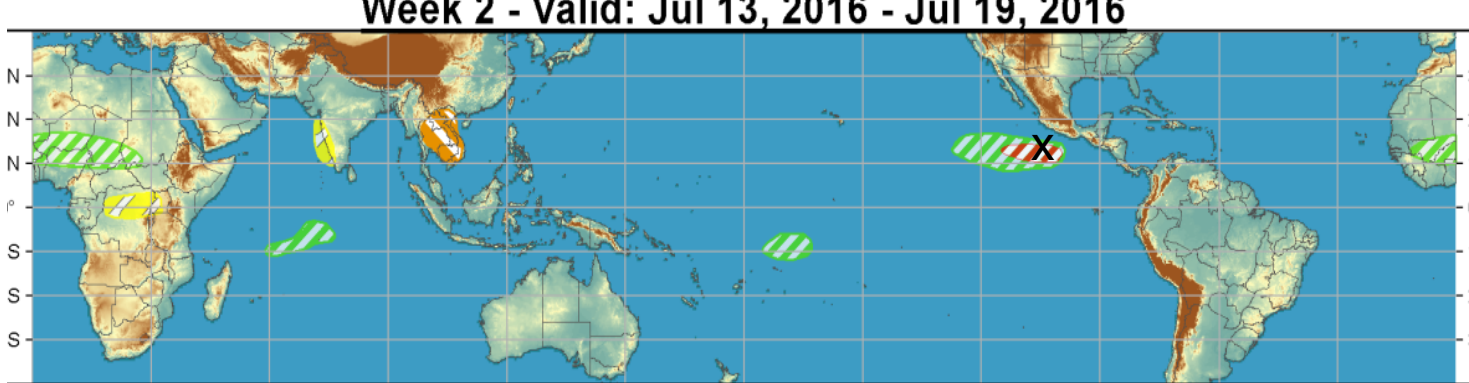
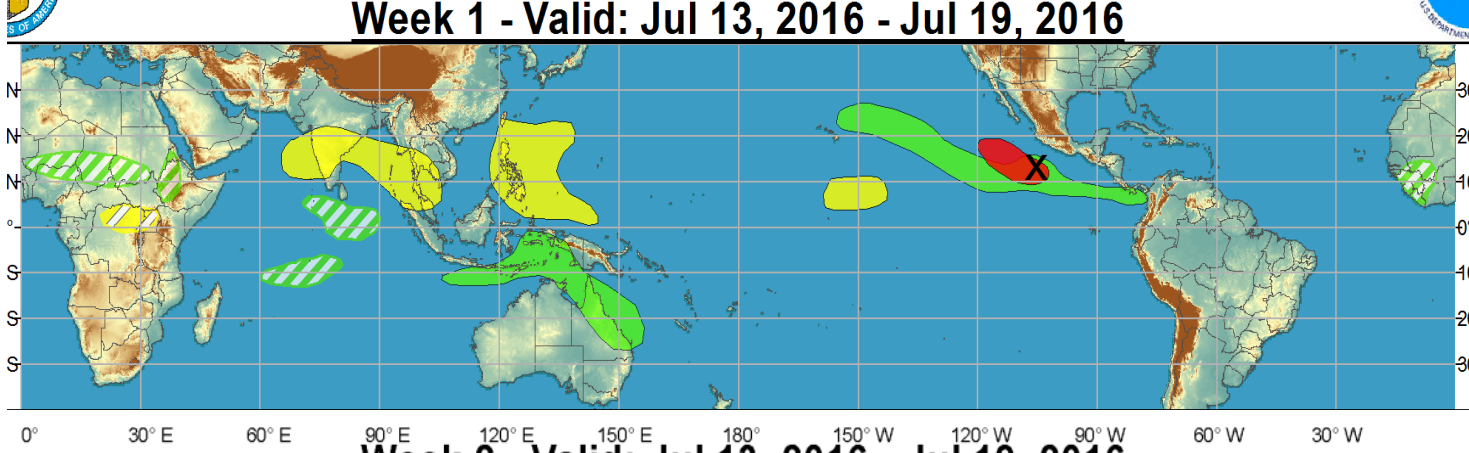
July 19, 2016

Matthew Rosencrans

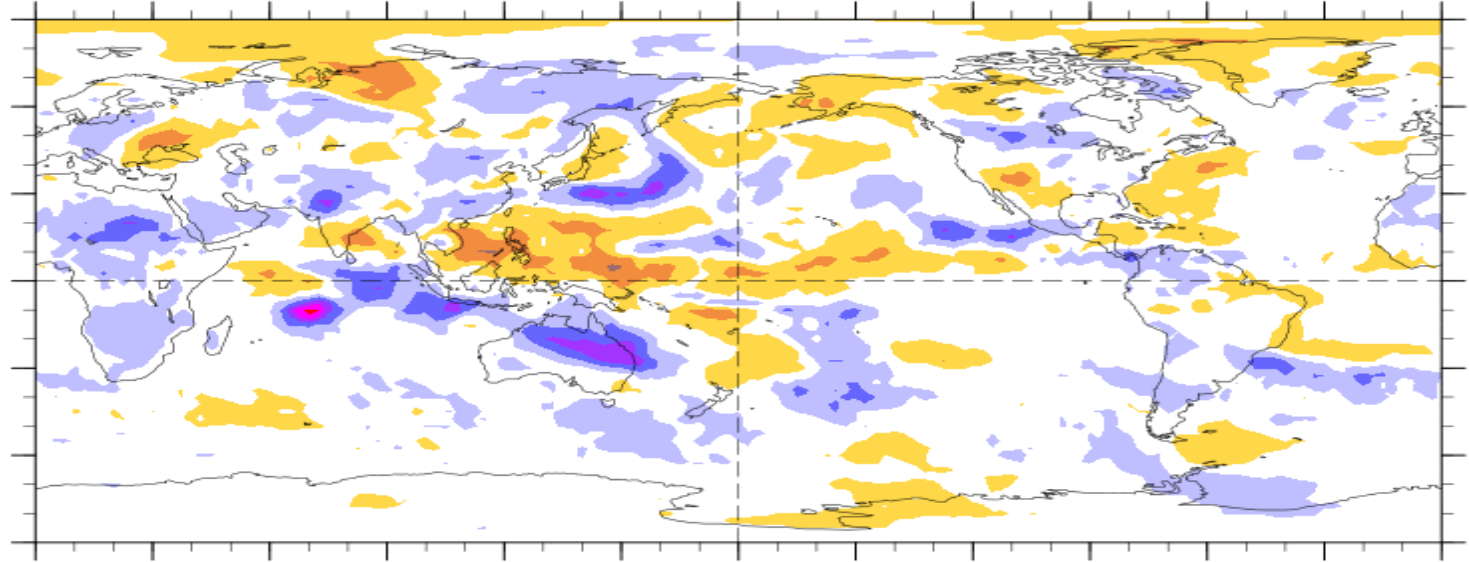
Outline

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

Outlook Review



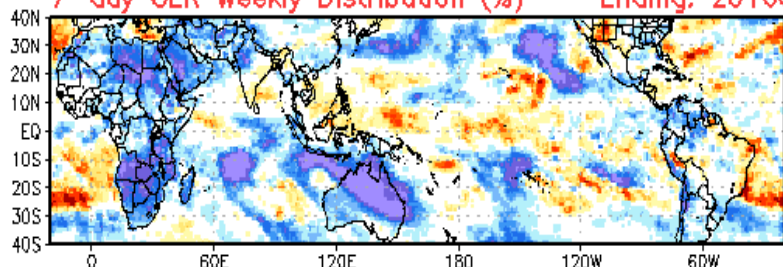
7-Day Average OLR Anomaly 2016/07/11 - 2016/07/17



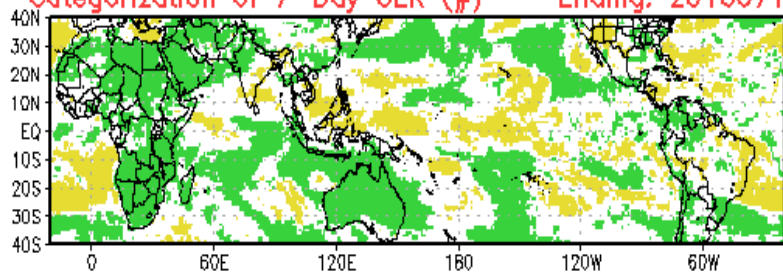
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

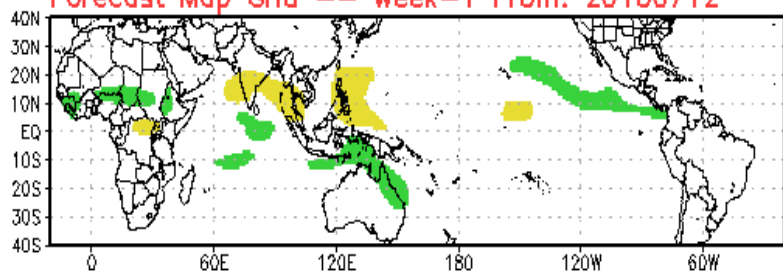
7-day OLR Weekly Distribution (%) -- Ending: 20160719



