

Global Tropics Hazards And Benefits Outlook

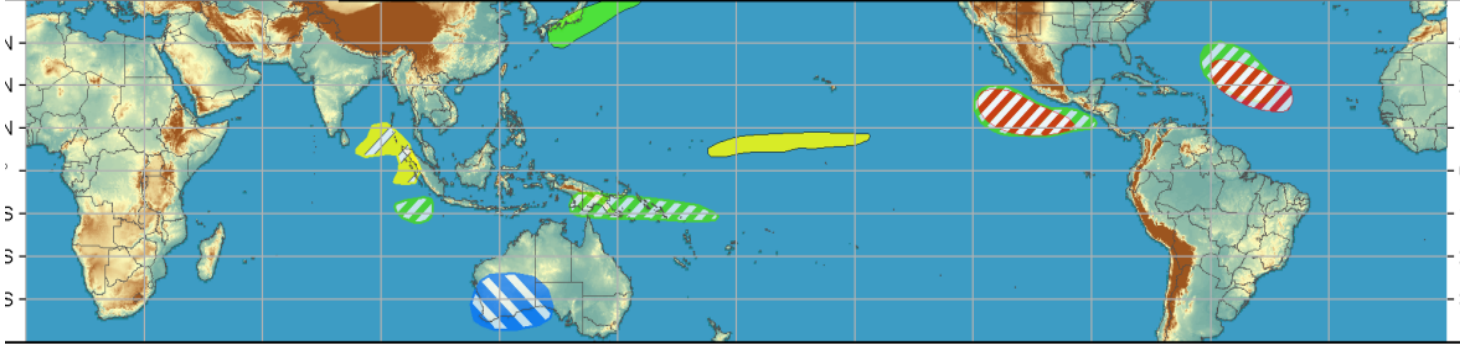
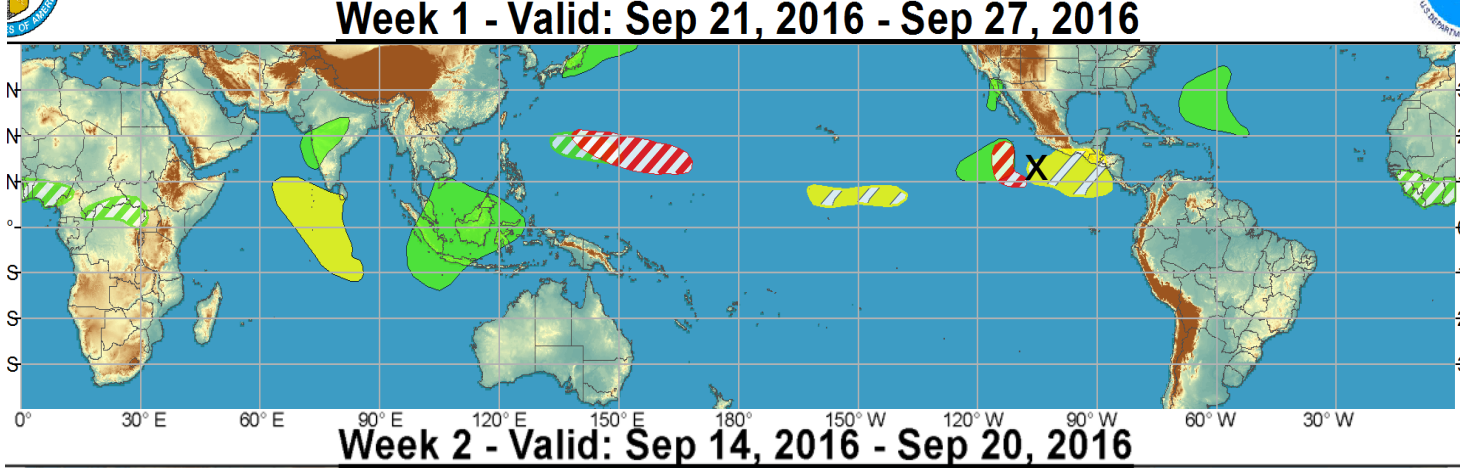
Sep 20, 2016

Matthew Rosencrans

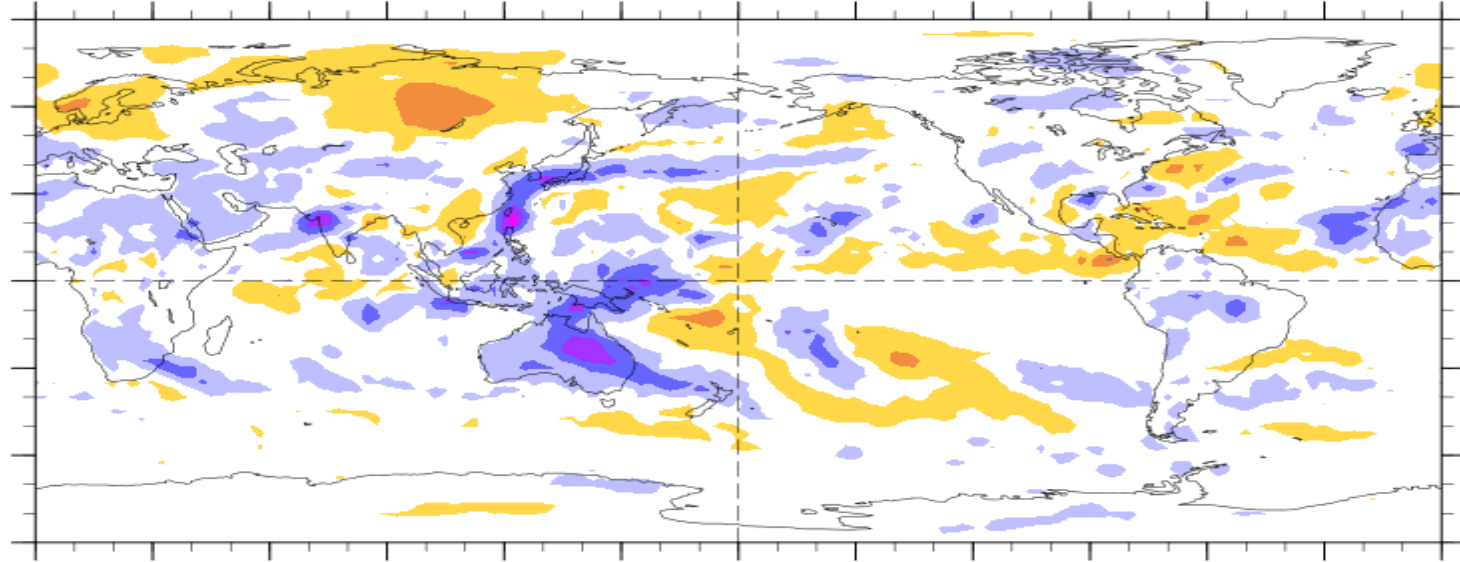
Outline

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

Outlook Review



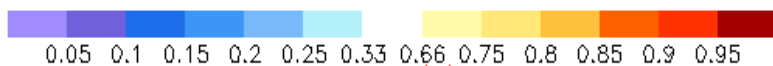
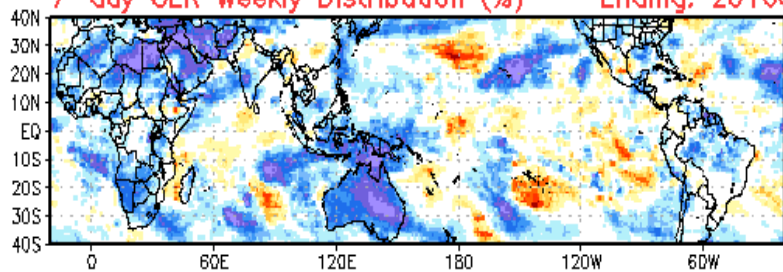
7-Day Average OLR Anomaly 2016/09/13 - 2016/09/19



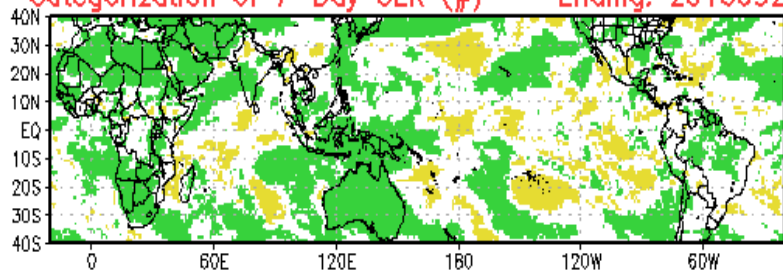
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

