

Global Tropics Hazards And Benefits Outlook

June 16, 2015

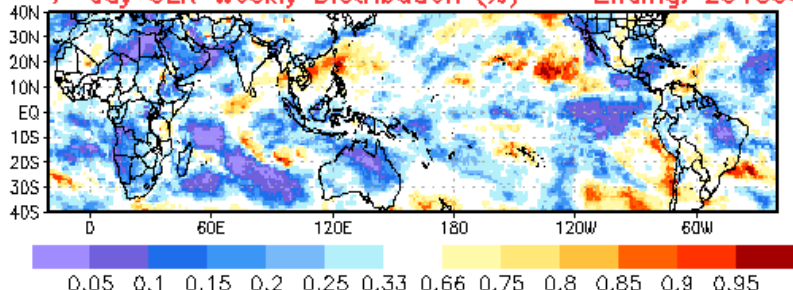
Adam Allgood

Outline

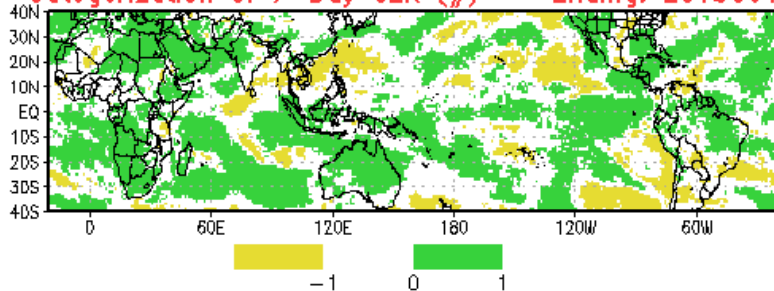
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Recent Forecast Verifications

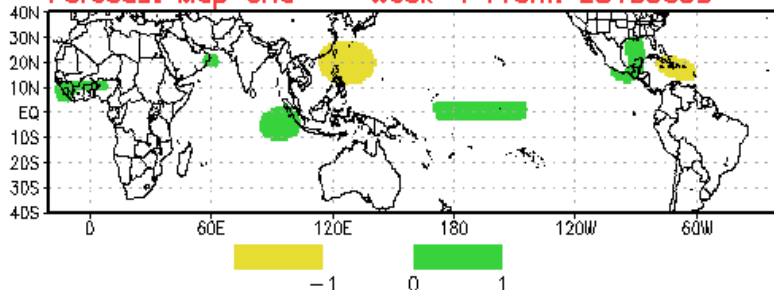
7-day OLR Weekly Distribution (%) -- Ending: 20150616



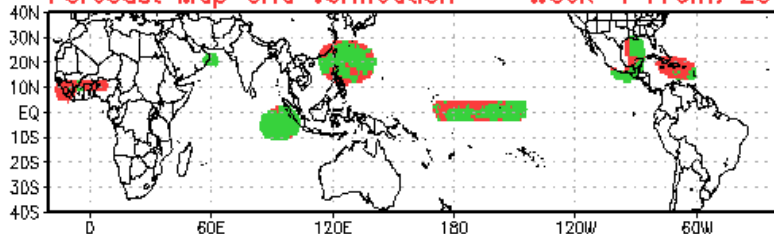
Categorization of 7-Day OLR (#) -- Ending: 20150616



Forecast Map Grid -- Week-1 From: 20150609

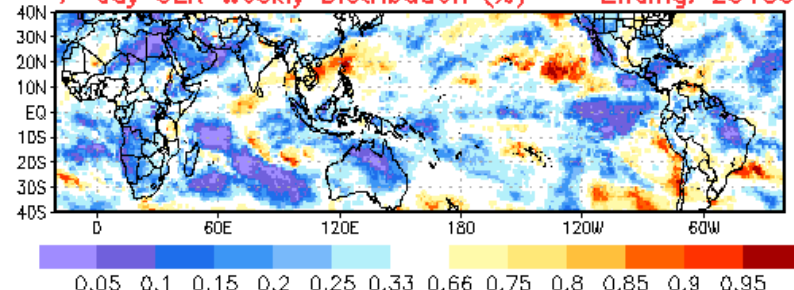


Forecast Map Grid Verification -- Week-1 From: 20150609

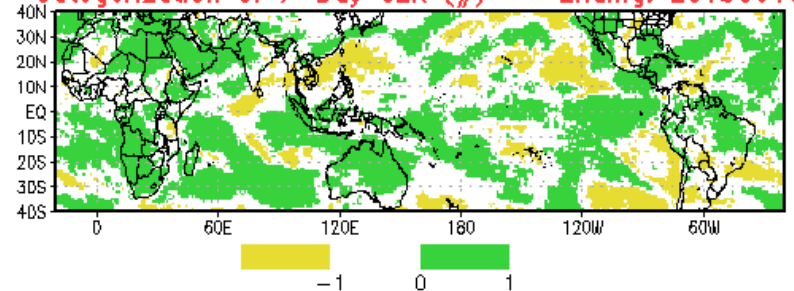


Hit: Green, Miss: Red
Heidke Skill Score: 43.5431

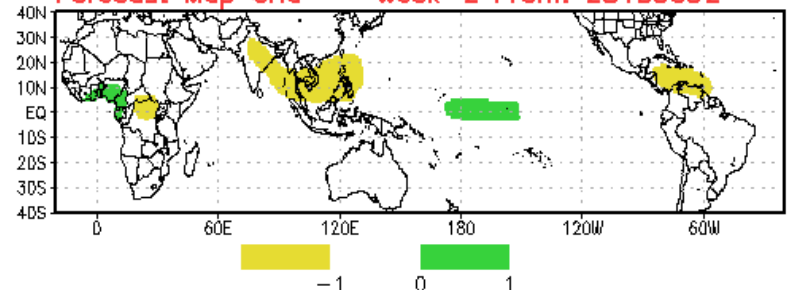
7-day OLR Weekly Distribution (%) -- Ending: 20150616



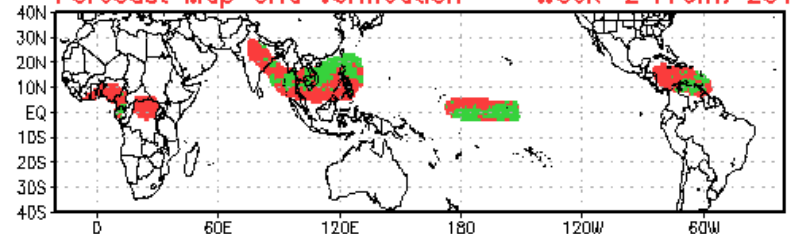
Categorization of 7-Day OLR (#) -- Ending: 20150616



Forecast Map Grid -- Week-2 From: 20150602



Forecast Map Grid Verification -- Week-2 From: 20150602



Hit: Green, Miss: Red
Heidke Skill Score: 5.5838

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 fall 2015, and around an 85% chance it will last through the 2015-16 winter.

MJO and other subseasonal tropical variability:

- The MJO remained coherent, with the enhanced (suppressed) phase propagating over the eastern Indian Ocean and western Maritime Continent (Western Hemisphere).
- Kelvin Wave activity and the El Niño base state continue to strongly influence the pattern, destructively interfering with the MJO signal.
- Most dynamical model MJO index forecasts (ECMWF, UKMET) depict a coherent MJO event crossing the Maritime Continent and entering the West Pacific during Week-2. In contrast, the GFS rapidly weakens the MJO signal, with a return of base state conditions during Week-2.

Extratropics:

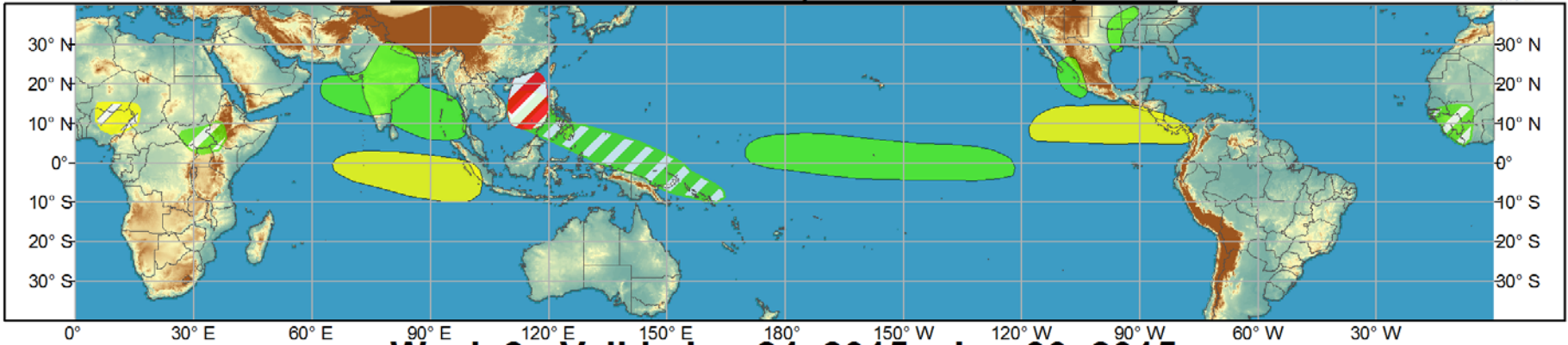
- The MJO signal may contribute to a reduction of convection across the Gulf of Mexico (and Gulf Coast) during Week-1, as well as reducing the potential for additional tropical cyclogenesis over the eastern Pacific. Other larger scale extratropical impacts are difficult to discern, and El Niño influence will become increasingly more dominant during Week-2 and beyond as the intraseasonal signal becomes more in phase with the base state.



