

Global Tropics Hazards And Benefits Outlook

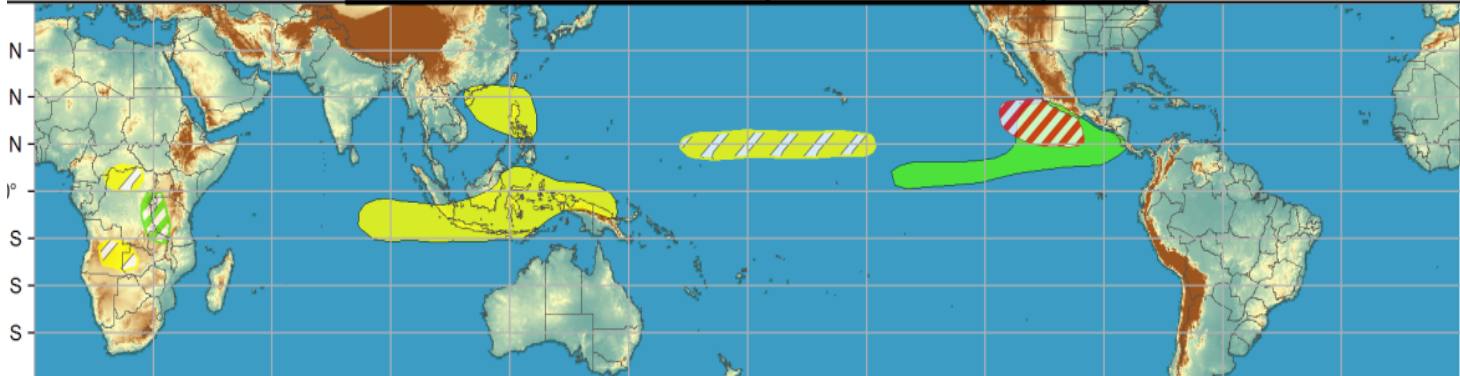
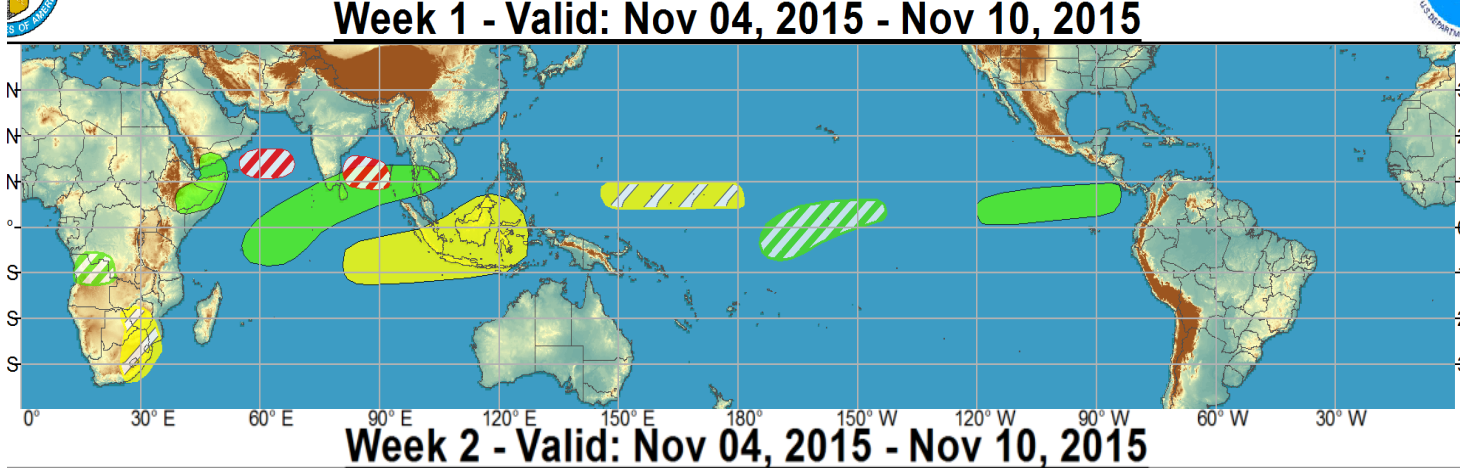
November 10, 2015

Matthew Rosencrans

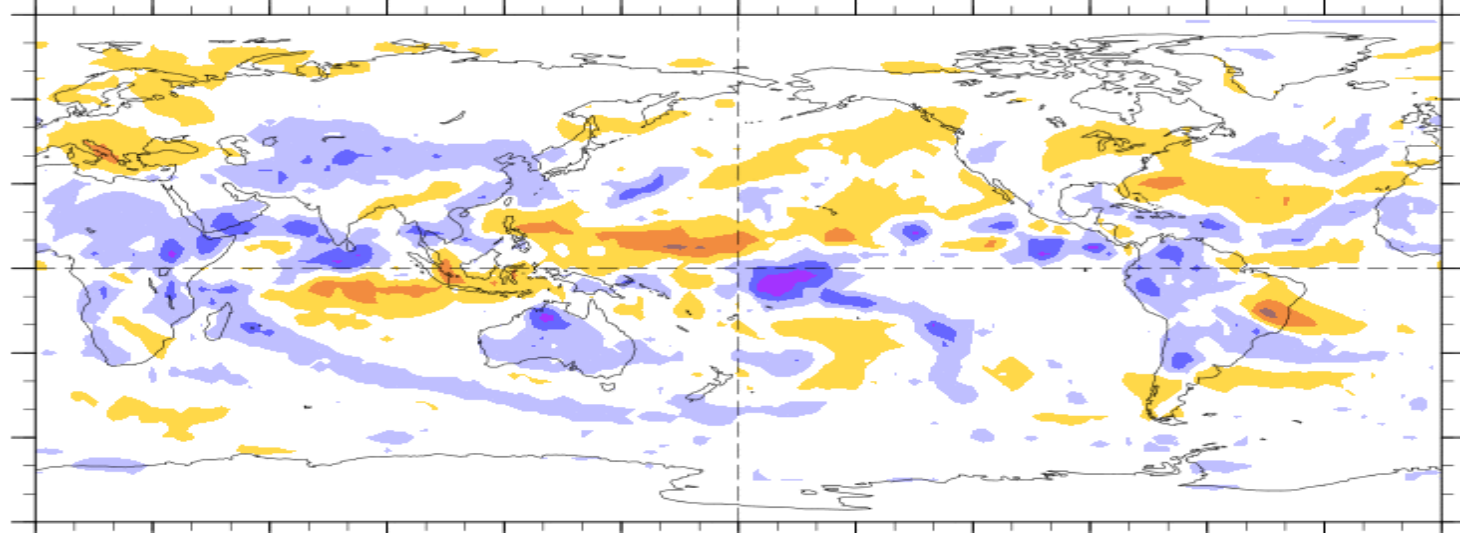
Outline

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

Outlook Review



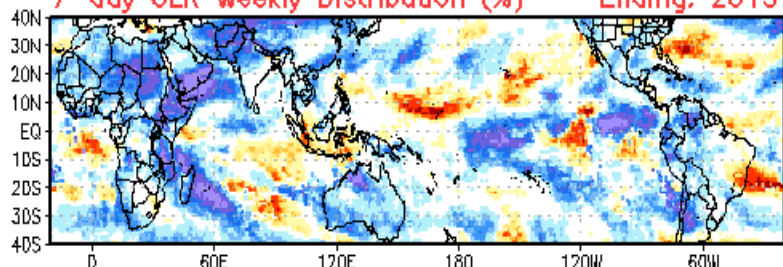
7-Day Average OLR Anomaly 2015/11/02 - 2015/11/08



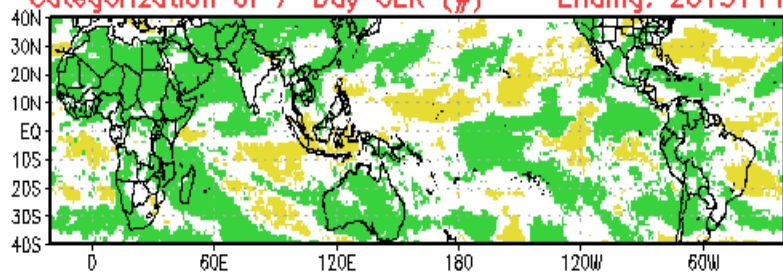
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

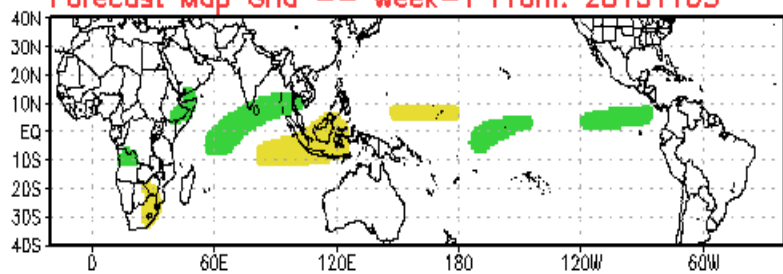
7-day OLR Weekly Distribution (%) -- Ending: 20151110