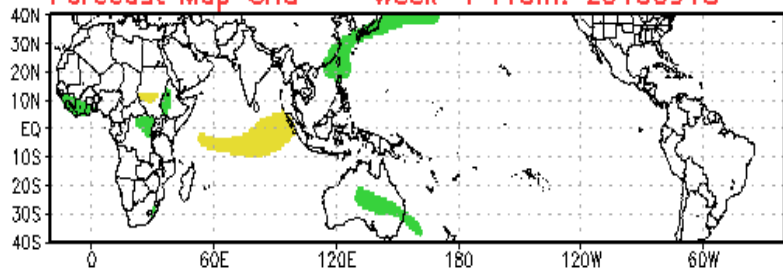
7-day OLR Weekly Distribution (%) -- Ending: 20160920



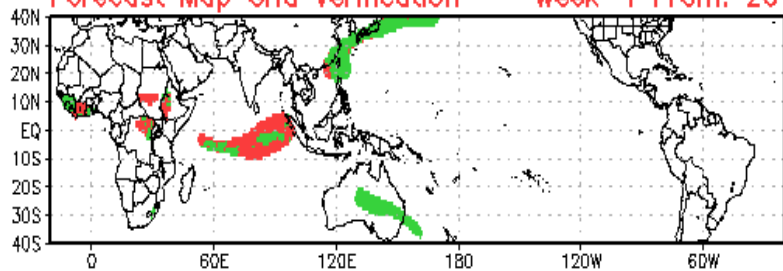
Categorization of 7-Day OLR (#) -- Ending: 20160920



Forecast Map Grid -- Week-1 From: 20160913

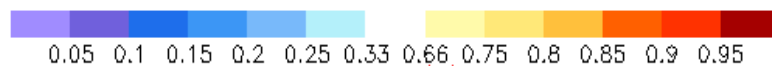
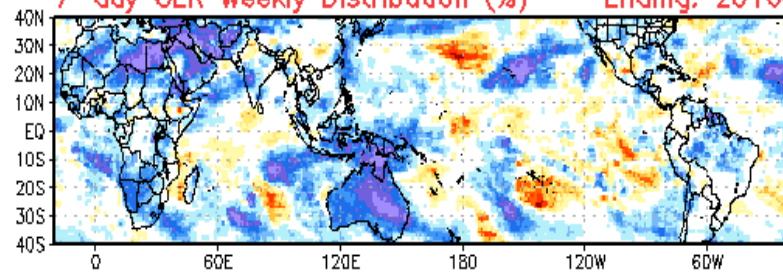


Forecast Map Grid Verification -- Week-1 From: 20160913

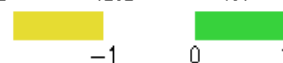
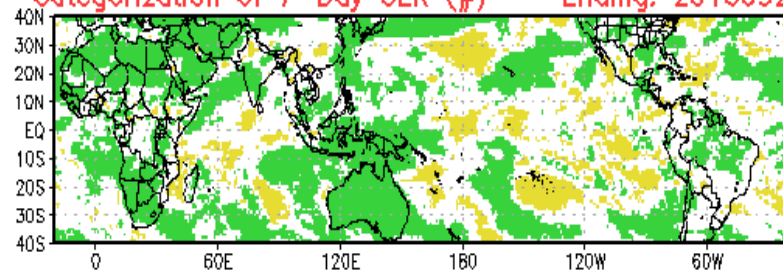


Hit: Green, Miss: Red
Heidke Skill Score: 41.5871

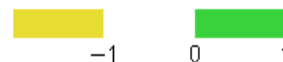
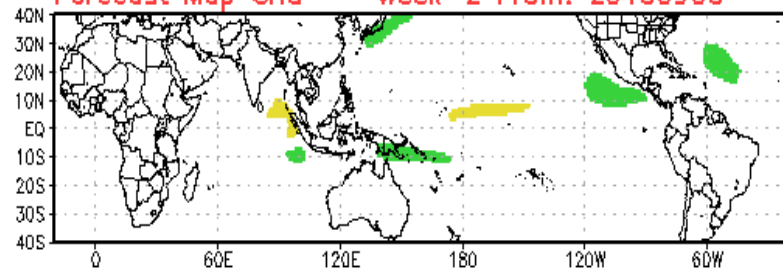
7-day OLR Weekly Distribution (%) -- Ending: 20160920



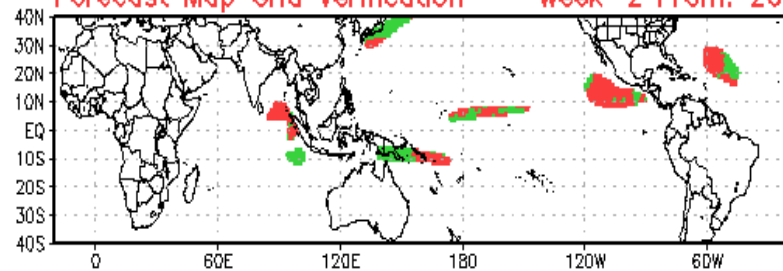
Categorization of 7-Day OLR (#) -- Ending: 20160920



Forecast Map Grid -- Week-2 From: 20160906



Forecast Map Grid Verification -- Week-2 From: 20160906



Hit: Green, Miss: Red
Heidke Skill Score: 12.5519

Synopsis of Climate Modes

ENSO:

- **Not Active**

ENSO-Neutral conditions are slightly favored (55-60%) during the upcoming NH fall and winter 2016-17.

MJO and other subseasonal tropical variability:

- MJO strengthened over the Maritime Continent. Confluence of a few modes impacting the circulation.
- Dynamical models indicate enhanced convection over the Maritime Continent, but are having trouble resolving the different modes of variability and the impact on circulation.
- Rossby and Kelvin waves also influencing the pattern.

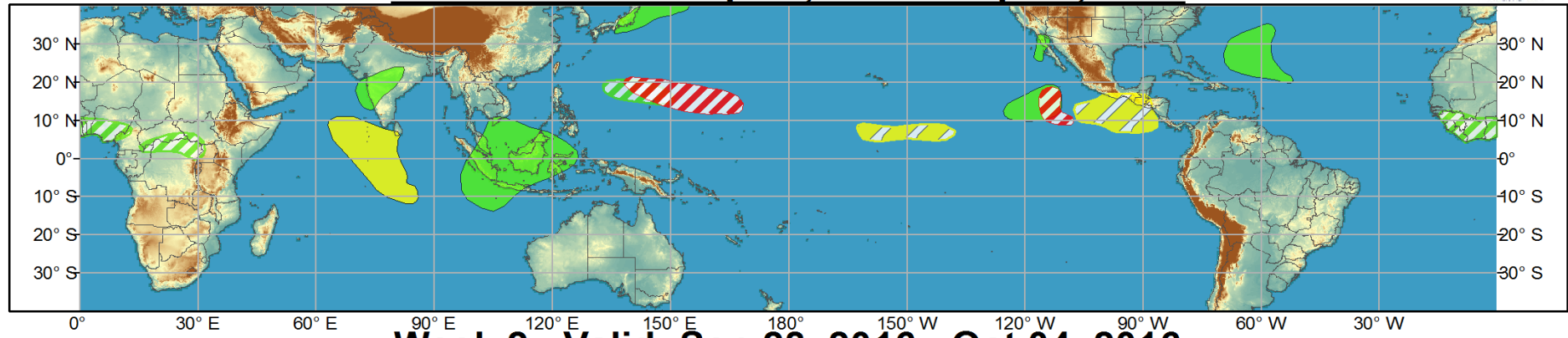
Extratropics:

- 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).

