

# Global Tropics Hazards And Benefits Outlook

August 4, 2015

Stephen Baxter

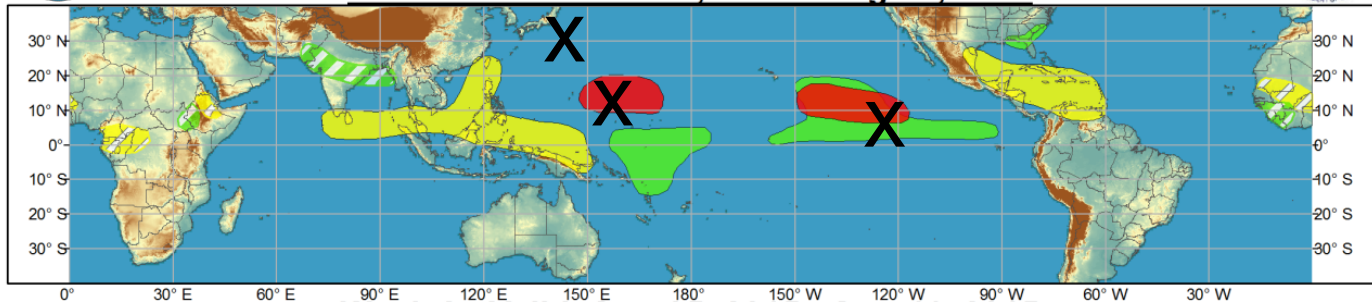
## Outline

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

# Outlook Review



**Week 1 - Valid: Jul 29, 2015 - Aug 04, 2015**

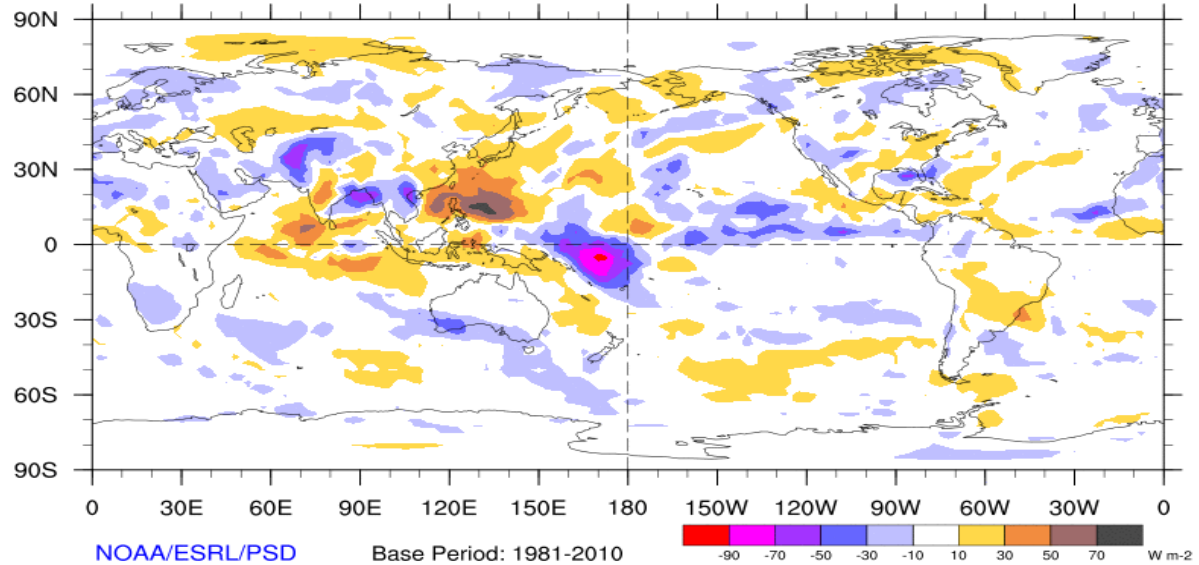


**Week 2 - Valid: Jul 29, 2015 - Aug 04, 2015**



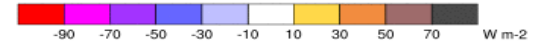
7-Day Average OLR Anomaly

2015/07/27 - 2015/08/02



NOAA/ESRL/PSD

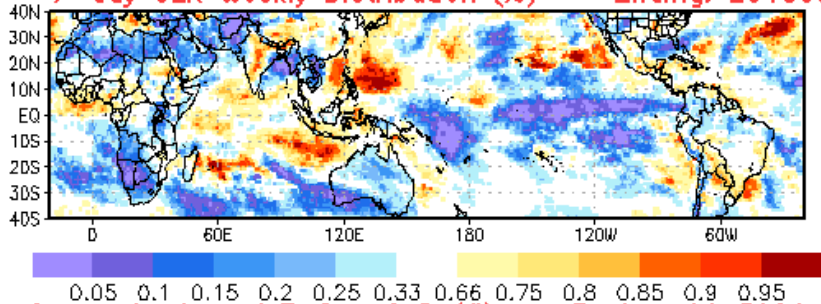
Base Period: 1981-2010



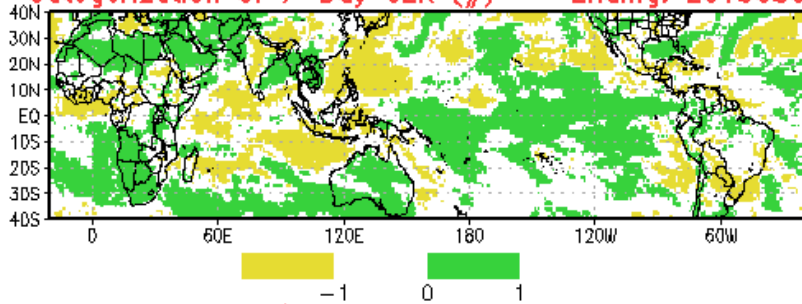
Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

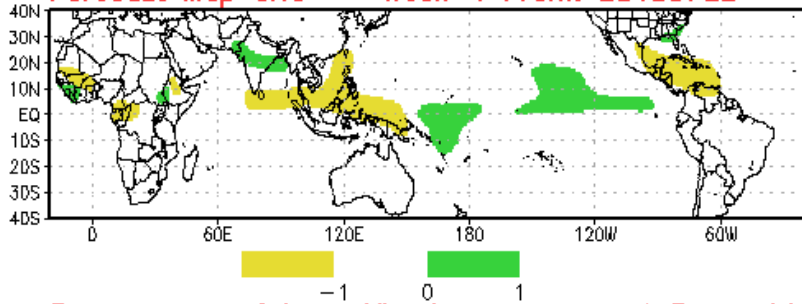
7-day OLR Weekly Distribution (%) -- Ending: 20150804



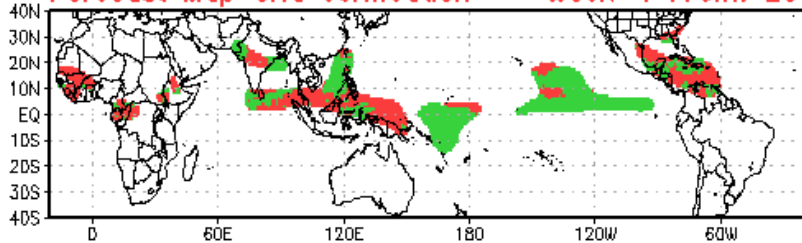
Categorization of 7-Day OLR (#) -- Ending: 20150804



