

Global Tropics Hazards And Benefits Outlook

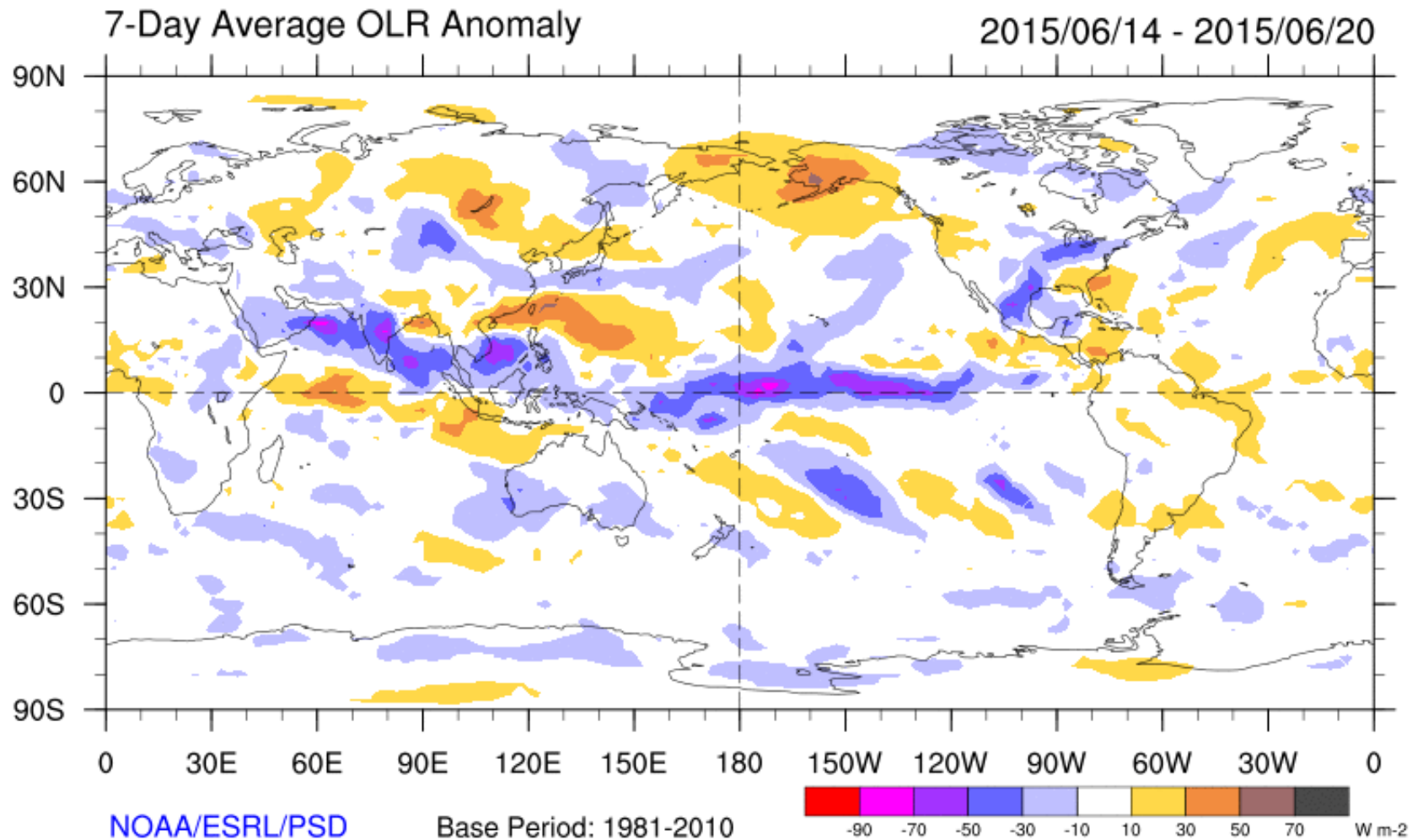
June 23, 2015

Jon Gottschalck

Outline

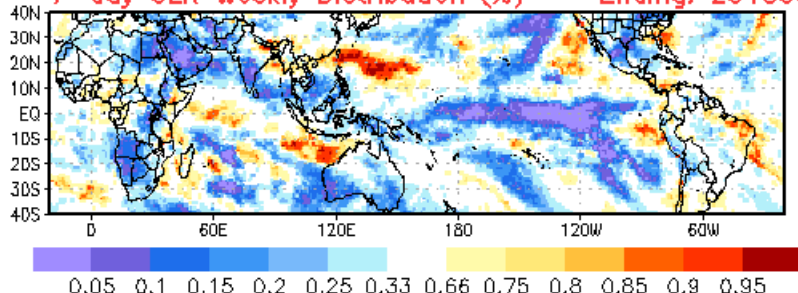
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outgoing Longwave Radiation

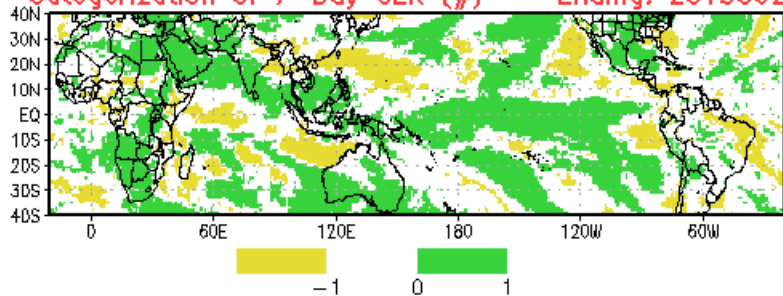


Recent Forecast Verifications

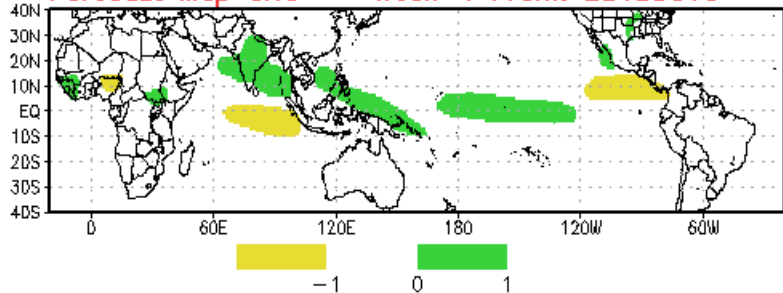
7-day OLR Weekly Distribution (%) -- Ending: 20150623



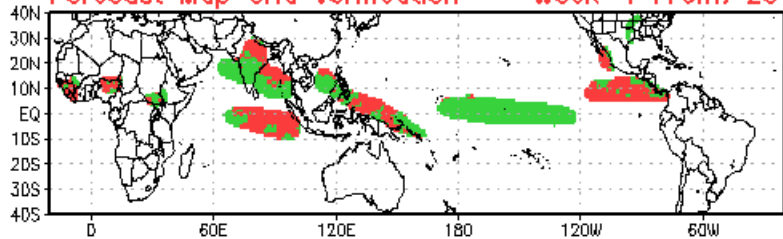
Categorization of 7-Day OLR (#) -- Ending: 20150623



Forecast Map Grid -- Week-1 From: 20150616

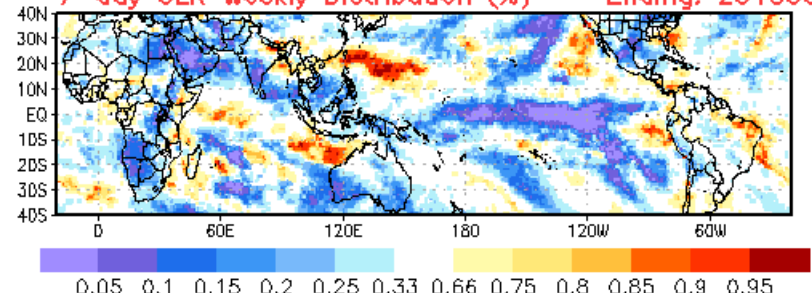


Forecast Map Grid Verification -- Week-1 From: 20150611

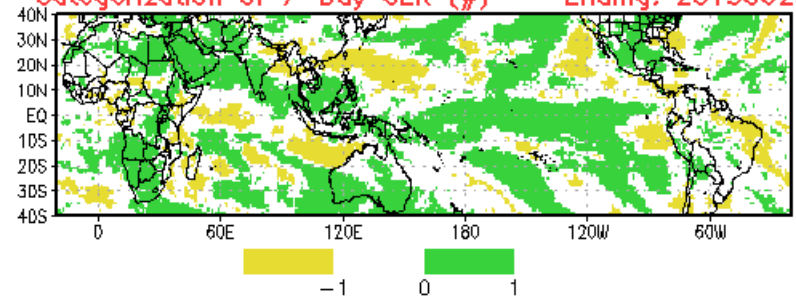


Hit: Green, Miss: Red
Heidke Skill Score: 36.4322

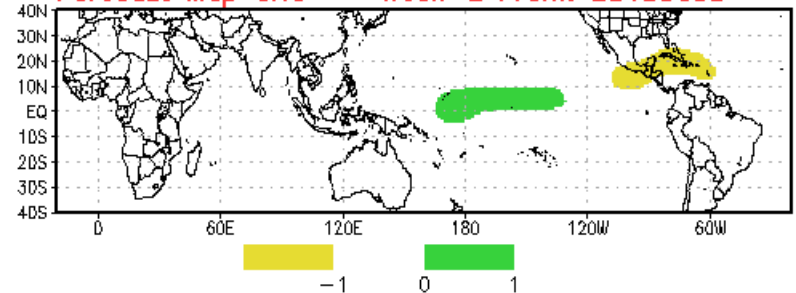
7-day OLR Weekly Distribution (%) -- Ending: 20150623



