

Global Tropics Hazards And Benefits Outlook

December 18, 2012

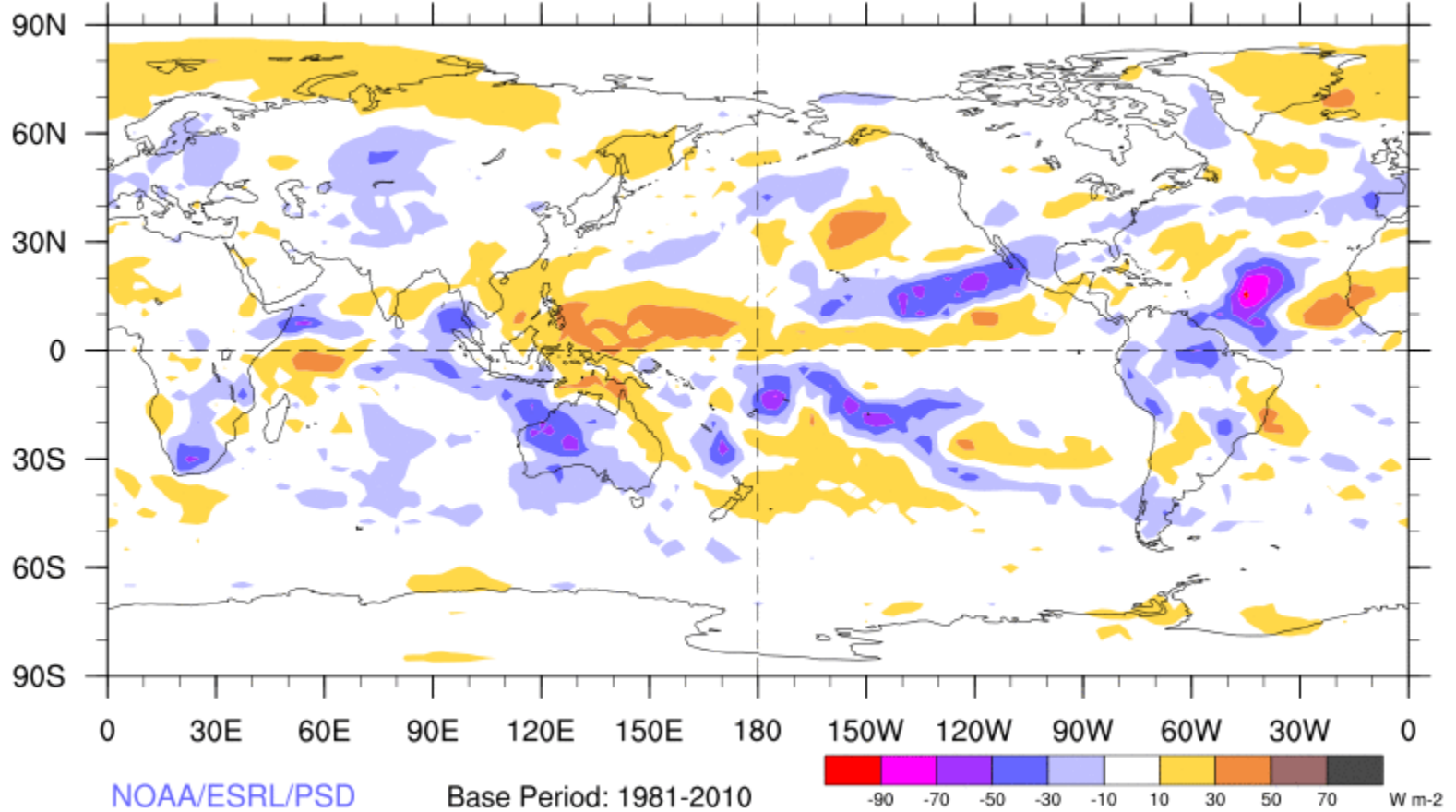
Matt Rosencrans

Outline

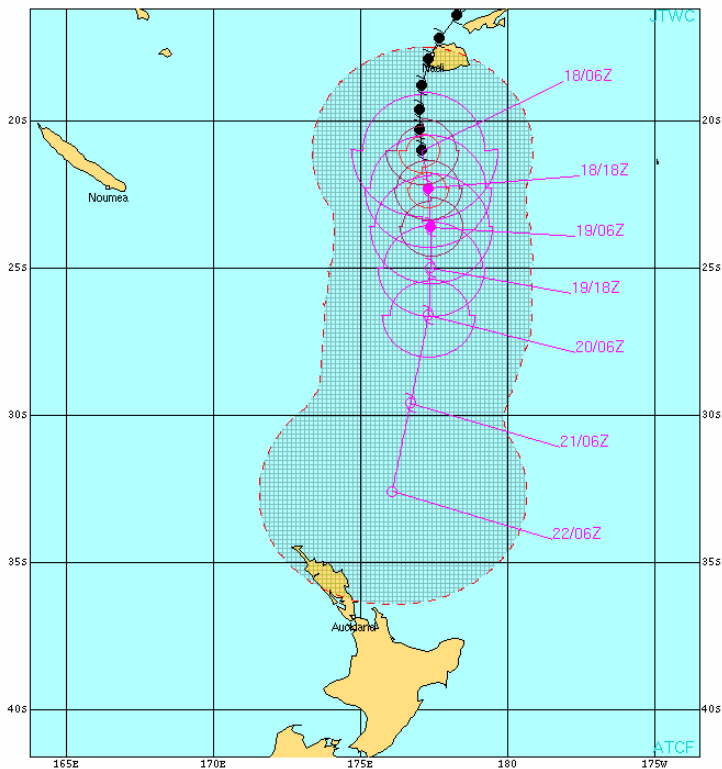
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion

7-Day Average OLR Anomaly

2012/12/10 - 2012/12/16



Tropical Cyclone Review



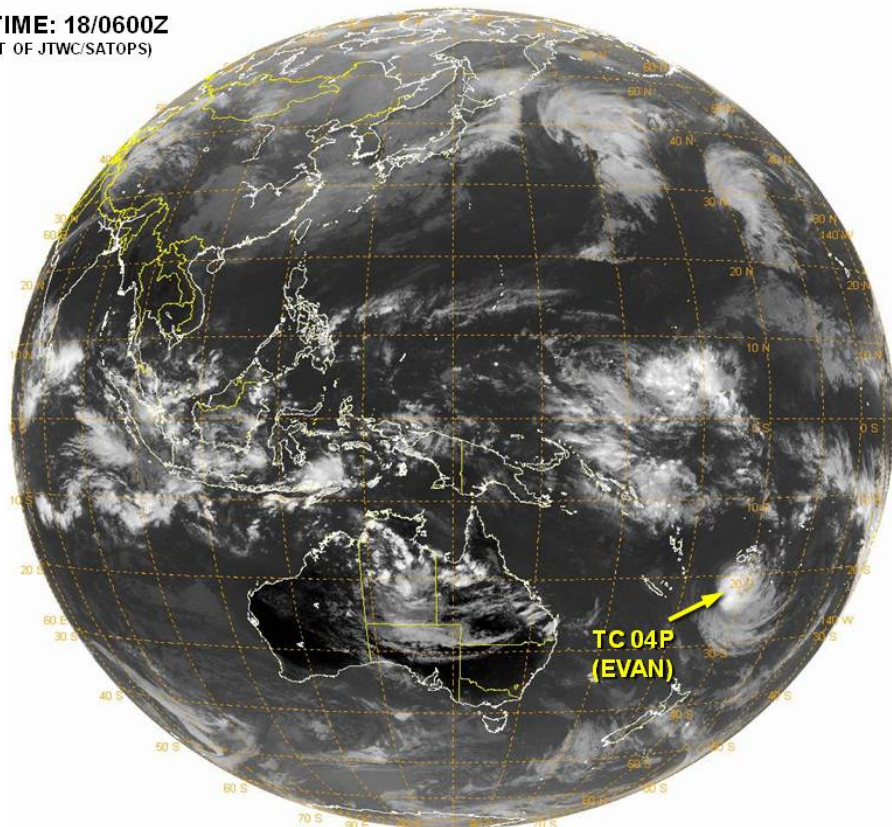
TROPICAL CYCLONE 04P (EVAN) WARNING #19
 WTS31 PGTW 180900
 180600Z POSIT: NEAR 21 03 177 1P
 MOVING 170 DEGREE TRUE AT 07 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 35 FEET
 18/06Z, WINDS 095 KTS, GUSTS TO 115 KTS
 19/18Z, WINDS 090 KTS, GUSTS TO 100 KTS
 19/06Z, WINDS 065 KTS, GUSTS TO 080 KTS
 19/18Z, WINDS 050 KTS, GUSTS TO 065 KTS
 20/06Z, WINDS 040 KTS, GUSTS TO 050 KTS
 21/06Z, WINDS 035 KTS, GUSTS TO 045 KTS
 22/06Z, WINDS 030 KTS, GUSTS TO 040 KTS