Forecast Map Grid -- Week-1 From: 20150728

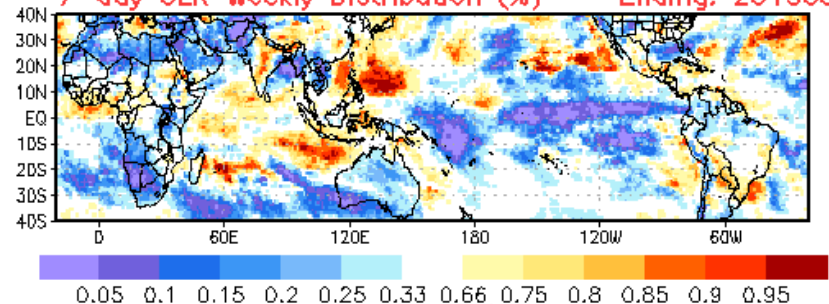


Forecast Map Grid Verification -- Week-1 From: 201507

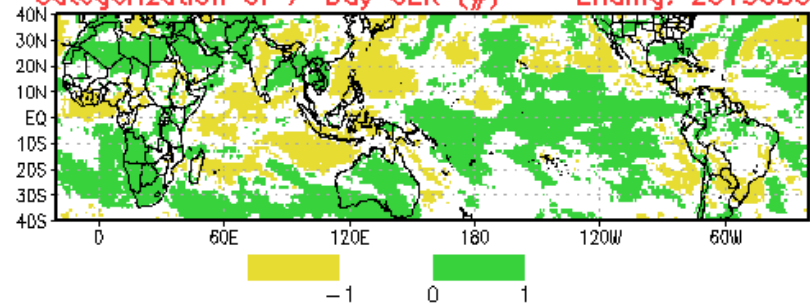


Hit: Green, Miss: Red  
Heidke Skill Score: 31.3935

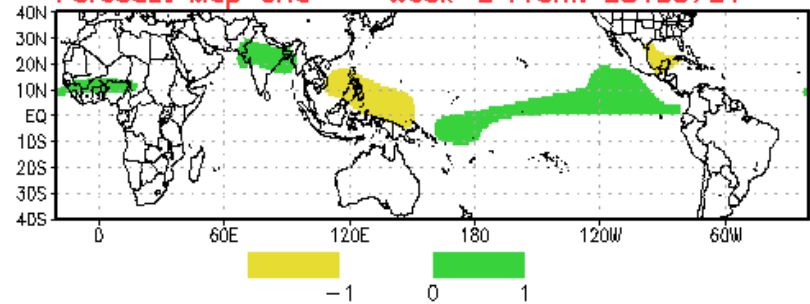
7-day OLR Weekly Distribution (%) -- Ending: 20150804



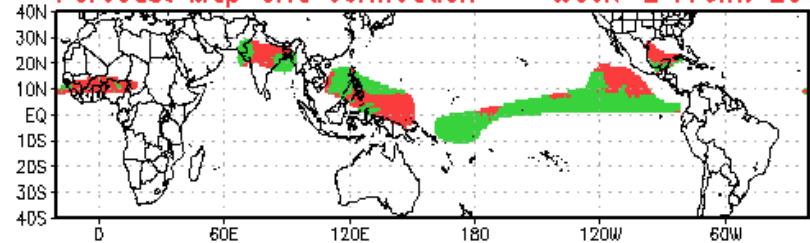
Categorization of 7-Day OLR (#) -- Ending: 20150804



Forecast Map Grid -- Week-2 From: 20150721



Forecast Map Grid Verification -- Week-2 From: 20150721



Hit: Green, Miss: Red  
Heidke Skill Score: 38.2544

# Synopsis of Climate Modes

## ENSO:

- Current: [El Niño Advisory](#)
- Outlook: There is a greater than 90% chance that El Niño will continue through Northern Hemisphere winter 2015-16, and around an 80% chance it will last into early spring 2016.

## MJO and other subseasonal tropical variability:

- The MJO is weak and not likely to impact tropical variability during the next 2 weeks.
- Most dynamical models depict a stationary signal or some westward movement, likely due to tropical cyclone activity.

## Extratropics:

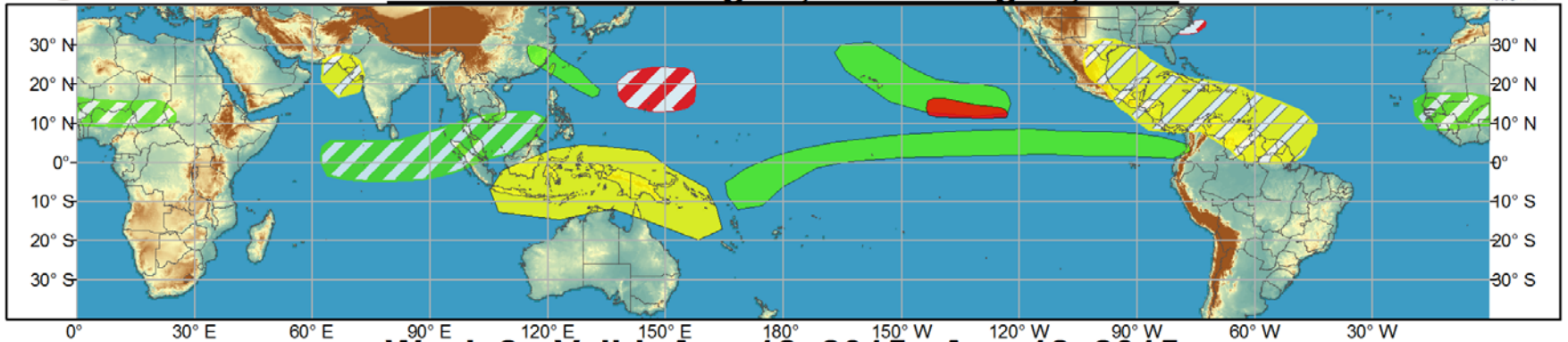
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO, but could be influenced by El Niño over the next several weeks.



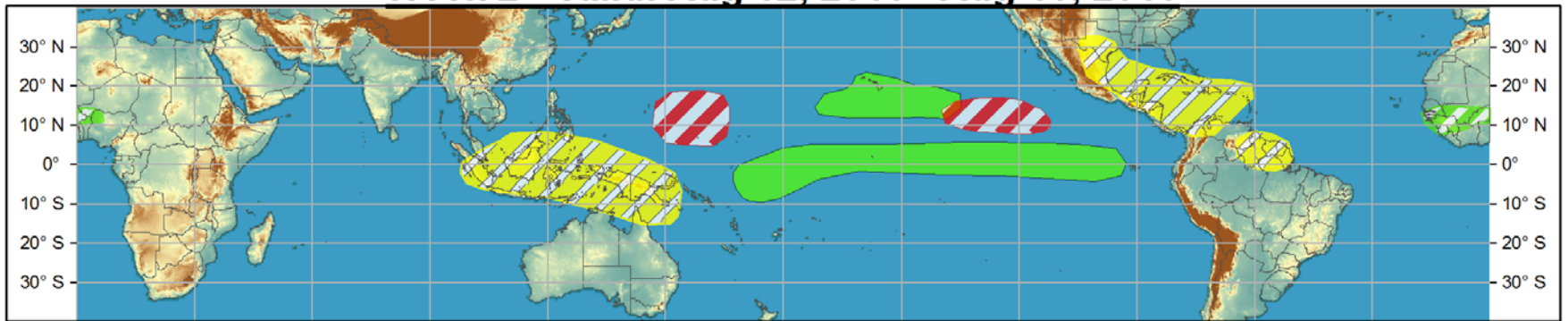
# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: Aug 05, 2015 - Aug 11, 2015