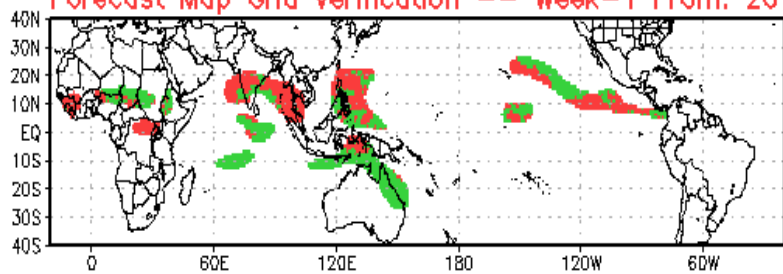
Categorization of 7-Day OLR (#) -- Ending: 20160719



Forecast Map Grid -- Week-1 From: 20160712

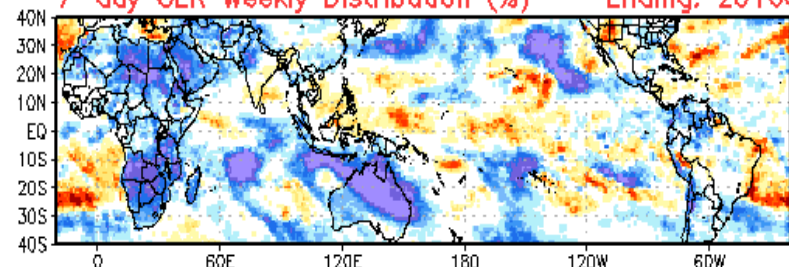


Forecast Map Grid Verification -- Week-1 From: 20160712

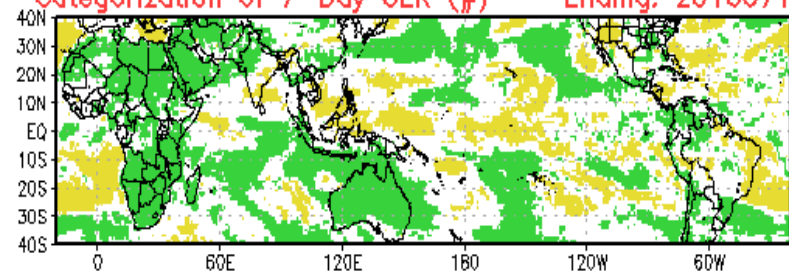


Hit: Green, Miss: Red
Heidke Skill Score: 29.3763

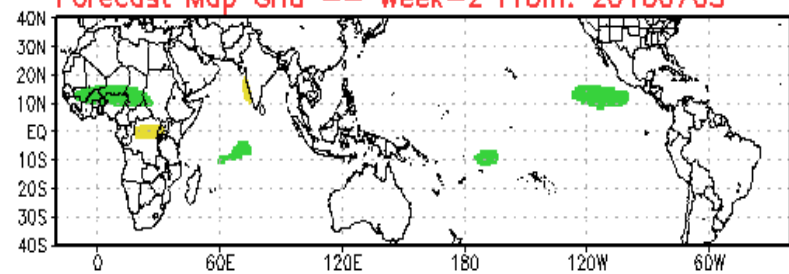
7-day OLR Weekly Distribution (%) -- Ending: 20160719



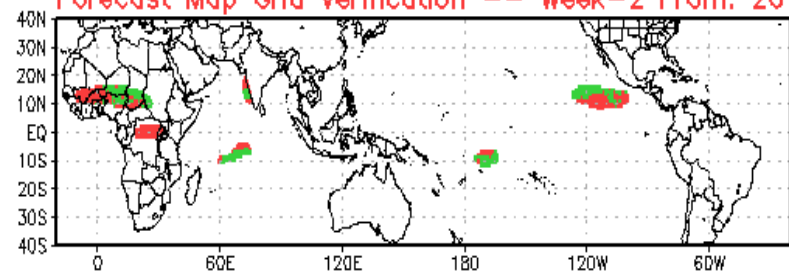
Categorization of 7-Day OLR (#) -- Ending: 20160719



Forecast Map Grid -- Week-2 From: 20160705



Forecast Map Grid Verification -- Week-2 From: 20160705



Hit: Green, Miss: Red
Heidke Skill Score: 18.1836

Synopsis of Climate Modes

ENSO:

- [La Niña Watch](#)

La Niña is favored to develop during August - October 2016, with about a 55-60% chance of La Niña during the fall and winter 2016-17.

MJO and other subseasonal tropical variability:

- Emerging MJO over Africa/Western Indian Ocean
- Dynamical models indicate strengthening, in place, then eastward propagation, then weakening in Week-2. There is good agreement on the evolution through Week-1, but divergence among the solutions emerges in Week-2.
- Kelvin waves also influencing the pattern.

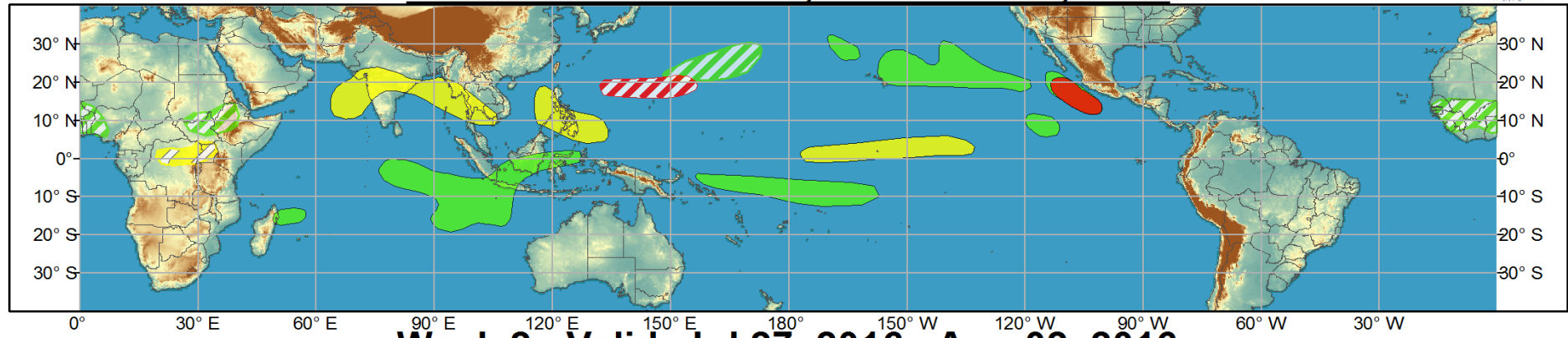
Extratropics:

- 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 tropical cyclones (Hawaii).

