

Global Tropics Hazards And Benefits Outlook

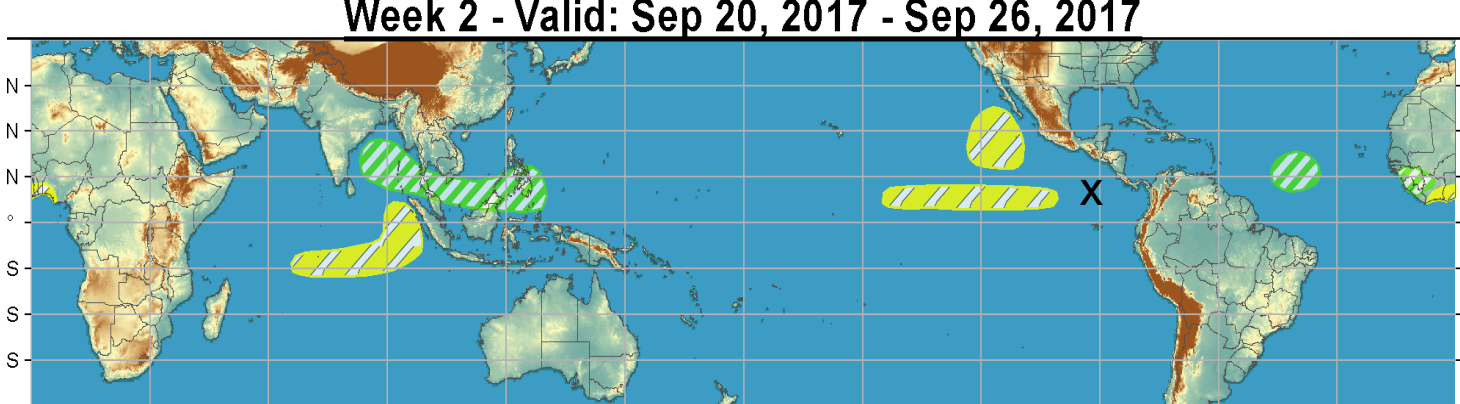
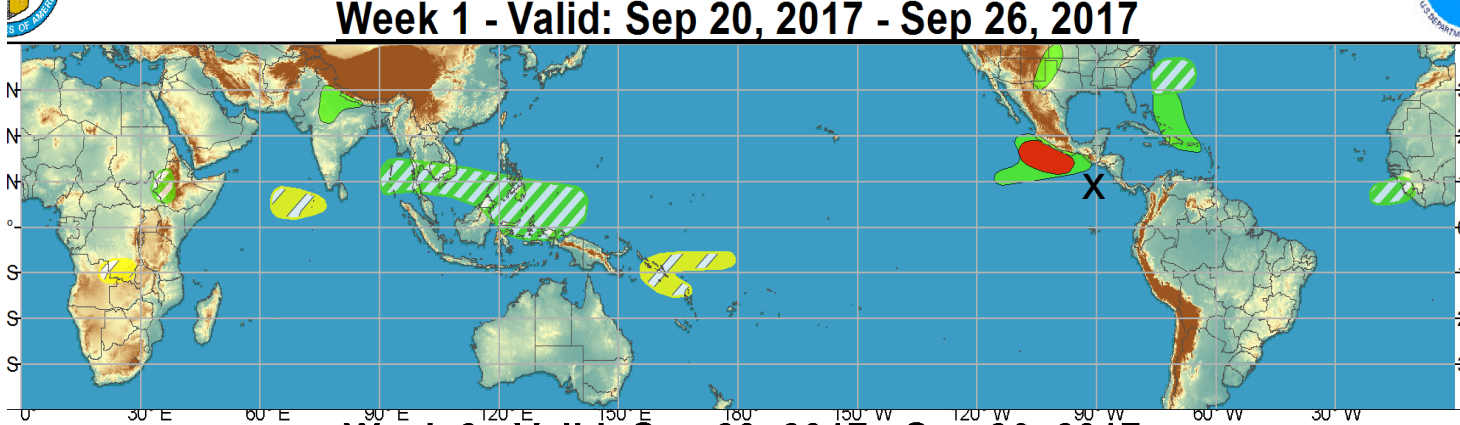
9/26/2017

Matthew Rosencrans

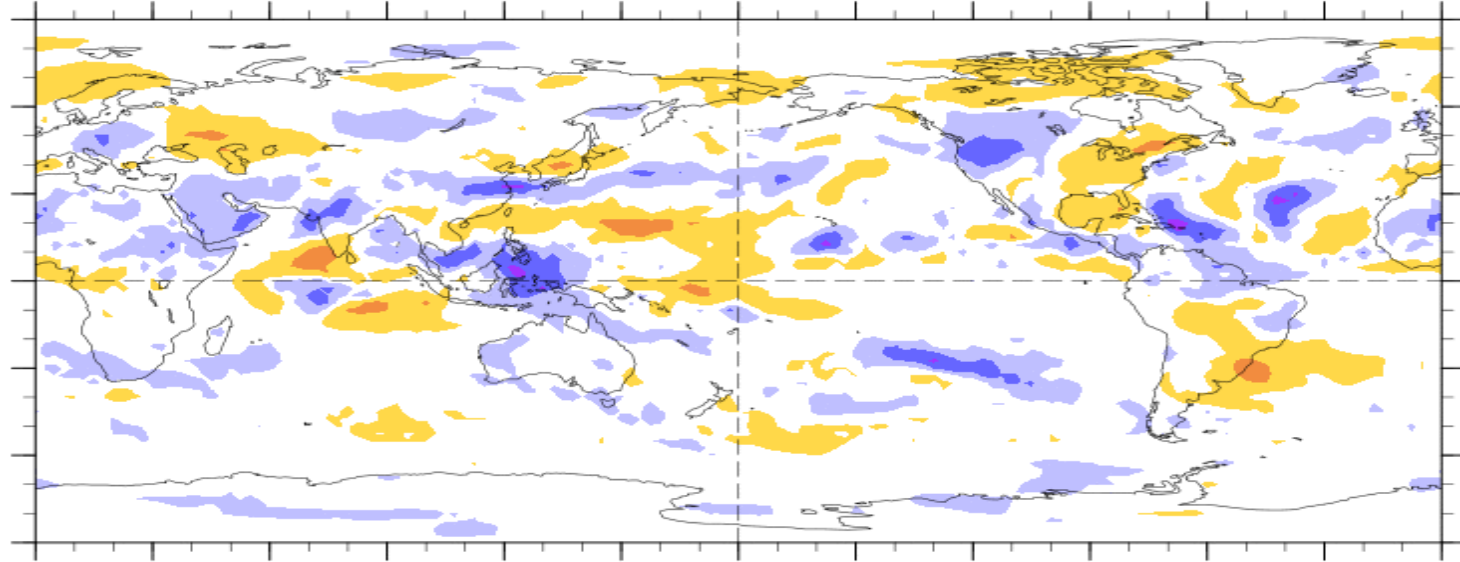
Outline

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

Outlook Review



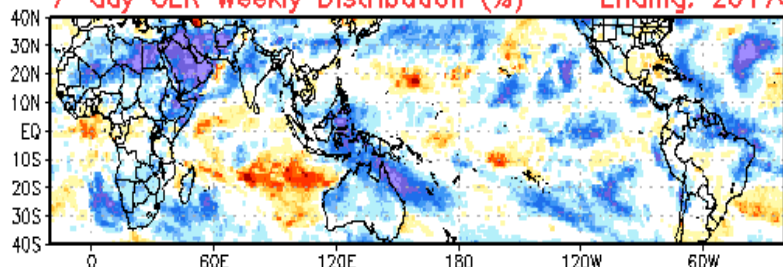
7-Day Average OLR Anomaly 2017/09/18 - 2017/09/24



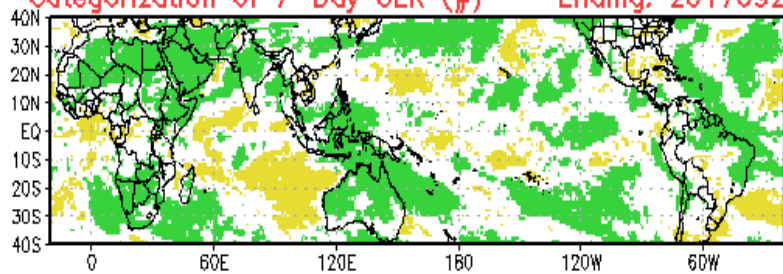
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

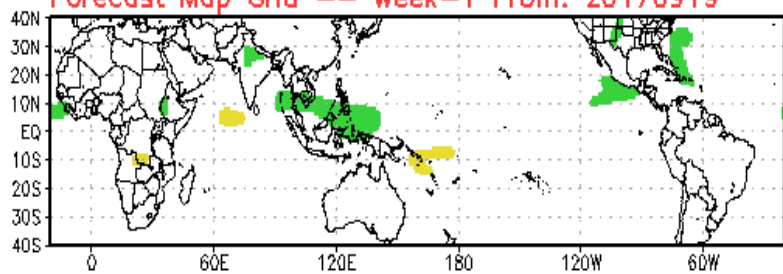
7-day OLR Weekly Distribution (%) -- Ending: 20170926



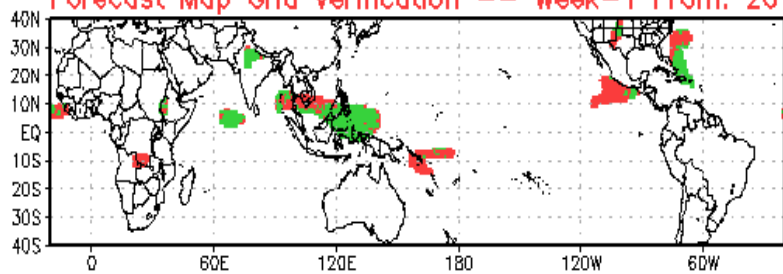
Categorization of 7-Day OLR (#) -- Ending: 20170926