## Week 2 - Valid: Aug 12, 2015 - Aug 18, 2015



Produced: 08/04/2015

Forecaster: Baxter

### 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.



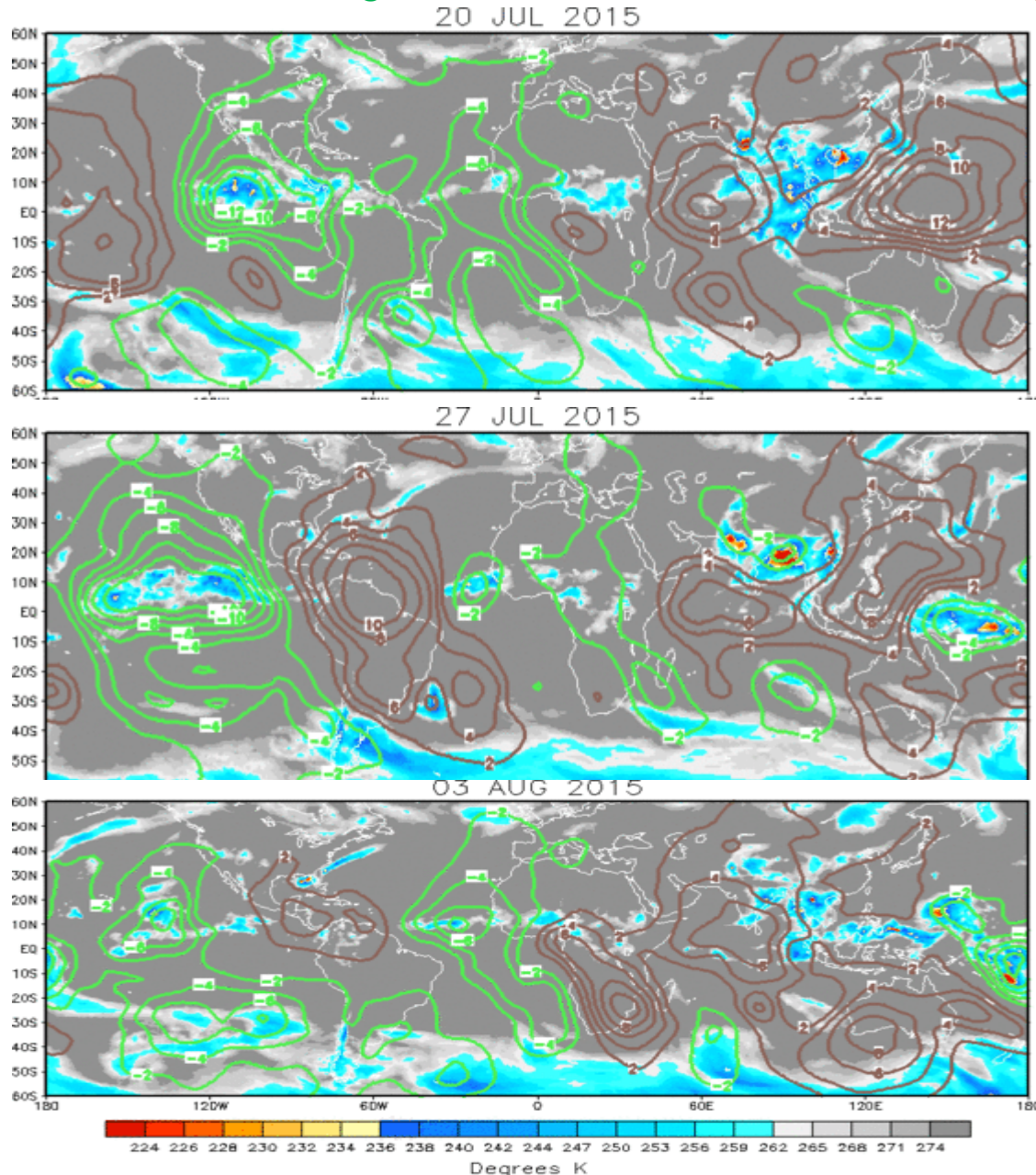
# IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence    Brown: Enhanced Convergence

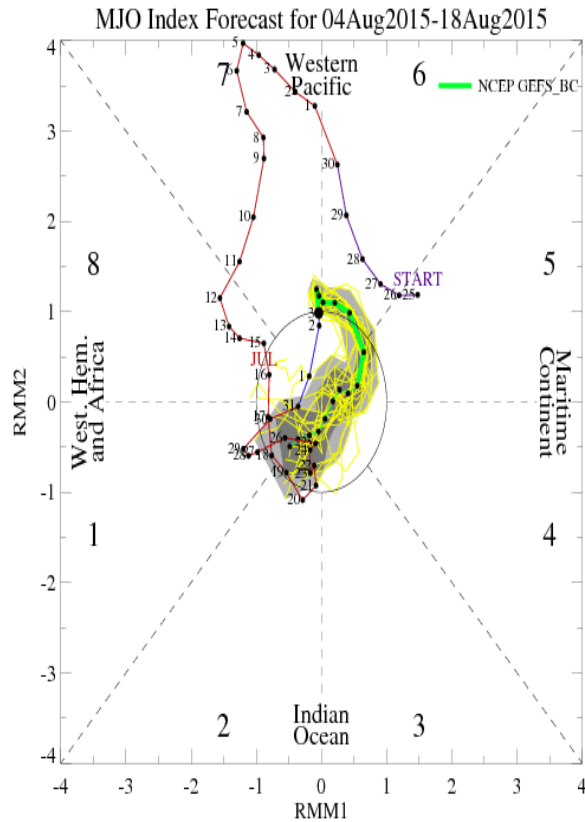
Base state  
and transient  
features  
evident.

Wave-1  
structure  
broke down.

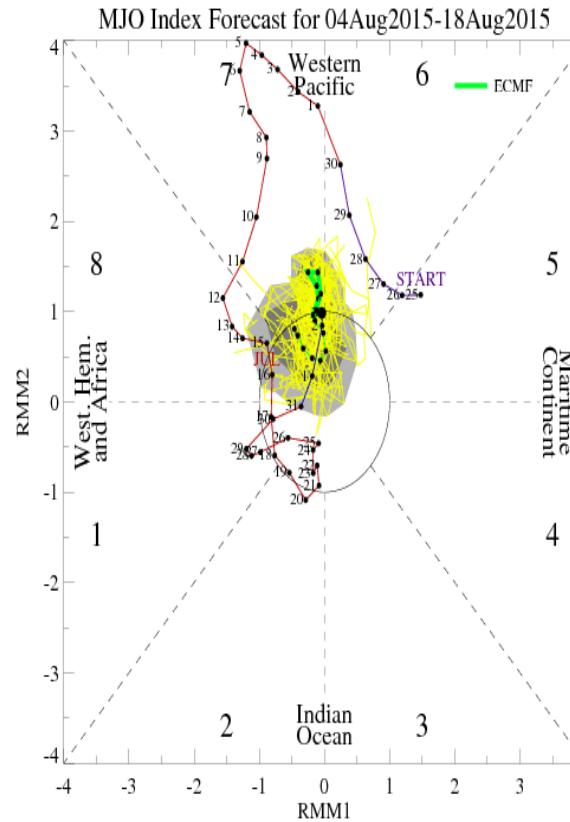
Some  
westward  
propagation  
observed,  
consistent  
with an  
equatorial  
Rossby  
wave.