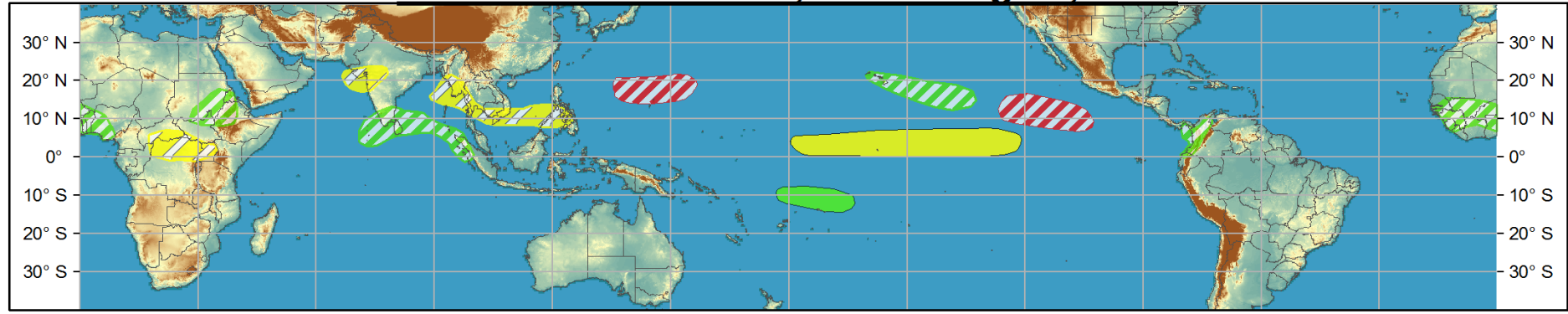


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jul 20, 2016 - Jul 26, 2016



Week 2 - Valid: Jul 27, 2016 - Aug 02, 2016



Produced: 07/19/2016

Forecaster: Rosencrans

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.
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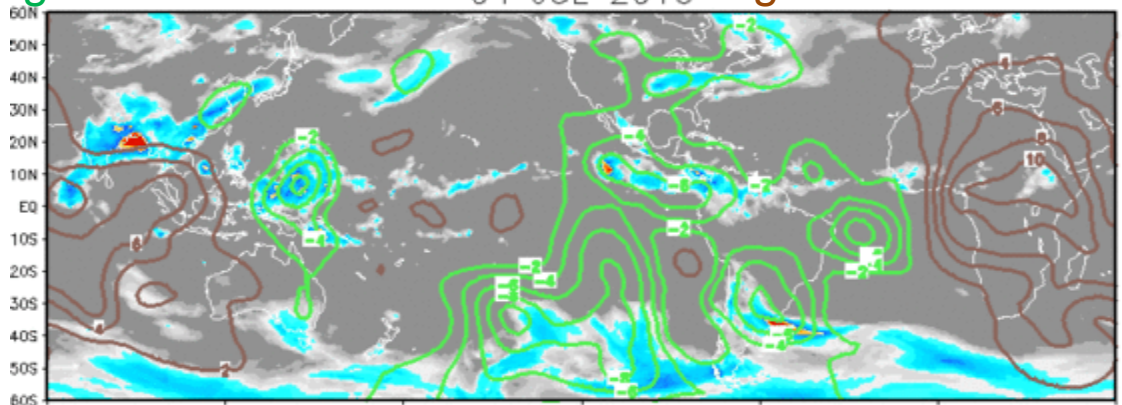


IR Satellite & 200-hpa Velocity Potential Anomalies

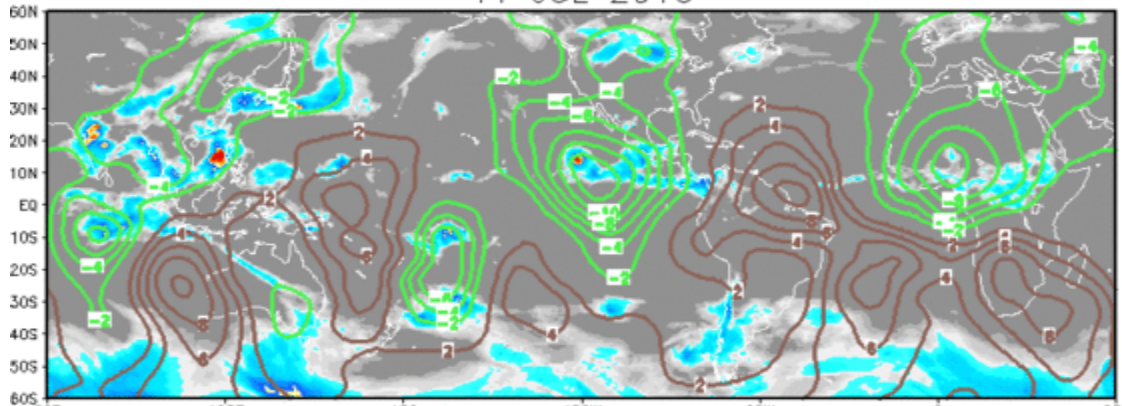
Green: Enhanced Divergence

Brown: Enhanced Convergence

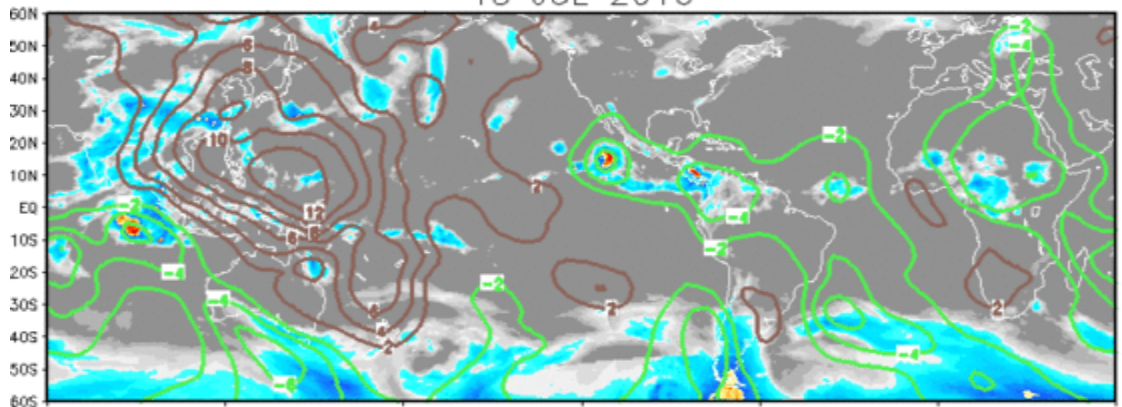
Wave-2 pattern, enhancement over the Americas



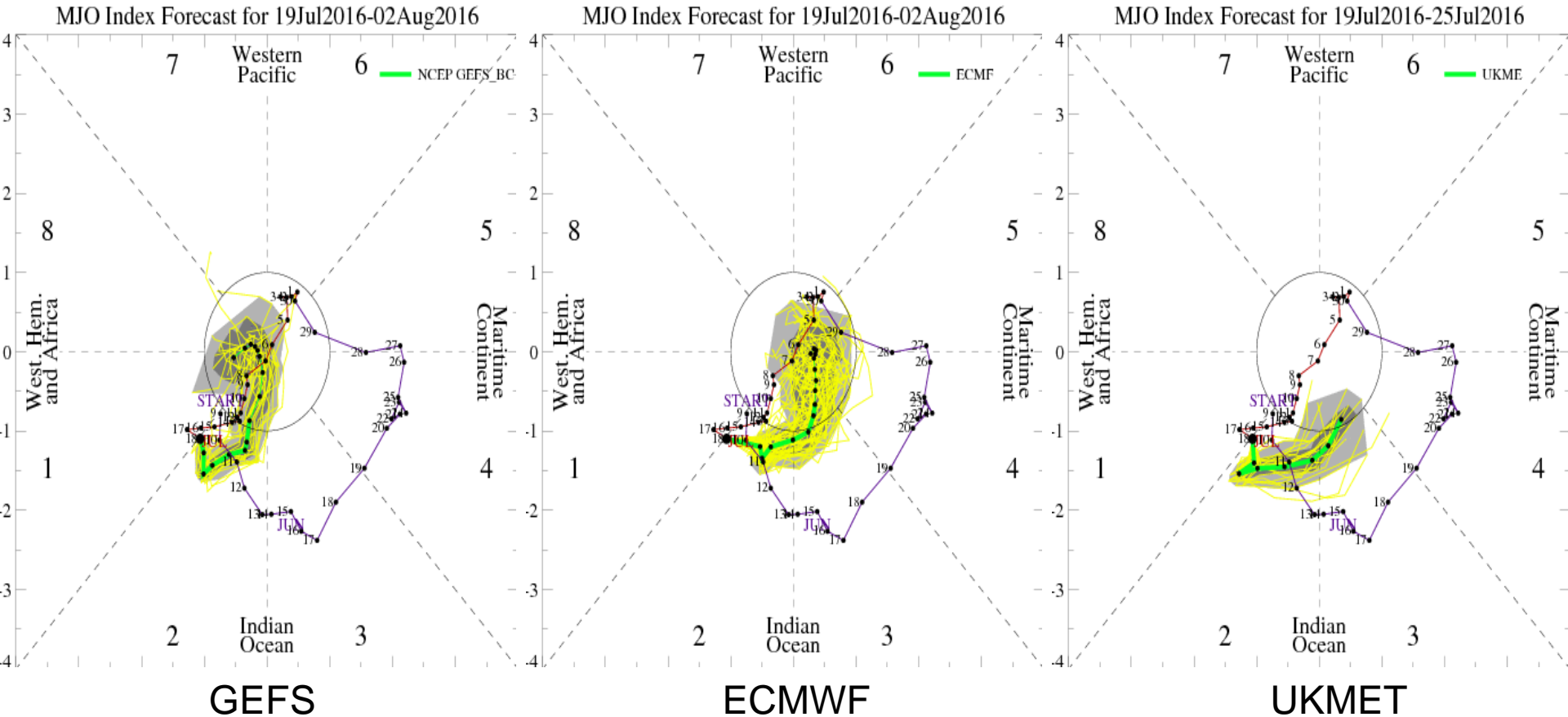
Breakdown of the signal into higher wavenumber modes.



