

Global Tropics Hazards and Benefits Outlook

December 17, 2013

Jon Gottschalck

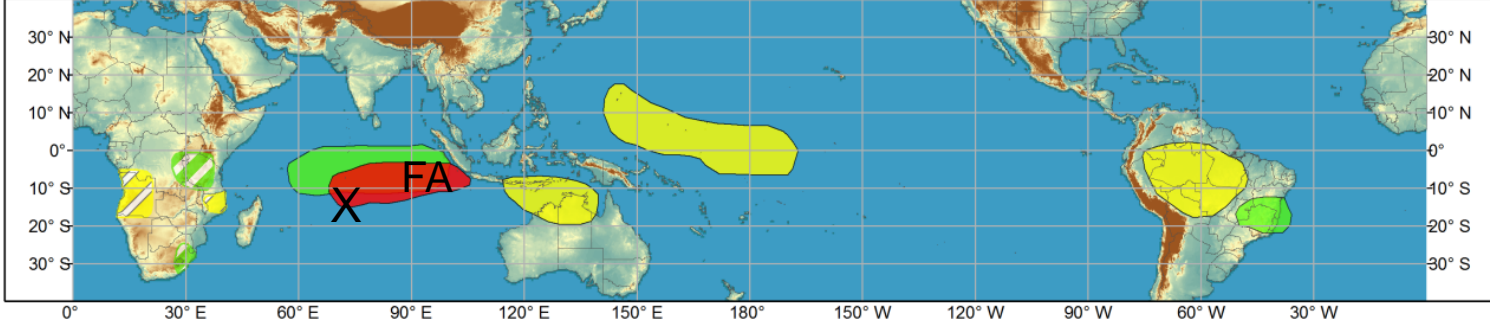
Outline

1. Brief 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: Dec 11, 2013 - Dec 17, 2013

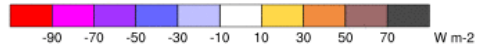
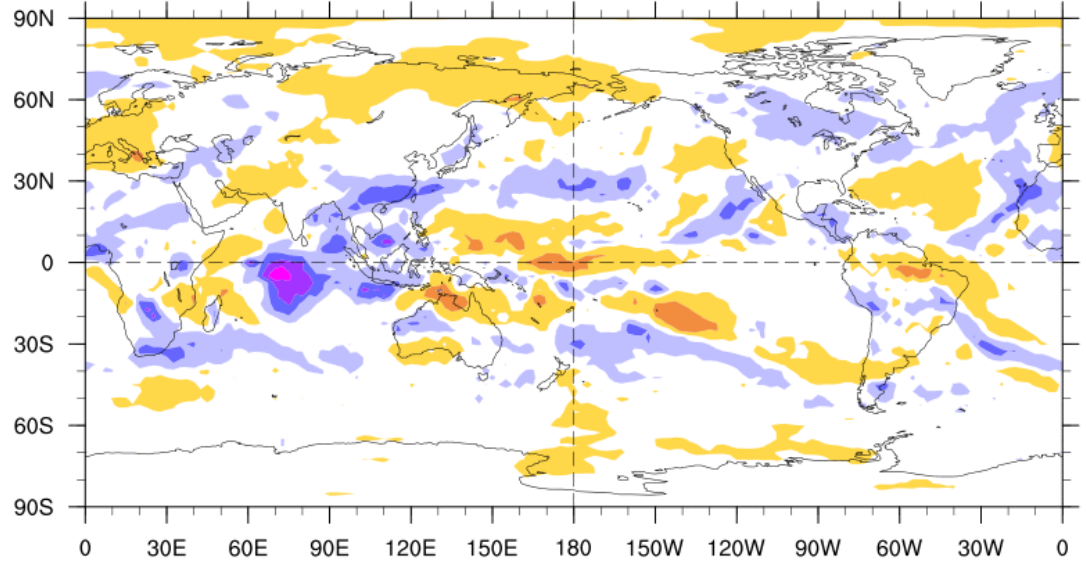