CPR TO:	NM	DTG
KINGSTON_IS.	444	21/18Z

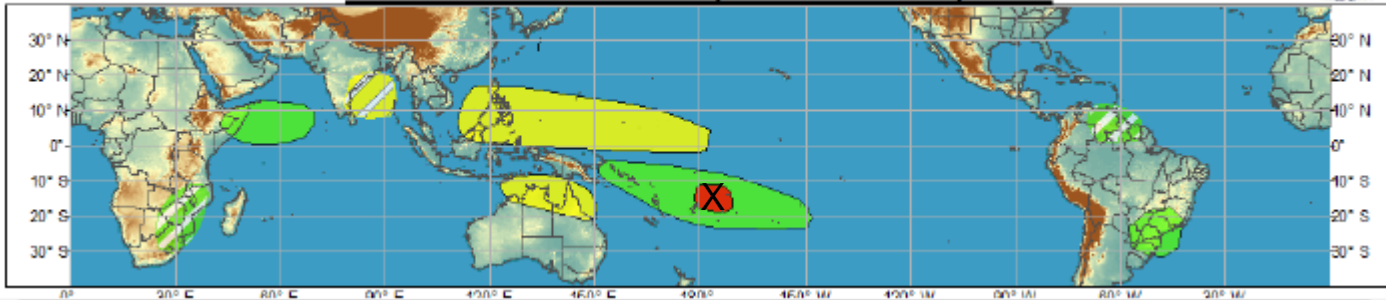
BEARING AND DISTANCE	DIR	DIST	TAU
	(TR)	(KTS)	(HRS)
KINGSTON_IS.	072	524	48
KINGSTON_IS.	092	454	72

○ LESS THAN 34 KNOTS
 ◐ 34-63 KNOTS
 ● MORE THAN 63 KNOTS
 FAST 6 HOURLY CYCLONE POSITS IN BLACK
 FORECAST CYCLONE POSITS IN COLOR

VALID TIME: 18/0600Z
 (PRODUCT OF JTWC/SATOPS)



Week 1 - Valid: Dec 12, 2012 - Dec 18, 2012



Week 2 - Valid: Dec 12, 2012 - Dec 18, 2012

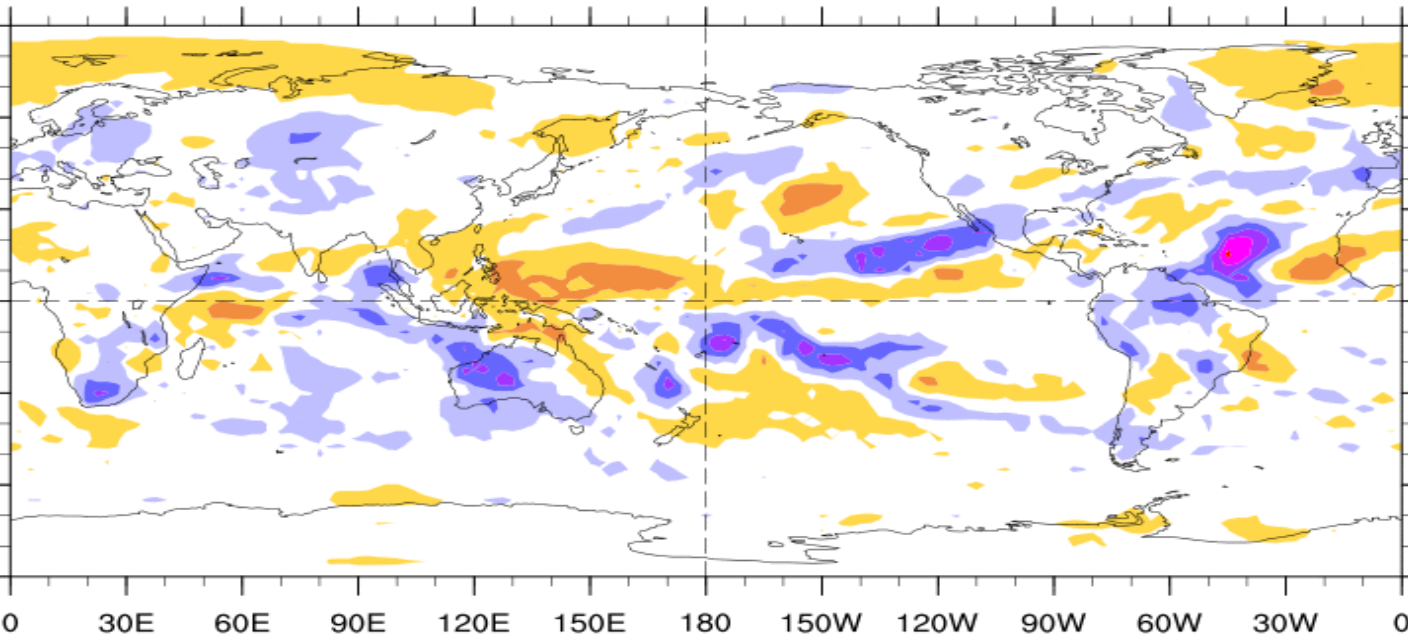


Confidence :

Produced: 12/04/2012

7-Day Average OLR Anomaly

2012/12/10 - 2012/12/16



Outlook
Review

Synopsis of Climate Modes

ENSO:

- ENSO-neutral conditions continue and ENSO-neutral is favored during the Northern Hemisphere winter 2012-13.

MJO and other subseasonal variability:

- The MJO has remained weak during the past week, while other subseasonal modes continue to influence the patterns of winds and rains across the tropics.
- Dynamical models are in better agreement that the MJO is more likely to strengthen slight in Phases 1 and 2, then propagate eastward.
- There is still some westward propagating convection associated with an equatorial Rossby wave.

Extratropics:

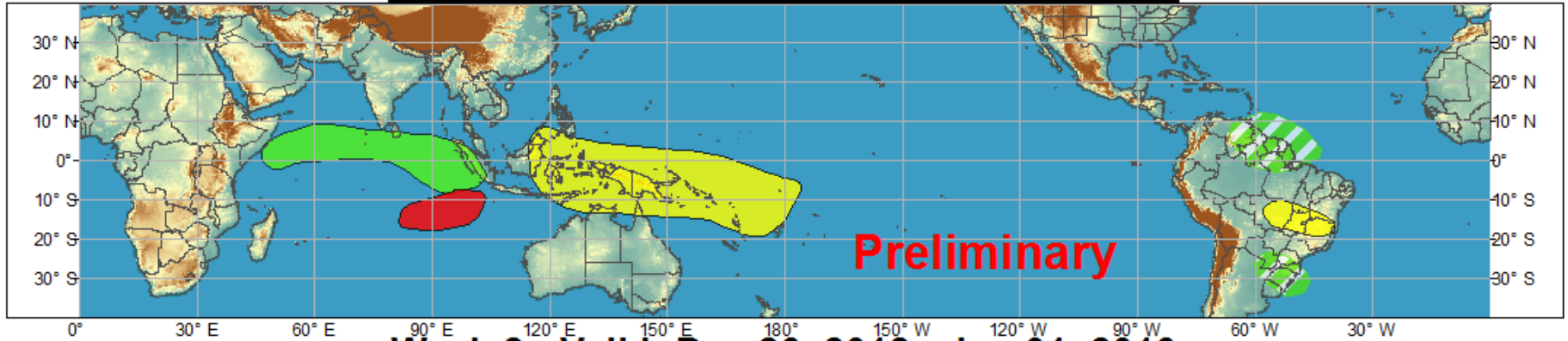
- AO/NAO forecast to be negative to neutral over the next two weeks. Additionally, a negative PNA pattern is likely, although not certain. Tropical forcing of the mid-latitudes remains unclear at this time, but there is some potential interaction on the horizon with reinvigorated MJO, further out in time.



