

Global Tropics Hazards And Benefits Outlook

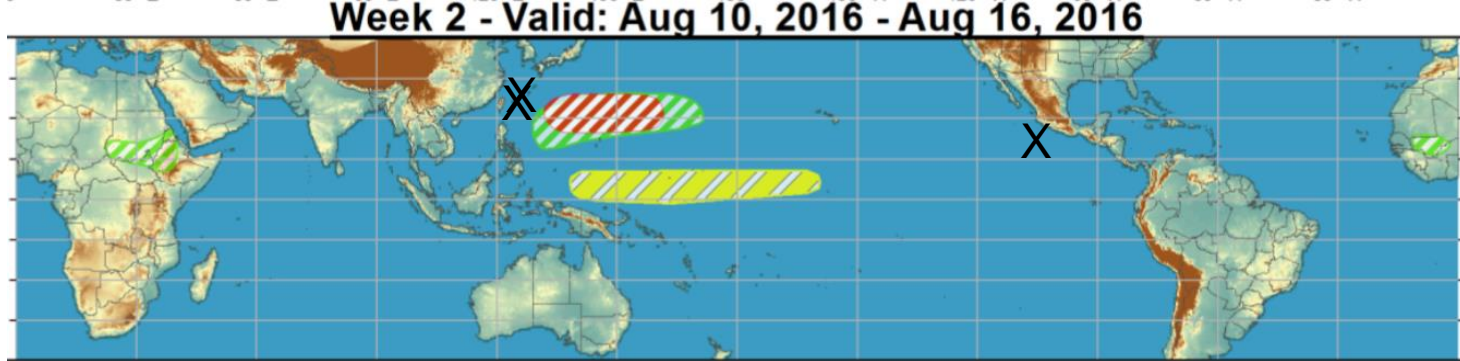
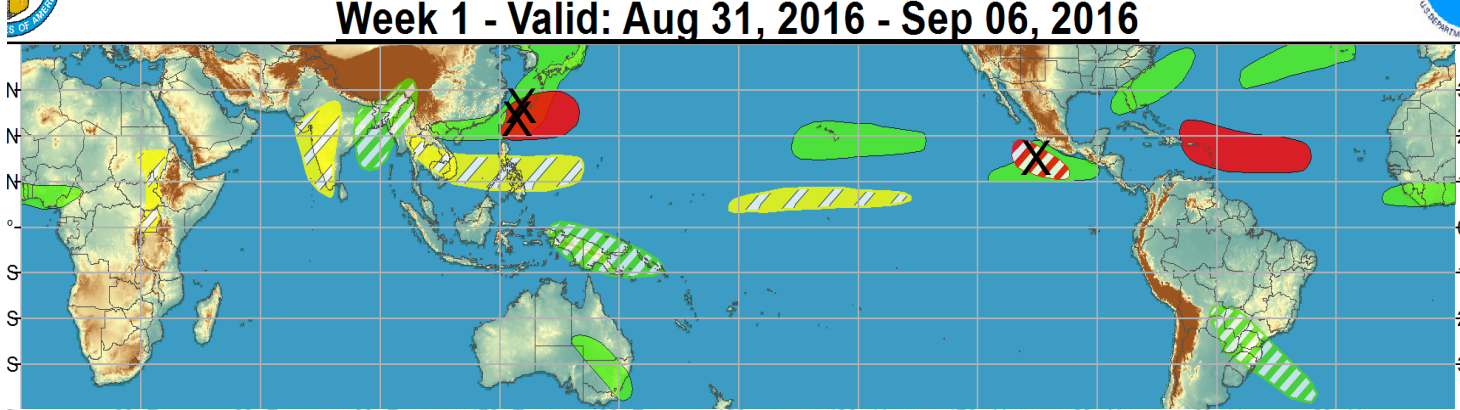
September 6, 2016

Dan Harnos

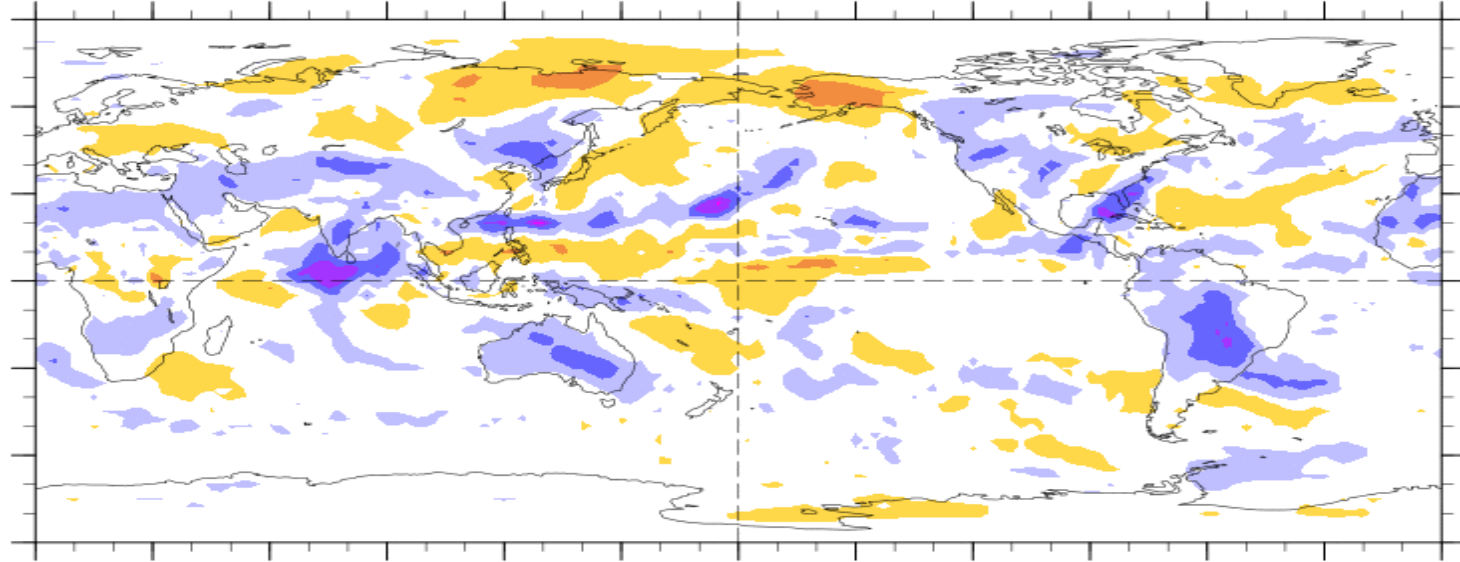
Outline

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

Outlook Review



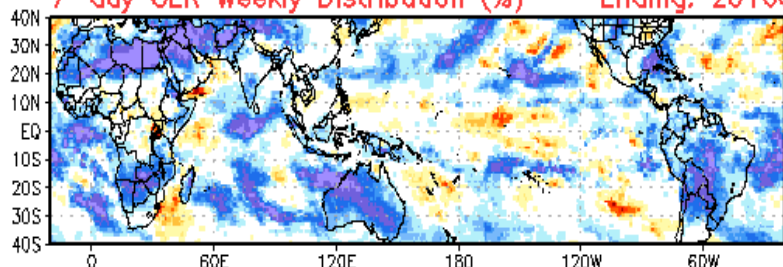
7-Day Average OLR Anomaly 2016/08/29 - 2016/09/04



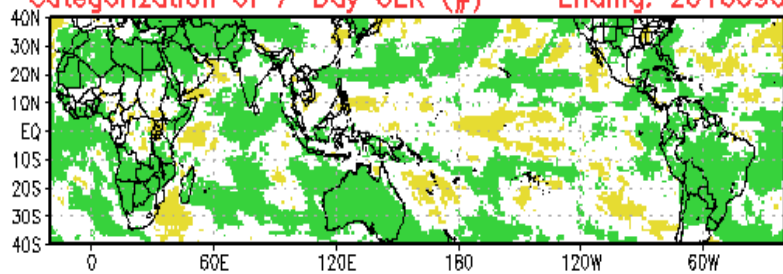
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

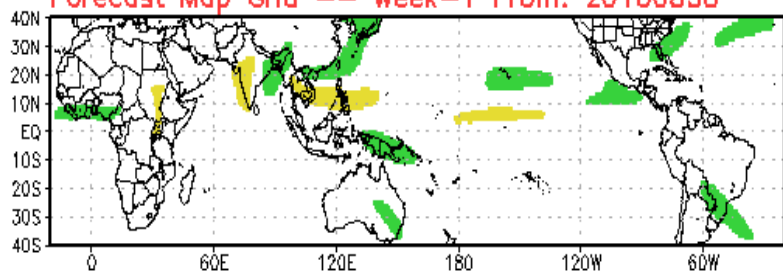
7-day OLR Weekly Distribution (%) -- Ending: 20160906



