

Global Tropics Hazards And Benefits Outlook

Jan 12, 2016

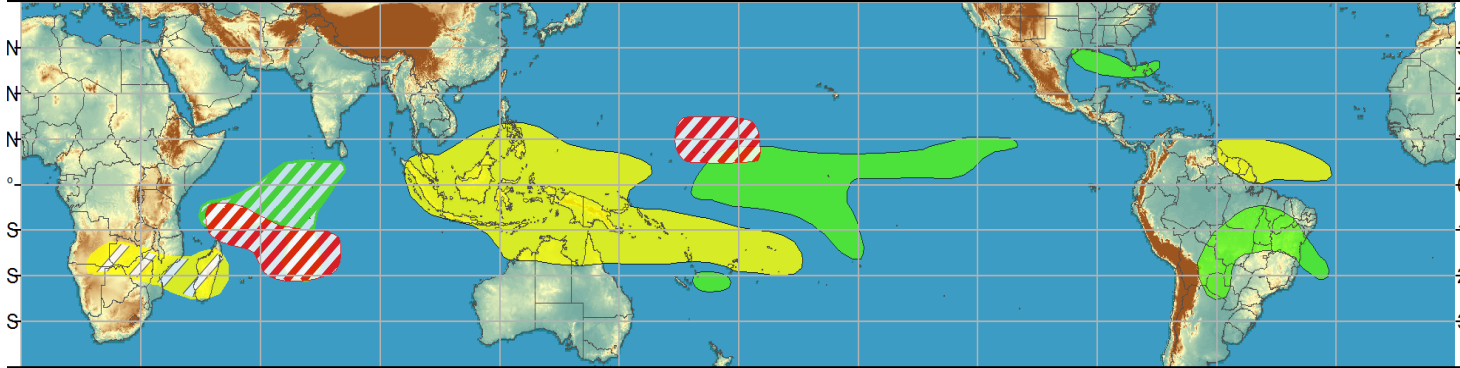
Matthew Rosencrans

Outline

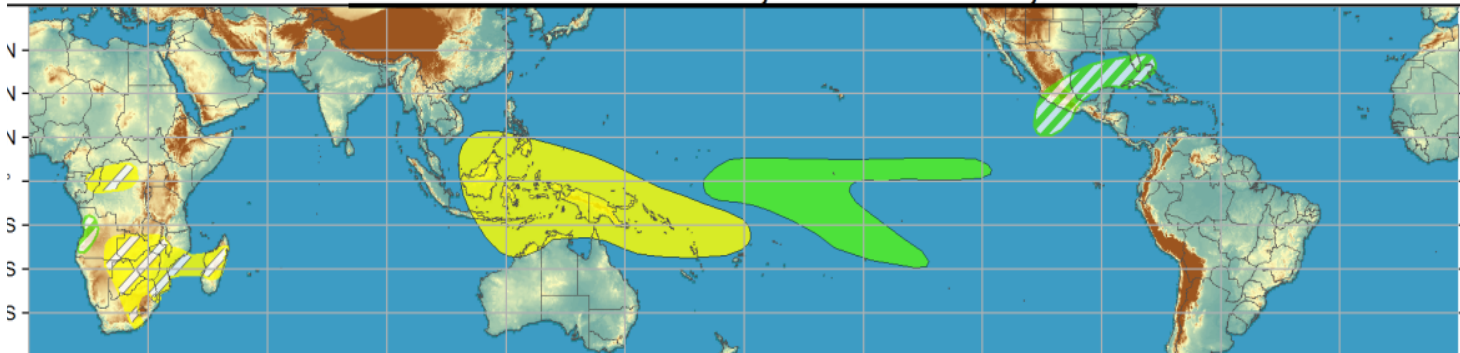
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

Week 1 - Valid: Jan 06, 2016 - Jan 12, 2016

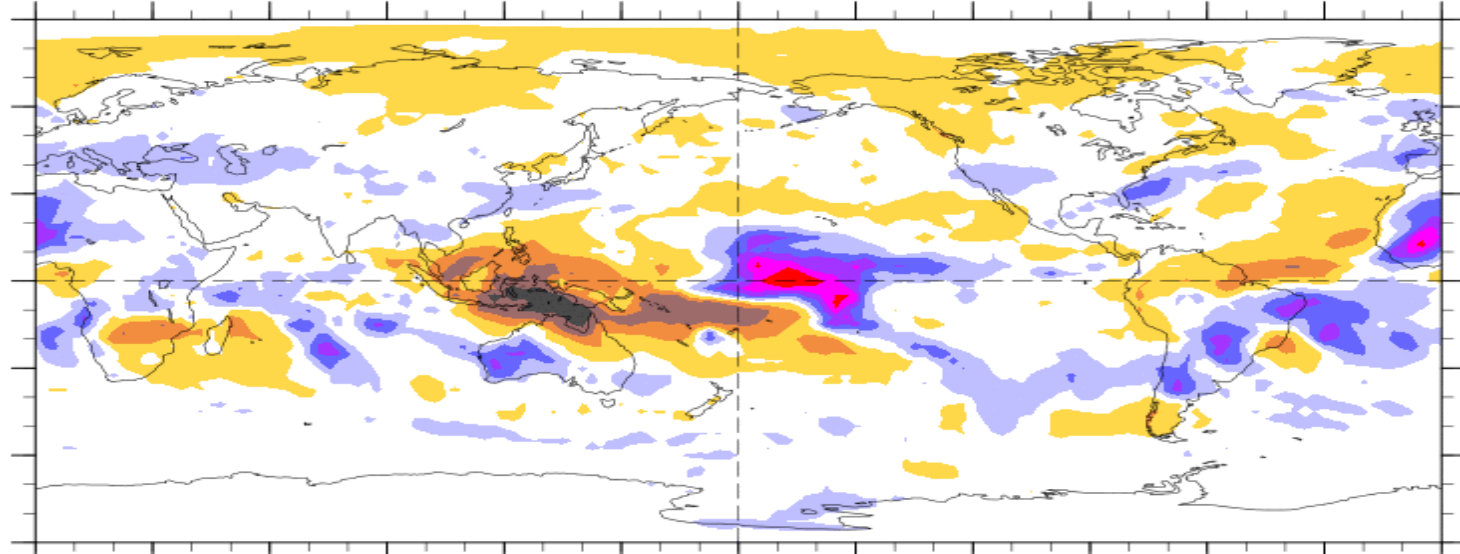


Week 2 - Valid: Jan 06, 2016 - Jan 12, 2016



7-Day Average OLR Anomaly

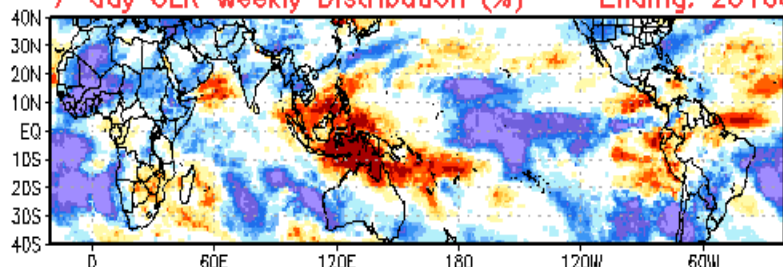
2016/01/04 - 2016/01/10



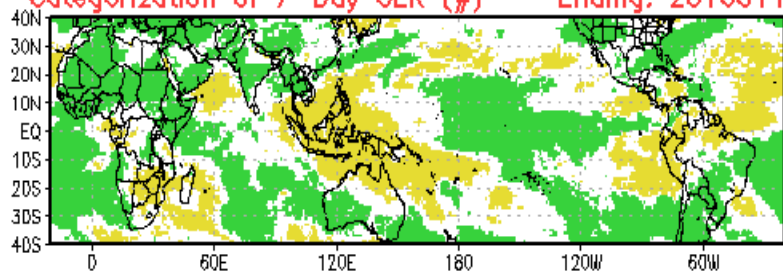
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

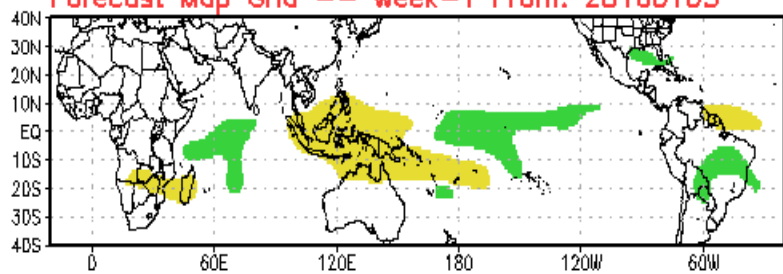
7-day OLR Weekly Distribution (%) -- Ending: 20160112