Still a Wave-2 pattern, but seeming to coalesce around enhanced divergence over Africa and convergence over the West Pacific



MJO Observation/Forecast

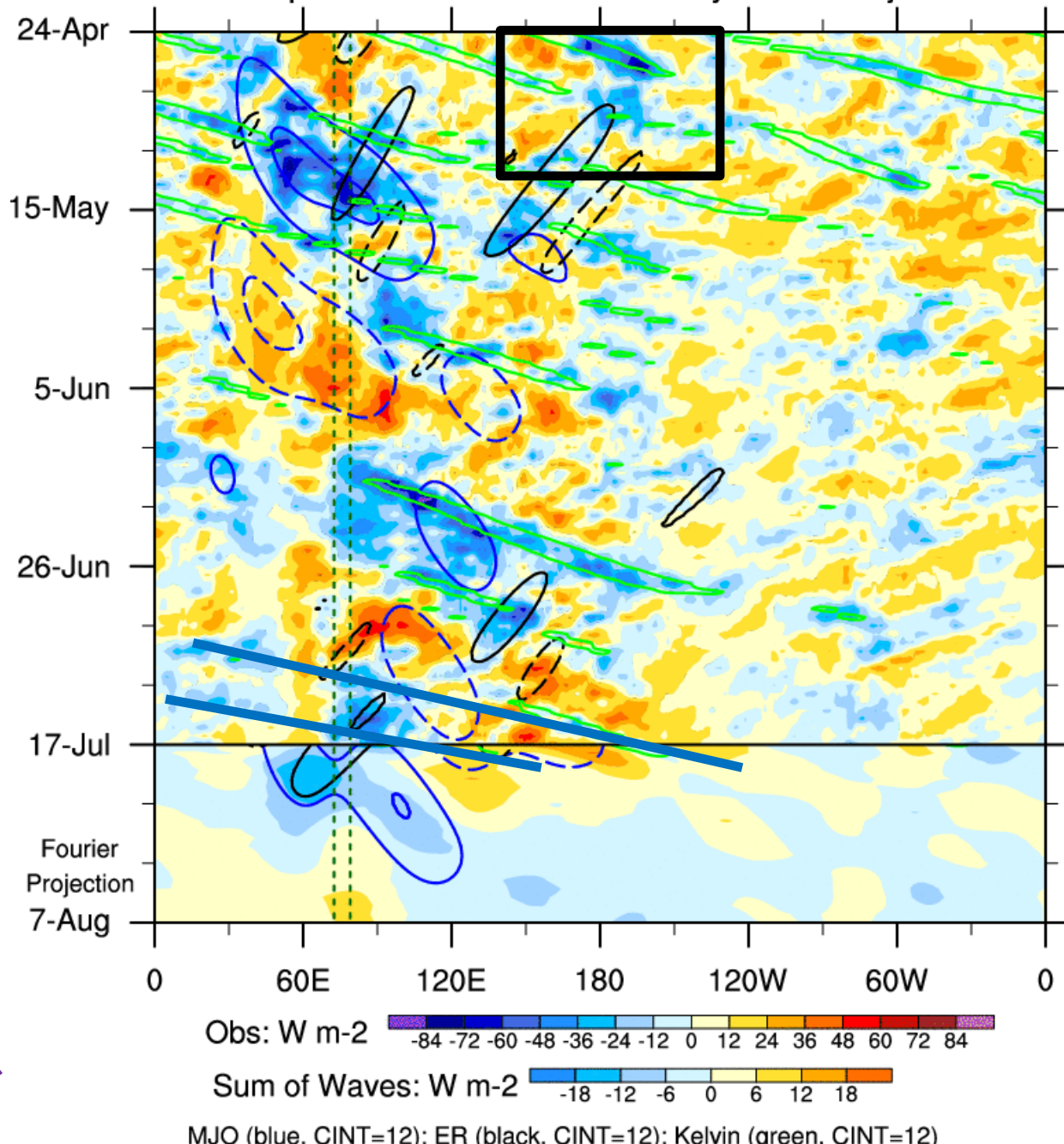


Wheeler-Hendon based analyses of model forecasts indicate a continued signal for Week-1, then a weakening signal during Week-2. Near the end of Week-2, model disagreement increases.

NOAA CDR HIRS OLR anomalies: 7.5°S - 7.5°N

24-Apr-2016 to 17-Jul-2016 + 21-day Fourier Projection

El Niño

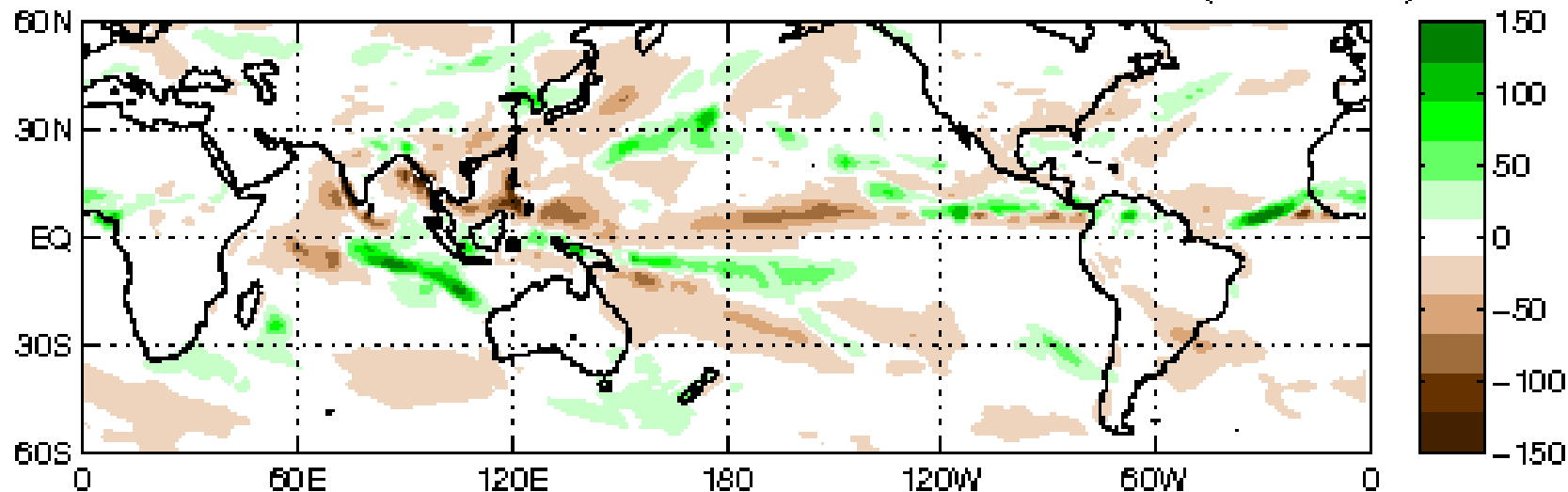


Complicated pattern with **MJO** and **Kelvin waves** as the major influences.

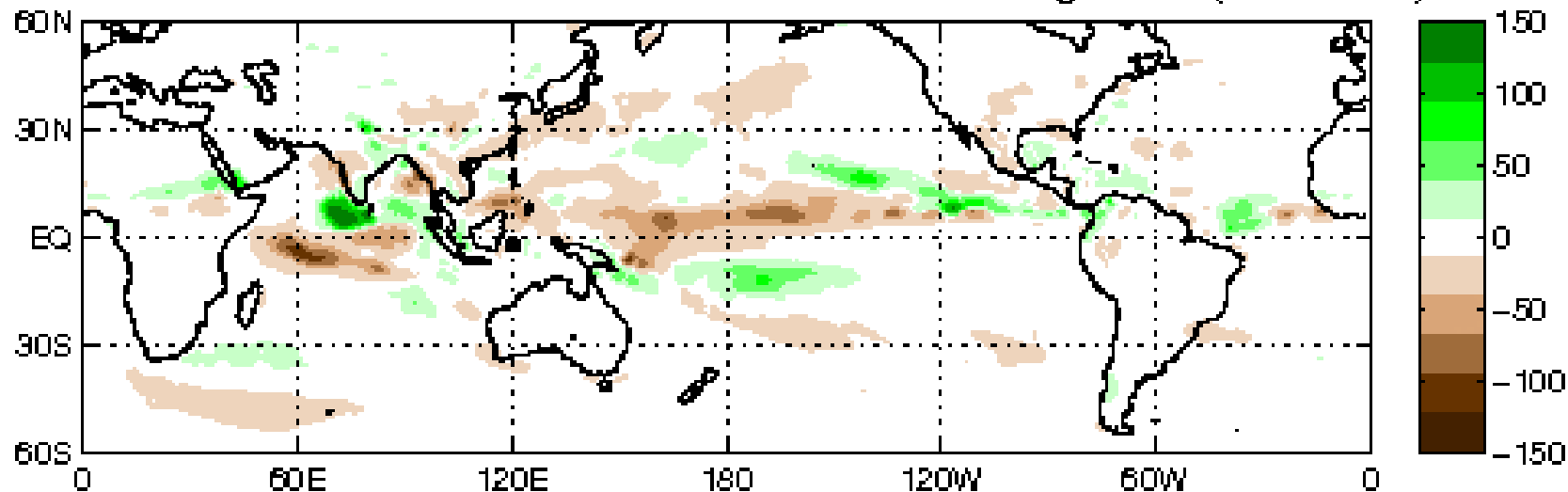
Smaller influence from Rossby wave.