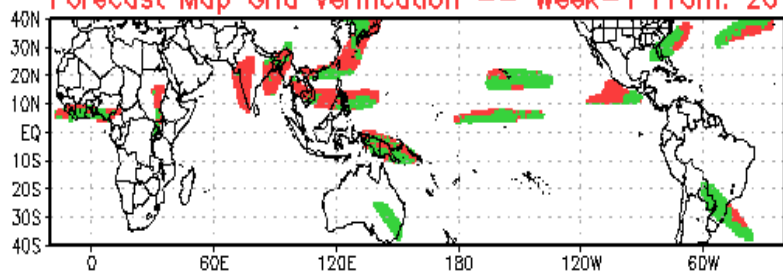
Categorization of 7-Day OLR (#) -- Ending: 20160906



Forecast Map Grid -- Week-1 From: 20160830

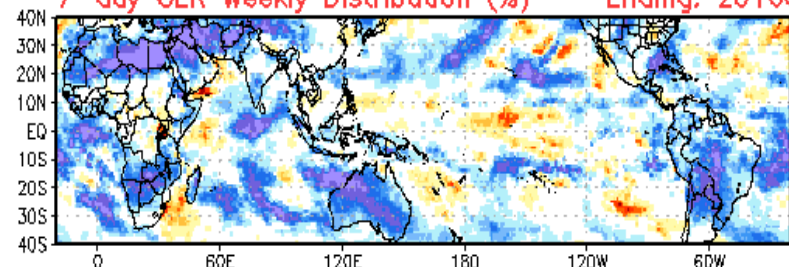


Forecast Map Grid Verification -- Week-1 From: 20160830

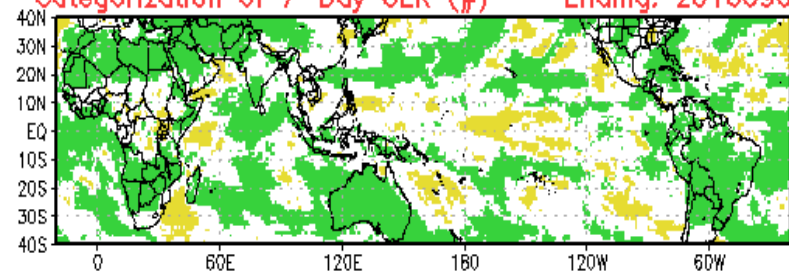


Hit: Green, Miss: Red
Heidke Skill Score: 31.0967

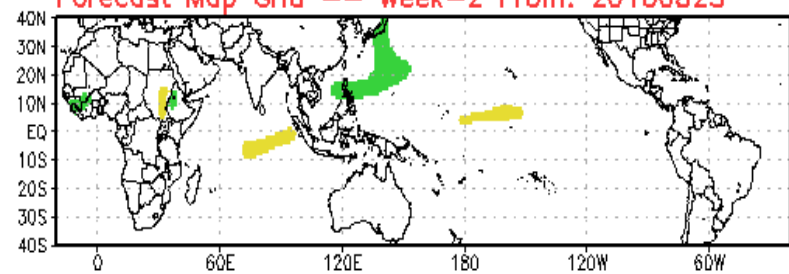
7-day OLR Weekly Distribution (%) -- Ending: 20160906



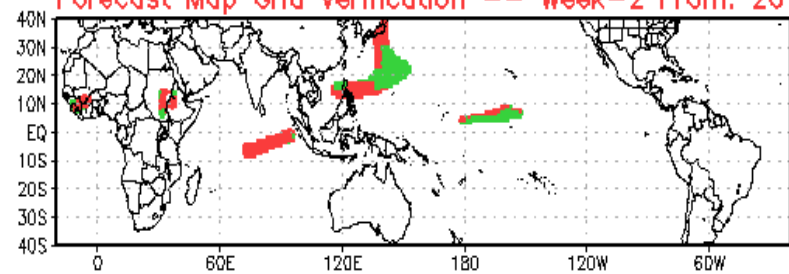
Categorization of 7-Day OLR (#) -- Ending: 20160906



Forecast Map Grid -- Week-2 From: 20160823



Forecast Map Grid Verification -- Week-2 From: 20160823



Hit: Green, Miss: Red
Heidke Skill Score: 12.2512

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:

- Weakness present in MJO indices.
- Dynamical models fall within two clusters of solutions: one supporting general weakness of the MJO during the coming two weeks (most models), the other suggesting emergence of a new MJO signal during week-2 over Africa or the Indian Ocean (discounted solution).
- Equatorial Rossby wave activity expected to continue across the Maritime Continent vicinity.

Extratropics:

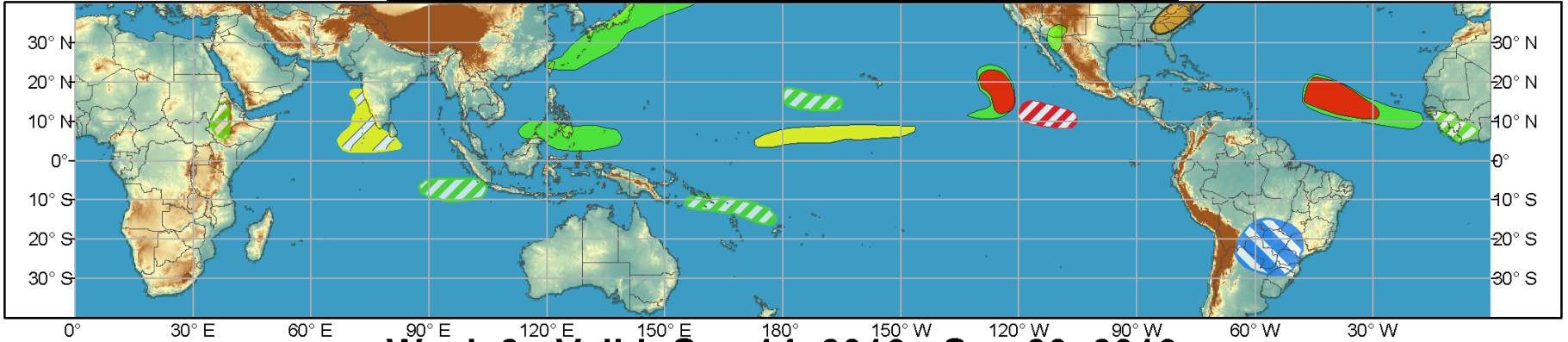
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO. If the MJO did emerge over the Indian Ocean, tropical cyclogenesis probabilities would be increased across the east Pacific and Atlantic.



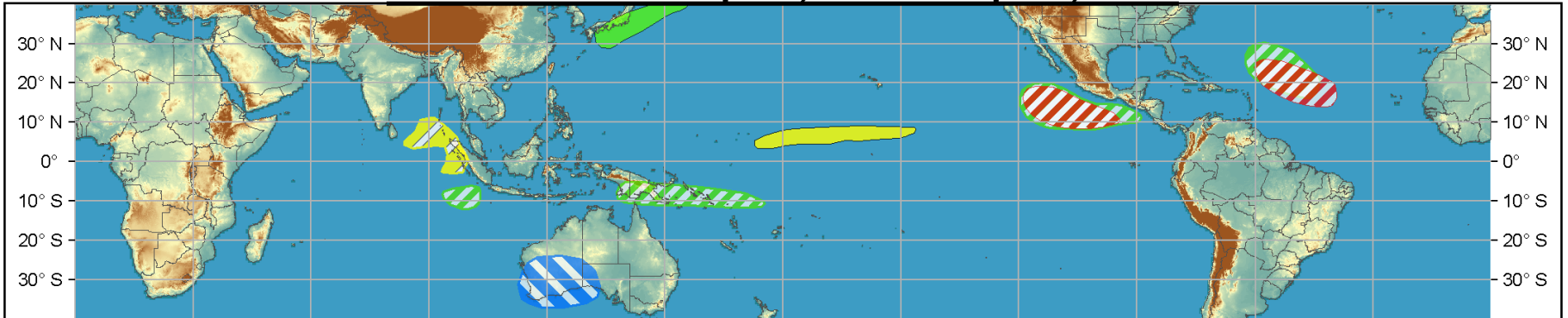
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Sep 07, 2016 - Sep 13, 2016



Week 2 - Valid: Sep 14, 2016 - Sep 20, 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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 09/06/2016
Forecaster: D.Harnos