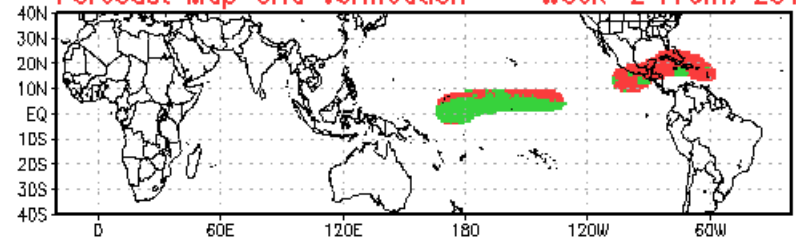
Categorization of 7-Day OLR (#) -- Ending: 20150623



Forecast Map Grid -- Week-2 From: 20150609

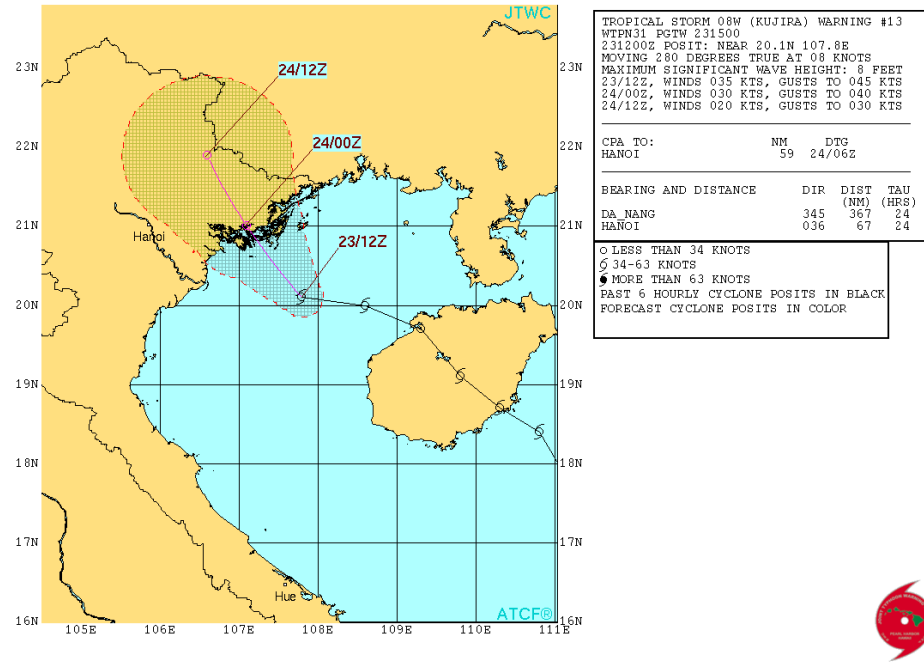
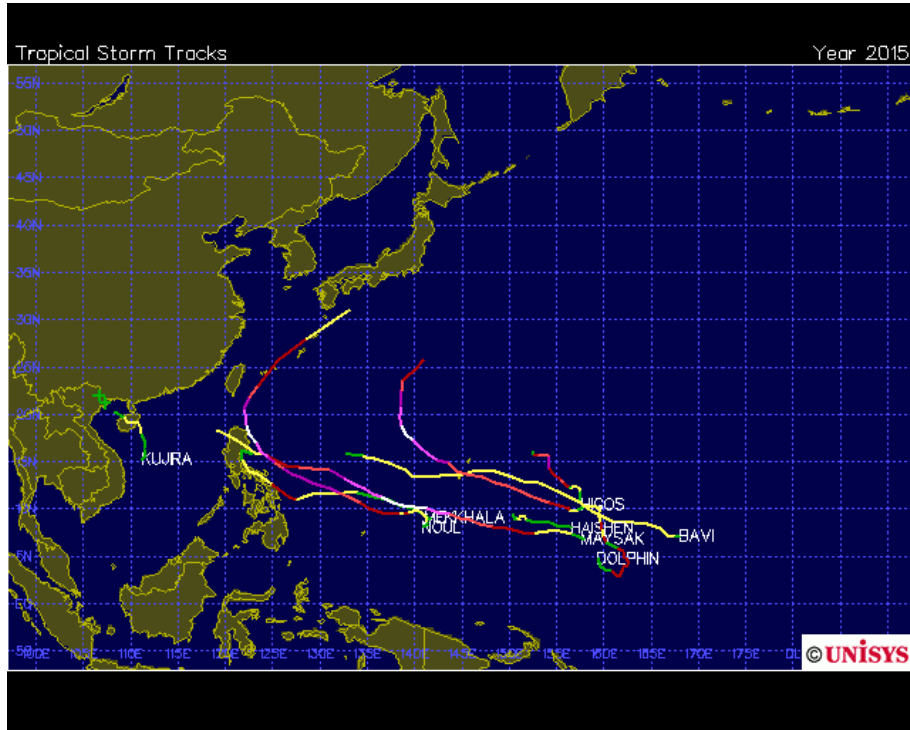


Forecast Map Grid Verification -- Week-2 From: 20150609



Hit: Green, Miss: Red
Heidke Skill Score: 17.9288

Tropical Cyclone Review



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 remains active at moderate strength with the enhanced convective phase centered propagating over the Maritime Continent
- A strong atmospheric Kelvin Wave is evident out ahead of the main MJO envelope
- Most RMM forecasts depict continued eastward propagation of the MJO but at different speeds and amplitudes

Extratropics:

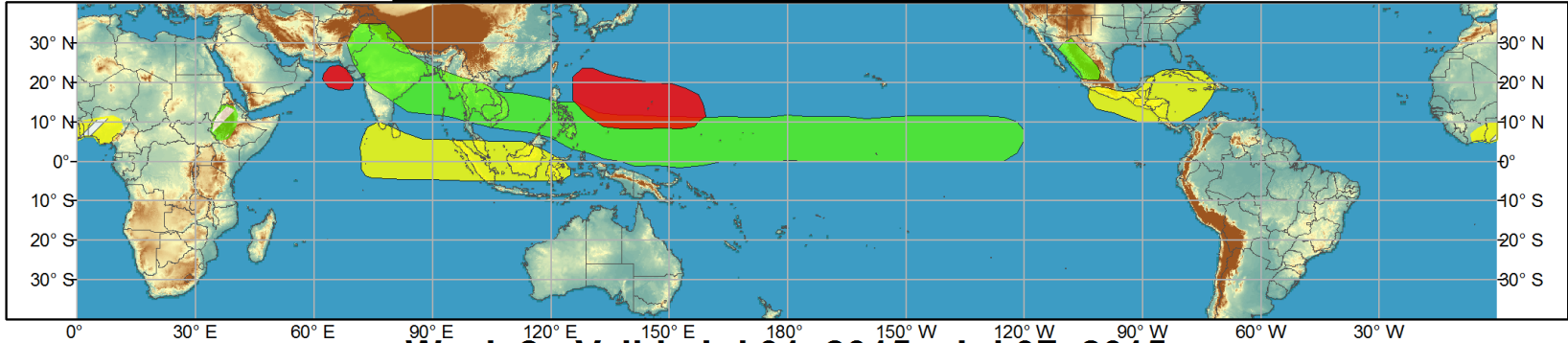
- Reduced potential for tropical cyclogenesis over the eastern Pacific during much of the period, but likely a rapid ramp up in probabilities later Week-2 into Week-3.
- Current MJO timing increases the odds of normal and potentially robust Southwest monsoon onset in July



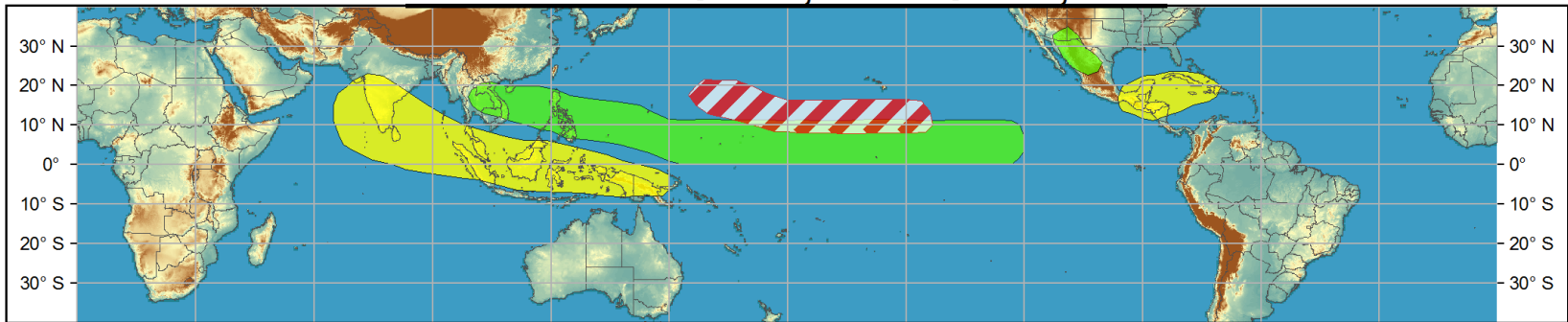
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jun 24, 2015 - Jun 30, 2015