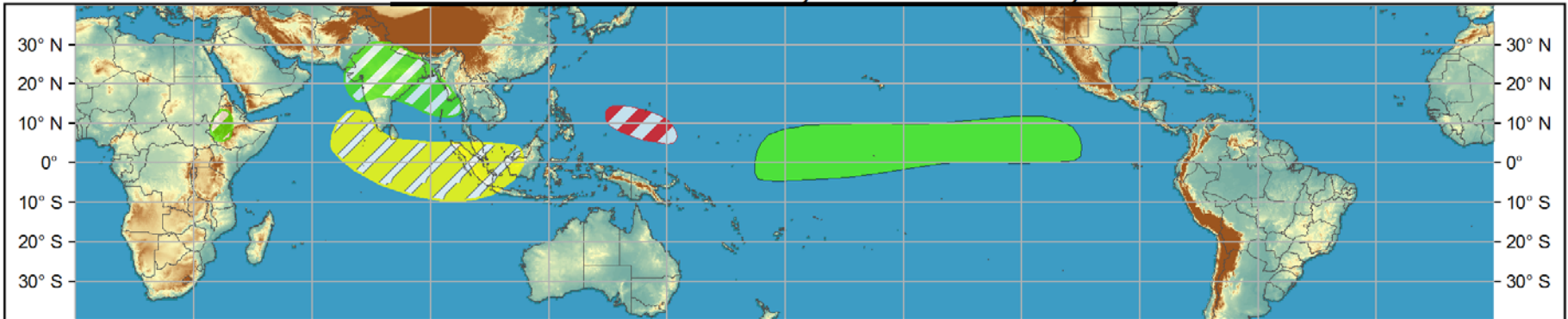
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jun 17, 2015 - Jun 23, 2015



Week 2 - Valid: Jun 24, 2015 - Jun 30, 2015



- 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: 06/16/2015

Forecaster: Allgood

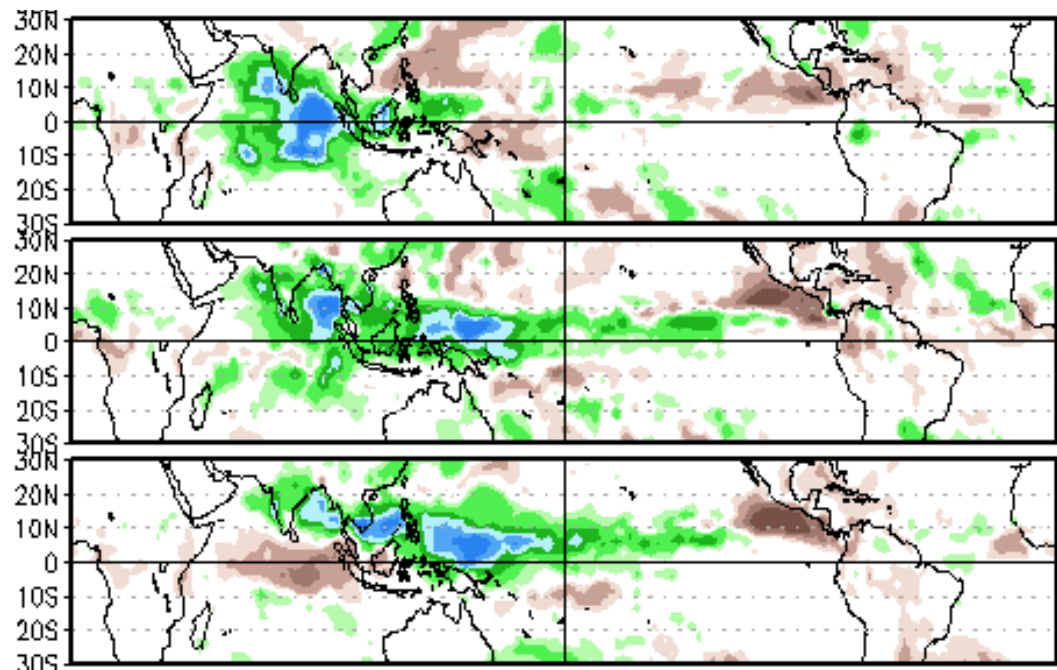
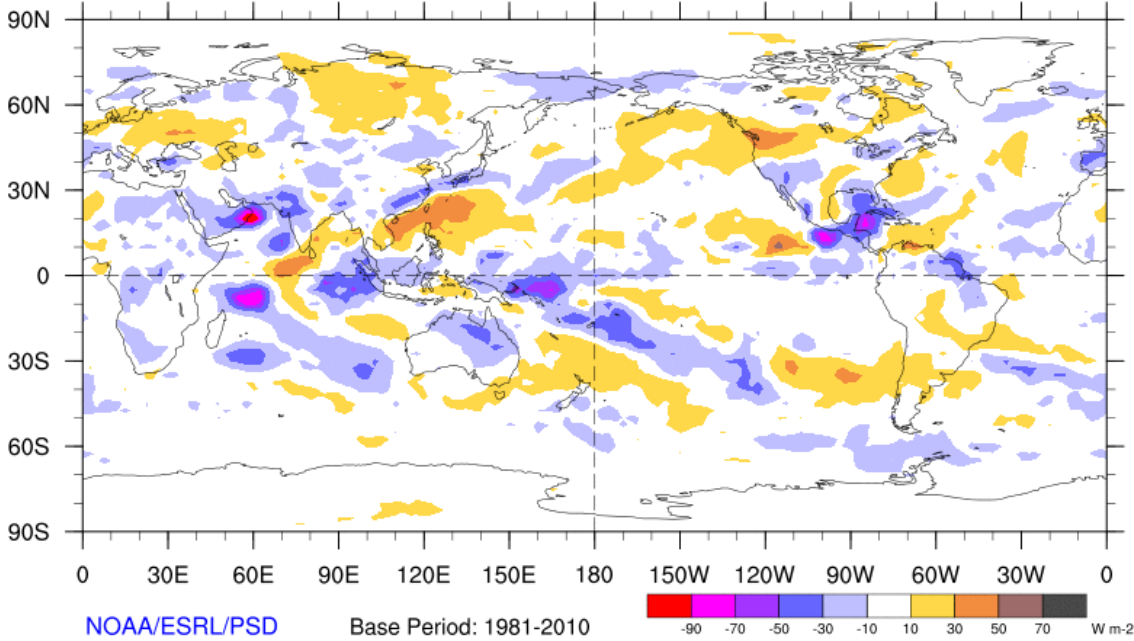
Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



7-Day Average OLR Anomaly

2015/06/08 - 2015/06/14

OLR Anomalies – past week



Phase 3

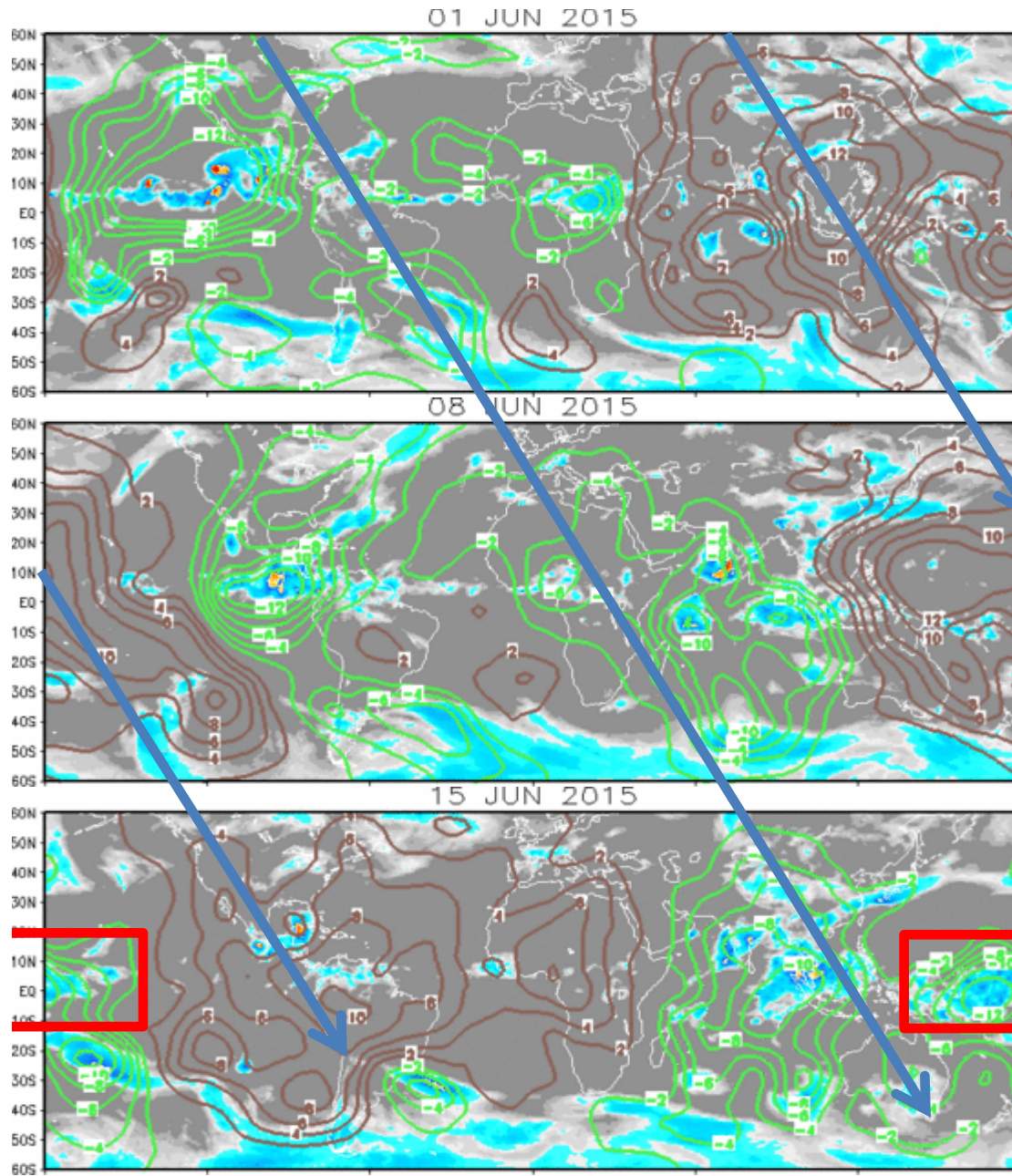
Phase 4

Phase 5

MJO Precip Composites

IR Satellite & 200-hpa Velocity Potential Anomalies

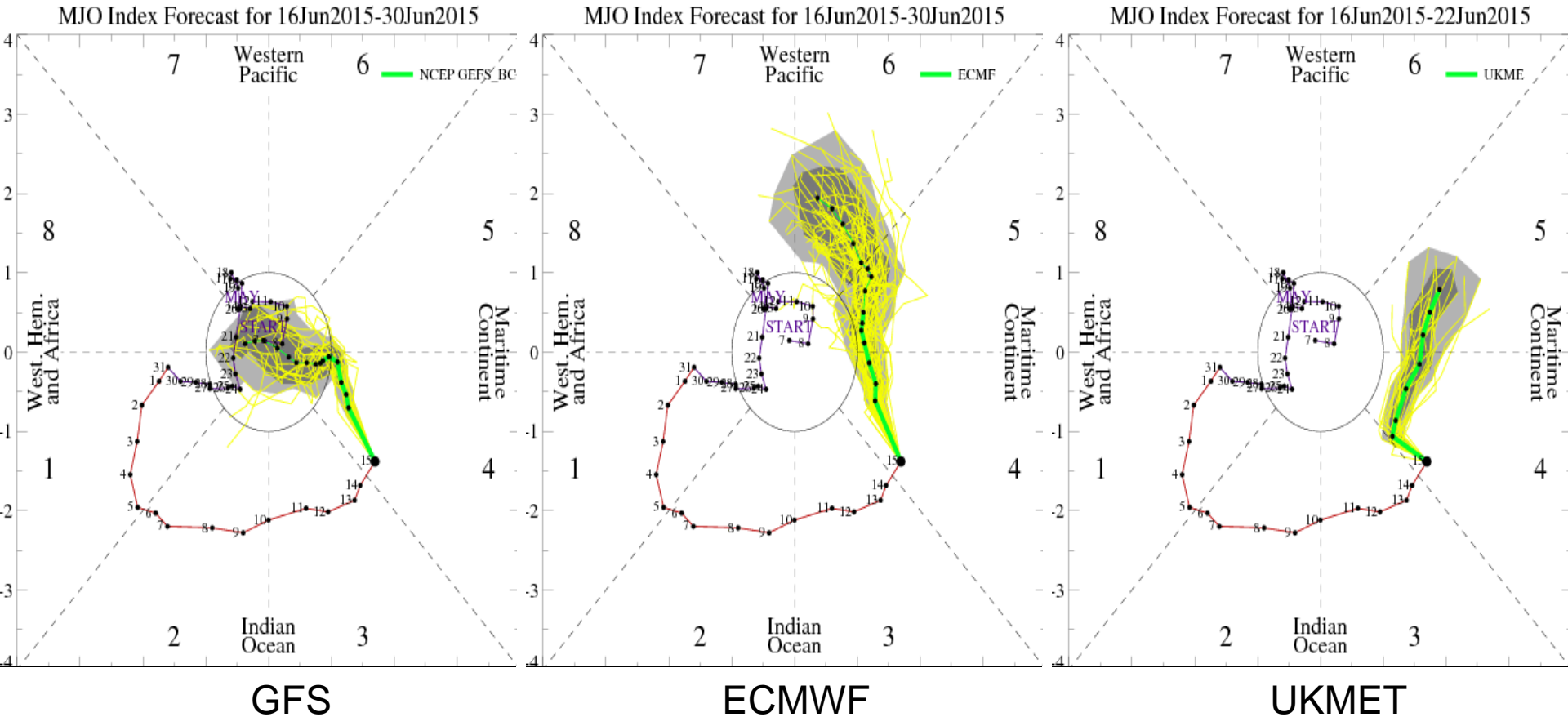
Green: Enhanced Divergence Brown: Enhanced Convergence