Forecast Map Grid -- Week-1 From: 20170919

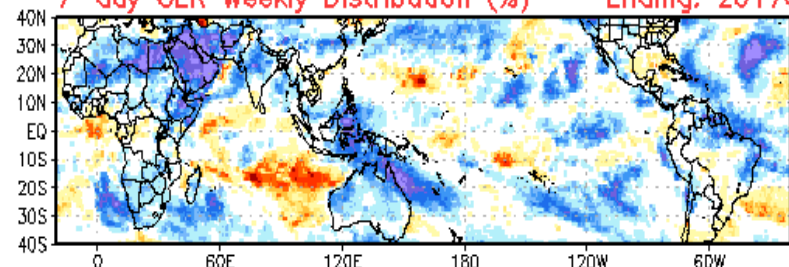


Forecast Map Grid Verification -- Week-1 From: 20170919

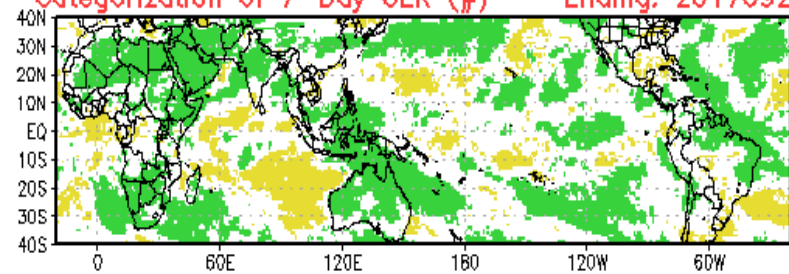


Hit: Green, Miss: Red
Heidke Skill Score: 28.2582

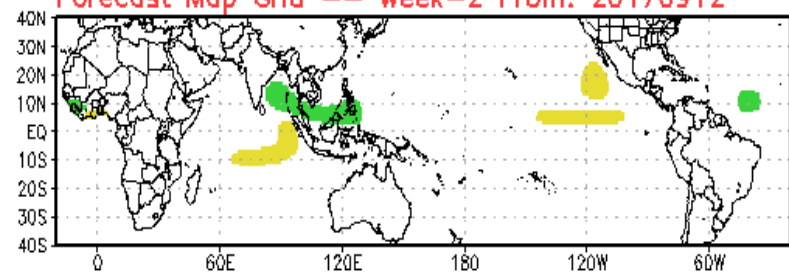
7-day OLR Weekly Distribution (%) -- Ending: 20170926



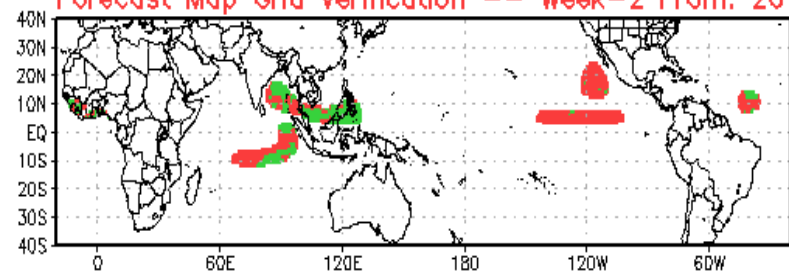
Categorization of 7-Day OLR (#) -- Ending: 20170926



Forecast Map Grid -- Week-2 From: 20170912



Forecast Map Grid Verification -- Week-2 From: 20170912



Hit: Green, Miss: Red
Heidke Skill Score: 4.5582

Synopsis of Climate Modes

ENSO:

- Increasing chance (~55-60%) of La Nina during the Northern Hemisphere fall and winter 2017-18.
- Forecasters favor latest dynamical models due to recent cooling of sea surface and subsurface temperatures across equatorial central Pacific.

MJO and other subseasonal tropical variability:

- The MJO remained of weak, with a weak signal over the West Pacific. An equatorial Rossby Wave is indicated over the Maritime Continent, with a couple of Kelvin Waves moving east also in some analyses.

-

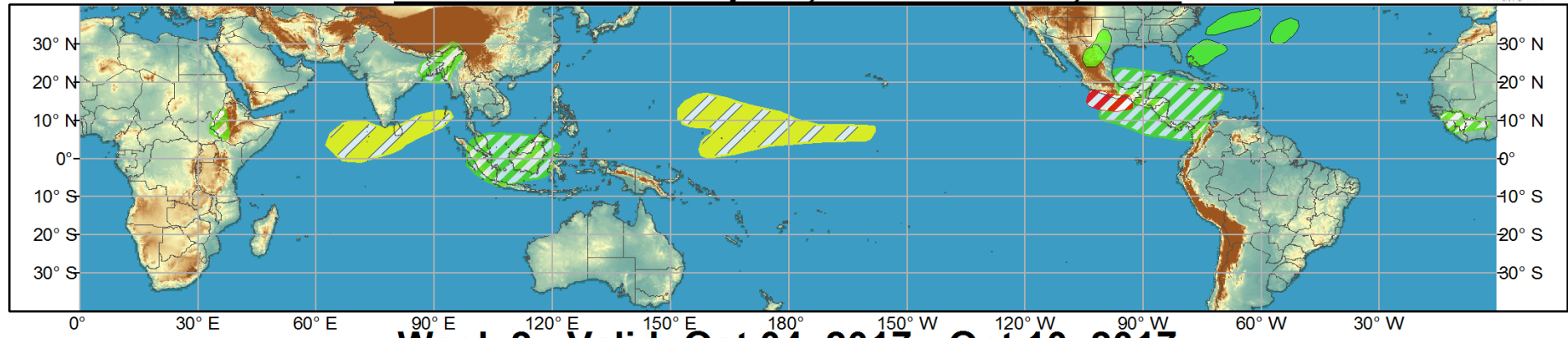
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by MJO activity (lagged impacts from Phase 7, during this time of year, are minimal over North America in the 5-15 day time period). The predicted pattern is consistent with even the small signals from a Phase 7 MJO.

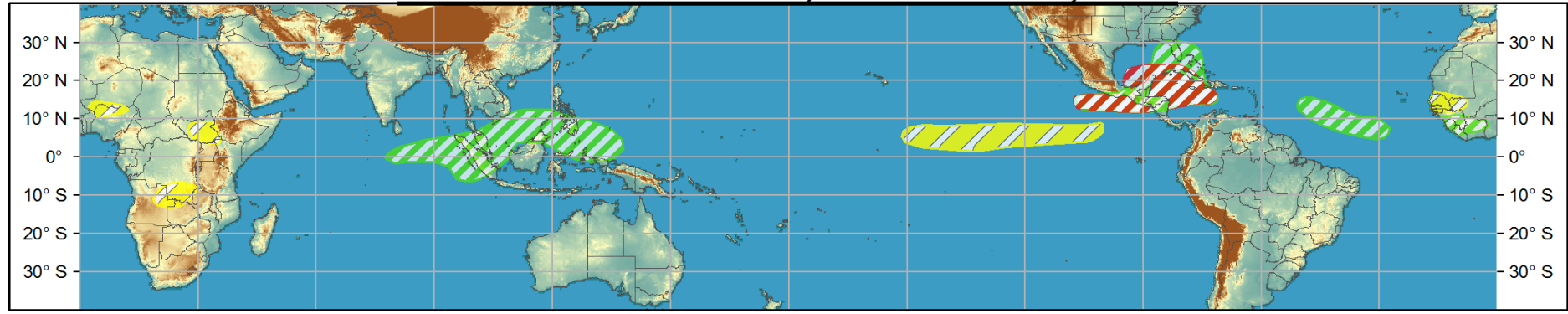


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Sep 27, 2017 - Oct 03, 2017



Week 2 - Valid: Oct 04, 2017 - Oct 10, 2017



Produced: 09/26/2017

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.
		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.