Week 2 - Valid: Jul 01, 2015 - Jul 07, 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.
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Produced: 06/23/2015

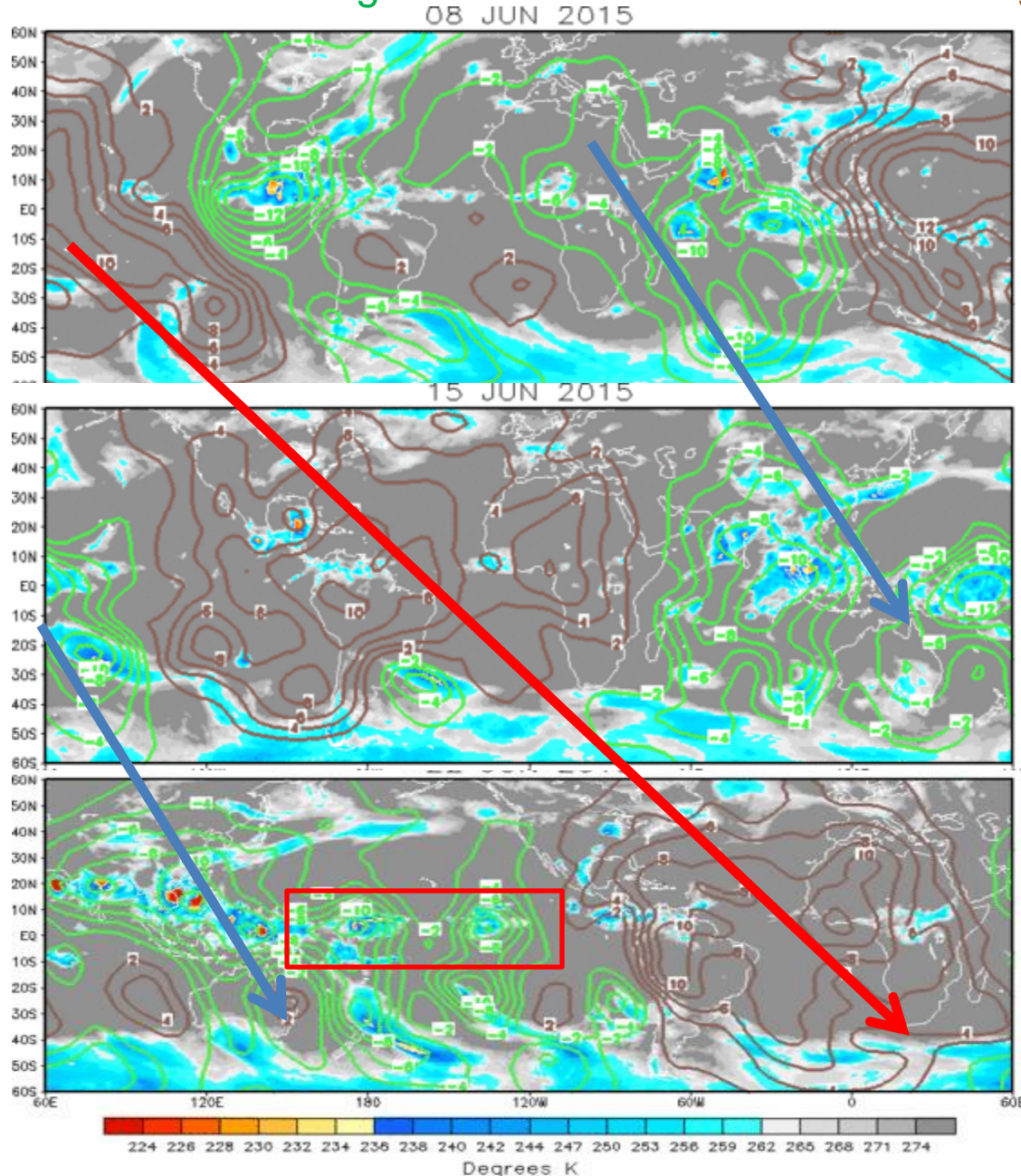
Forecaster: Gottschalck

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IR Satellite & 200-hpa Velocity Potential Anomalies

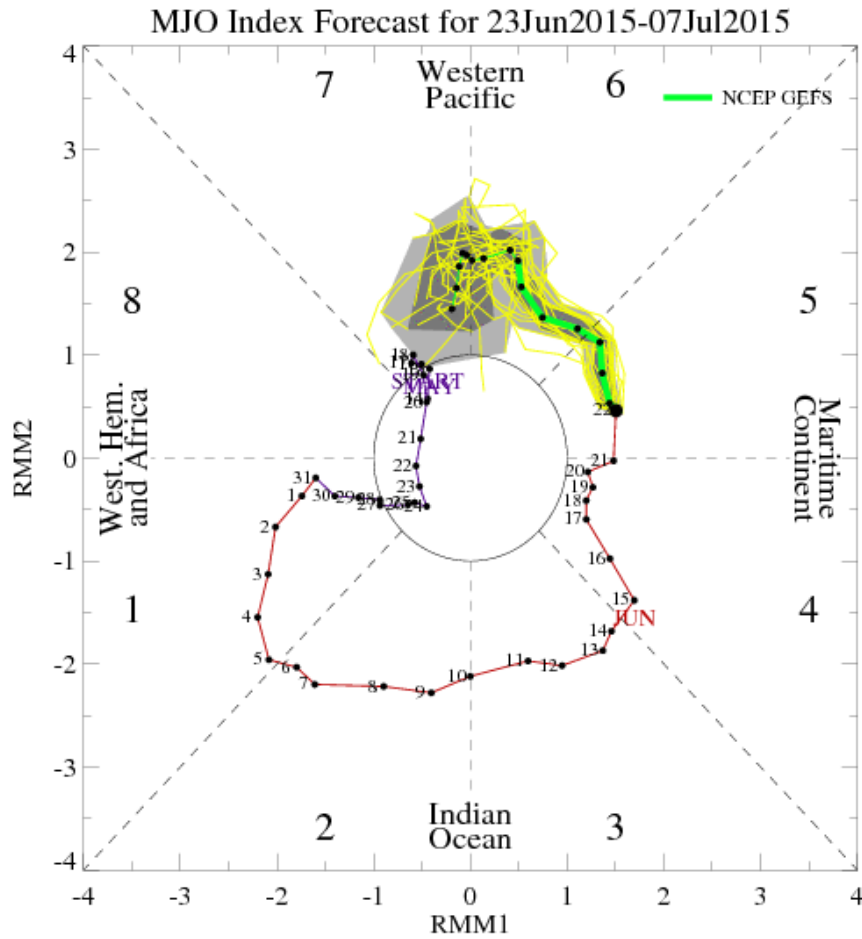
Green: Enhanced Divergence Brown: Enhanced Convergence



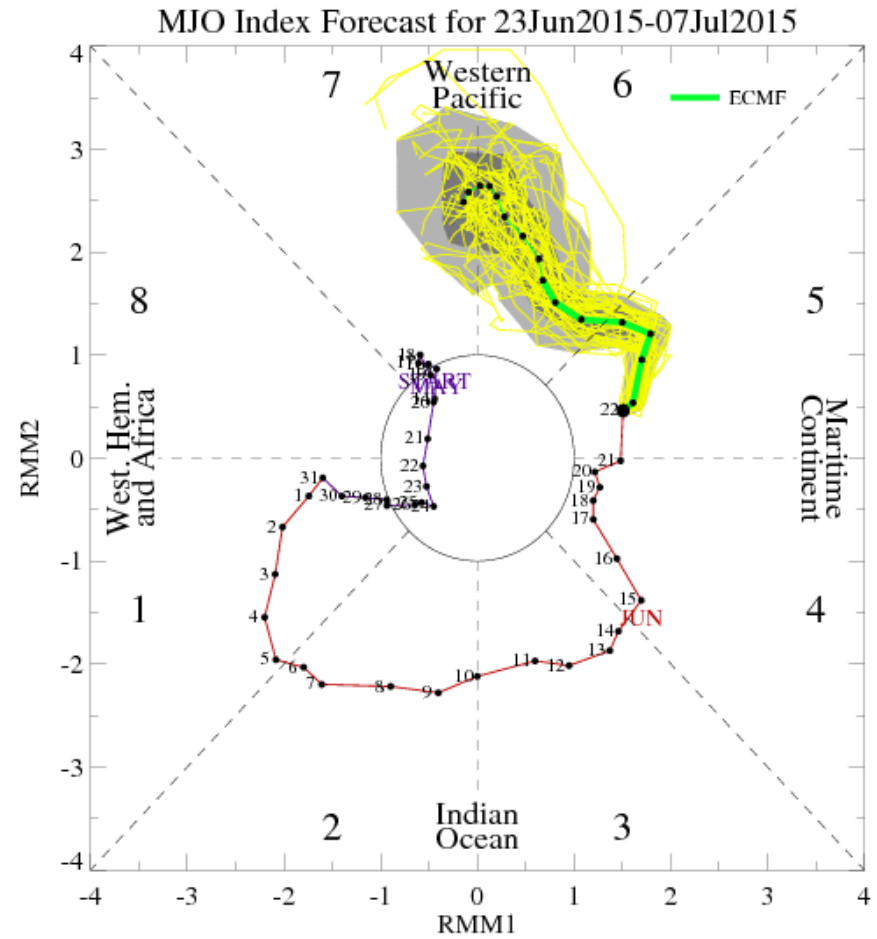
Coherent
Wave-1
symmetry
consistent
with MJO