CFS: Anom. PREC Week: 1: 20-Jul-2016 to 26-Jul-2016 (mm/week)



CFS: Anom. PREC Week: 2: 27-Jul-2016 to 02-Aug-2016 (mm/week)





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

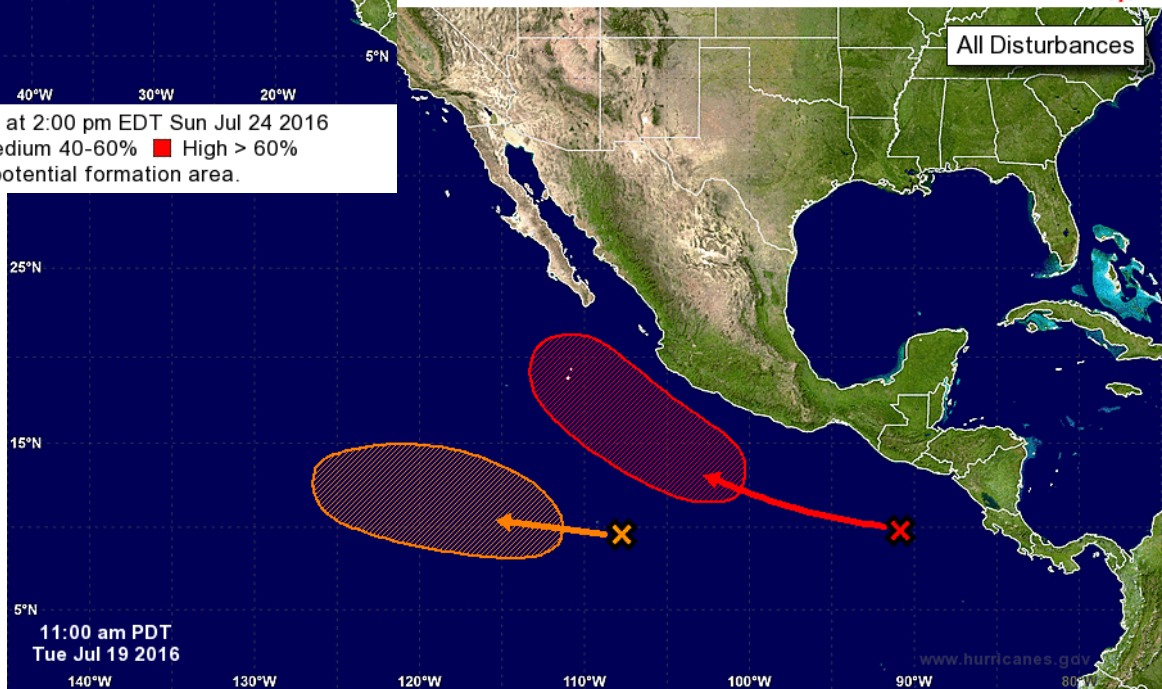


No new tropical cyclones are expected during the next five days.

Graphical Tropical Weather Outlook

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 pm EDT Sun Jul 24 2016

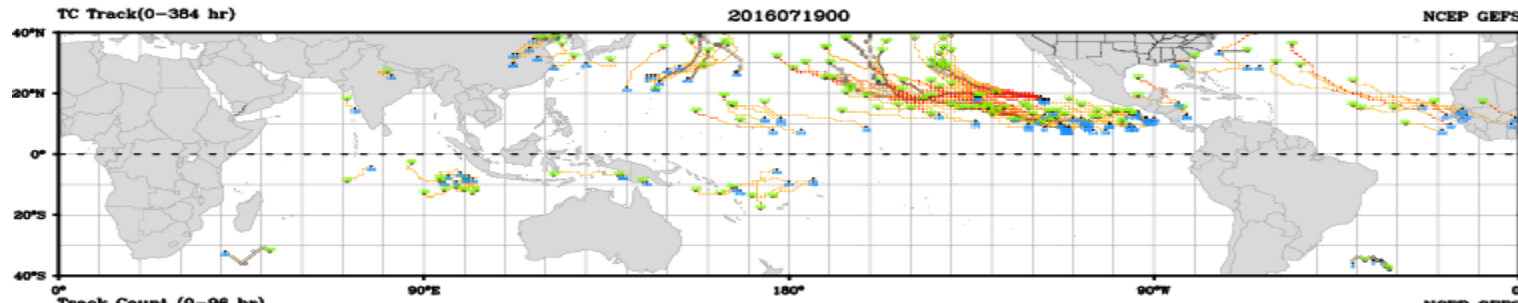
Chance of Cyclone Formation in Five Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%

X indicates current disturbance location; shading indicates potential formation area.

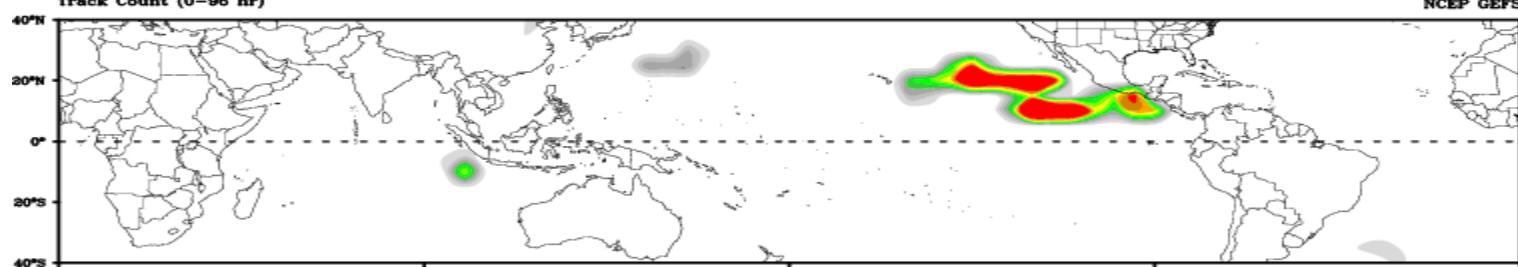
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 11:00 am PDT Sun Jul 24 2016

Chance of Cyclone Formation in Five Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%

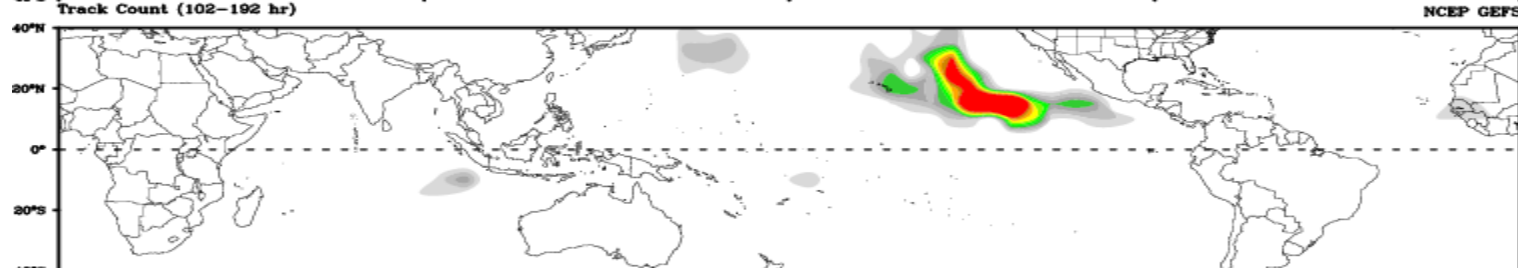
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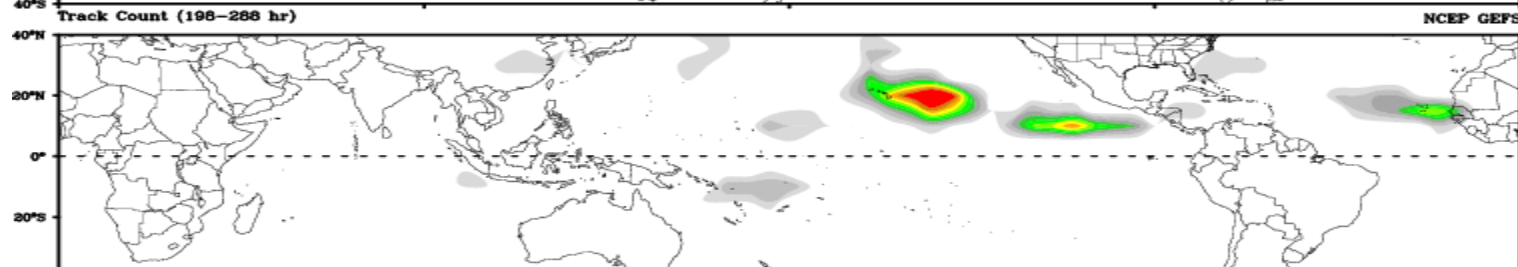
Days 1-4



