Global Tropics Hazards And Benefits Outlook

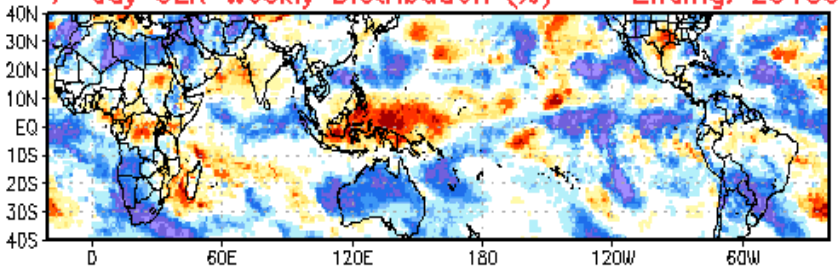
July 21, 2015

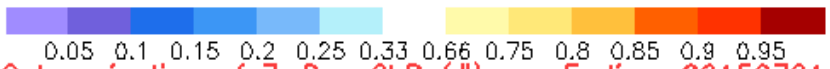
Adam Allgood

Outline

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

7-day OLR Weekly Distribution (%) -- Ending: 20150721





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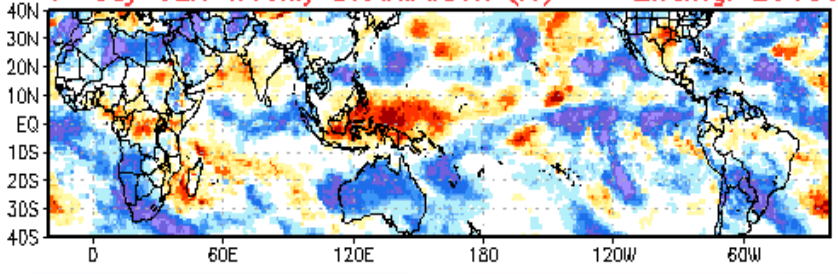
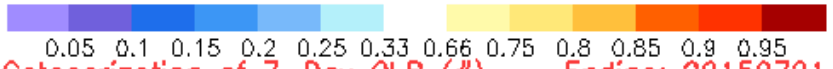
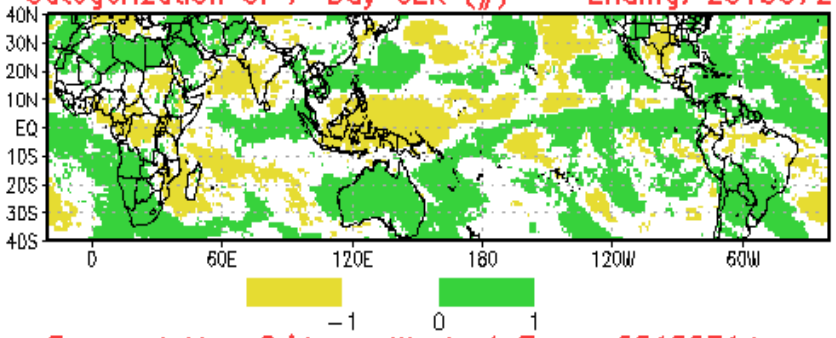




Categorization of 7-Day OLR (#) -- Ending: 20150721



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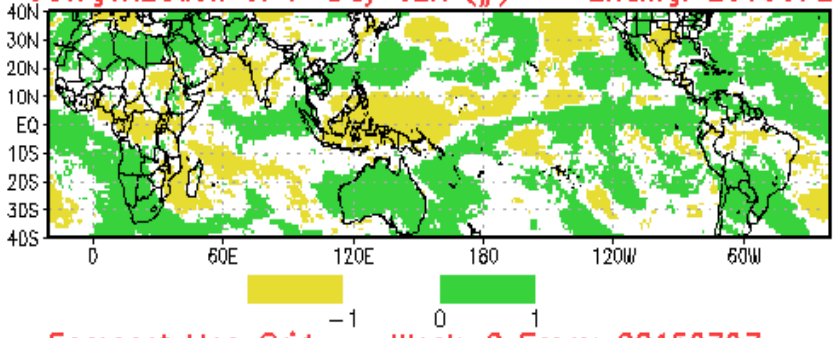
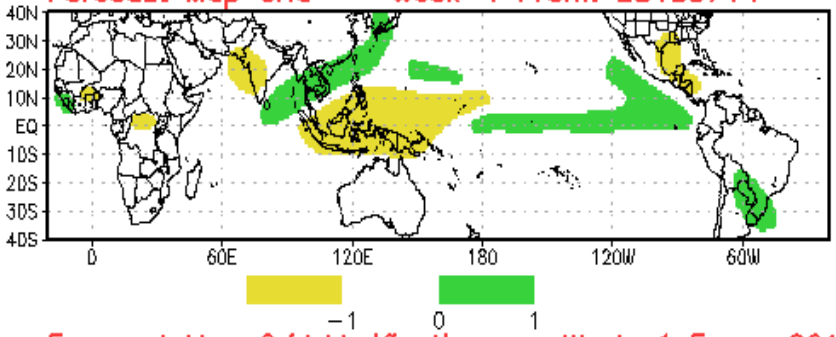
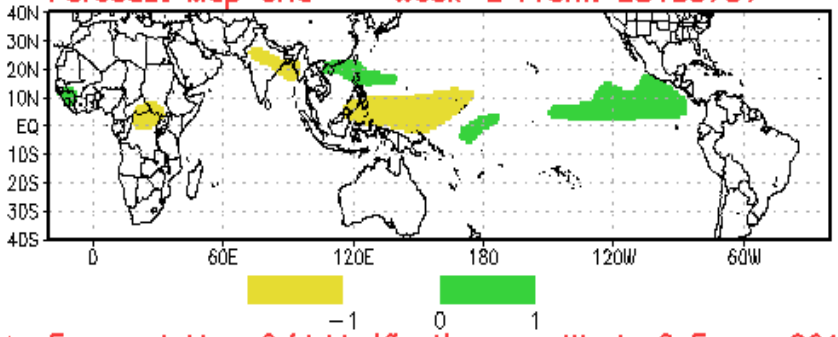


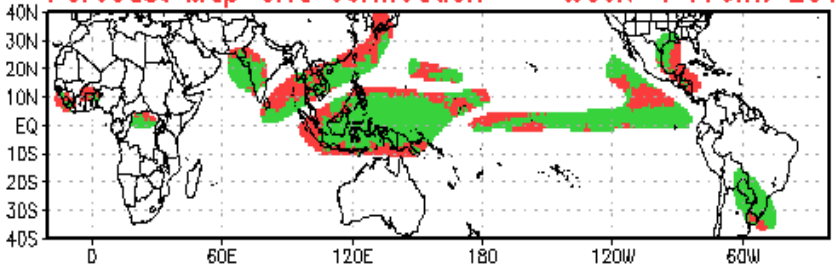
Forecast Map Grid -- Week-1 From: 20150714



Forecast Map Grid -- Week-2 From: 20150707

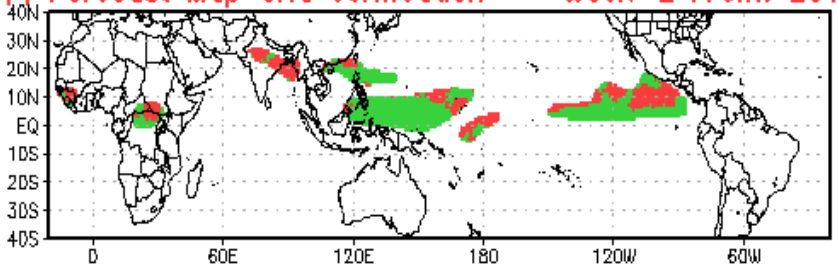


Forecast Map Grid Verification -- Week-1 From: 20150714



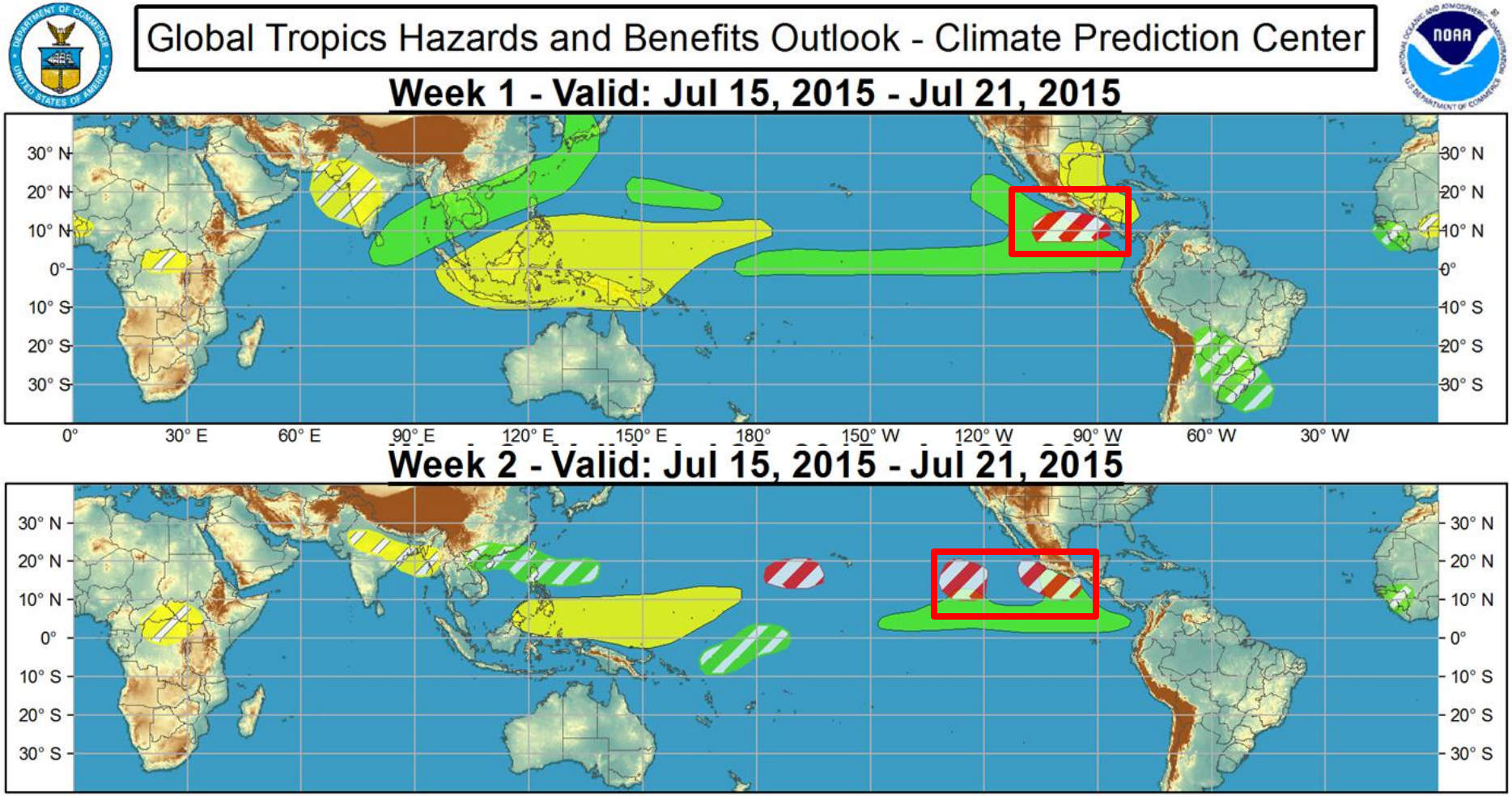
Hit: Green, Miss: Red
Heidke Skill Score: 45.3602