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

MJO Observation and Forecast



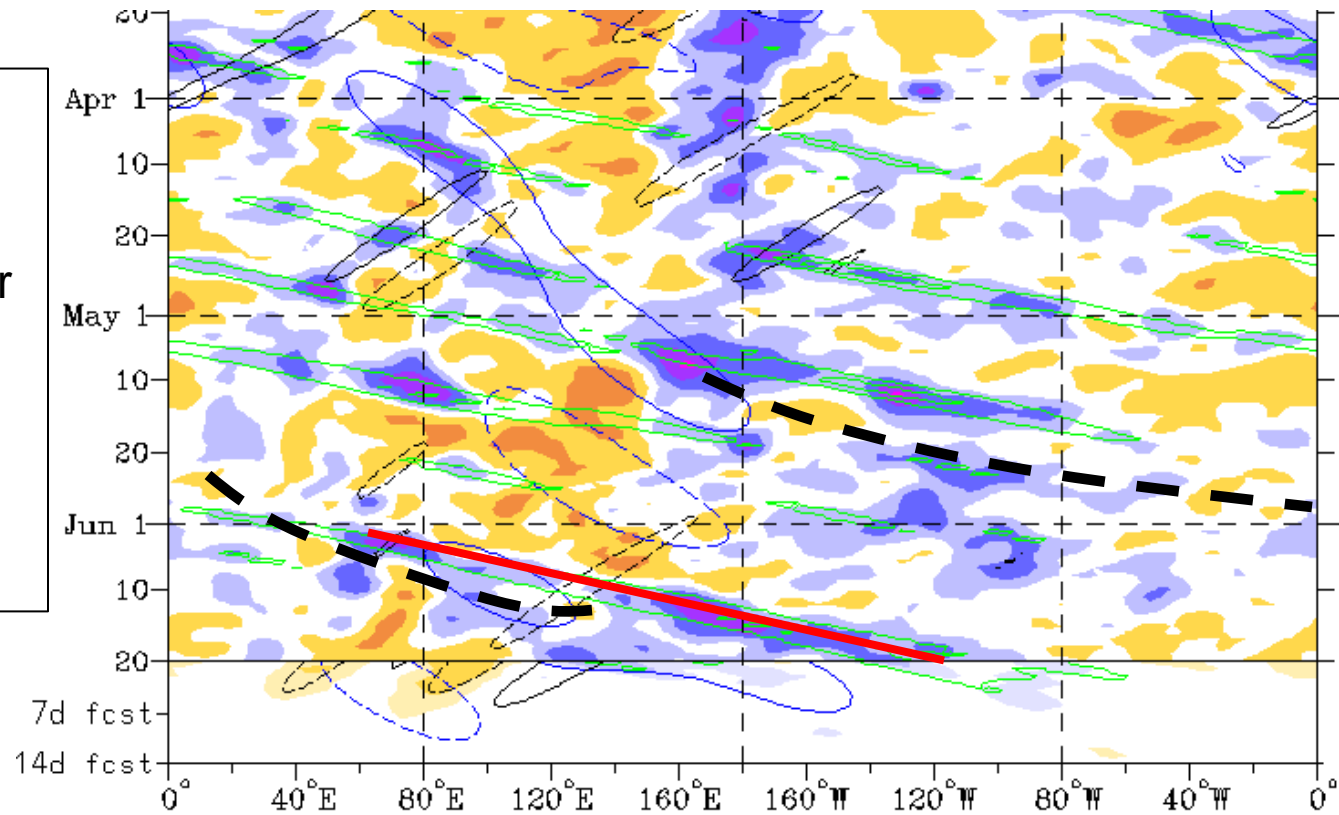
GFS



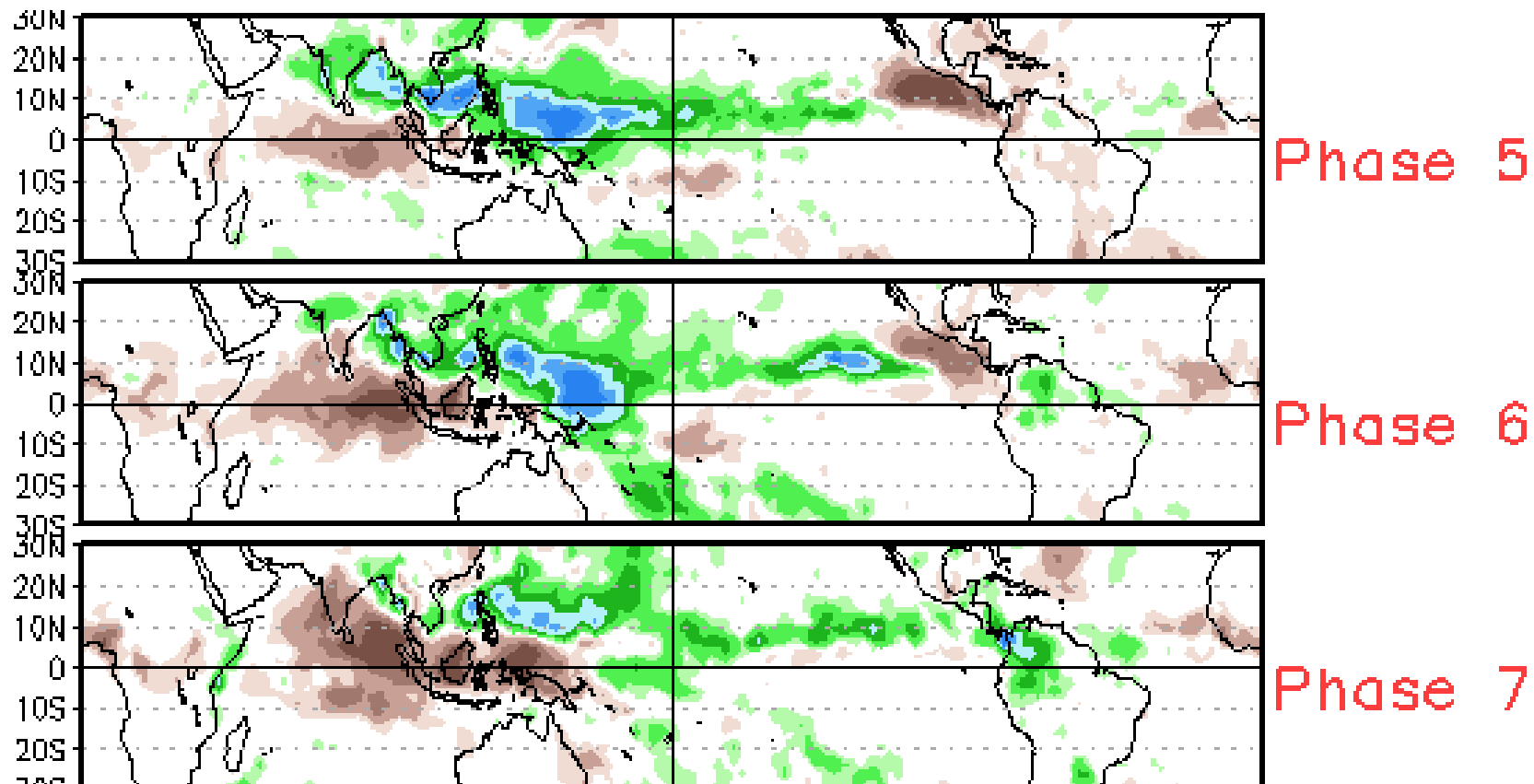
ECMWF

MJO currently destructively interfering with El Niño base state, soon to change however