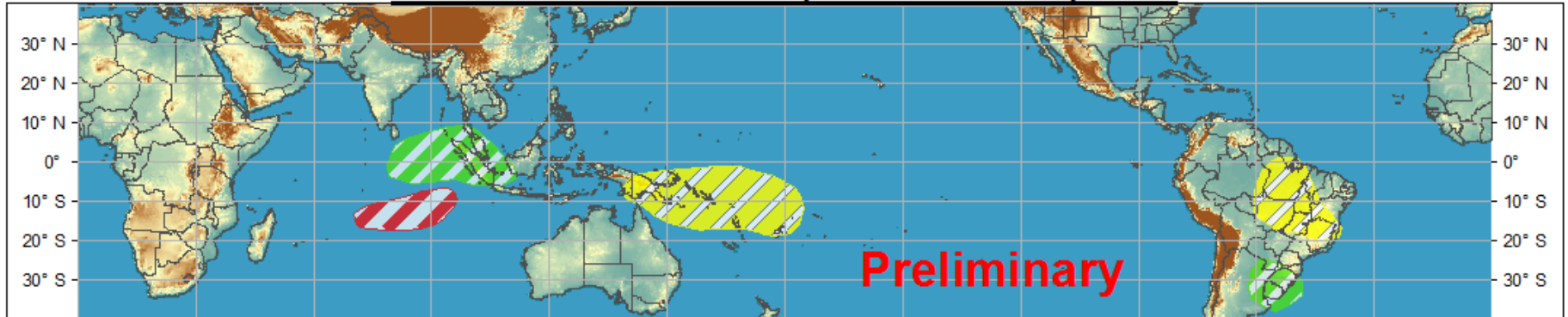
Global Tropical Hazards/Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 19, 2012 - Dec 25, 2012



Week 2 - Valid: Dec 26, 2012 - Jan 01, 2013



Confidence
High Moderate

Tropical Cyclone Formation



Development of a tropical cyclone that eventually reaches tropical storm/cyclone 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.

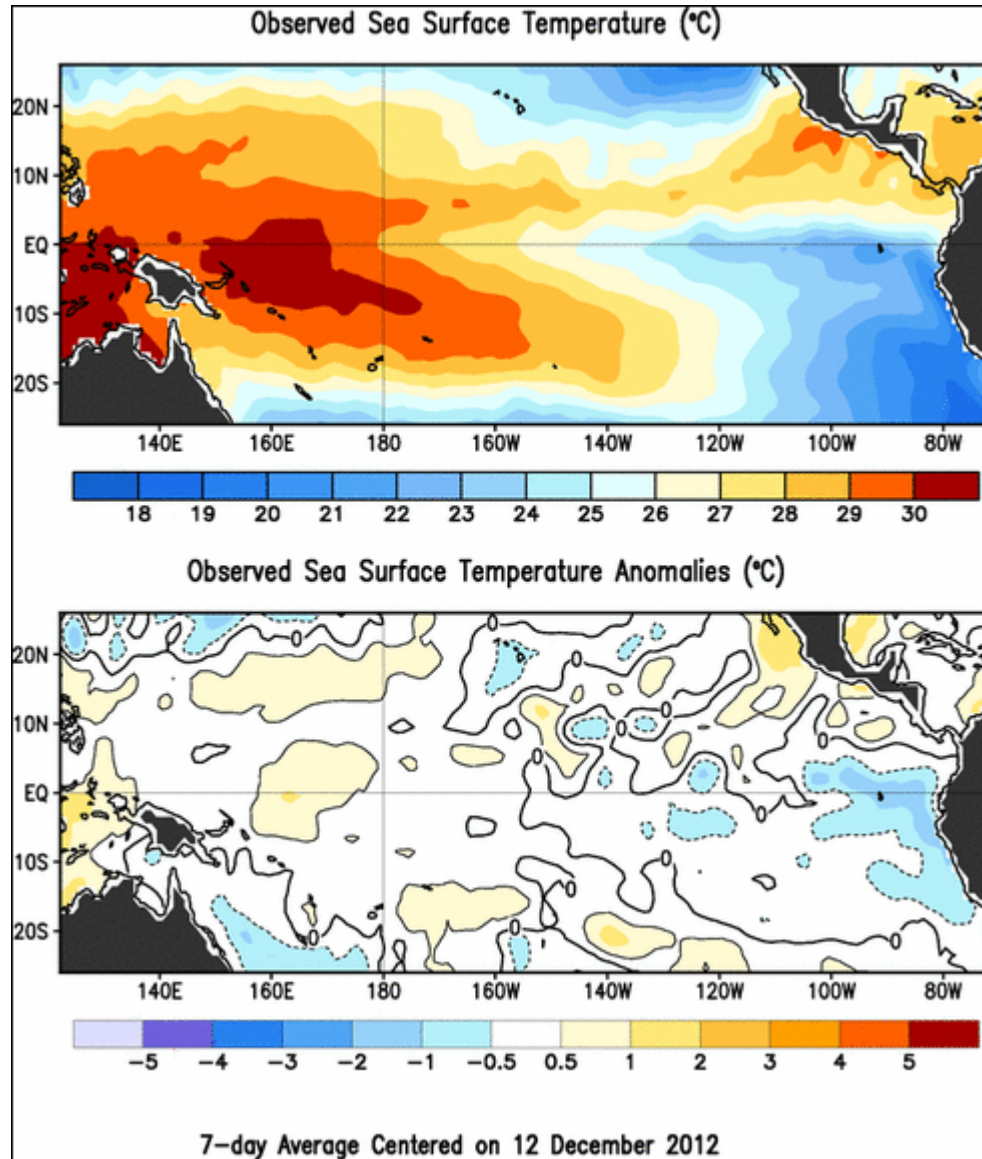
Produced: 12/17/2012

Forecaster: Rosencrans

Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



SST Observations

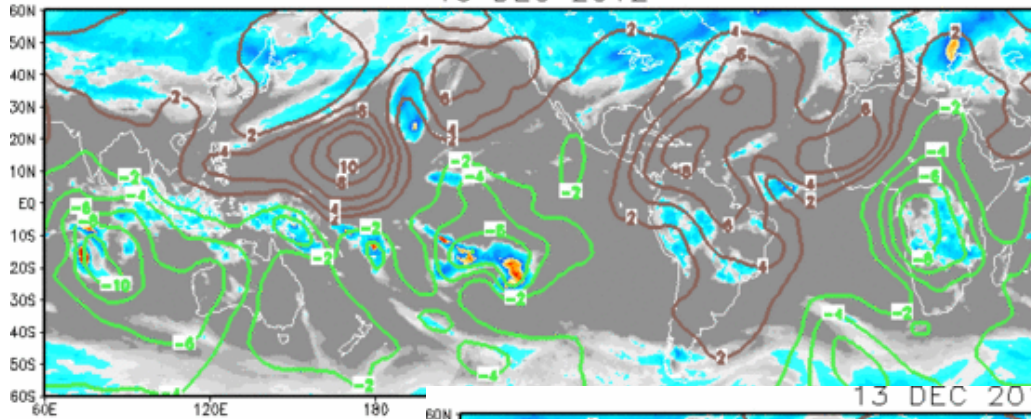


IR Satellite & 200-hpa Velocity Potential Anomalies

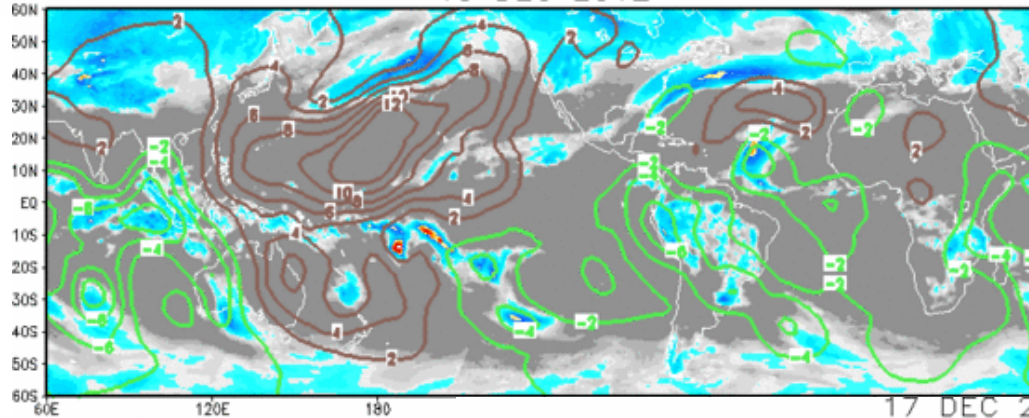
Green: Enhanced Divergence (supports rain)