Coherent
Wave-1
symmetry
consistent
with MJO

KW ahead of
MJO convective
envelope,
interacting with
base state (red
box)

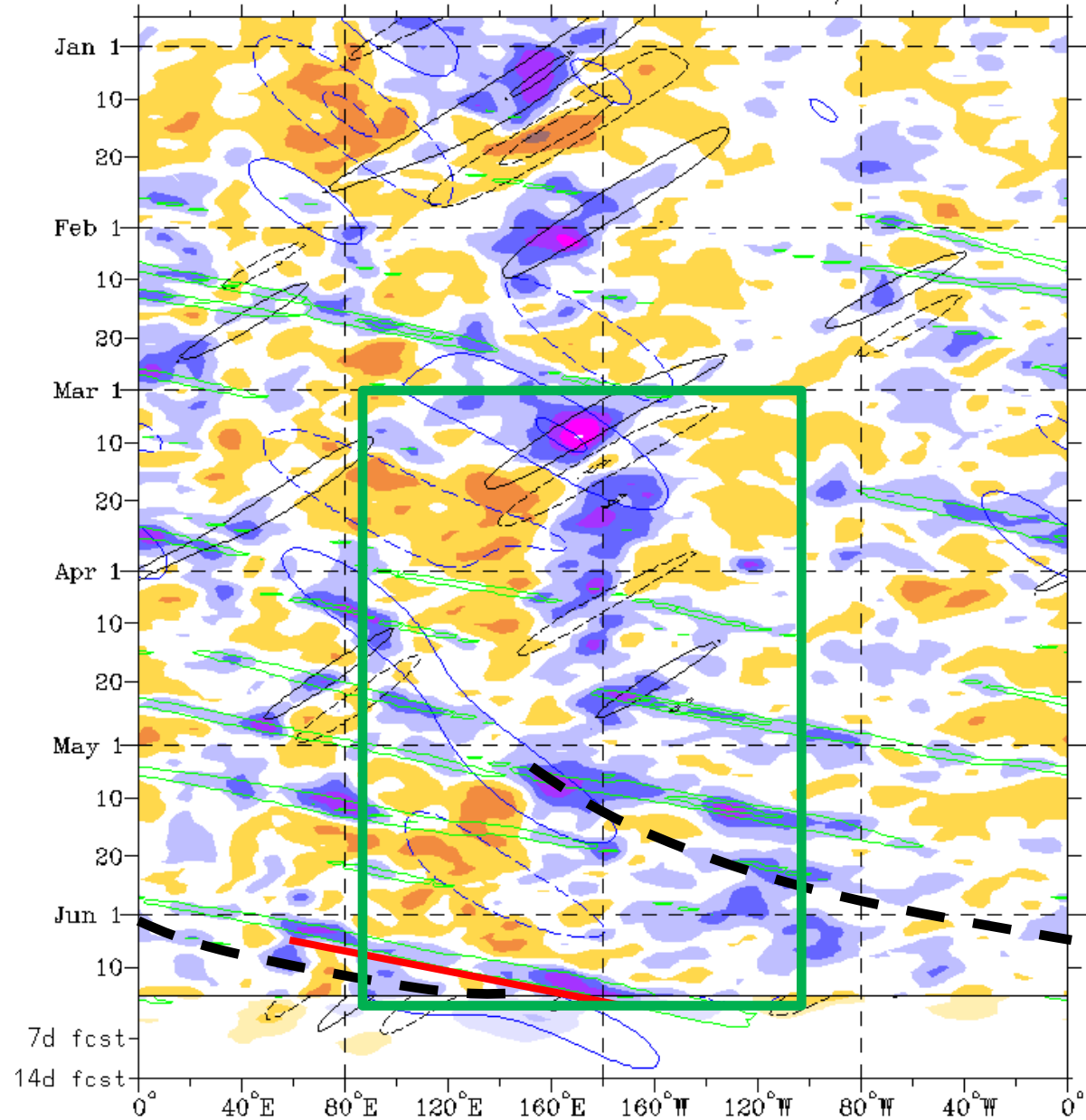
MJO Observation/Forecast



The GFS rapidly weakens the signal.

The ECMWF and UKMET maintain robust MJO activity across the Maritime Continent.

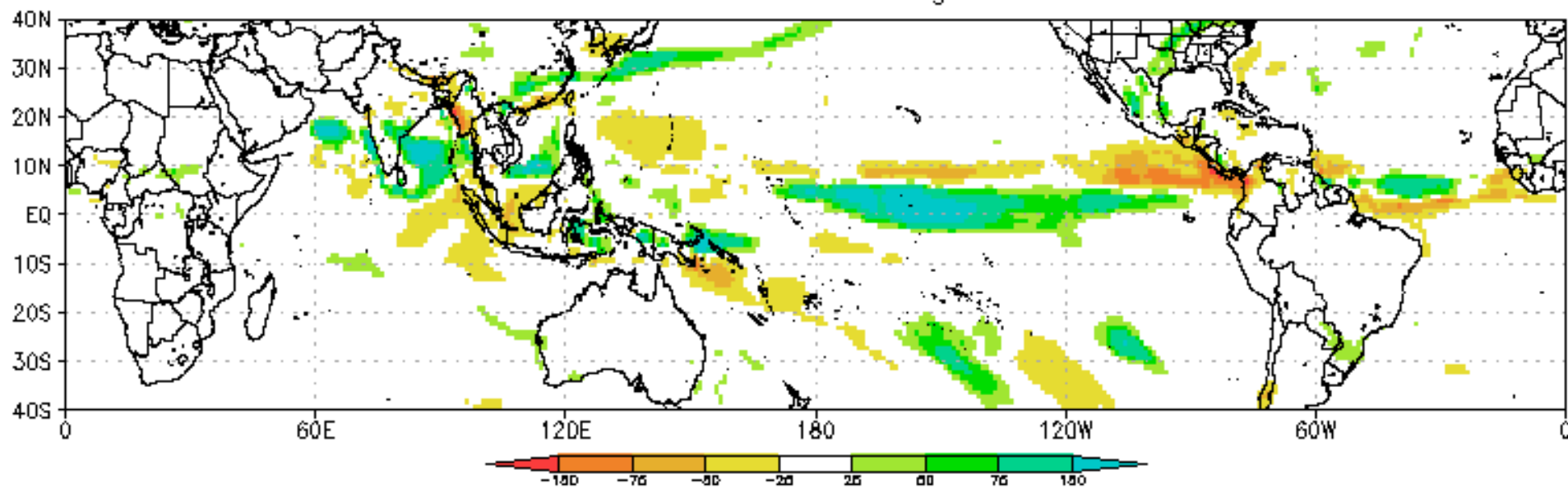
The ECMWF solution, given the base state, indicates a large convective event over the Pacific.



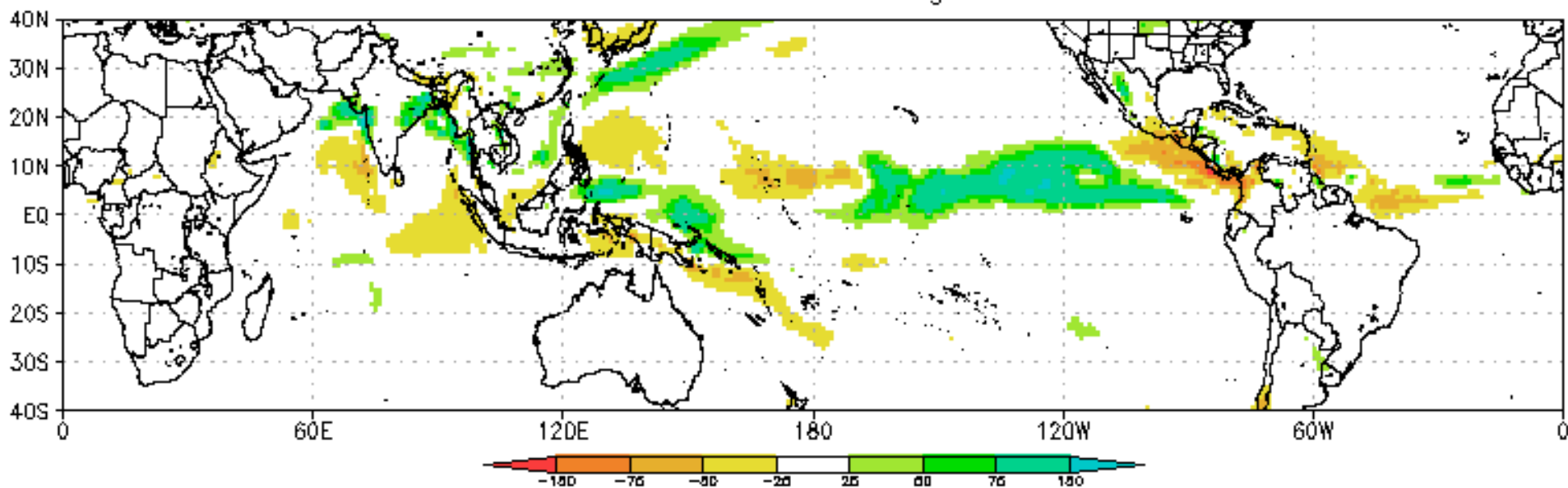
MJO, El Niño signals are currently destructively interfering.

KW beginning to constructively interfere with El Niño just west of the Date Line.