Forecast Map Grid Verification -- Week-2 From: 20150707



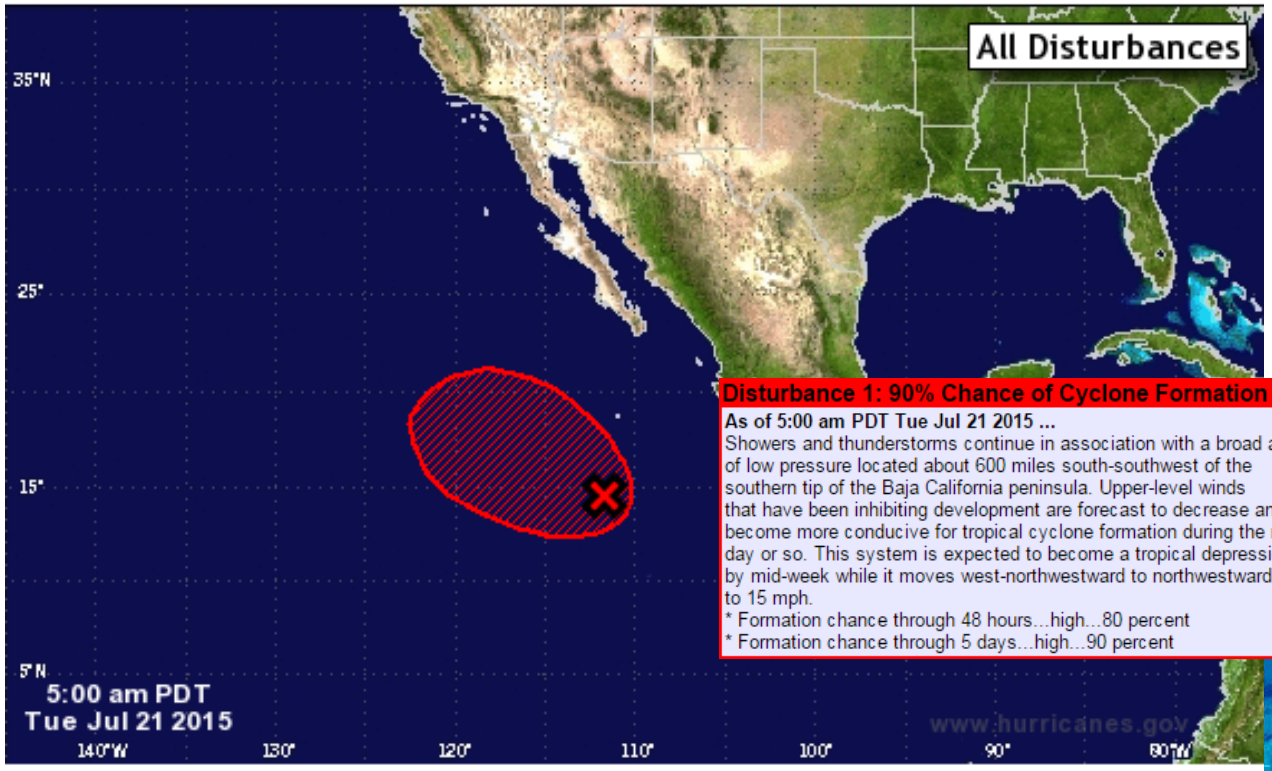
Hit: Green, Miss: Red
Heidke Skill Score: 46.3371

No new tropical cyclogenesis… however…



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Disturbance 1: 90% Chance of Cyclone Formation in 5 Days

As of 5:00 am PDT Tue Jul 21 2015 ...

Showers and thunderstorms continue in association with a broad area of low pressure located about 600 miles south-southwest of the southern tip of the Baja California peninsula. Upper-level winds that have been inhibiting development are forecast to decrease and become more conducive for tropical cyclone formation during the next day or so. This system is expected to become a tropical depression by mid-week while it moves west-northwestward to northwestward at 10 to 15 mph.

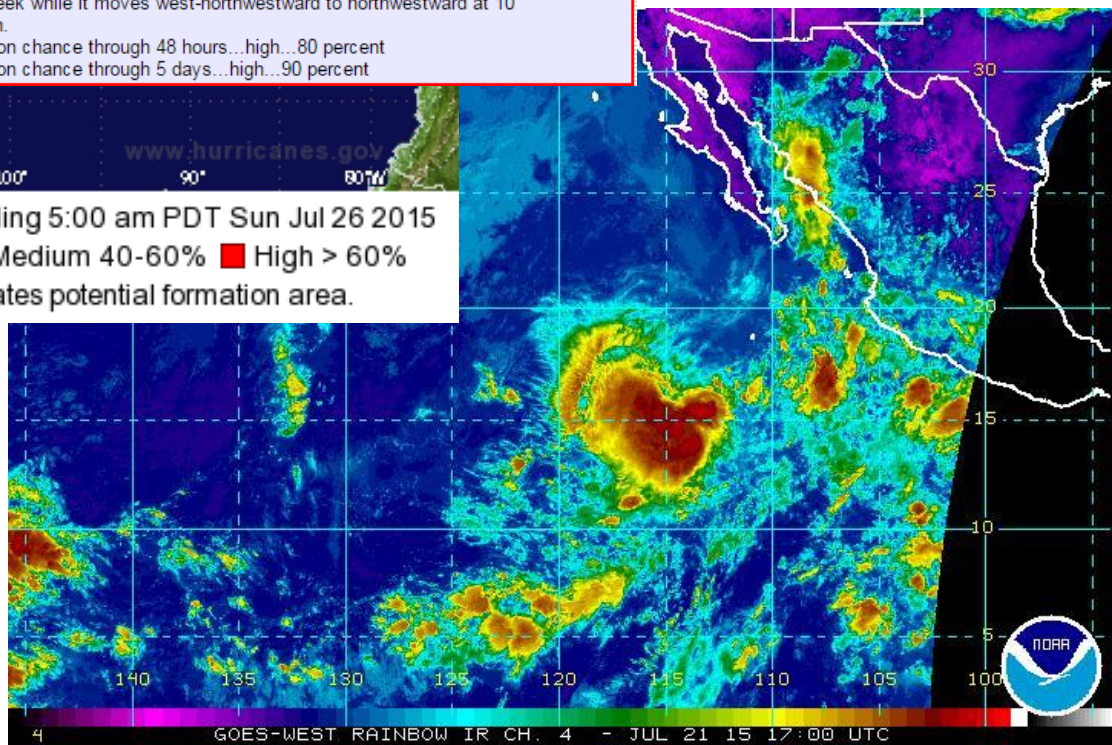
* Formation chance through 48 hours...high...80 percent
* Formation chance through 5 days...high...90 percent

Tropical Cyclone Formation Potential for the 5-Day Period Ending 5:00 am PDT Sun Jul 26 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.

If the disturbance attains TS intensity, it would be named Felicia



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 signal remained coherent in the upper-levels, but the amplitude of the MJO indices decreased due to increasing destructive interference with the El Niño signal.

• Dynamical model MJO index forecasts are all over the place – with some (GEFS) depicting increased amplitude over the Indian Ocean, others keeping more signal over the East Pacific, and others rapidly returning the signal to the West Pacfic.

Extratropics:

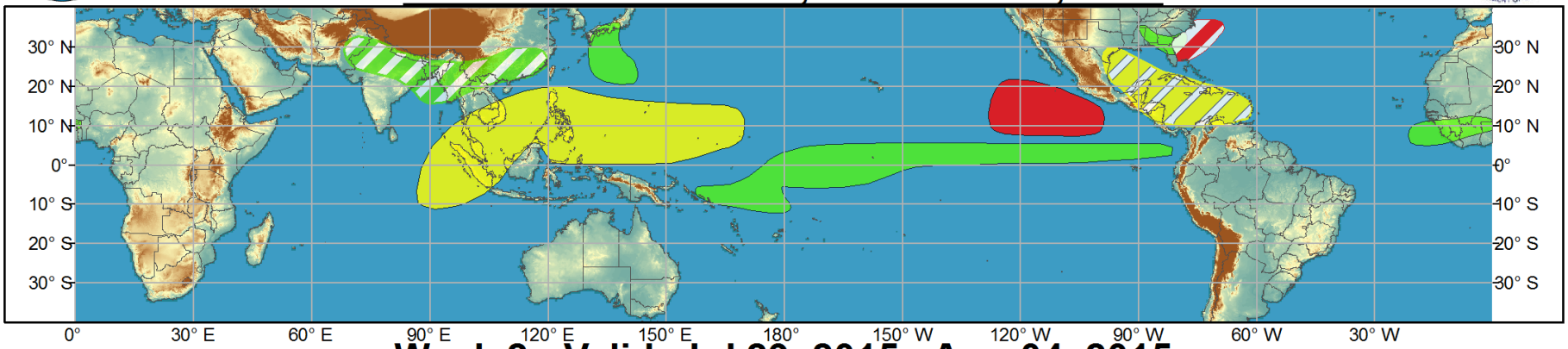
• Due to the weakening MJO signal, the impacts on the extratropics are difficult to determine.

• ENSO will likely continue to be the dominant driver of tropical variability during the next several weeks.