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

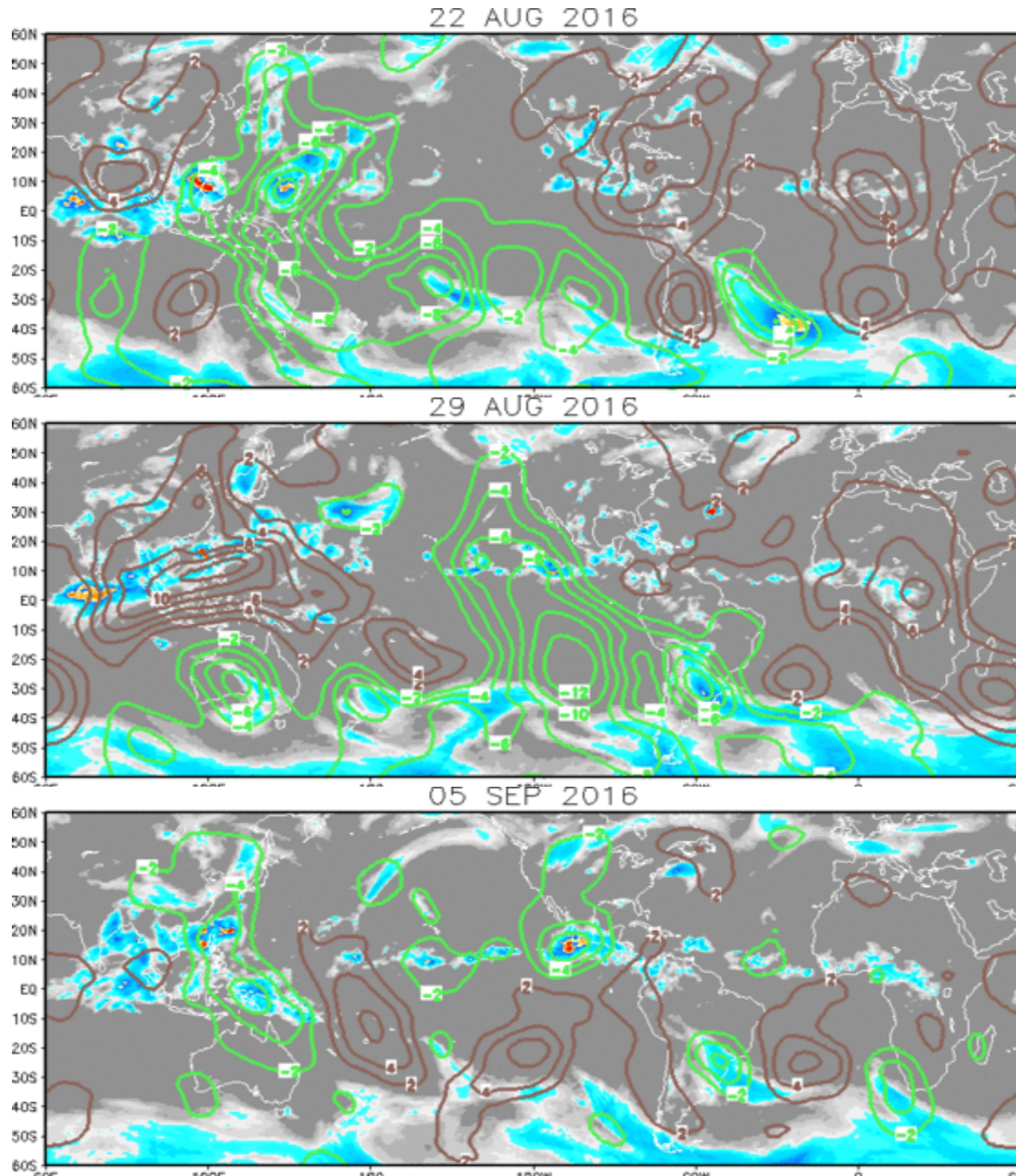
Green: Enhanced Divergence

Brown: Enhanced Convergence

Wave-1 pattern with enhanced (suppressed) convection across the west and central Pacific (Americas, Africa, and Indian Ocean).

IR indicates convection displaced from expectations with velocity potential pattern.

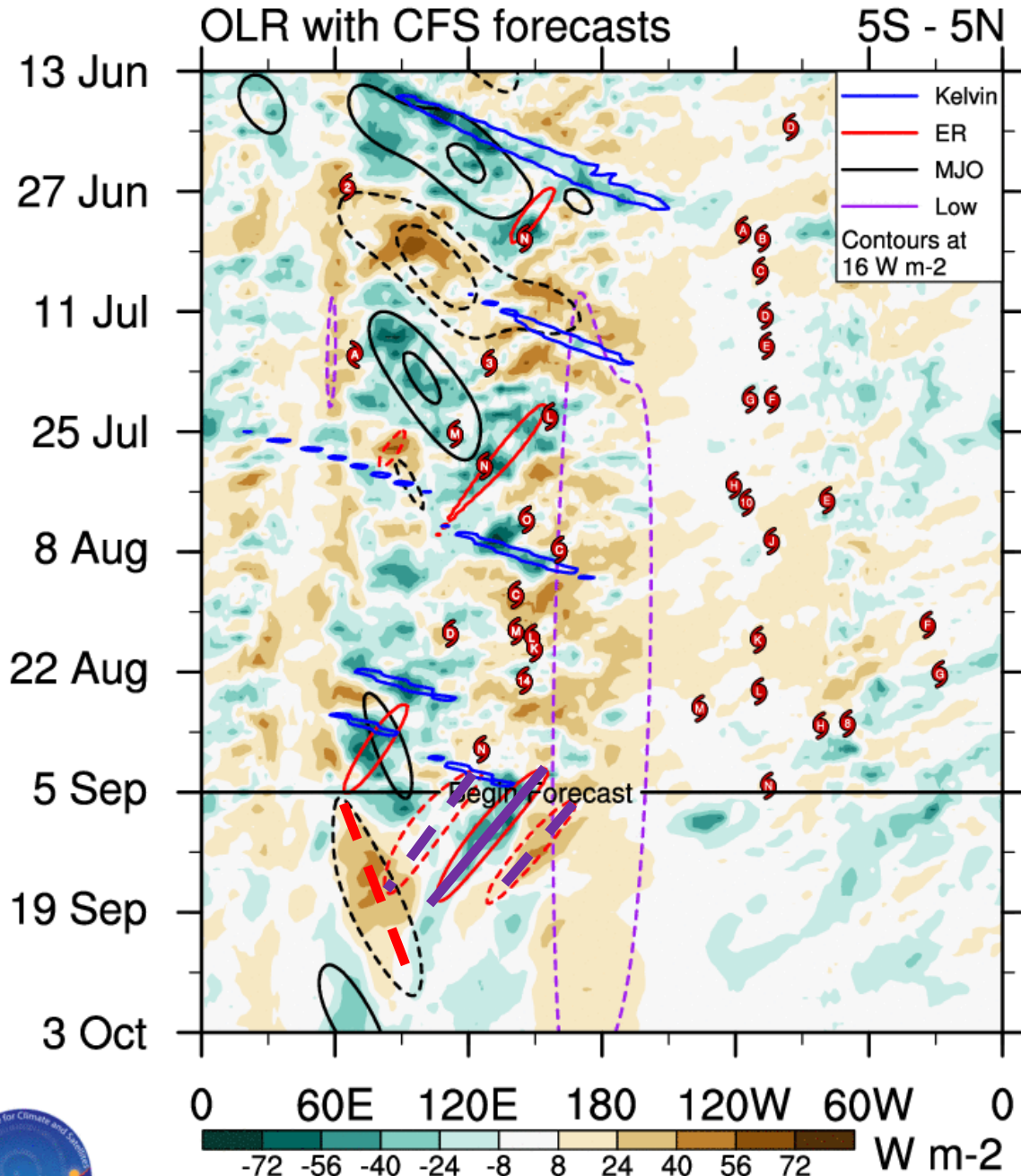
Convection aligns better with circulation expectations but velocity potential anomalies have weakened notably relative to preceding two weeks.