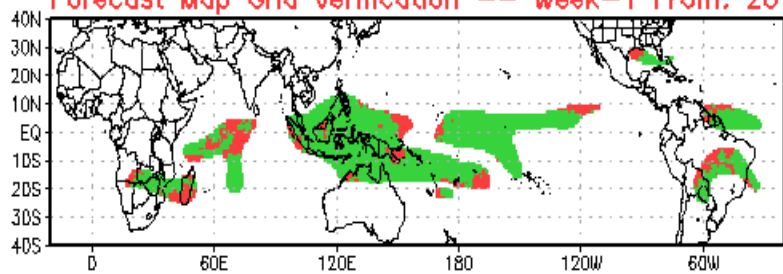
Categorization of 7-Day OLR (#) -- Ending: 20160112



Forecast Map Grid -- Week-1 From: 20160105

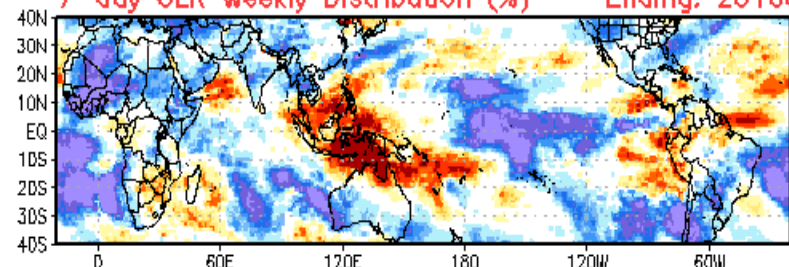


Forecast Map Grid Verification -- Week-1 From: 20160105

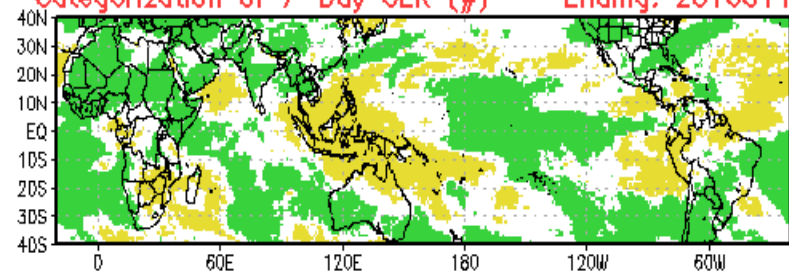


Hit: Green, Miss: Red
Heidke Skill Score: 71.8263

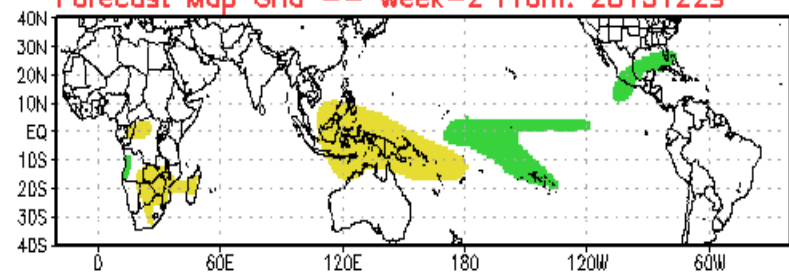
7-day OLR Weekly Distribution (%) -- Ending: 20160112



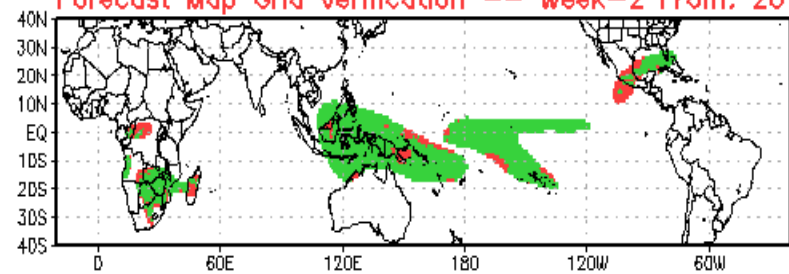
Categorization of 7-Day OLR (#) -- Ending: 20160112



Forecast Map Grid -- Week-2 From: 20151229



Forecast Map Grid Verification -- Week-2 From: 20151229



Hit: Green, Miss: Red
Heidke Skill Score: 79.4593

Synopsis of Climate Modes

ENSO:

- Current: [El Niño Advisory](#)
- Nino 3.4 – 2.6 C - Slight tick down.
- Outlook: El Niño is expected to remain strong through the Northern Hemisphere winter 2015-16, with a transition to ENSO-neutral anticipated during late spring or early summer 2016.

MJO and other subseasonal tropical variability:

- The MJO remained active according to both CPC and WH RMM indices.
- Most dynamical model MJO index forecasts depict eastward propagation through Week-1, then a stagnant or retrograding signal in Week-2.

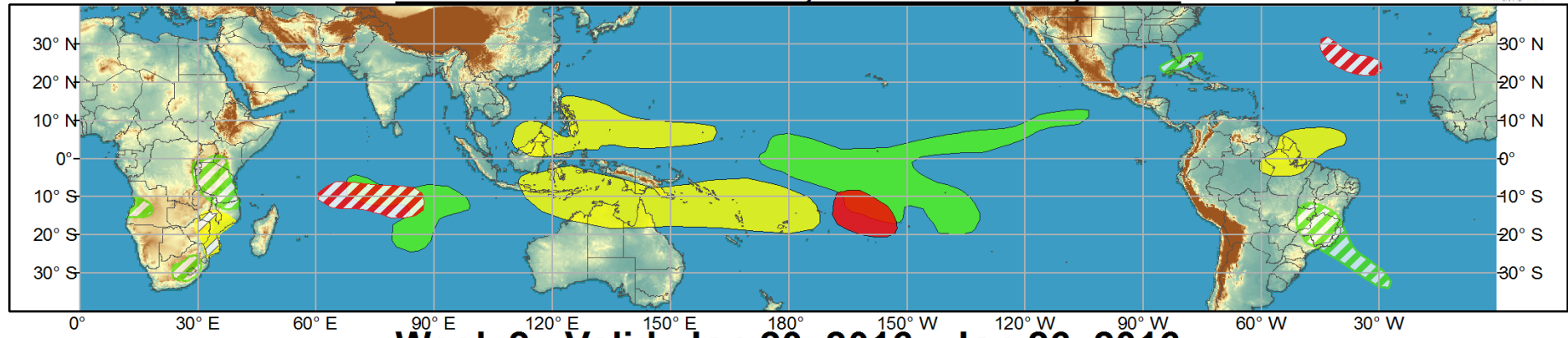
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are likely to be impacted by the MJO and El Niño, as those two are constructively interfering now.

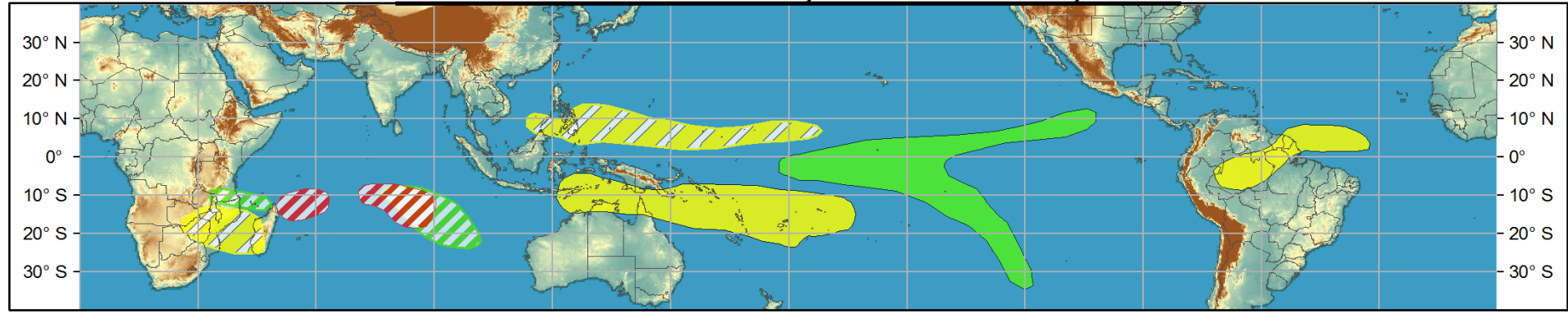


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 13, 2016 - Jan 19, 2016



Week 2 - Valid: Jan 20, 2016 - Jan 26, 2016



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: 01/12/2016

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.