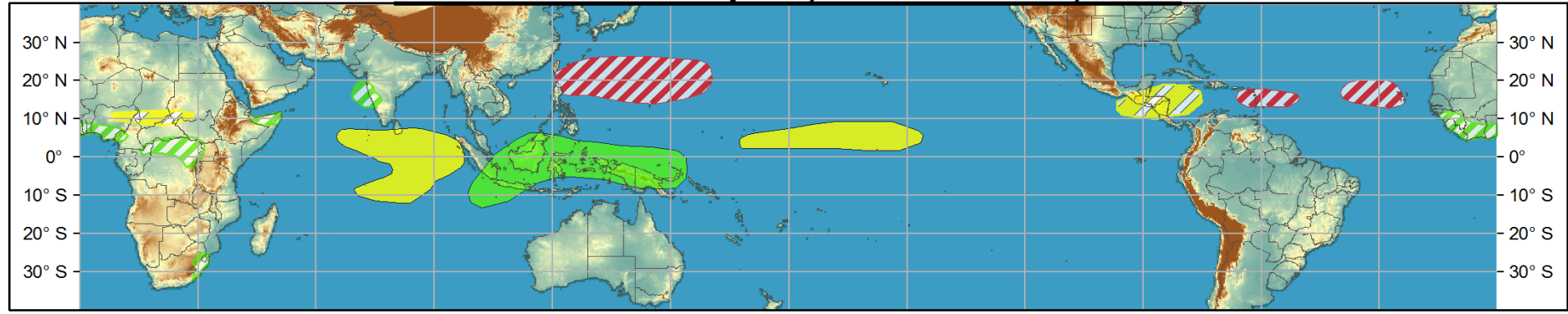


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Sep 21, 2016 - Sep 27, 2016



Week 2 - Valid: Sep 28, 2016 - Oct 04, 2016



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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Produced: 09/20/2016

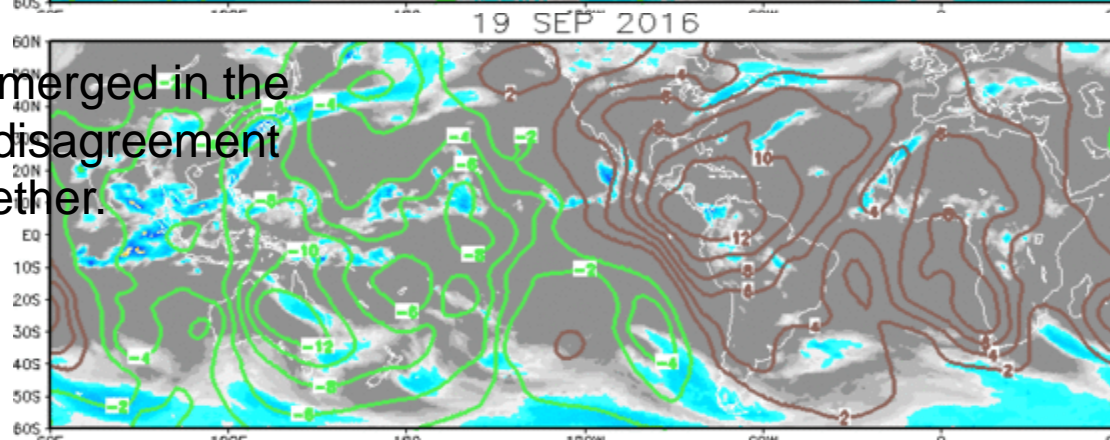
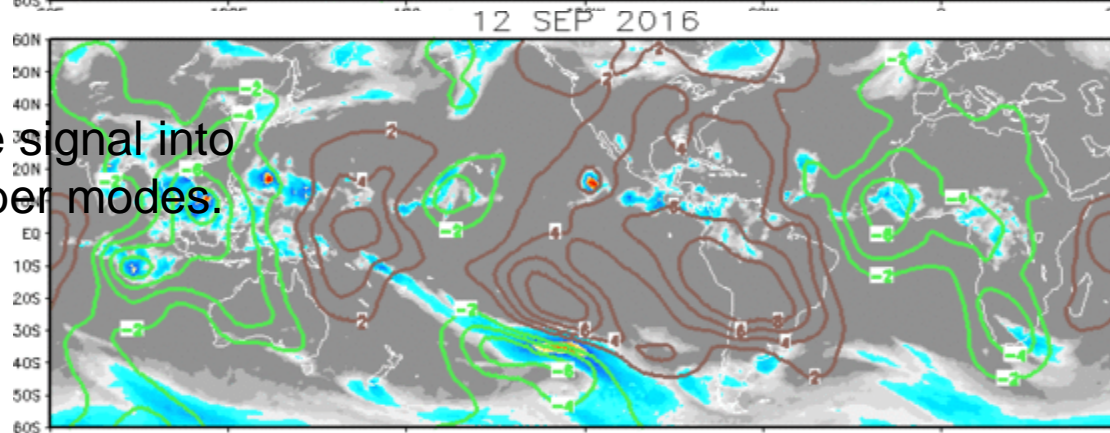
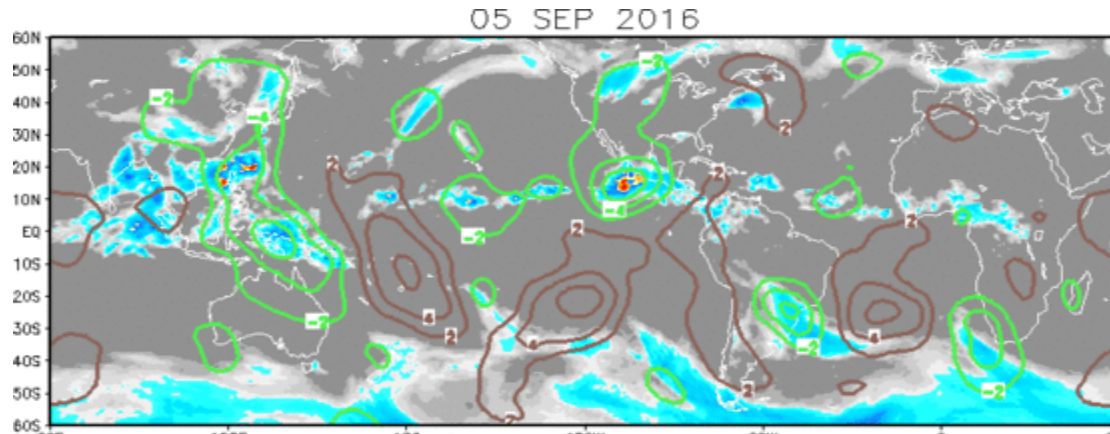
Forecaster: Rosencrans

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

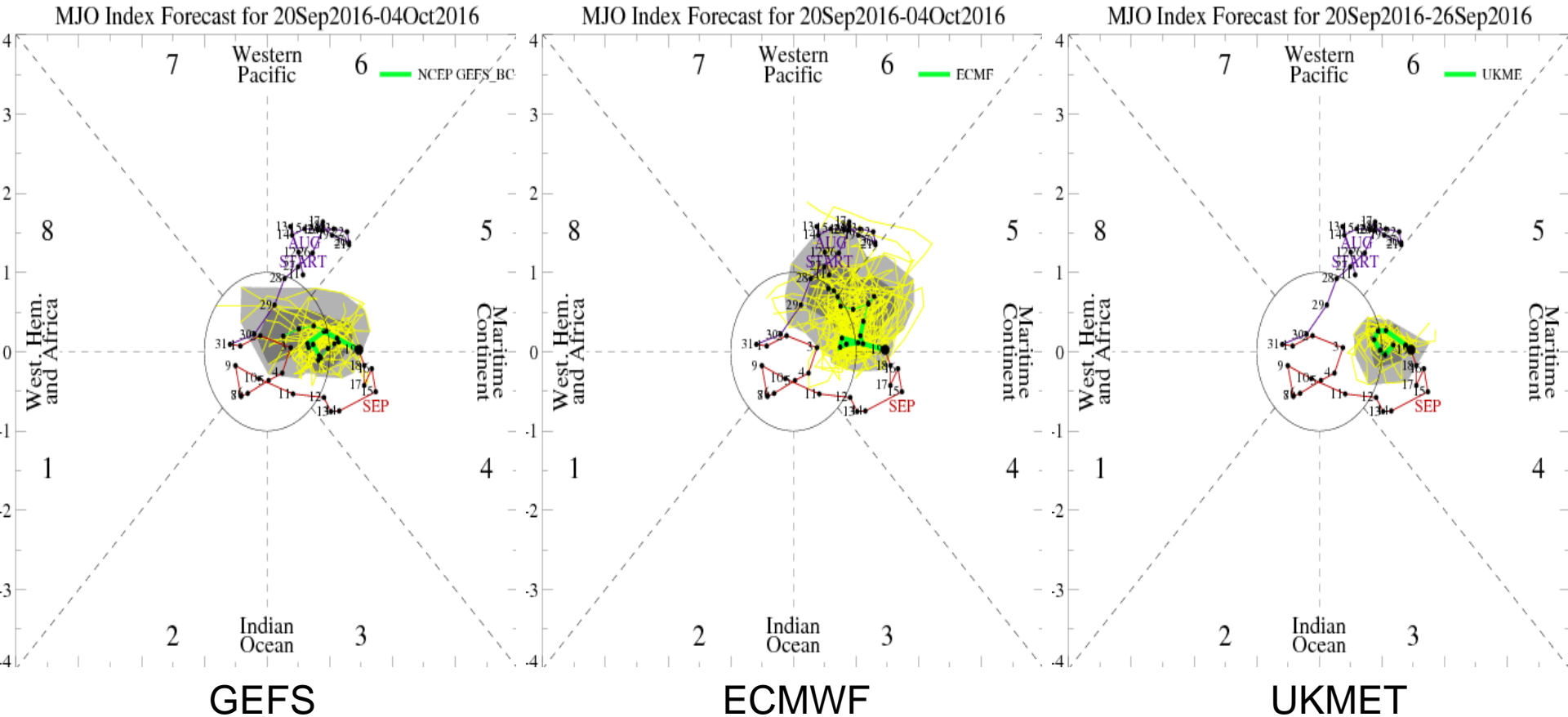
Green: Enhanced Divergence Brown: Enhanced Convergence



Breakdown of the signal into higher wavenumber modes.