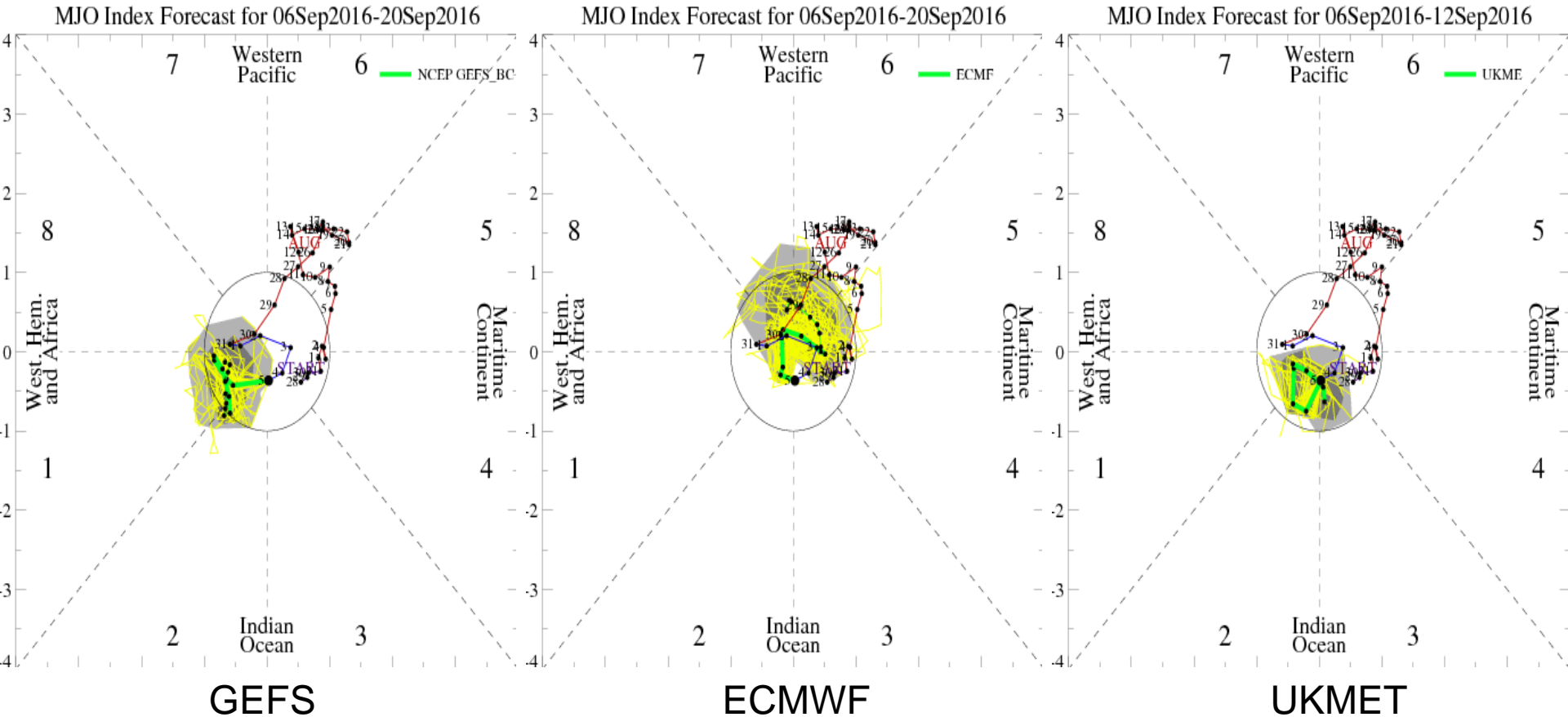
Recent **Kelvin wave** activity in the Indian Ocean expected to subside.

Active **Rossby wave** activity continuing across the Maritime Continent.

Suppressed phase of **MJO** emerging over Indian Ocean???



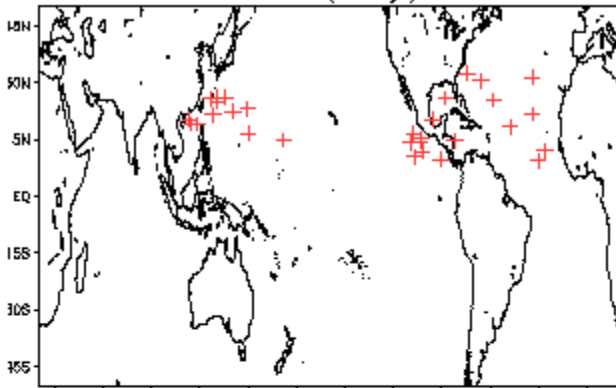
MJO Observation/Forecast



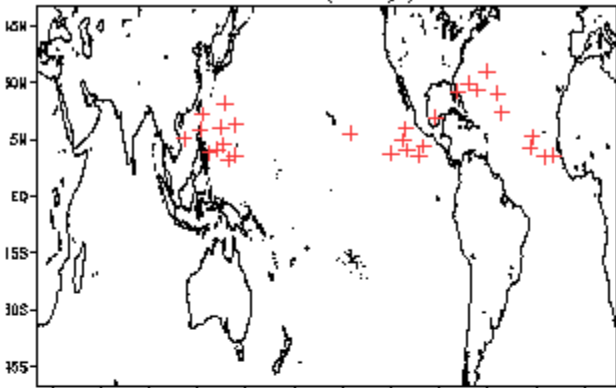
The GEFS strengthens the MJO signal with some ensemble members supporting the MJO emerging over Africa or the Indian Ocean late in week-2. The ECWFMF and UKMet solutions support continued weakness in the MJO.