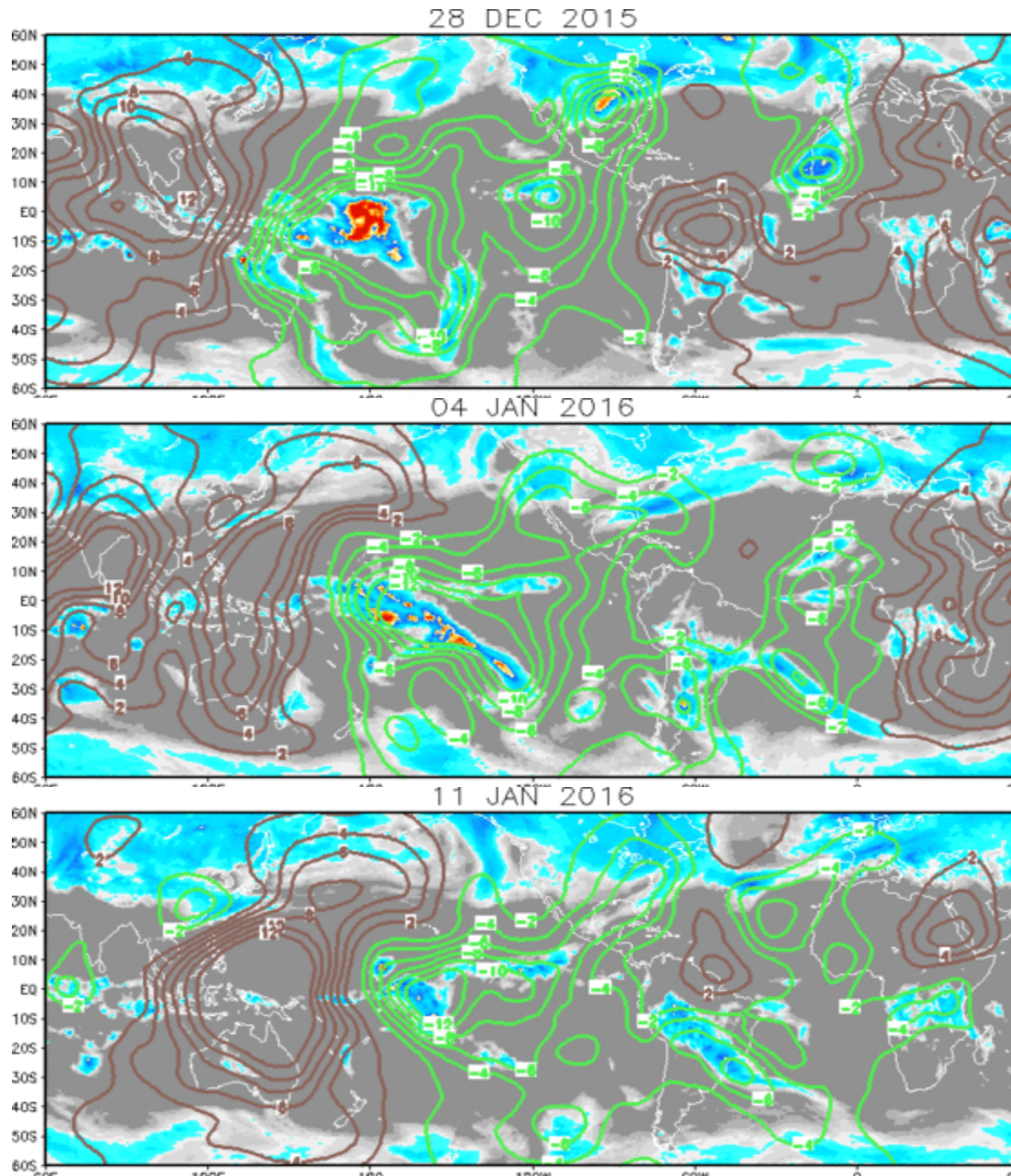


IR Satellite & 200-hpa Velocity Potential Anomalies

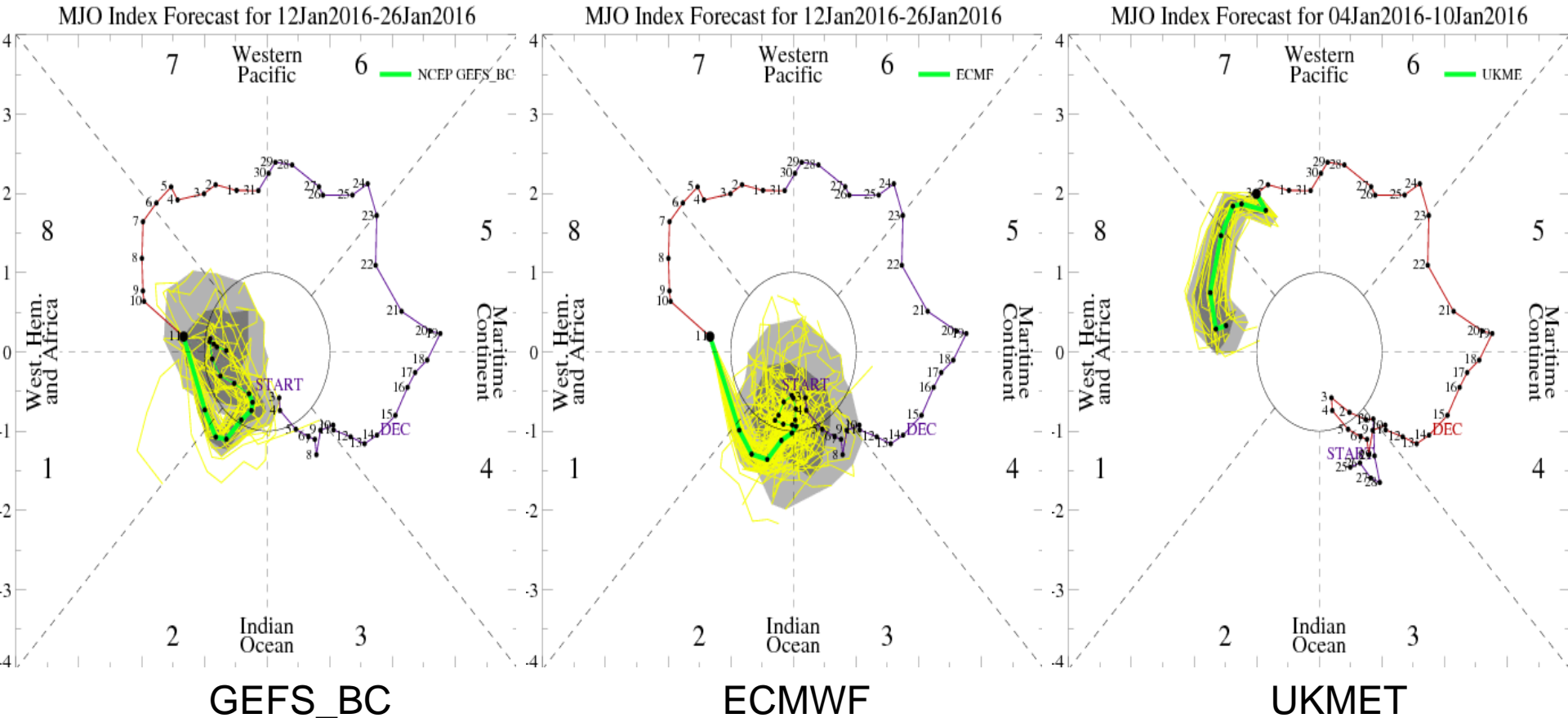
Green: Enhanced Divergence Brown: Enhanced Convergence

Base state
emerged again.

Other modes
constructively
interfering now.