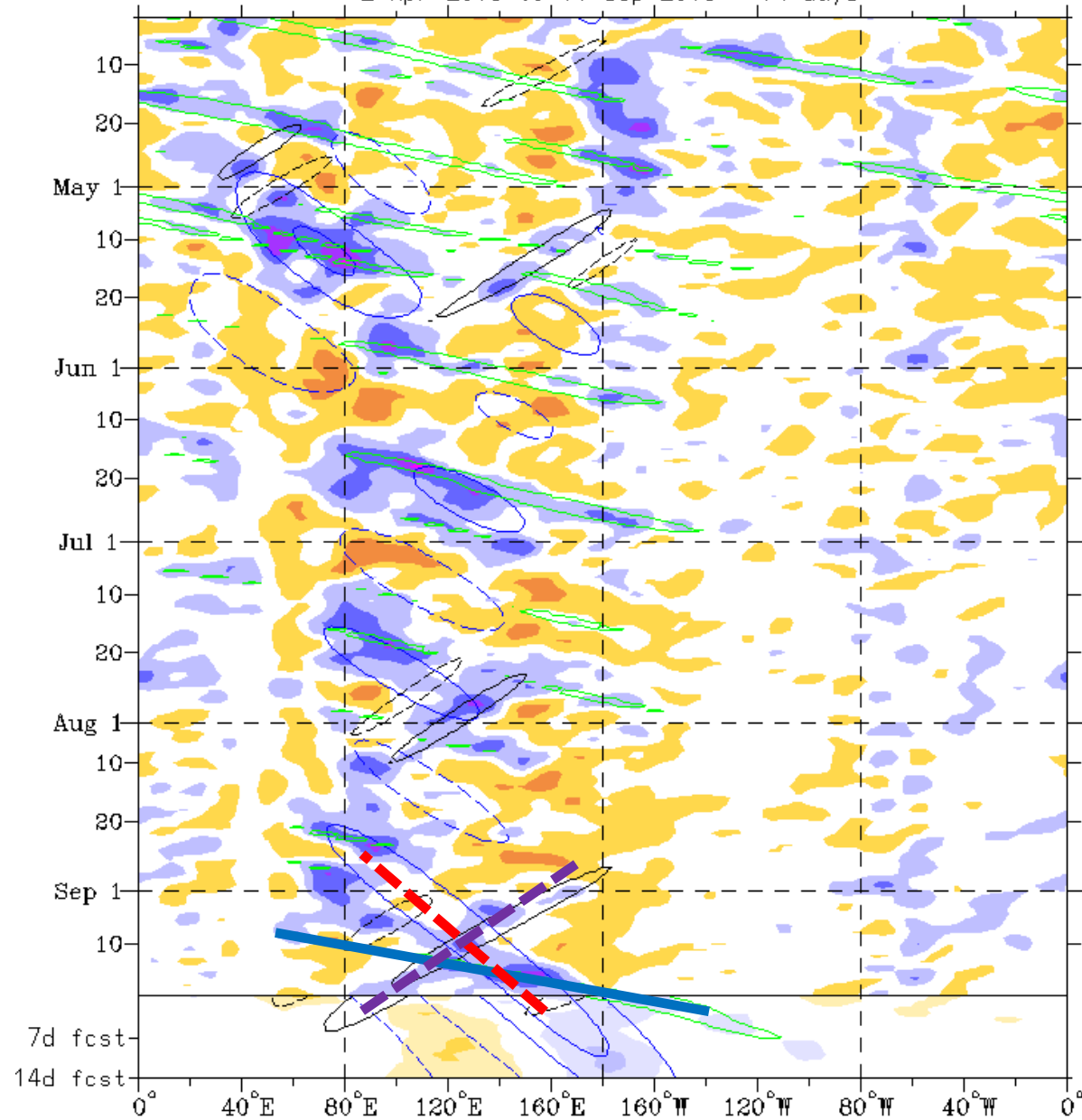
Wave 1 pattern emerged in the last week, some disagreement on will it hold together.

MJO Observation/Forecast



Wheeler-Hendon based analyses of model forecasts indicate a disagreement on continued eastward propagation due to different handling of other modes in each modeling system.

Real-time filtering superimposed upon 1-2-1 filt, R21, OLR Anoms
MJO blue CINT=10; n1ER black CINT=10; Kelvin green CINT=15
Negative contours solid, positive dashed (excluding Kelvin)
2-Apr-2016 to 19-Sep-2016 + 14 days