September Tropical Storm Formation by MJO phase

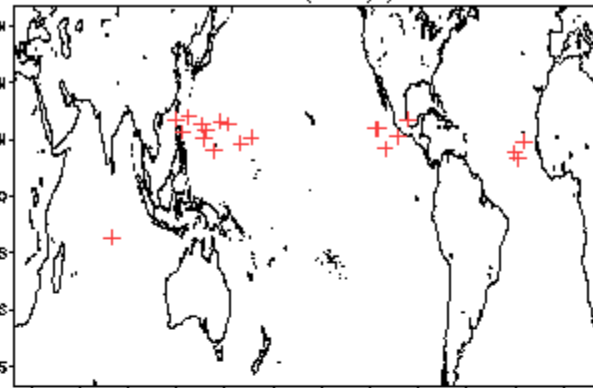
Phase 1 (81 days) 31 storms



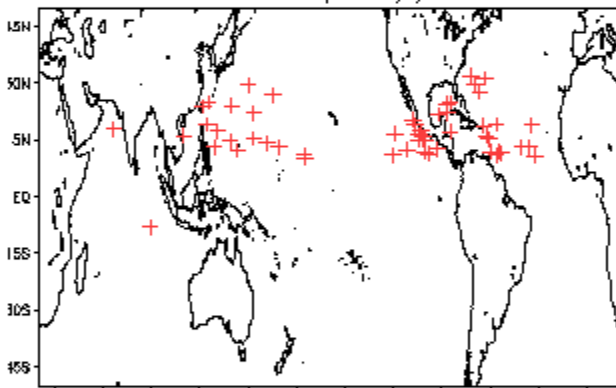
Phase 4 (70 days) 30 storms



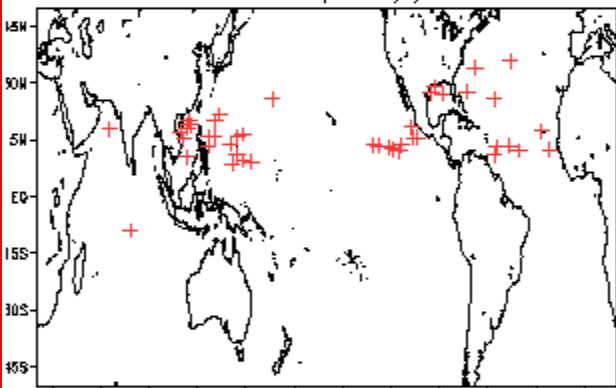
Phase 7 (38 days) 22 storms



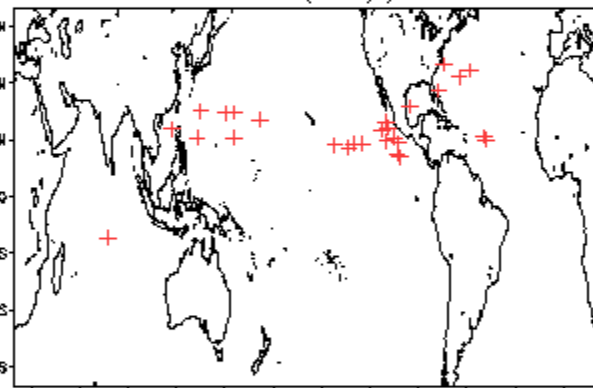
Phase 2 (122 days) 56 storms



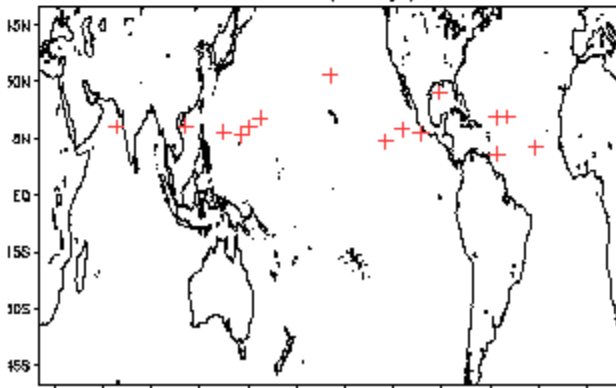
Phase 5 (106 days) 45 storms



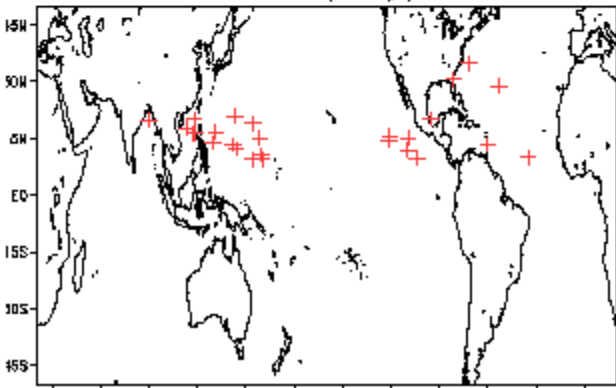
Phase 8 (67 days) 29 storms



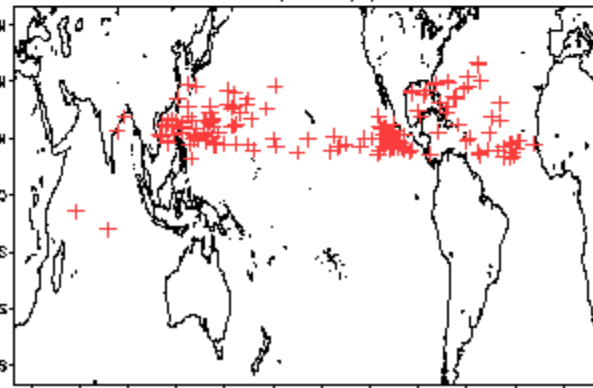
Phase 3 (51 days) 18 storms



Phase 6 (61 days) 27 storms



Null (393 days) 189 storms



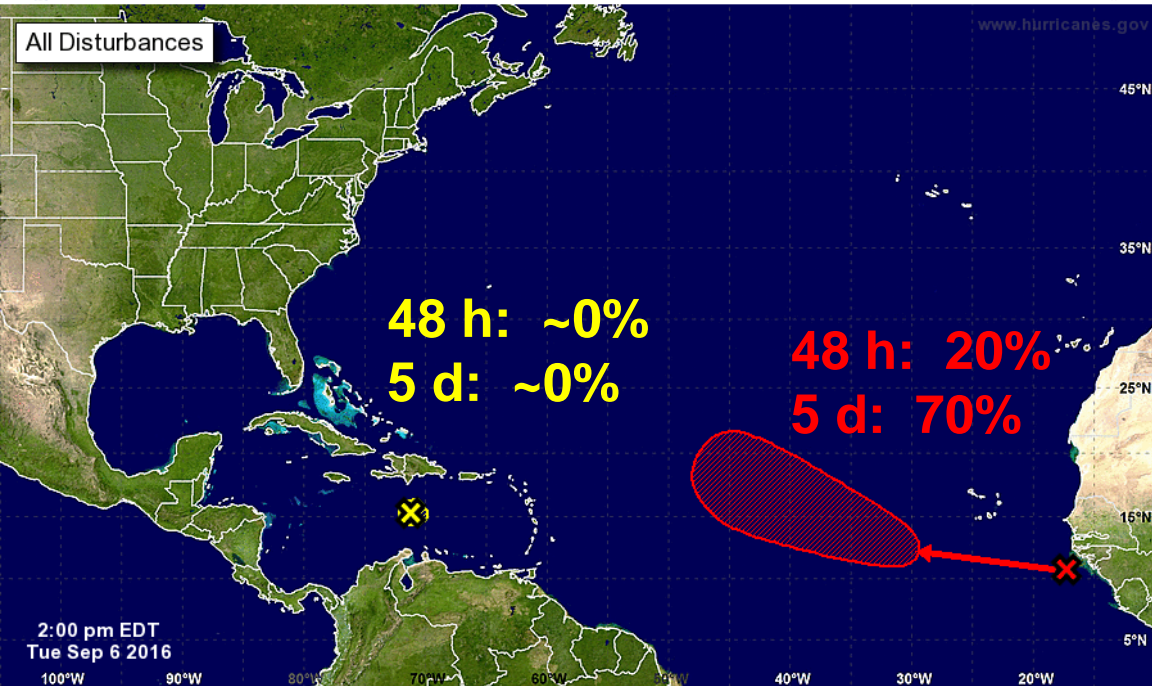


Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Graphical Tropical Weather Outlook



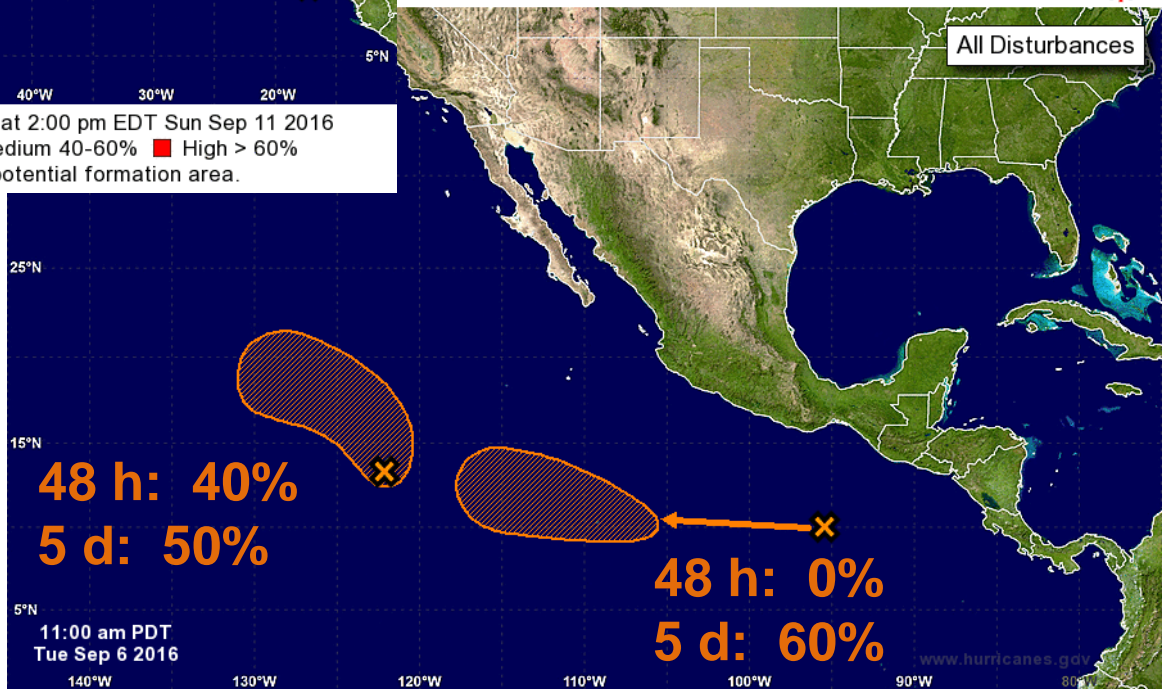
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 2:00 pm EDT Sun Sep 11 2016

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

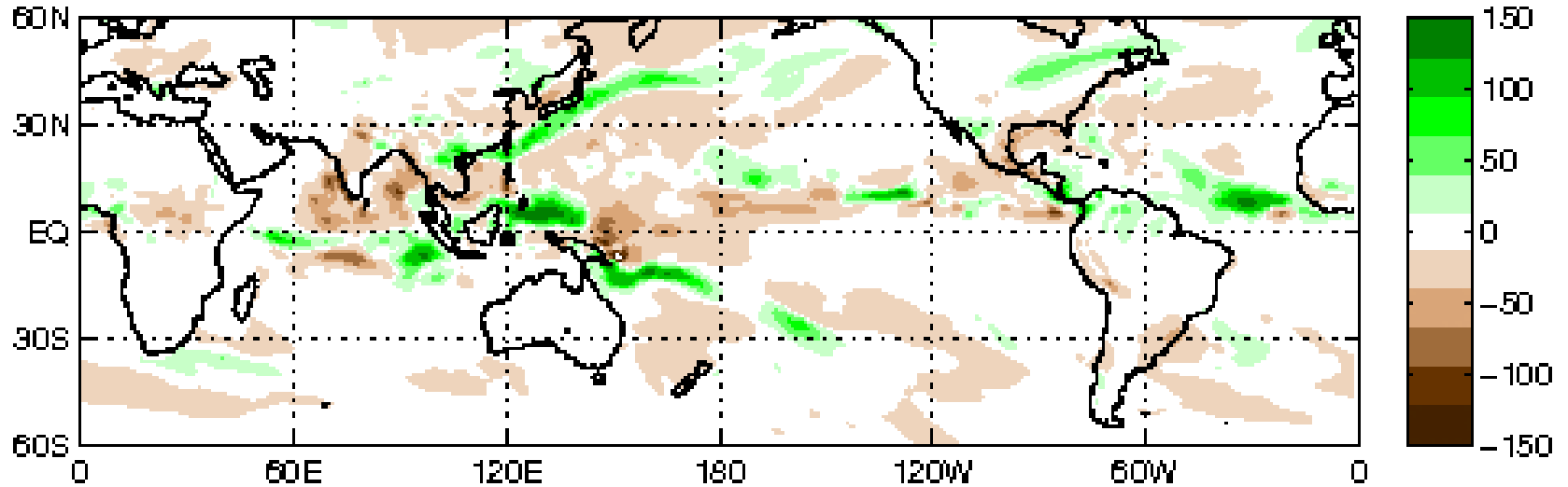


Tropical Cyclone Formation Potential for the Five-Day Period Ending at 11:00 am PDT Sun Sep 11 2016