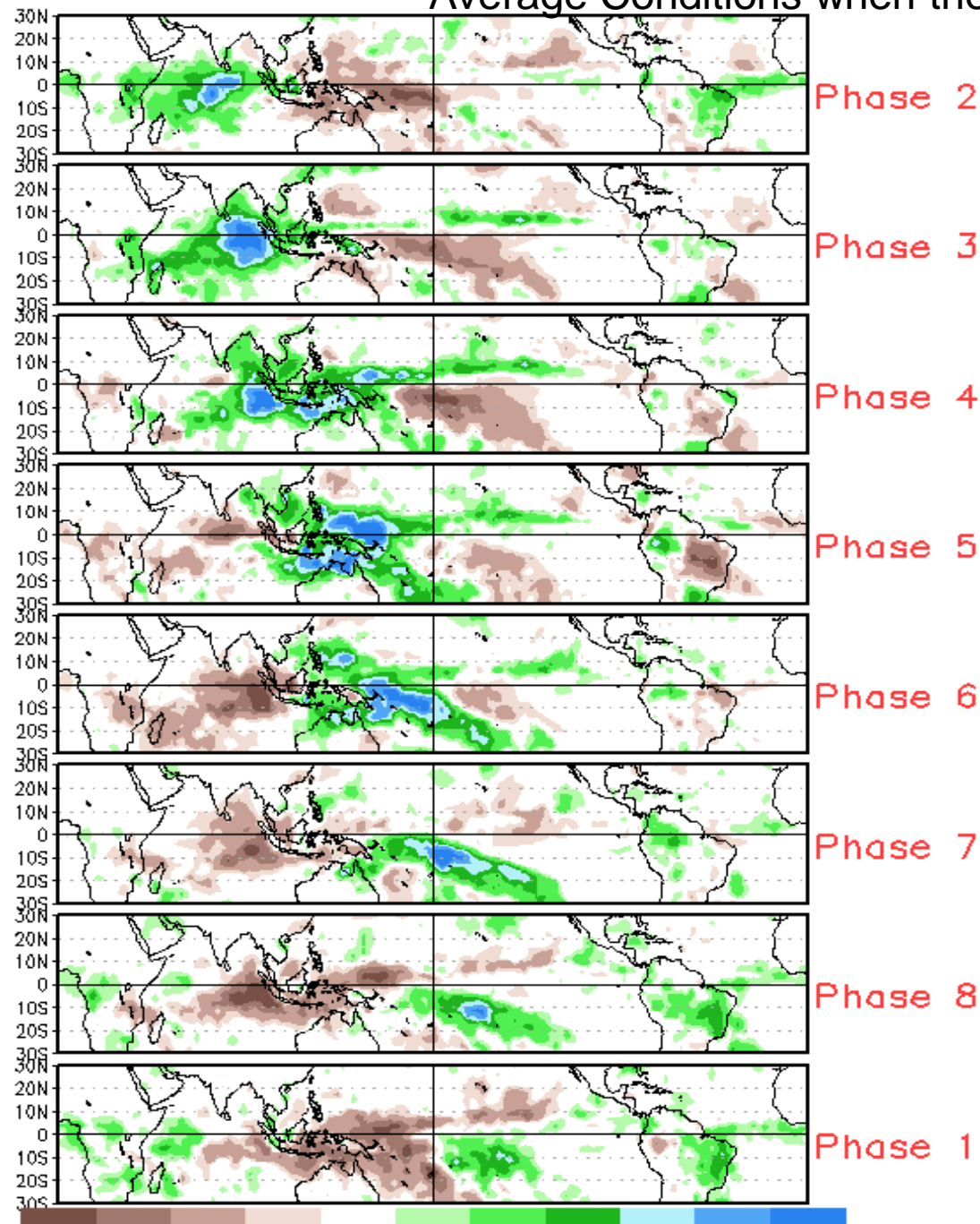


MJO Observation/Forecast



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

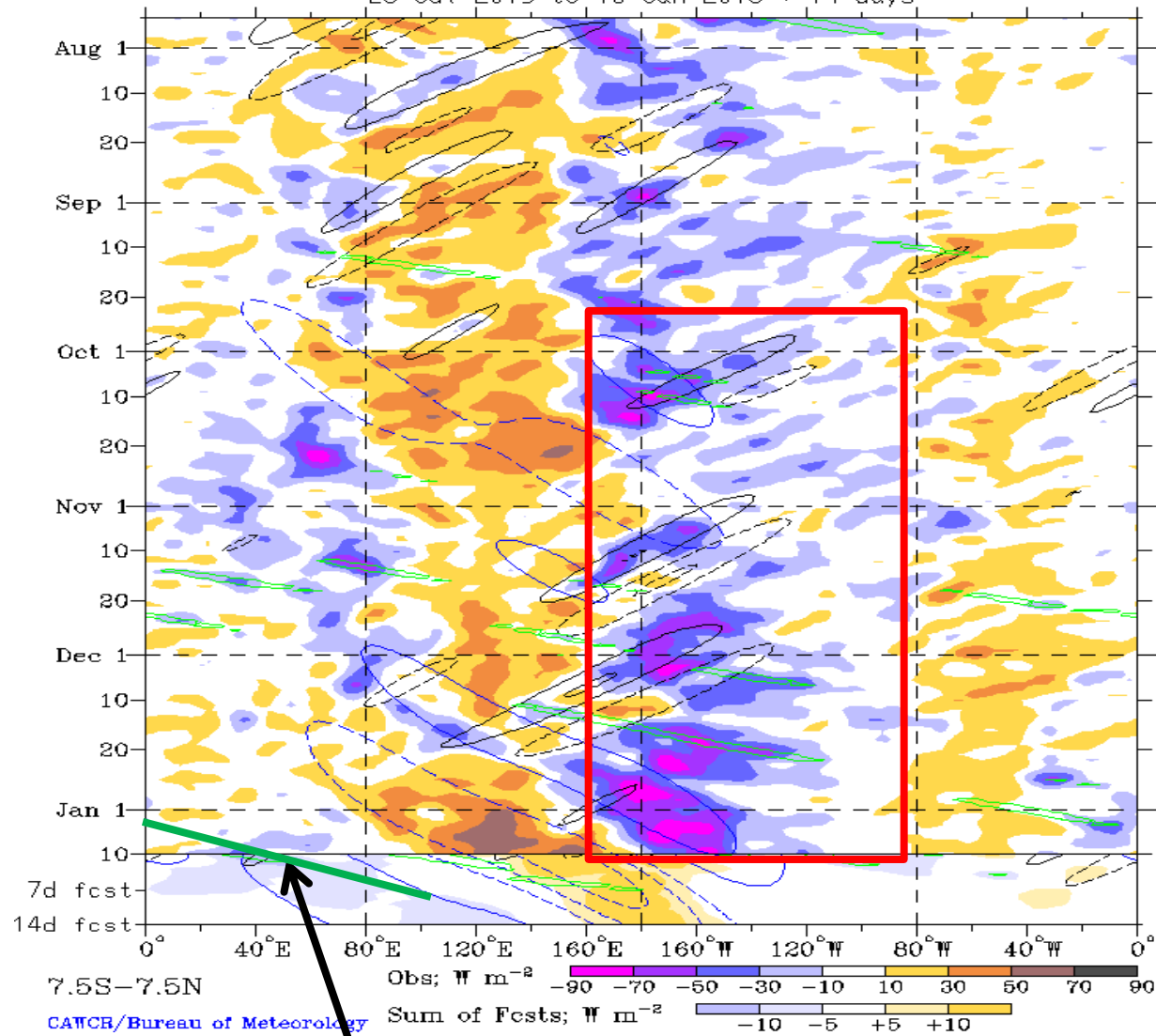


CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.

MJO forecast –
phases 8 → 1 → 2.

Some competing signals with ENSO.

Real-time filtering superimposed upon 1-2-1 filt, R21, OLR Anoms
 MJO blue CINT=10; n1ER black CINT=10; Kelvin green CINT=15
 Negative contours solid, positive dashed (excluding Kelvin)
 26-Jul-2015 to 10-Jan-2016 + 14 days

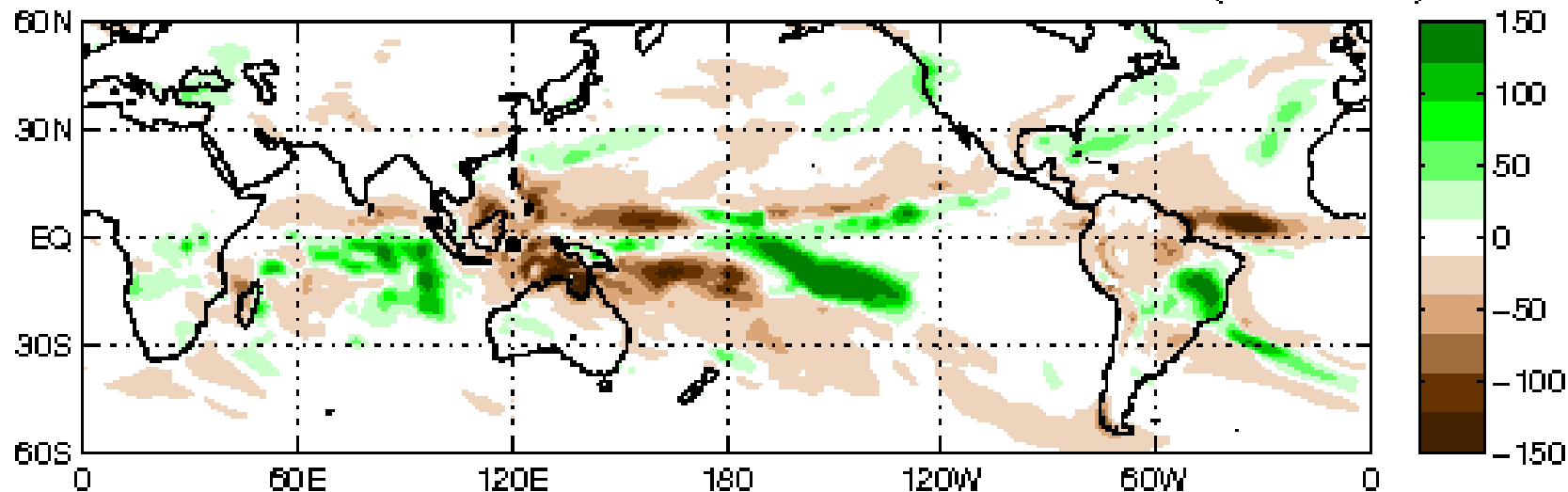


Low frequency likely to dominate pattern.