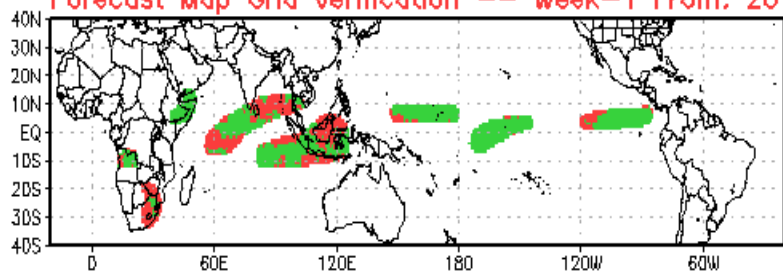
Categorization of 7-Day OLR (#) -- Ending: 20151110



Forecast Map Grid -- Week-1 From: 20151103

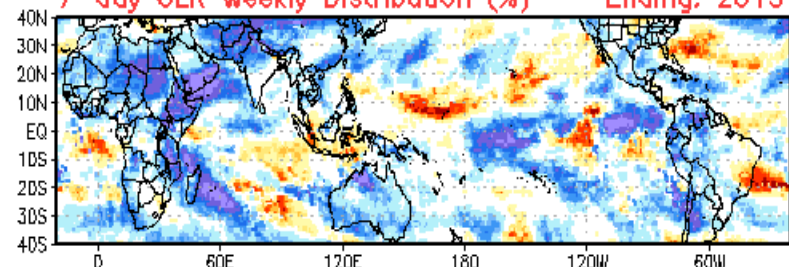


Forecast Map Grid Verification -- Week-1 From: 20151103

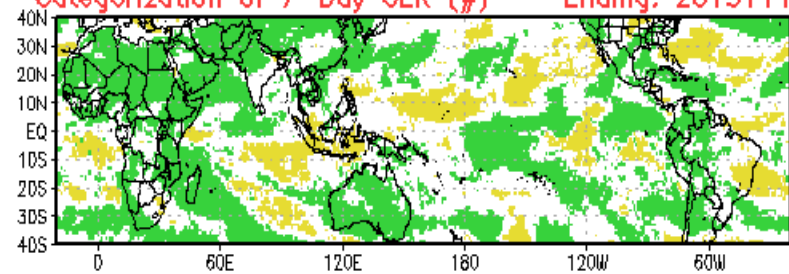


Hit: Green, Miss: Red
Heidke Skill Score: 47.0164

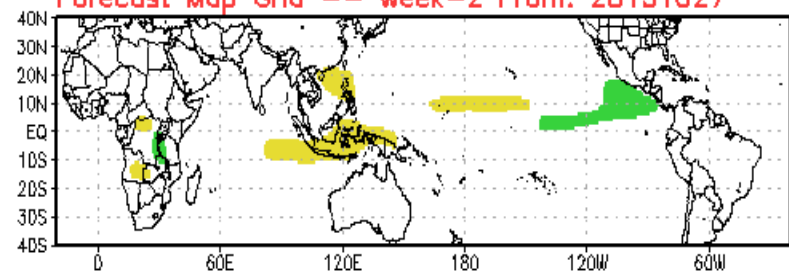
7-day OLR Weekly Distribution (%) -- Ending: 20151110



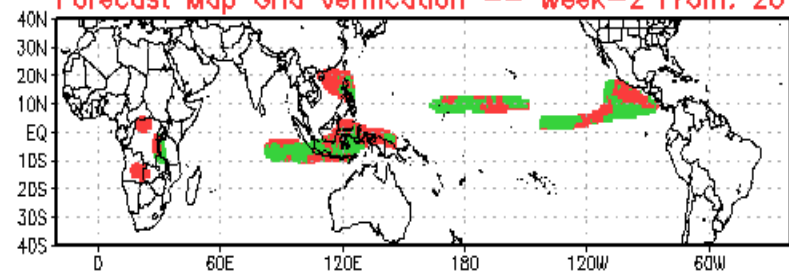
Categorization of 7-Day OLR (#) -- Ending: 20151110



Forecast Map Grid -- Week-2 From: 20151027



Forecast Map Grid Verification -- Week-2 From: 20151027



Hit: Green, Miss: Red
Heidke Skill Score: 24.8140

Synopsis of Climate Modes

ENSO:

- Current: [El Niño Advisory](#)
- Outlook: There is an approximately 95% chance that El Niño will continue through Northern Hemisphere winter 2015-16, gradually weakening through spring 2016.

MJO and other subseasonal tropical variability:

- MJO indices indicate MJO activity over the eastern Indian Ocean
- Forecasts of MJO depict a significant weakening of the signal through Week-2.
- Kelvin Wave likely to impact circulation from Indian Ocean to East Pacific.

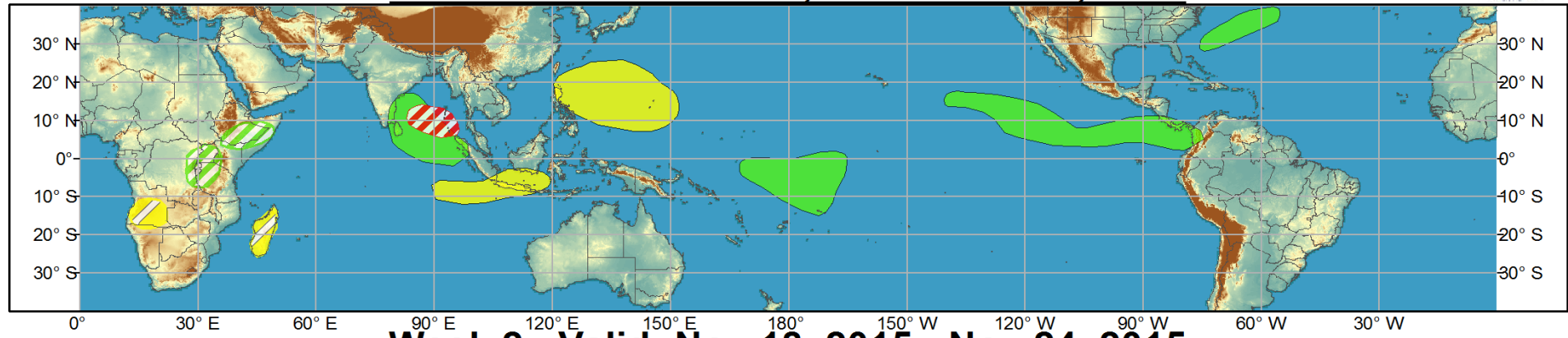
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO, but more likely impacted by the ongoing El Niño and tropical cyclone activity.

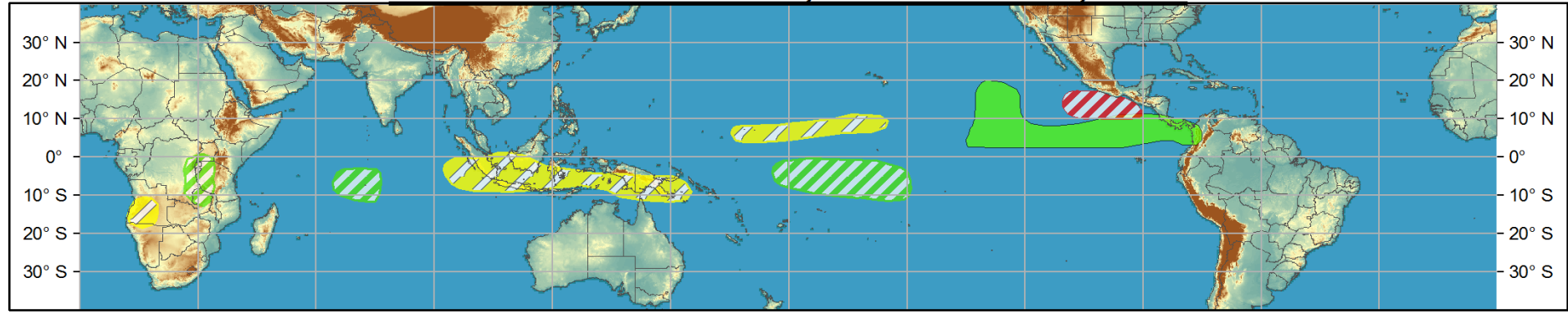


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Nov 11, 2015 - Nov 17, 2015



Week 2 - Valid: Nov 18, 2015 - Nov 24, 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: 11/10/2015