CFSv2 Precip Anomalies (mm) Issued 15Jun2015
Week-1 Forecast Ending 23Jun2015

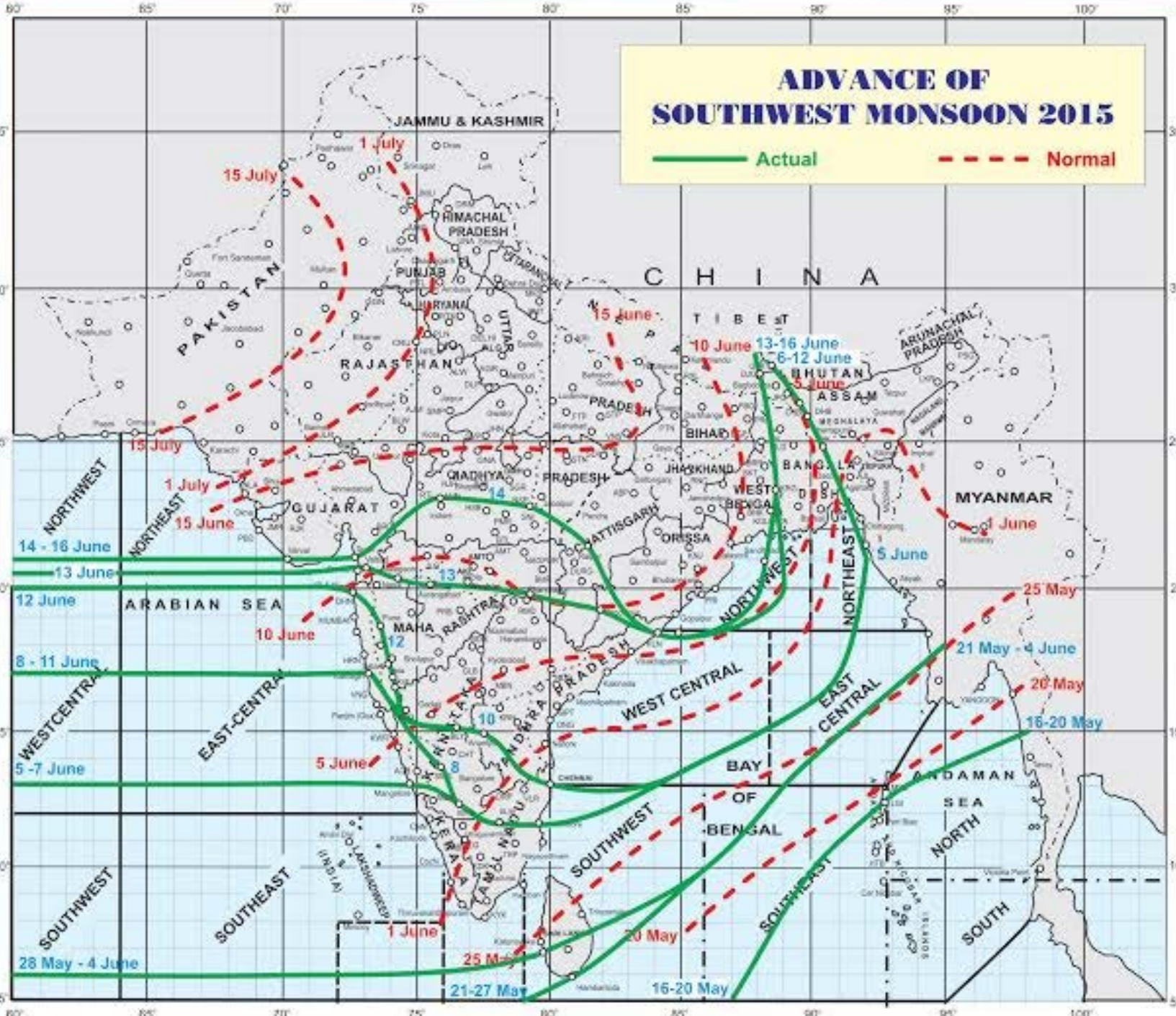


CFSv2 Precip Anomalies (mm) Issued 15Jun2015
Week-2 Forecast Ending 30Jun2015



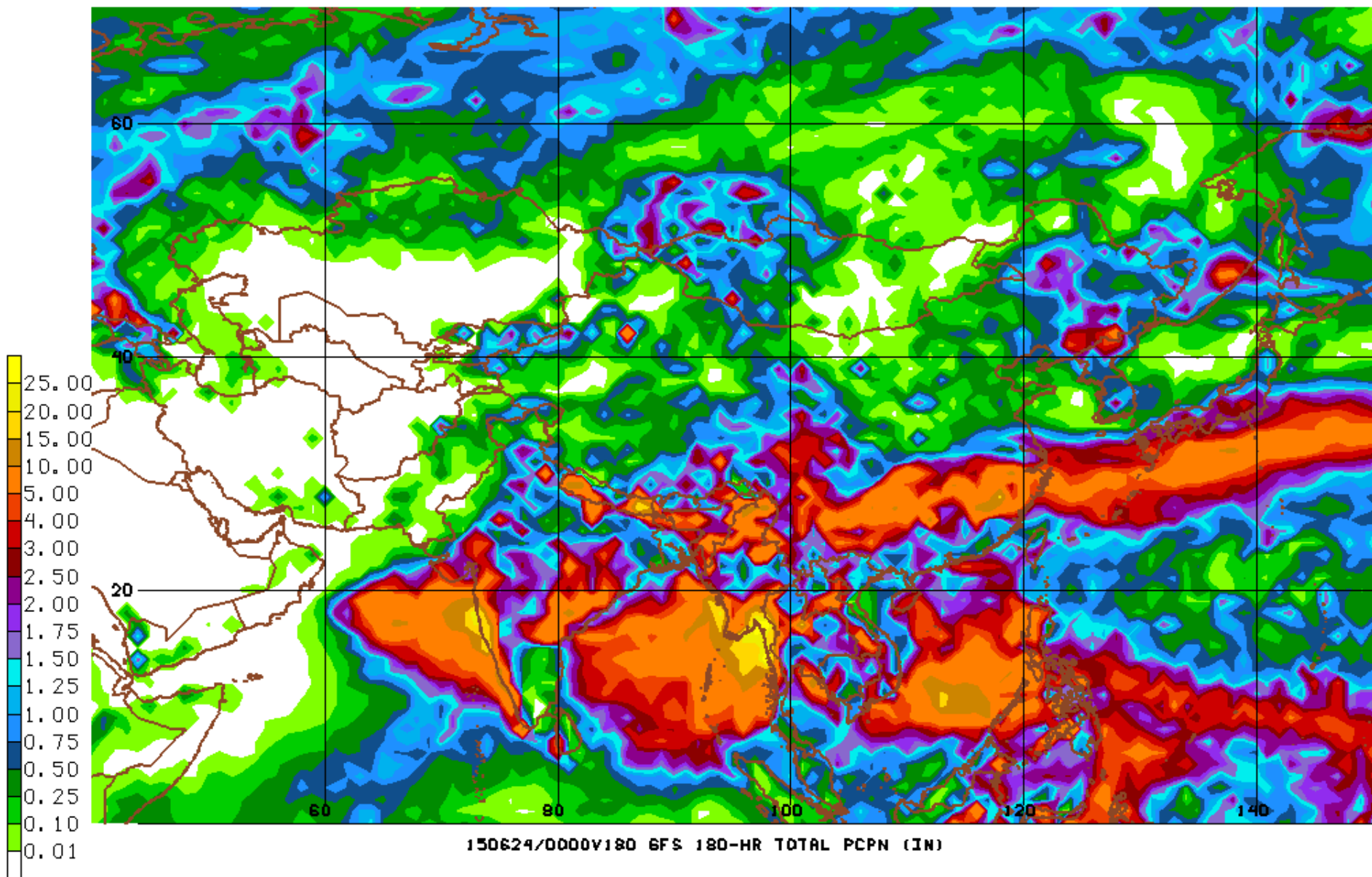
ADVANCE OF SOUTHWEST MONSOON 2015

— Actual - - - Normal



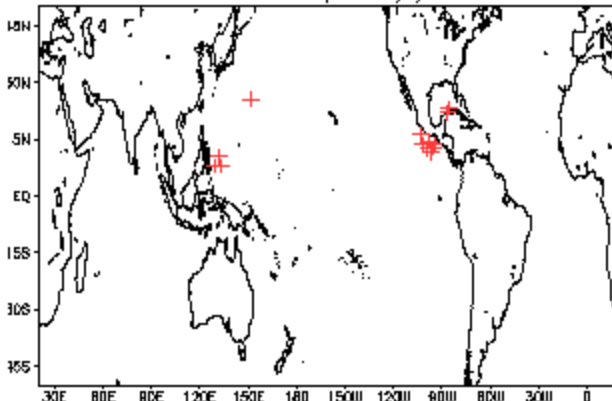


06/16/15 12UTC 180HR FCST VALID Wed 06/24/15 00UTC NCEP/NWS/NOAA

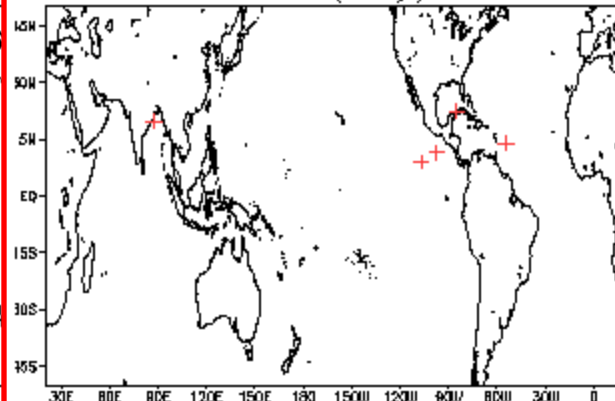


June Tropical Storm Formation by MJO phase

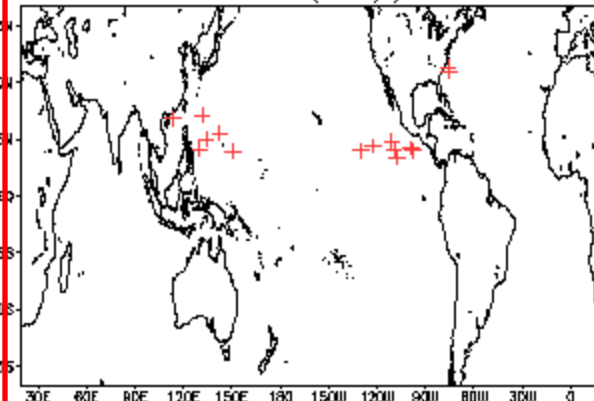
Phase 1 (104 days) 14 storms



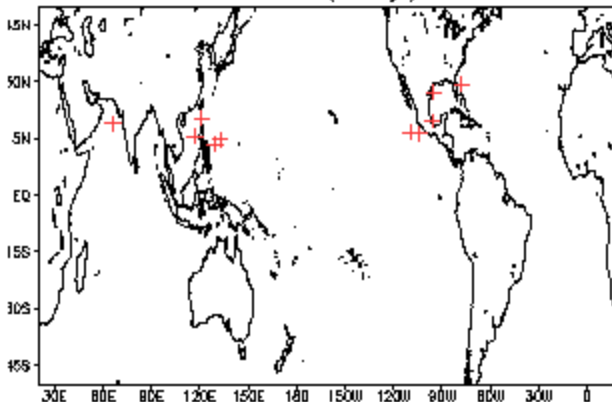
Phase 4 (80 days) 6 storms



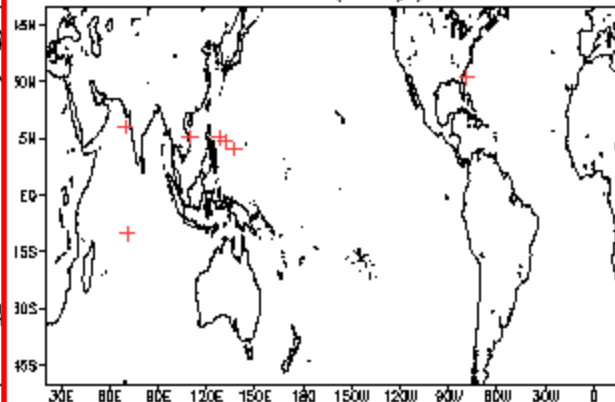
Phase 7 (45 days) 16 storms



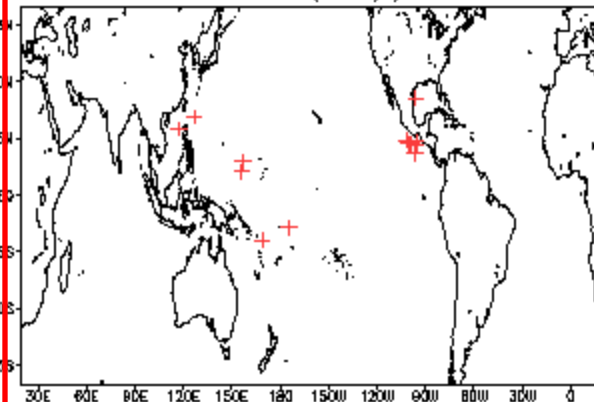
Phase 2 (82 days) 11 storms



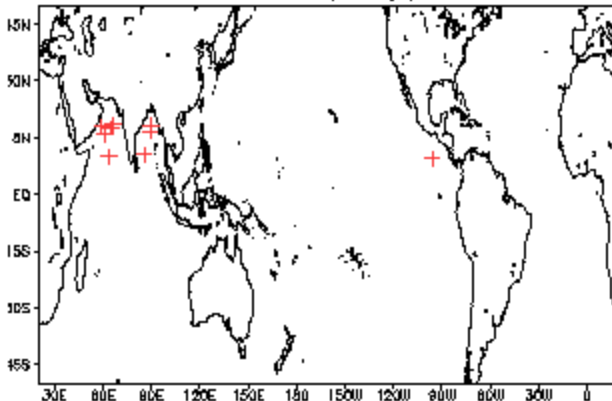