Week 2 - Valid: Dec 11, 2013 - Dec 17, 2013



7-Day Average OLR Anomaly

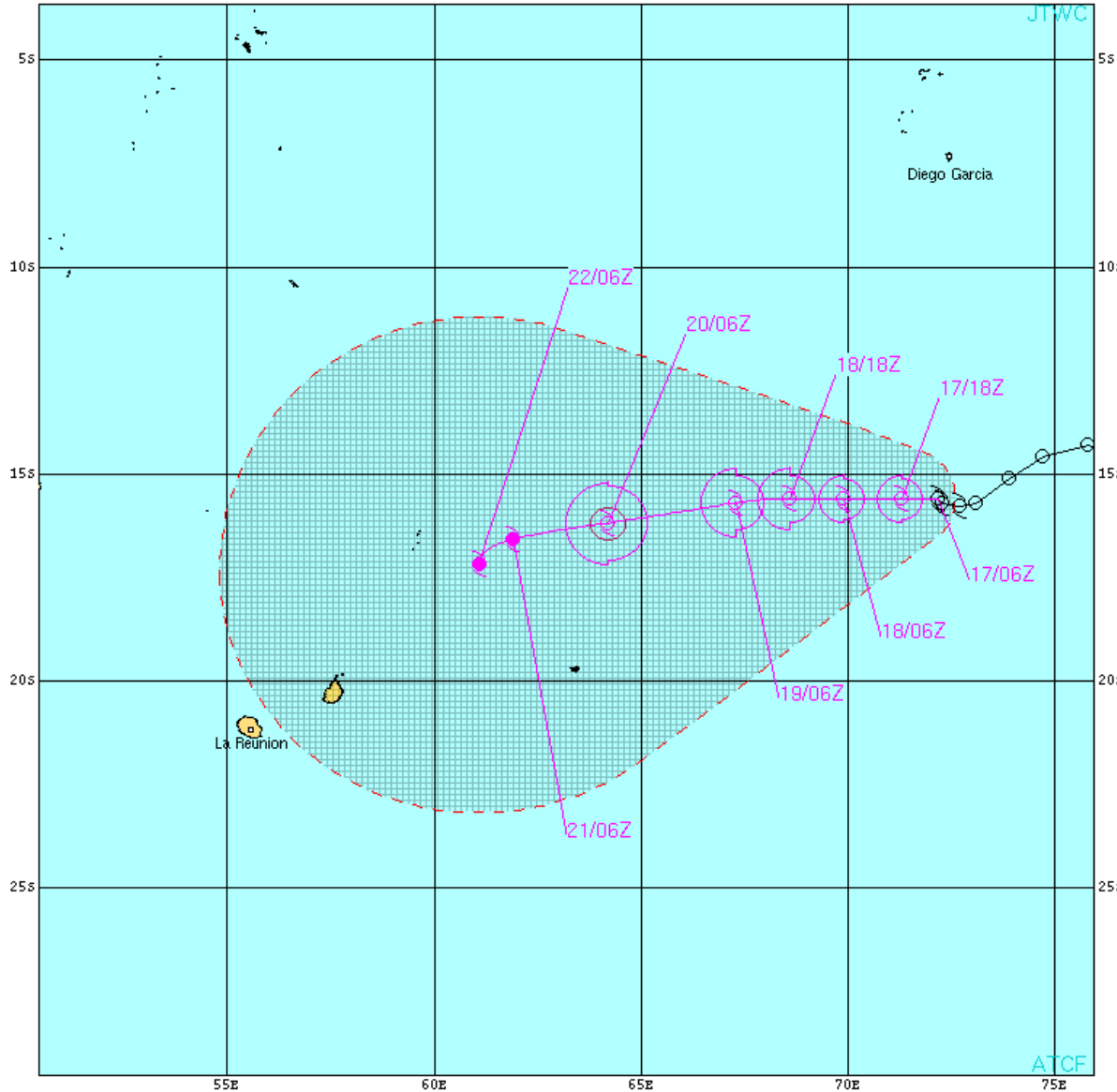
2013/12/09 - 2013/12/15



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Tropical cyclone Amara Southern Indian Ocean



TROPICAL CYCLONE 03S (AMARA) WARNING #2
 WTX331 PGTW 170900
 170600Z POSIT: NEAR 15.6S 72.2E
 MOVING 315 DEGREES TRUE AT 01 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 10 FEET
 17/06Z, WINDS 035 KTS, GUSTS TO 045 KTS
 17/18Z, WINDS 040 KTS, GUSTS TO 050 KTS
 18/06Z, WINDS 040 KTS, GUSTS TO 050 KTS
 18/18Z, WINDS 045 KTS, GUSTS TO 055 KTS
 19/06Z, WINDS 050 KTS, GUSTS TO 065 KTS
 20/06Z, WINDS 060 KTS, GUSTS TO 075 KTS
 21/06Z, WINDS 065 KTS, GUSTS TO 080 KTS
 22/06Z, WINDS 070 KTS, GUSTS TO 085 KTS