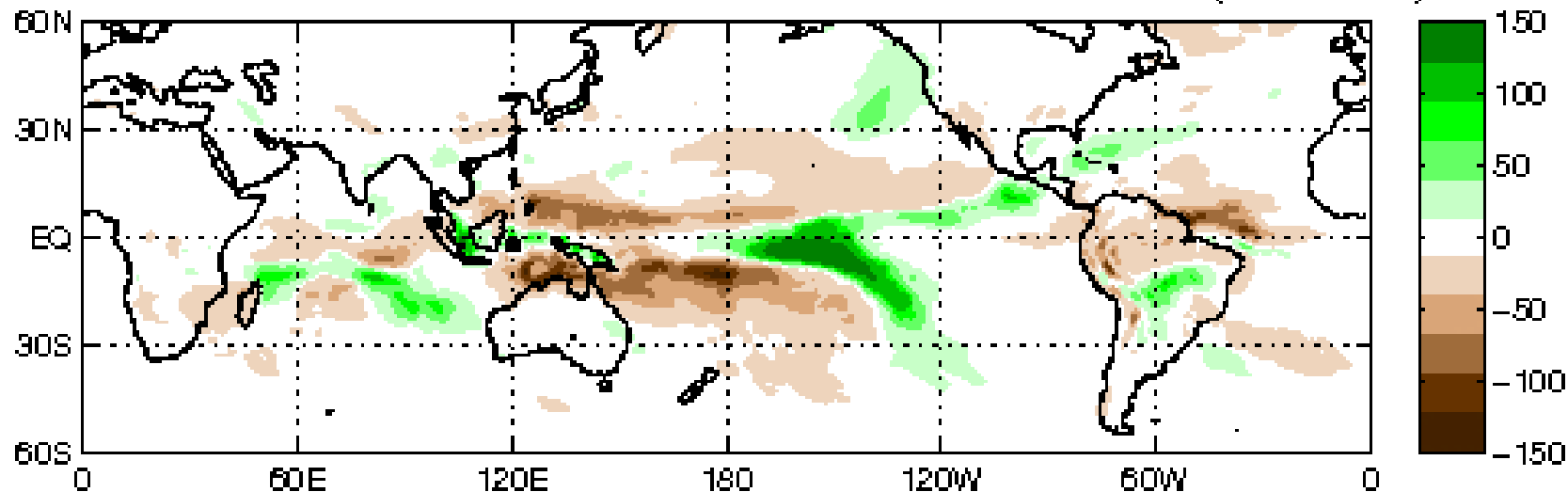
MJO is likely to continue propagation to Indian Ocean through Week-2.

Kelvin wave over Africa → IO/MC

CFS: Anom. PREC Week: 1: 13-Jan-2016 to 19-Jan-2016 (mm/week)



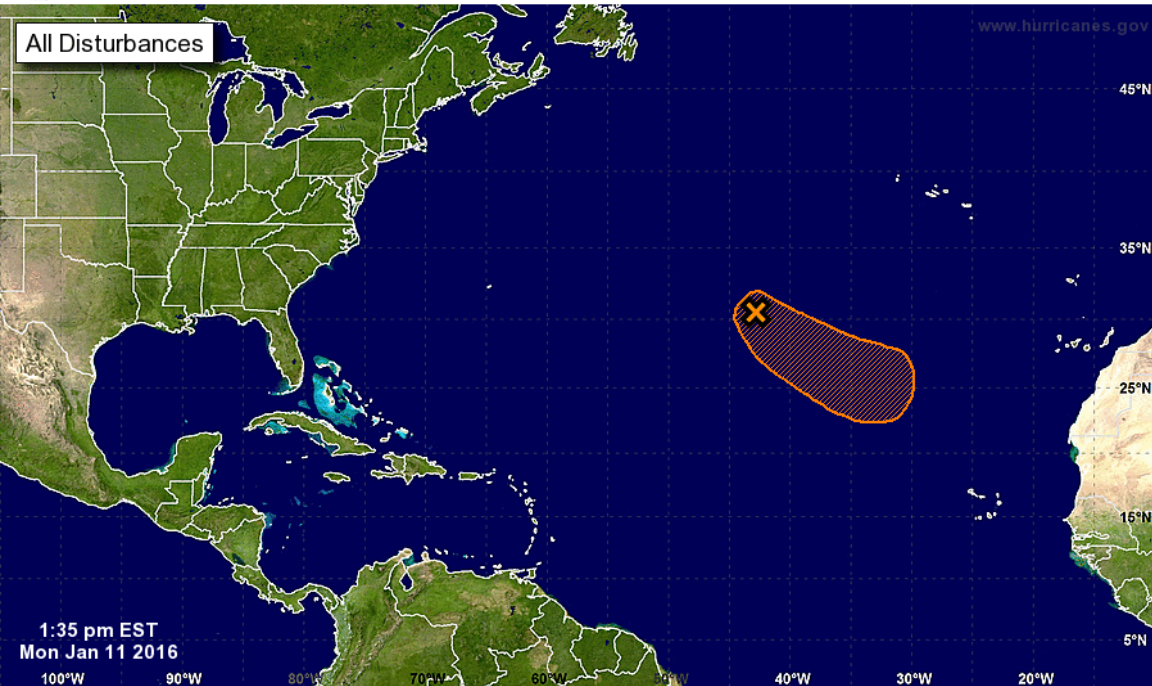
CFS: Anom. PREC Week: 2: 20-Jan-2016 to 26-Jan-2016 (mm/week)





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Graphical Tropical Weather Outlook

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



1:35 pm EST
Mon Jan 11 2016

Tropical Cyclone Formation Potential for the Five-Day Period Ending at 1:35 pm EST Sat Jan 16 2016

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

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

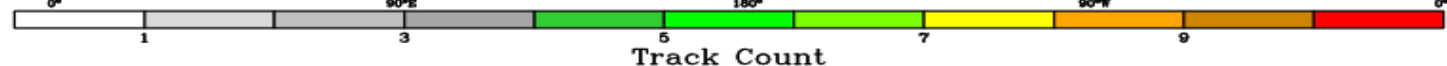
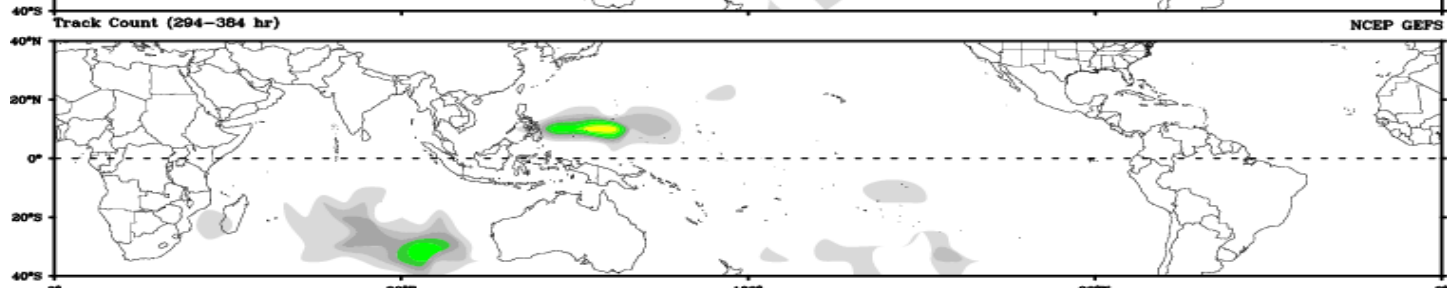
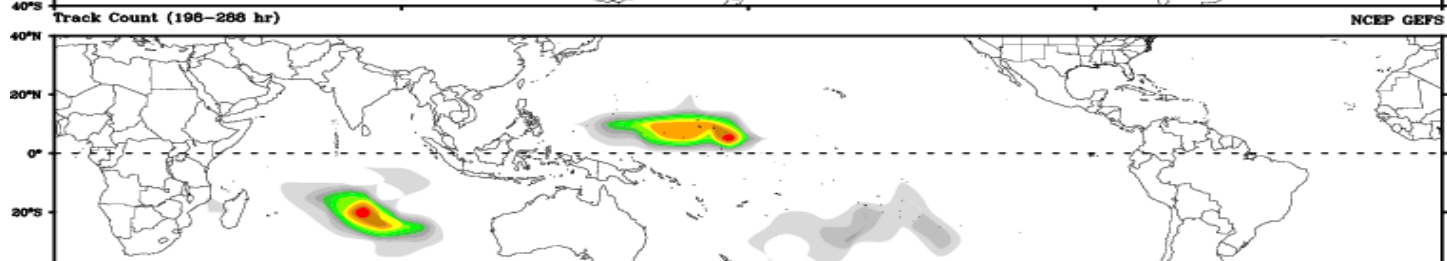
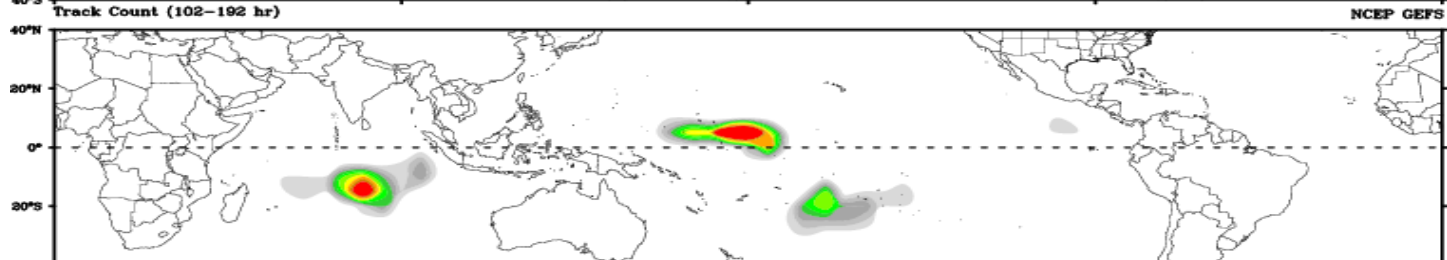
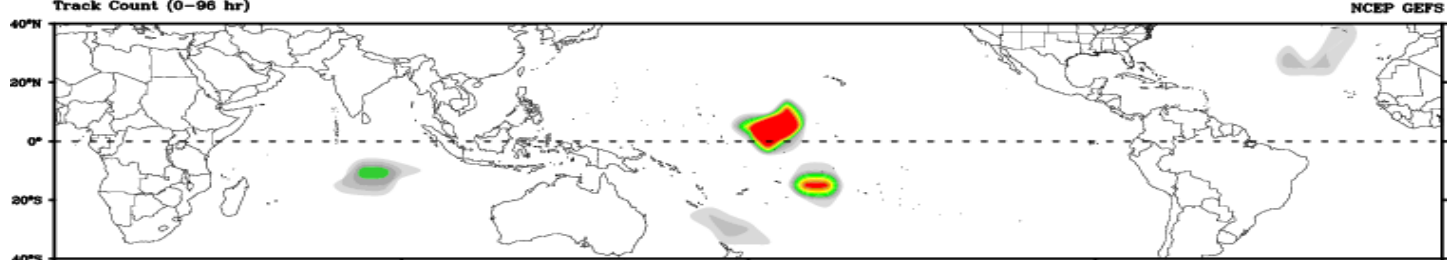
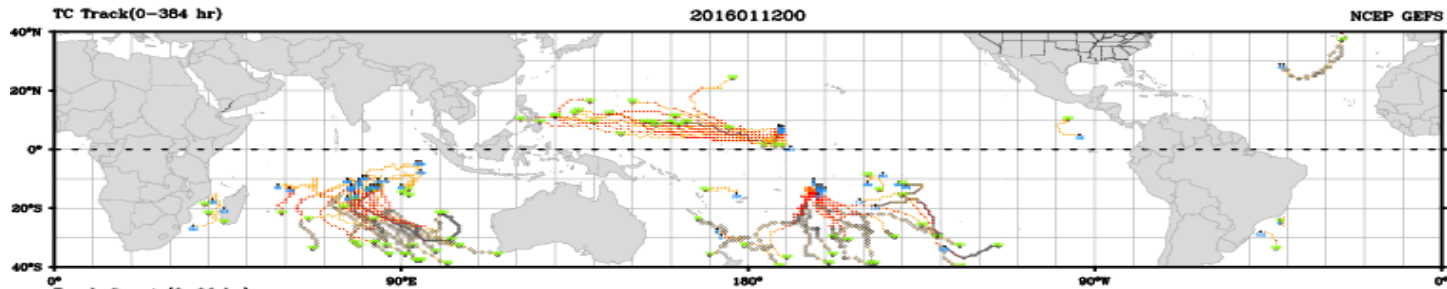