KW constructively interfering with El Niño base state across the Pacific basin

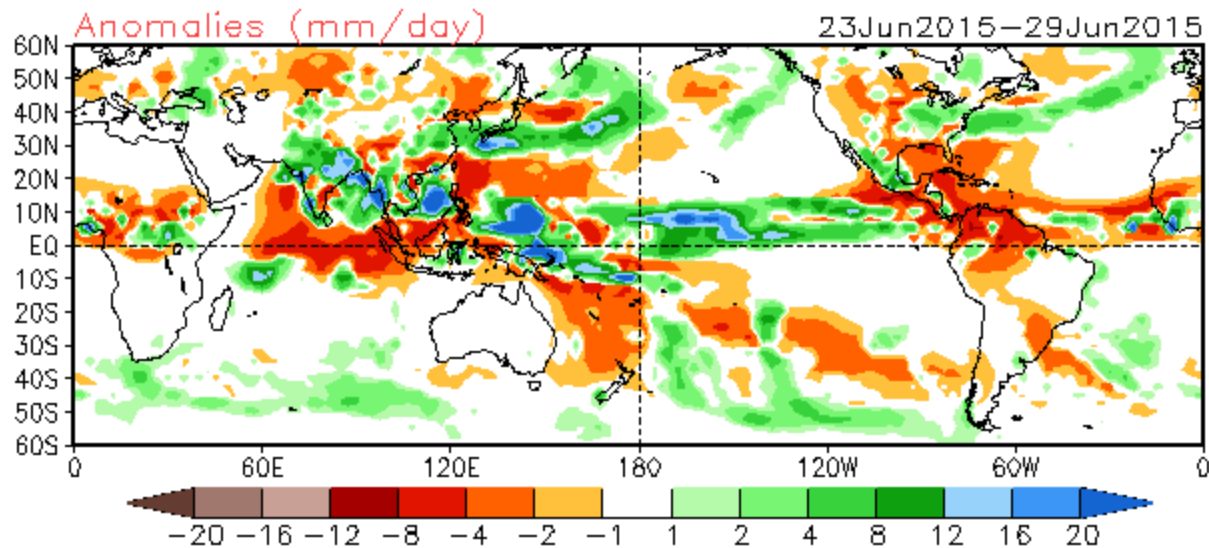
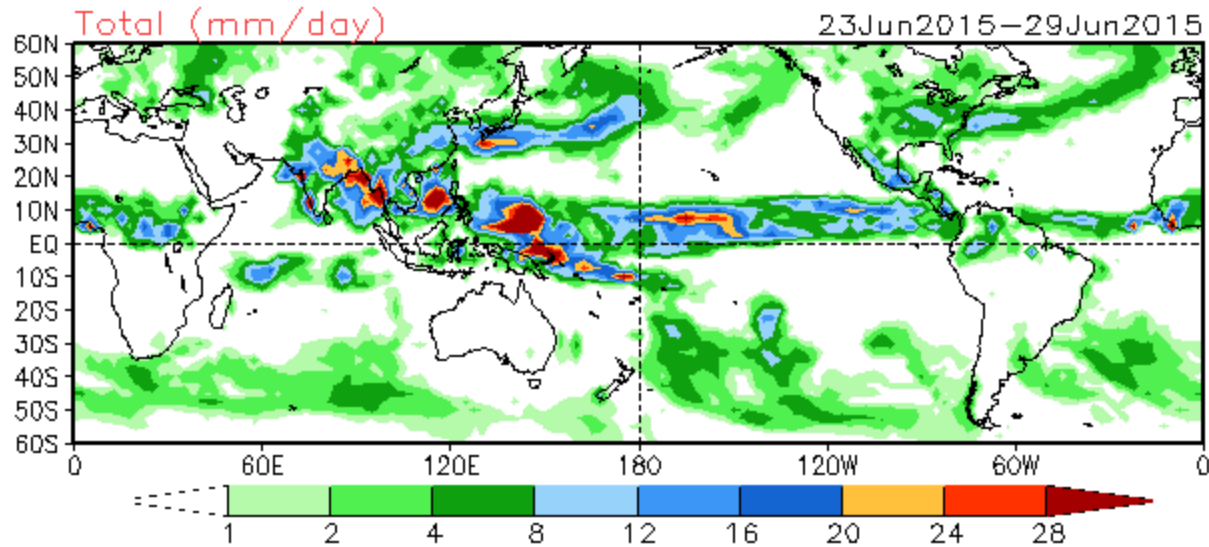