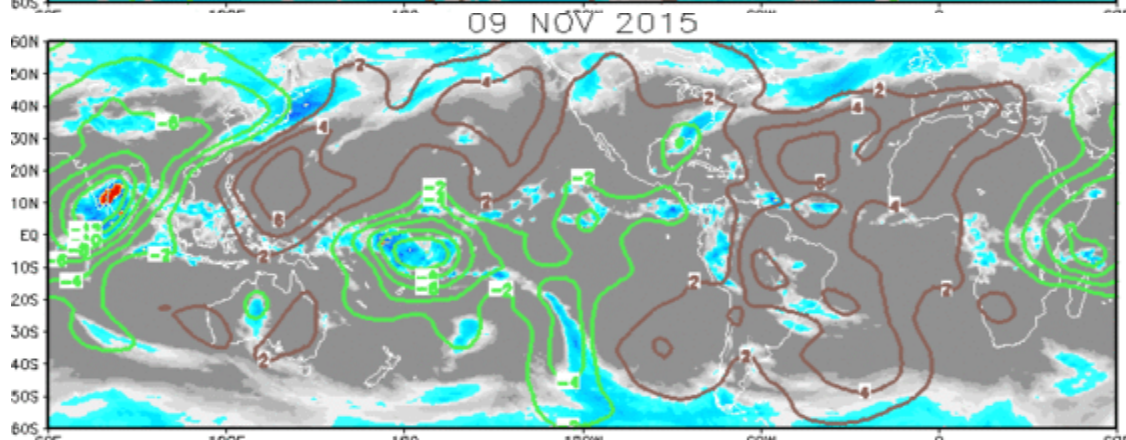
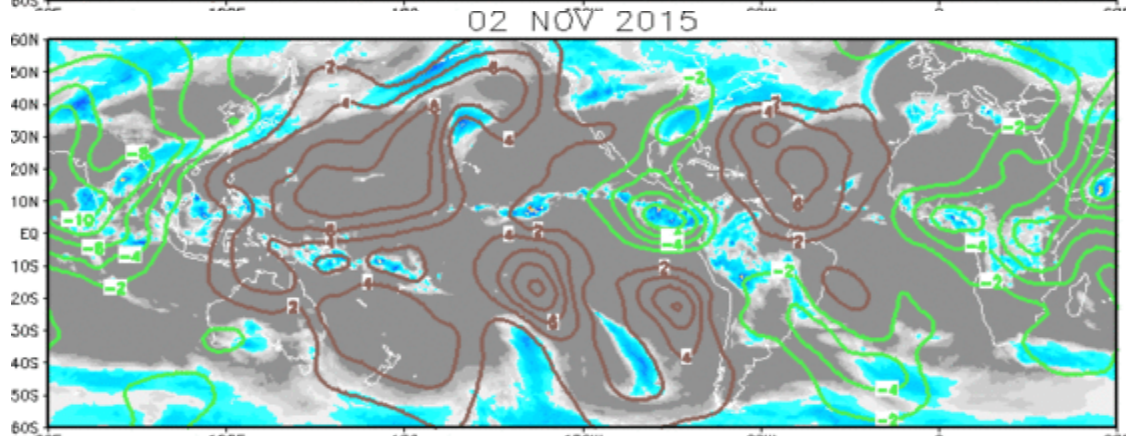
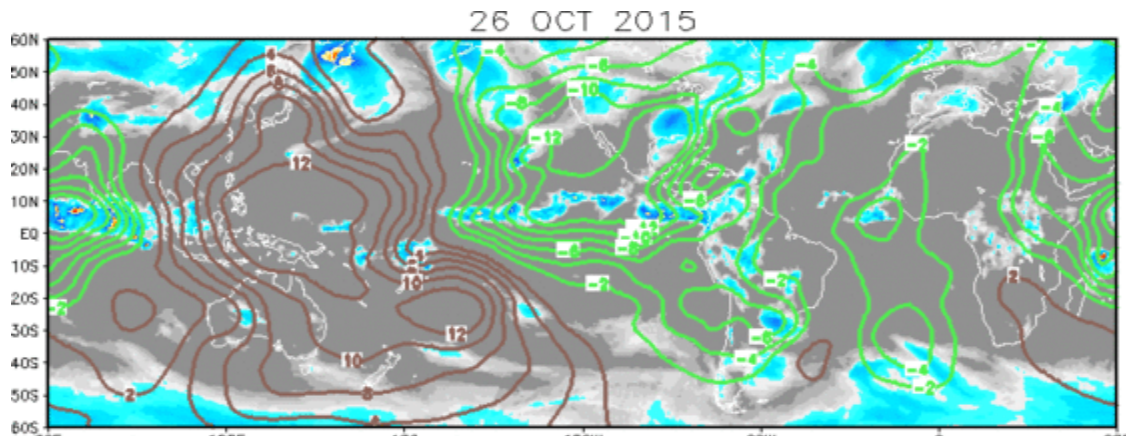
Forecaster: Rosencrans

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.



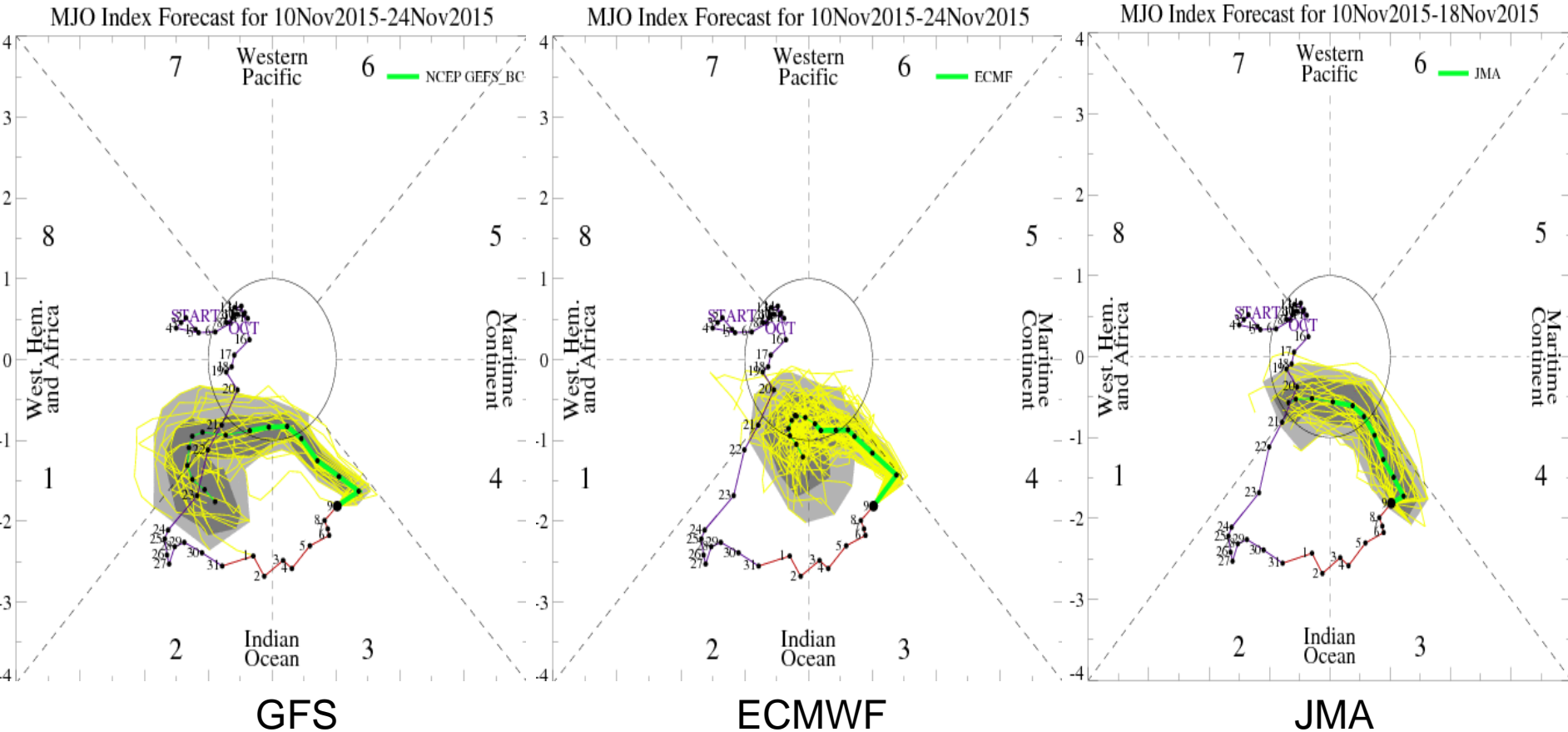
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence



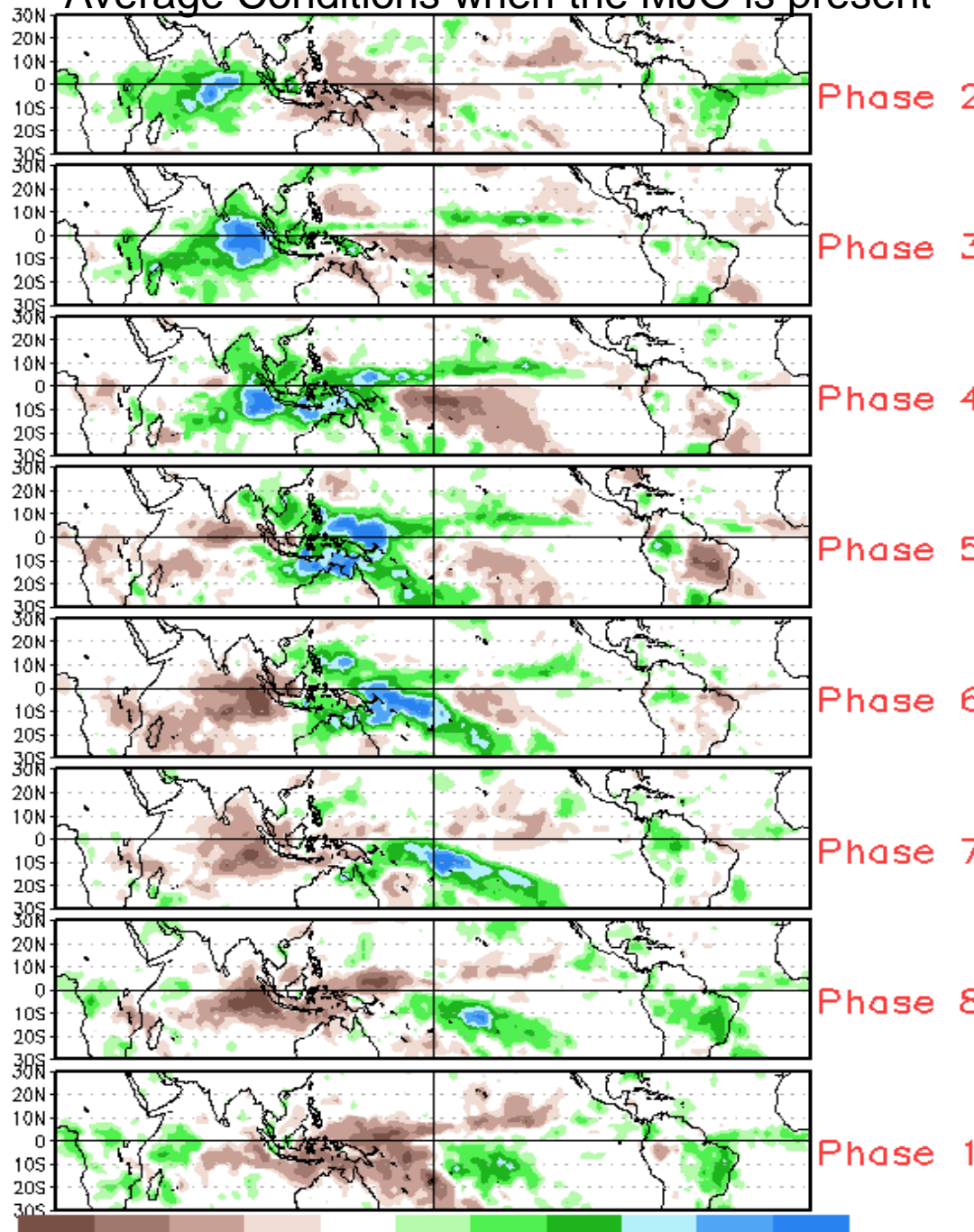
Interference
between modes
very evident.

MJO Observation/Forecast



Wheeler-Hendon based analyses of model forecasts indicate an signal over the Indian Ocean.
Forecasts weaken the signal, some suggest a re-emergence in later in week-2.

Average Conditions when the MJO is present

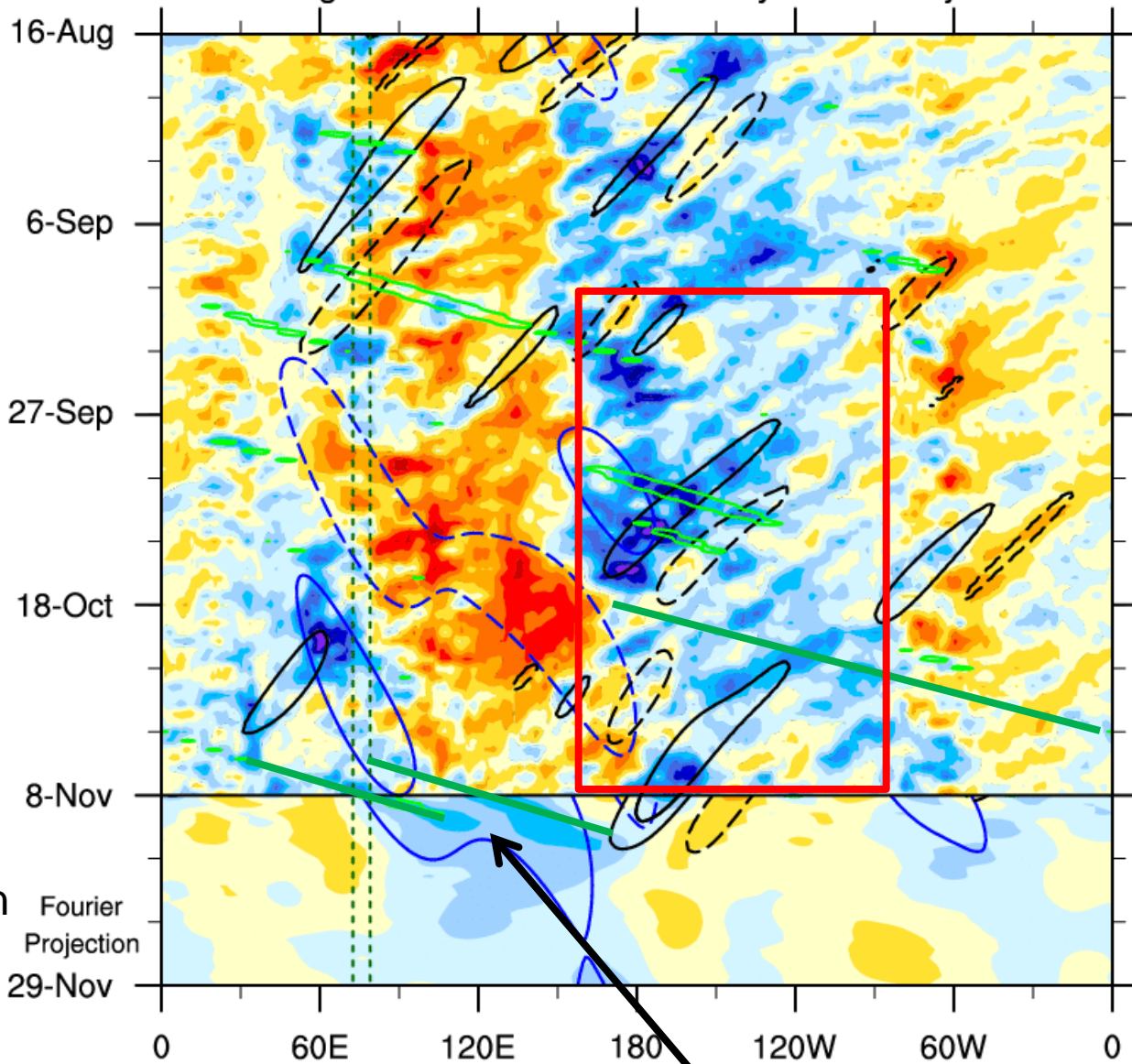


CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.

Currently, the strong El Nino makes these less applicable.

NOAA CDR HIRS OLR anomalies: 7.5°S - 7.5°N

16-Aug-2015 to 8-Nov-2015 + 21-day Fourier Projection

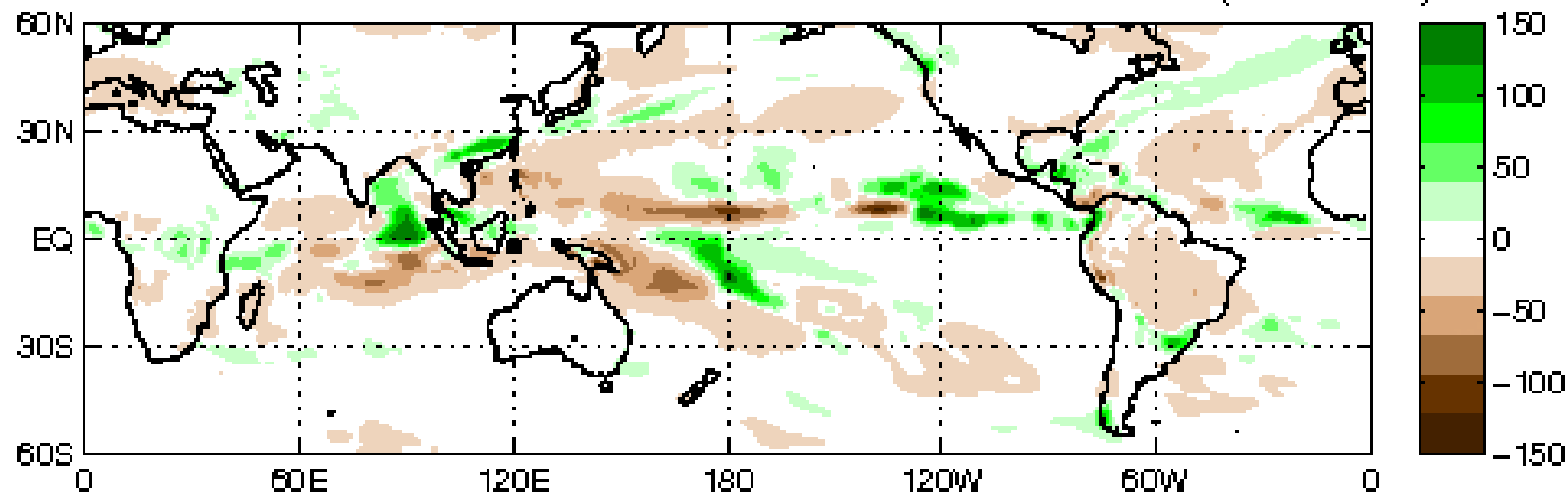


Low frequency likely to dominate pattern.