Phase 5 (77 days) 8 storms



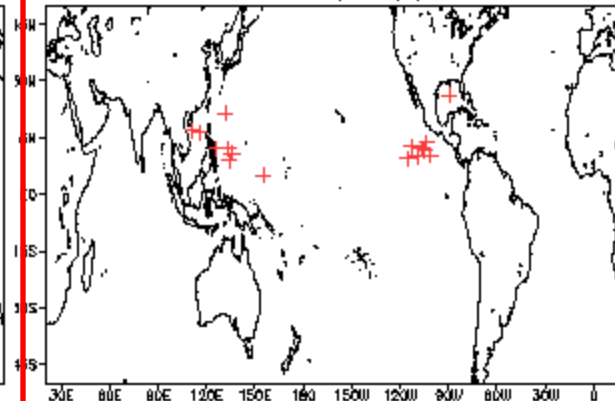
Phase 8 (70 days) 15 storms



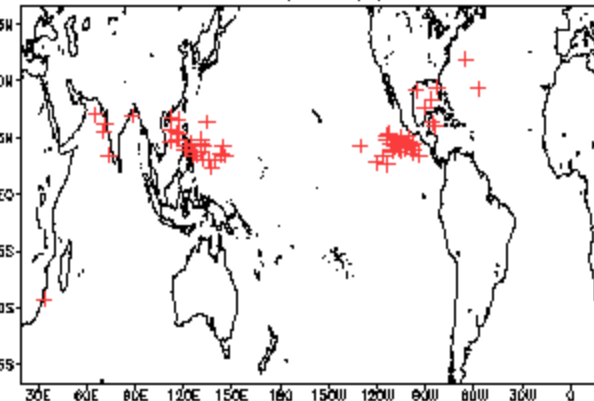
Phase 3 (57 days) 10 storms



Phase 6 (82 days) 17 storms



Null (423 days) 71 storms



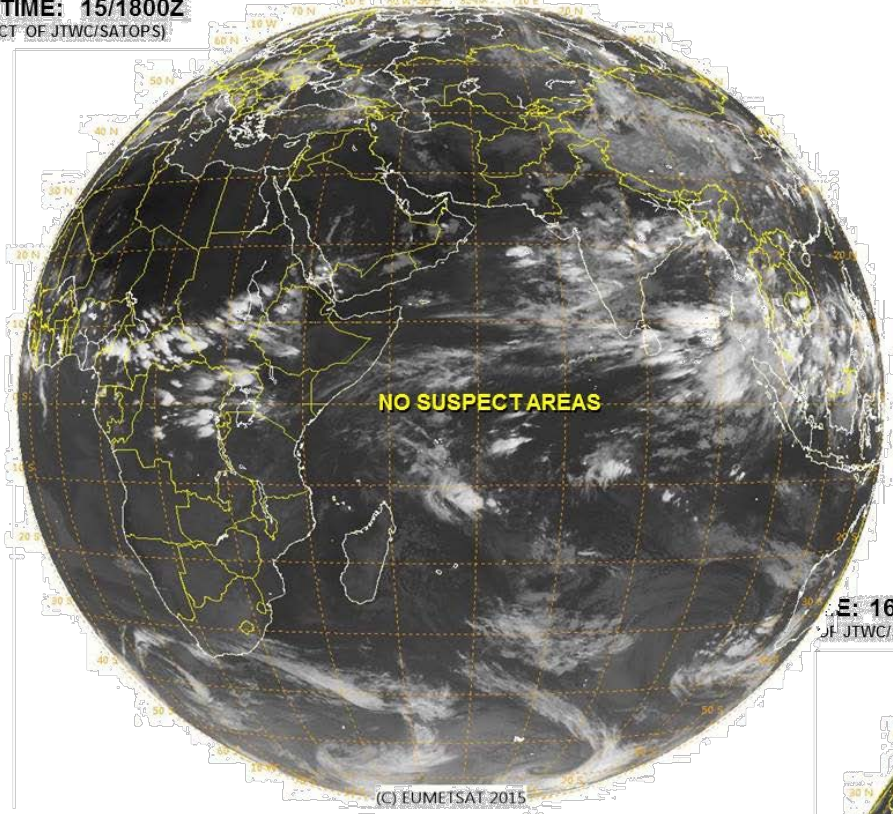


Tropical Cyclone Formation Potential for the 5-Day Period Ending 8:00 am EDT Sun Jun 21 2015
Chance of Cyclone Formation in 5 Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%
X indicates current disturbance location; shading indicates potential formation area.



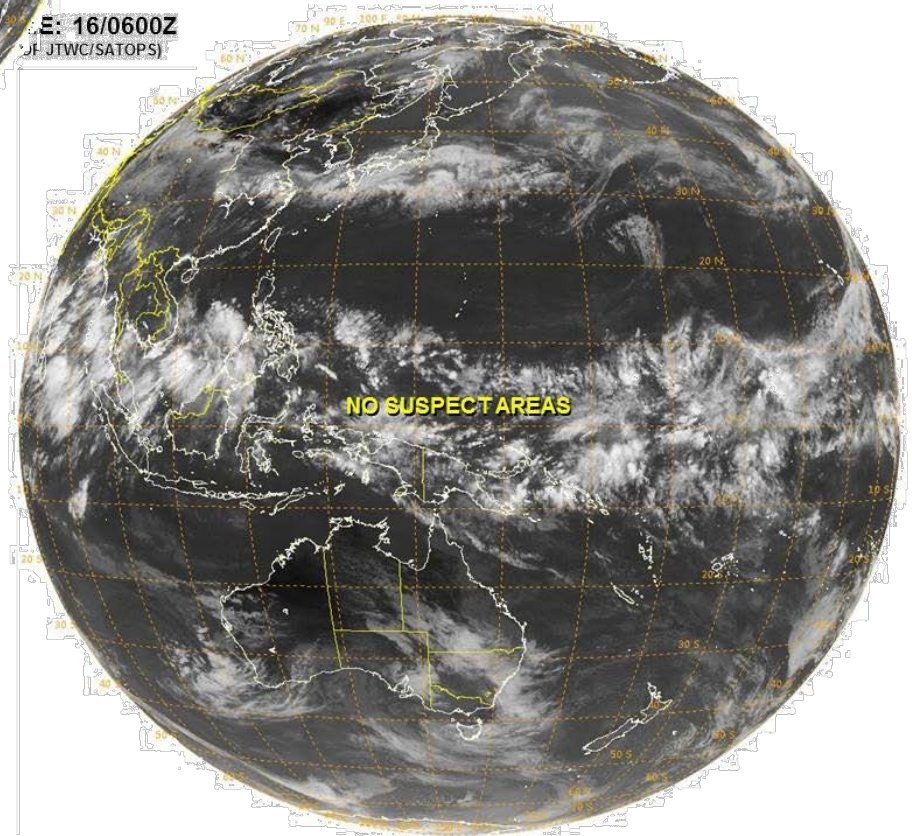
Tropical Cyclone Formation Potential for the 5-Day Period Ending 11:00 am PDT Sun Jun 21 2015
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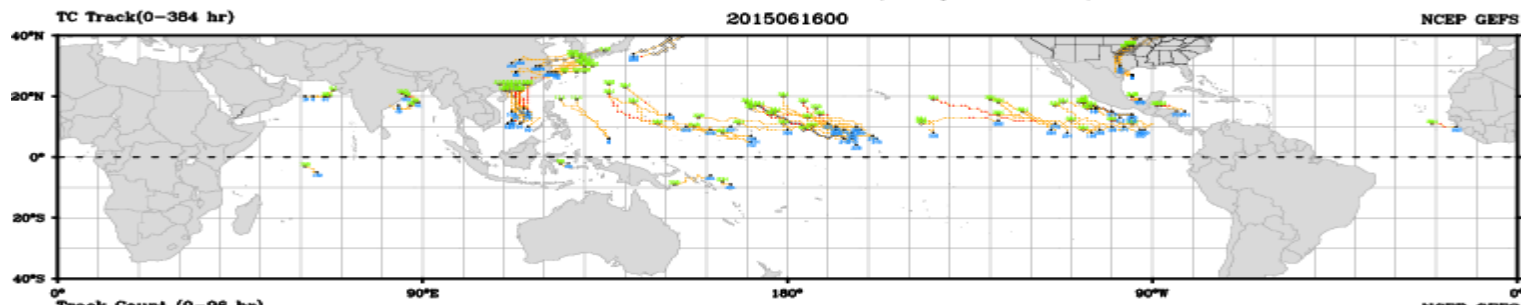
VALID TIME: 15/1800Z
(PRODUCT OF JTWC/SATOPS)



