

Global Tropics Hazards And Benefits Outlook

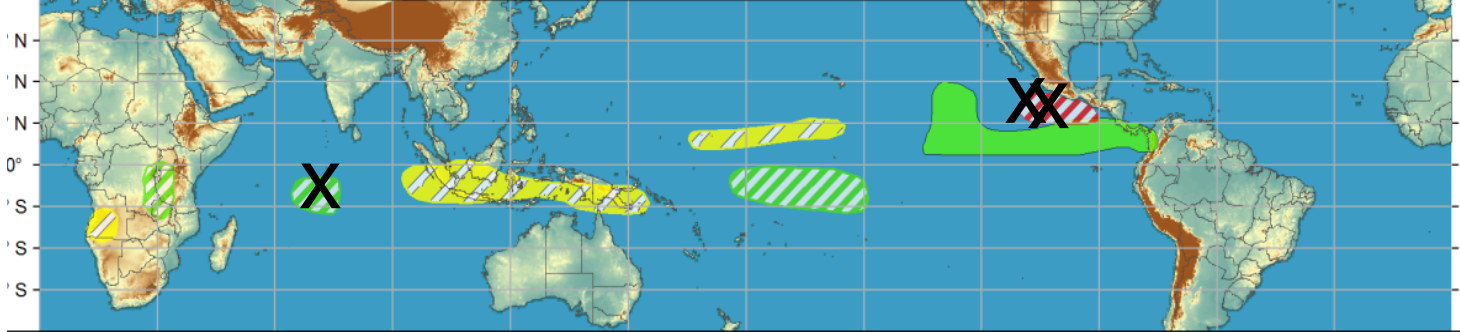
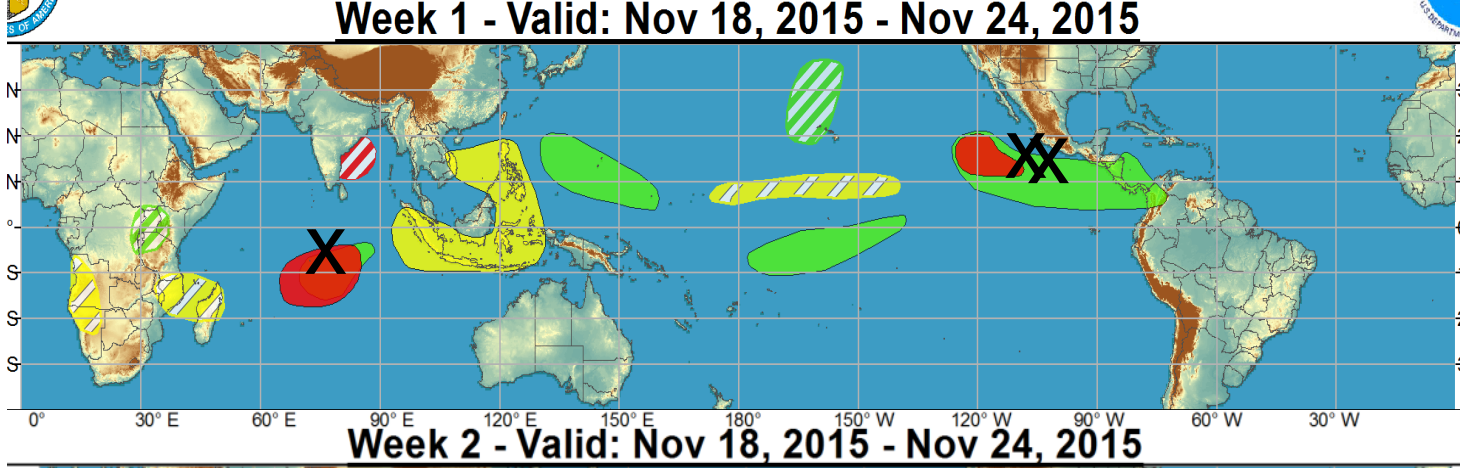
November 24, 2015

Matthew Rosencrans

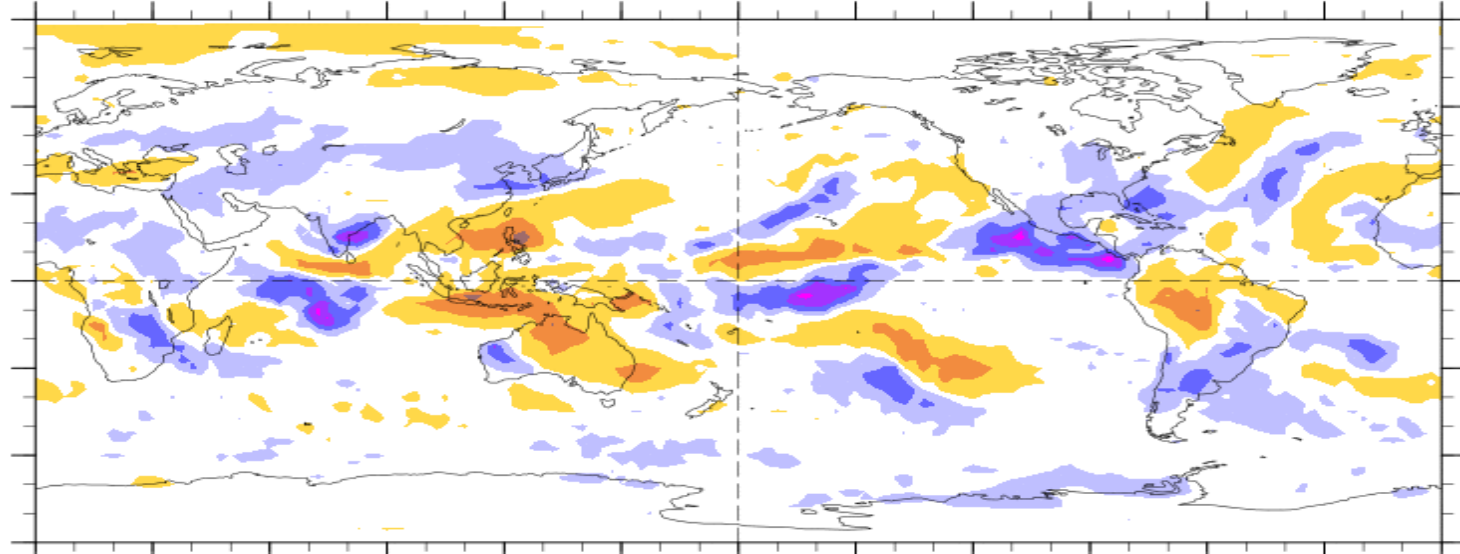
Outline

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

Outlook Review



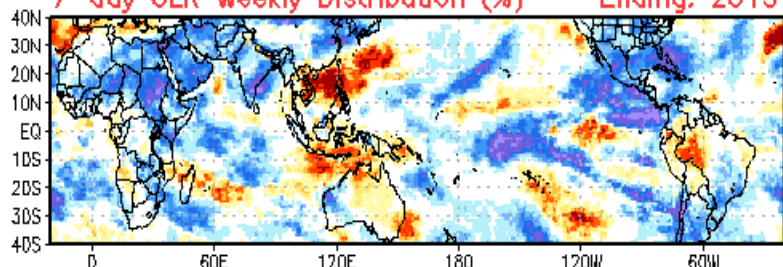
7-Day Average OLR Anomaly 2015/11/16 - 2015/11/22



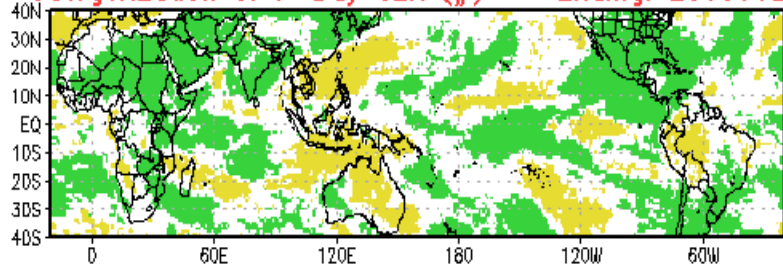
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