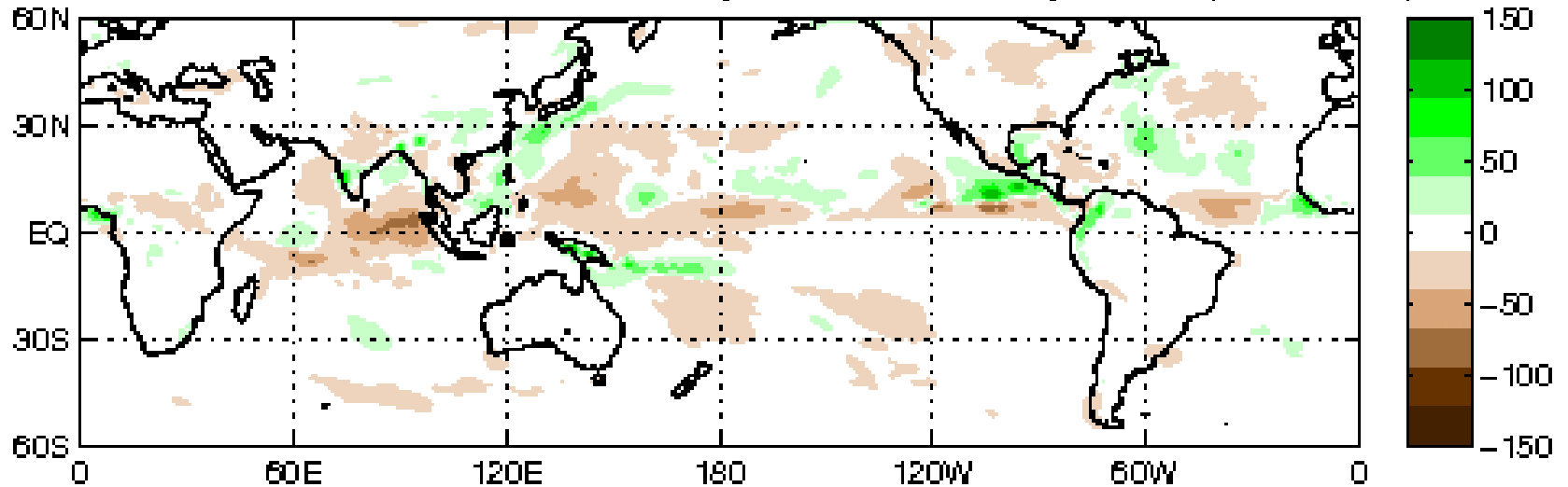
Chance of Cyclone Formation in Five Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%

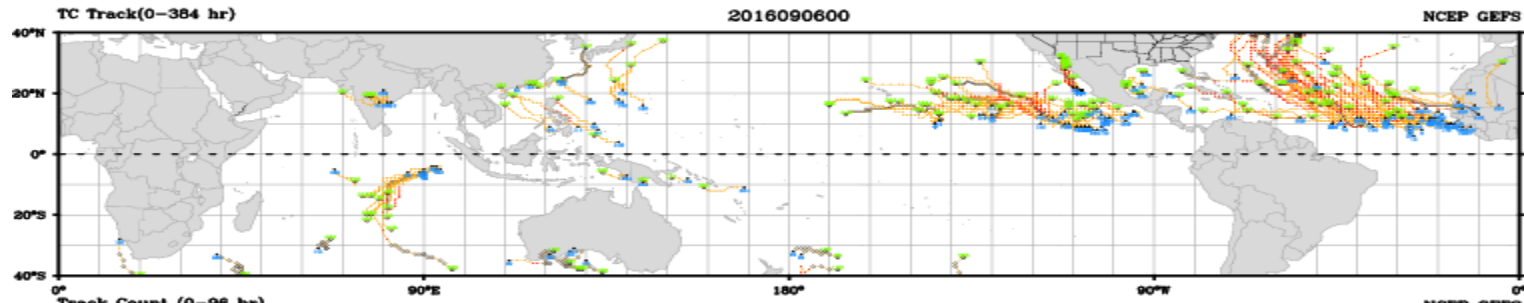
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CFS: Anom. PREC Week: 1: 07-Sep-2016 to 13-Sep-2016 (mm/week)

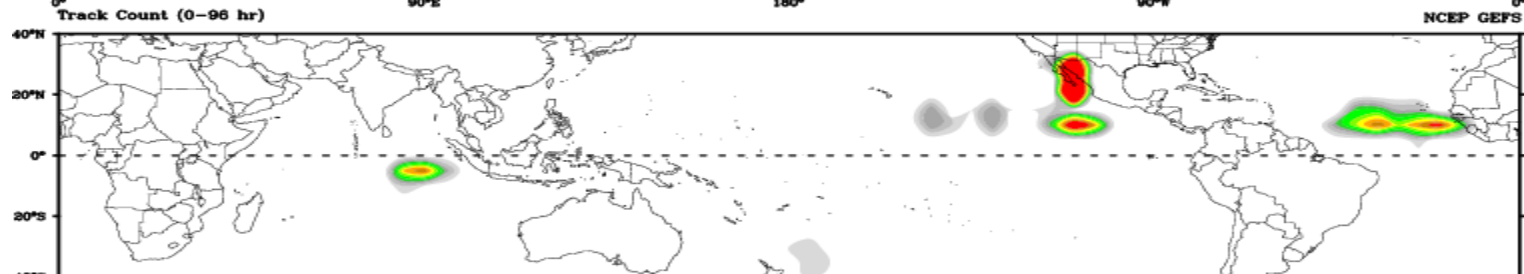


CFS: Anom. PREC Week: 2: 14-Sep-2016 to 20-Sep-2016 (mm/week)

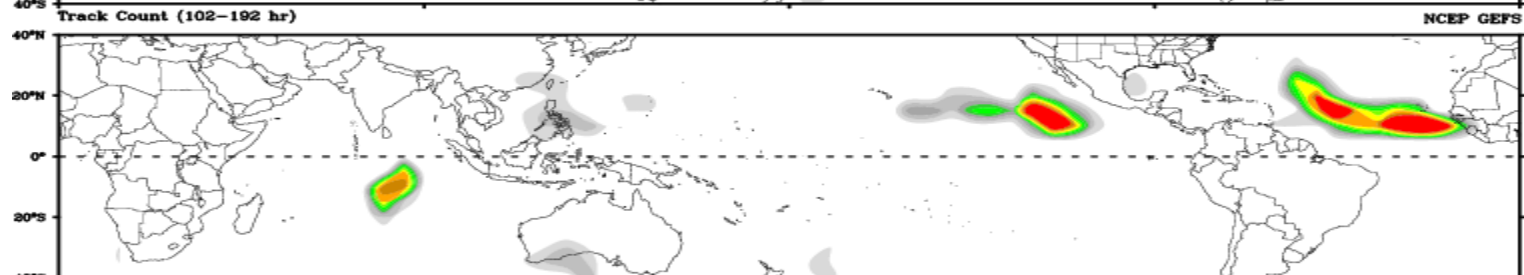




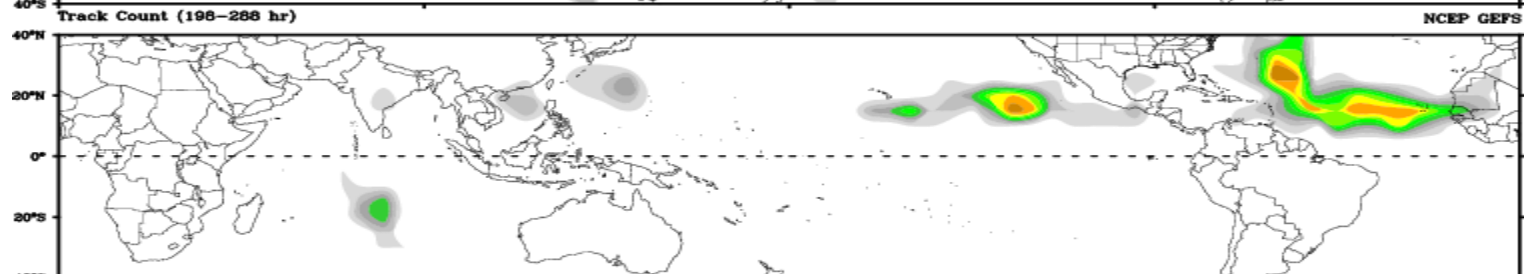
Days 1-4



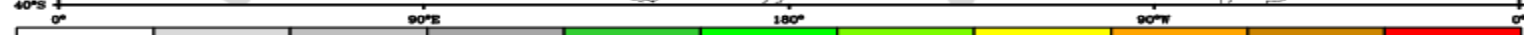
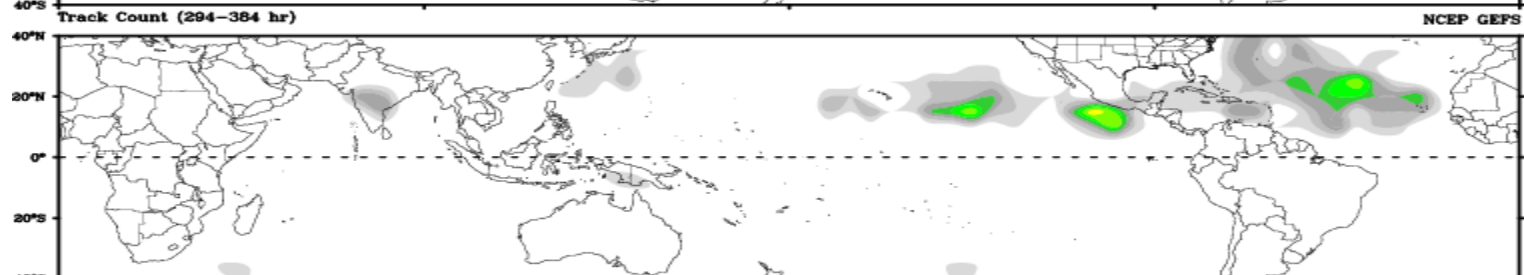
Day 5-8