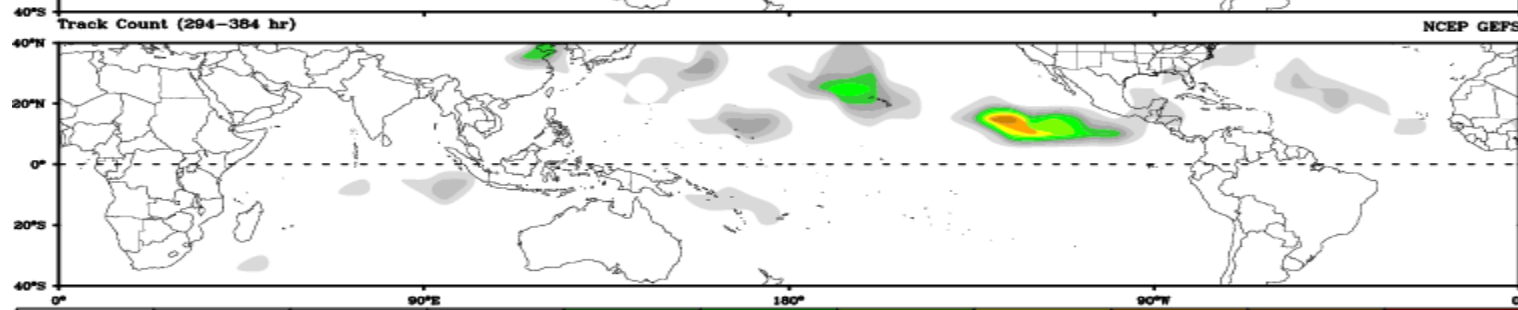
Day 5-8



Day 9-12

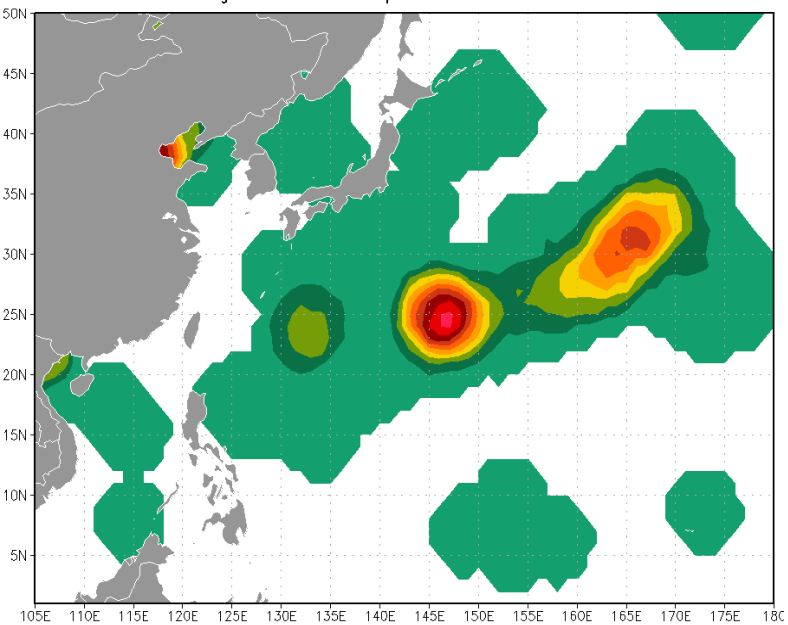


Day 13-15



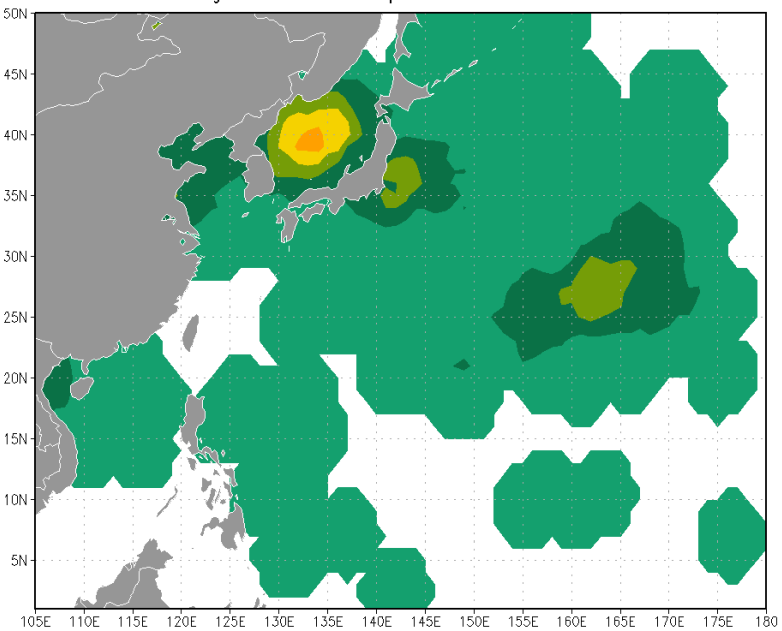
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

For forecasts during the 00–120h period from initial time = 2016071900



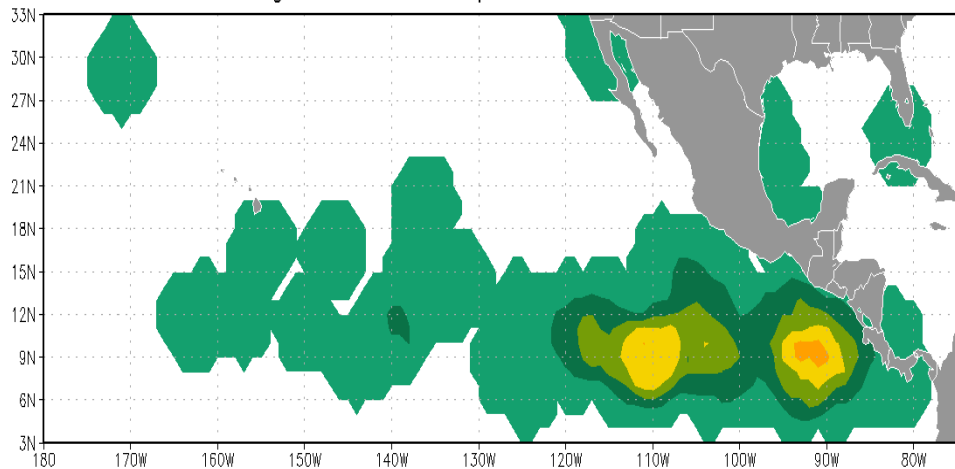
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

For forecasts during the 120–240h period from initial time = 2016071900



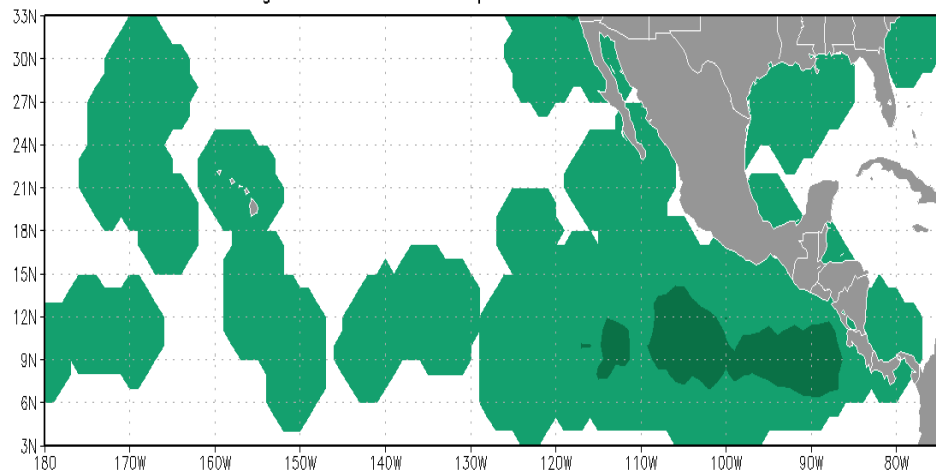
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