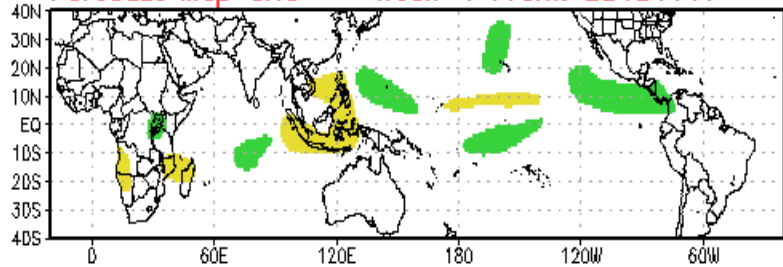
7-day OLR Weekly Distribution (%) -- Ending: 20151124



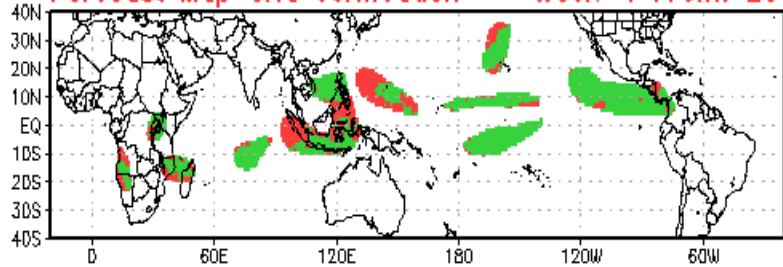
Categorization of 7-Day OLR (#) -- Ending: 20151124



Forecast Map Grid -- Week-1 From: 20151117

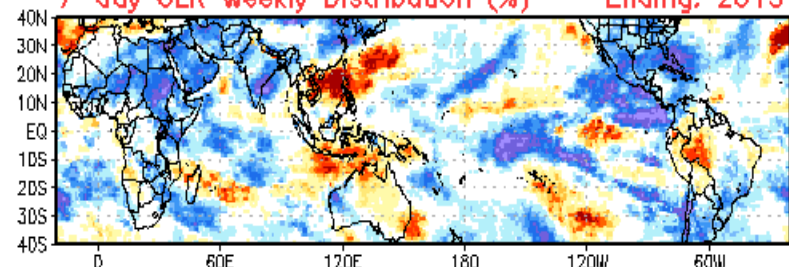


Forecast Map Grid Verification -- Week-1 From: 20151117

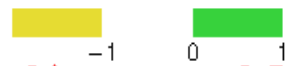
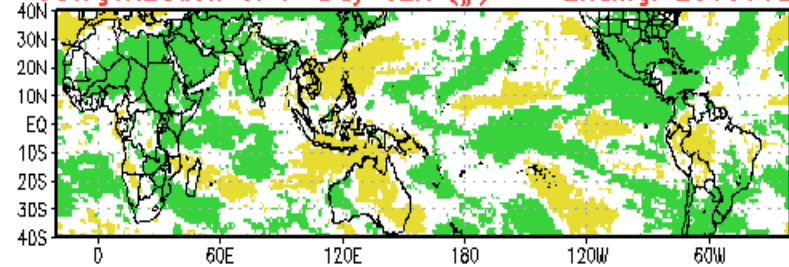


Hit: Green, Miss: Red
Heidke Skill Score: 56.3180

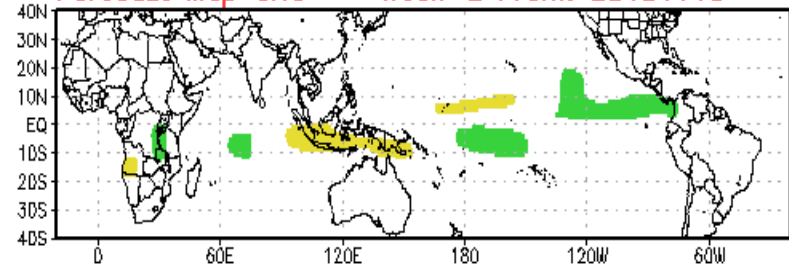
7-day OLR Weekly Distribution (%) -- Ending: 20151124



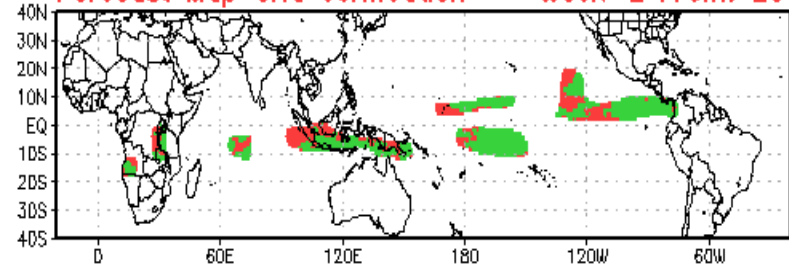
Categorization of 7-Day OLR (#) -- Ending: 20151124



Forecast Map Grid -- Week-2 From: 20151110



Forecast Map Grid Verification -- Week-2 From: 20151110



Hit: Green, Miss: Red
Heidke Skill Score: 50.2489

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:

- Some MJO indices are indicating a signal over the western Indian Ocean, but the signal is not strong nor fully consistent with all variables (lower-level winds and upper-level winds).
- Most dynamical model MJO index forecasts depict some eastward movement and a weakening signal through Week-2, although some maintain a strong signal through at least Week-1.

Extratropics:

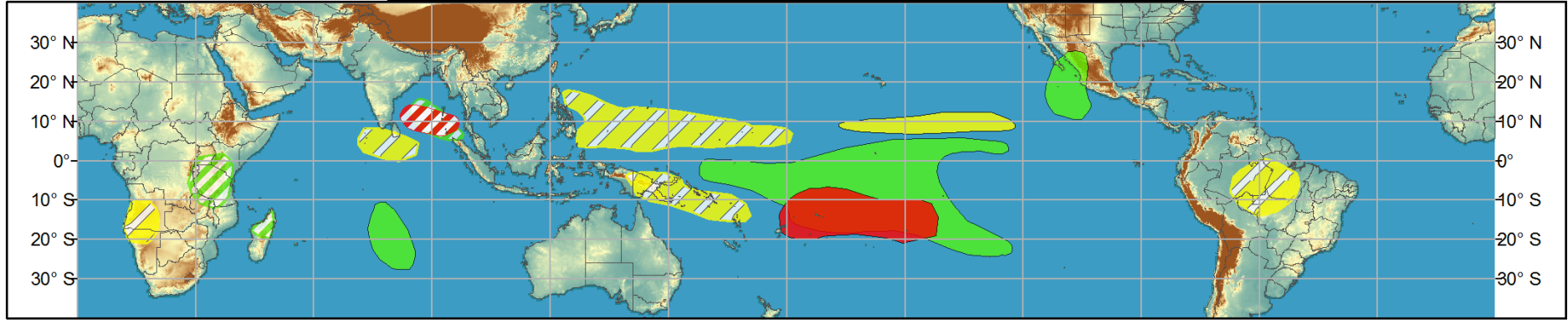
- The extended range temperature and precipitation forecasts for the U.S. are not likely to be impacted by the MJO, but more likely impacted by the ongoing El Niño and tropical cyclone activity.



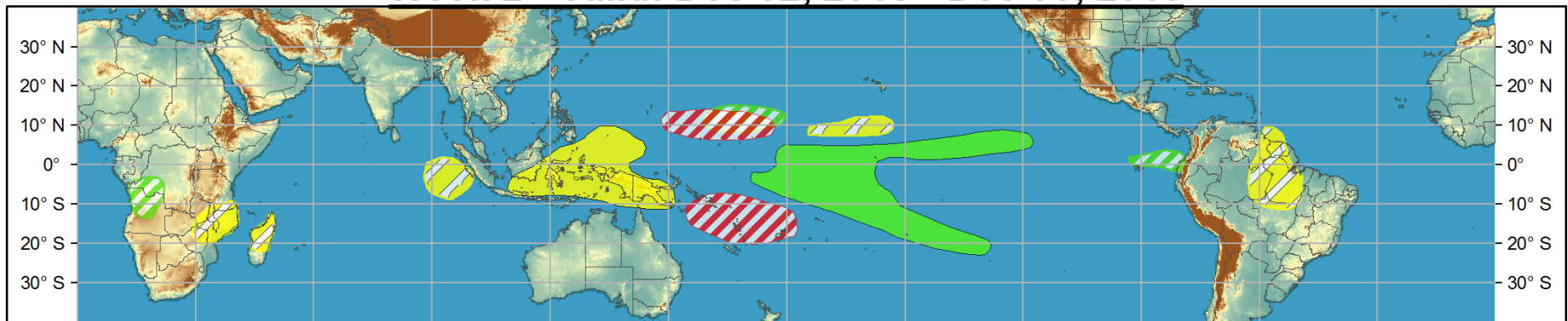
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Nov 25, 2015 - Dec 01, 2015



Week 2 - Valid: Dec 02, 2015 - Dec 08, 2015



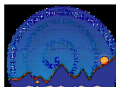
Confidence
High Moderate

- 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: 11/24/2015

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.