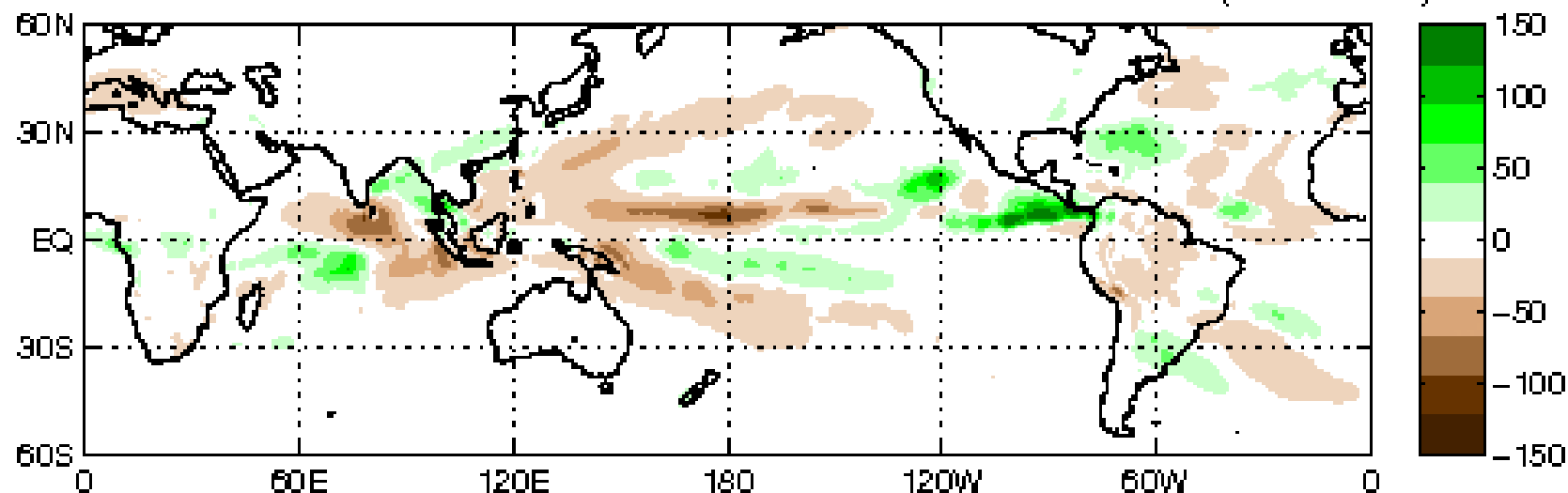
This tool shows convection building near Date Line and Kelvin wave activity over Indian Ocean.

Kelvin Wave impacting Indian Ocean and Pacific.

CFS: Anom. PREC Week: 1: 11-Nov-2015 to 17-Nov-2015 (mm/week)

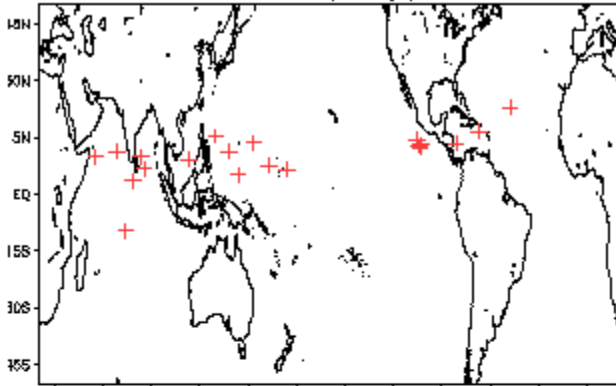


CFS: Anom. PREC Week: 2: 18-Nov-2015 to 24-Nov-2015 (mm/week)