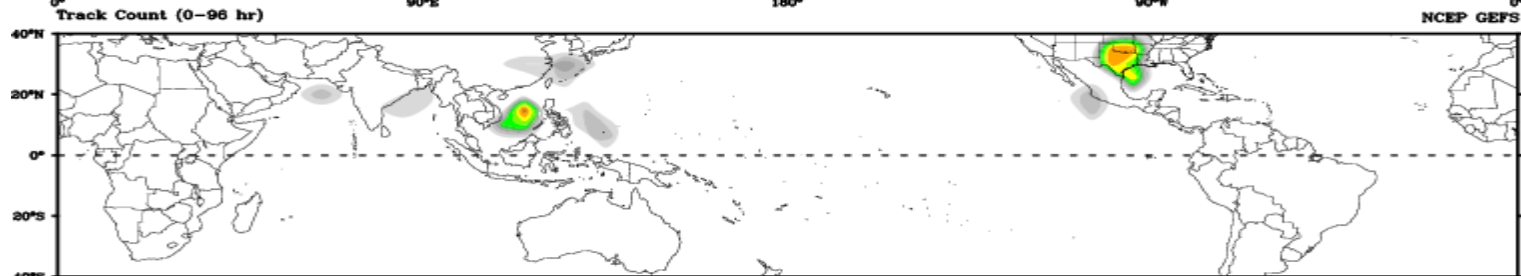
(C) EUMETSAT 2015

E: 16/0600Z
(PRODUCT OF JTWC/SATOPS)

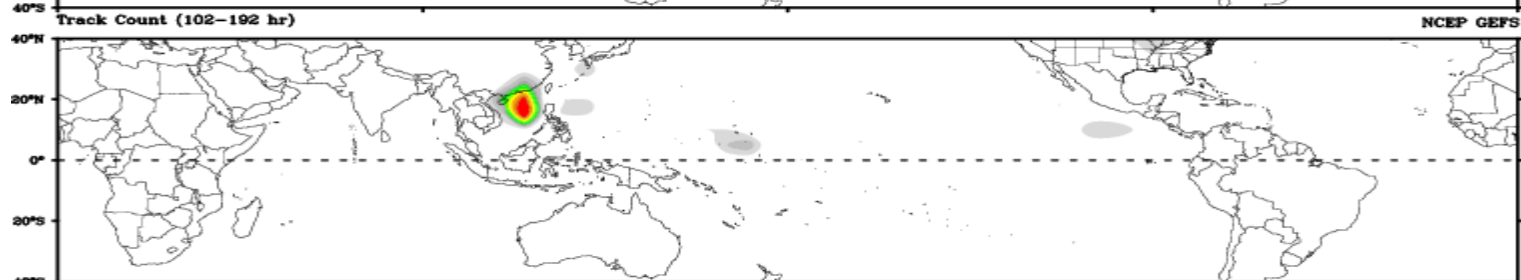




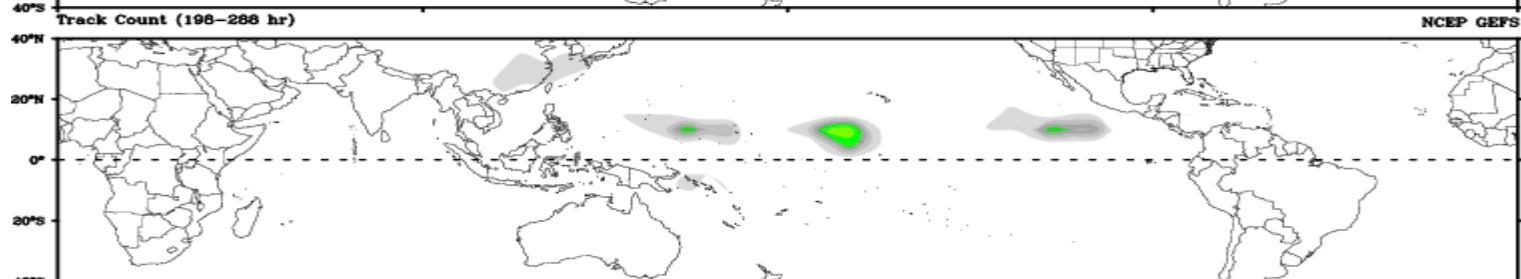
Days 1-4



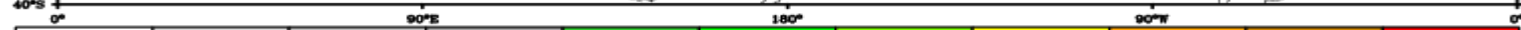
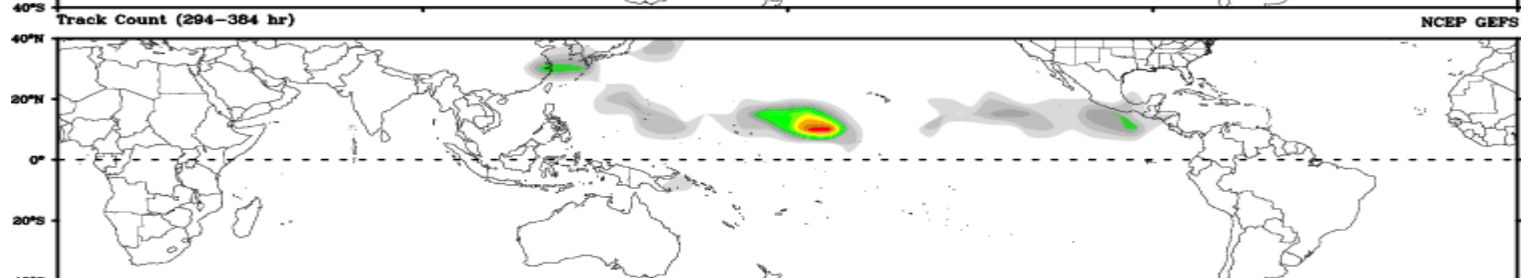
Day 5-8



Day 9-12



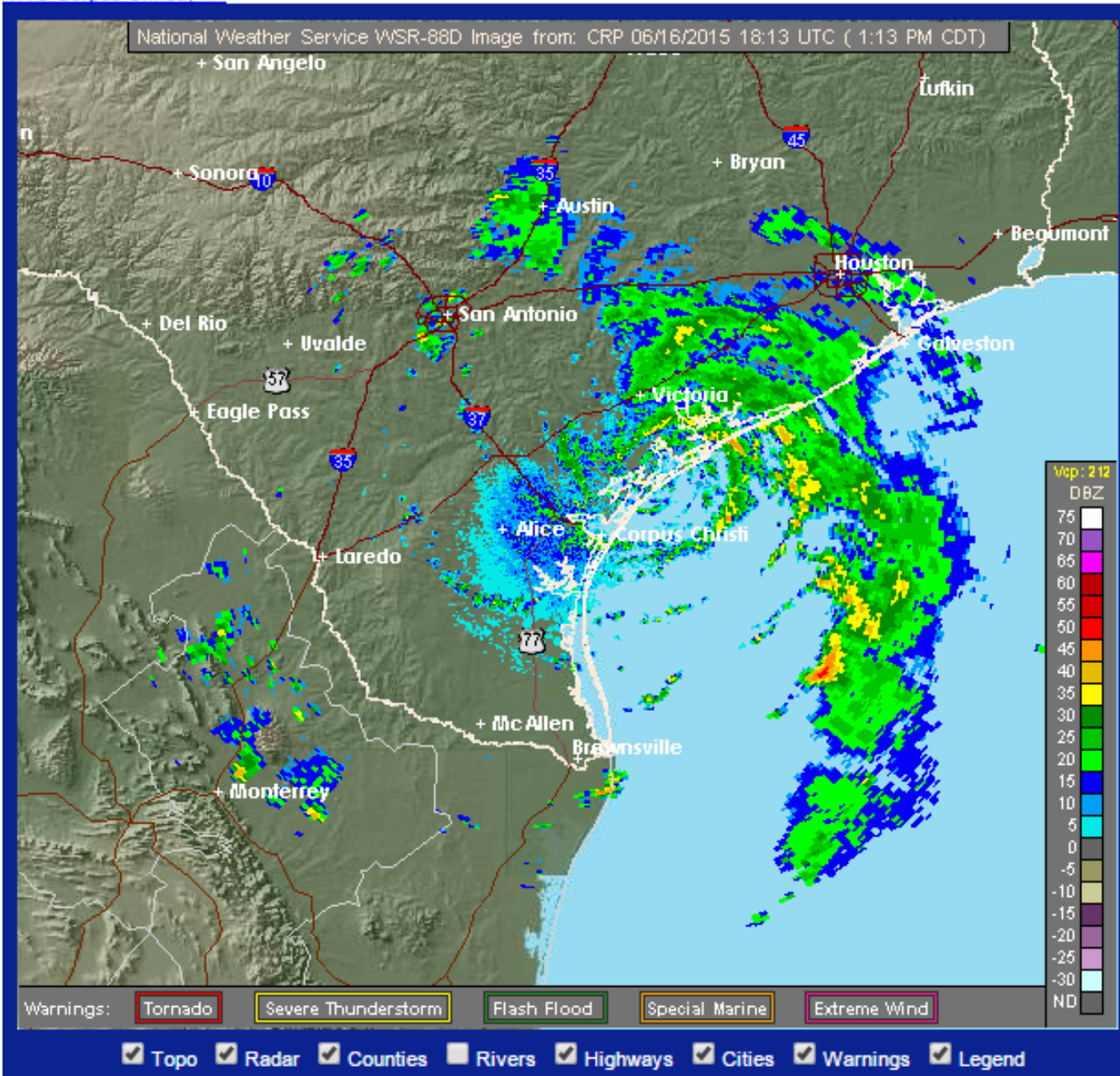
Day 13-15

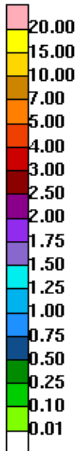
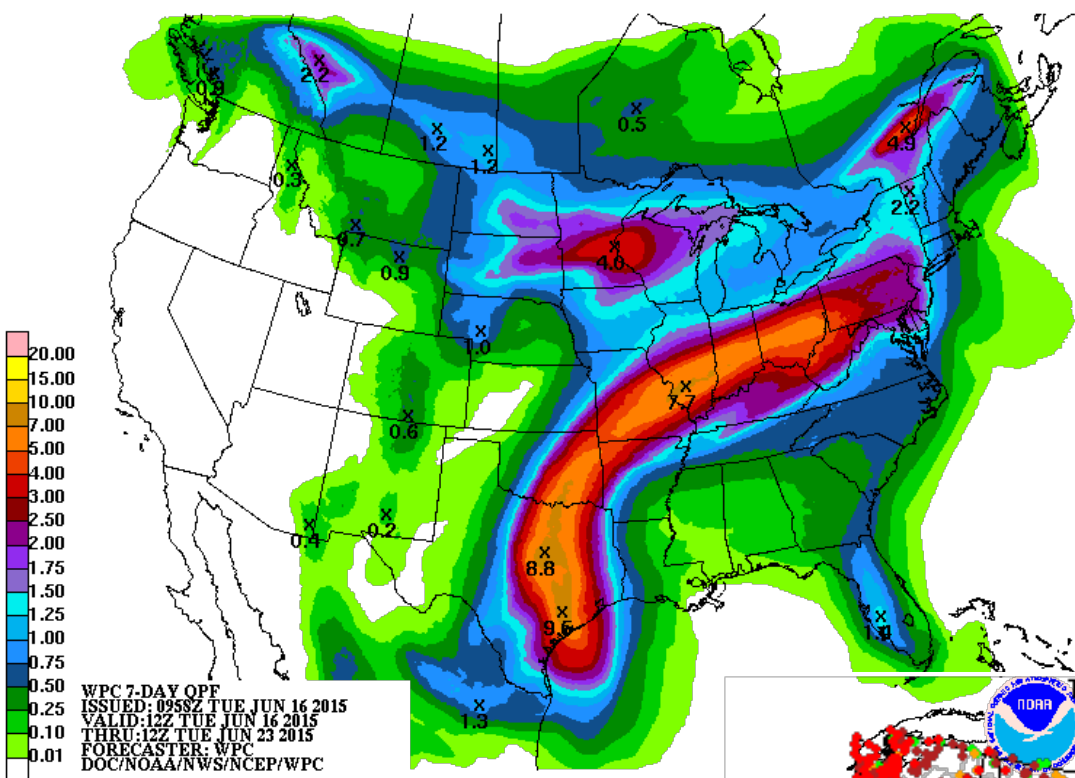