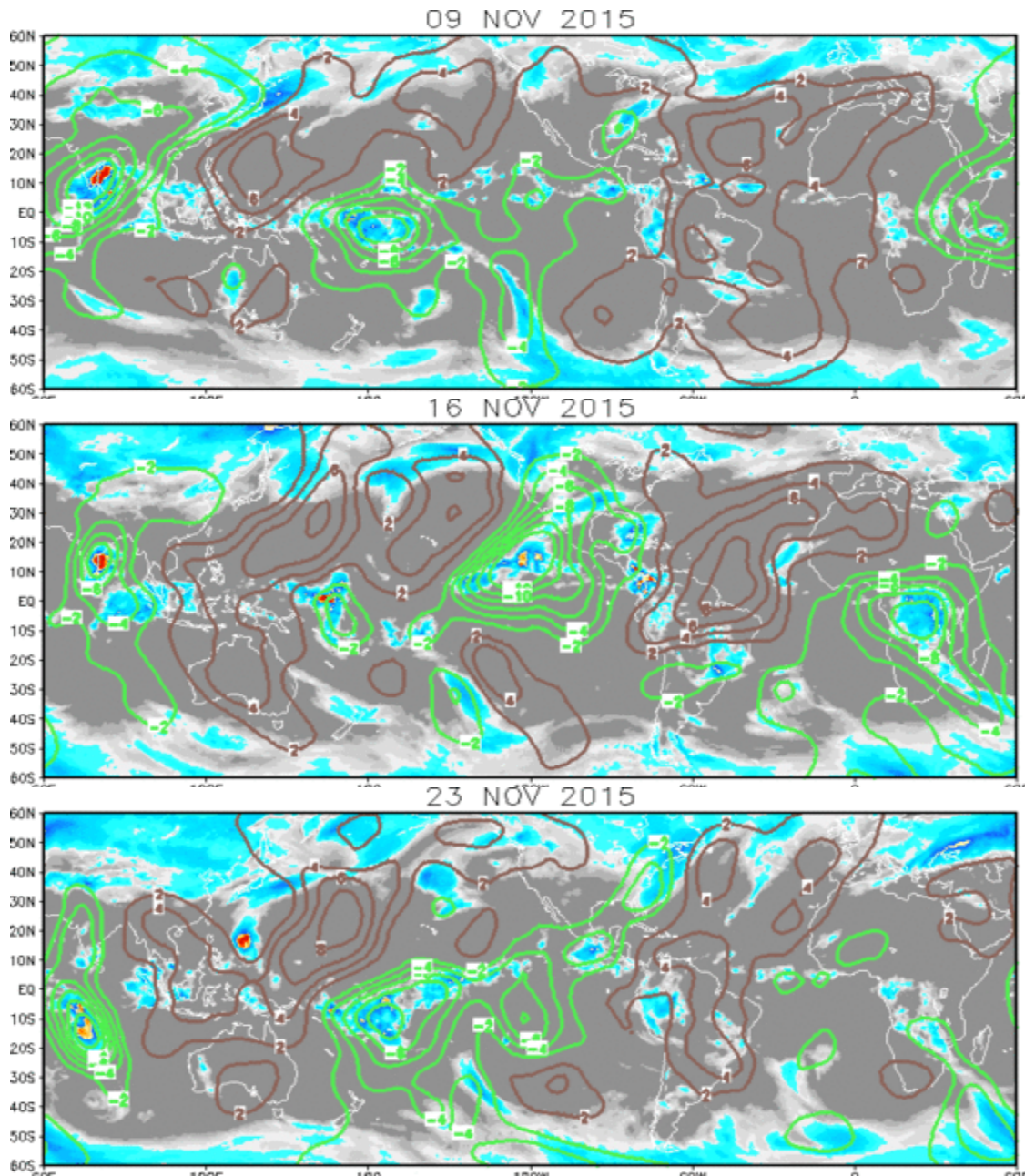


IR Satellite & 200-hpa Velocity Potential Anomalies

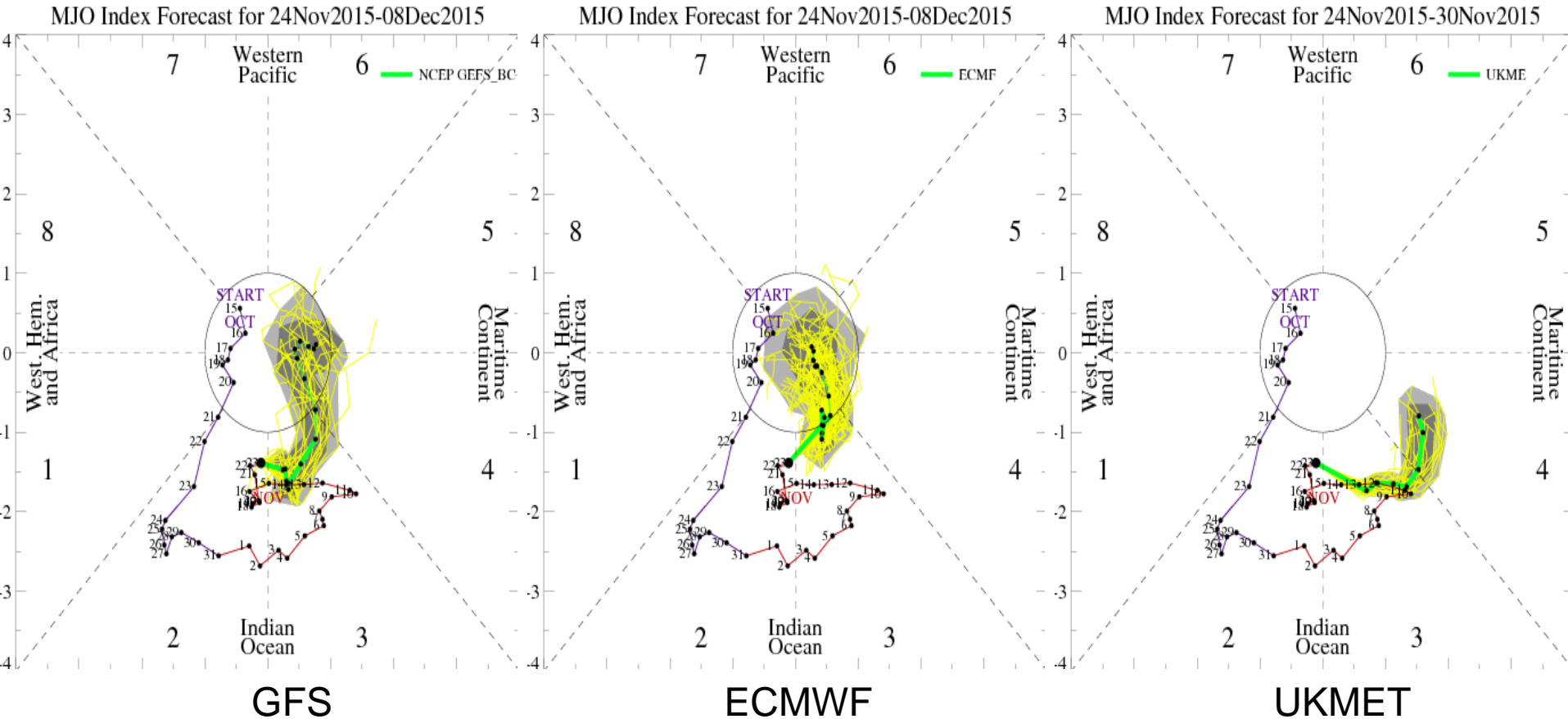
Green: Enhanced Divergence Brown: Enhanced Convergence

Base state
evident.