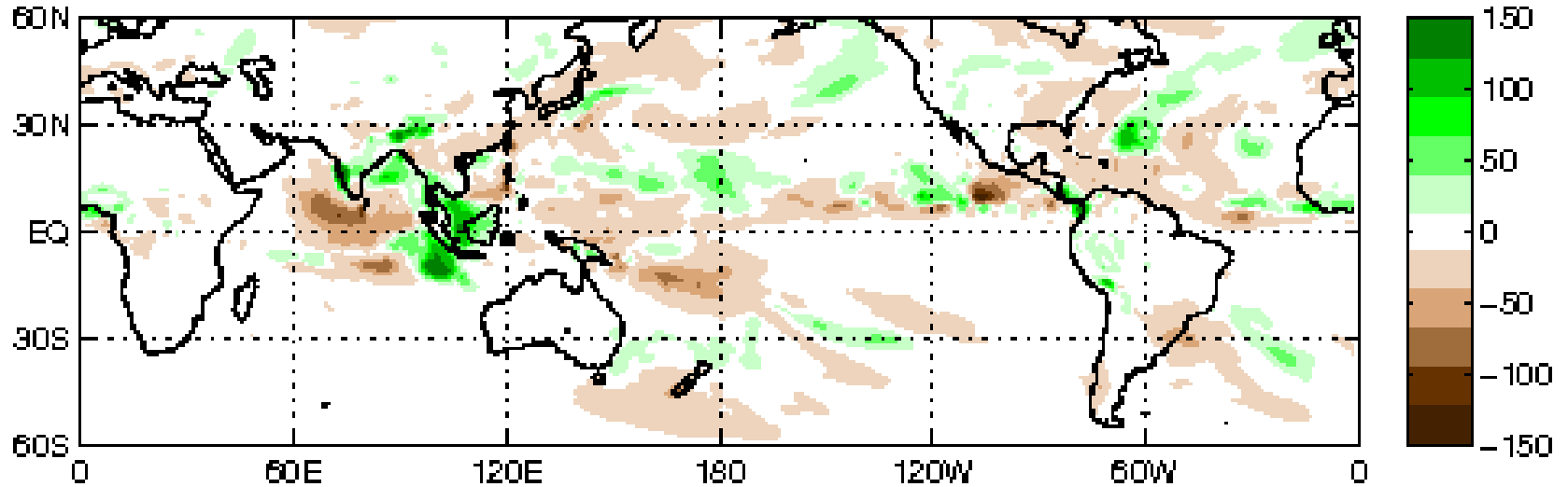


7.5S-7.5N Obs; $W m^{-2}$ -90 -70 -50 -30 -10 10 30 50 70 90

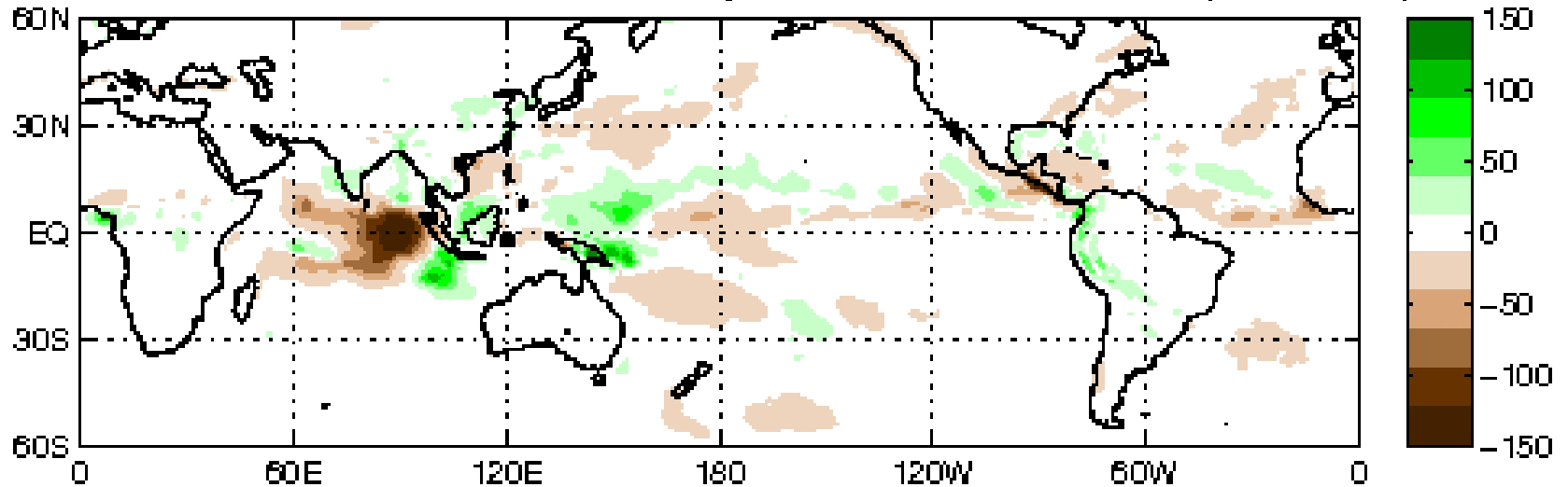
CAWCB/Bureau of Meteorology Sum of Fcsts; $W m^{-2}$ -10 -5 +5 +10

Complicated pattern with
MJO, **Rosby** and **Kelvin**
waves as influences.

CFS: Anom. PREC Week: 1: 21-Sep-2016 to 27-Sep-2016 (mm/week)



CFS: Anom. PREC Week: 2: 28-Sep-2016 to 04-Oct-2016 (mm/week)





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Graphical Tropical Weather Outlooks



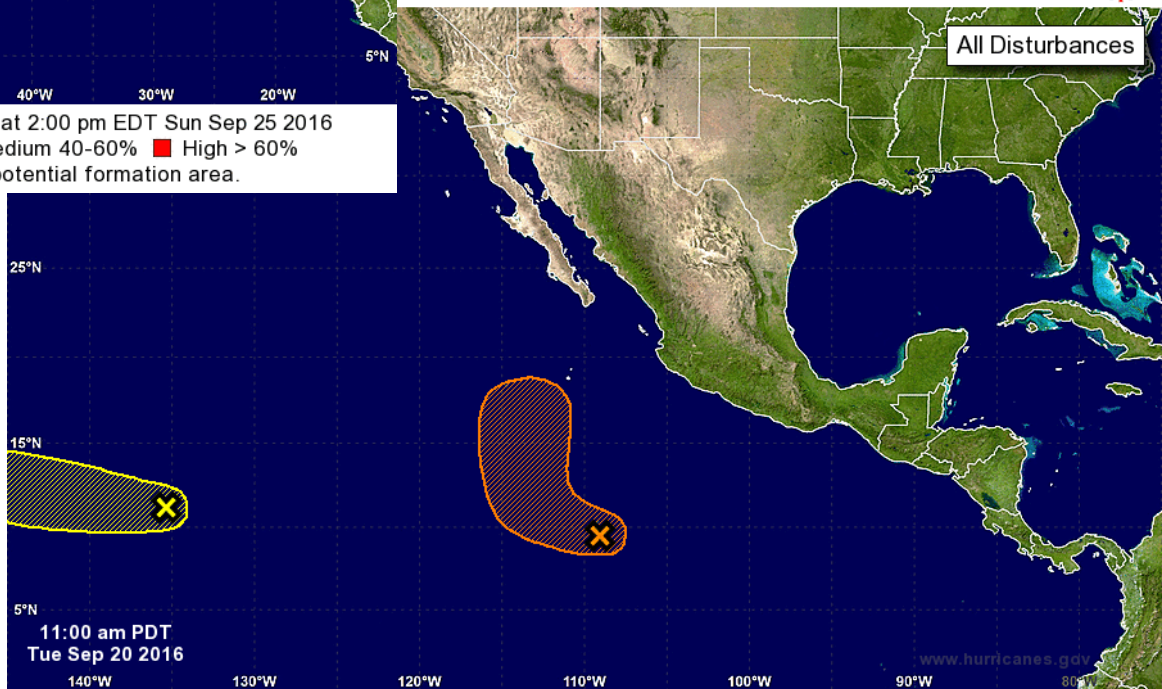
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 pm EDT Sun Sep 25 2016

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

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

Graphical Tropical Weather Outlook

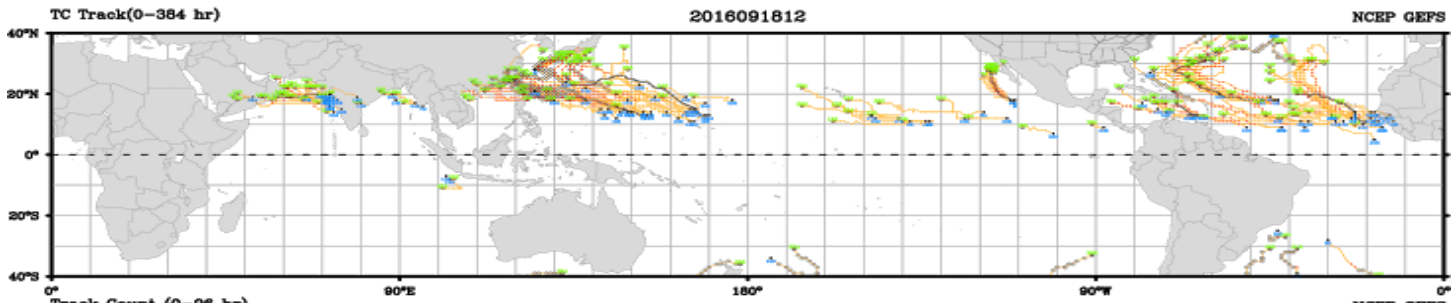
National Hurricane Center Miami, Florida



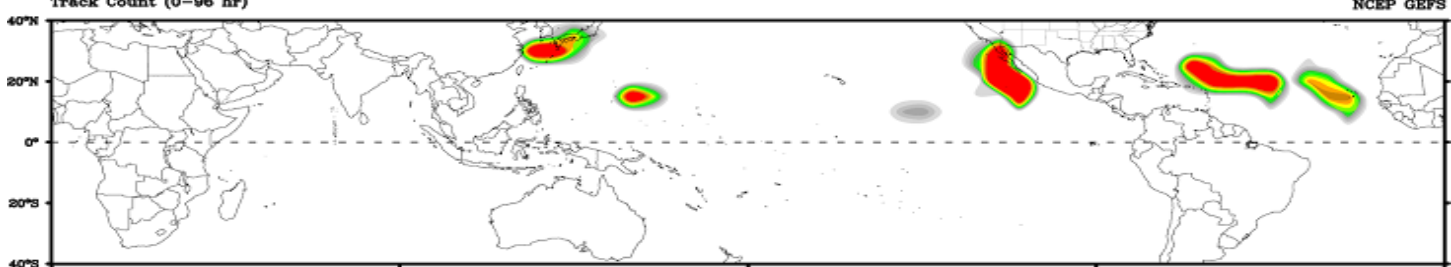
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 11:00 am PDT Sun Sep 25 2016

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

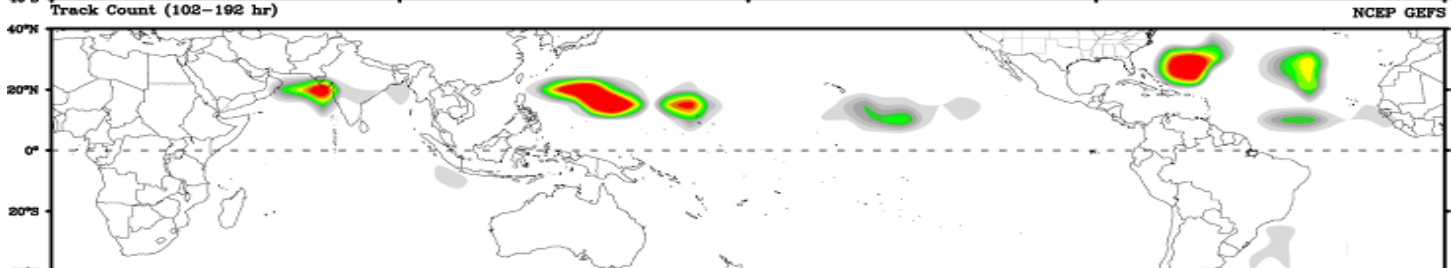
X indicates current disturbance location; shading indicates potential formation area.