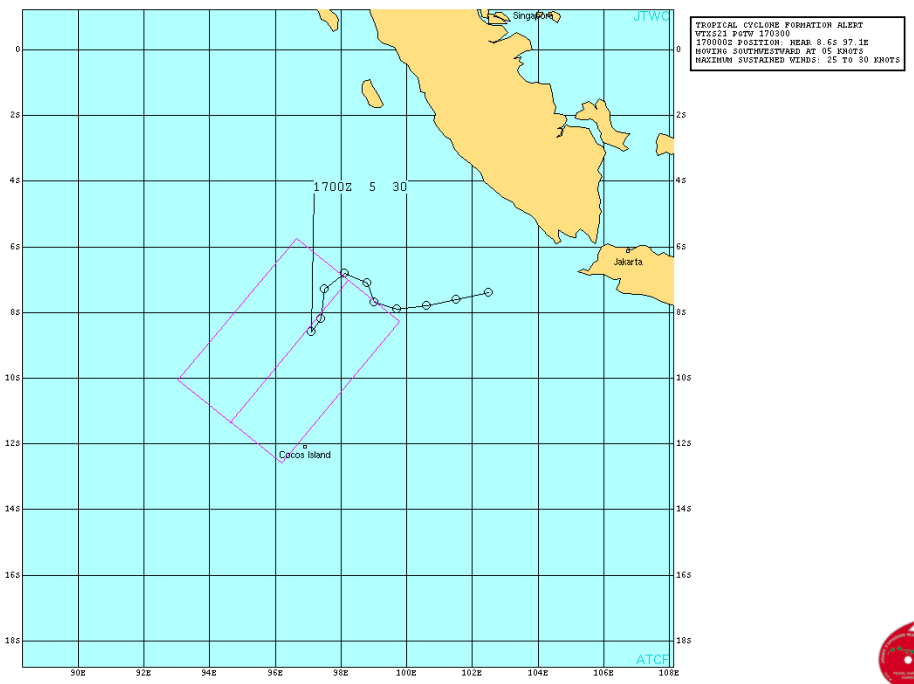
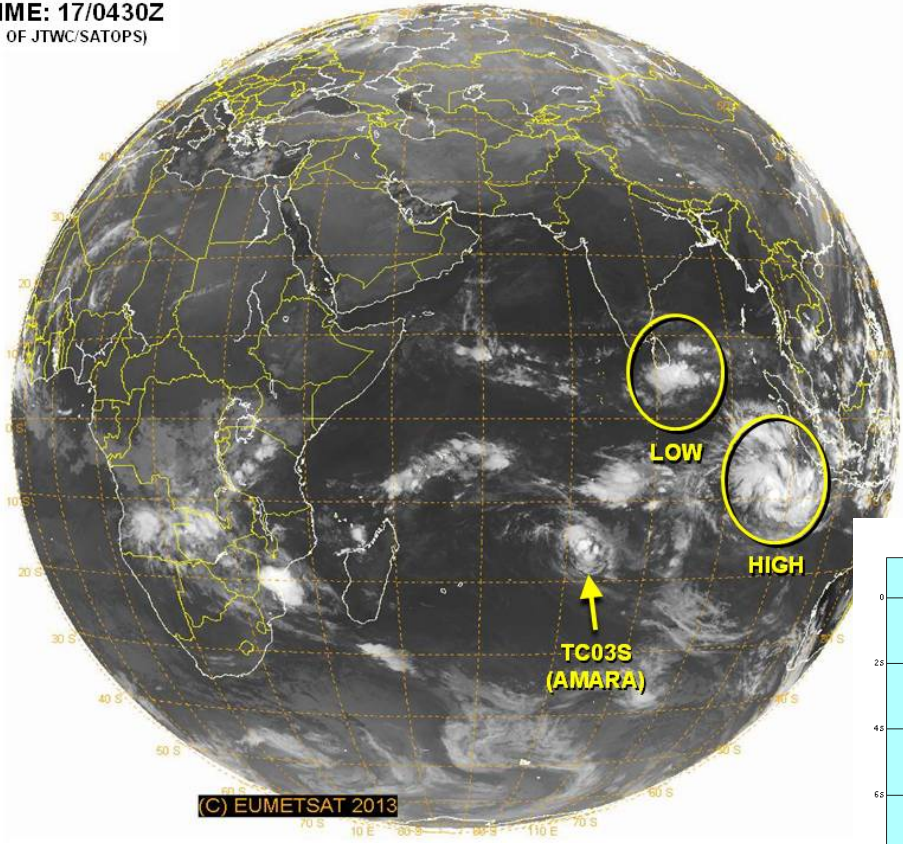
CRA TO:	NM	DTG
PORT LOUIS	228	22/06Z
ST DENIS	336	22/06Z

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



Likely tropical cyclone in next 24-48 hours Southern Indian Ocean

VALID TIME: 17/0430Z
(PRODUCT OF JTWC/SATOPS)



Synopsis of Climate Modes

ENSO:

- ENSO-neutral is expected to continue into the Northern Hemisphere summer 2014.

MJO and other subseasonal tropical variability:

- The MJO remained weak during the past week, although some indicators show some better organization.
- MJO index forecasts indicate a weak MJO signal shifting slightly eastward over the next week, although this may be associated with other more transient subseasonal variability. Most models indicate a weakening signal during Week-2.
- It is unclear at the current time whether the persistent enhanced convection we have seen across the Indian Ocean over the last few weeks will shift eastward on MJO timescales and emerge over the western Pacific by the end of December.

Extratropics:

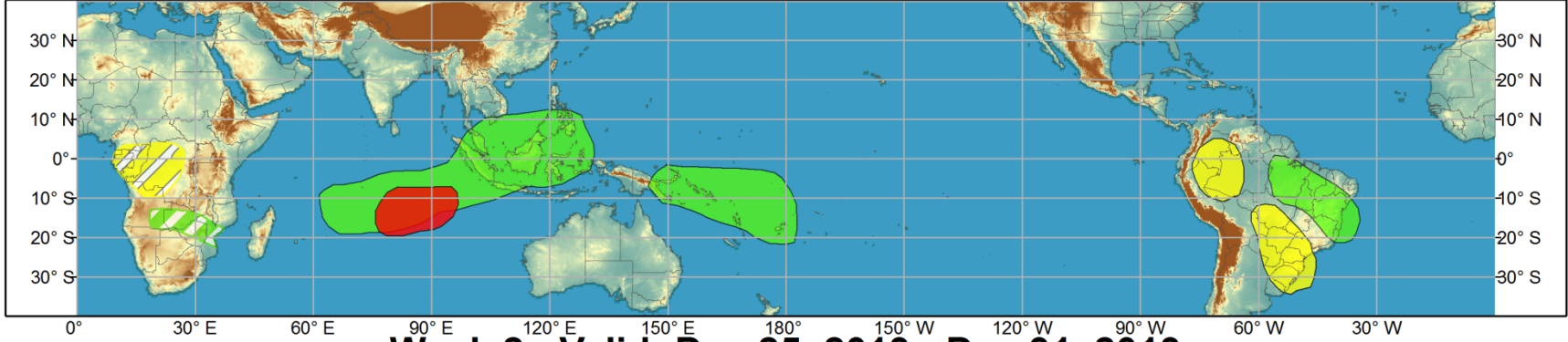
- AO and NAO favored to be positive over next 1-2 weeks.
- Given the high uncertainty in the pattern of anomalous tropical convection, impacts to the U.S. are also uncertain. However, current and forecast anomalous tropical convection potentially favor MJO phases 4 and 5 response.



Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 18, 2013 - Dec 24, 2013



Week 2 - Valid: Dec 25, 2013 - Dec 31, 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.

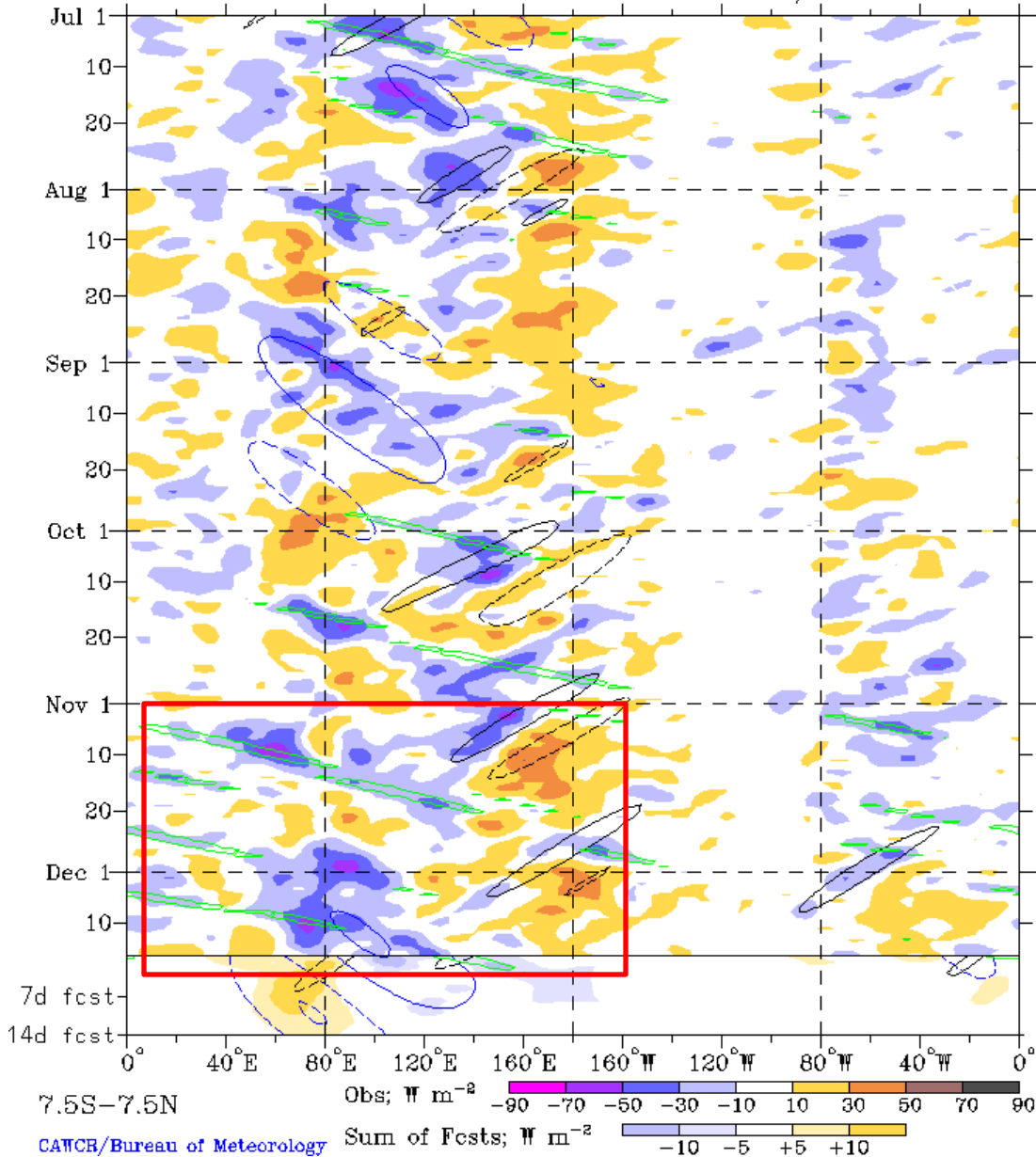
Produced: 12/17/2013

Forecaster: Gottschalck

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.