Eastward shift in
base state.



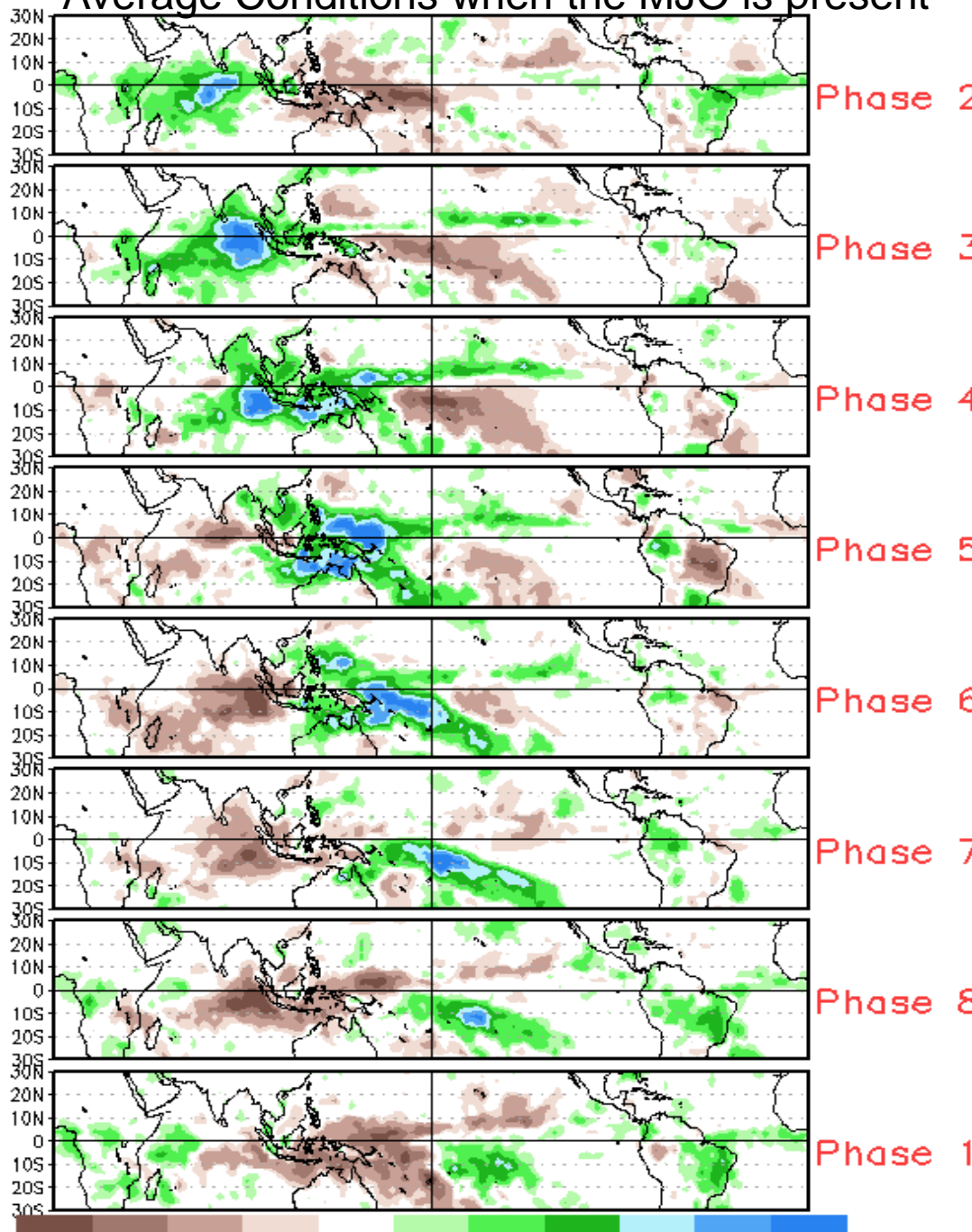
MJO Observation/Forecast



Wheeler-Hendon based analyses of model forecasts indicate an signal over the Indian Ocean.

Most models depict weakening, although 2 depict a continuing signal to over the Maritime Continent.

Average Conditions when the MJO is present

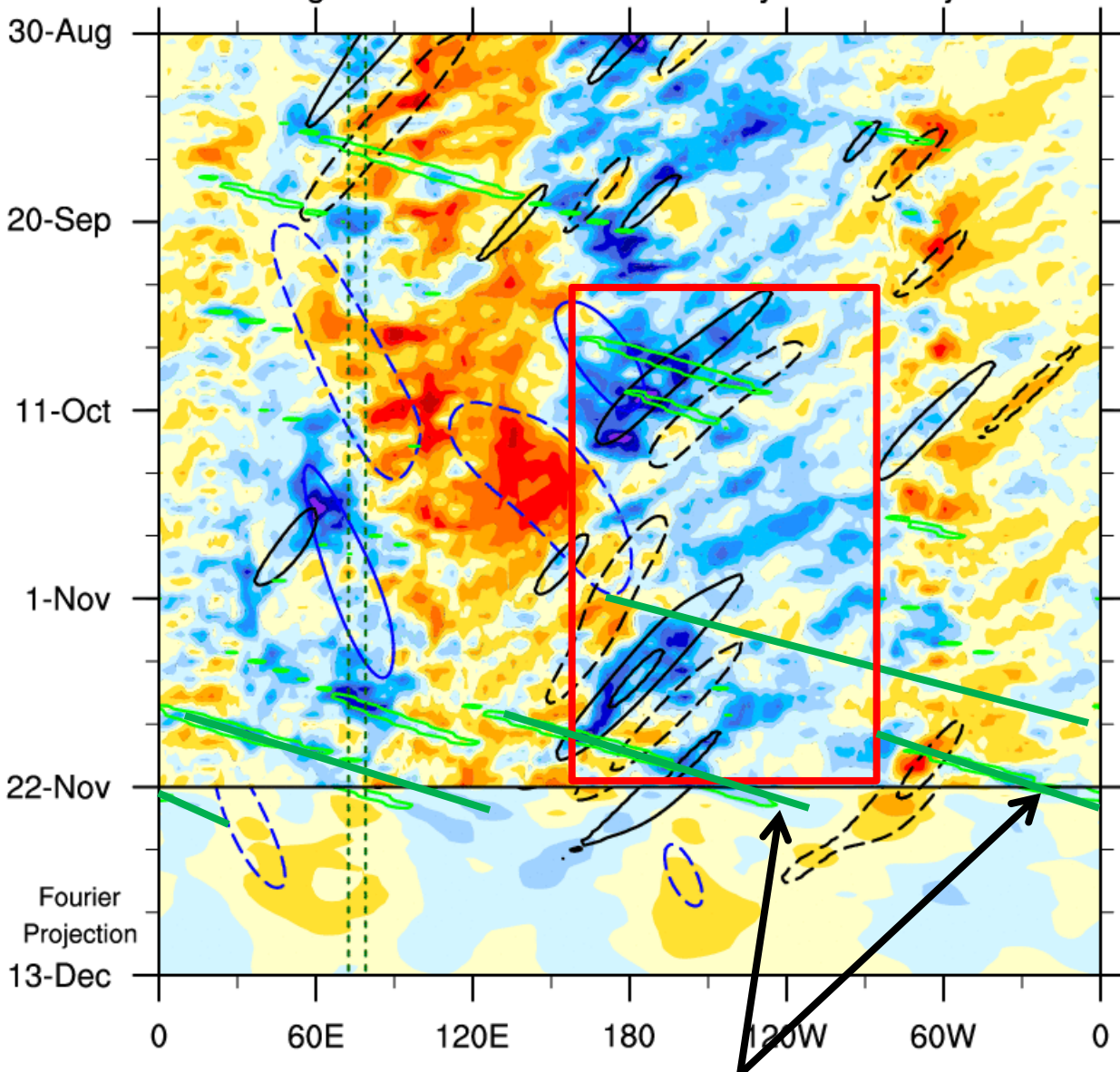


CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.

Phase 2/3 are difficult to maintain given a strong El Nino.