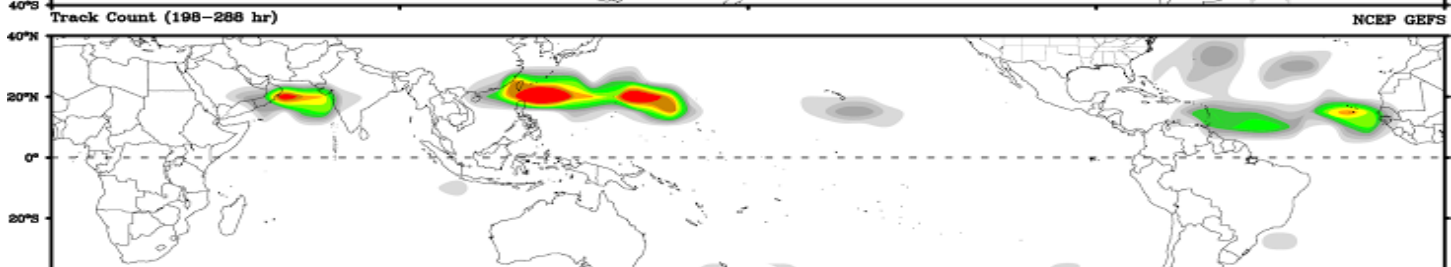
Days 1-4



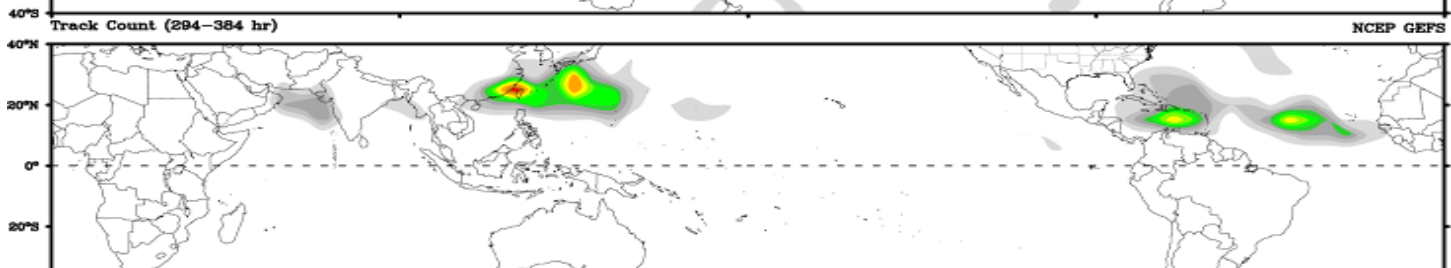
Day 5-8



Day 9-12

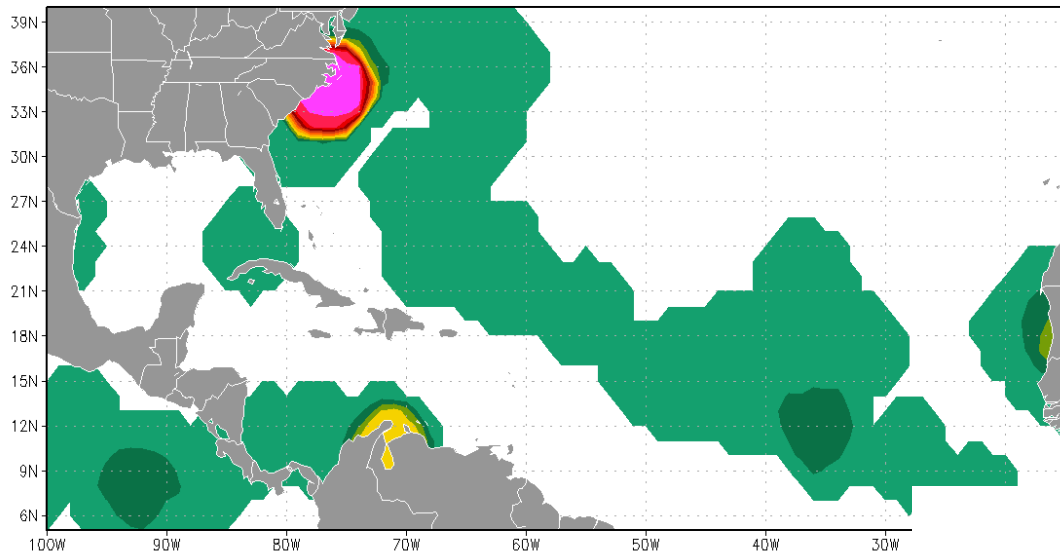


Day 13-15



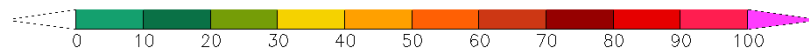
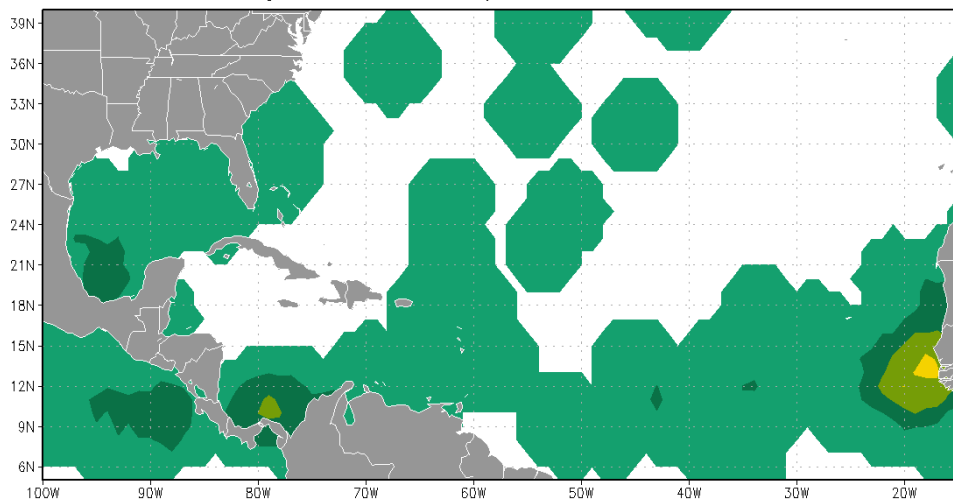
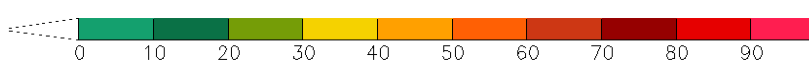
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