MJO composites



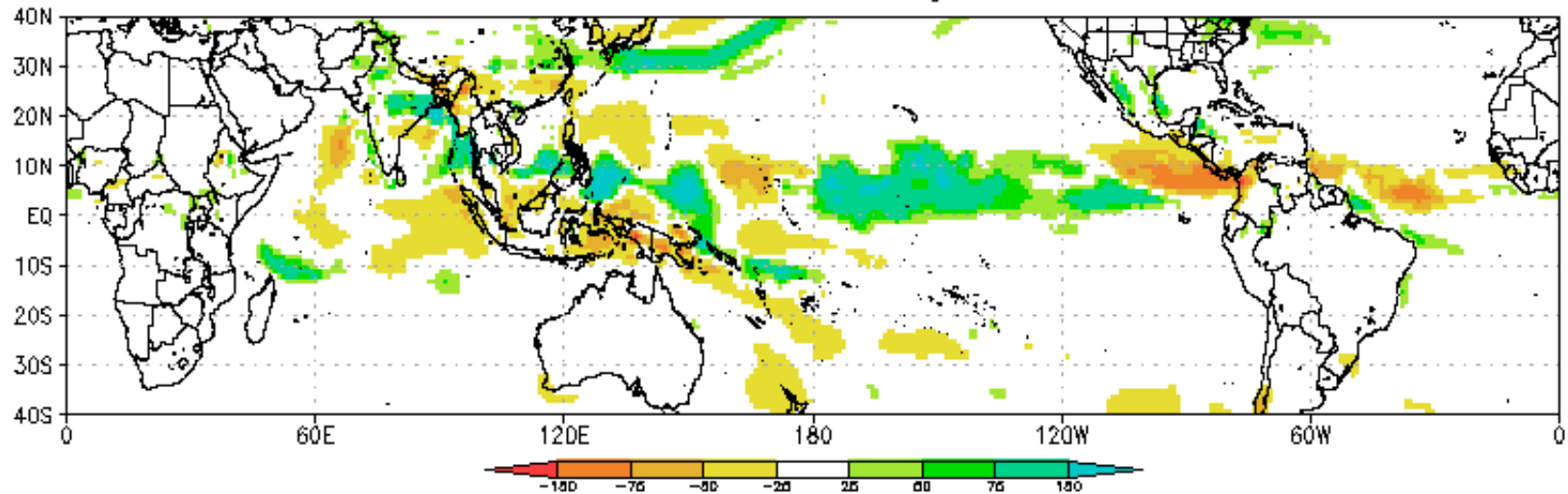
Ensemble GFS Week-1 Forecast

Week 1 Precipitation
Forecast from 22Jun2015

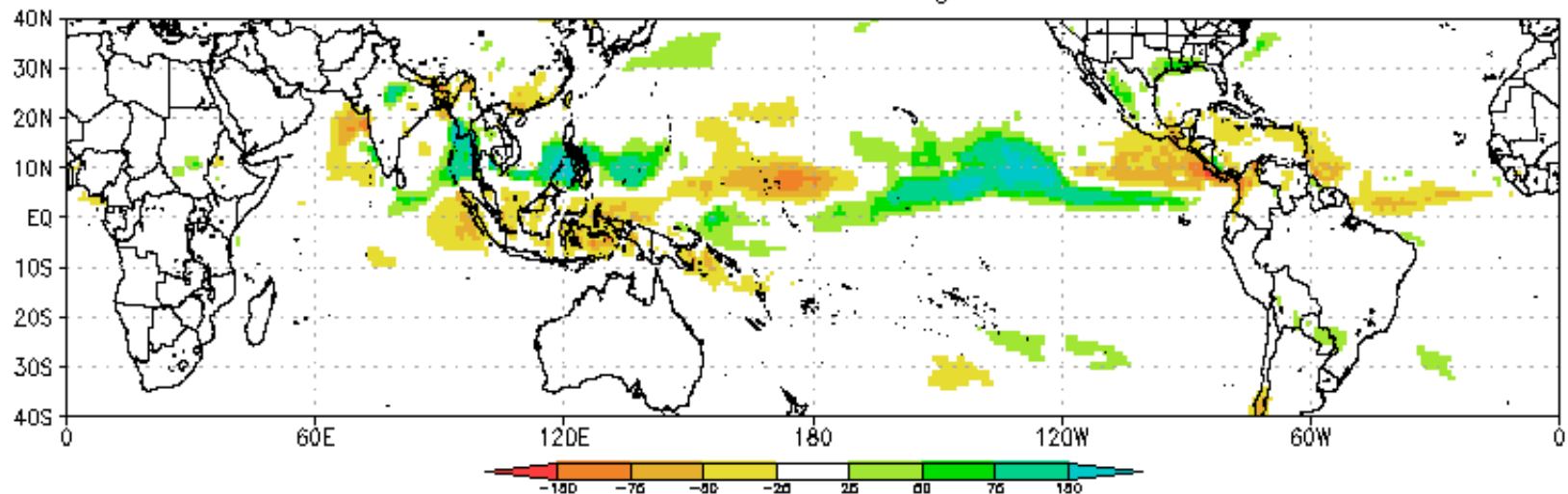


CFS Week 1-2 Forecast

CFSv2 Precip Anomalies (mm) Issued 22Jun2015
Week-1 Forecast Ending 30Jun2015



CFSv2 Precip Anomalies (mm) Issued 22Jun2015
Week-2 Forecast Ending 07Jul2015





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

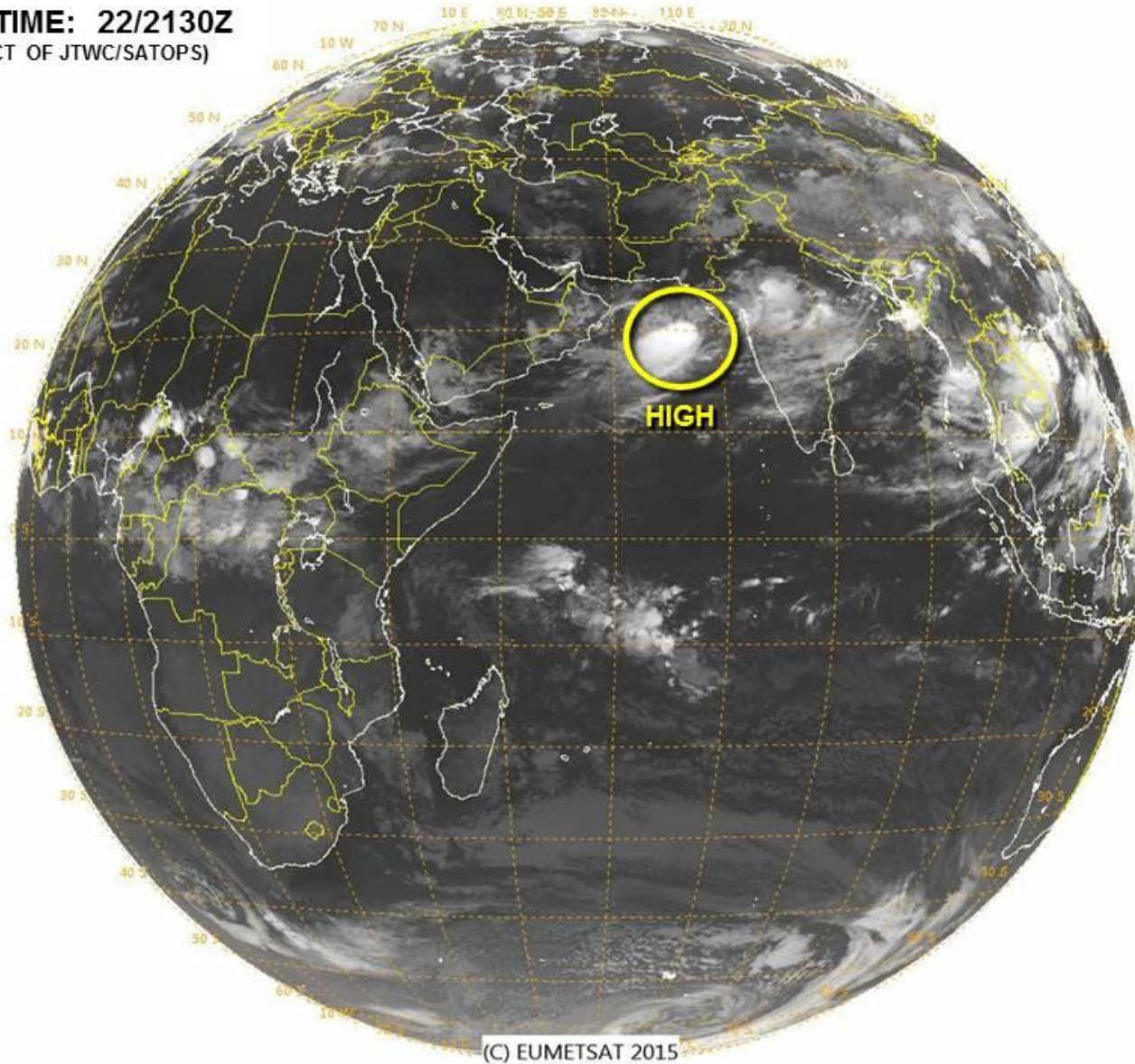


Tropical Cyclone Formation Potential for the 5-Day Period Ending 5:00 am PDT Sun Jun 28 2015
 Chance of Cyclone Formation in 5 Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%
 X indicates current disturbance location; shading indicates potential formation area.



Tropical Cyclone Formation Potential for the 5-Day Period Ending 8:00 am EDT Sun Jun 28 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.

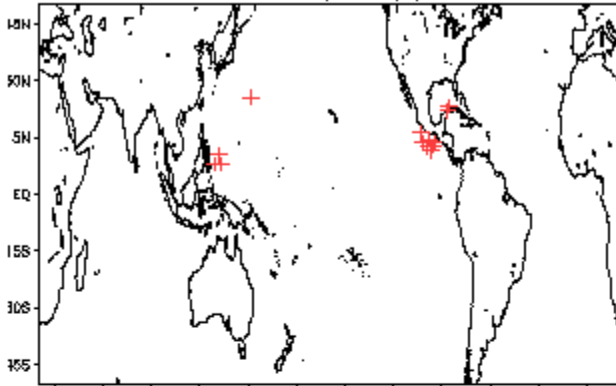
VALID TIME: 22/2130Z
(PRODUCT OF JTWC/SATOPS)