10:00 pm PST
Mon Nov 30 2015

Tropical Cyclone Formation Potential for the Five-Day Period Ending at 10:00 pm PST Sat Dec 5 2015

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

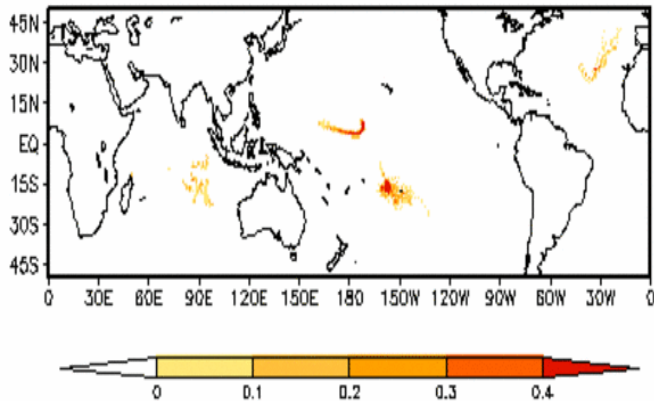
X indicates current disturbance location; shading indicates potential formation area.



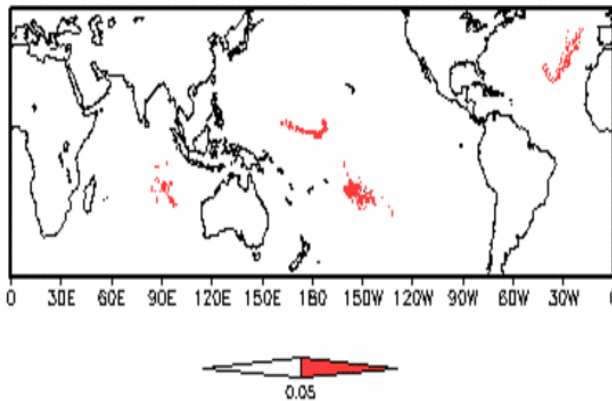
CFSv2 45-Day Forecasts

Week 1: 0112-0118

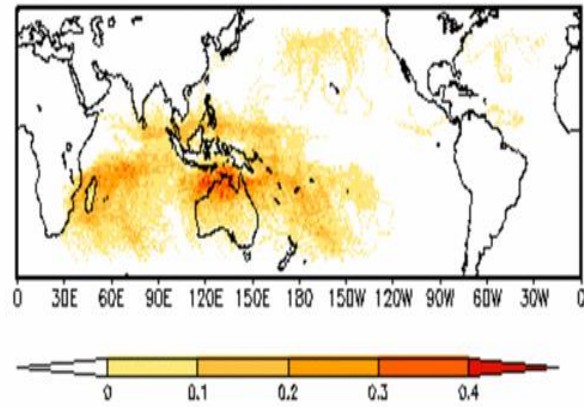
a) Forecast Tracks



b) Filtered Tracks



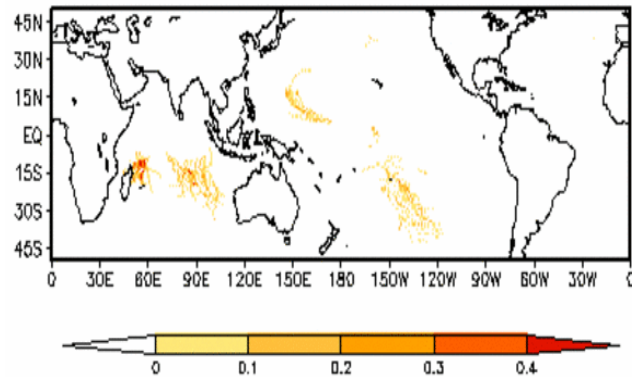