IR Satellite & 200-hpa Velocity Potential Anomalies

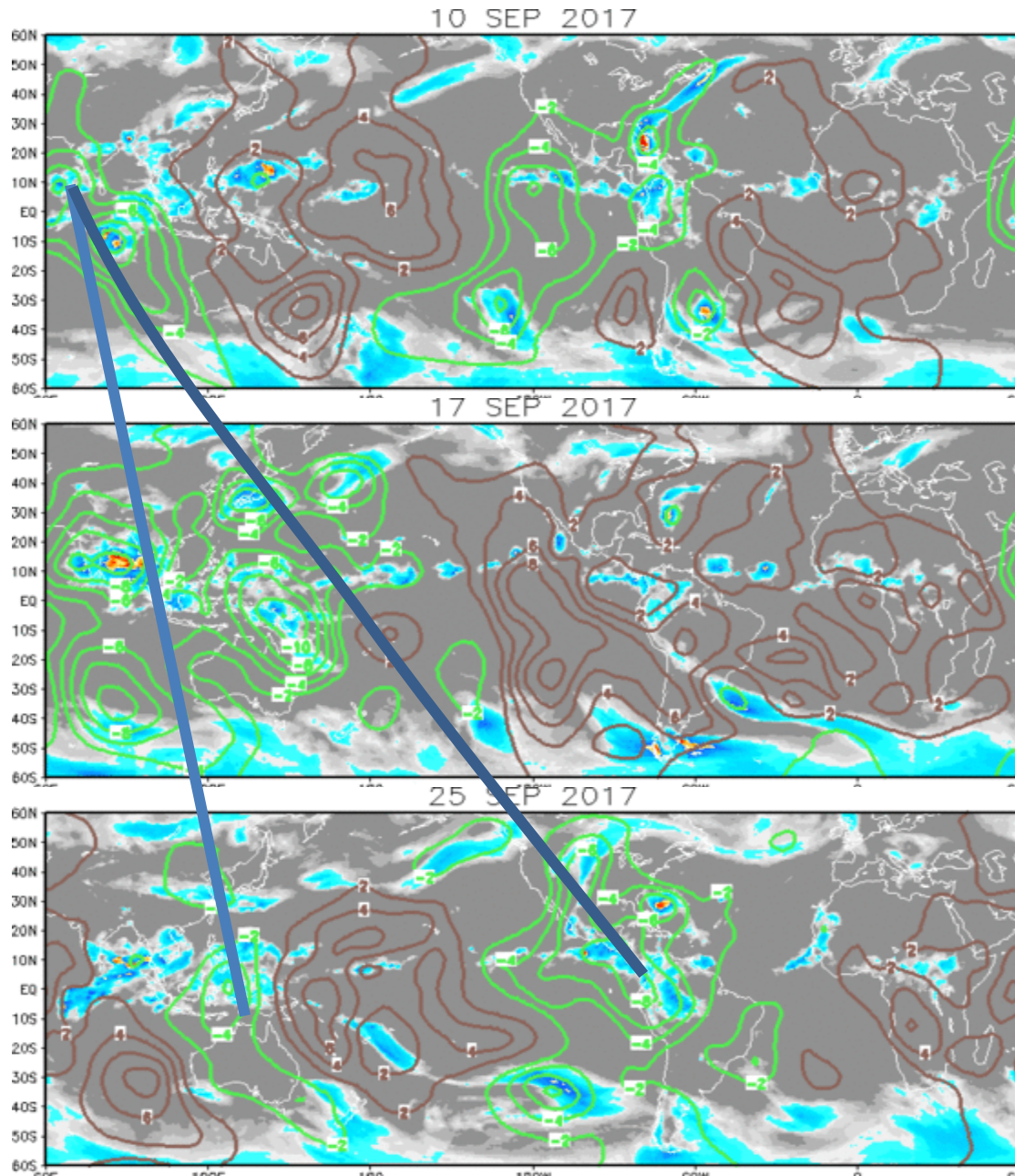
Green: Enhanced Divergence

Brown: Enhanced Convergence

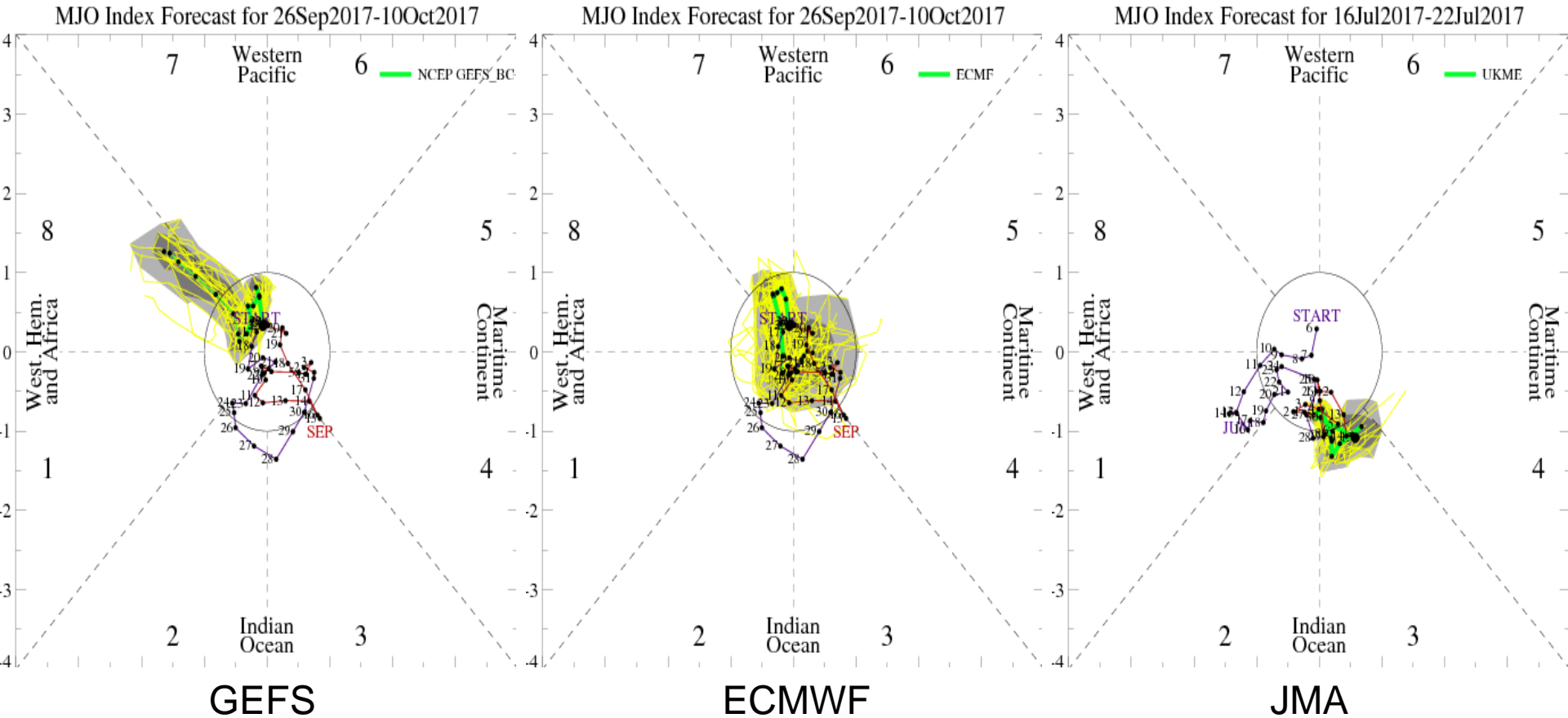
Wave-2 not projecting onto MJO.
Enhanced convection over
Indian Ocean and East
Pacific/Americas

Wave-1 with an MJO projection.
Enhanced convection over from
Indian Ocean to the West Pacific.

Wave-2 with weak MJO projection.
Convection over the West
Pacific/Maritime Continent and the
Americas.

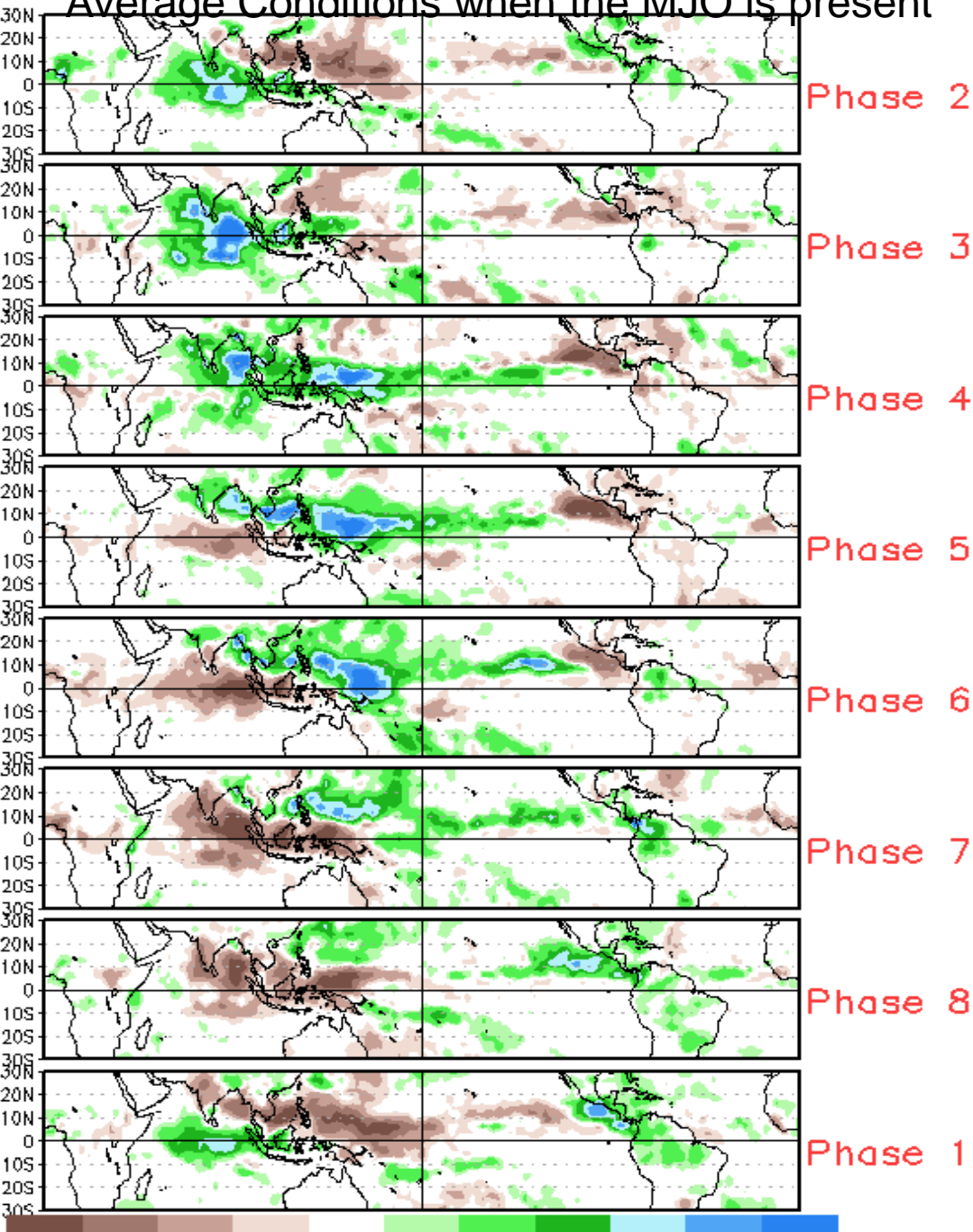


MJO Observation/Forecast



Wheeler-Hendon based analyses of model forecasts indicate propagation to the east. Divergence in how the models handle interaction with westward moving modes.