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

30-Aug-2015 to 22-Nov-2015 + 21-day Fourier Projection

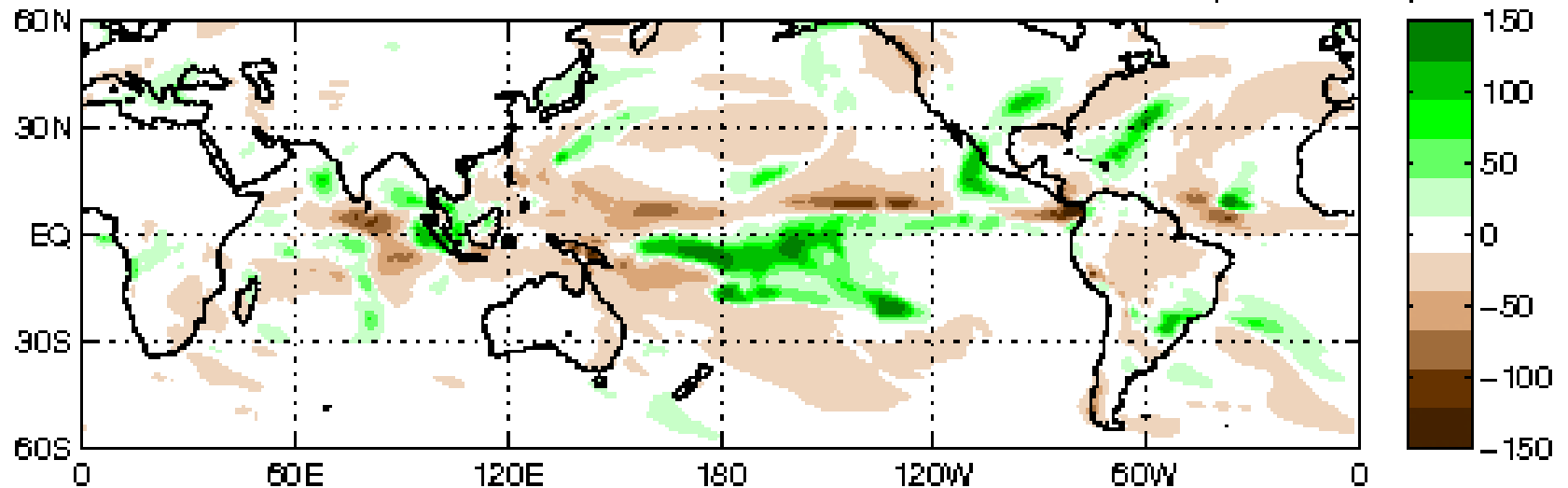


Low frequency likely to dominate pattern.

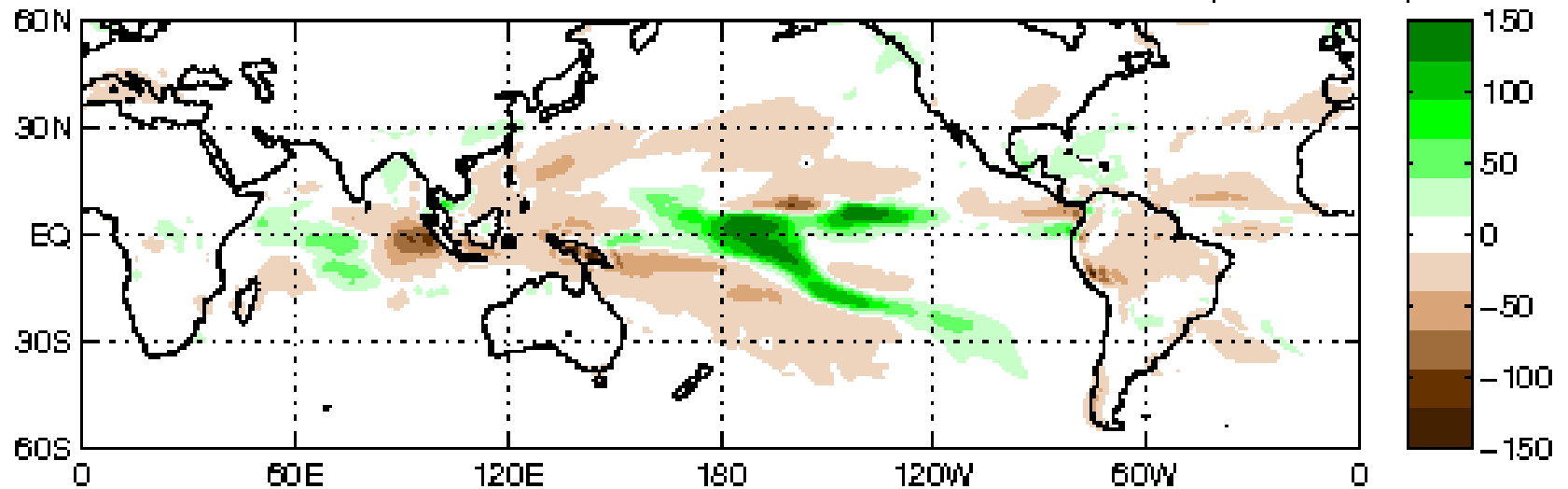
Equatorial Rossby Wave and Kelvin wave likely to impact central Pacific and Indian Ocean.

Multiple Kelvin waves showing in analysis..

CFS: Anom. PREC Week: 1: 25-Nov-2015 to 01-Dec-2015 (mm/week)



CFS: Anom. PREC Week: 2: 02-Dec-2015 to 08-Dec-2015 (mm/week)





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Graphical Tropical Weather Outlook

1:00 pm EST
Tue Nov 24 2015

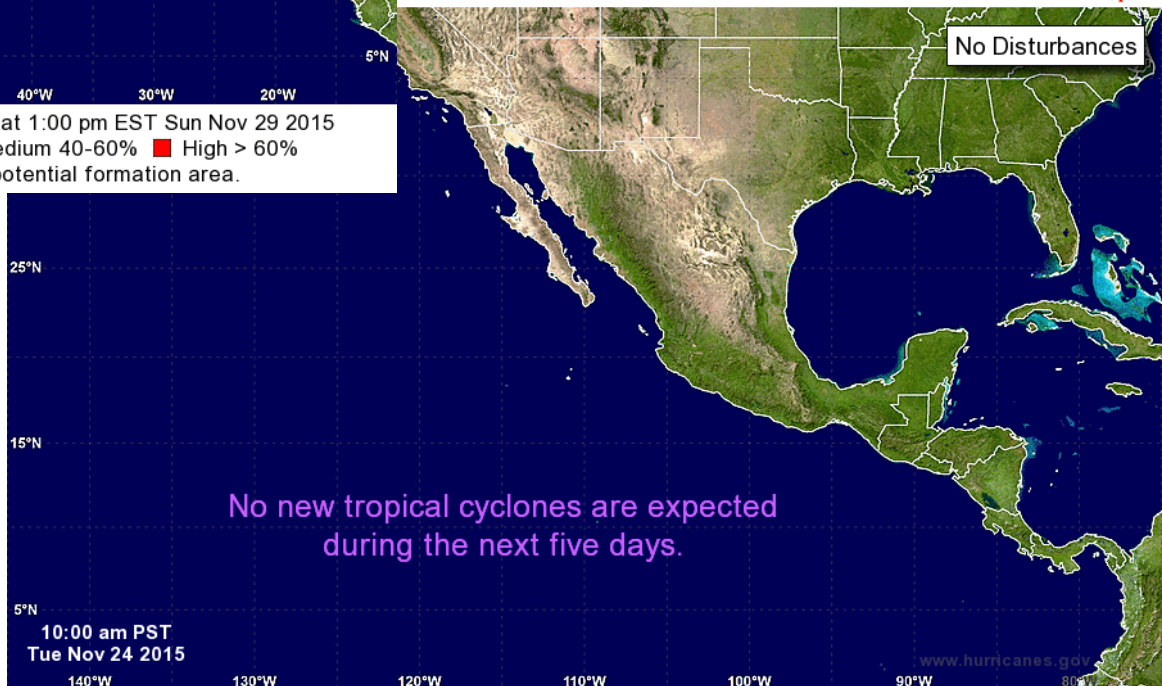
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 1:00 pm EST Sun Nov 29 2015

Chance of Cyclone Formation in Five 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