For forecasts during the 00–120h period from initial time = 2016092000



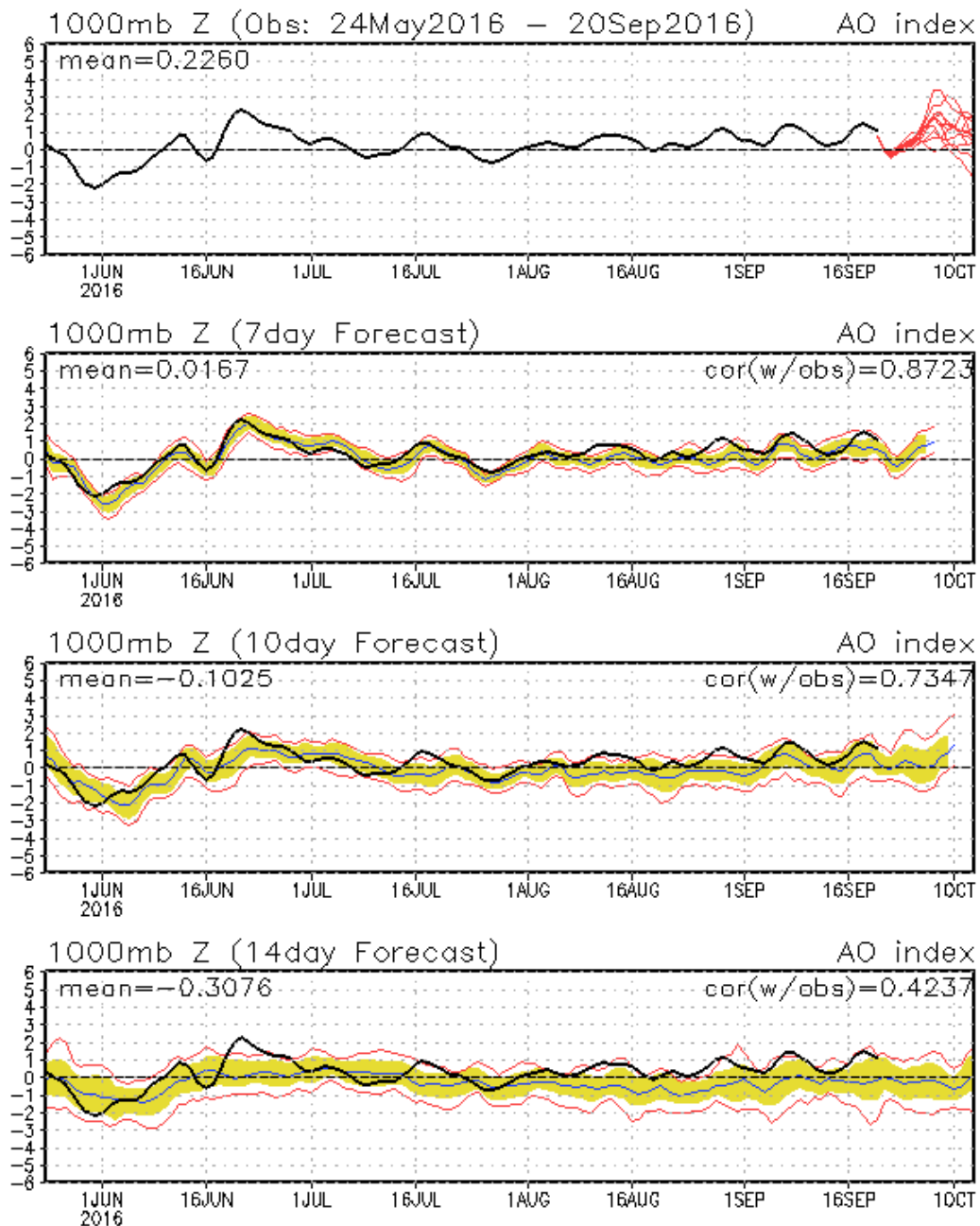
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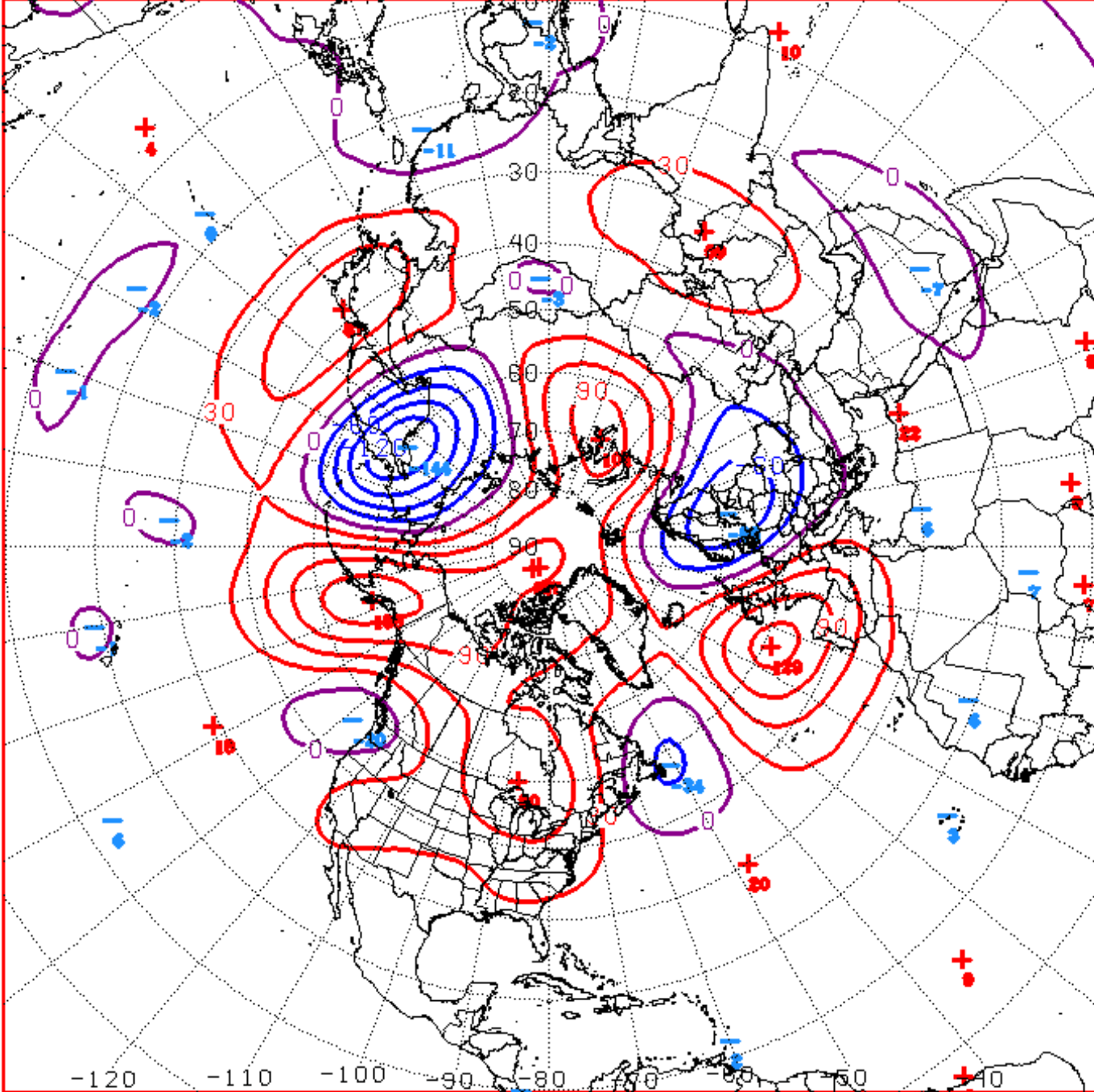
For forecasts during the 120–240h period from initial time = 2016092000