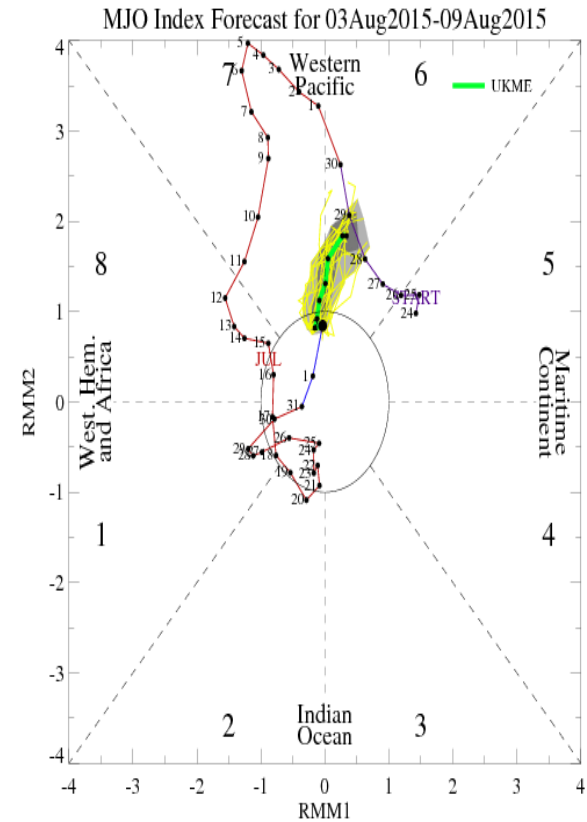
# MJO Observation/Forecast



GFS



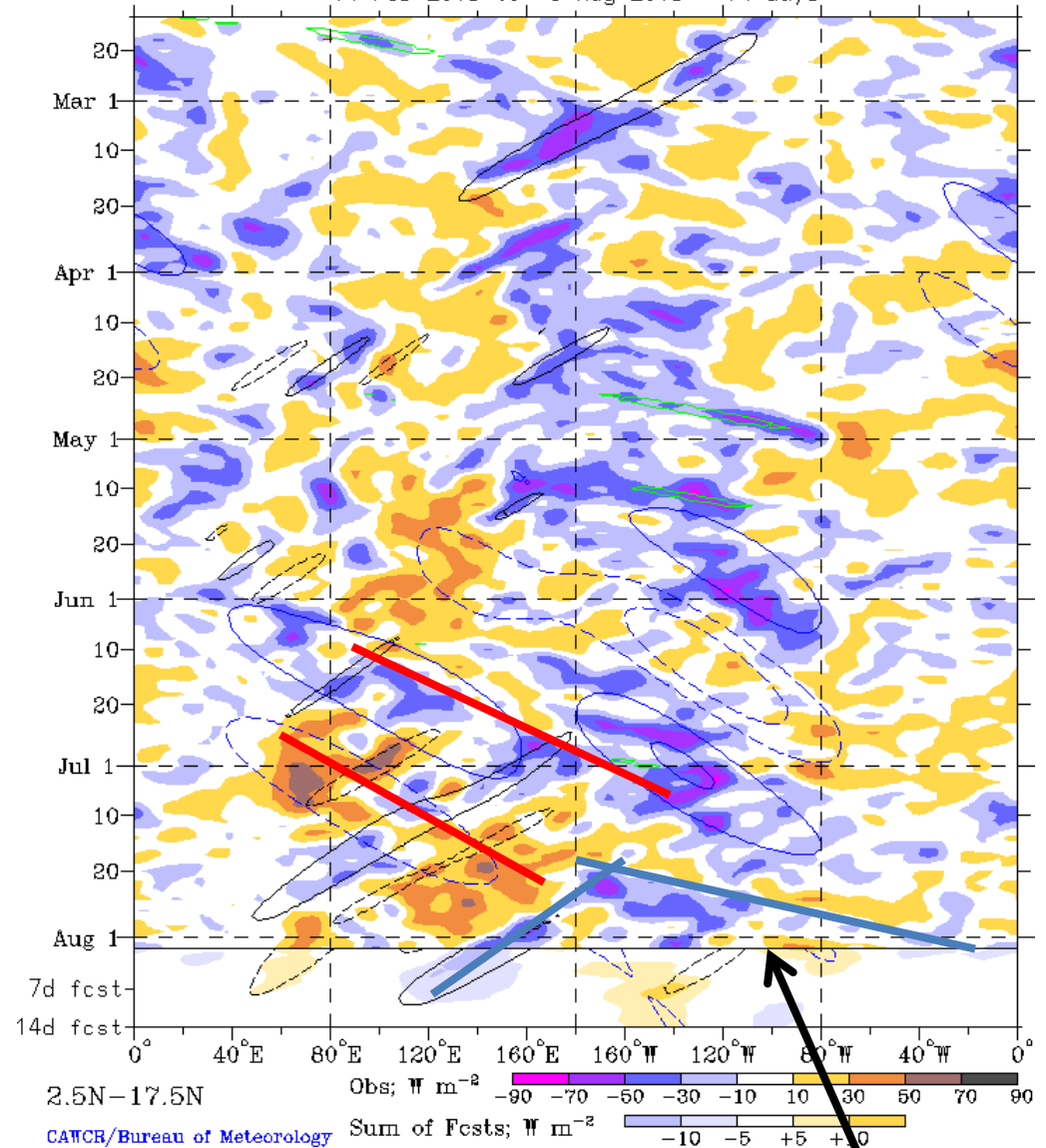
ECMWF



UKMET

Wheeler-Hendon based analyses of model forecasts indicate little coherent MJO activity.

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)  
14-Feb-2015 to 3-Aug-2015 + 14 days



Low frequency likely to dominate pattern more than MJO.

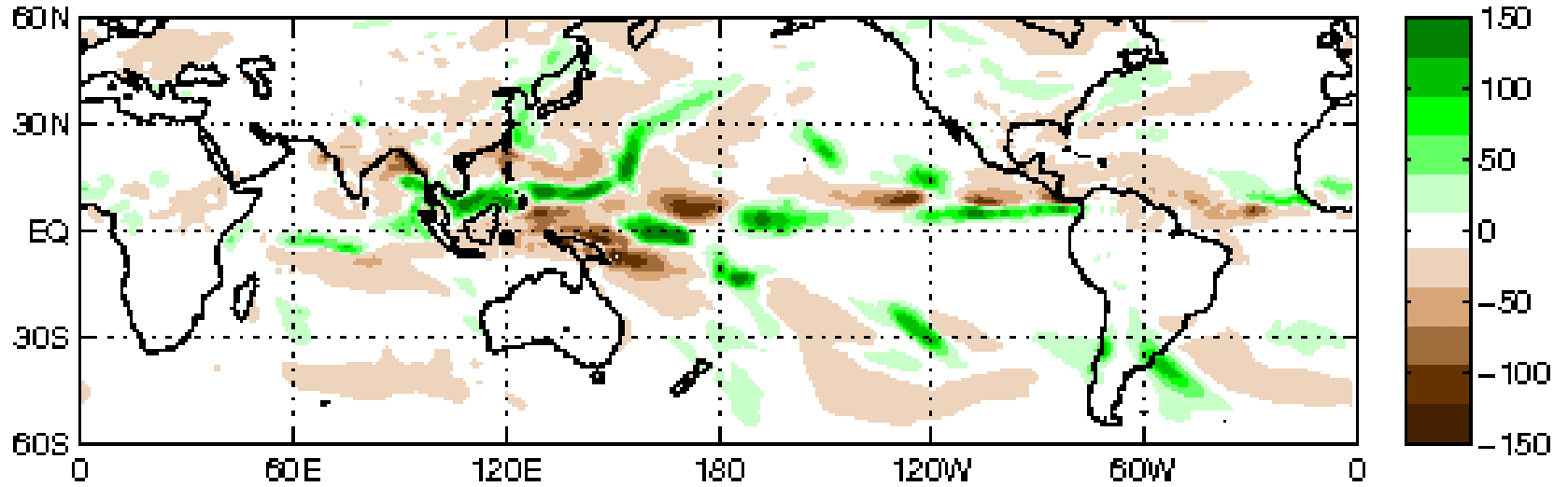
Some indications of Rossby wave near 160E.