Brown: Enhanced Convergence

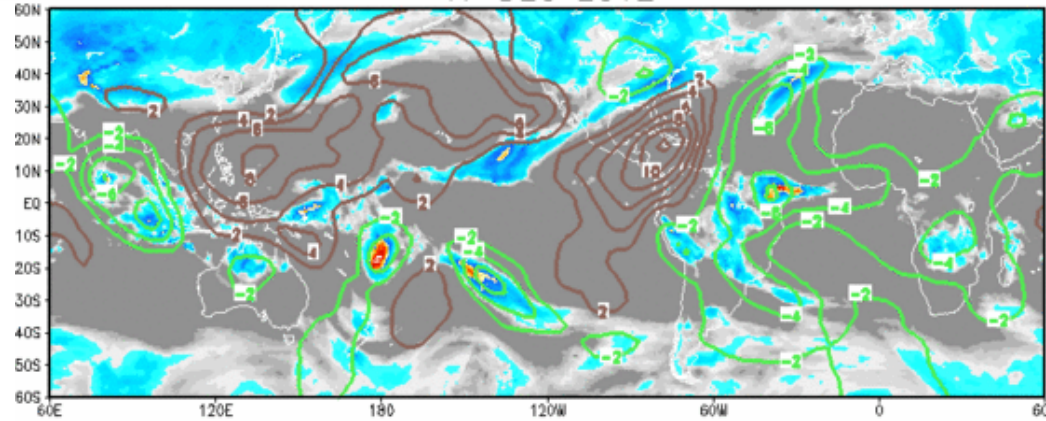
10 DEC 2012



13 DEC 2012



17 DEC 2012

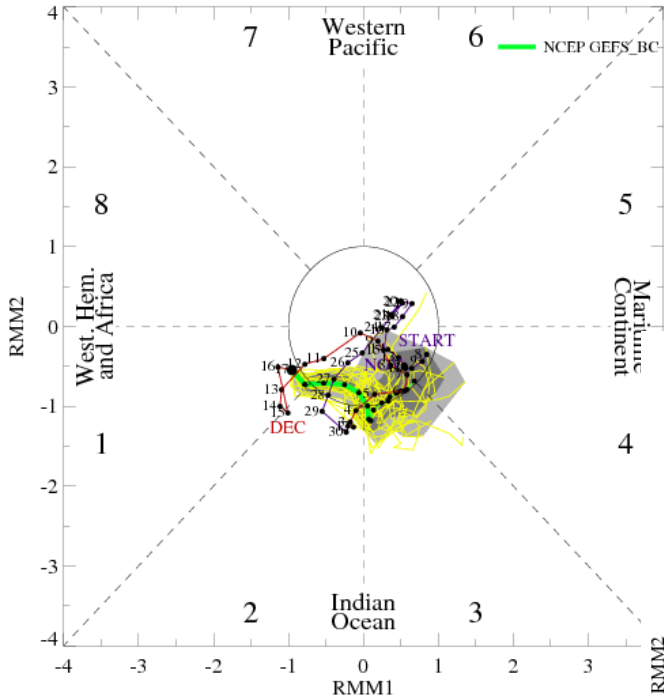


Concentration of subsidence (brown)
over the entire Pacific

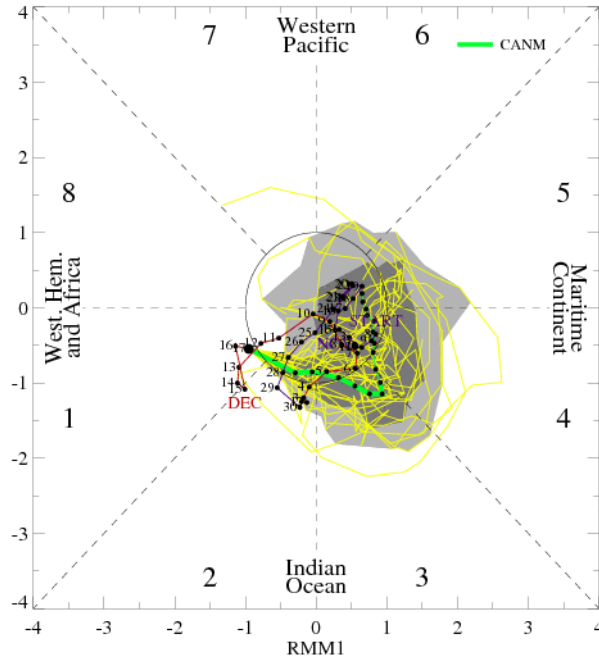
Divergence (green) over Africa -
Indian Ocean.

MJO Observation/Forecast

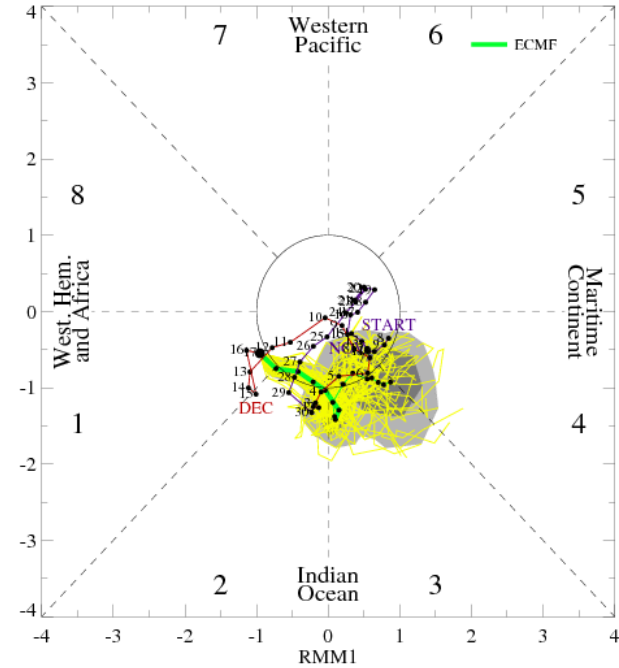
MJO Index Forecast for 18Dec2012-01Jan2013