Connections to U.S. Impacts

Tropical Storm Bill Makes Landfall

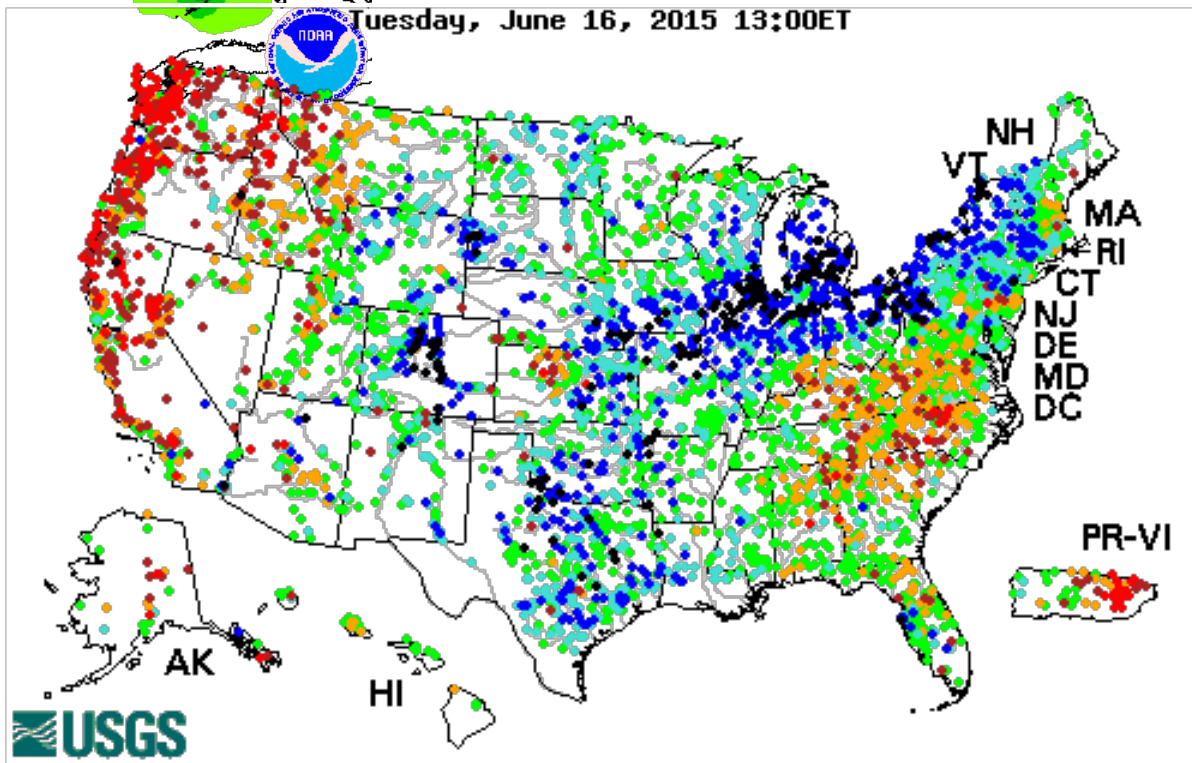
NWS Corpus Christi, TX





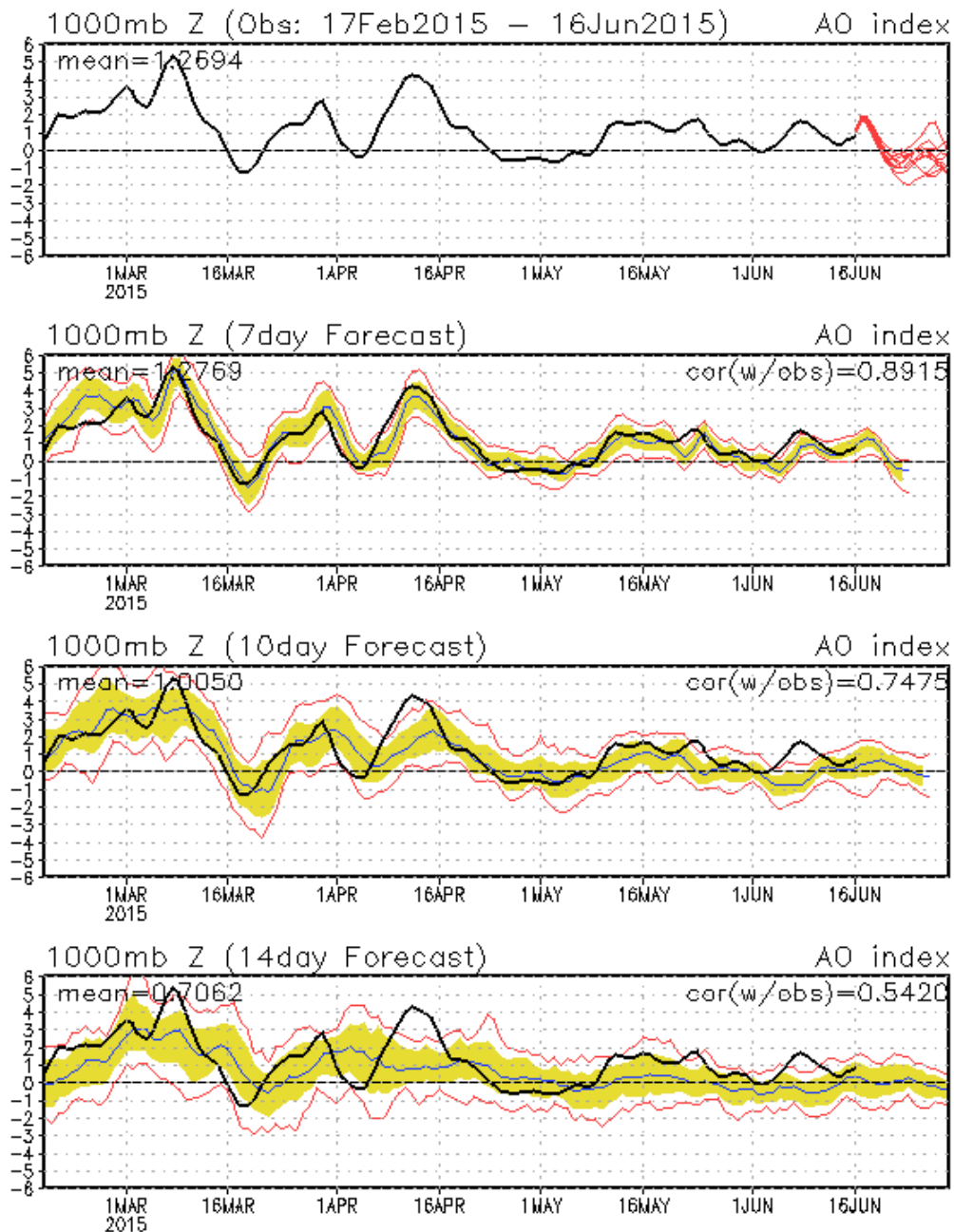
WPC 7-DAY OPF
 ISSUED: 0958Z TUE JUN 16 2015
 VALID: 12Z TUE JUN 16 2015
 THRU: 12Z TUE JUN 23 2015
 FORECASTER: WPC
 DOC/NOAA/NWS/NCEP/WPC