MJO indicated by red lines.

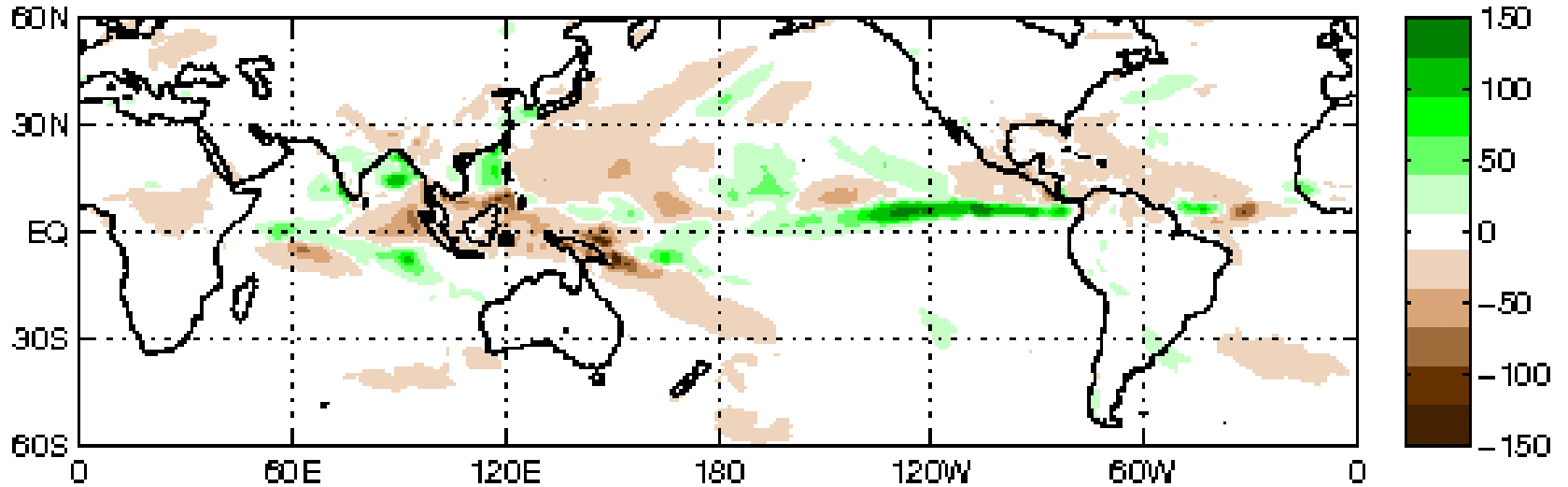
Kelvin Wave.



**CFS: Anom. PREC Week: 1: 05-Aug-2015 to 11-Aug-2015 (mm/week)**



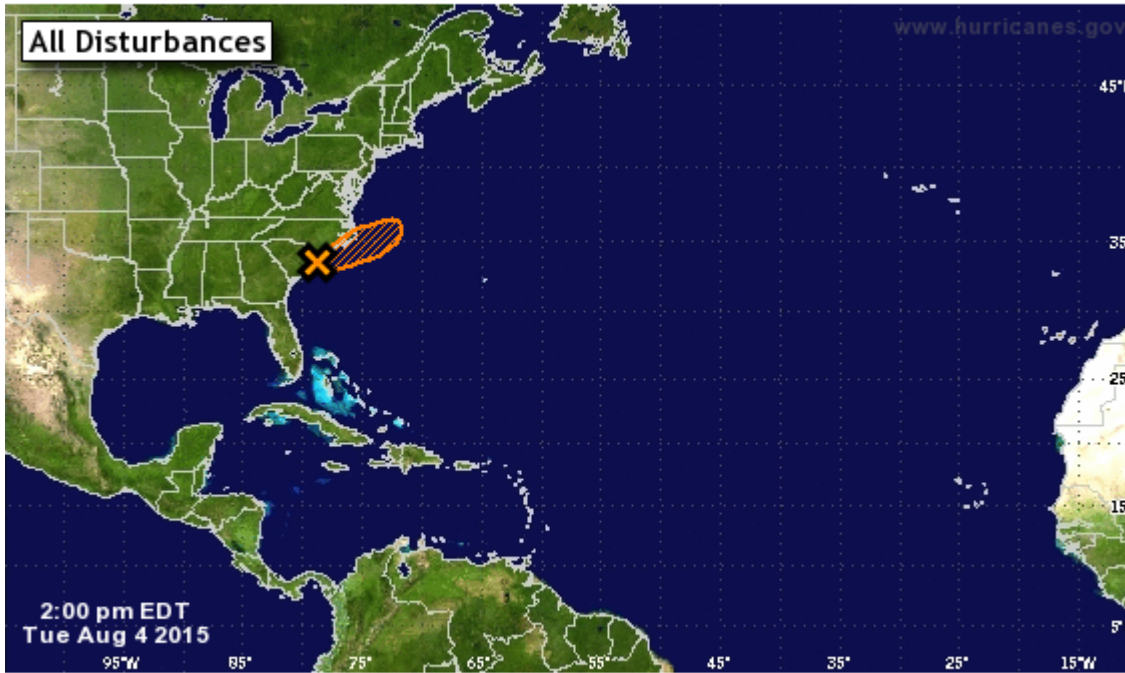
**CFS: Anom. PREC Week: 2: 12-Aug-2015 to 18-Aug-2015 (mm/week)**