d) False Alarm Climatology



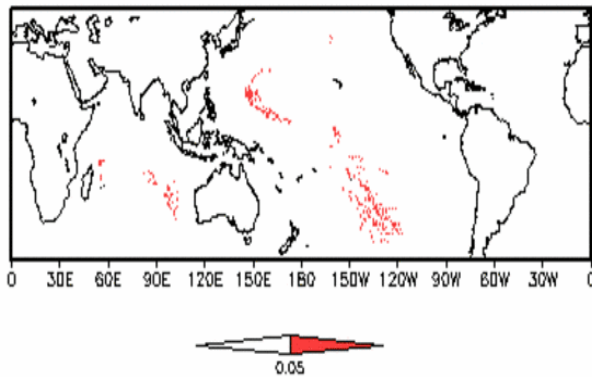
CFSv2 45-Day Forecasts

Week 2: 0119-0125

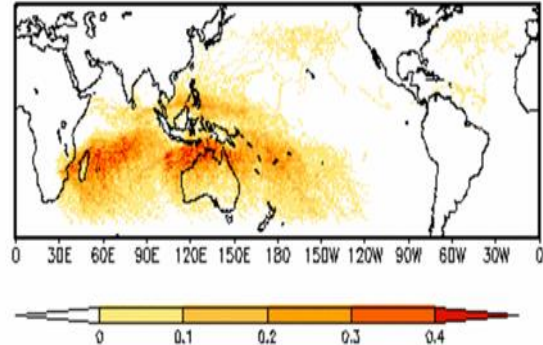
a) Forecast Tracks



b) Filtered Tracks

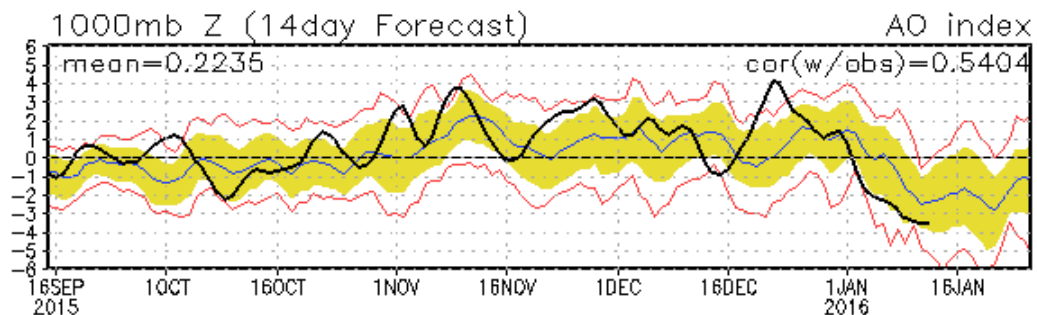
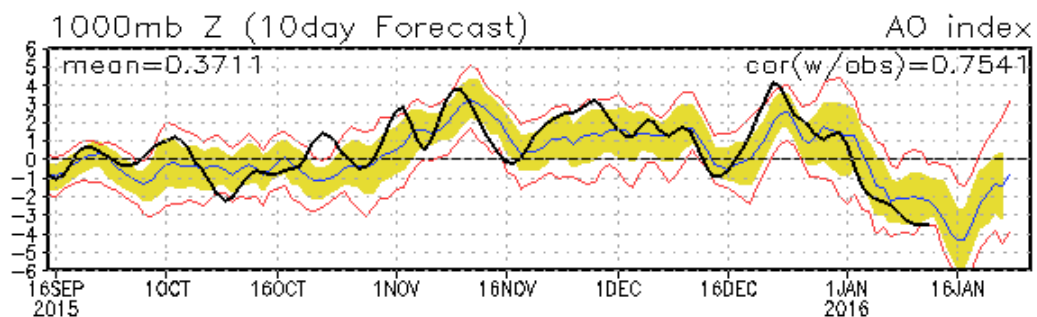
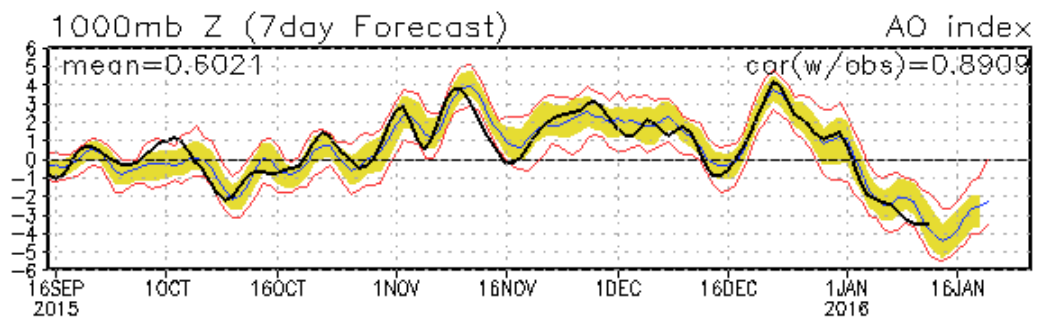
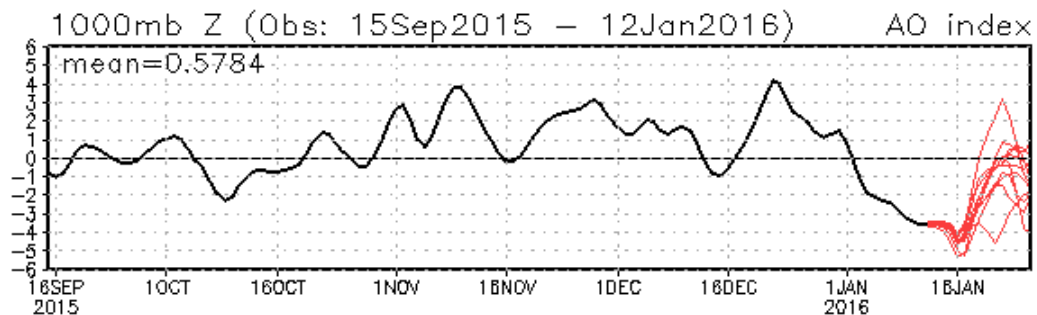


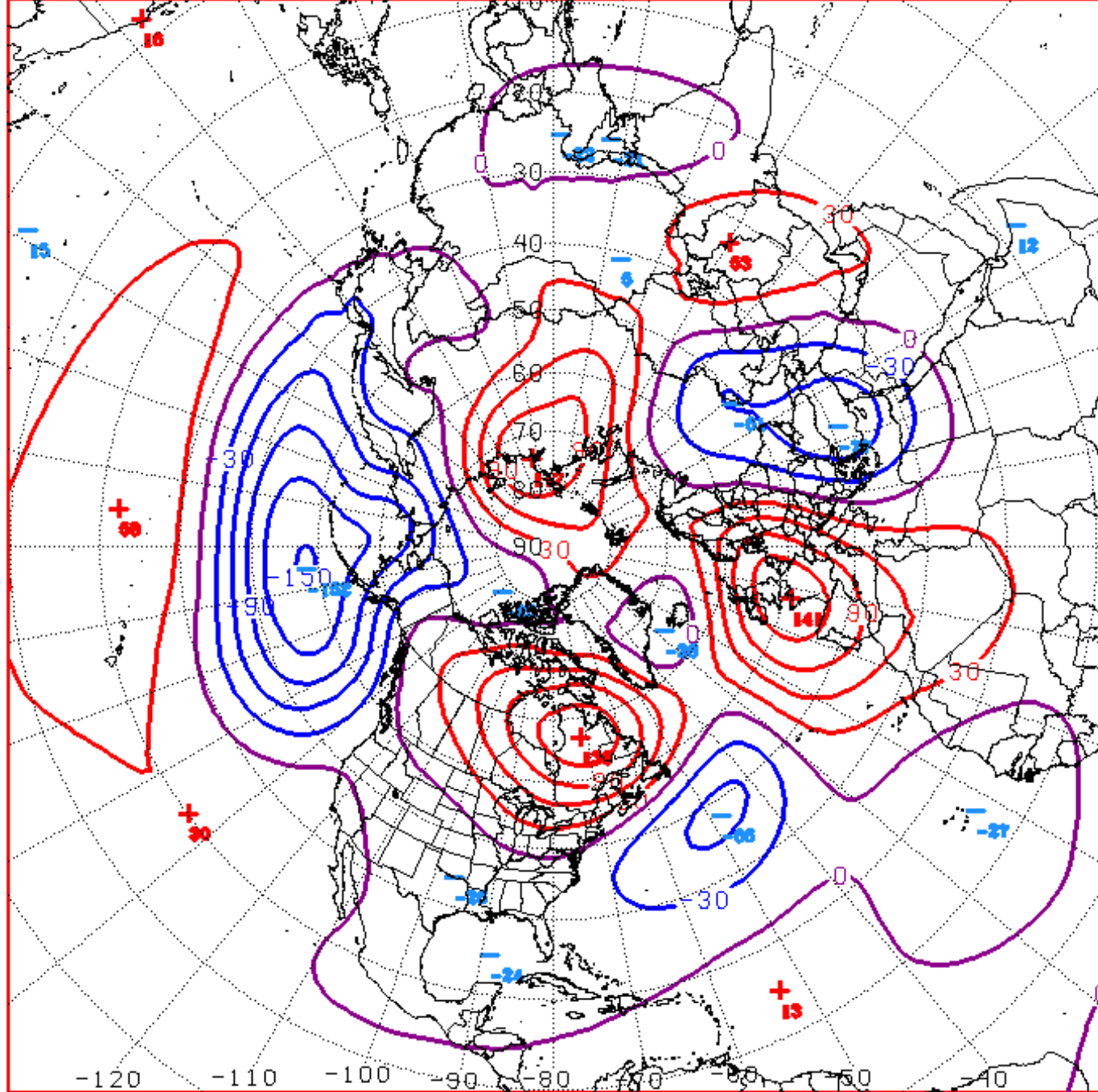
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Connections to U.S. Impacts