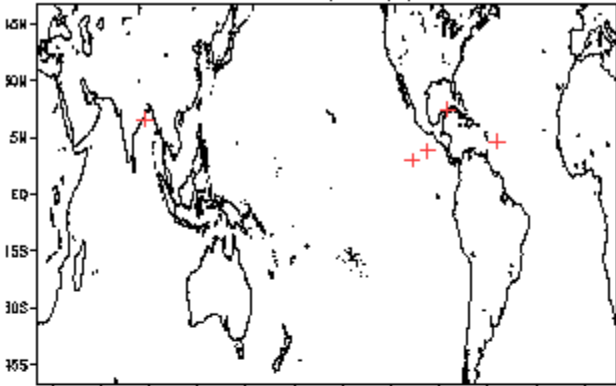
(C) EUMETSAT 2015

June Tropical Storm Formation by MJO phase

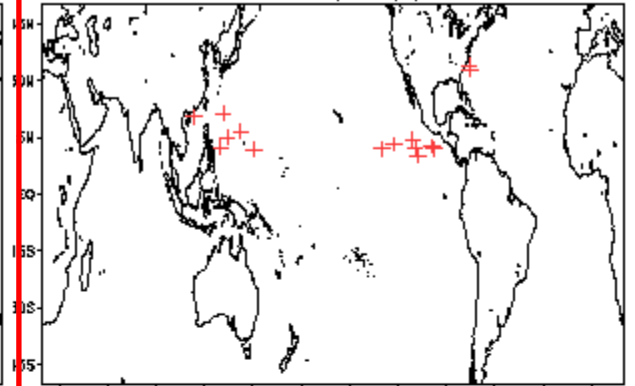
Phase 1 (104 days) 14 storms



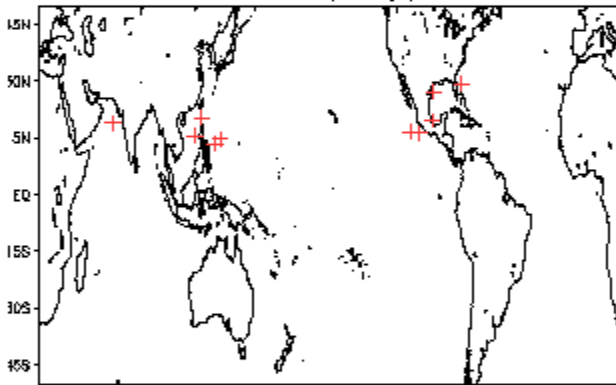
Phase 4 (80 days) 6 storms



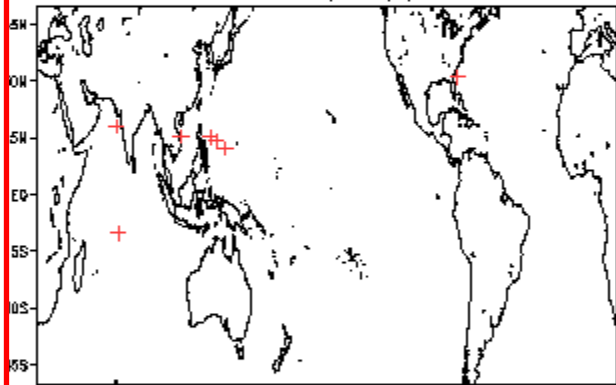
Phase 7 (45 days) 16 storms



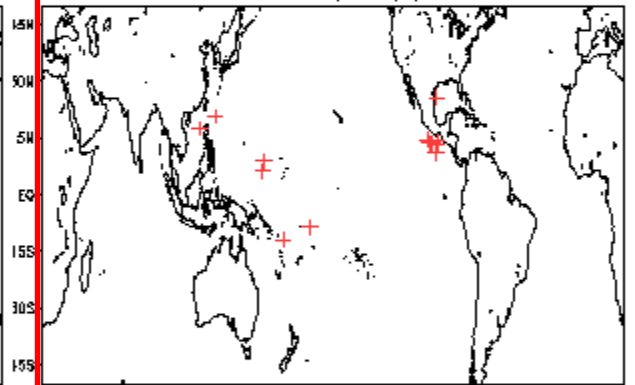
Phase 2 (82 days) 11 storms



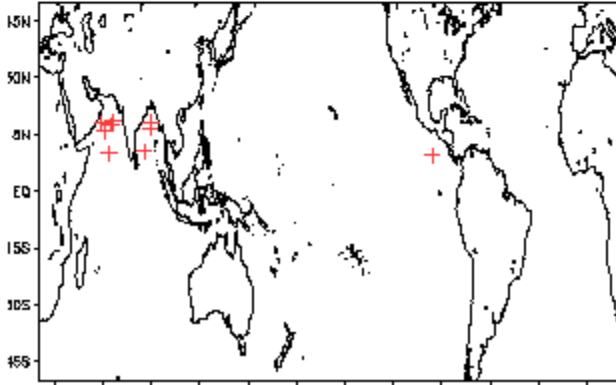
Phase 5 (77 days) 8 storms



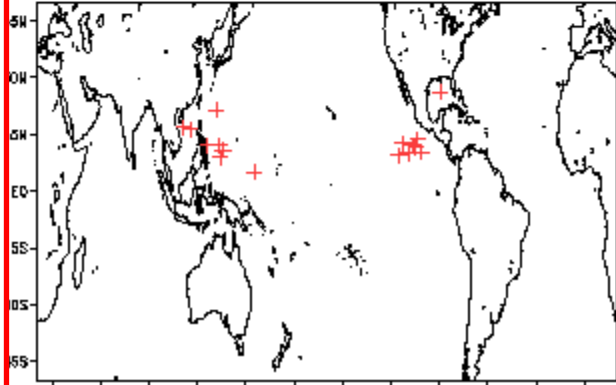
Phase 8 (70 days) 13 storms



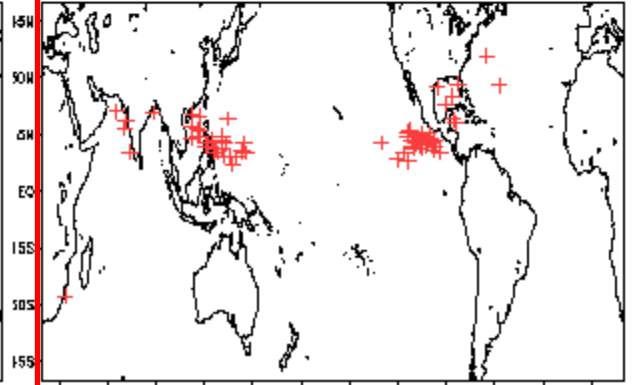