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)
 1-Jul-2013 to 16-Dec-2013 + 14 days

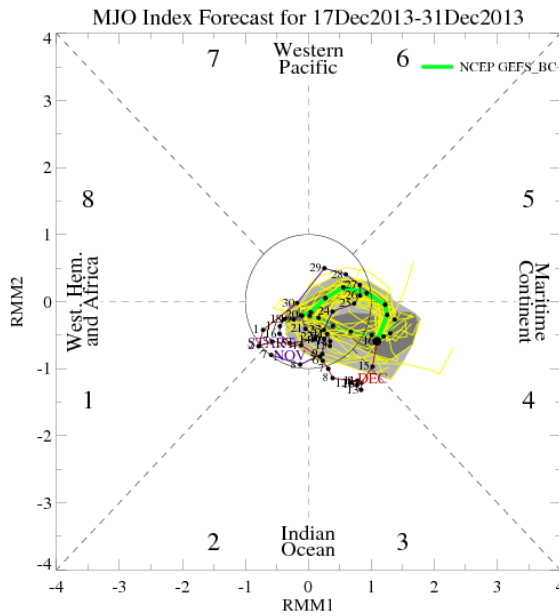


Cool shading
 More clouds/rain

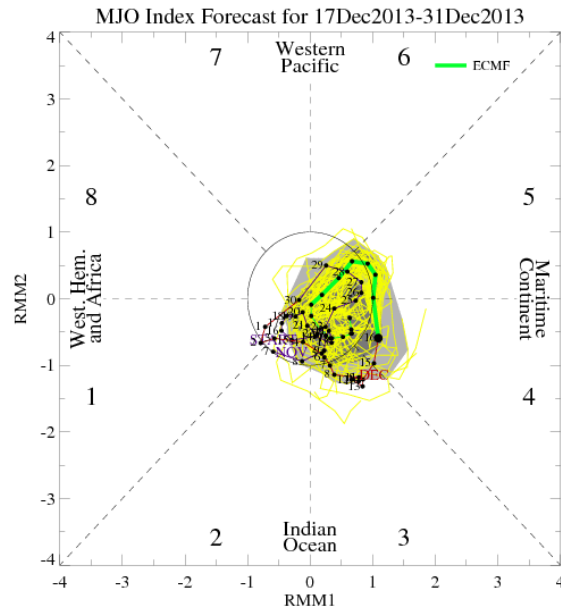
Warm shading
 Less clouds/rain

Colored contours are space-time filtered values of key types of subseasonal tropical variations