MJO Index Forecast for 18Dec2012-01Jan2013

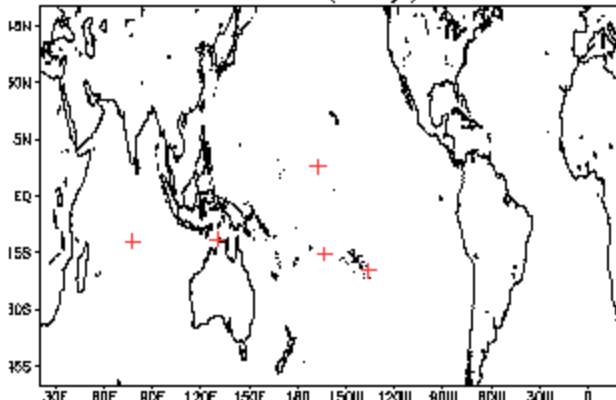


MJO Index Forecast for 18Dec2012-01Jan2013

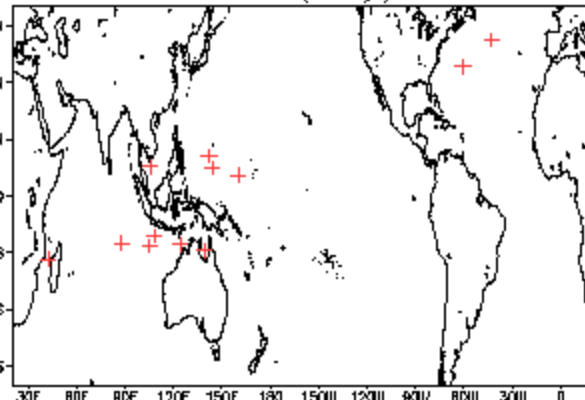


December Tropical Storm Formation by MJO phase

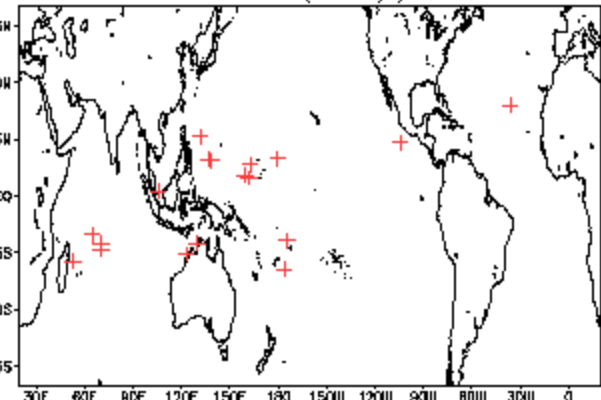
Phase 1 (48 days) 7 storms



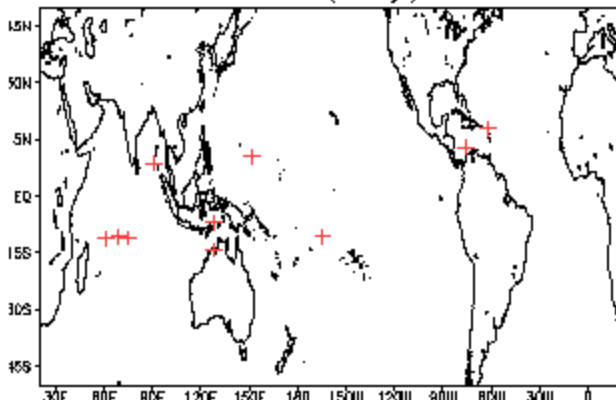
Phase 4 (72 days) 13 storms



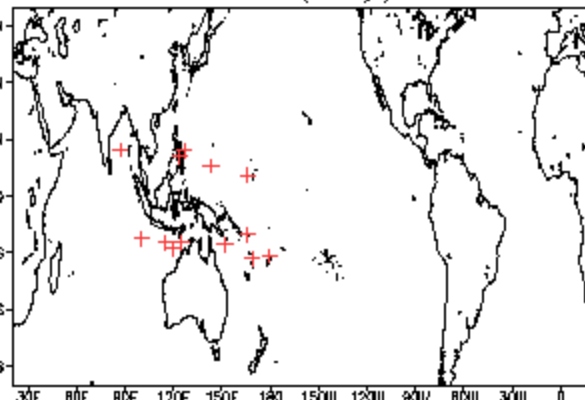
Phase 7 (103 days) 19 storms



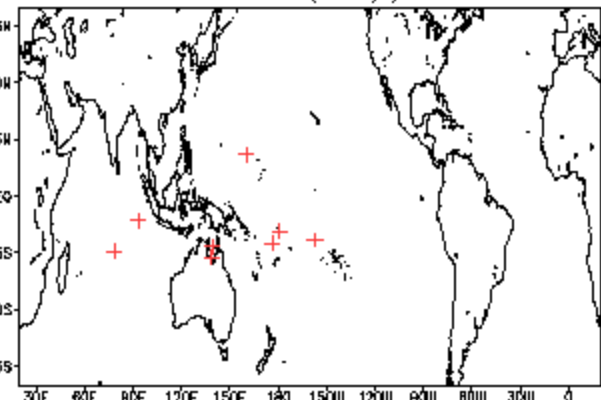
Phase 2 (67 days) 11 storms