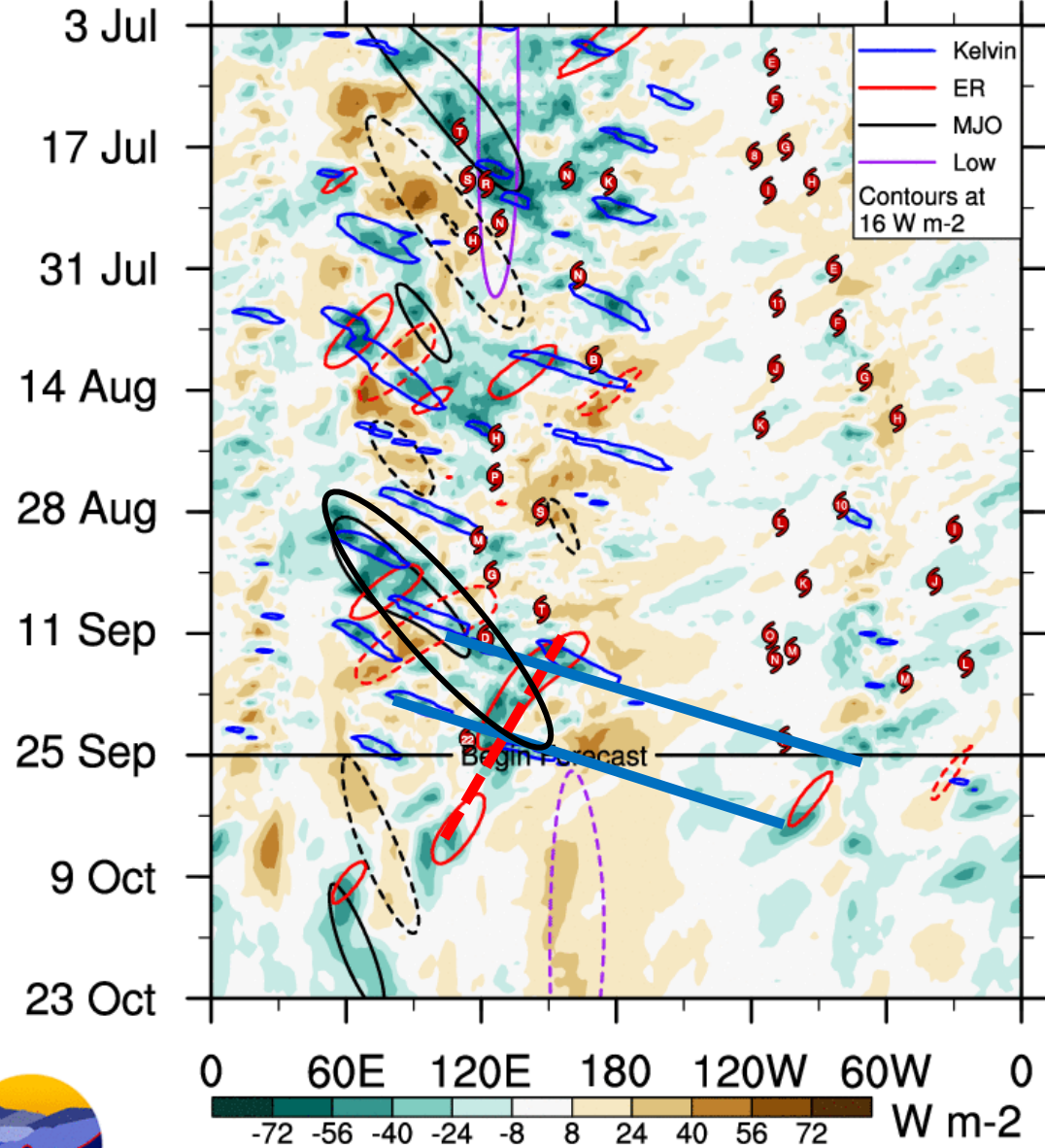
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

OLR with CFS forecasts

5S - 5N



MJO, Rossby wave and **Kelvin wave** having an influence

Low-frequency pattern less of an influence

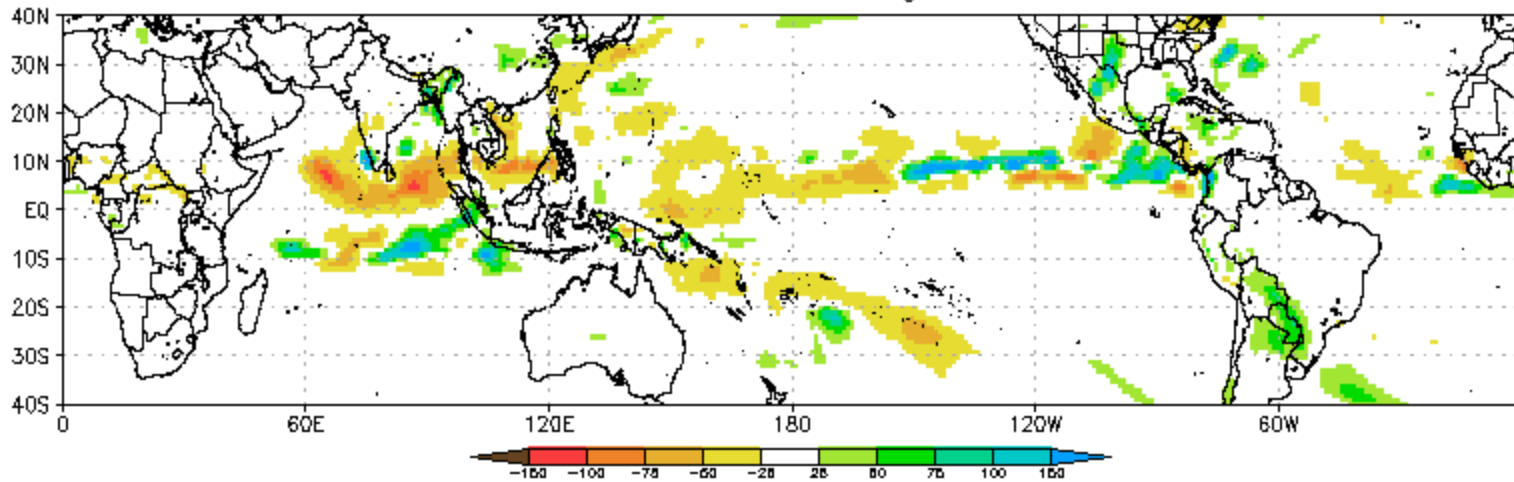


ncics.org/mjo

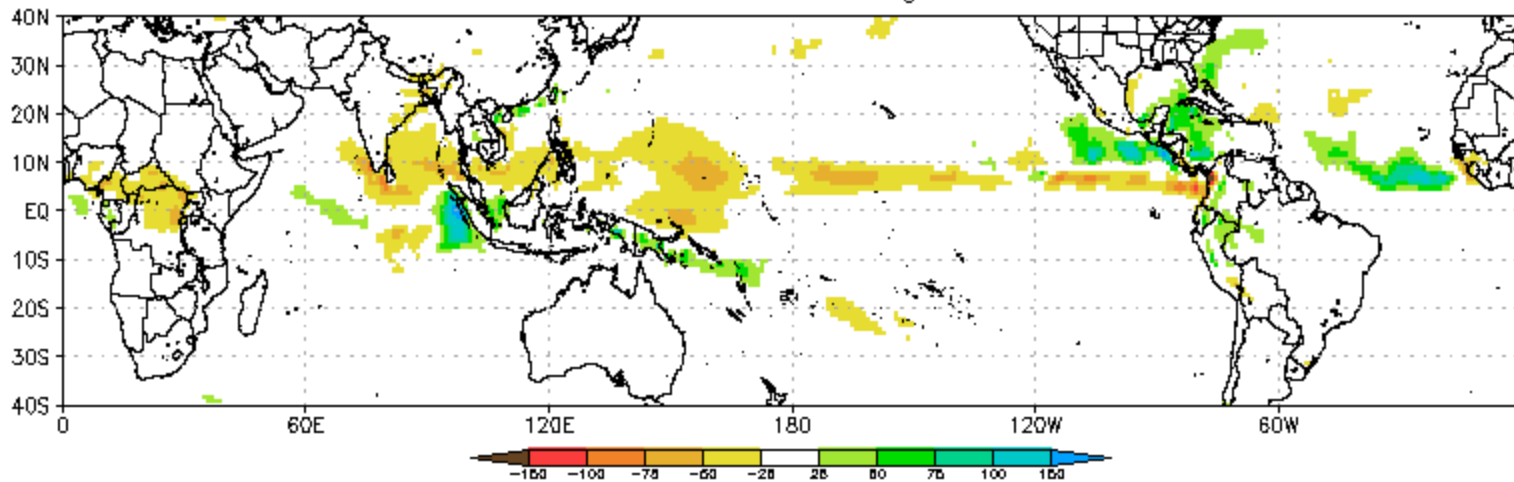
Tue 2017-09-26 15:23 UTC

Carl Schreck (cjschrec@ncsu.edu)