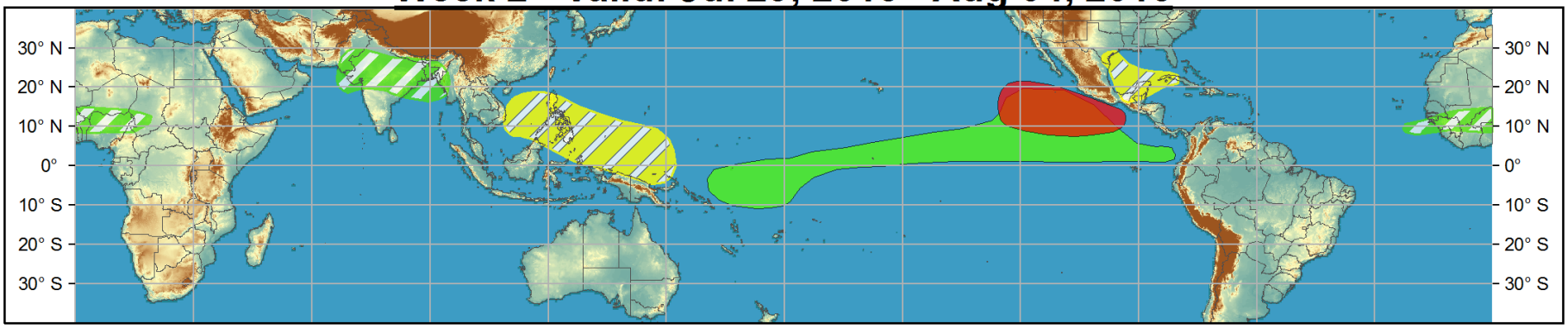
• If continued eastward propagation of the subseasonal signal is realized, vertical shear over the tropical Atlantic may be reduced.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jul 22, 2015 - Jul 28, 2015



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



Produced: 07/21/2015

Forecaster: Allgood

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EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

Australian Government Bureau of Meteorology

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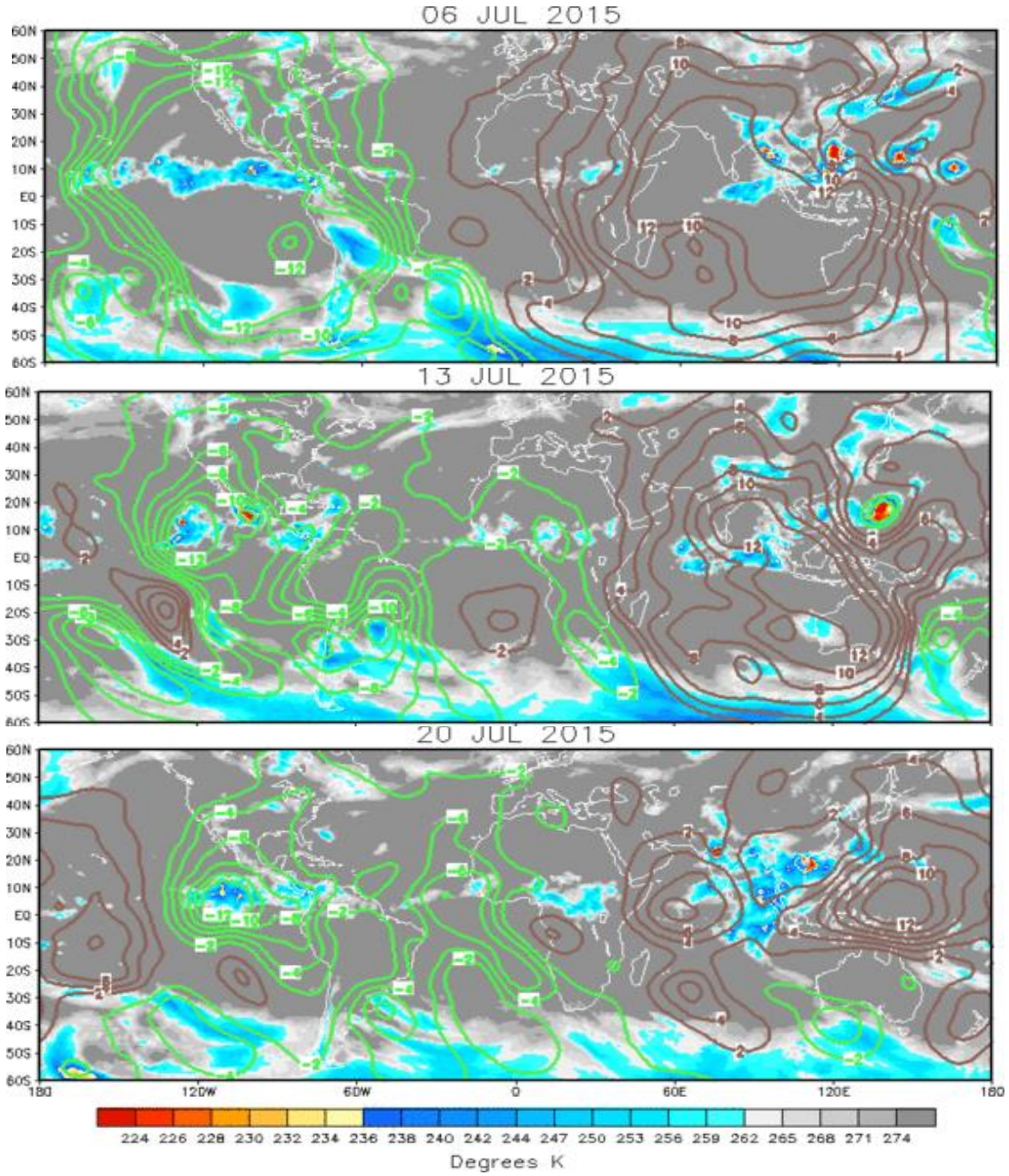
NPS PRAESTANTIA PER SCIENTIAM

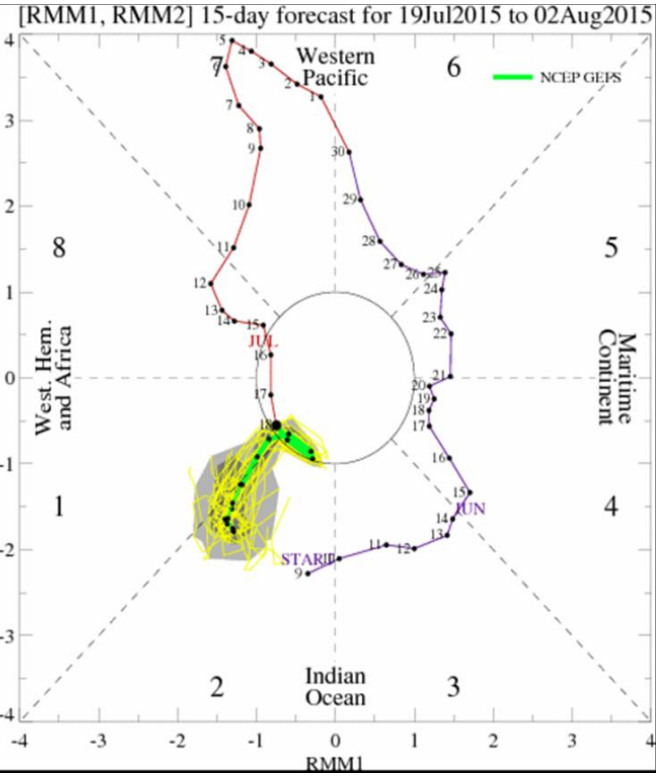
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

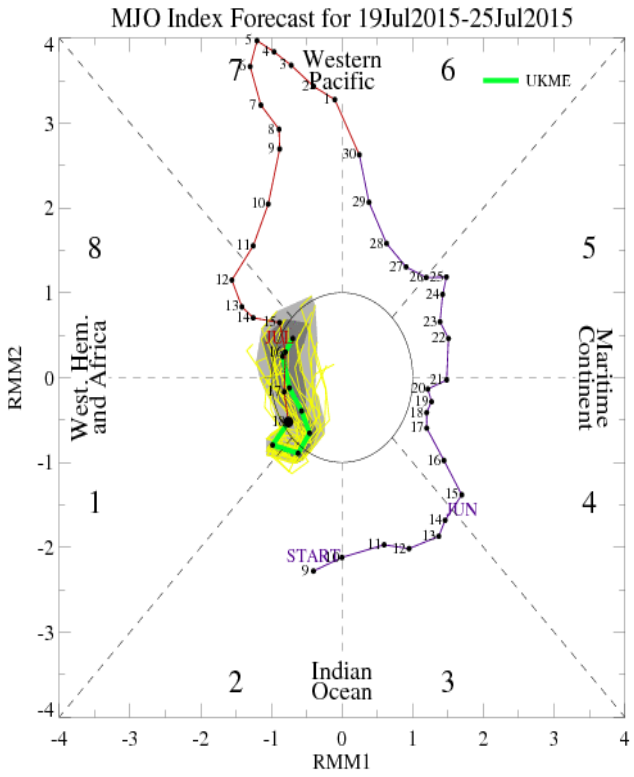
- Wave-1 structure
- Robust eastward propagation
- Note weakening enhanced anomaly field over Atlantic/Africa, and lingering strong enhancement over the Epac.