# Graphical Tropical Weather Outlooks



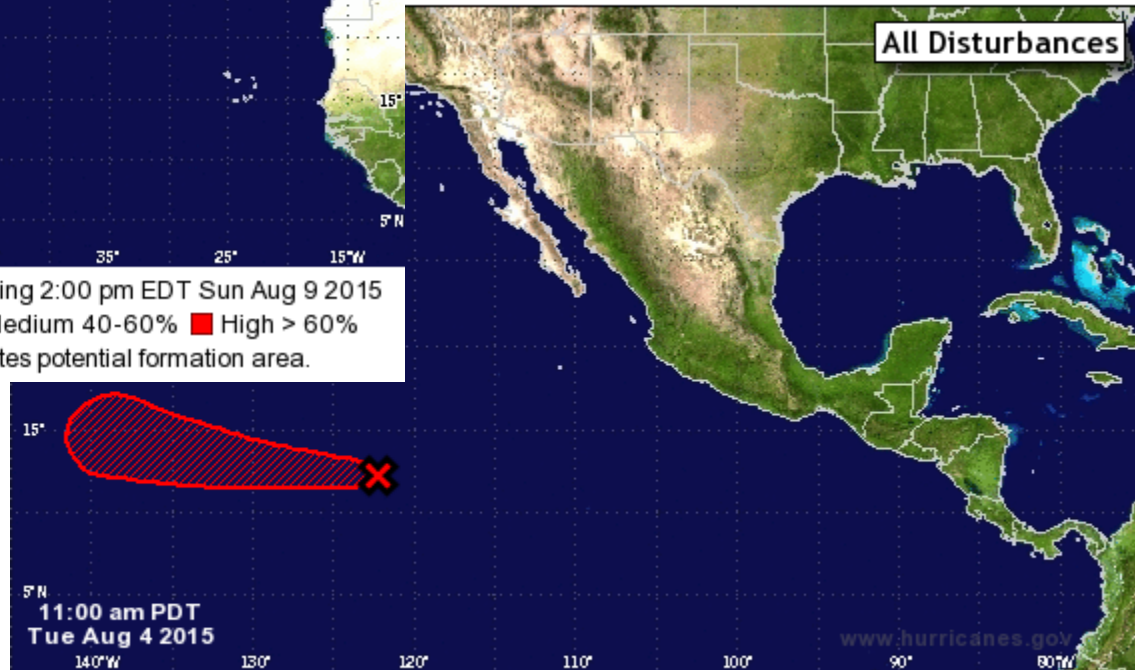
## Five-Day Graphical Tropical Weather Outlook National Hurricane Center Miami, Florida



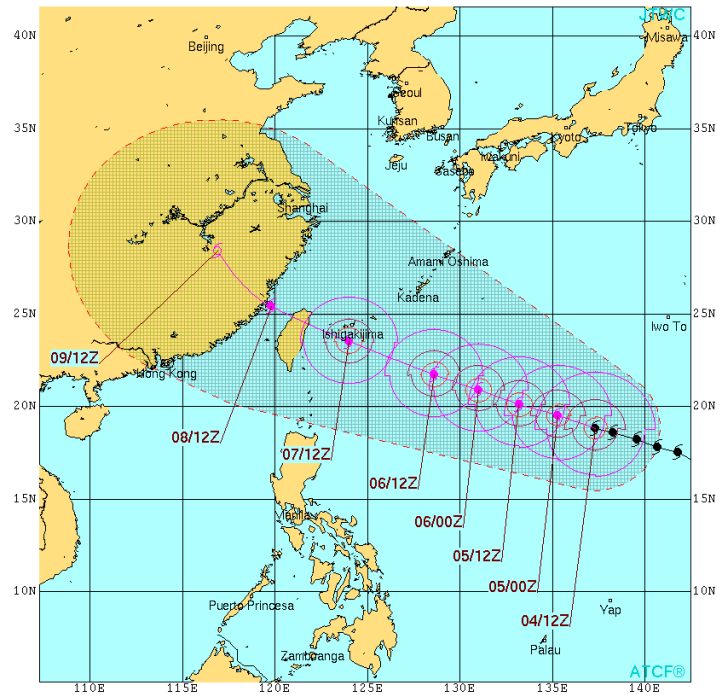
Tropical Cyclone Formation Potential for the 5-Day Period Ending 2:00 pm EDT Sun Aug 9 2015  
 Chance of Cyclone Formation in 5 Days:   Low < 40%   Medium 40-60%   High > 60%  
 X indicates current disturbance location; shading indicates potential formation area.



## Graphical Tropical Weather Outlook National Hurricane Center Miami, Florida



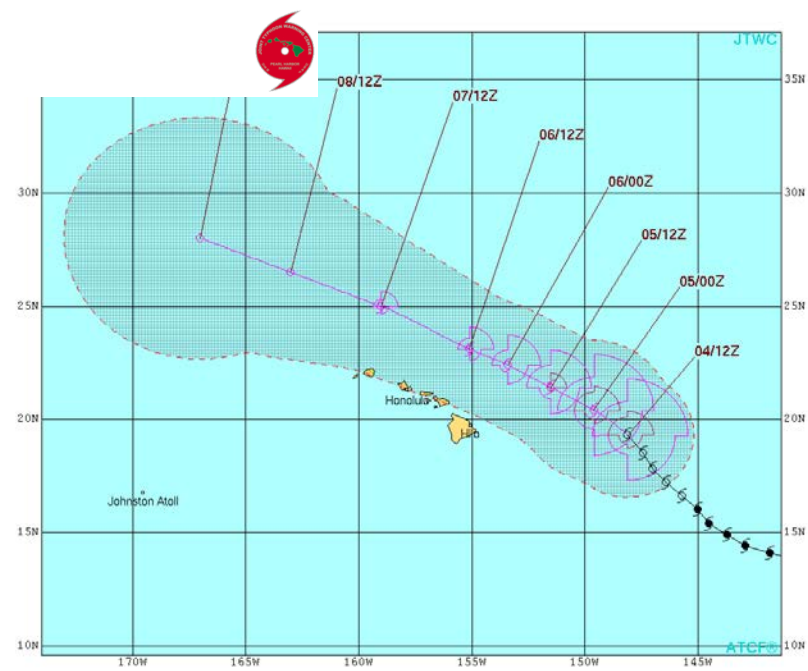
Tropical Cyclone Formation Potential for the 5-Day Period Ending 11:00 am PDT Sun Aug 9 2015  
 Chance of Cyclone Formation in 5 Days:   Low < 40%   Medium 40-60%   High > 60%  
 X indicates current disturbance location; shading indicates potential formation area.



**SUPER TYPHOON 13W (SOUELOR) WARNING #22**  
 WTPN31 PGTW 041500  
 041200Z POSIT: NEAR 18.8N 137.3E  
 MOVING 280 DEGREES TRUE AT 10 KNOTS  
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 48 FEET  
 04/12Z, WINDS 140 KTS, GUSTS TO 170 KTS  
 05/00Z, WINDS 140 KTS, GUSTS TO 170 KTS  
 05/12Z, WINDS 135 KTS, GUSTS TO 165 KTS  
 06/00Z, WINDS 130 KTS, GUSTS TO 160 KTS  
 06/12Z, WINDS 125 KTS, GUSTS TO 150 KTS  
 07/12Z, WINDS 115 KTS, GUSTS TO 140 KTS  
 08/12Z, WINDS 095 KTS, GUSTS TO 115 KTS  
 09/12Z, WINDS 060 KTS, GUSTS TO 075 KTS

CPA TO:	NM	DTG
KADENA_AB	249	07/02Z
TAIPEI	33	08/03Z
HONG_KONG	342	08/21Z

○ LESS THAN 34 KNOTS  
 ◉ 34-63 KNOTS  
 ● MORE THAN 63 KNOTS  
 PAST 6 HOURLY CYCLONE POSITS IN BLACK  
 FORECAST CYCLONE POSITS IN COLOR