For forecasts during the 00–120h period from initial time = 2016071900



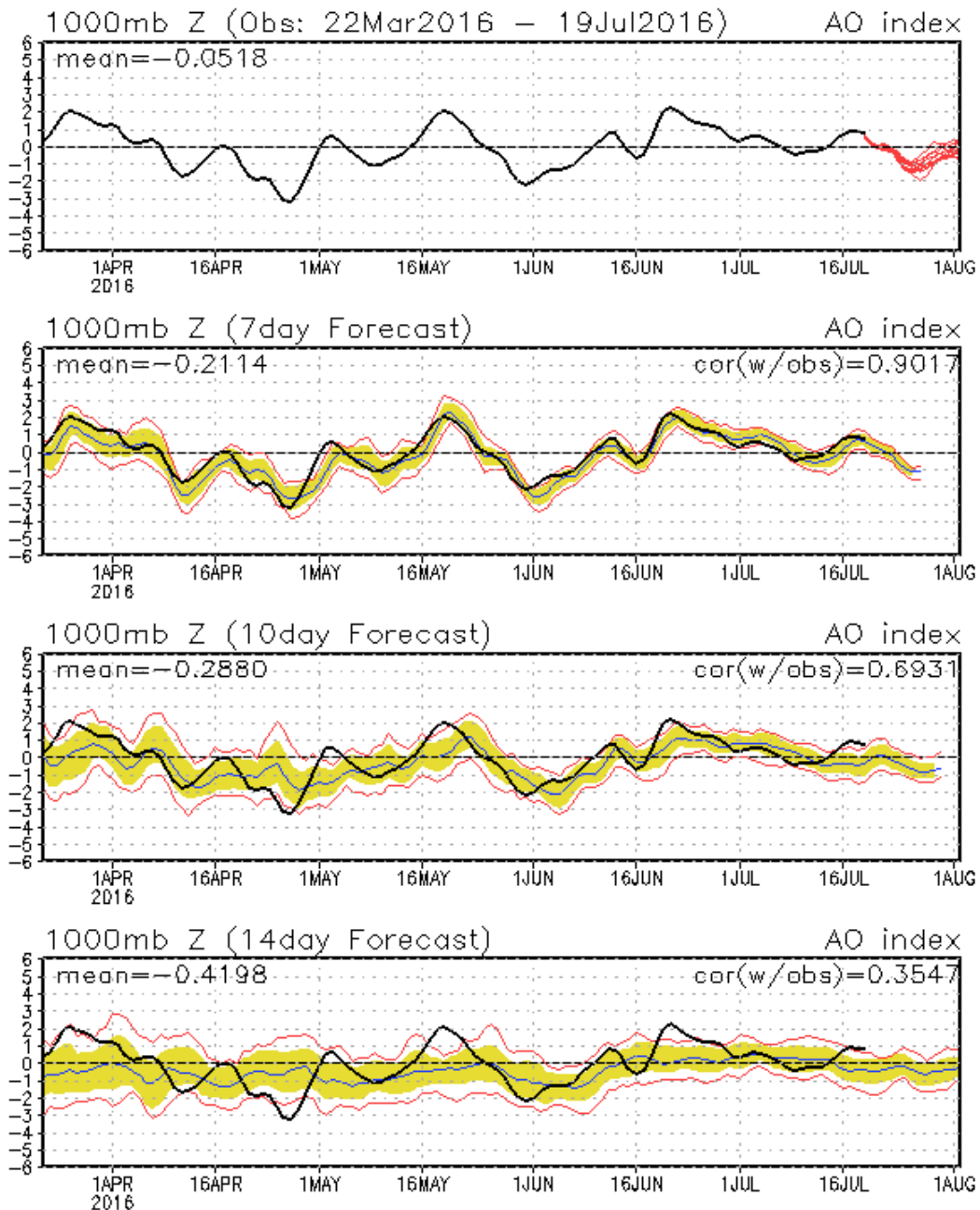
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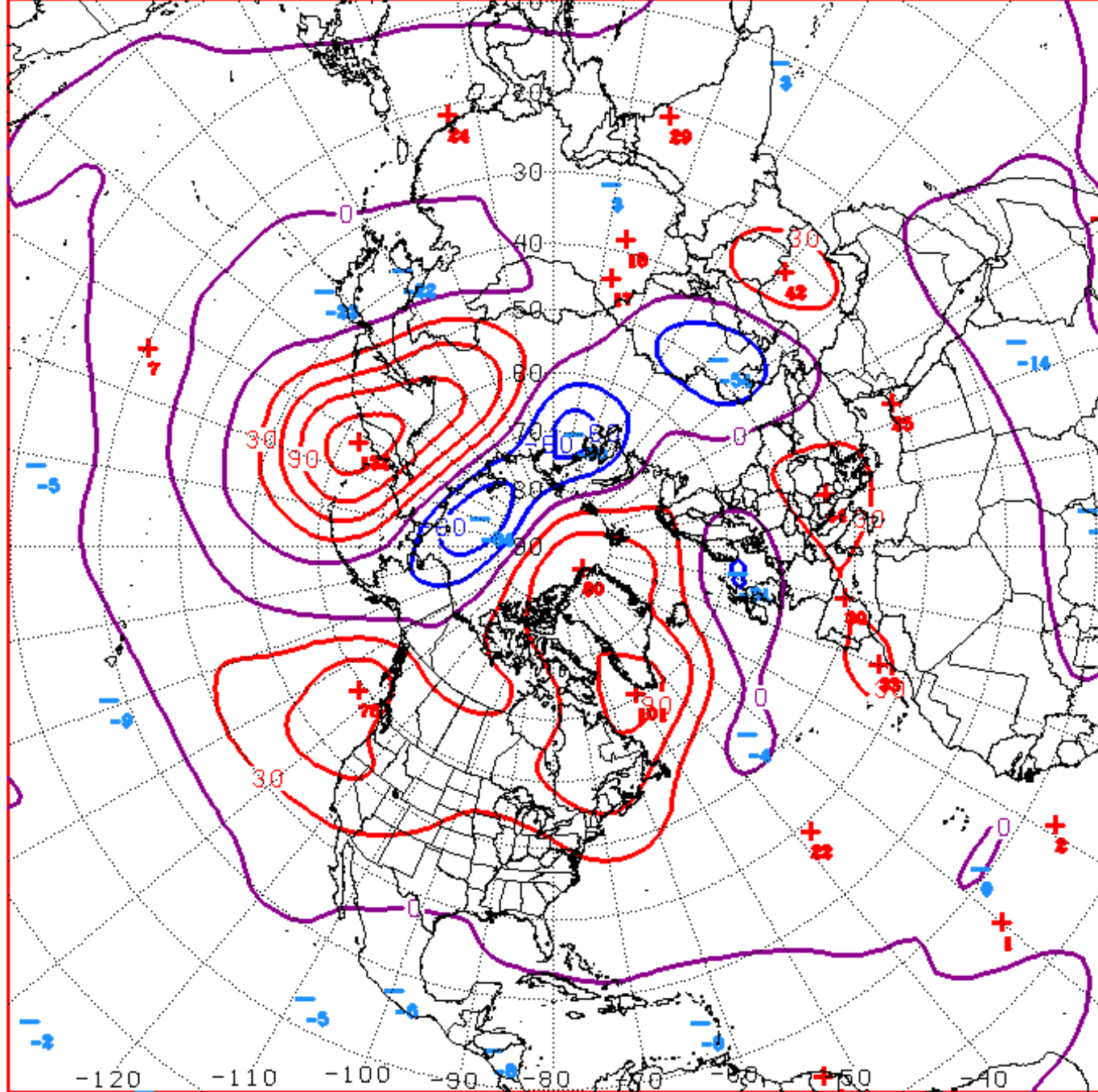
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Connections to U.S. Impacts