Day 9-12

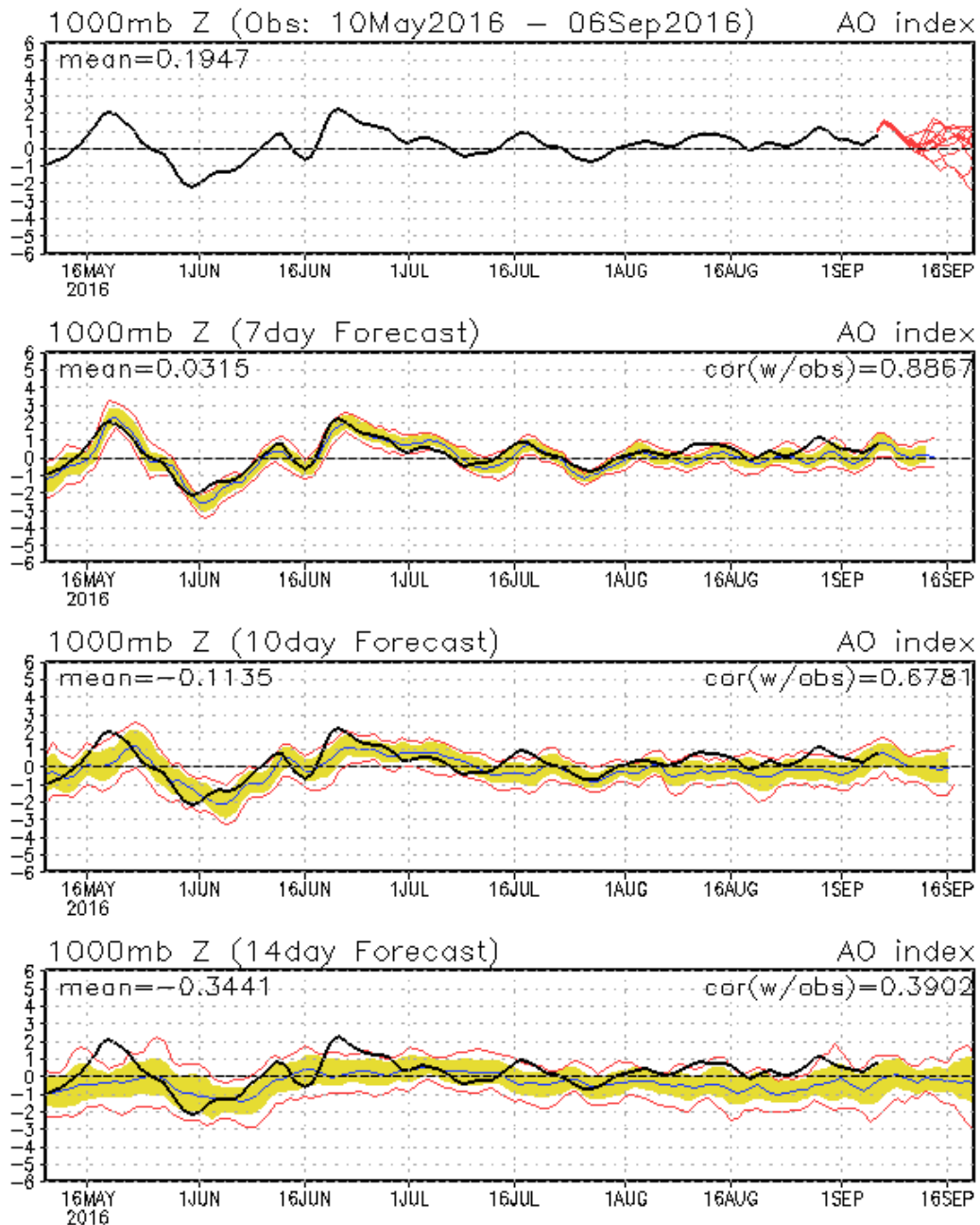


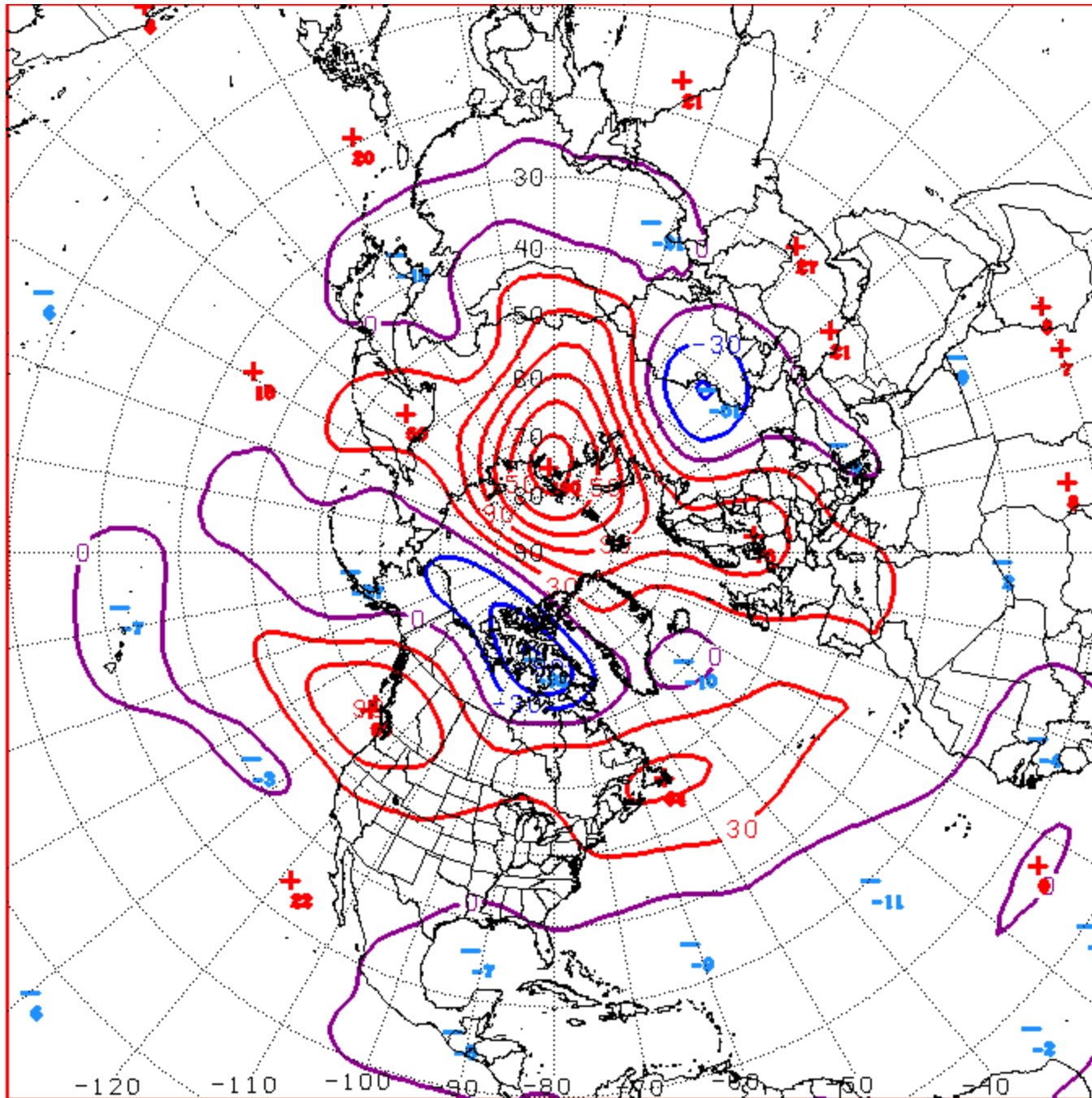
Day 13-15



Connections to U.S. Impacts

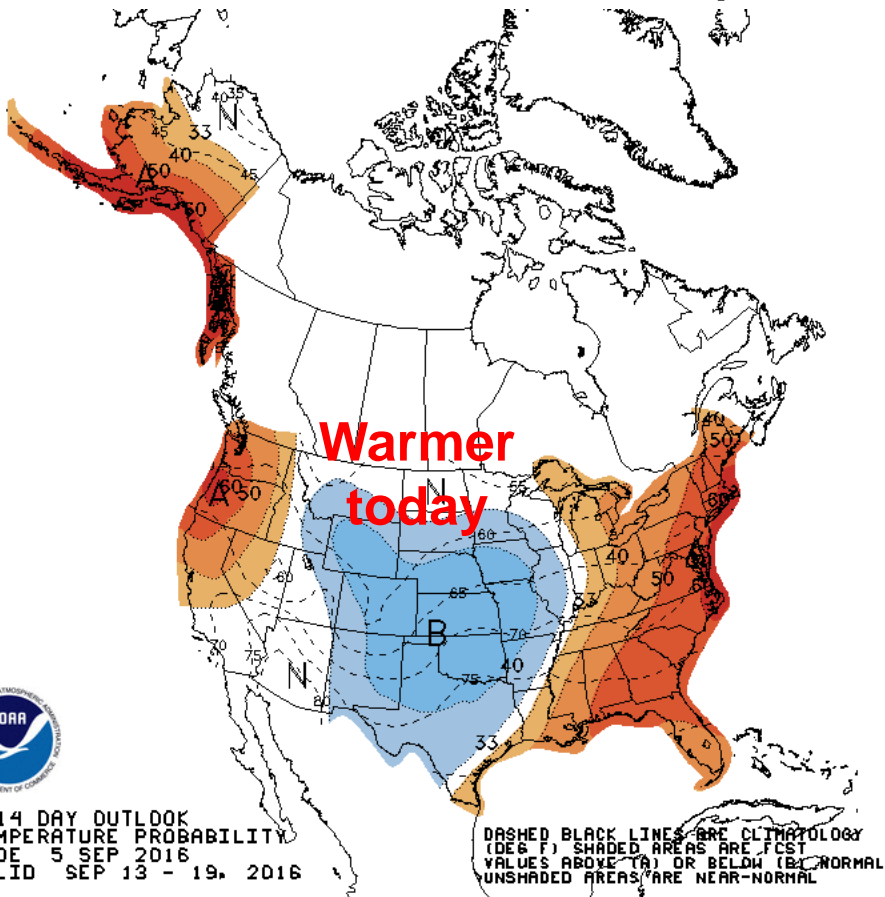
AO: Observed & ENSM forecasts



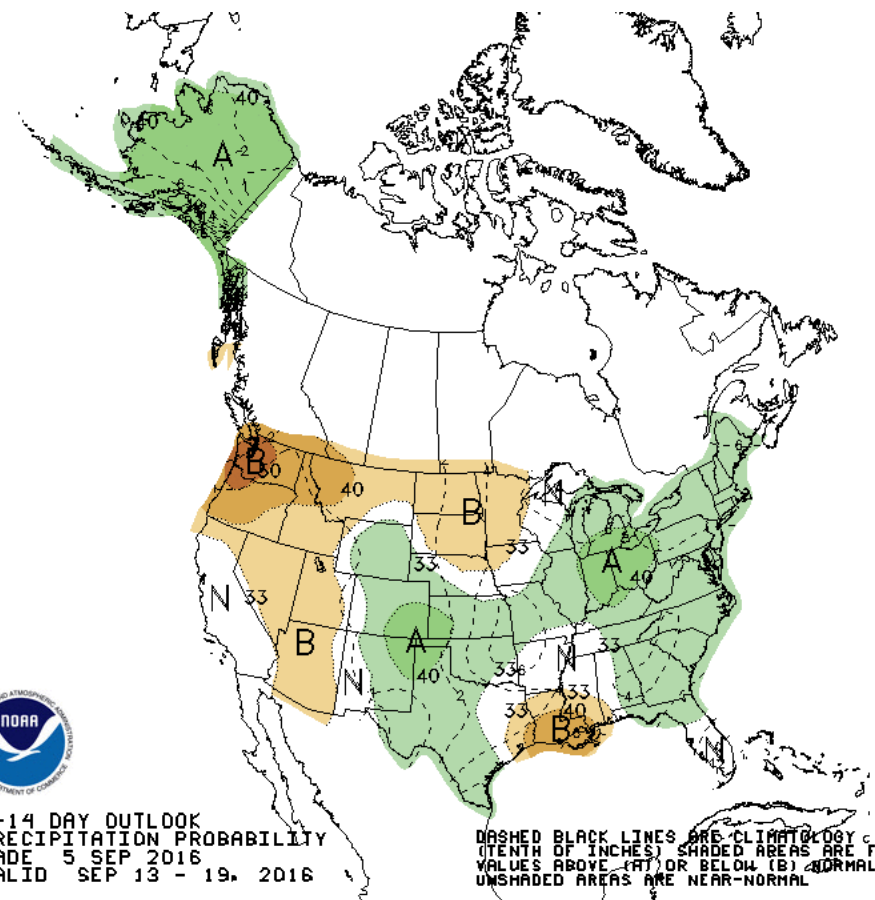
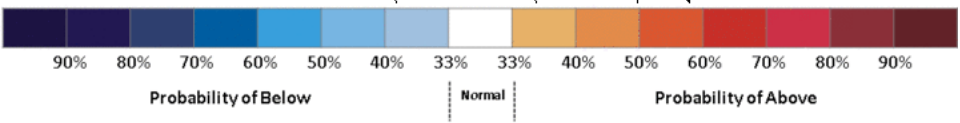


D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE SEP 06 2016 1258 UTC CNTD SEP 17 2016