CFS Precipitation Anomalies (mm) Issued 25Sep2017
Week-1 Forecast Ending 03Oct2017



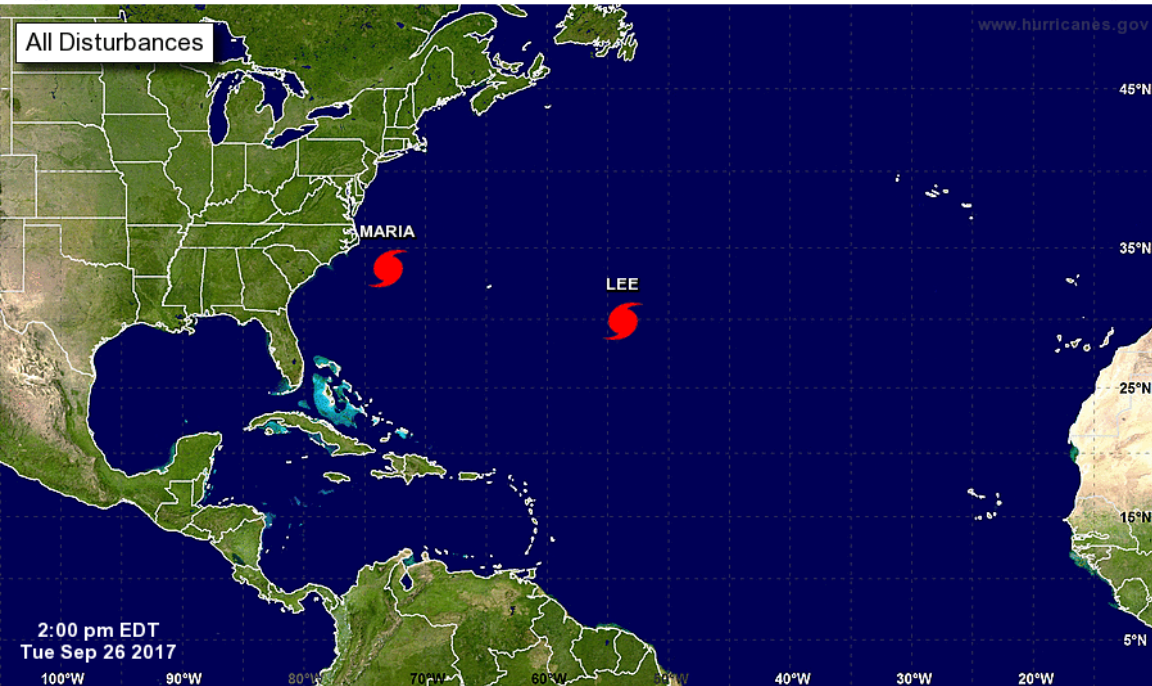
CFS Precipitation Anomalies (mm) Issued 25Sep2017
Week-2 Forecast Ending 10Oct2017





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

National Hurricane Center Miami, Florida



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

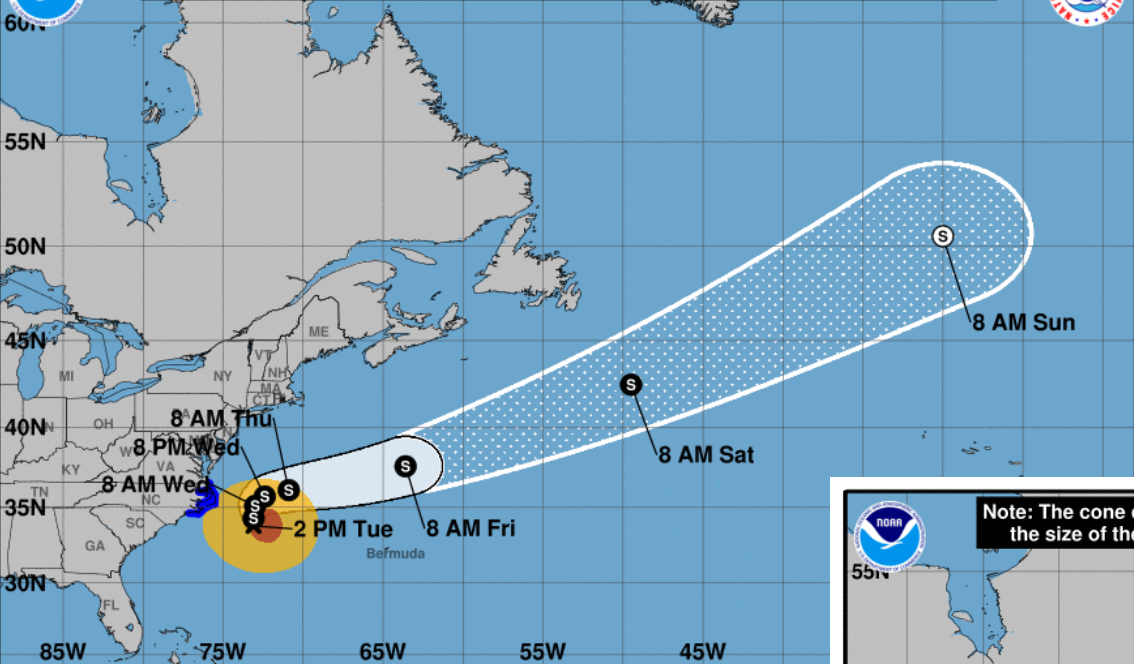
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Hurricane Maria
 Tuesday September 26, 2017
 2 PM EDT Intermediate Advisory 42A
 NWS National Hurricane Center

Current information: x
 Center location 33.8 N 73.1 W
 Maximum sustained wind 75 mph
 Movement N at 7 mph

Forecast
 ● Tropical
 Sustained S 39-73 mph

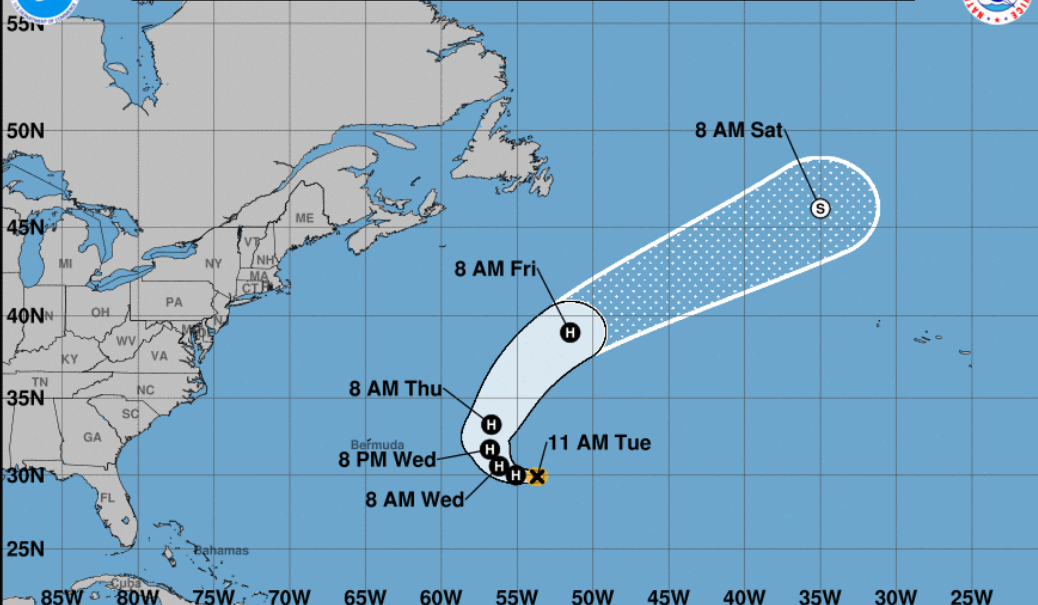
Potential track area: Day 1-3 (solid white), Day 4-5 (dotted white)

Watches: Hurricane (pink), Trop Stm (yellow)

Warnings: Hurricane (red), Trop Stm (blue)



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Hurricane Lee
 Tuesday September 26, 2017
 11 AM AST Advisory 34
 NWS National Hurricane Center

Current information: x
 Center location 29.9 N 53.7 W
 Maximum sustained wind 105 mph
 Movement W at 10 mph

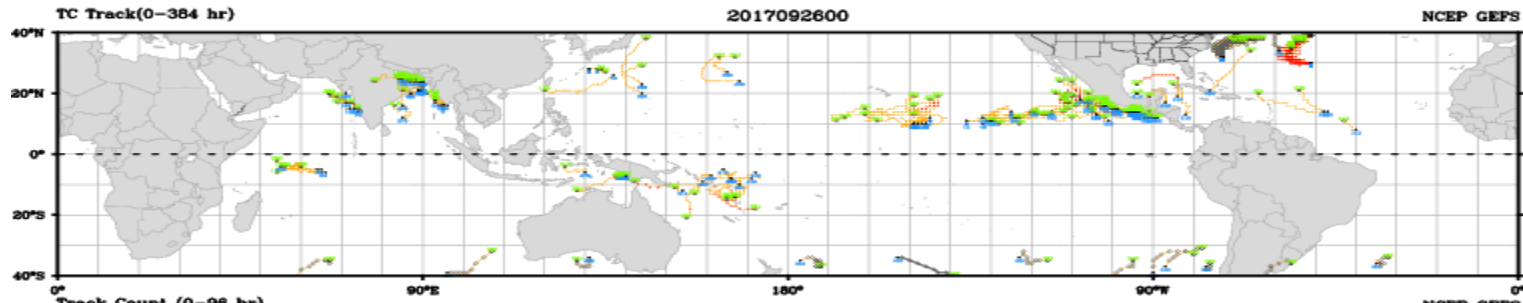
Forecast positions:
 ● Tropical Cyclone ○ Post/Potential TC
 Sustained winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110 mph