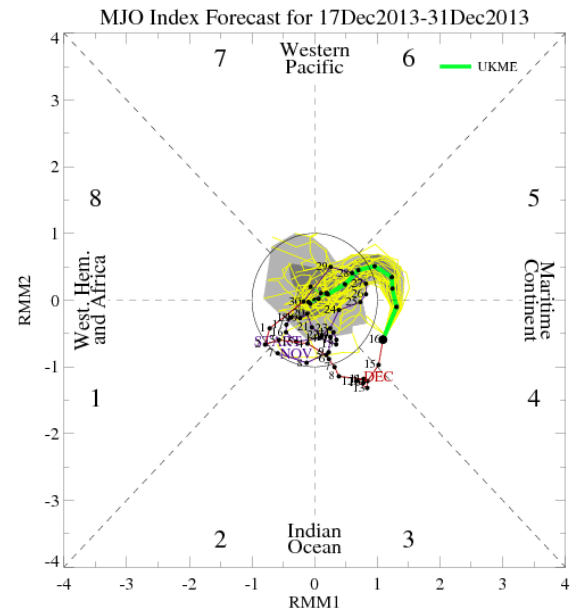
MJO Index Model Forecasts



GFS

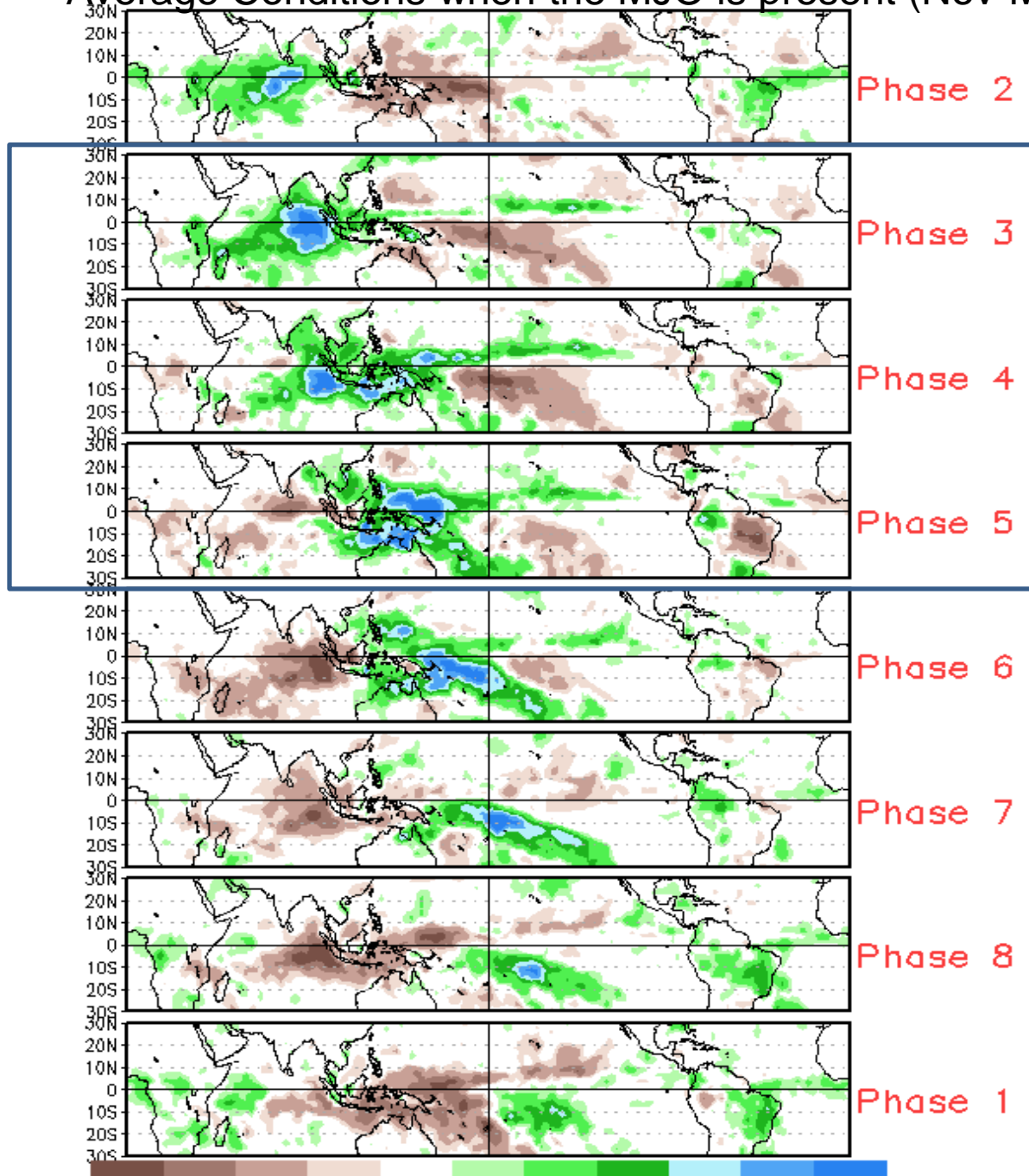


ECMWF