**TROPICAL STORM 09E (GUILLERMO) WARNING #23**  
 WTPN32 PHNC 041600  
 041200Z POSIT: NEAR 19.3N 148.1W  
 MOVING 320 DEGREES TRUE AT 10 KNOTS  
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 22 FEET  
 04/12Z, WINDS 060 KTS, GUSTS TO 075 KTS  
 05/12Z, WINDS 050 KTS, GUSTS TO 065 KTS  
 06/00Z, WINDS 045 KTS, GUSTS TO 055 KTS  
 06/12Z, WINDS 040 KTS, GUSTS TO 050 KTS  
 07/12Z, WINDS 035 KTS, GUSTS TO 045 KTS  
 08/12Z, WINDS 030 KTS, GUSTS TO 040 KTS  
 09/12Z, WINDS 025 KTS, GUSTS TO 035 KTS

CPA TO:	NM	DTG
HILO	187	06/02Z
BRADSHAW_AAF	193	06/06Z
MCBH_KANBOHE	160	06/20Z
CAMP_H_M_SMITH	155	06/21Z
JBPH	163	06/21Z
BARBERS_POINT	157	06/22Z
BARKING_SANDS	178	07/07Z
LIHUE	176	07/07Z

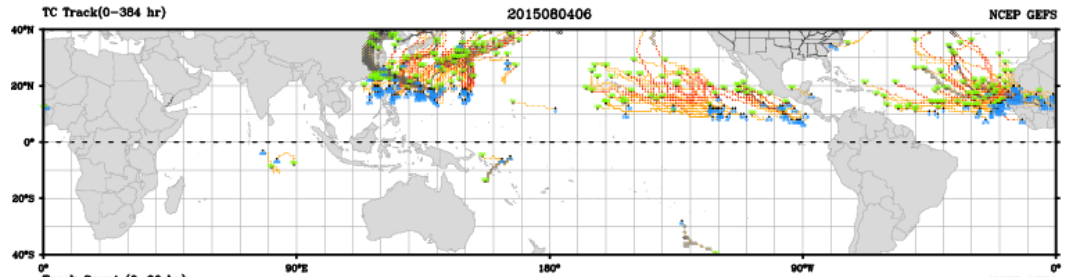
BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
BARBERS_POINT	091	369	24
BRADSHAW_AAF	067	249	24
CAMP_H_M_SMITH	090	352	24
HILO	063	227	24
MCBH_KANBOHE	089	352	24
JBPH	089	358	24

○ LESS THAN 34 KNOTS  
 ◉ 34-63 KNOTS  
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 PAST 6 HOURLY CYCLONE POSITS IN BLACK  
 FORECAST CYCLONE POSITS IN COLOR

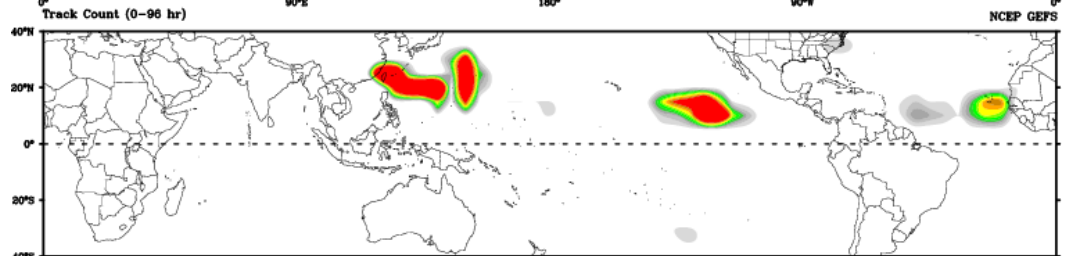
CWB TC Tracker for NCEP GEFS (Fuzzy\_AllCriteria)

2015080406

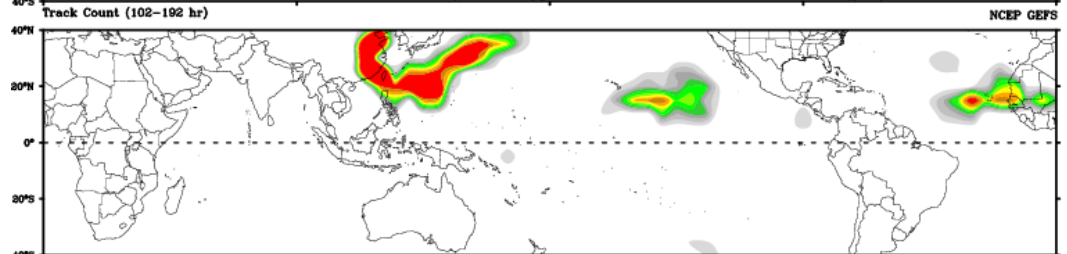
NCEP GEFS



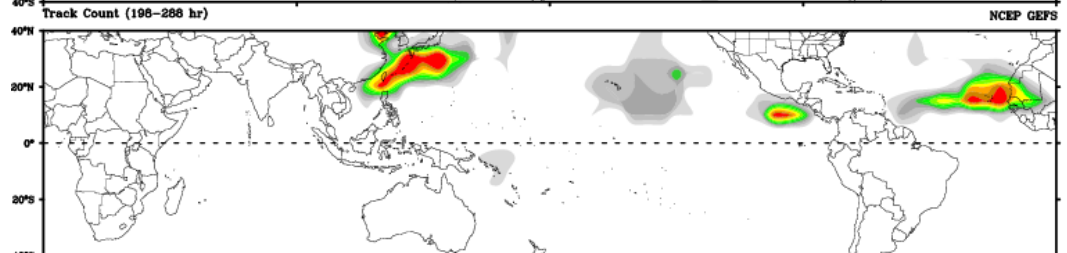
Days 1-4



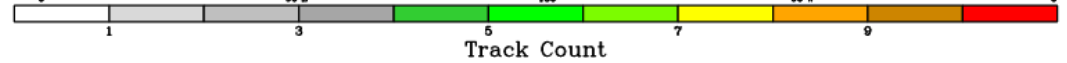
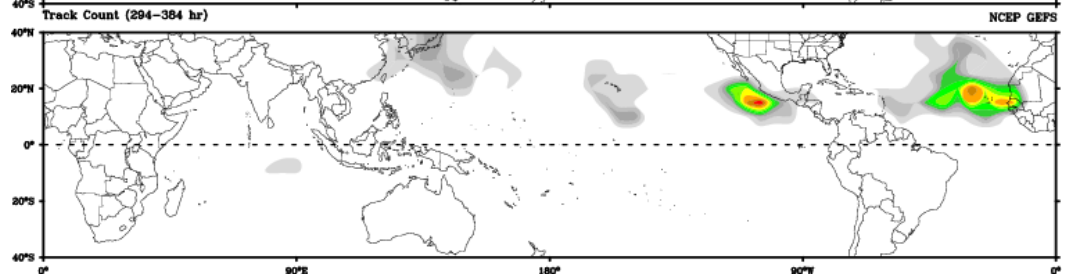
Day 5-8