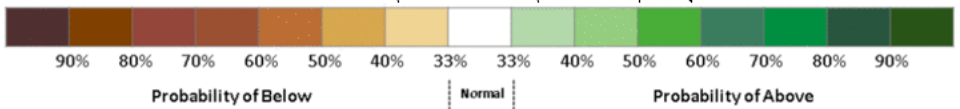
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 5 SEP 2016
VALID SEP 13 - 19, 2016



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 5 SEP 2016
VALID SEP 13 - 19, 2016

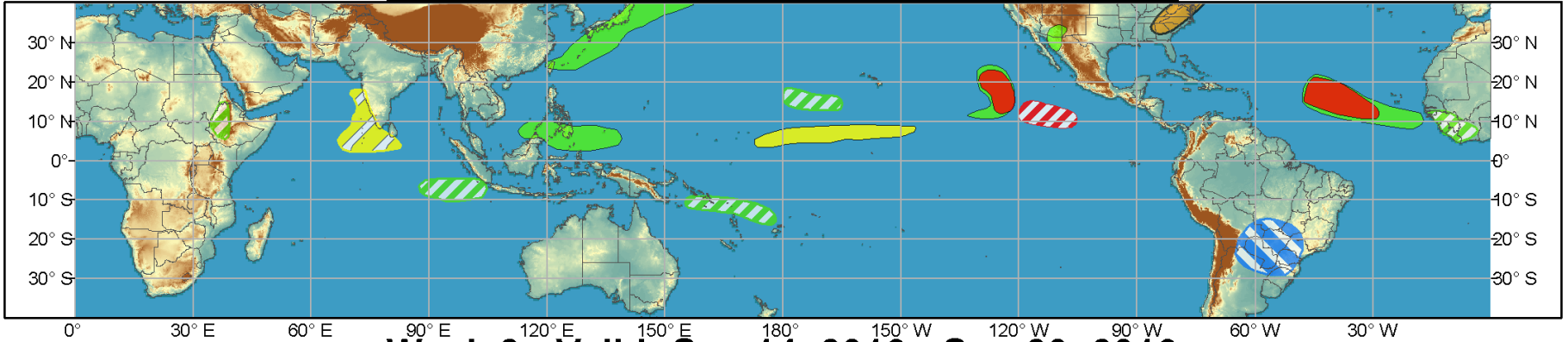




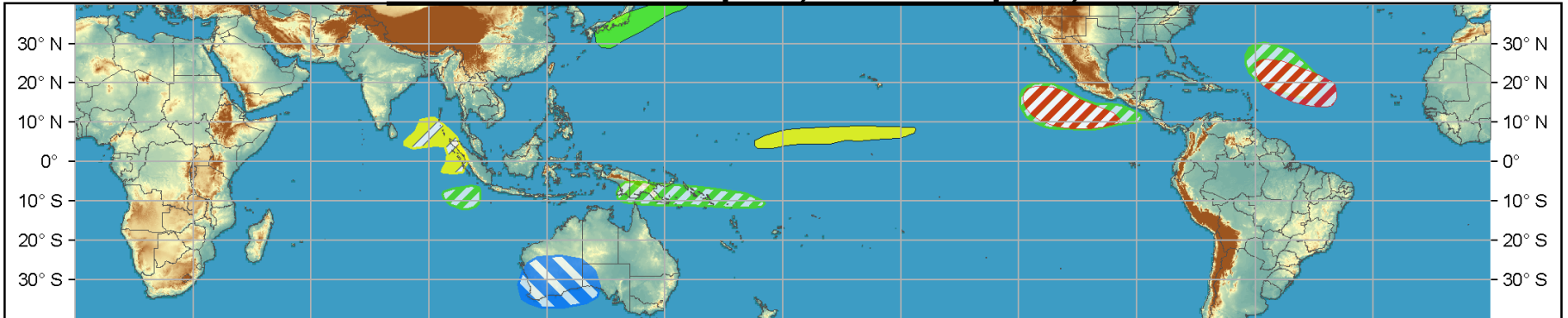
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