10:00 am PST
Tue Nov 24 2015

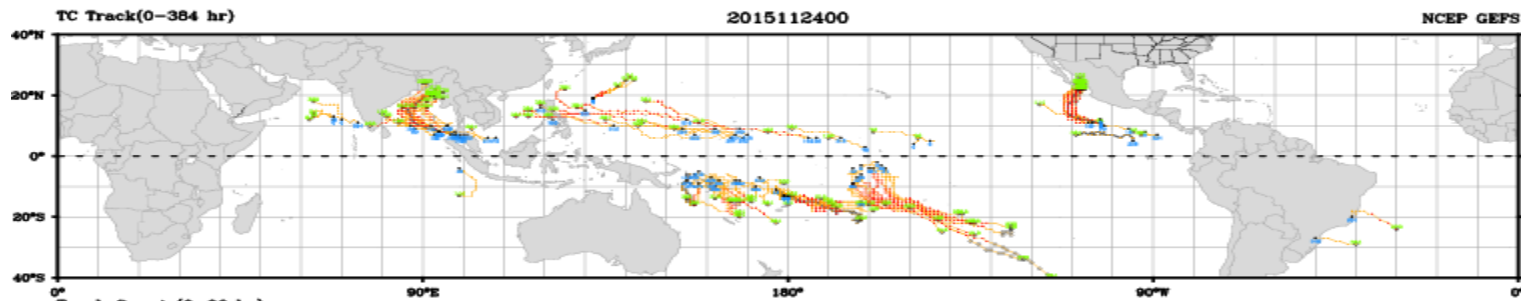
Tropical Cyclone Formation Potential for the Five-Day Period Ending at 10:00 am PST Sun Nov 29 2015

Chance of Cyclone Formation in Five Days: ■ Low < 40% ■ Medium 40-60% ■ High > 60%

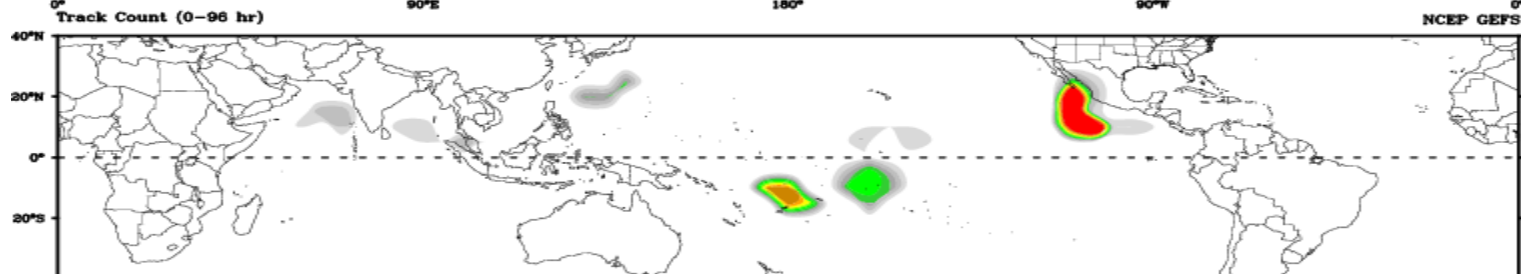
X indicates current disturbance location; shading indicates potential formation area.