Connections to U.S. Impacts

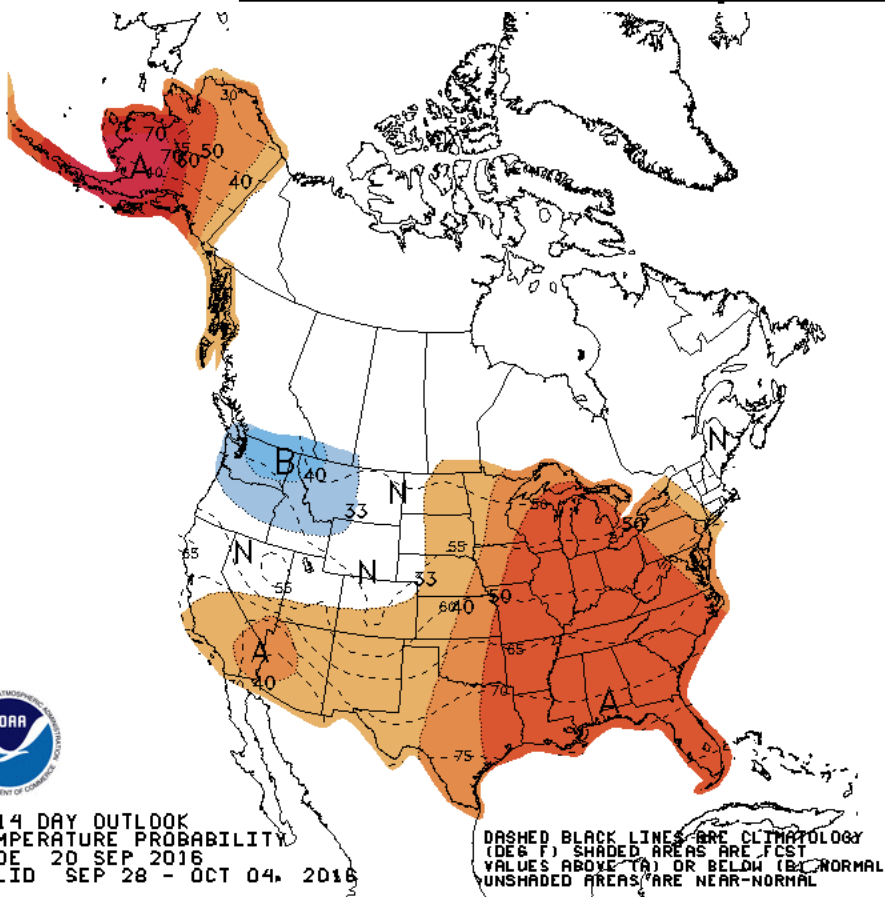
AO: Observed & ENSM forecasts





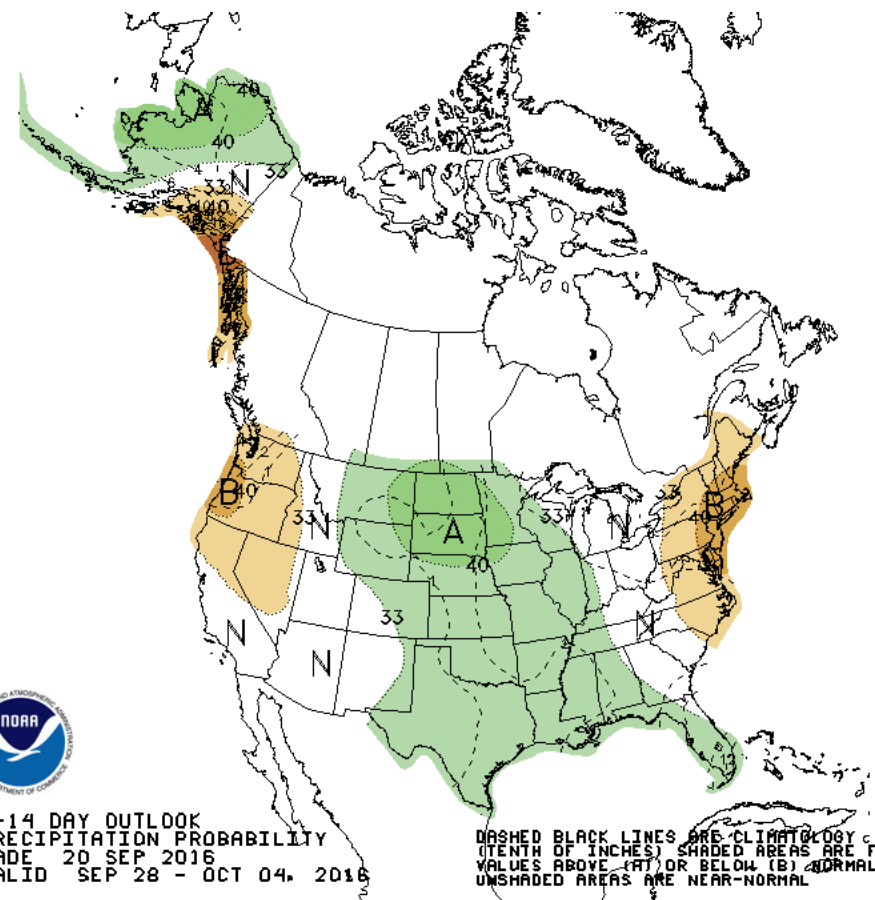
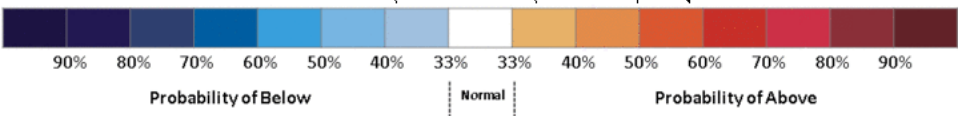
D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE SEP 20 2016 1003 UTC CNTD OCT 01 2016

Week 2 – Temperature and Precipitation



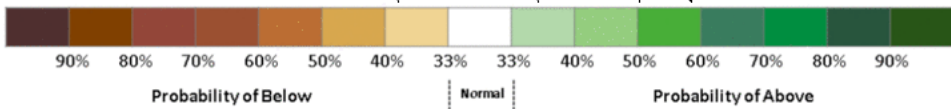
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 20 SEP 2016
VALID SEP 28 - OCT 04, 2016

DASHED BLACK LINES ARE CLIMATE
(DEG F) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
UNSHADED AREAS ARE NEAR-NORMAL



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 20 SEP 2016
VALID SEP 28 - OCT 04, 2016

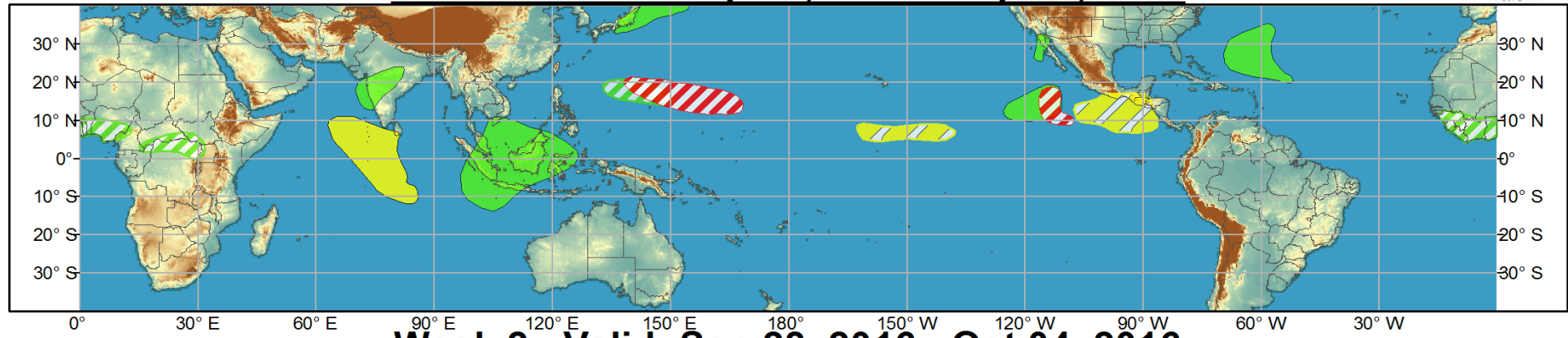
DASHED BLACK LINES ARE CLIMATE
(TENTH OF INCHES) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
UNSHADED AREAS ARE NEAR-NORMAL



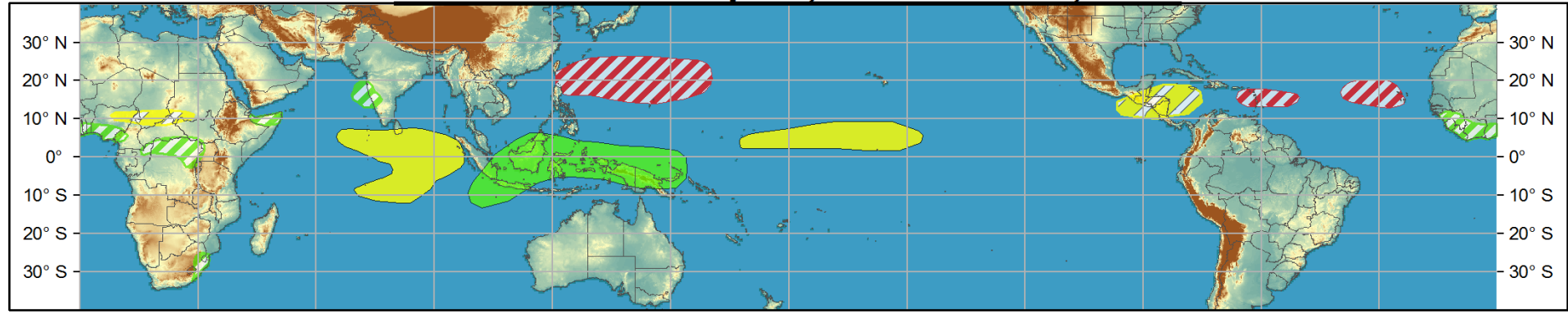


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