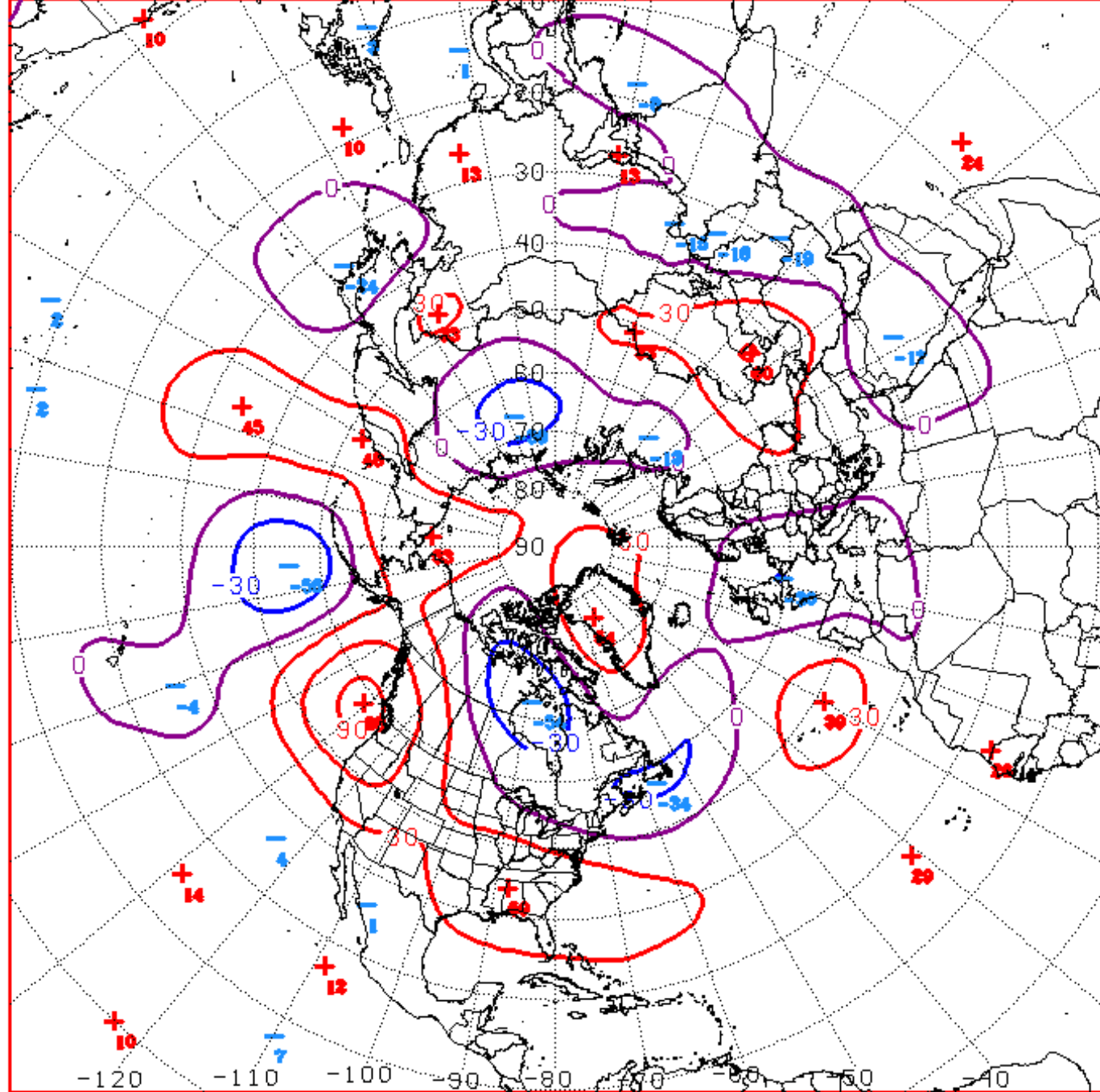
Tuesday, June 16, 2015 13:00ET



USGS

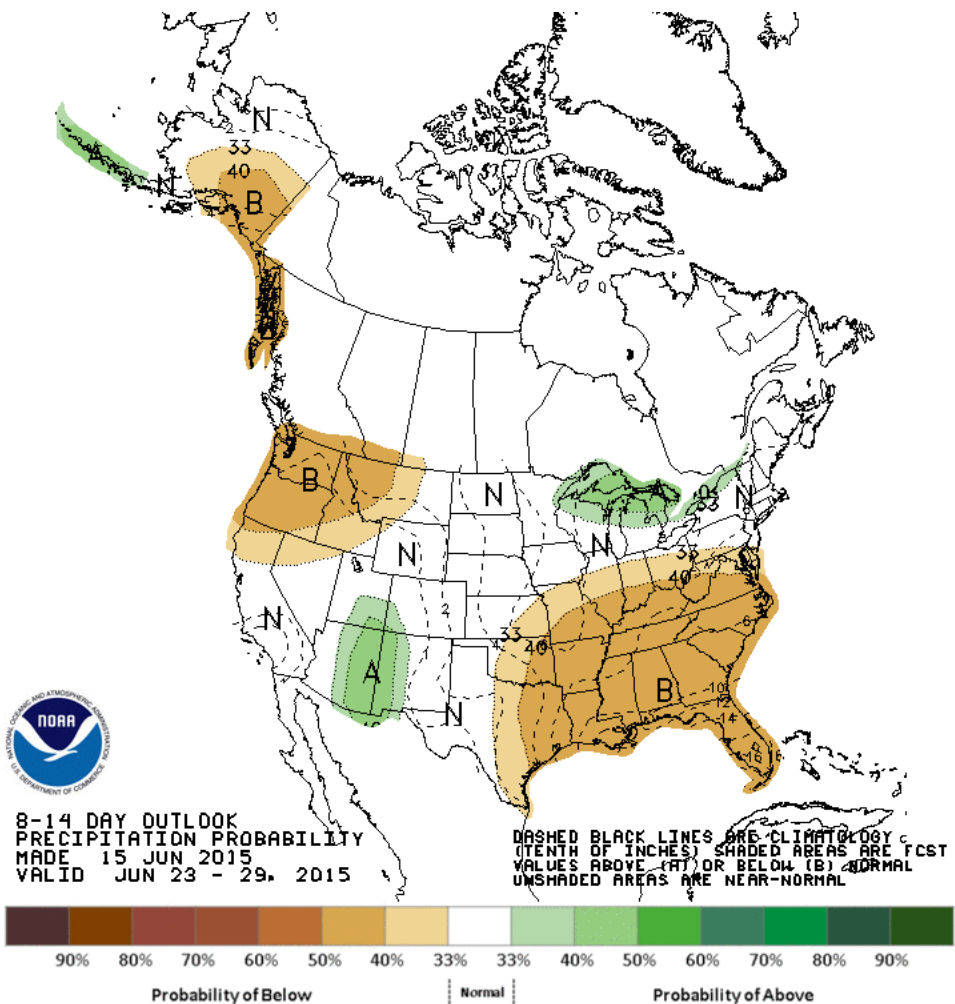
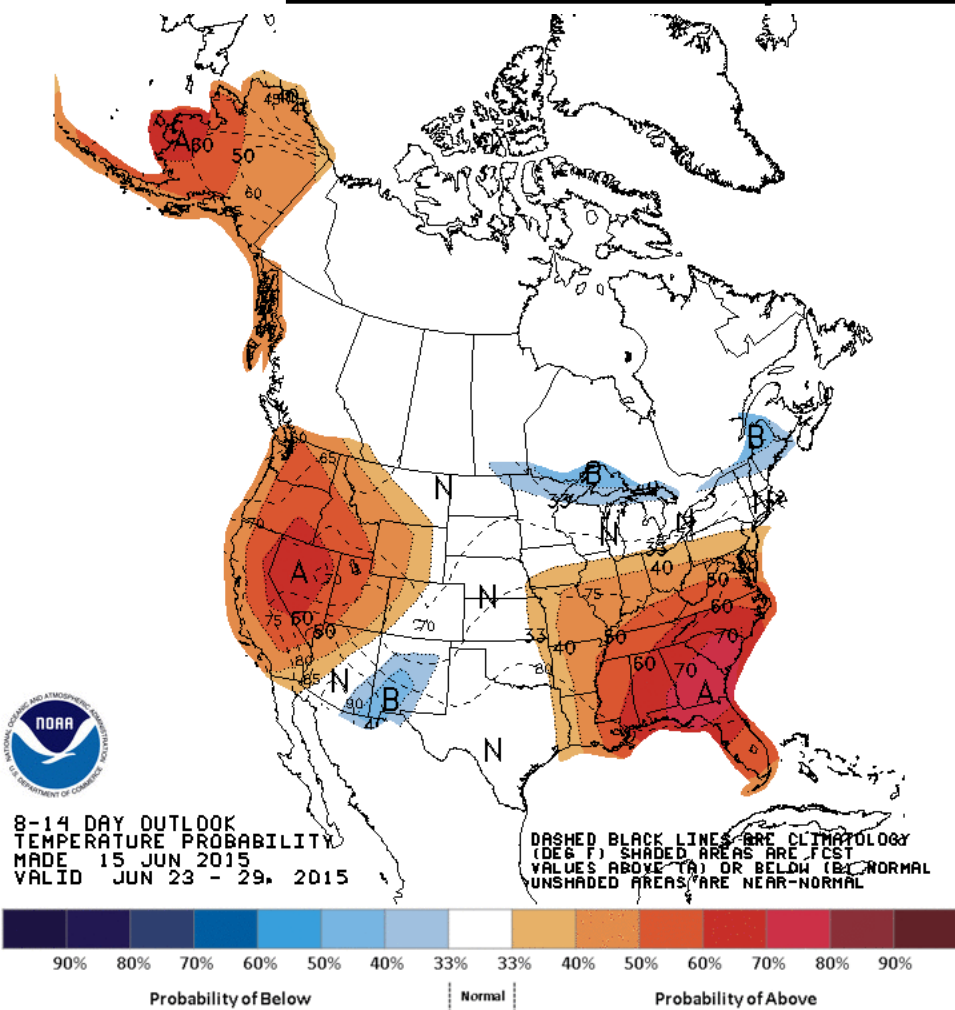
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE JUN 16 2015 1029 UTC CNTD JUN 27 2015

Week 2 – Temperature and Precipitation

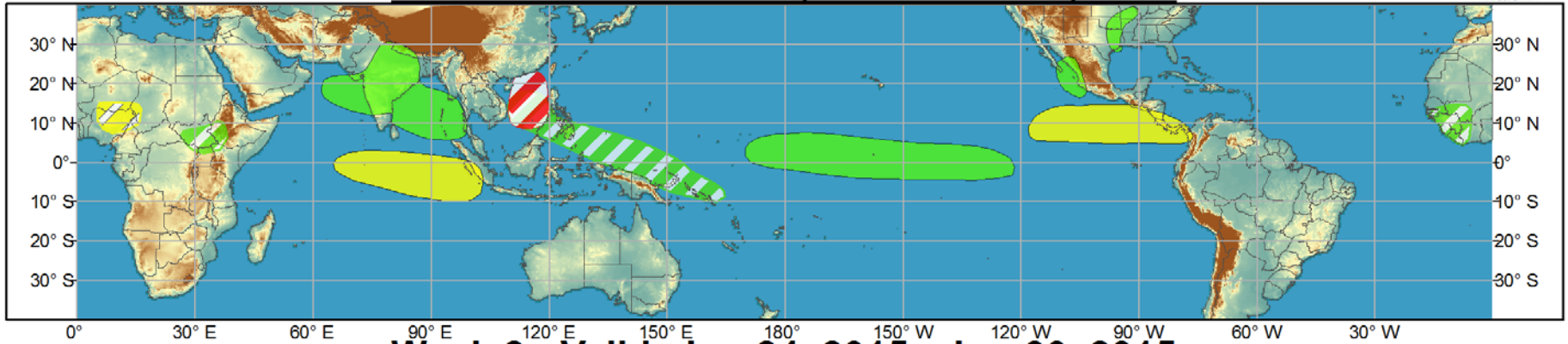




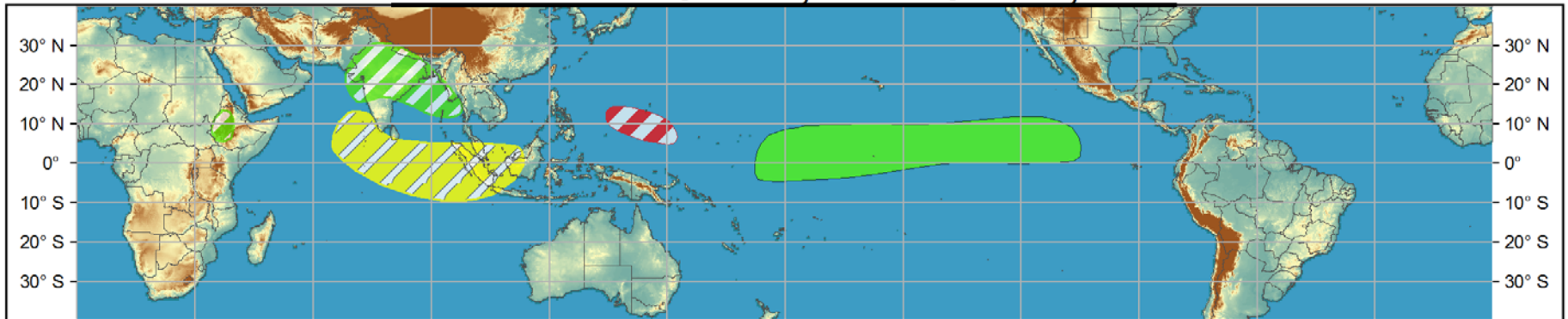
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