2015112400

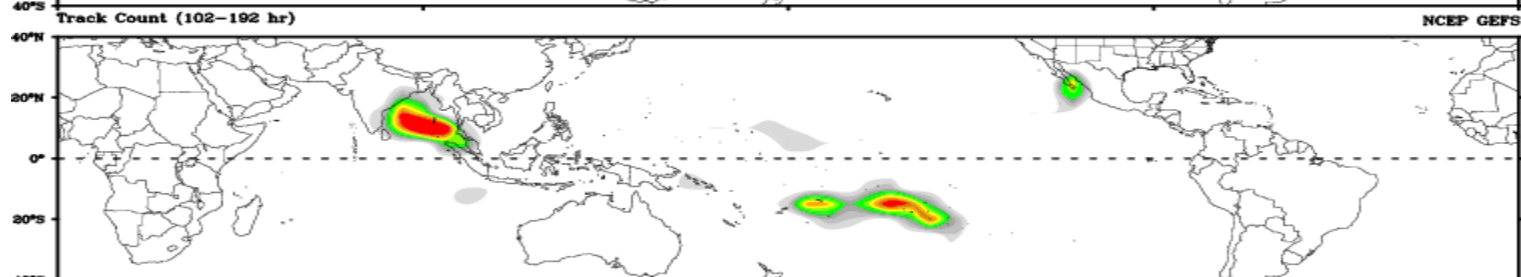
NCEP GEFS



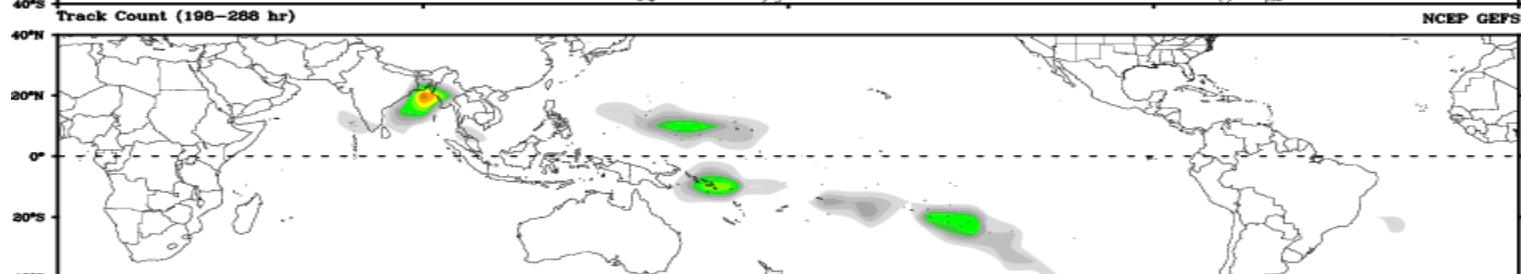
Days 1-4



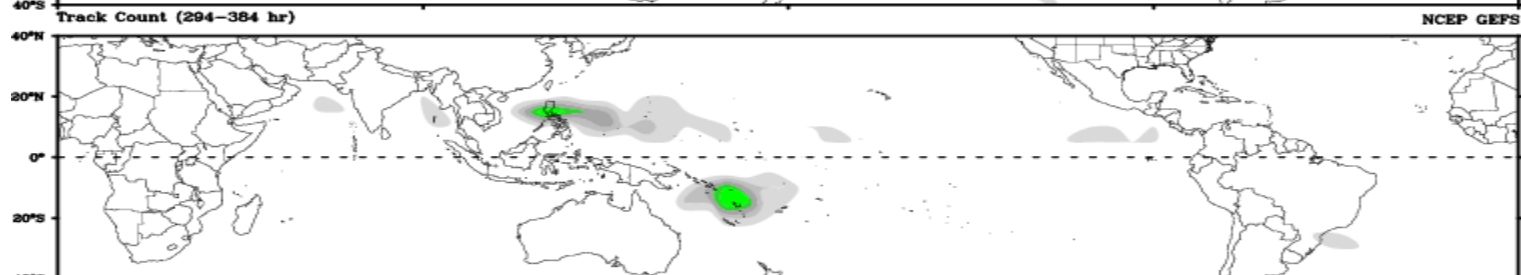
Day 5-8



Day 9-12

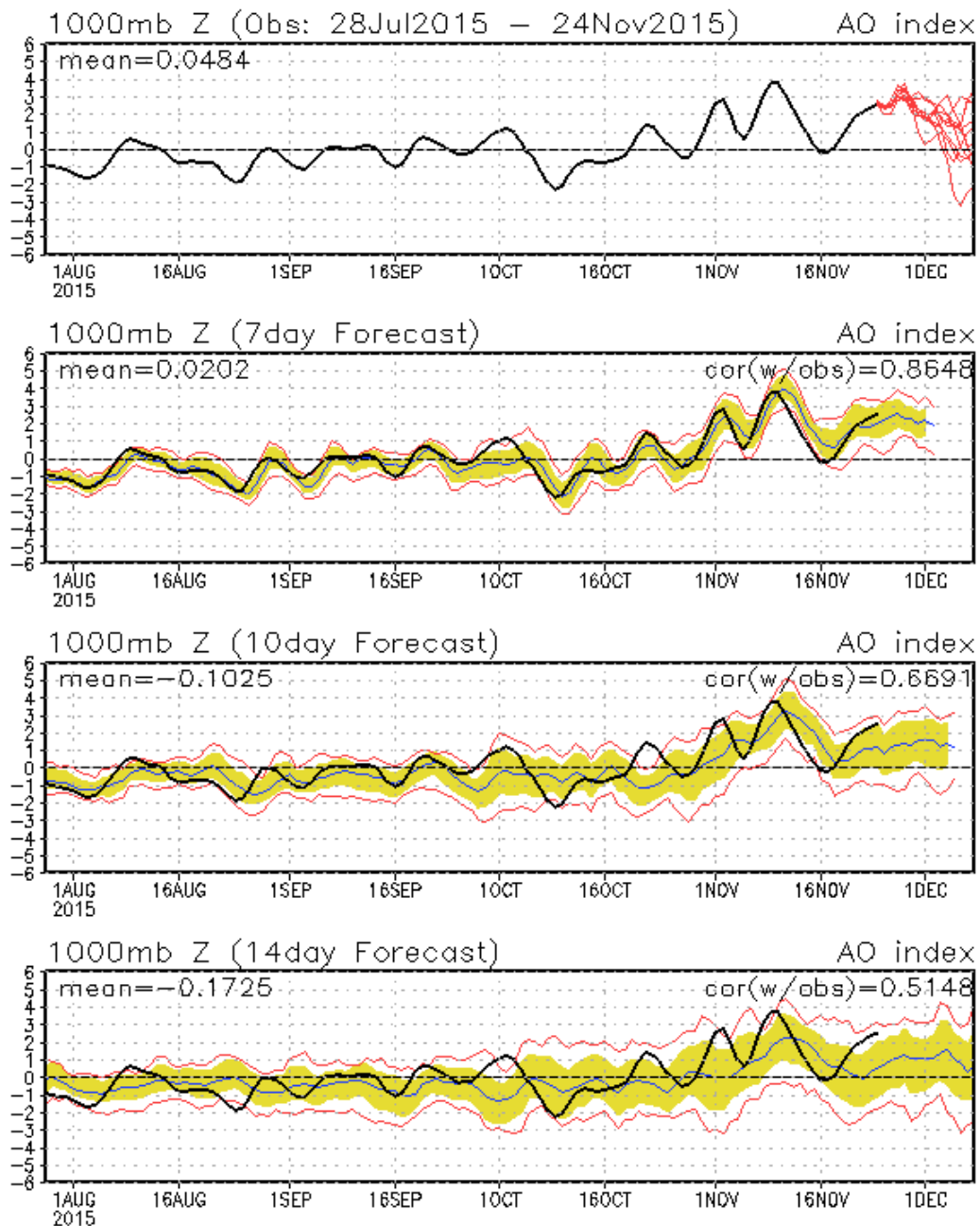


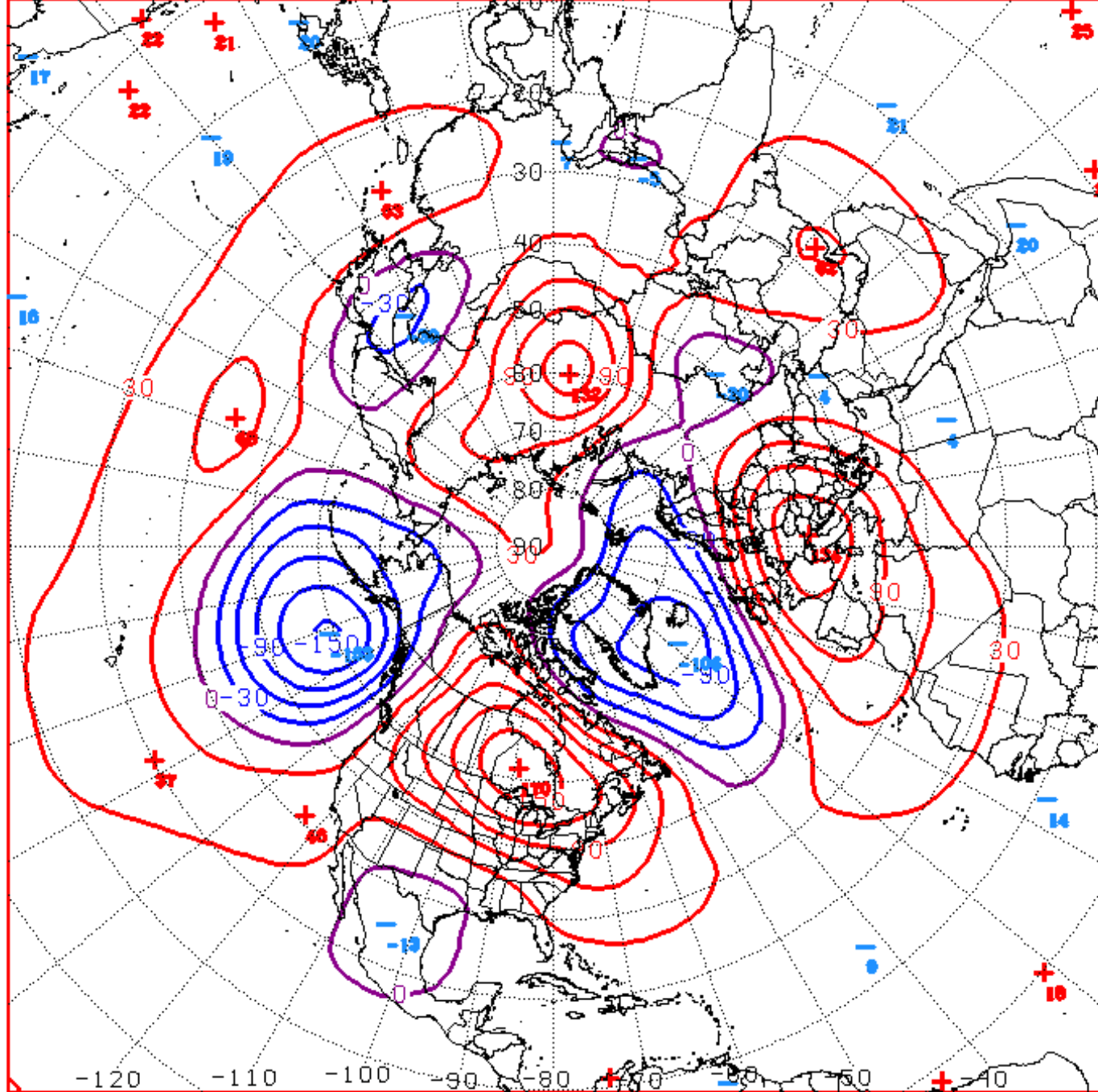
Day 13-15



Connections to U.S. Impacts

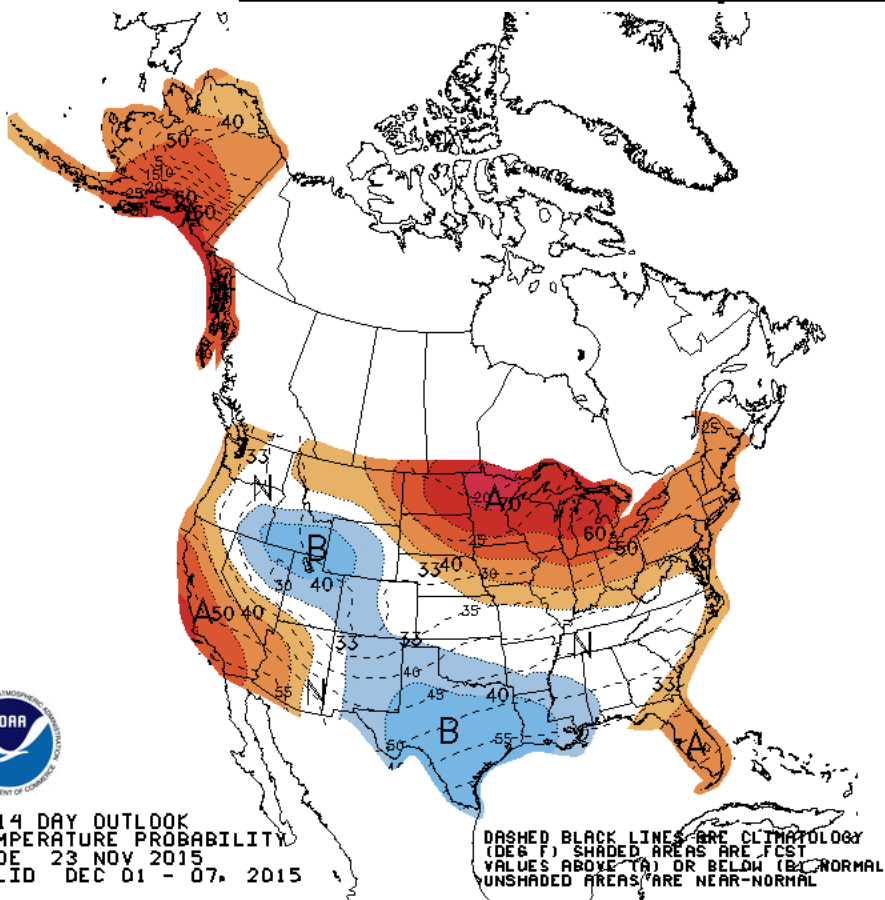
AO: Observed & ENSM forecasts



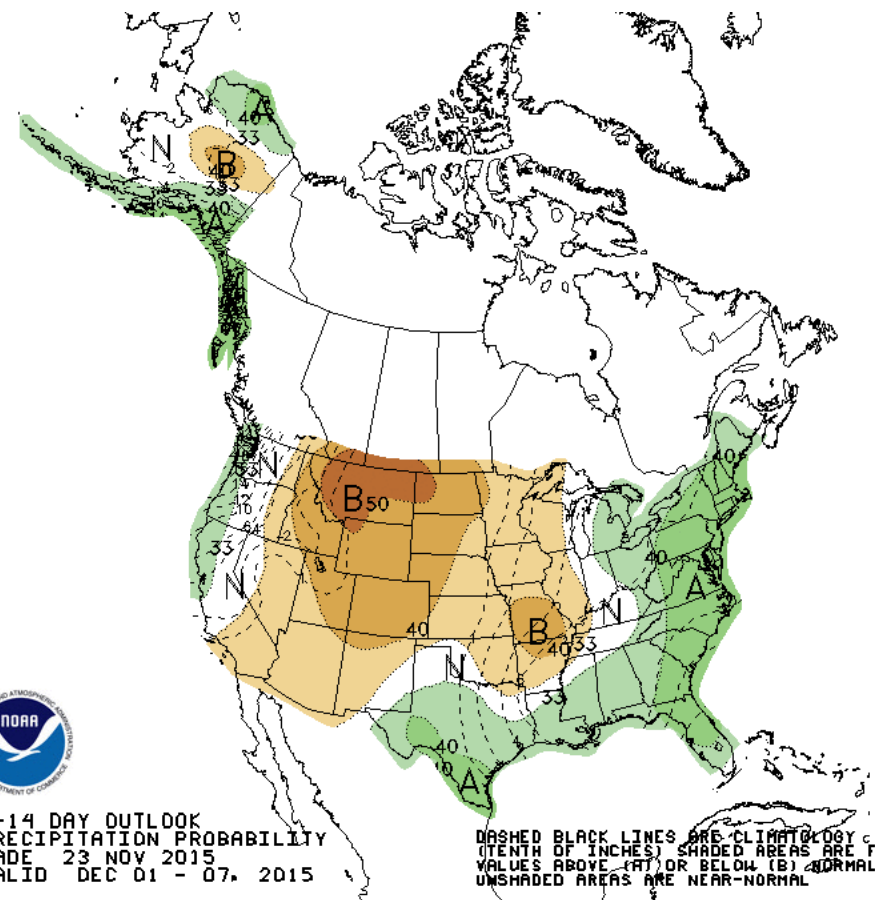
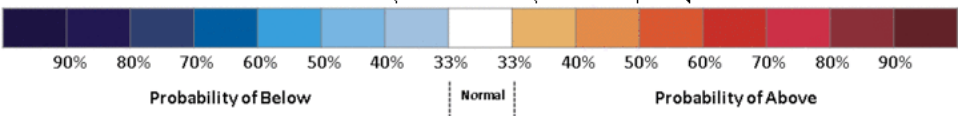