Day 9-12

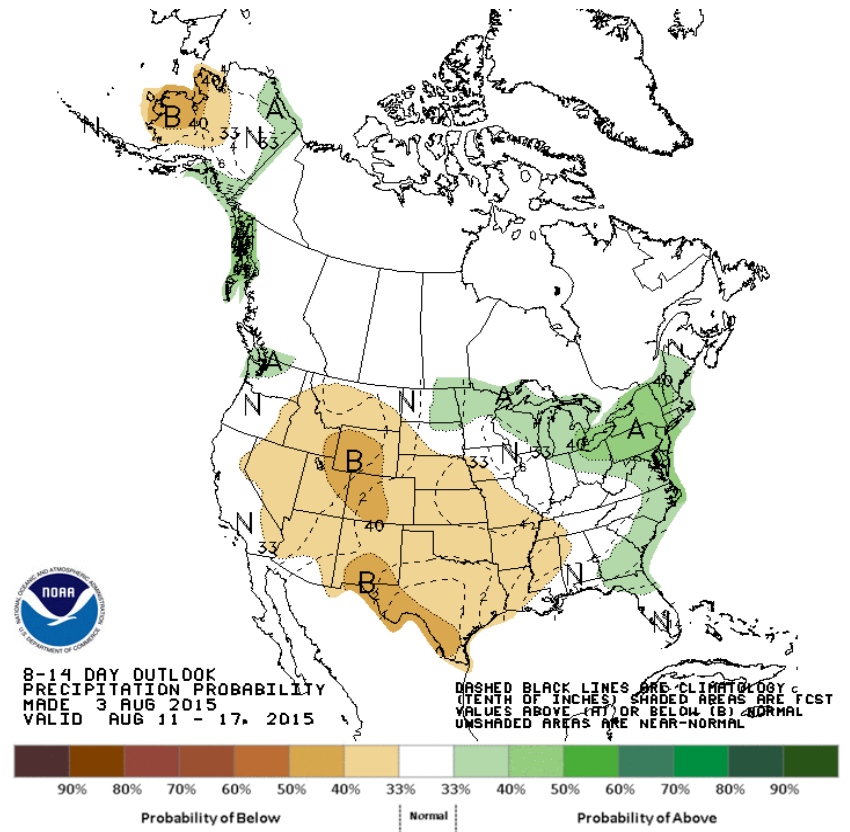
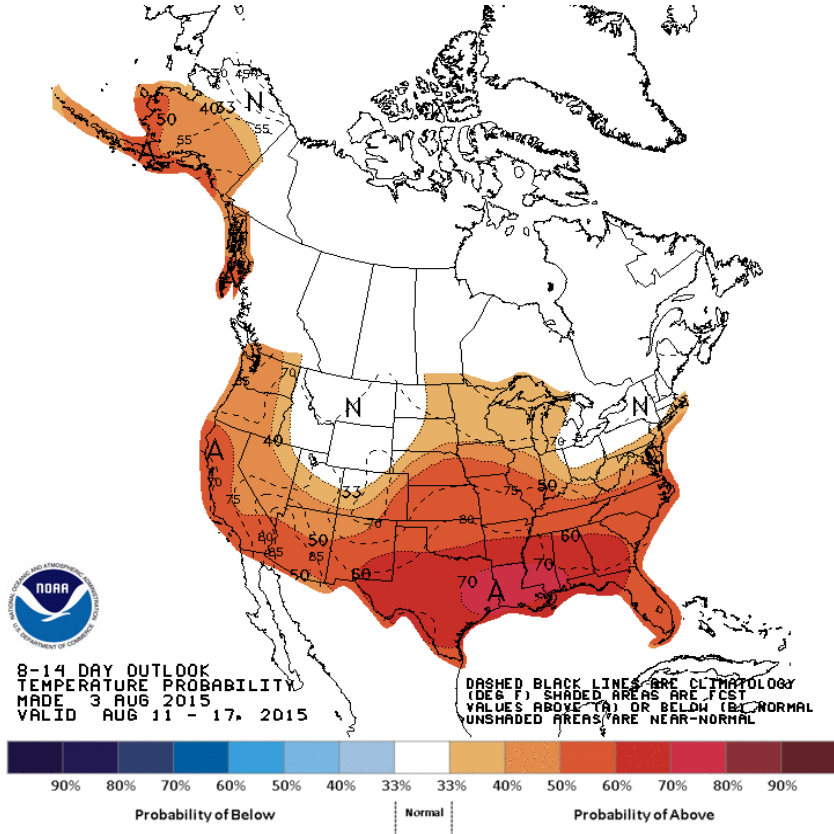


Day 13-15



# Connections to U.S. Impacts

# Week 2 – Temperature and Precipitation

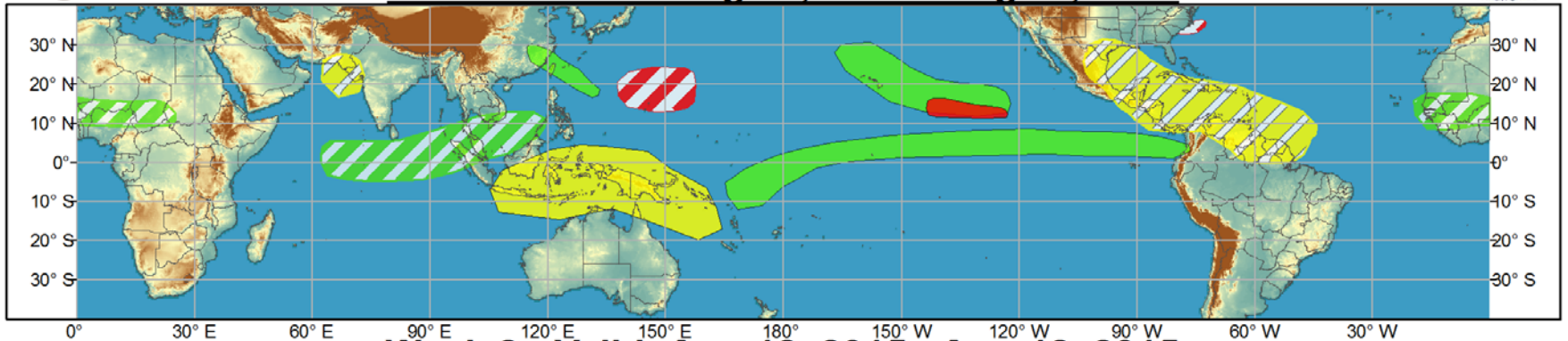




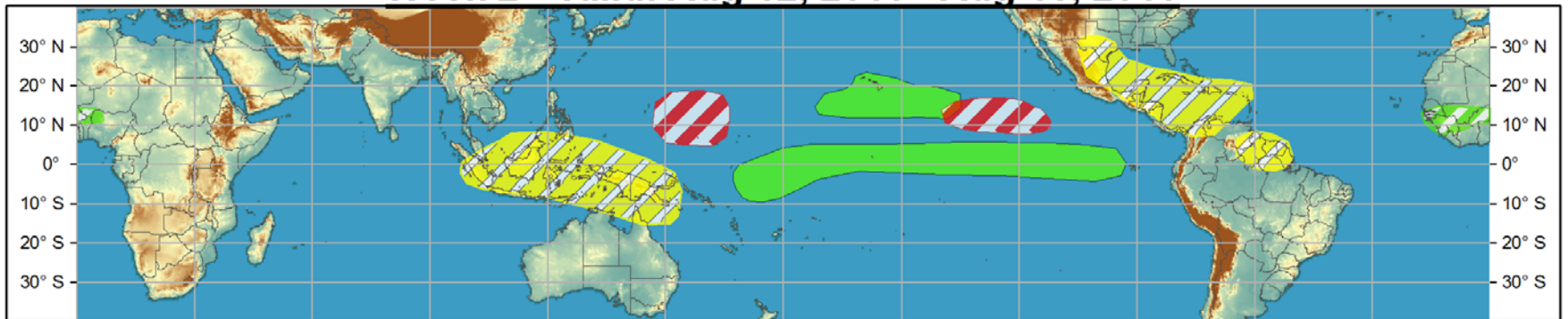
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