Potential track area: Day 1-3 (solid white), Day 4-5 (dotted white)

Watches: Hurricane (pink), Trop Stm (yellow)

Warnings: Hurricane (red), Trop Stm (blue)

Current wind extent: Hurricane (brown), Trop Stm (orange)

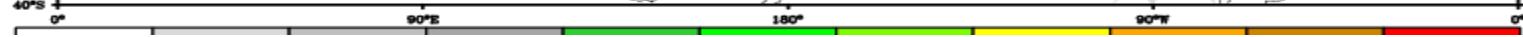
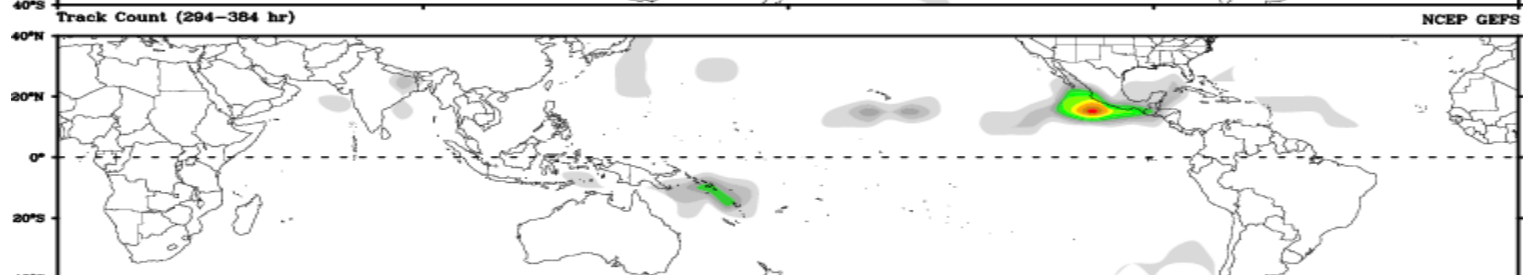
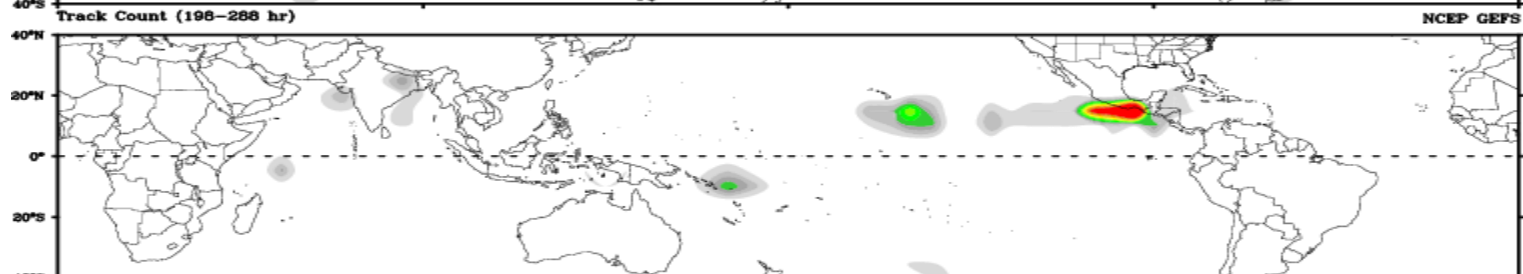
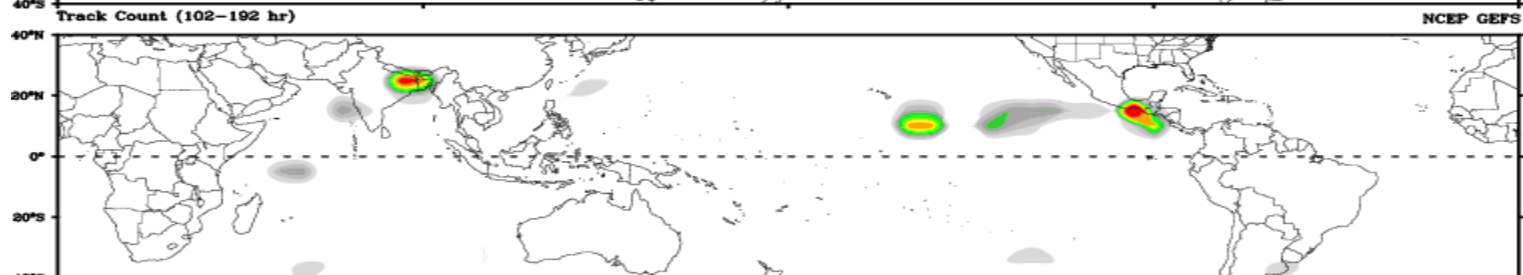
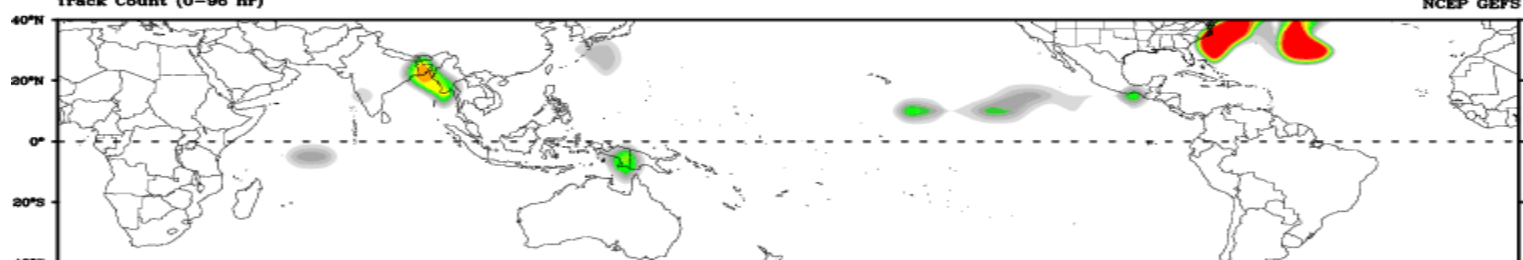


Days 1-4

Day 5-8

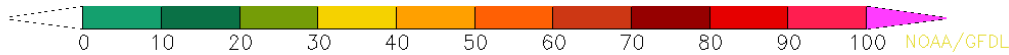
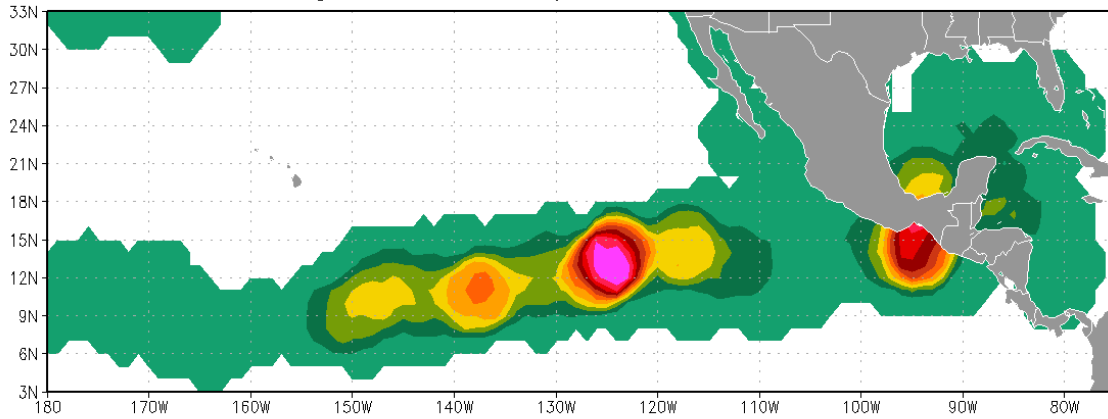
Day 9-12

Day 13-15



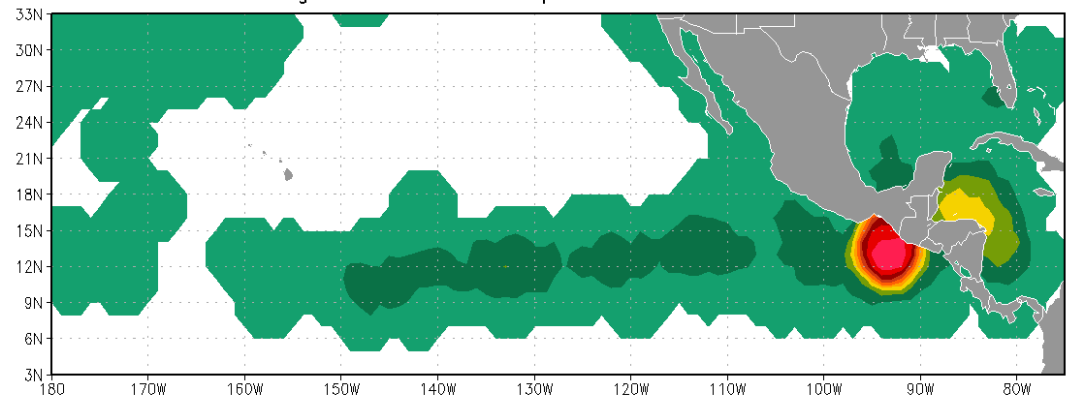
Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