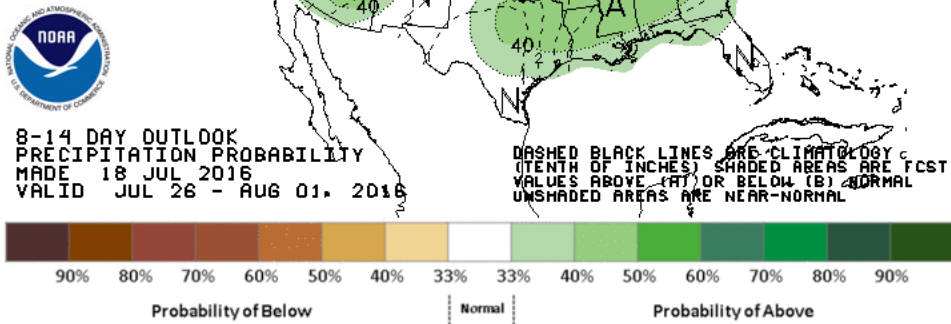
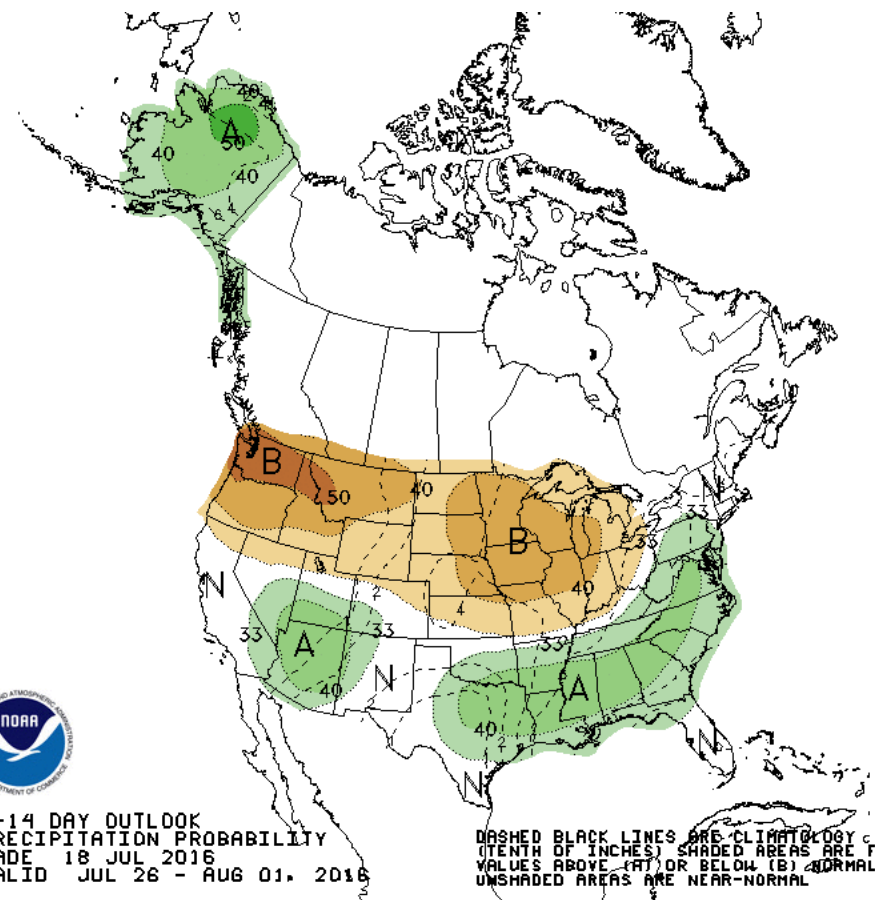
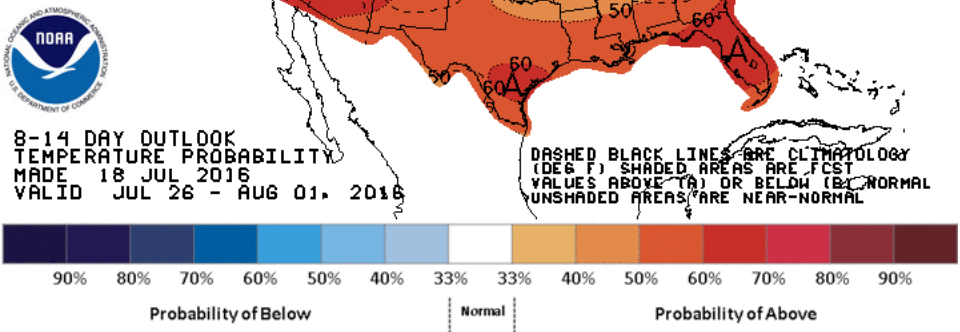
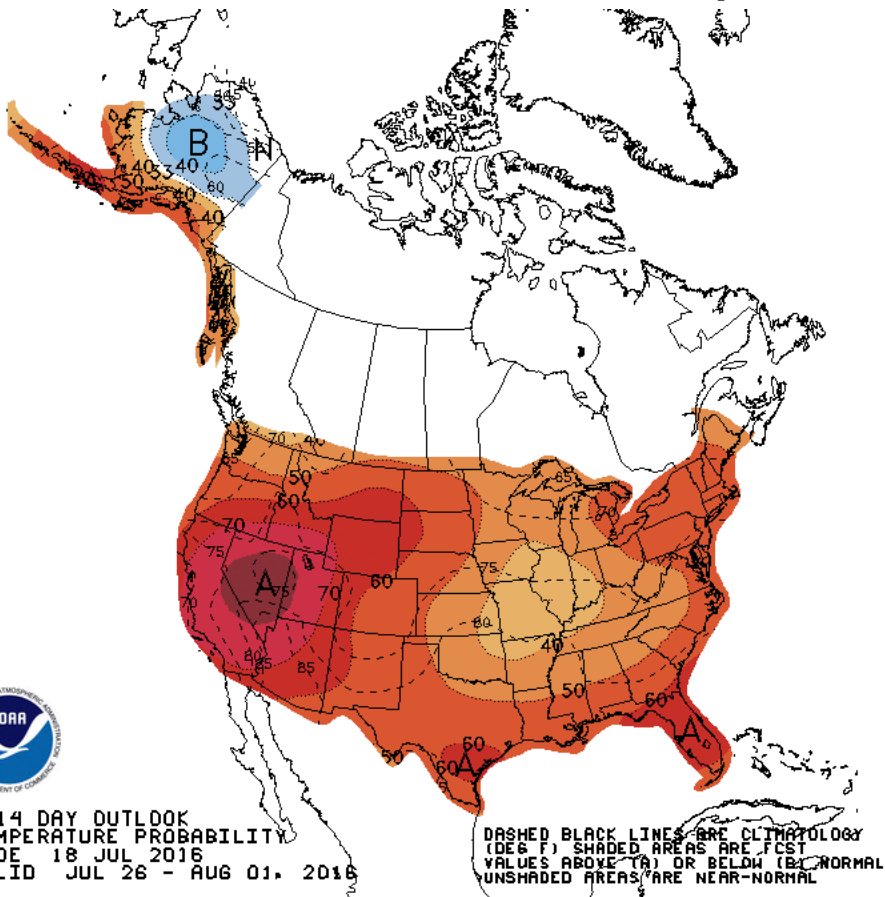
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE JUL 19 2016 1005 UTC CNTD JUL 30 2016

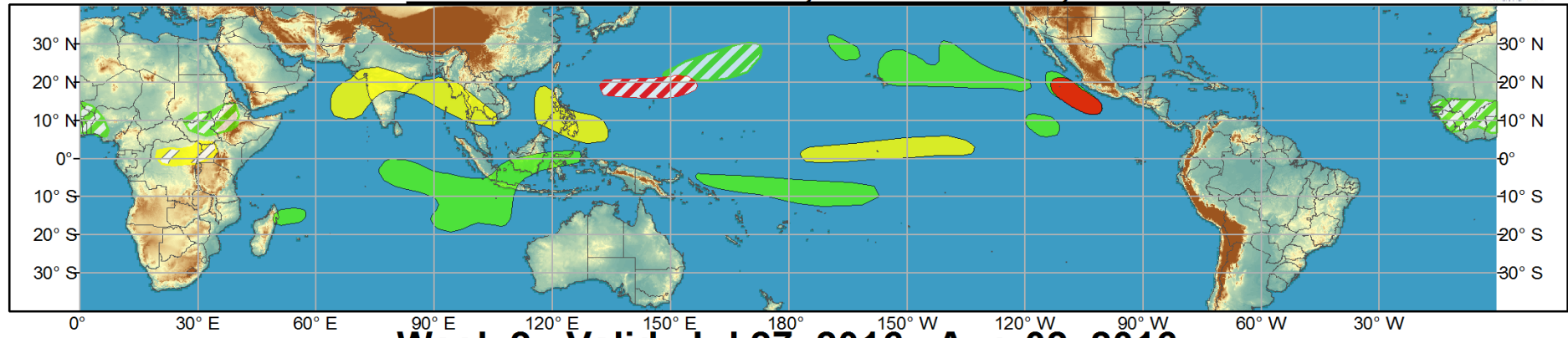
Week 2 – Temperature and Precipitation



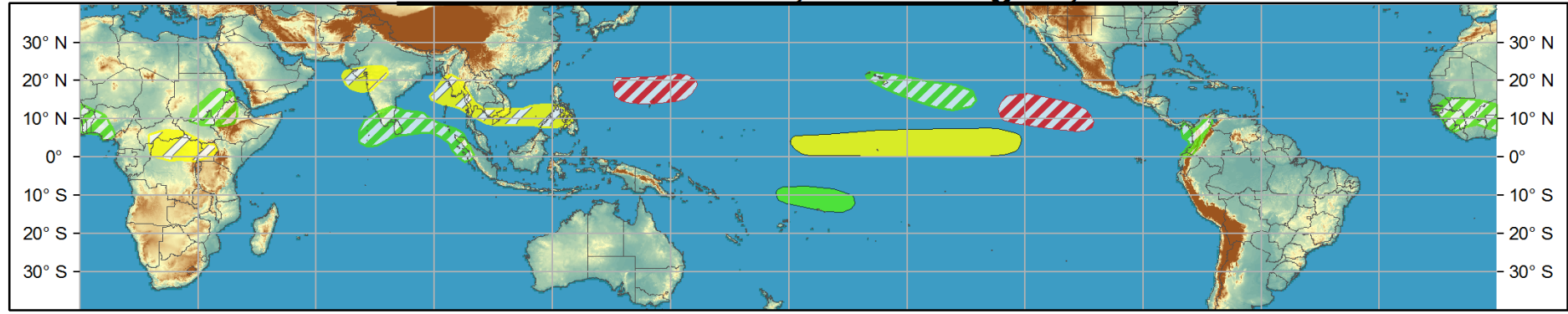


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