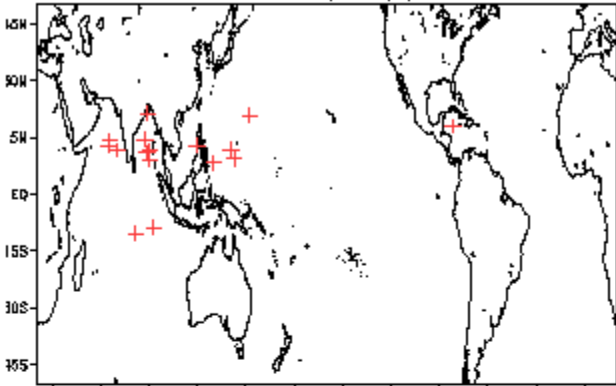


November Tropical Storm Formation by MJO phase

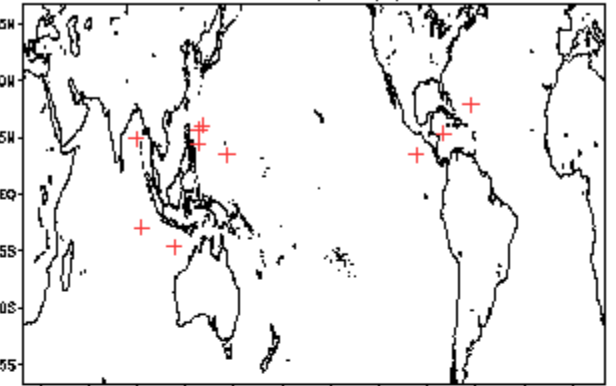
Phase 1 (65 days) 21 storms



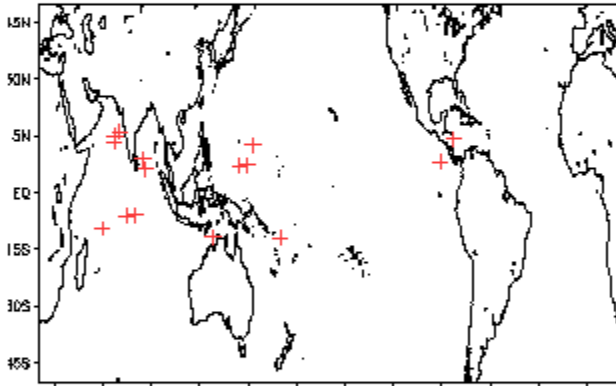
Phase 4 (77 days) 17 storms



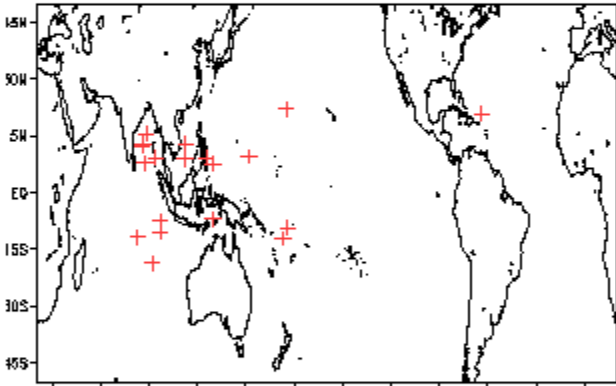
Phase 7 (68 days) 11 storms



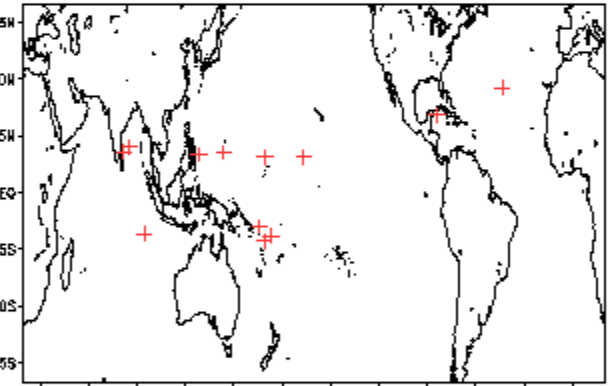
Phase 2 (88 days) 16 storms



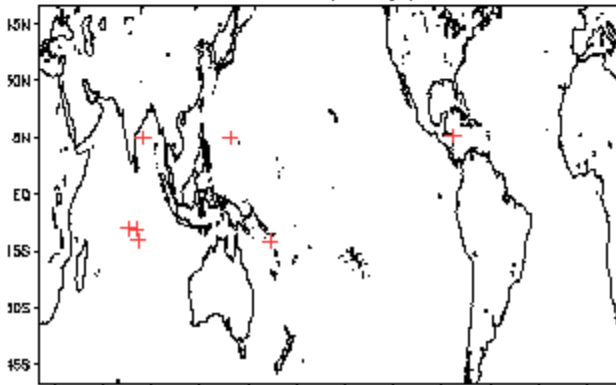
Phase 5 (72 days) 20 storms



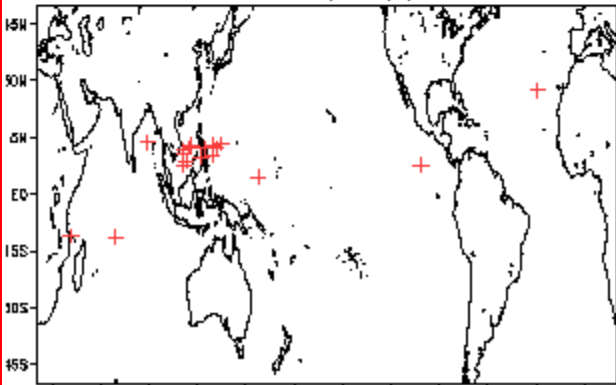
Phase 8 (60 days) 14 storms



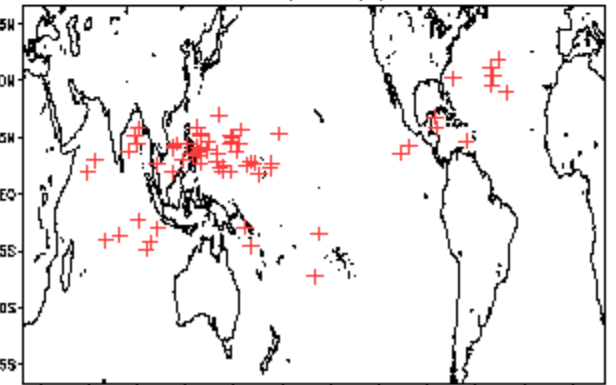
Phase 3 (89 days) 8 storms



Phase 6 (91 days) 19 storms



Null (380 days) 65 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

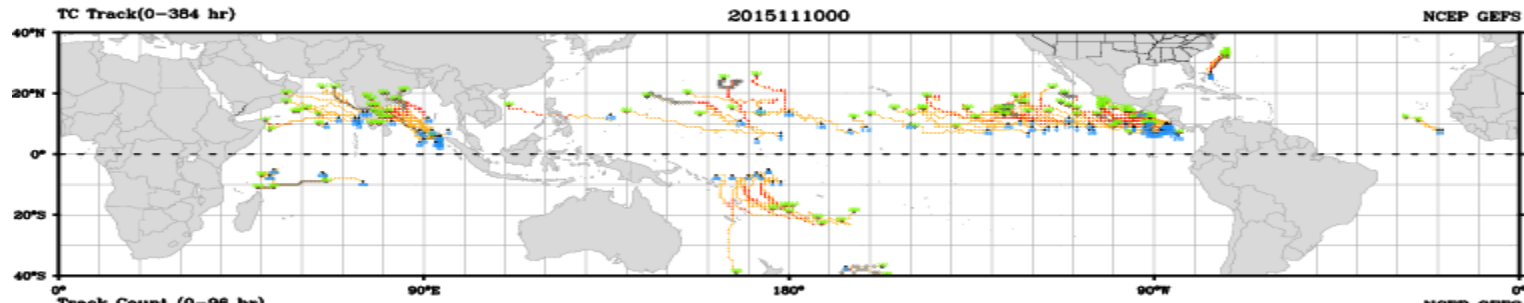
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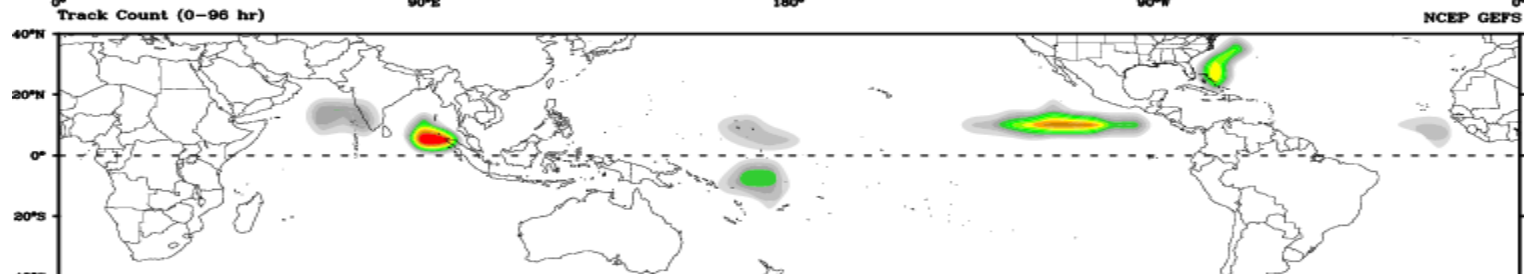


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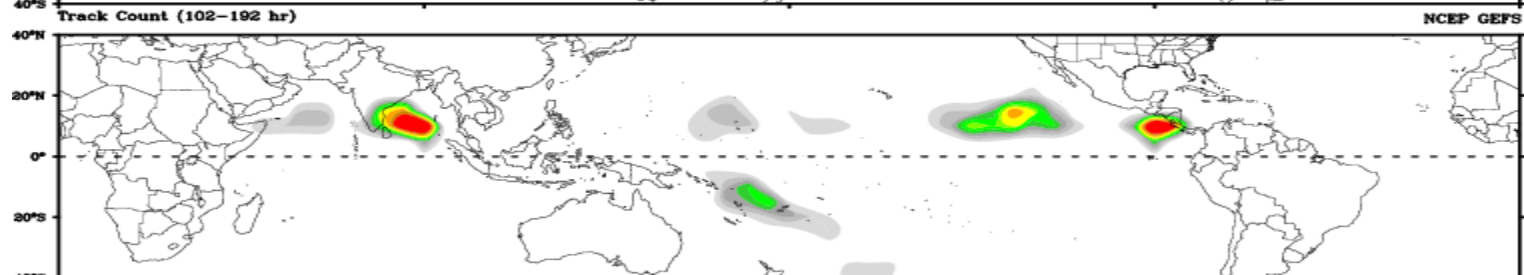
Tropical Cyclone Formation Potential for the 5-Day Period Ending 10:00 am PST Sun Nov 15 2015
 Chance of Cyclone Formation in 5 Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%
 X indicates current disturbance location; shading indicates potential formation area.



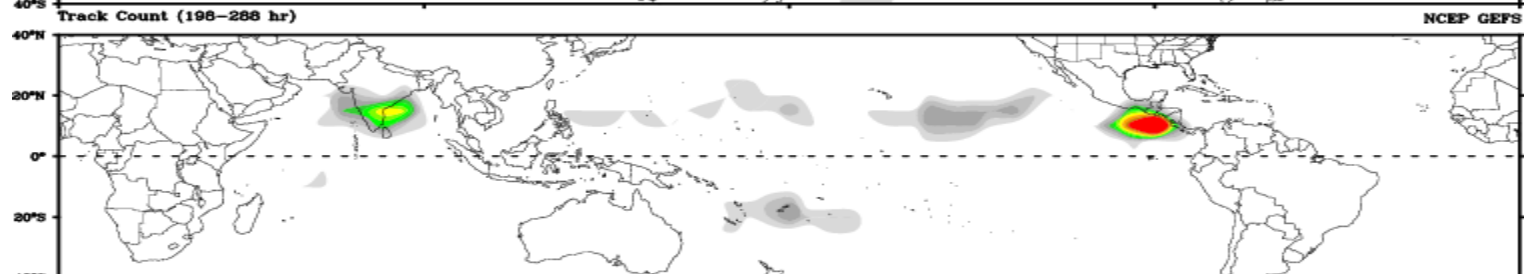
Days 1-4



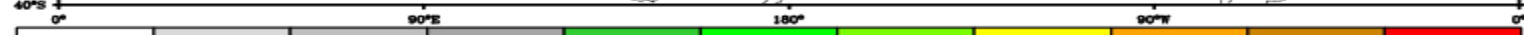
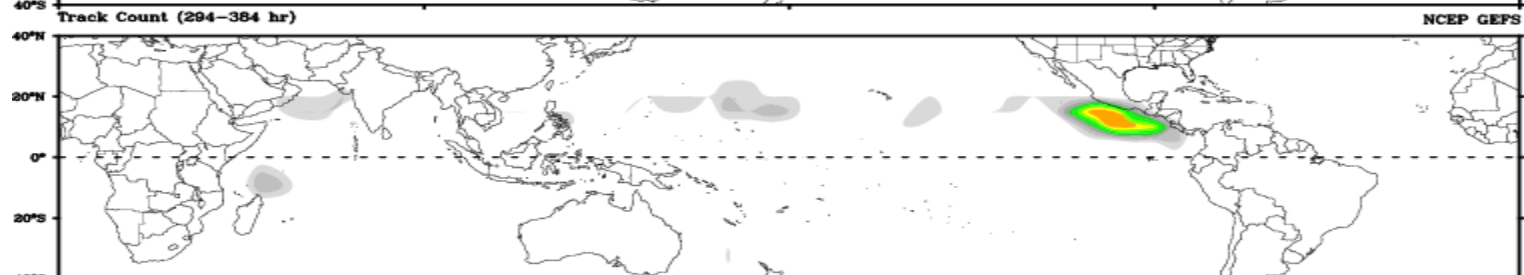
Day 5-8