For forecasts during the 00–120h period from initial time = 2017092600

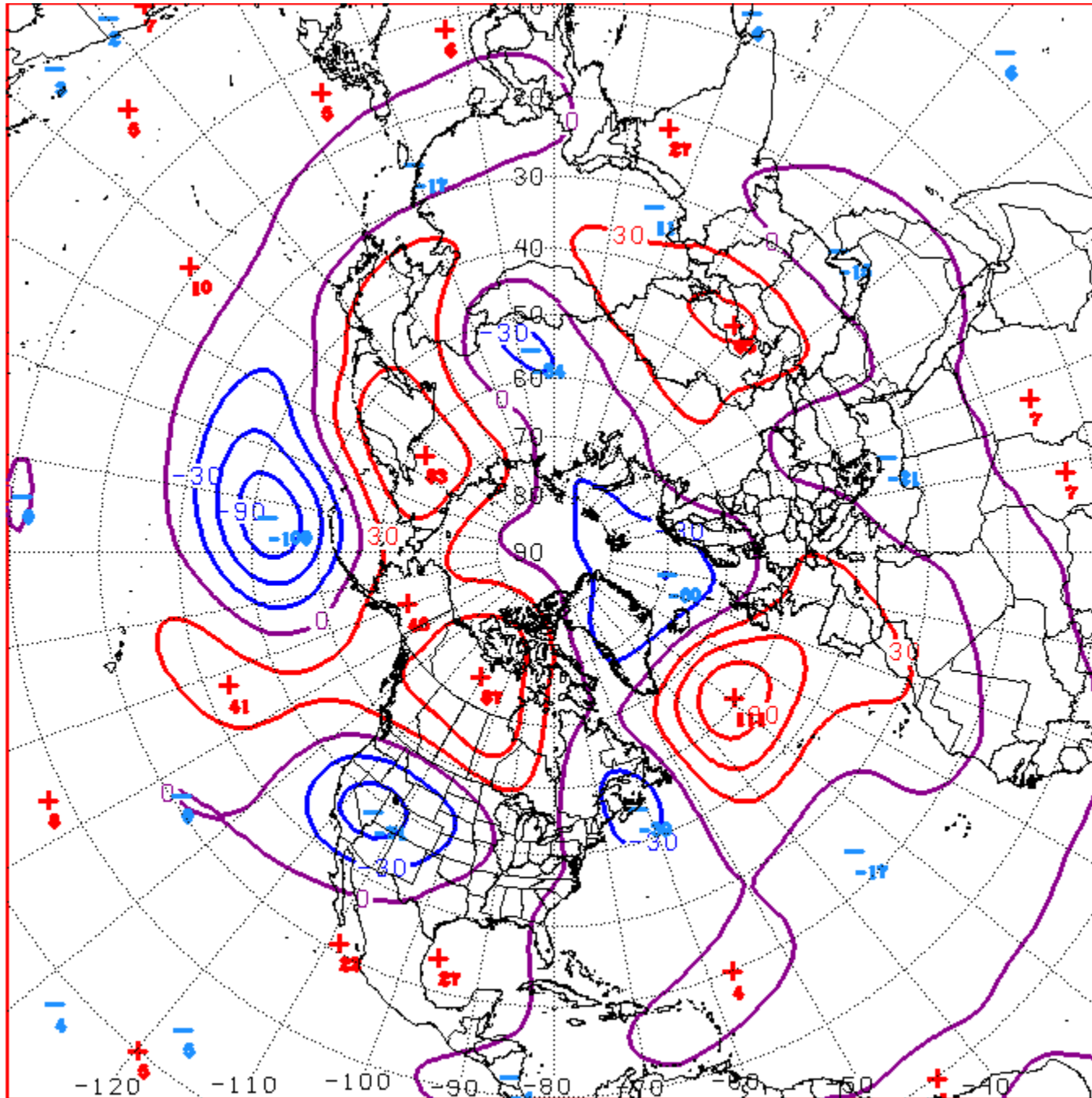


Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF

For forecasts during the 120–240h period from initial time = 2017092600

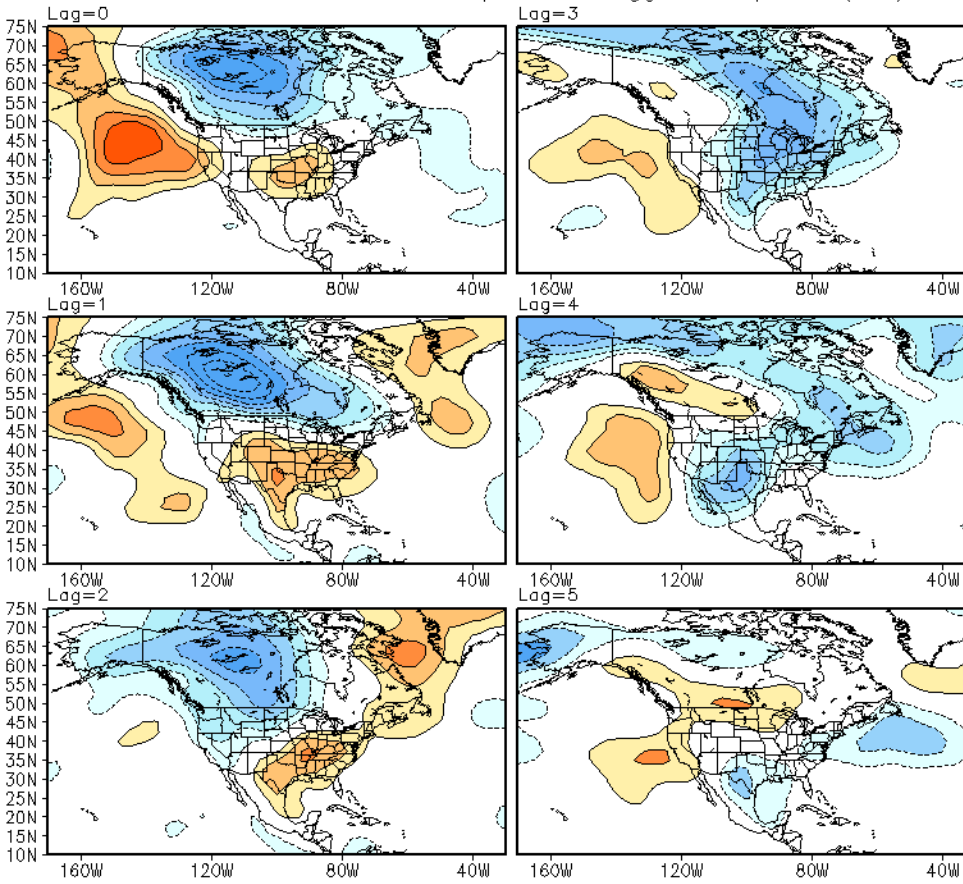


Connections to U.S. Impacts

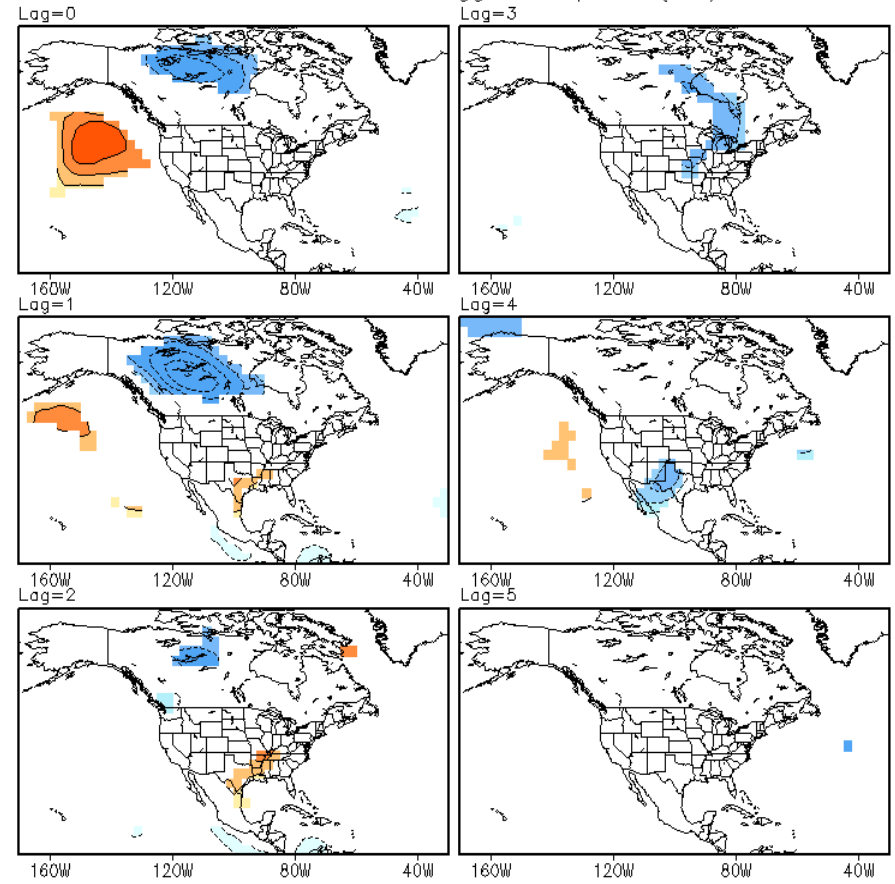


D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAY 09 2017 1333 UTC CNTD MAY 20 2017