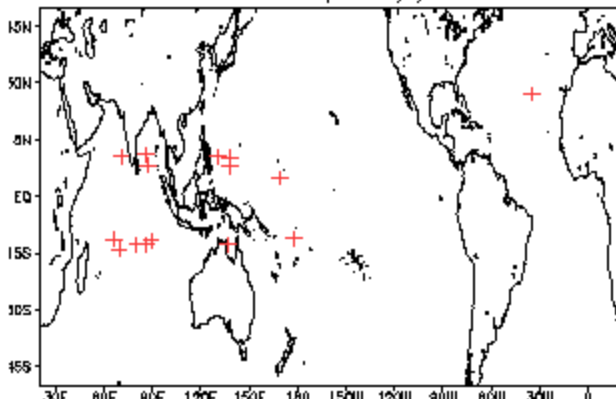
Phase 5 (73 days) 14 storms



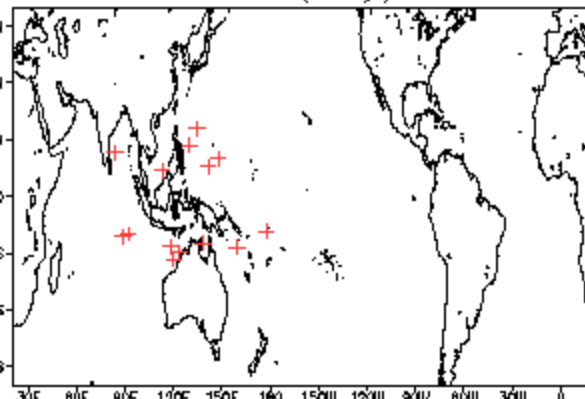
Phase 8 (76 days) 9 storms



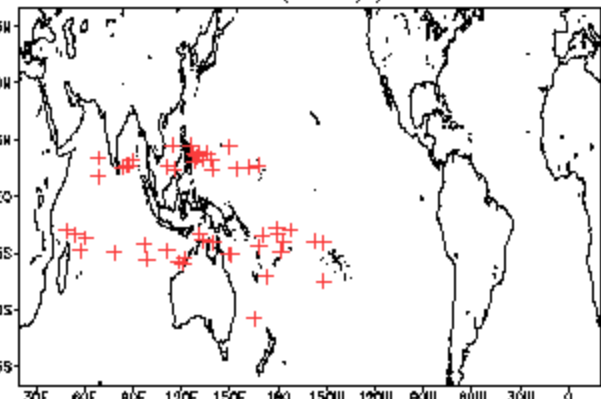
Phase 3 (101 days) 16 storms



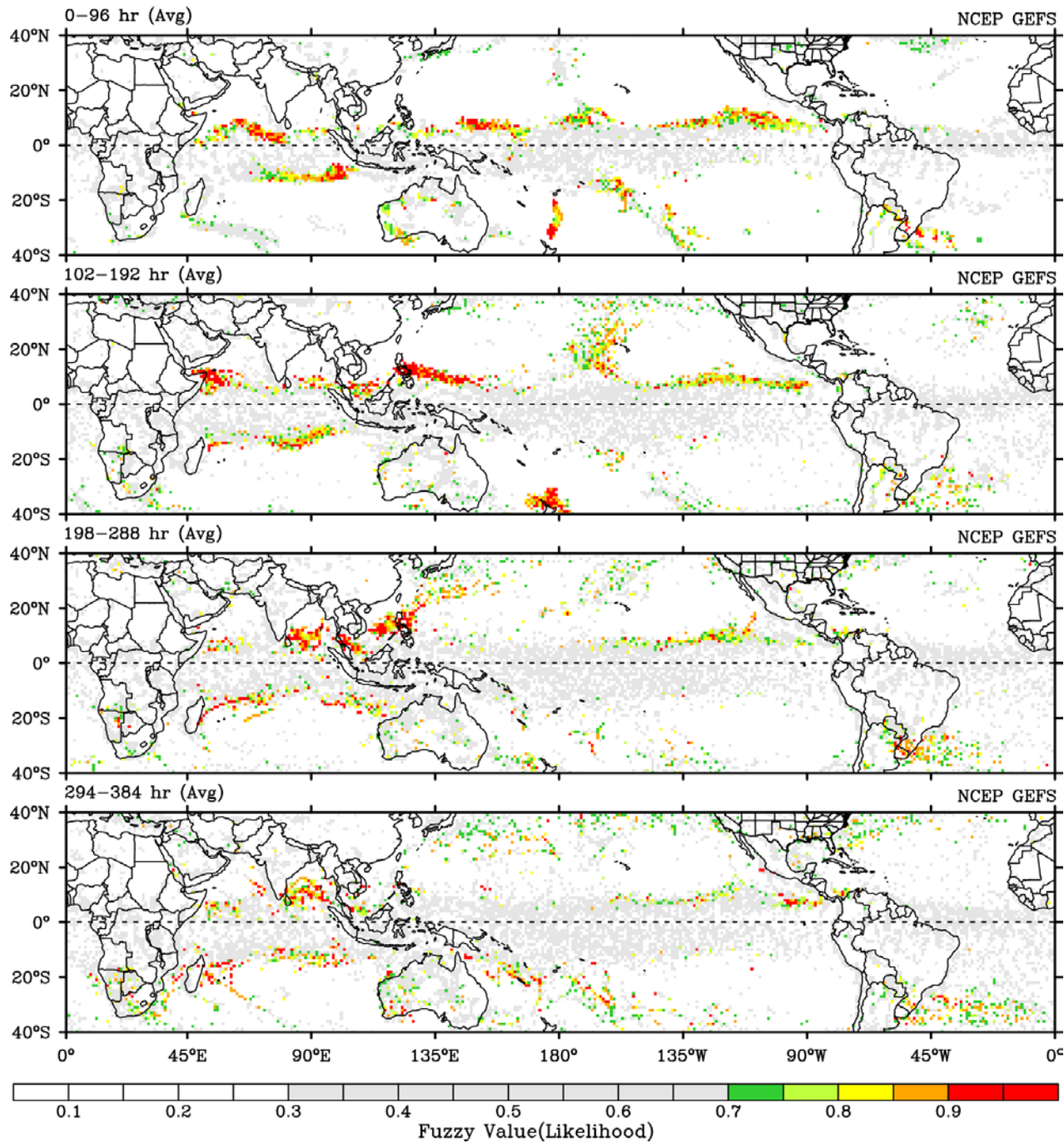
Phase 6 (69 days) 15 storms



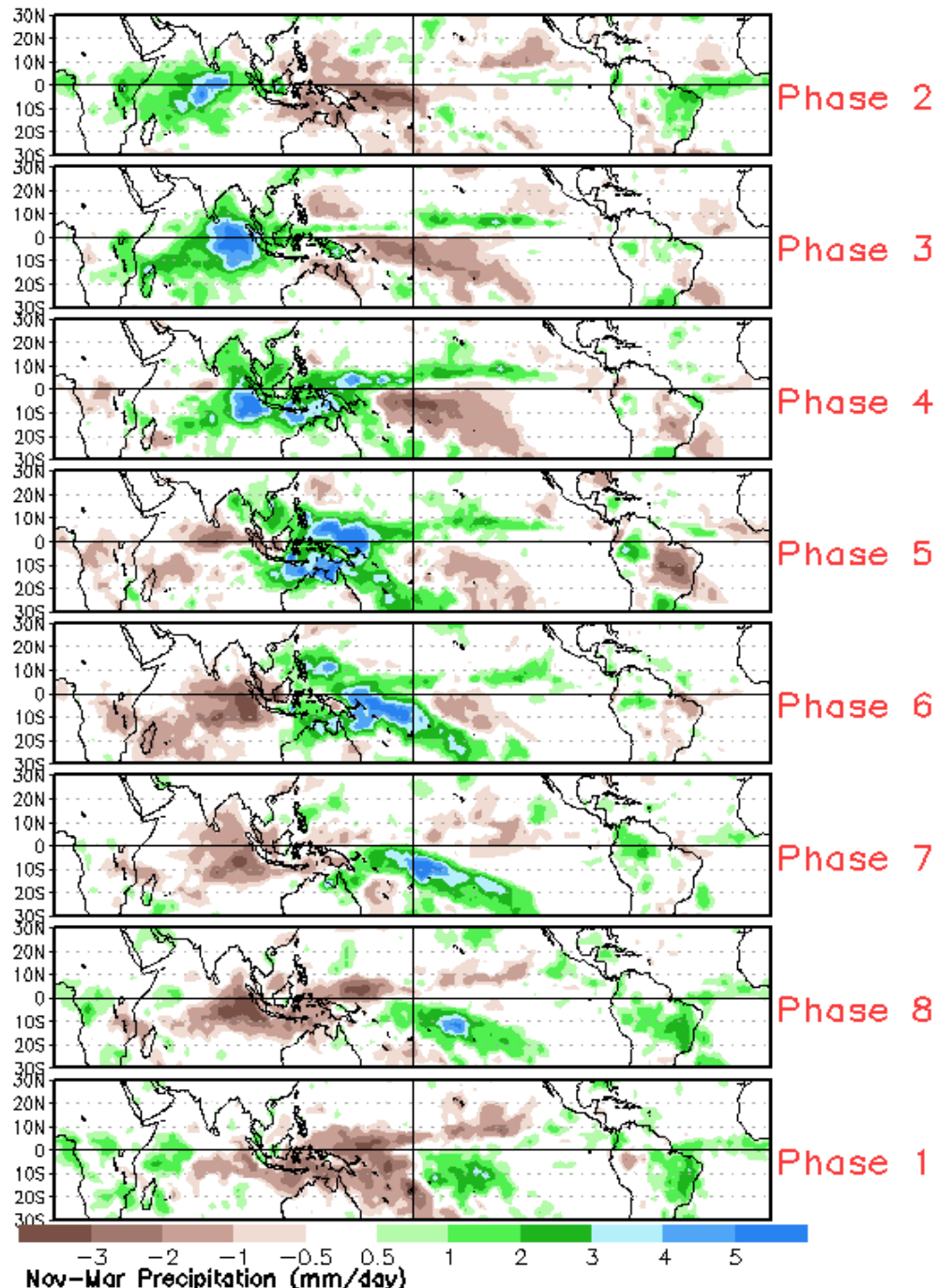
Null (416 days) 52 storms



CWB TC Fuzzy Likelihood Map (2012121800)

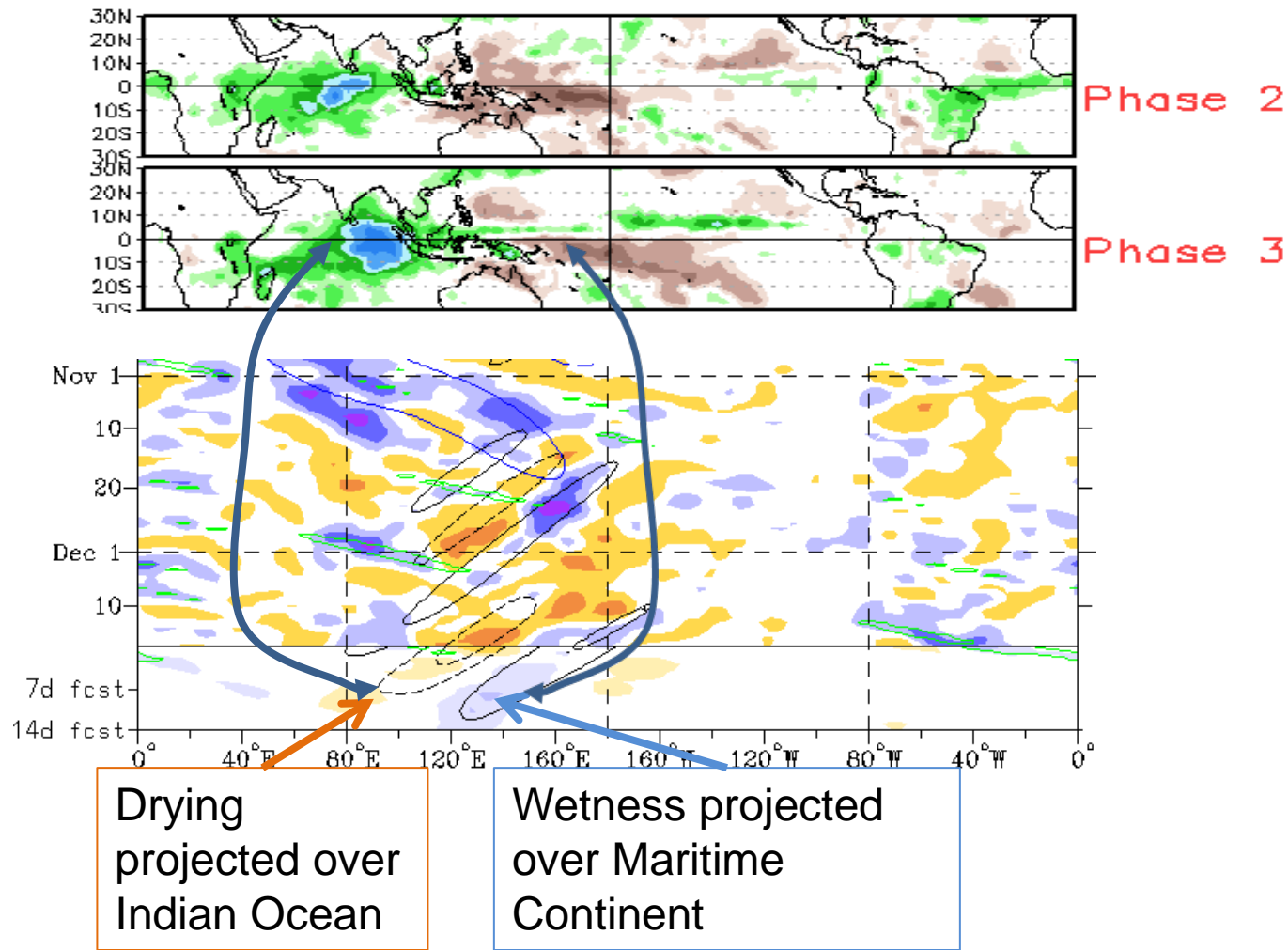


Average Conditions when the MJO is present (Nov-Mar)