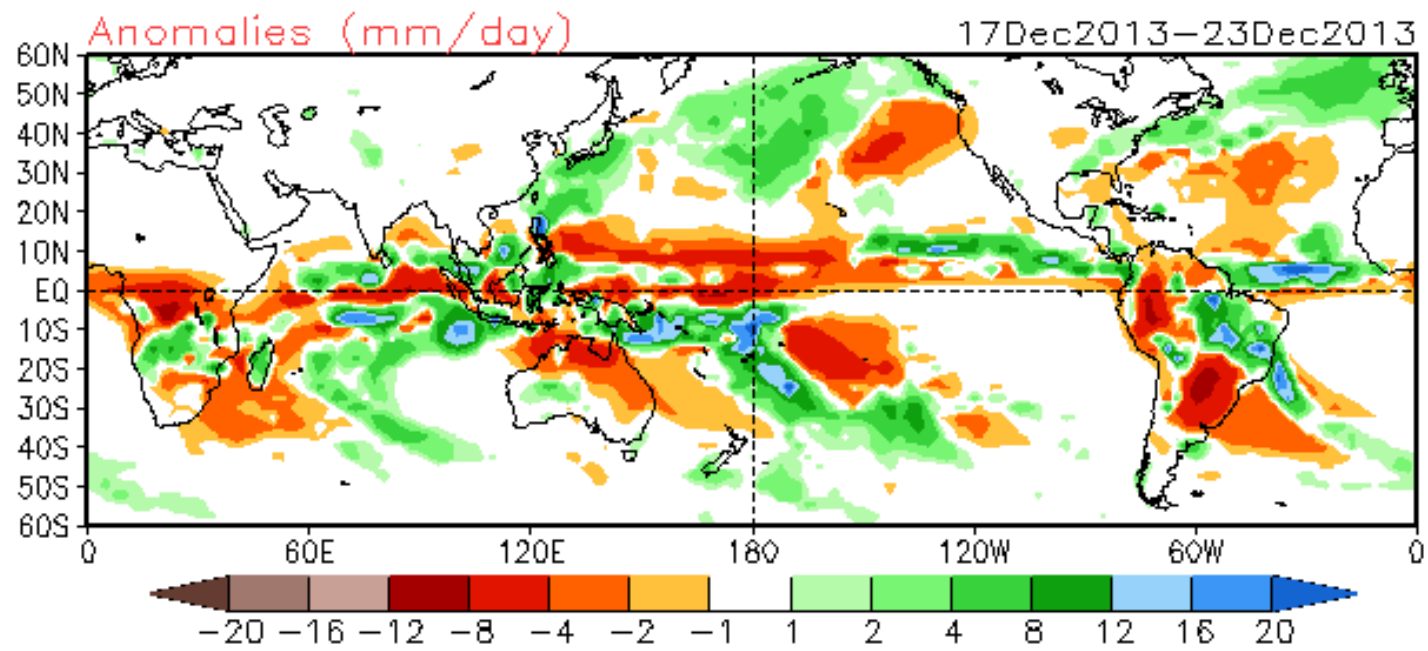


UKMET

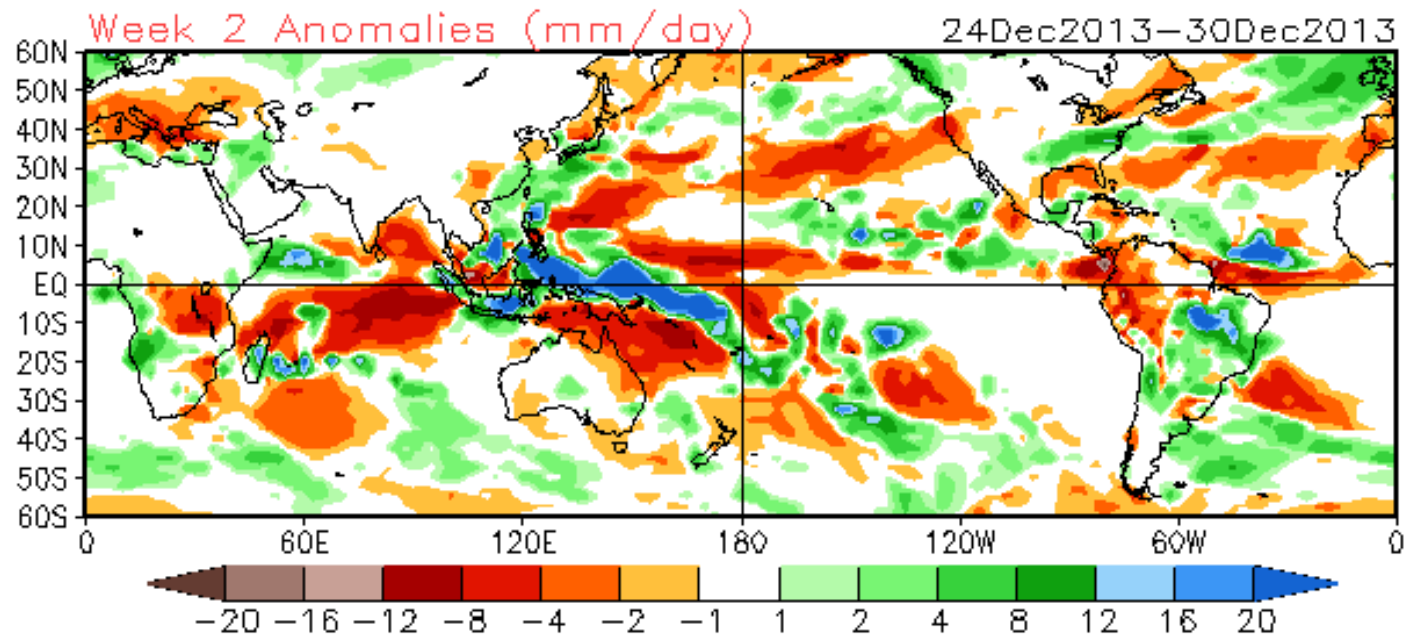
Average Conditions when the MJO is present (Nov-Mar)