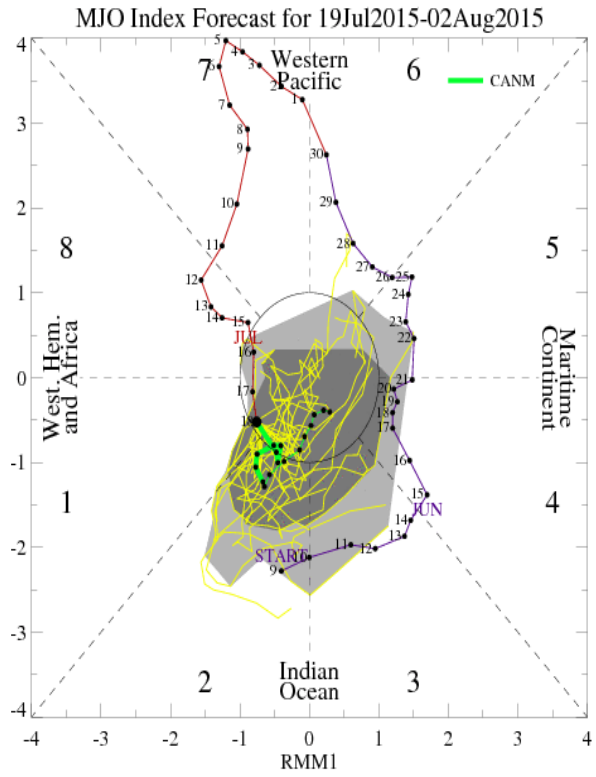
MJO Observation/Forecast



GEFS



UKMET

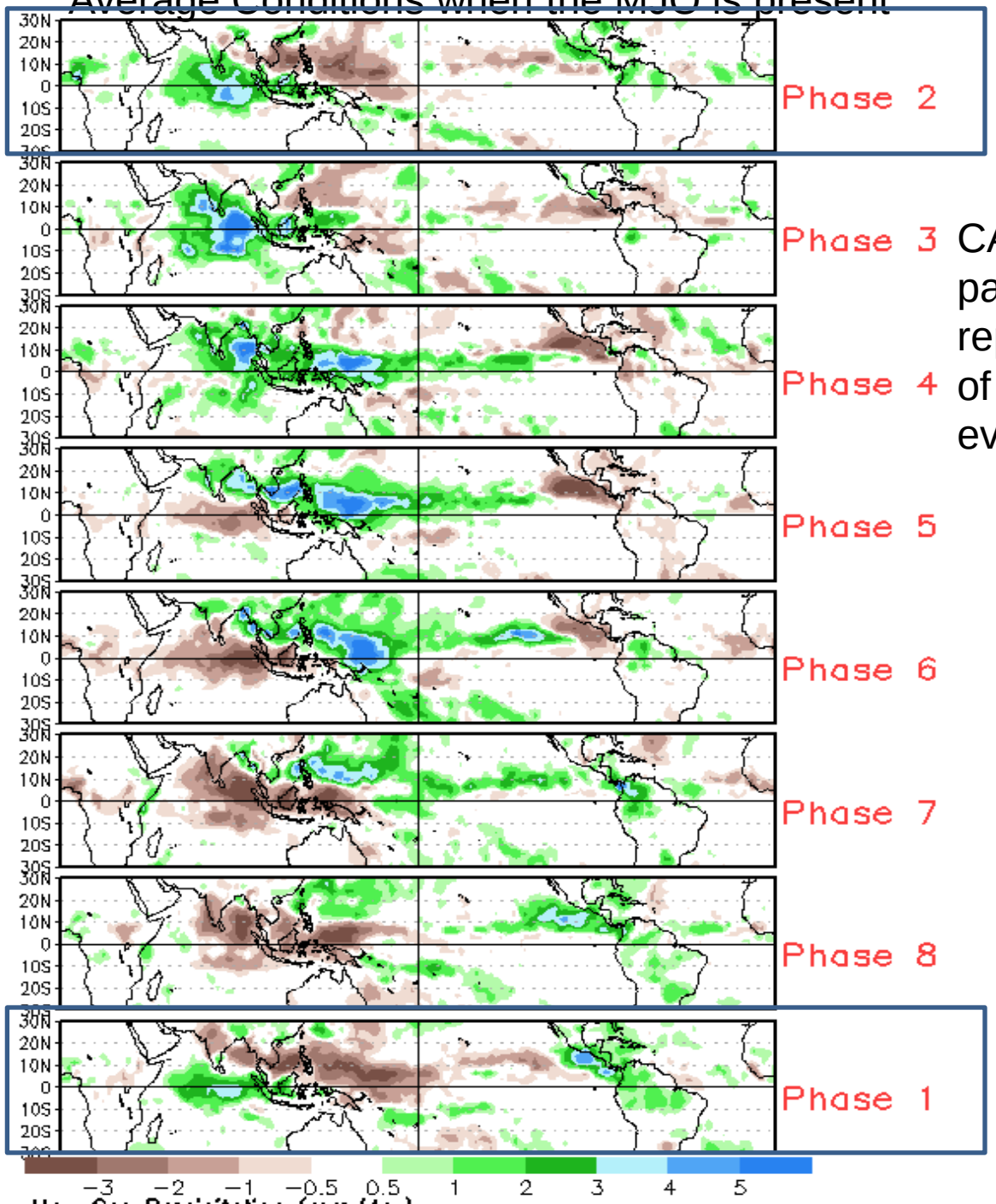


CMC

NOTE: Forecasts are several days old due to technical difficulties.

GFS: Increasing amplitude over west-central Indian Ocean.
UKMET: Signal returns to the Eastern Pacific.
CMC: Big spread among ensemble members, some depict an IO event, others bring the signal quickly to the West Pacific by Week-2.

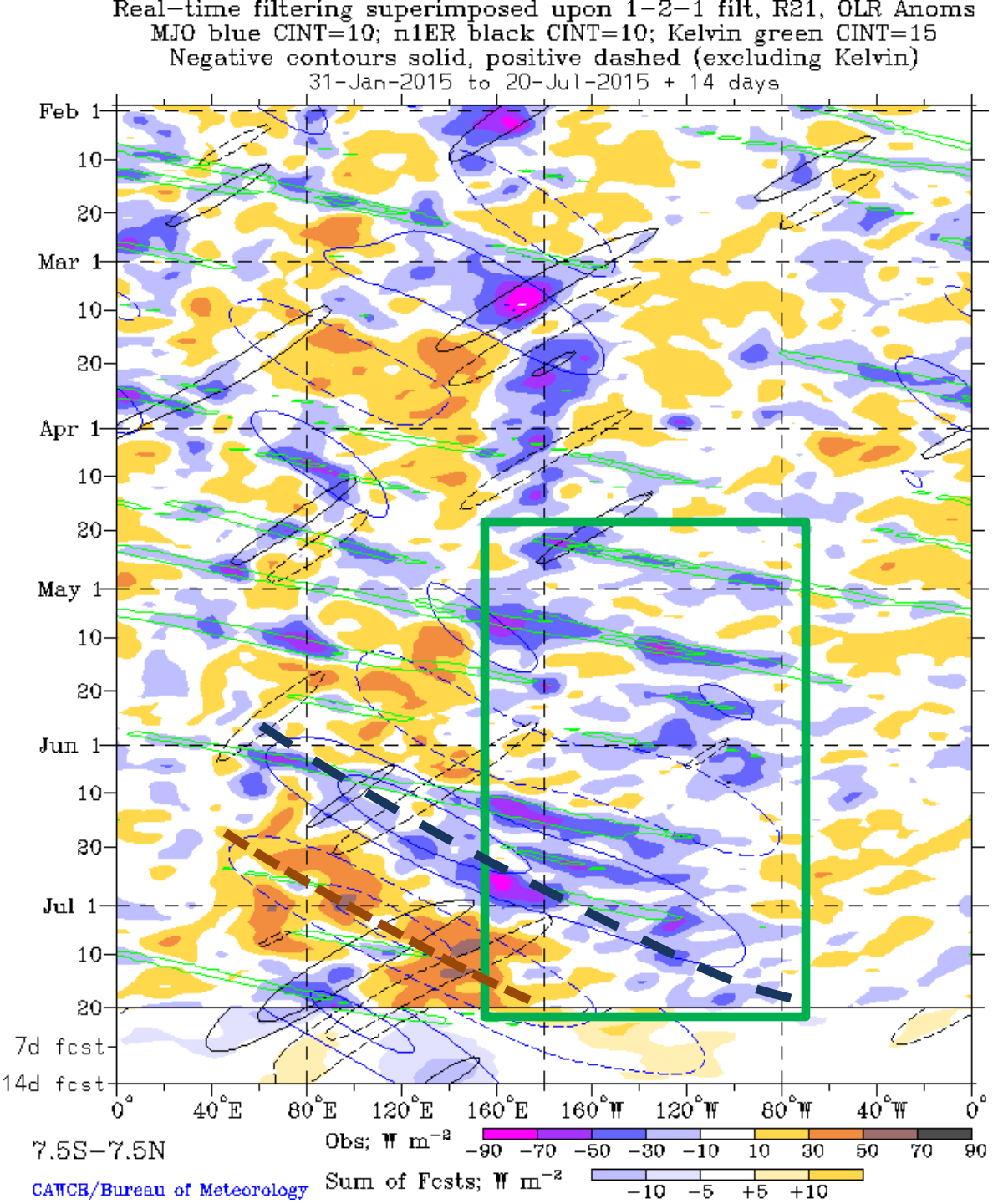
Average Conditions when the MJO is present



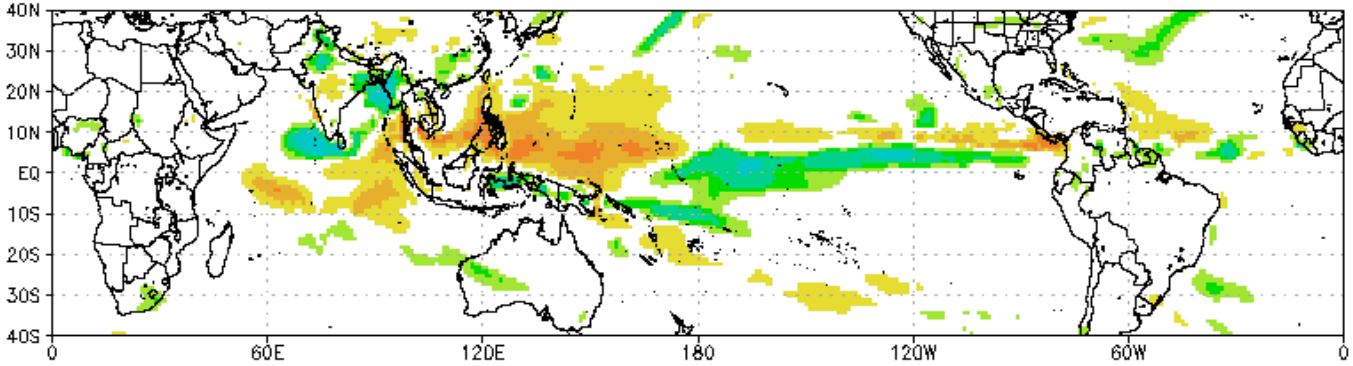
CAVEAT: These panels are representative of robust MJO events.