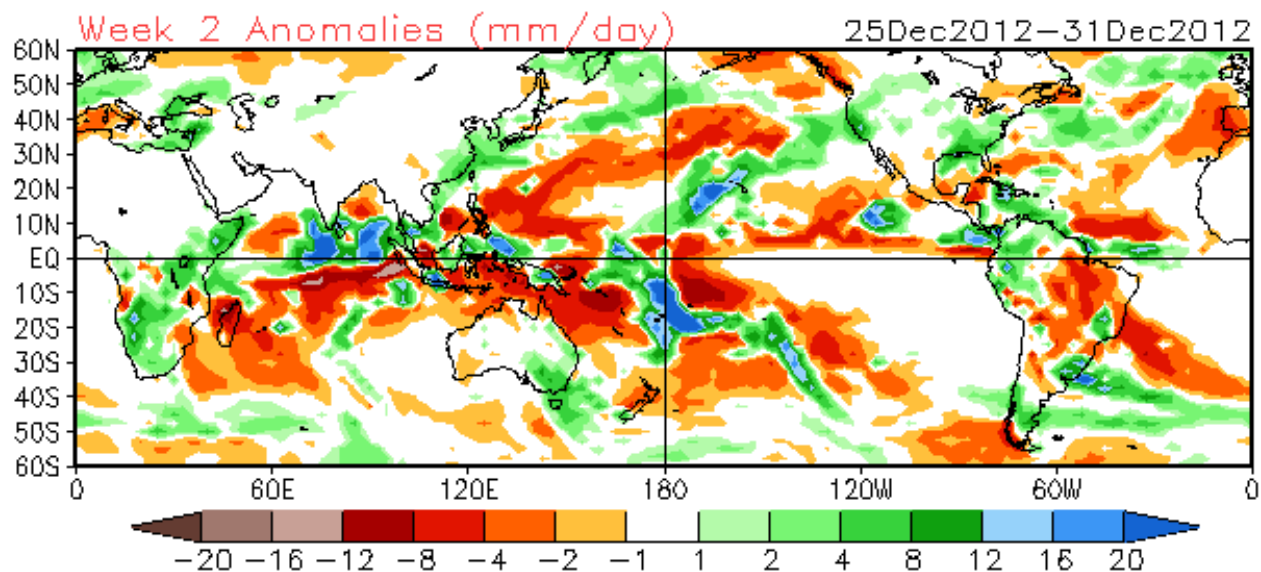
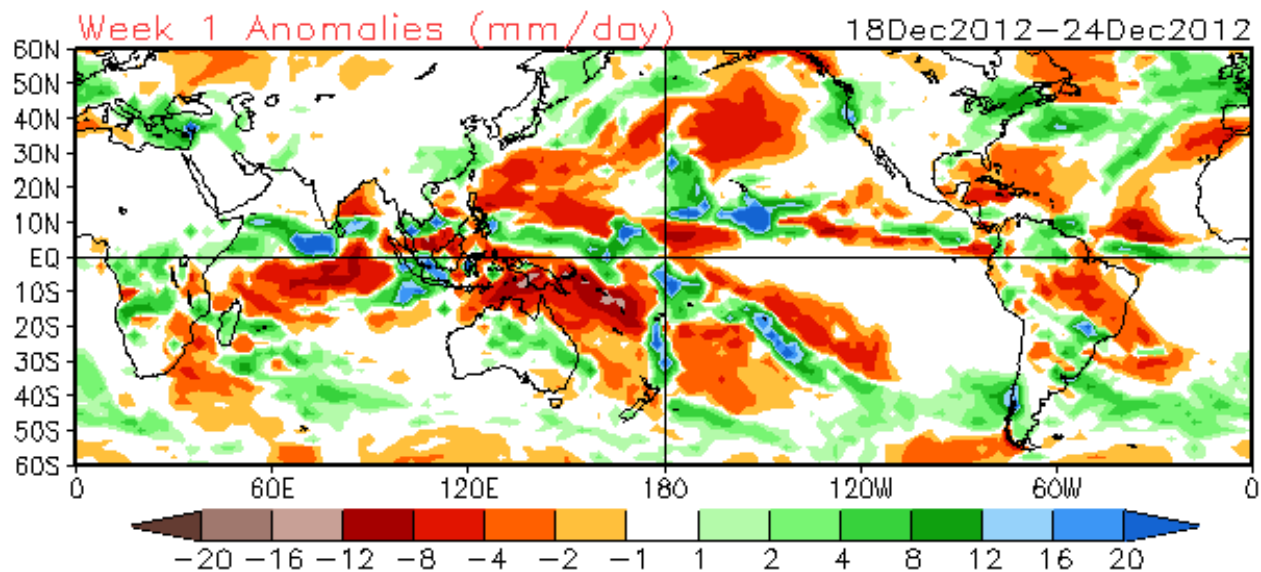


Outgoing Longwave Radiation (shading) Analysis of modes of variability (color contours)

Other modes of tropical variability are increasing the uncertainty of the forecast, especially for Week-2.