Day 9-12

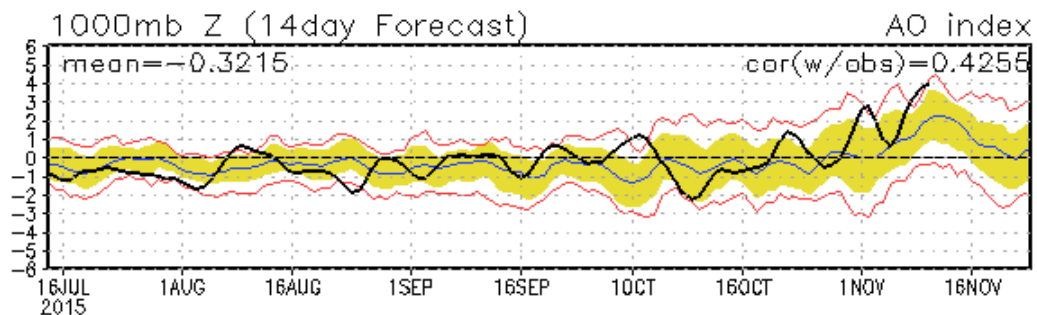
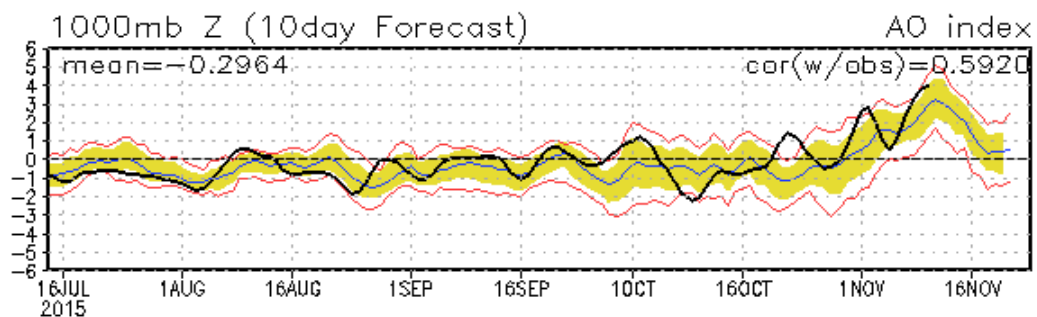
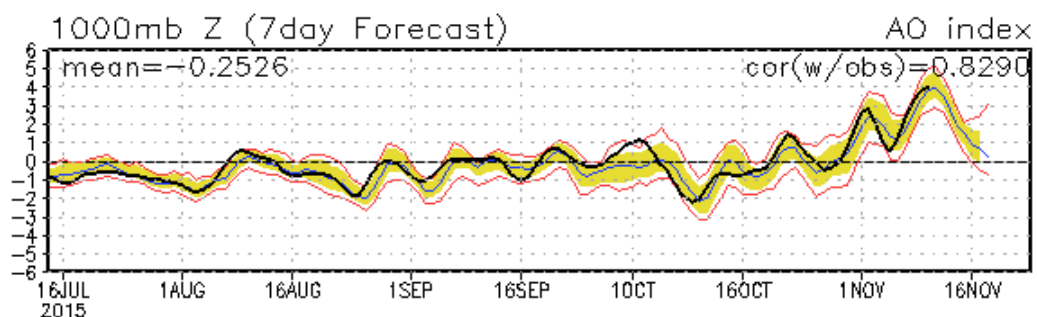
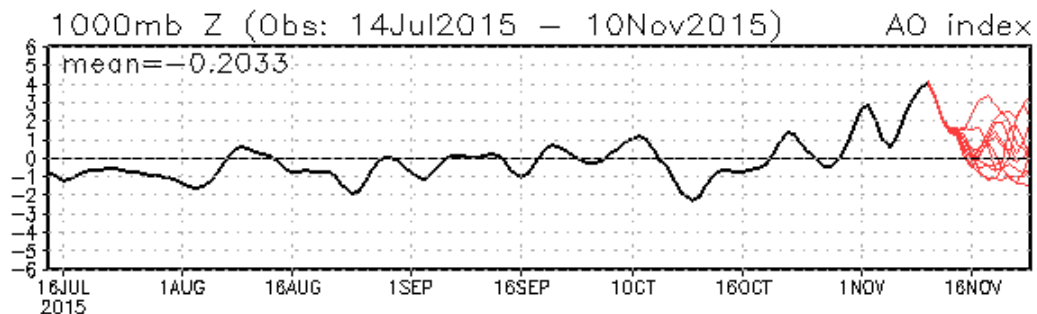