D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE NOV 24 2015 1001 UTC CNTD DEC 05 2015

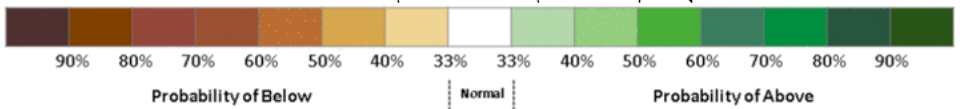
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 23 NOV 2015
VALID DEC 01 - 07, 2015



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 23 NOV 2015
VALID DEC 01 - 07, 2015

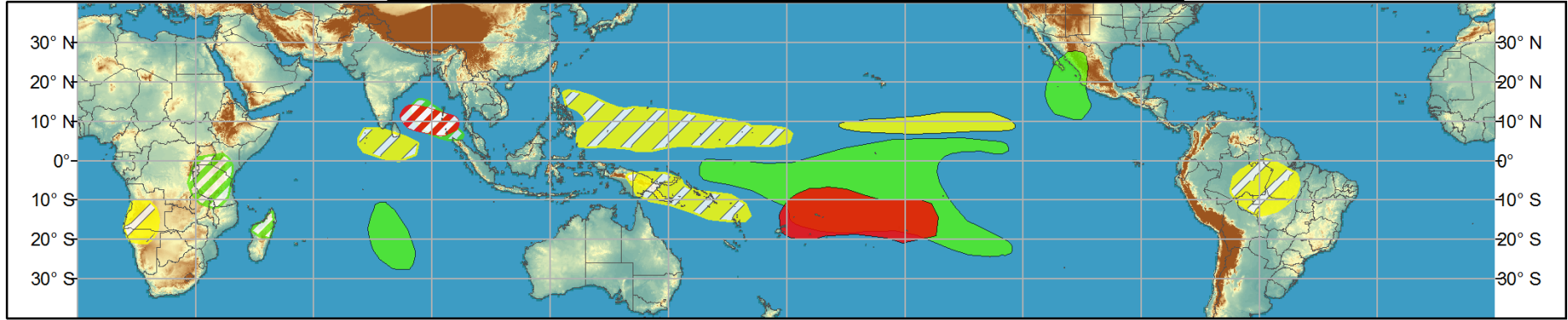




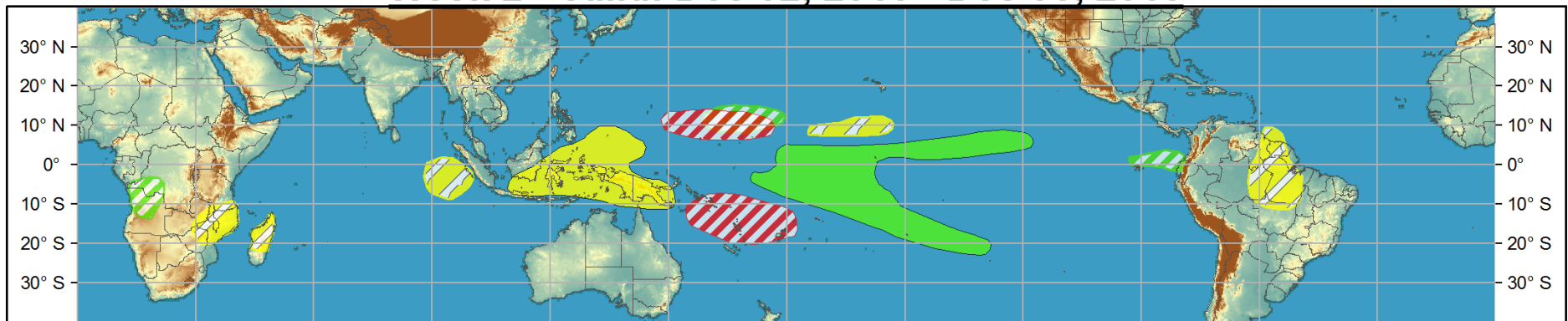
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