CFSv2 Weeks 1 & 2 Precipitation
16 Member Ensemble Mean Forecast from 17Dec2012

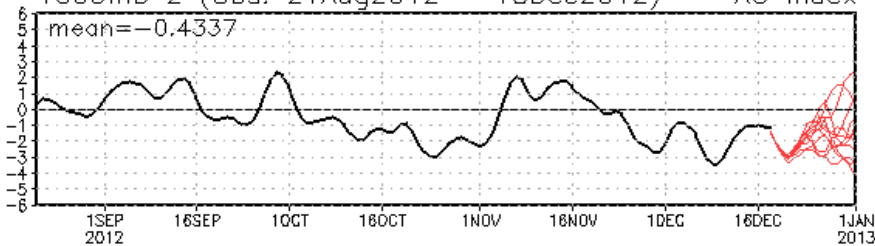


Recent AO and PNA Observations and GEFS Forecast

AO: Observed & ENSM forecasts

1000mb Z (Obs: 21Aug2012 - 18Dec2012) AO index

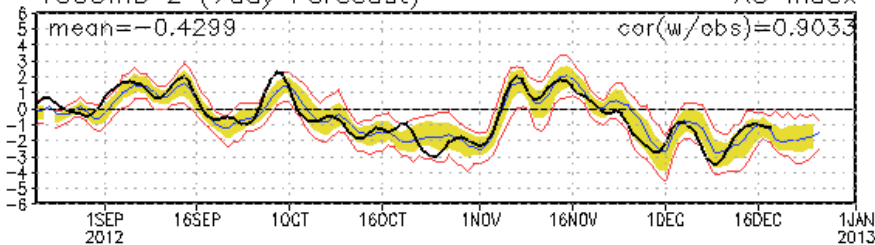
mean=-0.4337



1000mb Z (7day Forecast) AO index

mean=-0.4299

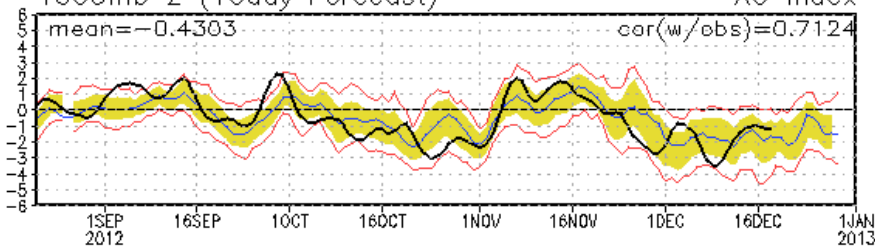
cor(w/obs)=0.9033



1000mb Z (10day Forecast) AO index

mean=-0.4303

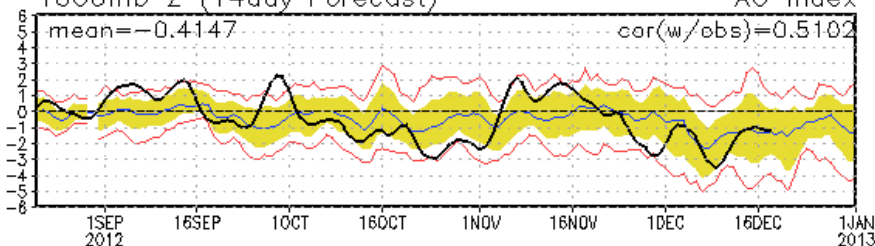
cor(w/obs)=0.7124



1000mb Z (14day Forecast) AO index

mean=-0.4147

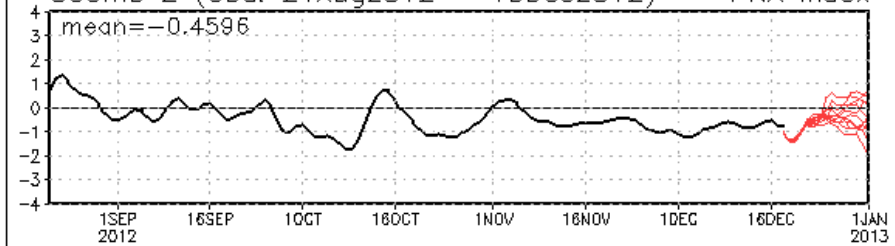
cor(w/obs)=0.5102



PNA: Observed & ENSM forecasts

500mb Z (Obs: 21Aug2012 - 18Dec2012) PNA index

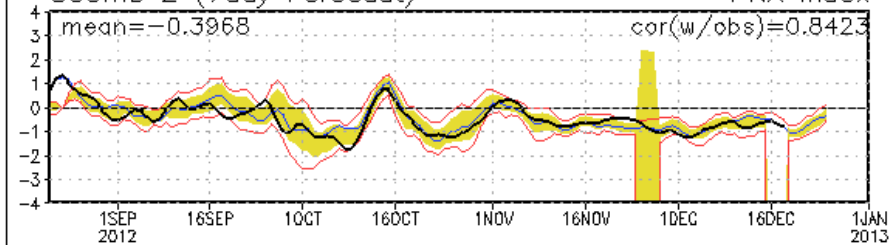
mean=-0.4596



500mb Z (7day Forecast) PNA index

mean=-0.3968

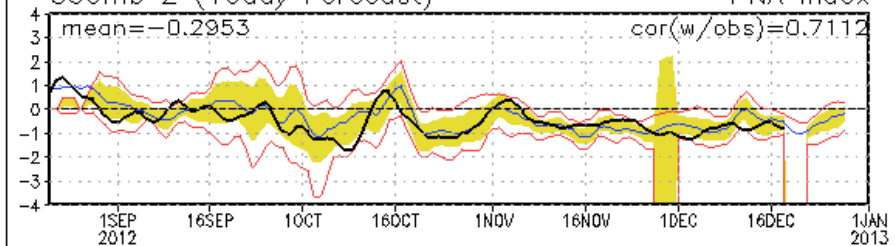
cor(w/obs)=0.8423



500mb Z (10day Forecast) PNA index

mean=-0.2953

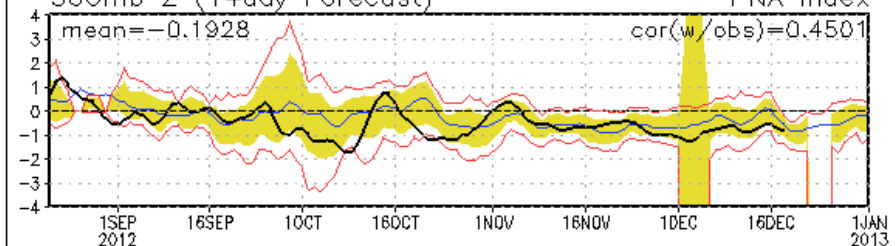
cor(w/obs)=0.7112



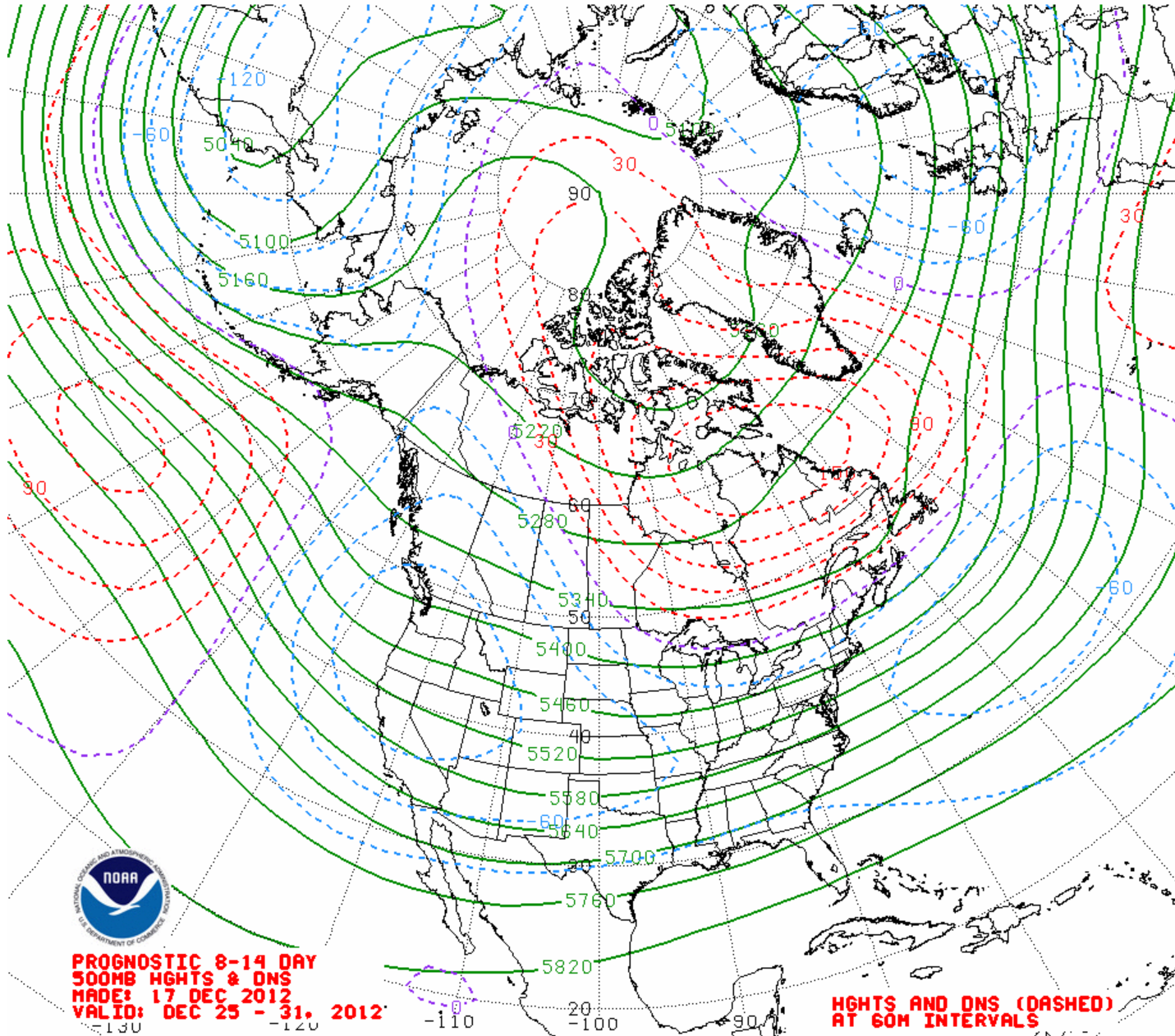
500mb Z (14day Forecast) PNA index

mean=-0.1928

cor(w/obs)=0.4501



Week 2 500-hPa Manual Chart



Week 2 -- Temperature and Precipitation