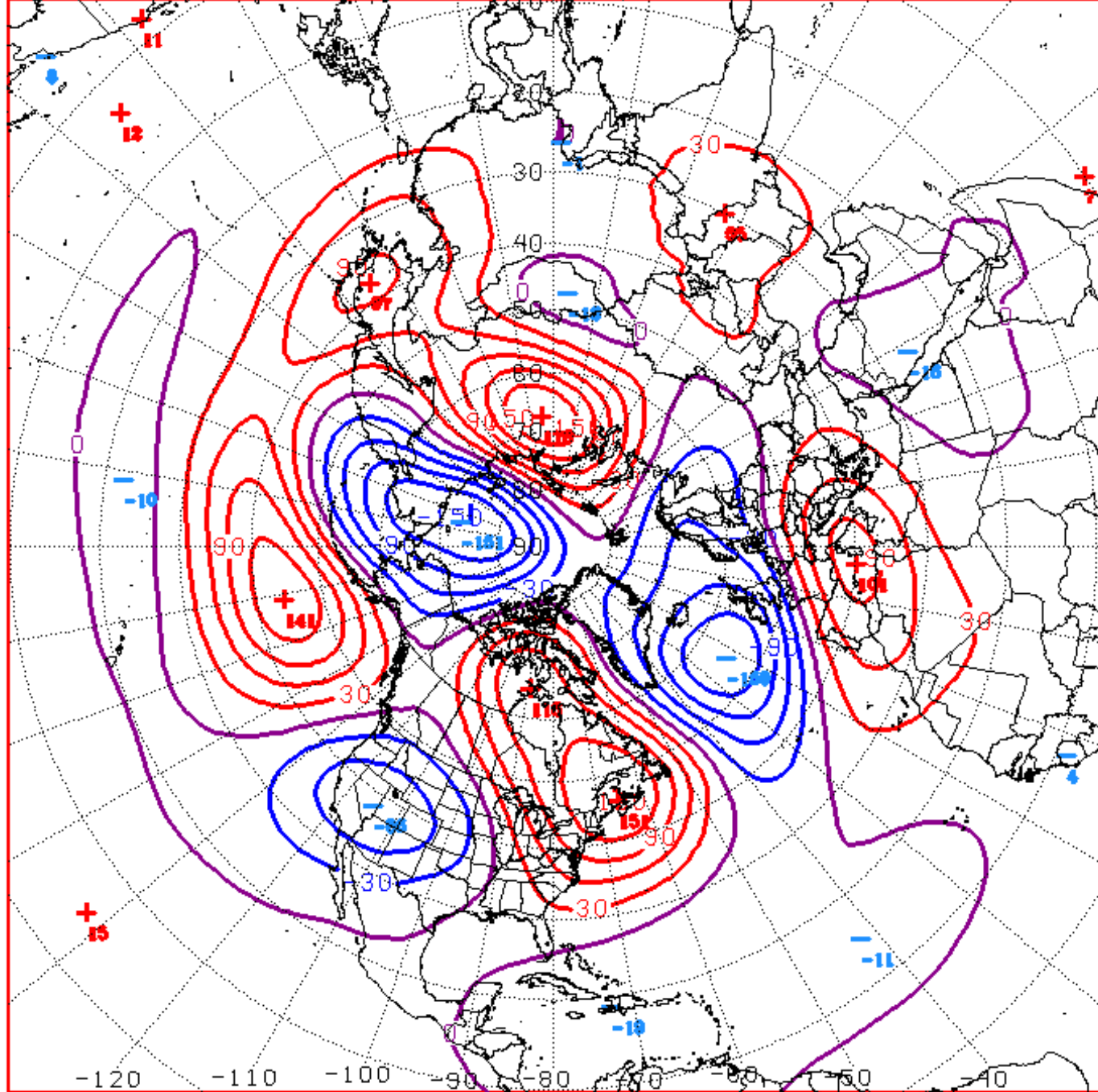
Day 13-15



Connections to U.S. Impacts

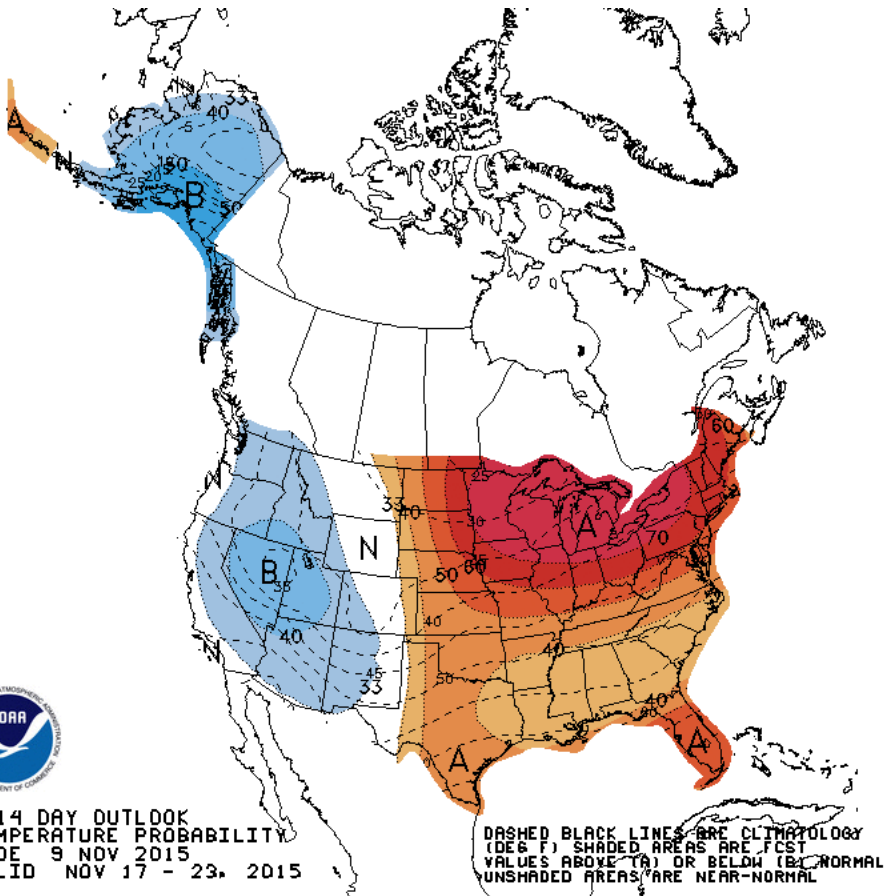
AO: Observed & ENSM forecasts





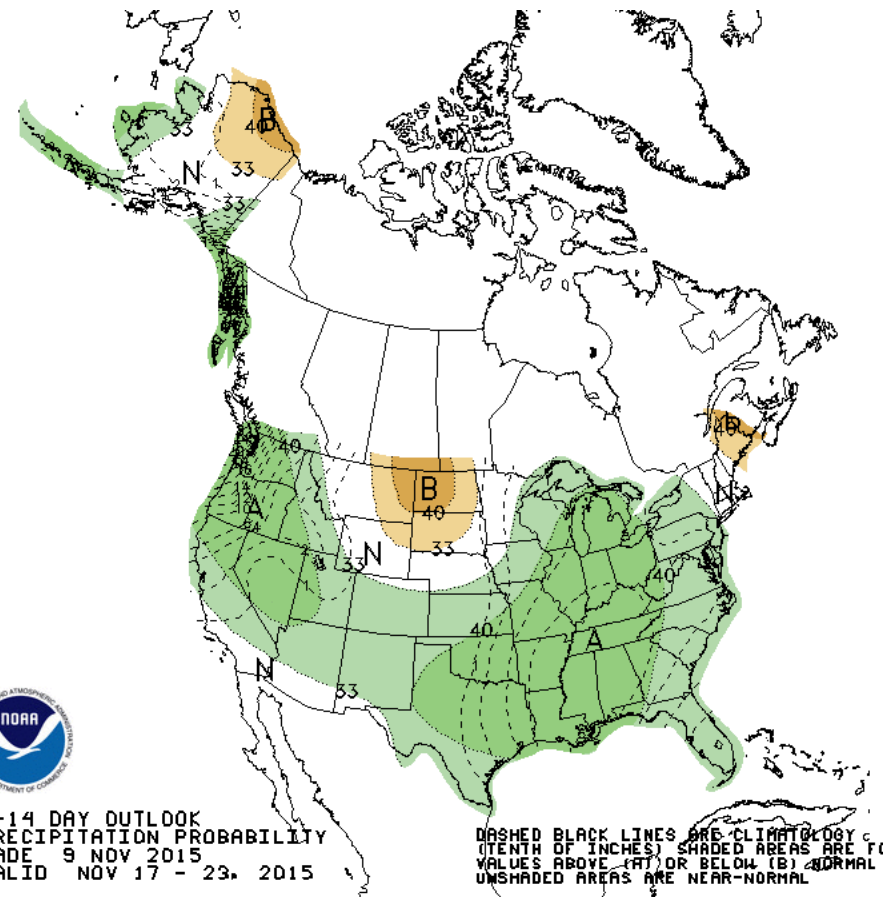
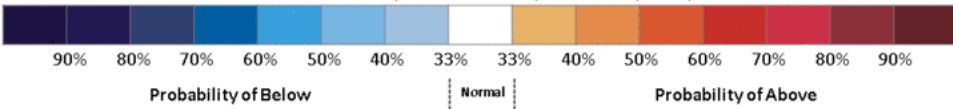
D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE NOV 10 2015 1003 UTC CNTD NOV 21 2015

Week 2 – Temperature and Precipitation



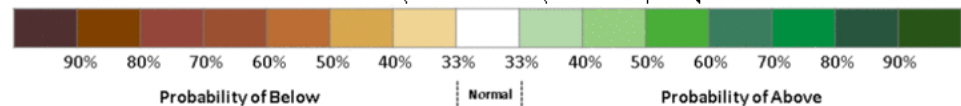
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 9 NOV 2015
VALID NOV 17 - 23, 2015

DASHED BLACK LINES ARE CLIMATOLOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL.



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 9 NOV 2015
VALID NOV 17 - 23, 2015

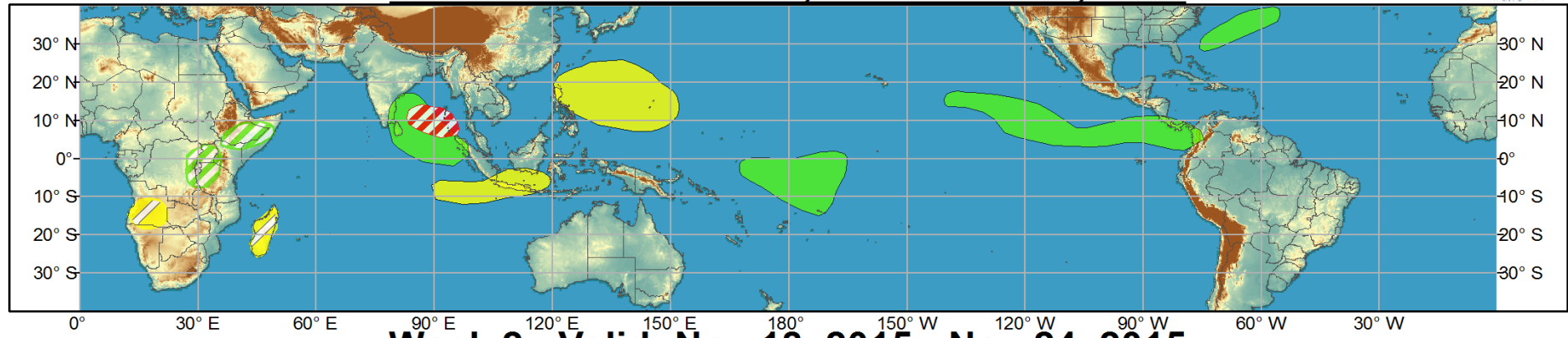
DASHED BLACK LINES ARE CLIMATOLOGY (TENTH OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL.



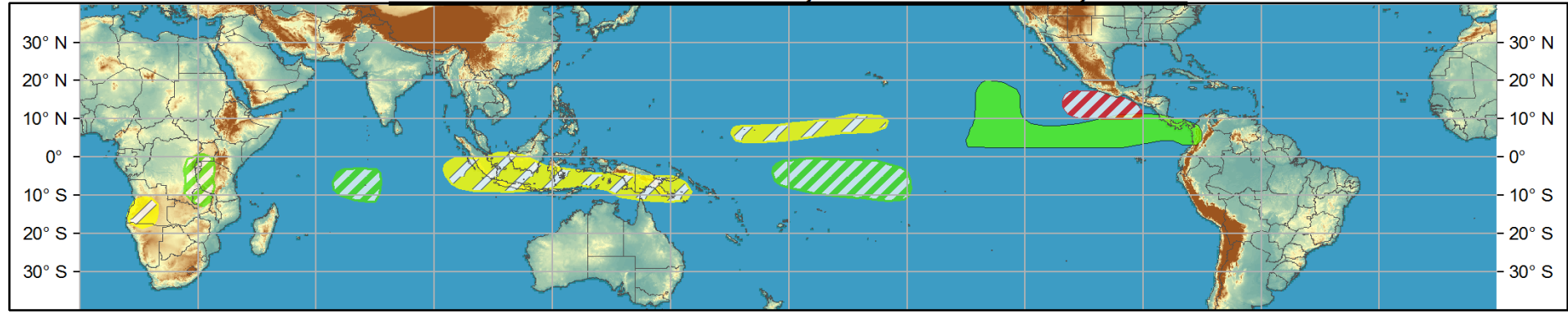


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