Enhanced Pacific convection due to El Niño (green box)

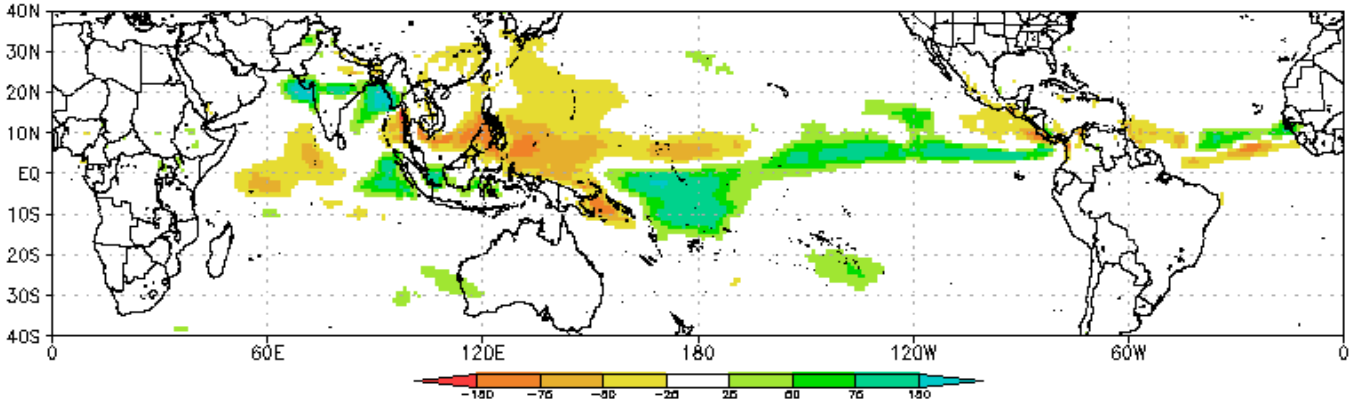
MJO event (dashed lines)



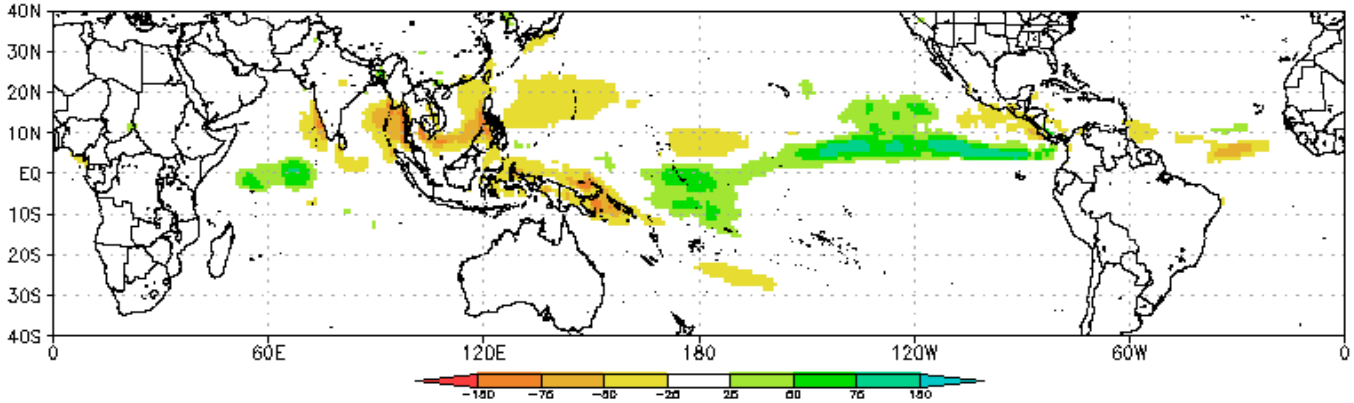
CFSv2 Precip Anomalies (mm) Issued 20Jul2015
Week-1 Forecast Ending 28Jul2015



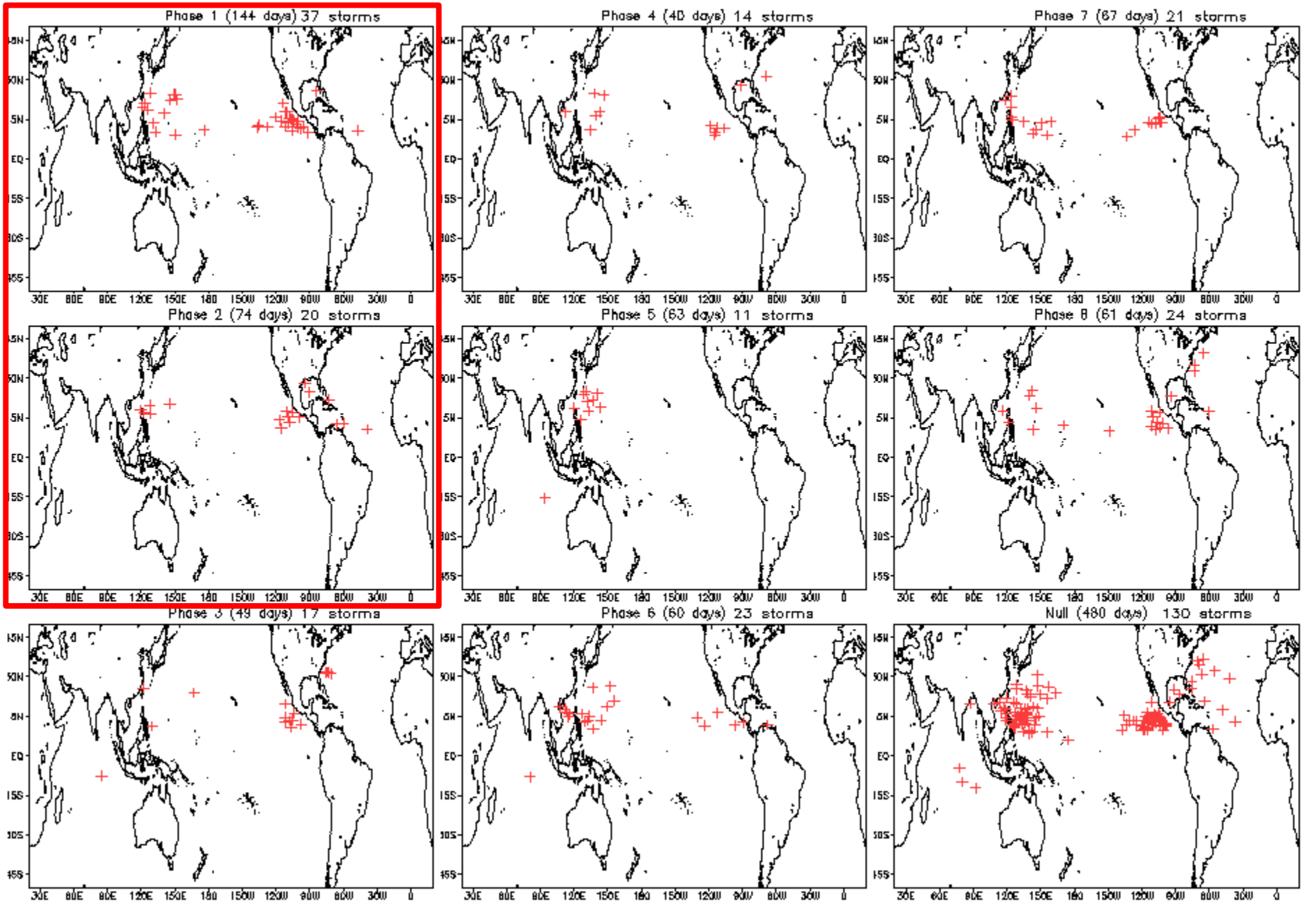
CFSv2 Precip Anomalies (mm) Issued 20Jul2015
Week-2 Forecast Ending 04Aug2015