Phase 3 (57 days) 10 storms



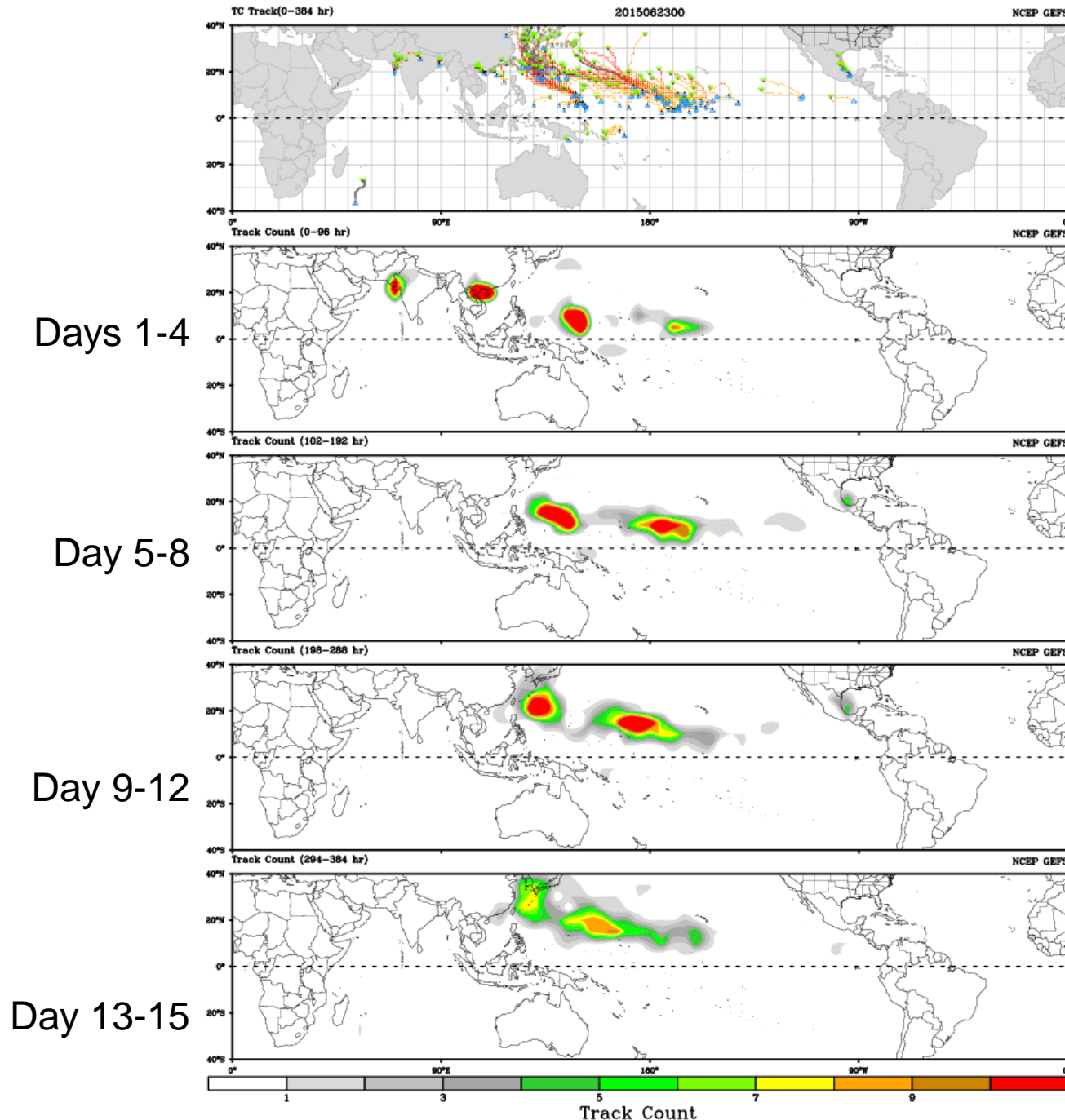
Phase 6 (82 days) 17 storms

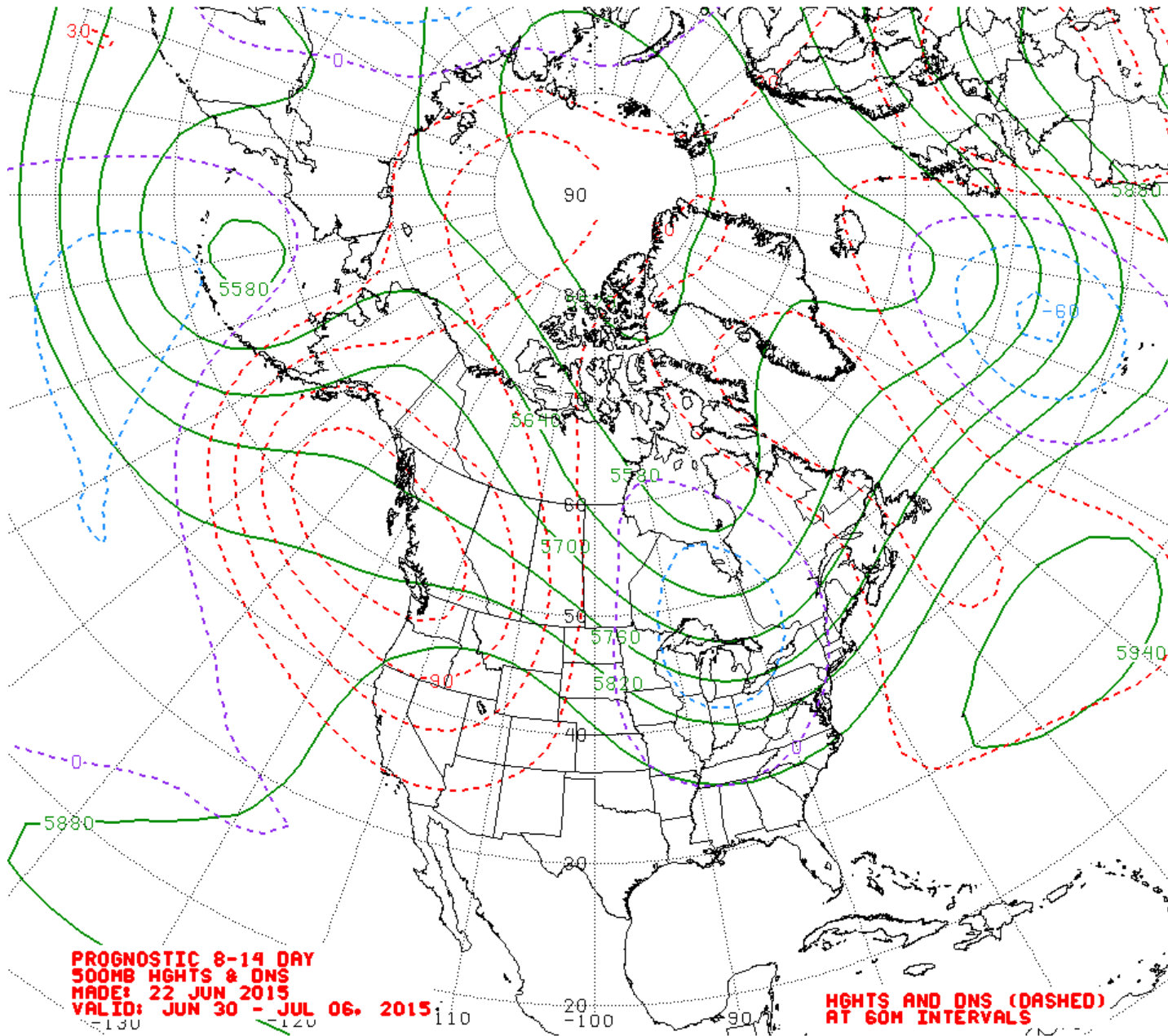


Null (423 days) 71 storms

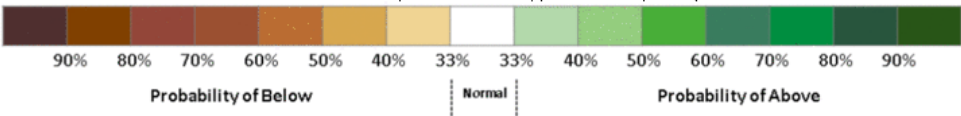
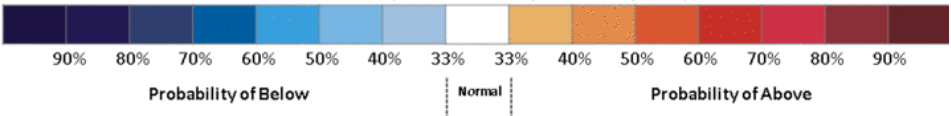
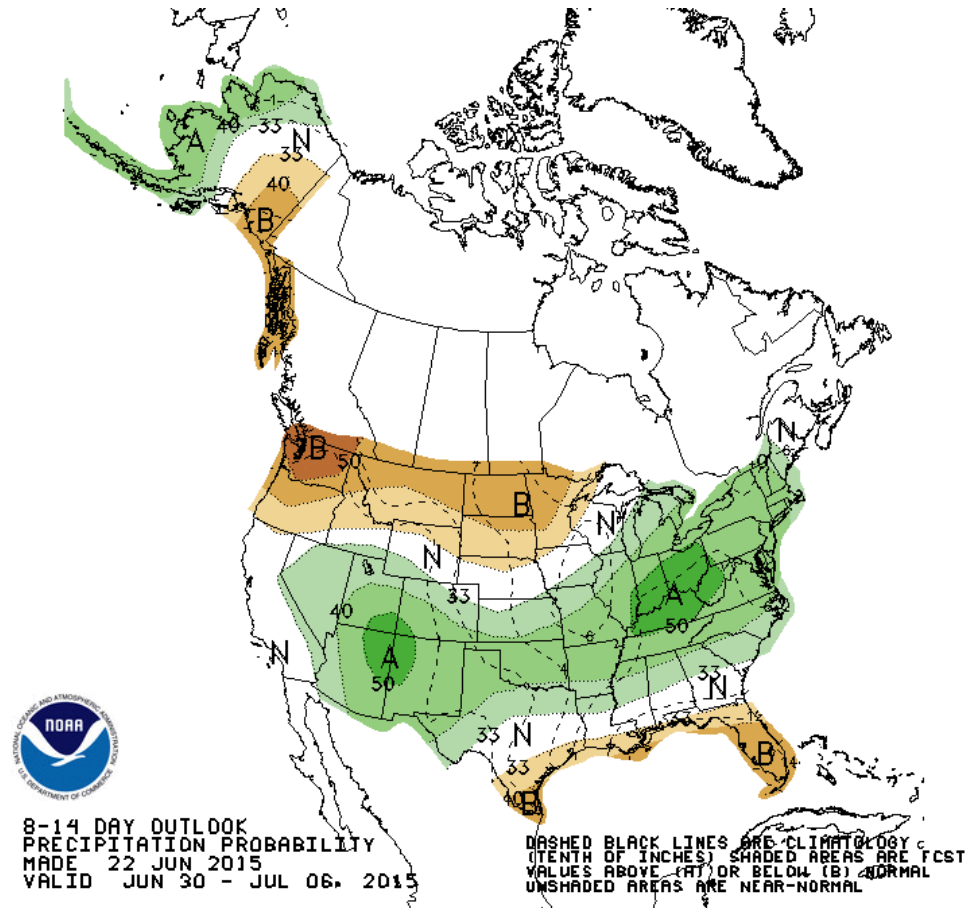
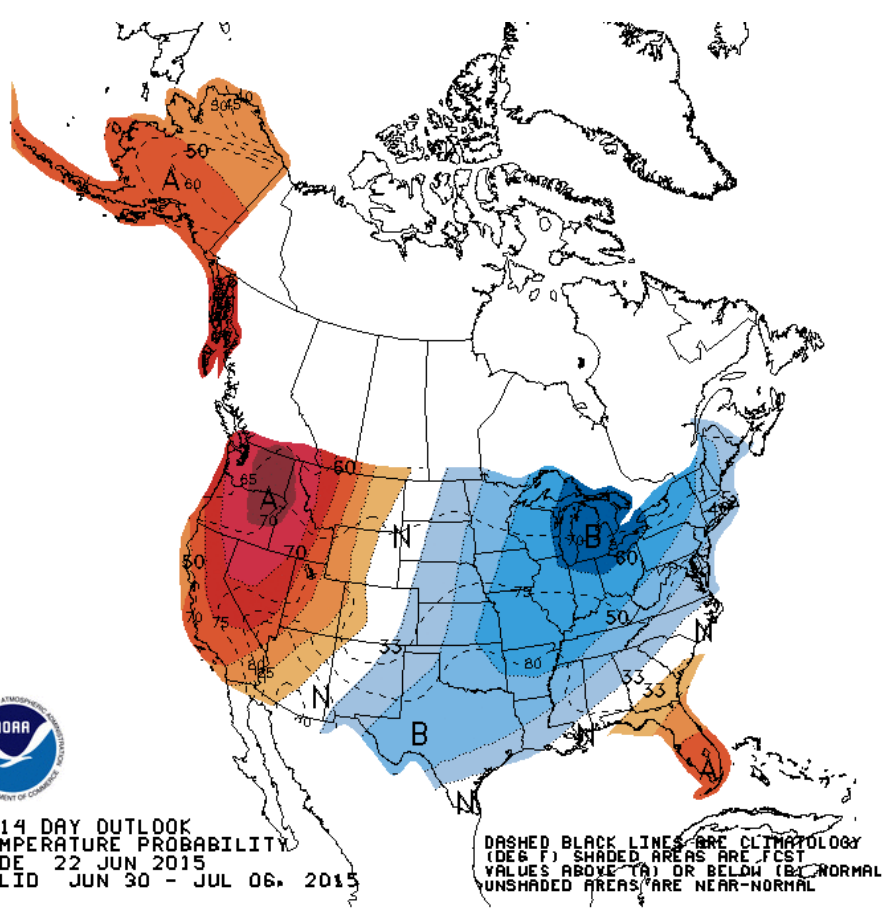


CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)





Week 2 – Temperature and Precipitation

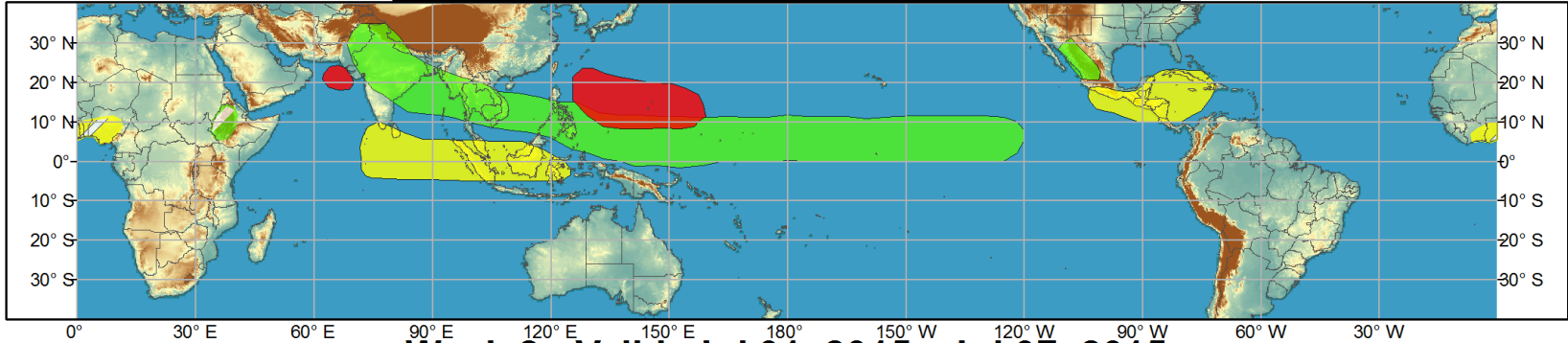




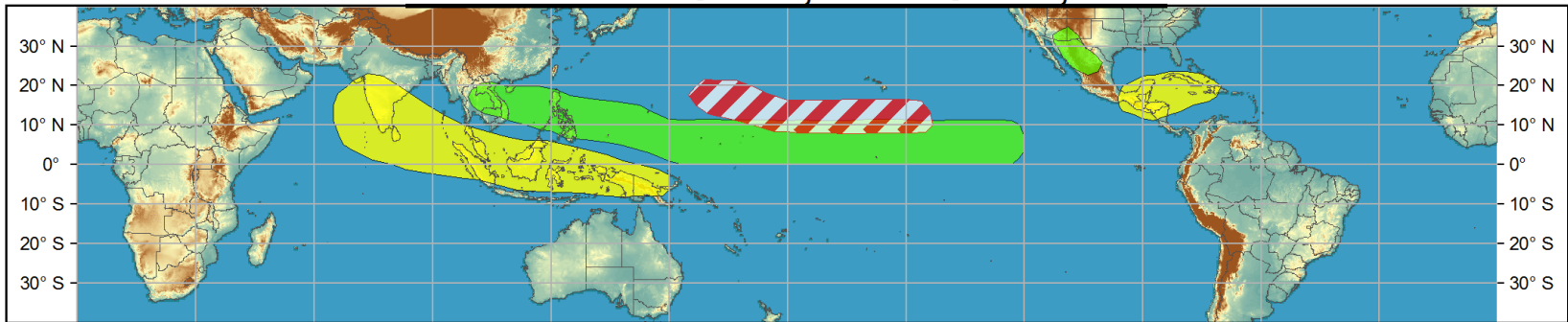
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