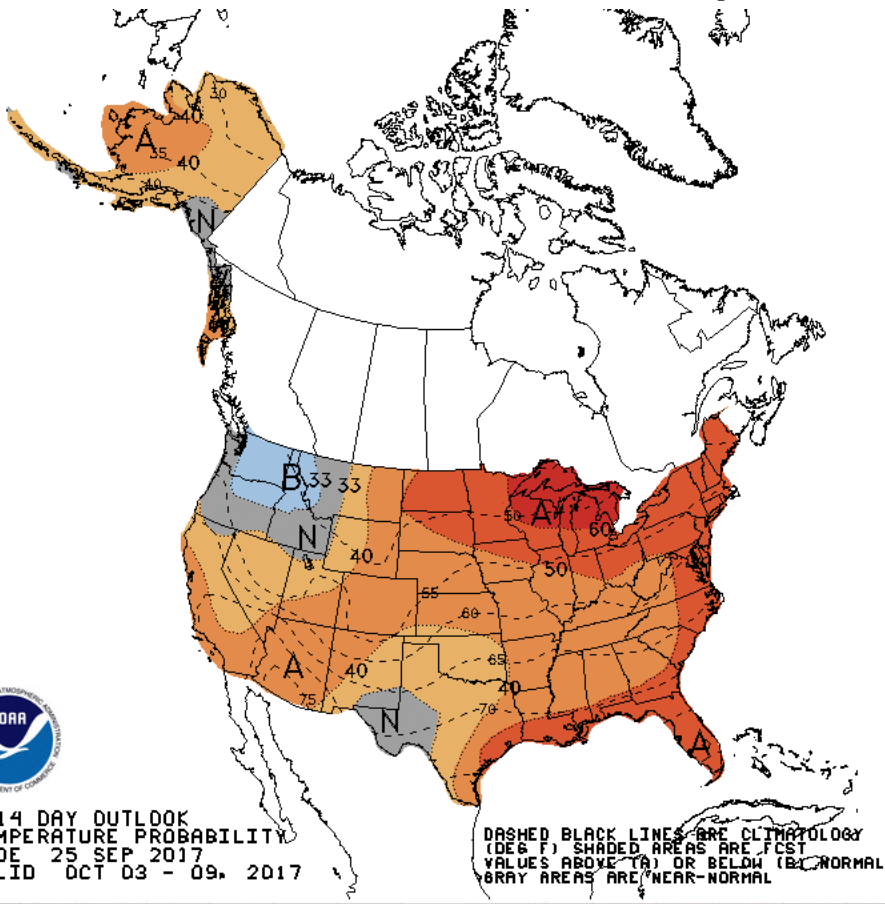
RMM Phase 7 850-hPa Temperature Lagged Composite (son)



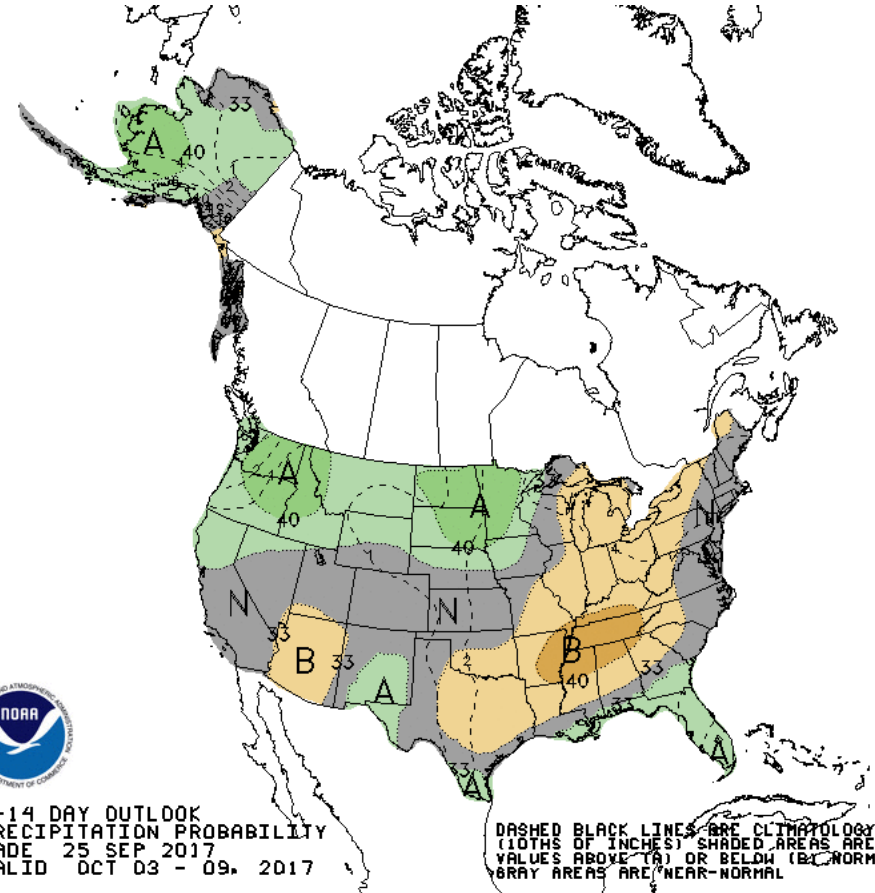
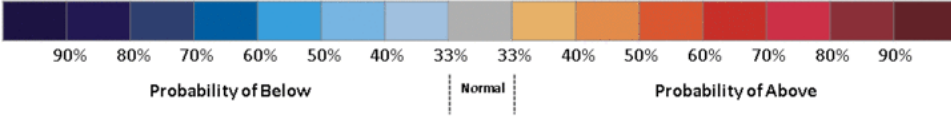
RMM Phase 7 t850 Lagged Composite (son)



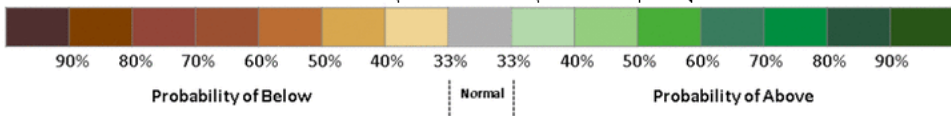
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 25 SEP 2017
VALID OCT 03 - 09, 2017



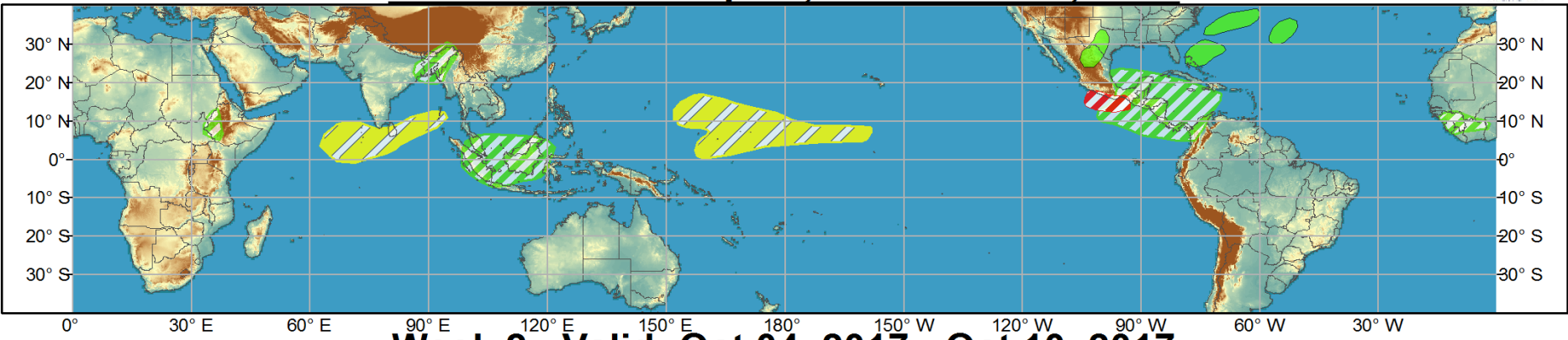
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 25 SEP 2017
VALID OCT 03 - 09, 2017



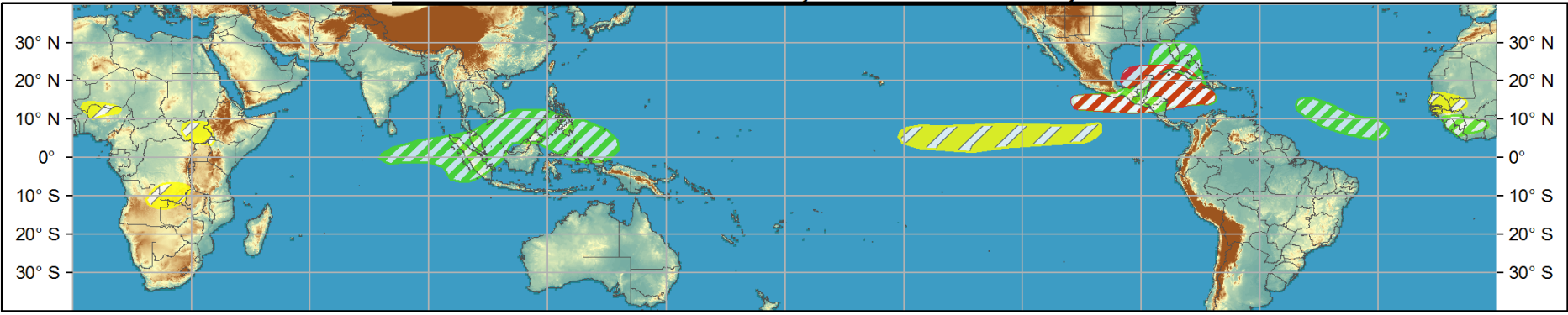


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