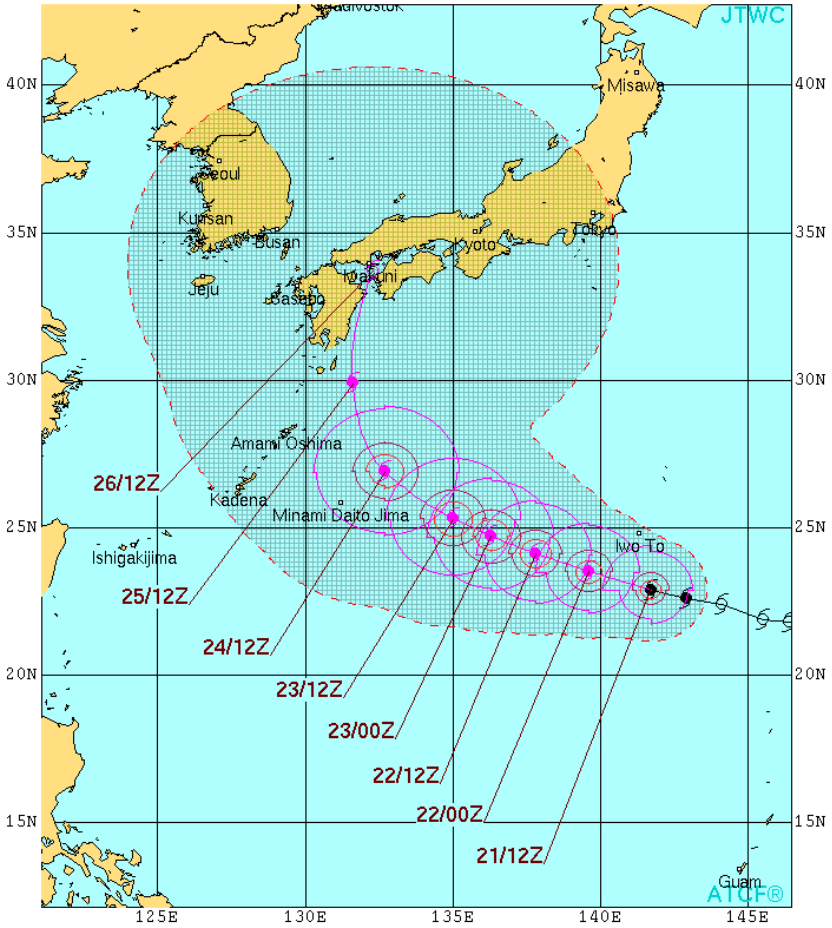


CFSv2 Precip Anomalies (mm) Issued 20Jul2015
Week-3/4 Forecast Ending 18Aug2015



July Tropical Storm Formation by MJO phase





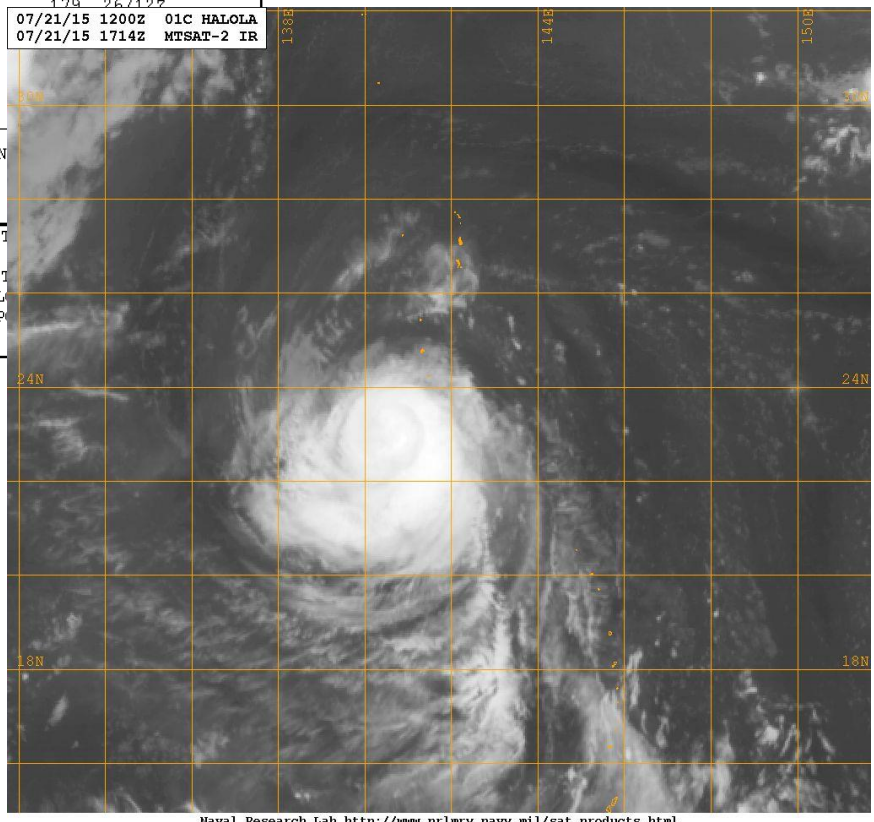
TYPHOON 01C (HALOLA) WARNING #46
WTPN32 PGTW 211500
211200Z POSIT: NEAR 22.9N 141.7E
MOVING 285 DEGREES TRUE AT 11 KNOTS
MAXIMUM SIGNIFICANT WAVE HEIGHT: 25 FEET
21/12Z, WINDS 075 KTS, GUSTS TO 090 KTS
22/00Z, WINDS 080 KTS, GUSTS TO 100 KTS
22/12Z, WINDS 085 KTS, GUSTS TO 105 KTS
23/00Z, WINDS 090 KTS, GUSTS TO 110 KTS
23/12Z, WINDS 090 KTS, GUSTS TO 110 KTS
24/12Z, WINDS 085 KTS, GUSTS TO 105 KTS
25/12Z, WINDS 070 KTS, GUSTS TO 085 KTS
26/12Z, WINDS 045 KTS, GUSTS TO 055 KTS

CPA TO:	NM	DTG
CHICHI_JIMA	245	21/17Z
IWO_TO	99	21/17Z
KADENA_AB	246	24/22Z
SASEBO	116	26/06Z
ATSUGI	367	26/12Z
CAMP_FUJI	305	26/12Z
CAMP_HUMPHREYS	326	26/12Z
CAMP_RED_CLOUD	353	26/12Z
CAMP_ZAMA	367	26/12Z
CHINHAE	202	26/12Z
INCHON	359	26/12Z
IWAKUNI	30	26/12Z
KUNSAN_AB	310	26/12Z
OSAN_AB	330	26/12Z
PUSAN	179	26/12Z
R2RS		
SEOUL_AB		
TAEGU		
YOKOSUKA		
YOKOTA_AB		
YONGSAN_AIN		

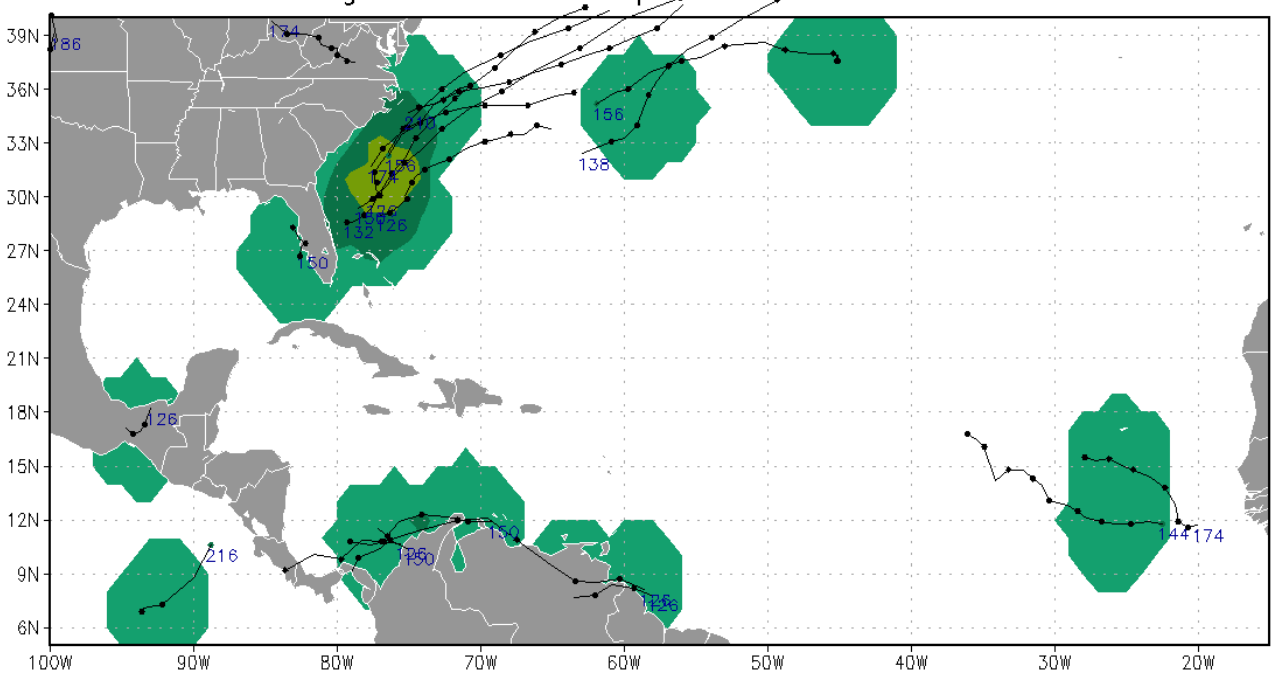
BEARING AND DISTAN

CHICHI_JIMA
IWO_TO

o LESS THAN 34 KNOT
34-63 KNOTS
MORE THAN 63 KNOT
PAST 6 HOURLY CYCL
FORECAST CYCLONE P



NCEP Ensemble-based Probability (%) of TC genesis
for forecasts during the 120-240h period from initial time = 2015072100