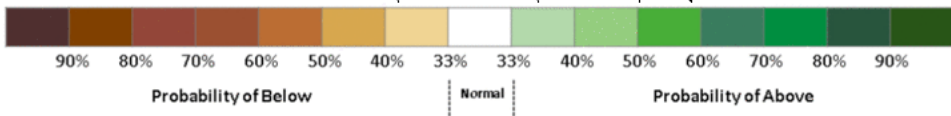
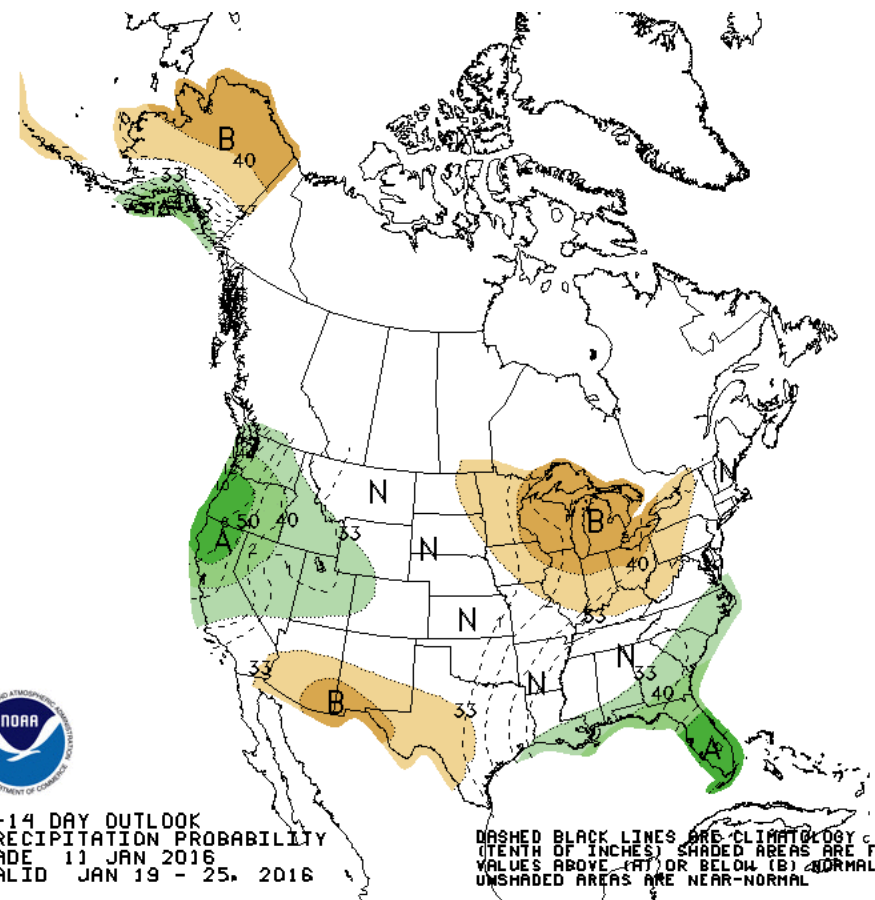
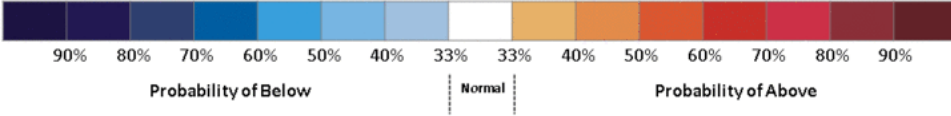
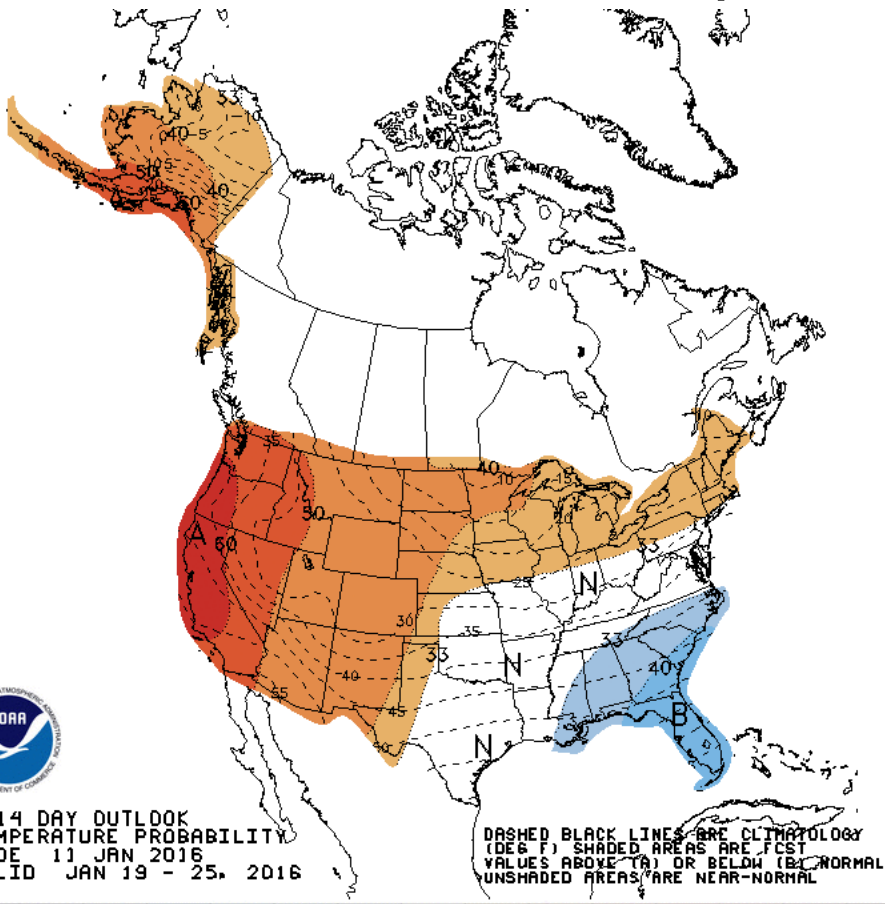
AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM 00Z ECMM
 CPC MAP MADE JAN 12 2016 1009 UTC CNTD JAN 23 2016

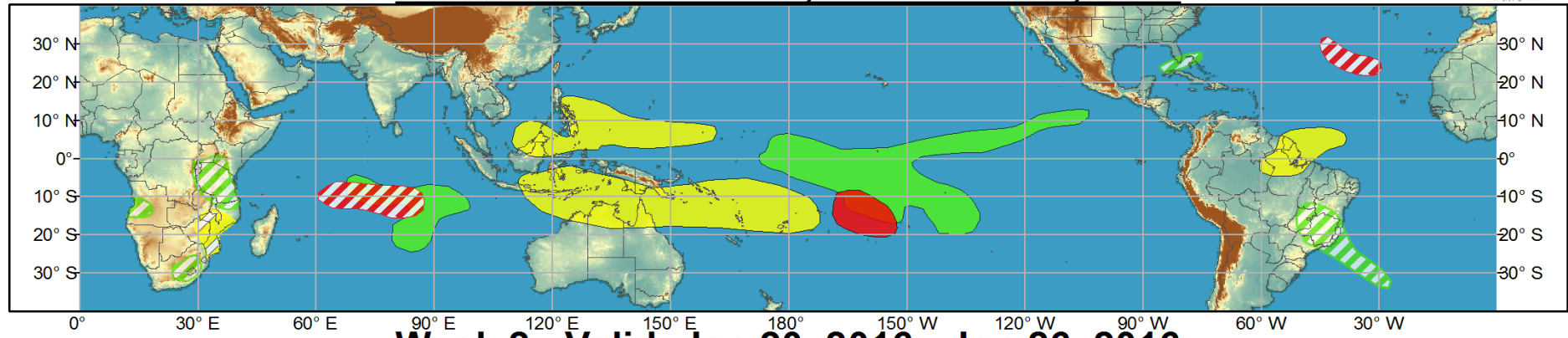
Week 2 – Temperature and Precipitation



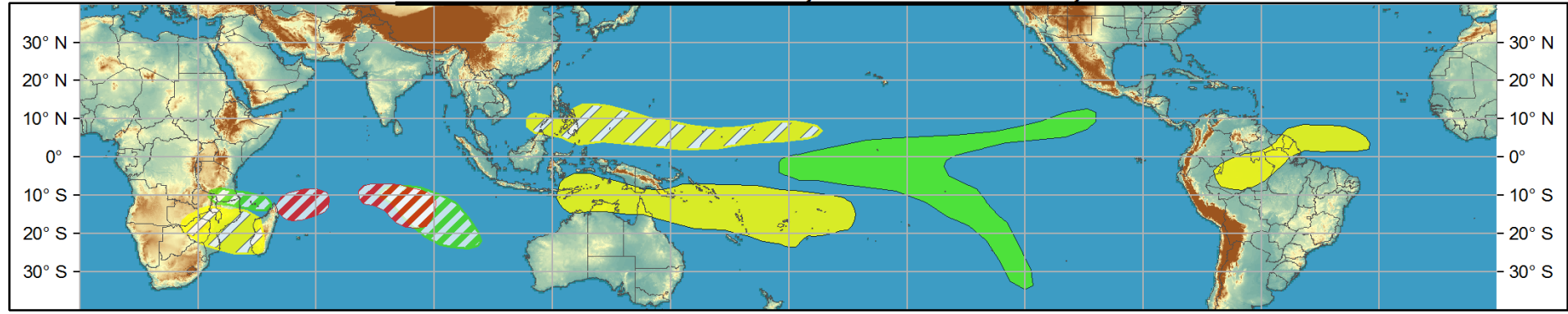


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