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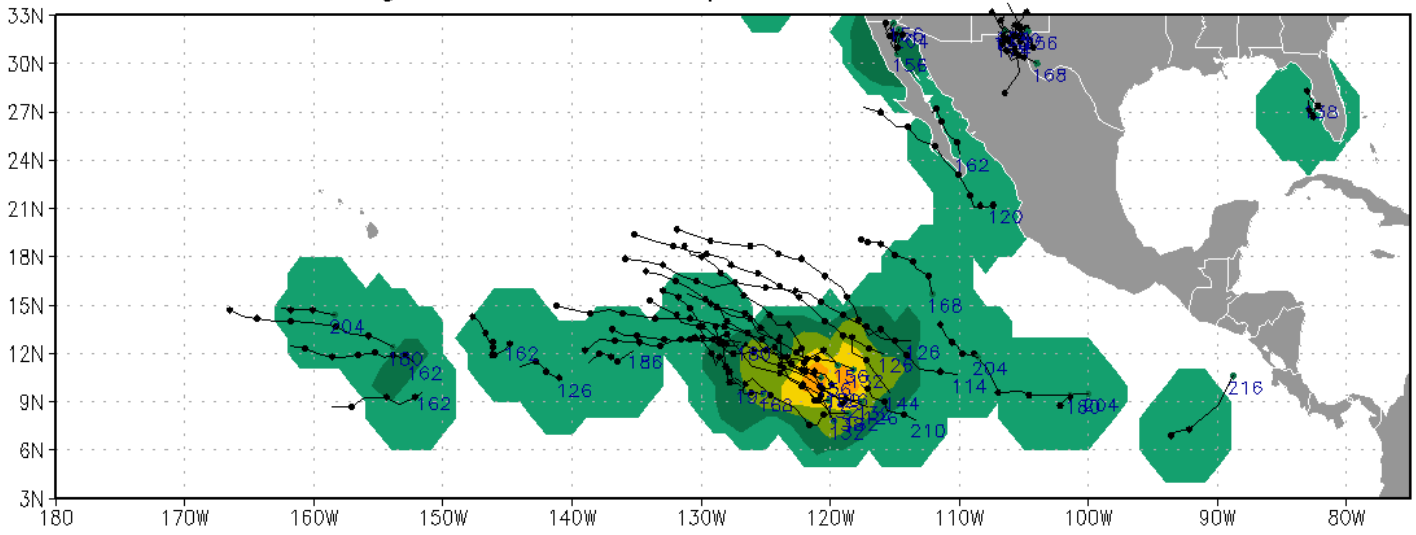
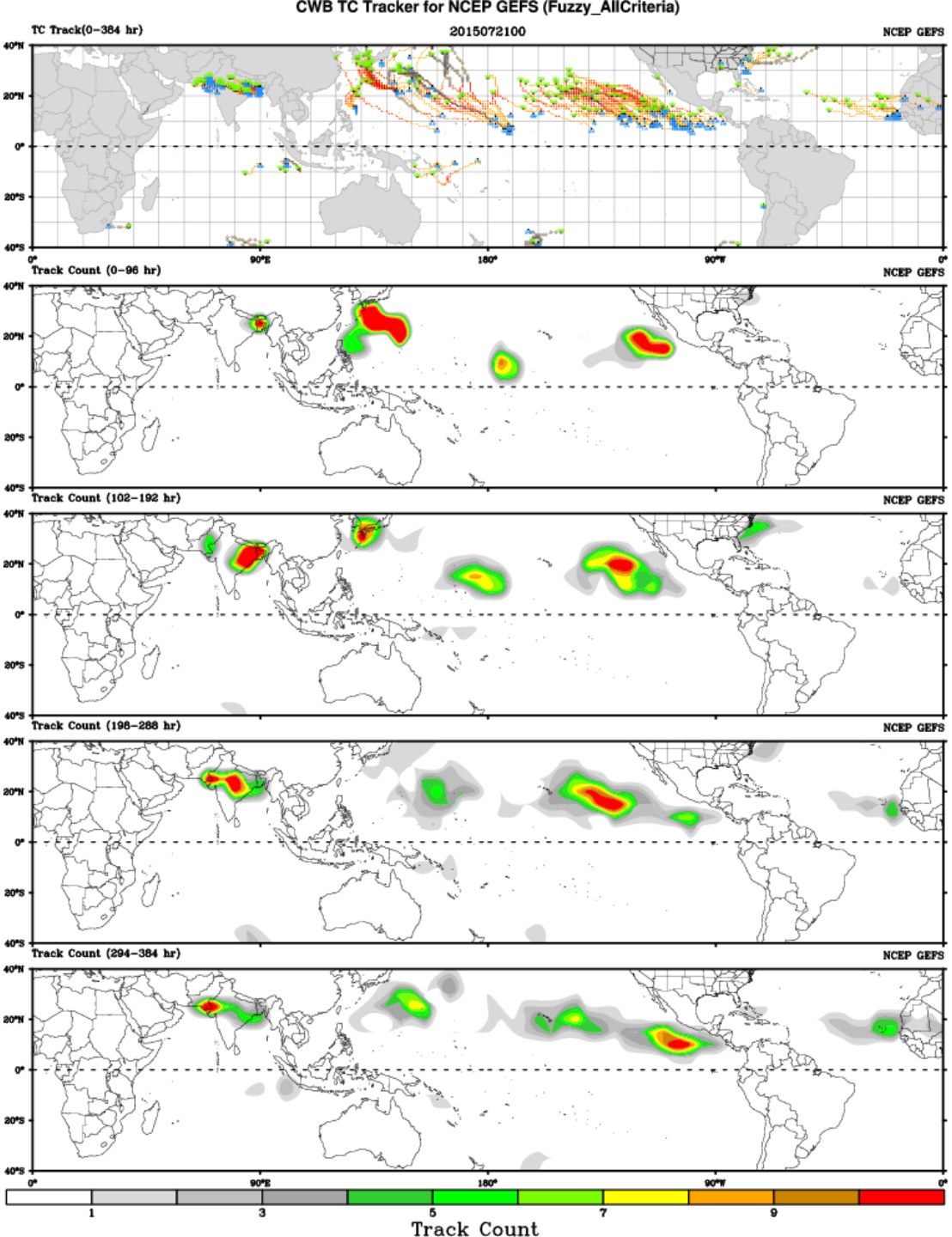
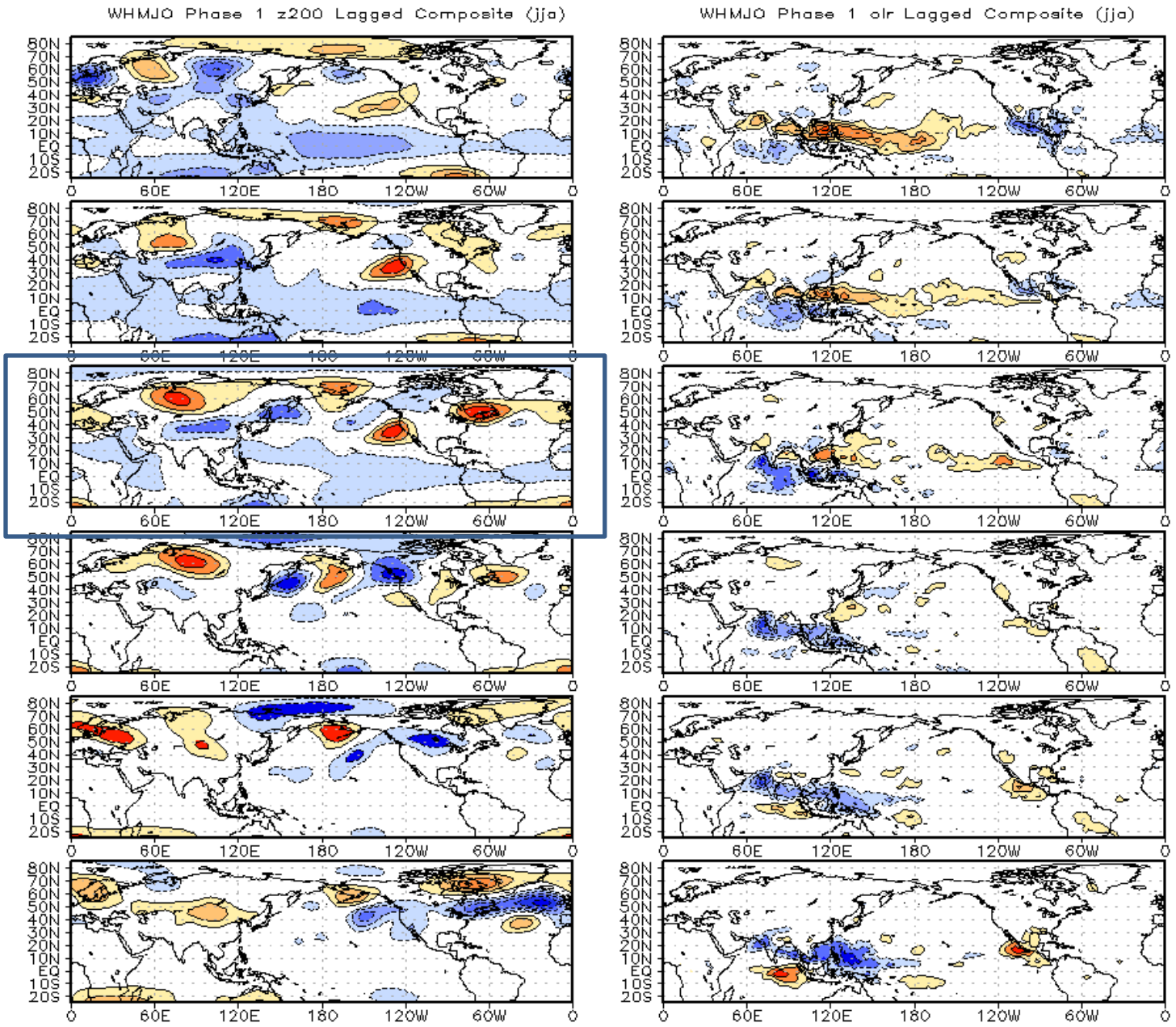
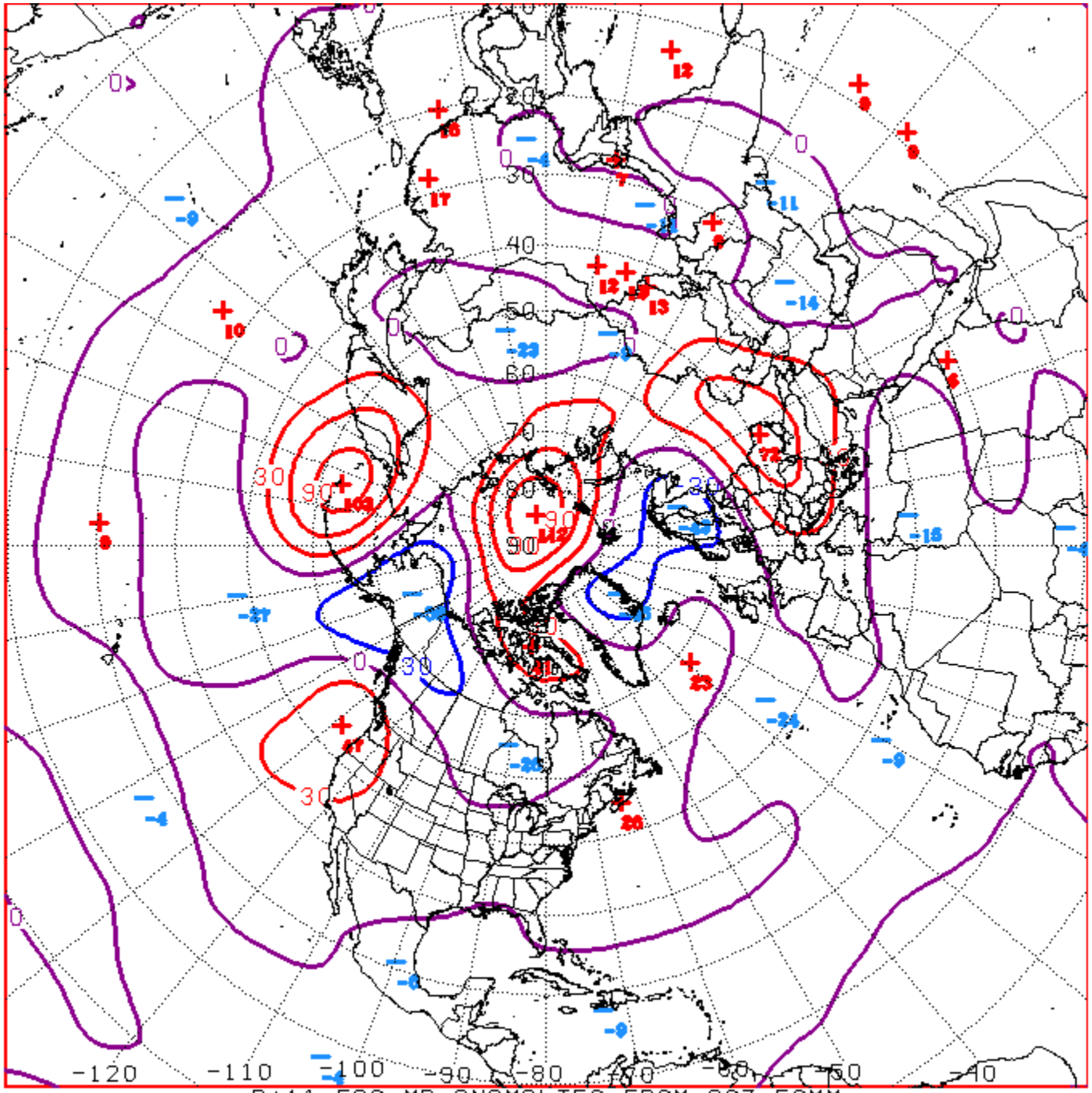



CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)
TC Track(0-384 hr)
2015072100
NCEP GEFS
Track Count (0-96 hr)
Track Count (102-192 hr)
Track Count (198-288 hr)
Track Count (294-384 hr)
40°N
20°N
0°
20°S
40°S
0°
90°E
180°
90°W
1
3
5
7
9
Track Count

Connections to U.S. Impacts

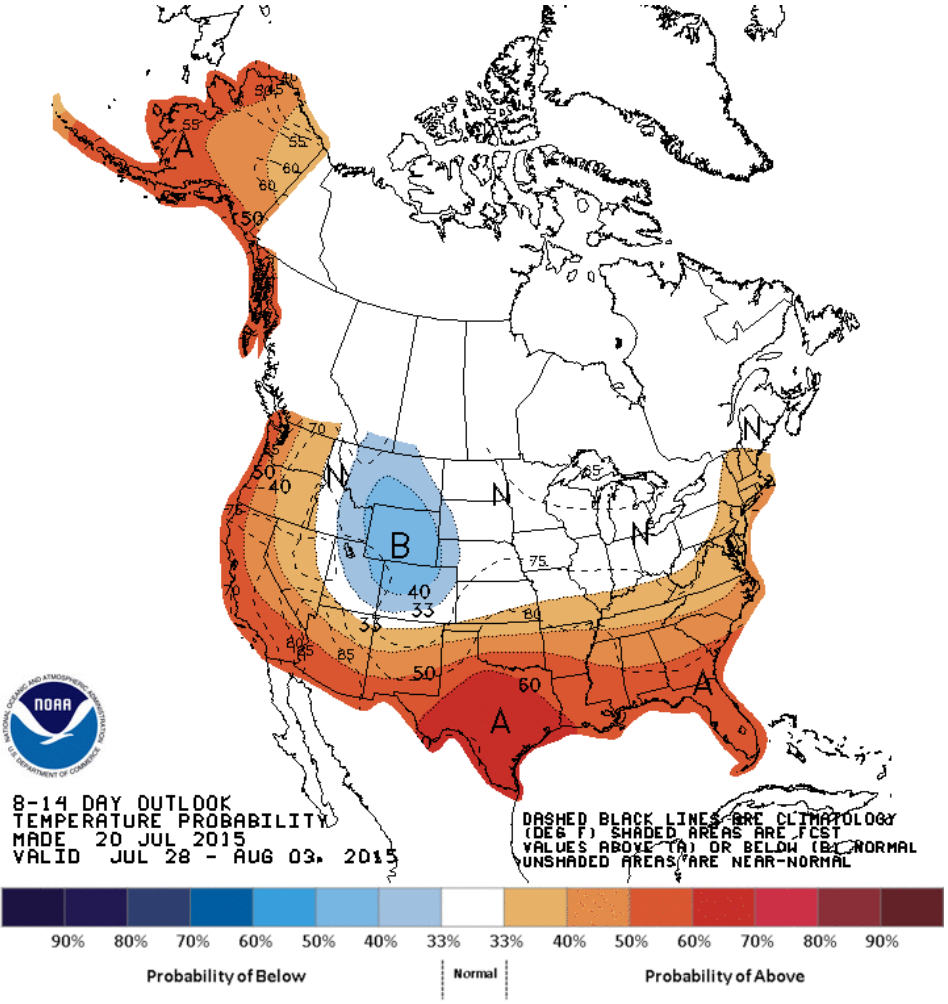
Lagged composite from MJO
5-day intervals

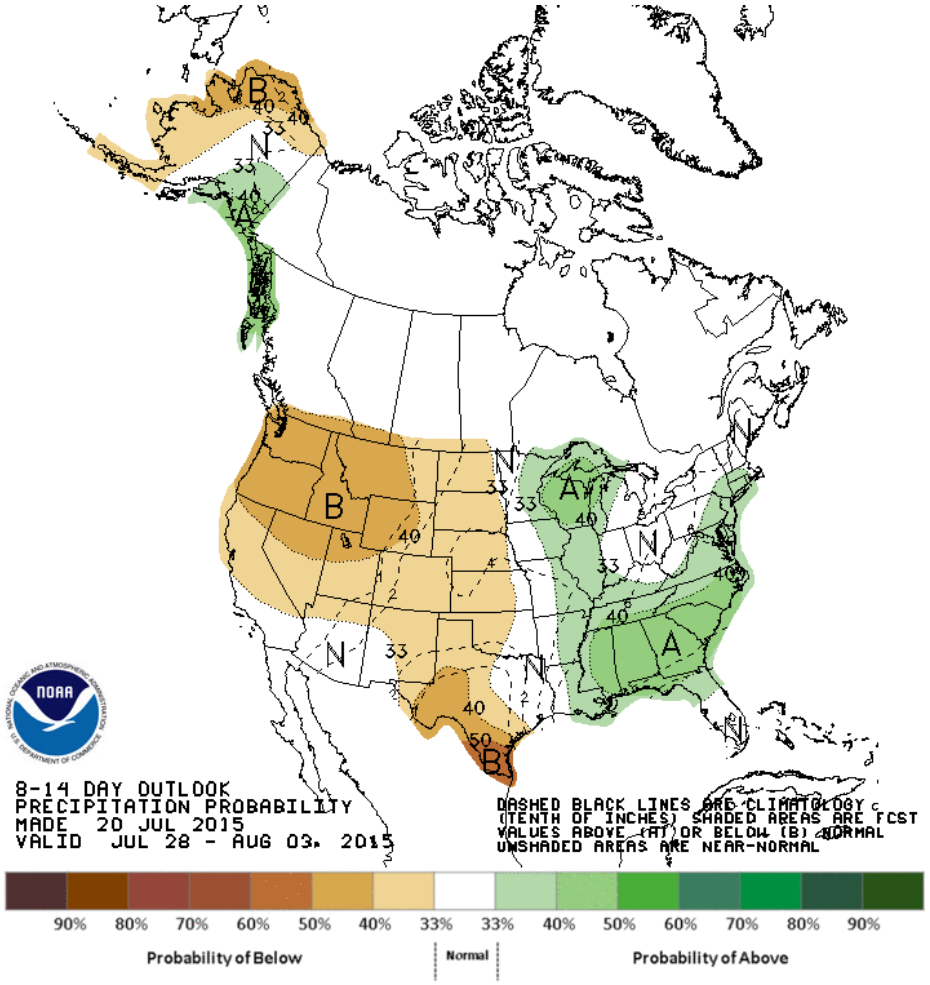




D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE JUL 21 2015 1049 UTC CNTD AUG 01 2015

Week 2 – Temperature and Precipitation





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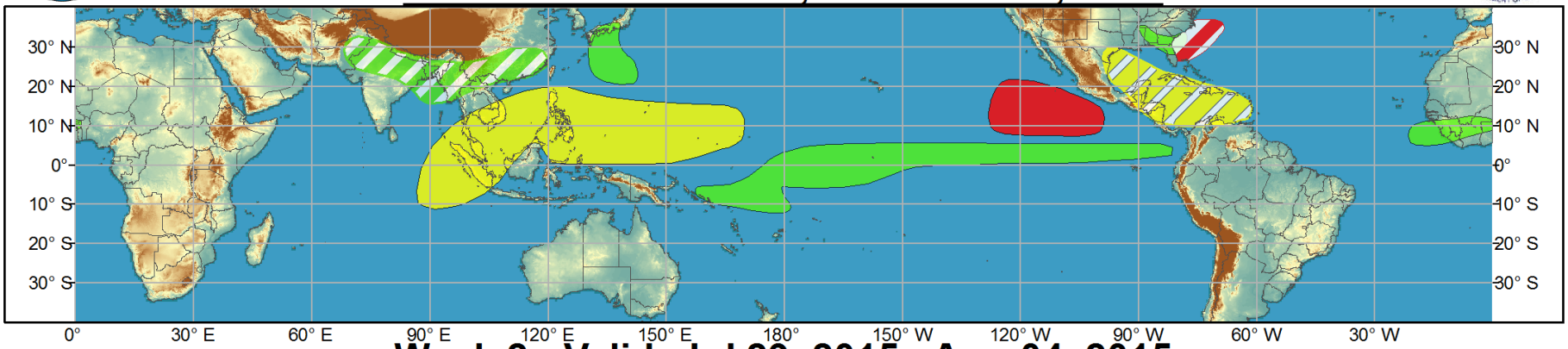

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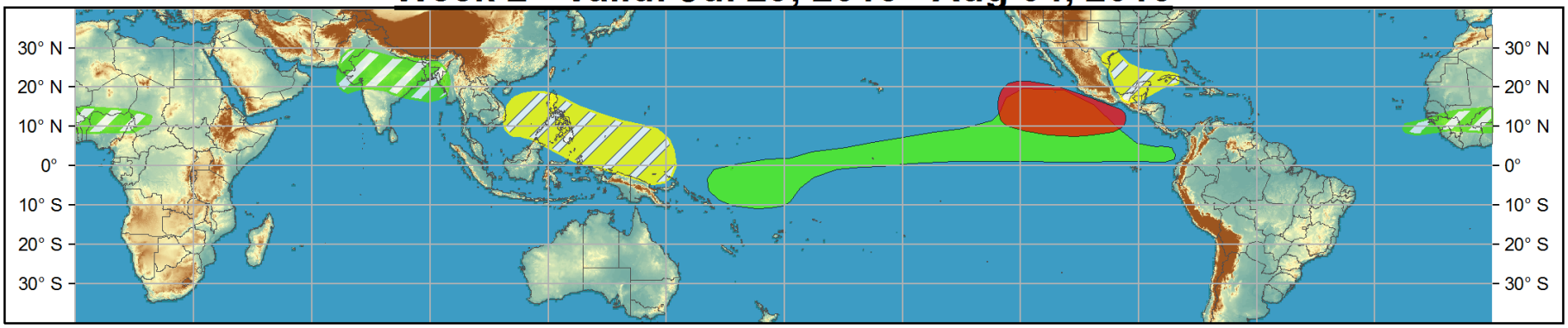

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