GFS – Week-1 Precipitation Anomalies

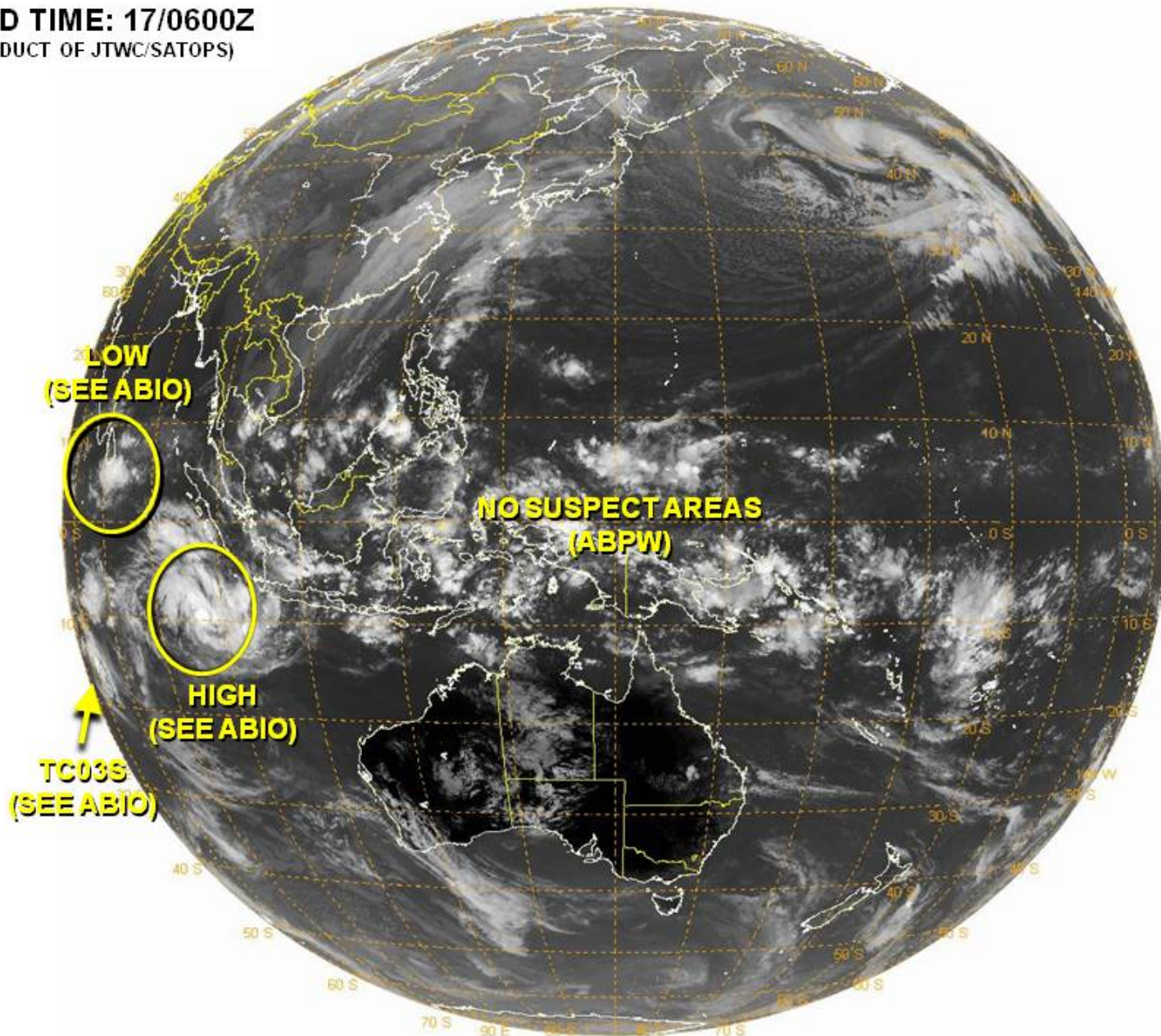


CFS – Precipitation Anomalies



JTWC – Western Pacific Basin

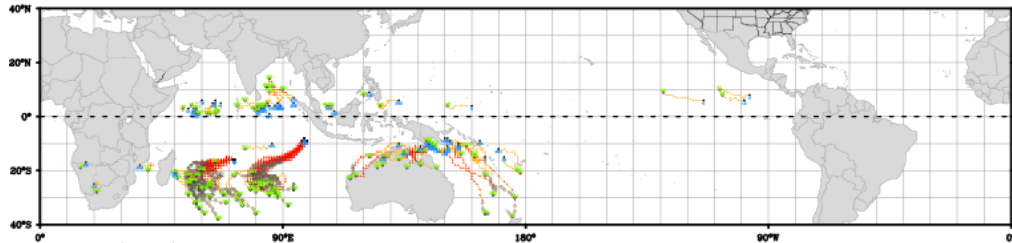
VALID TIME: 17/0600Z
(PRODUCT OF JTWC/SATOPS)



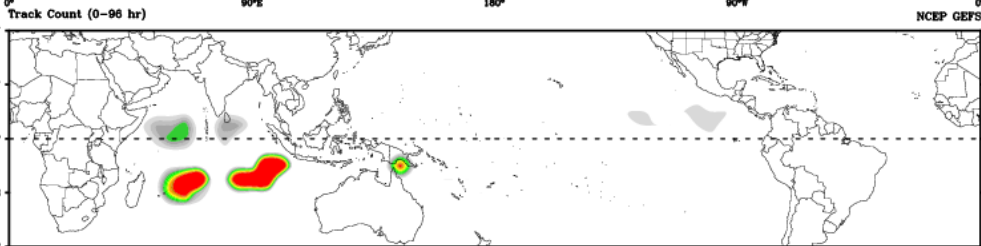
Ensemble GFS – Tropical Cyclone Guidance

CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)

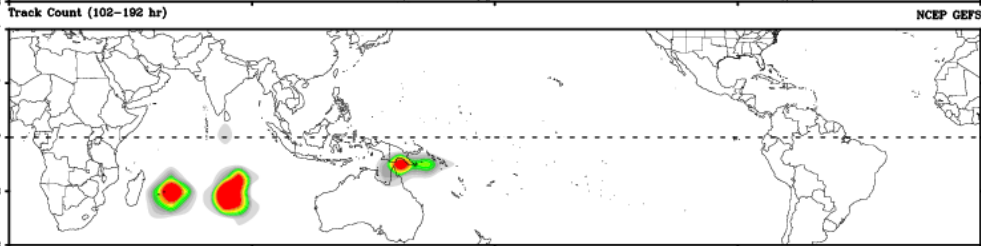
TC Track(0-384 hr) 2013121700 NCEP GEFS



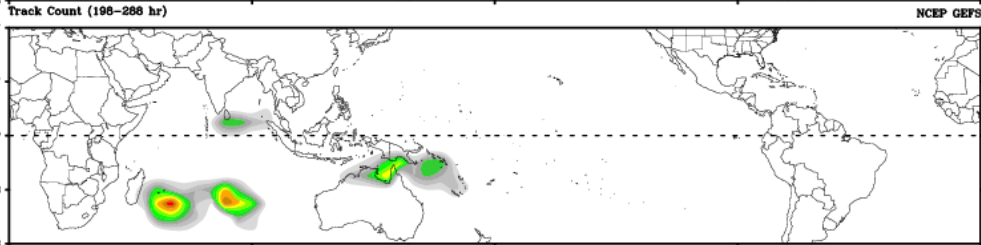
Days 1-4



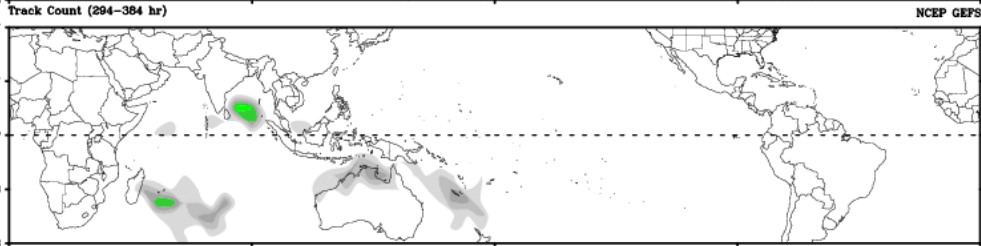
Days 5-8



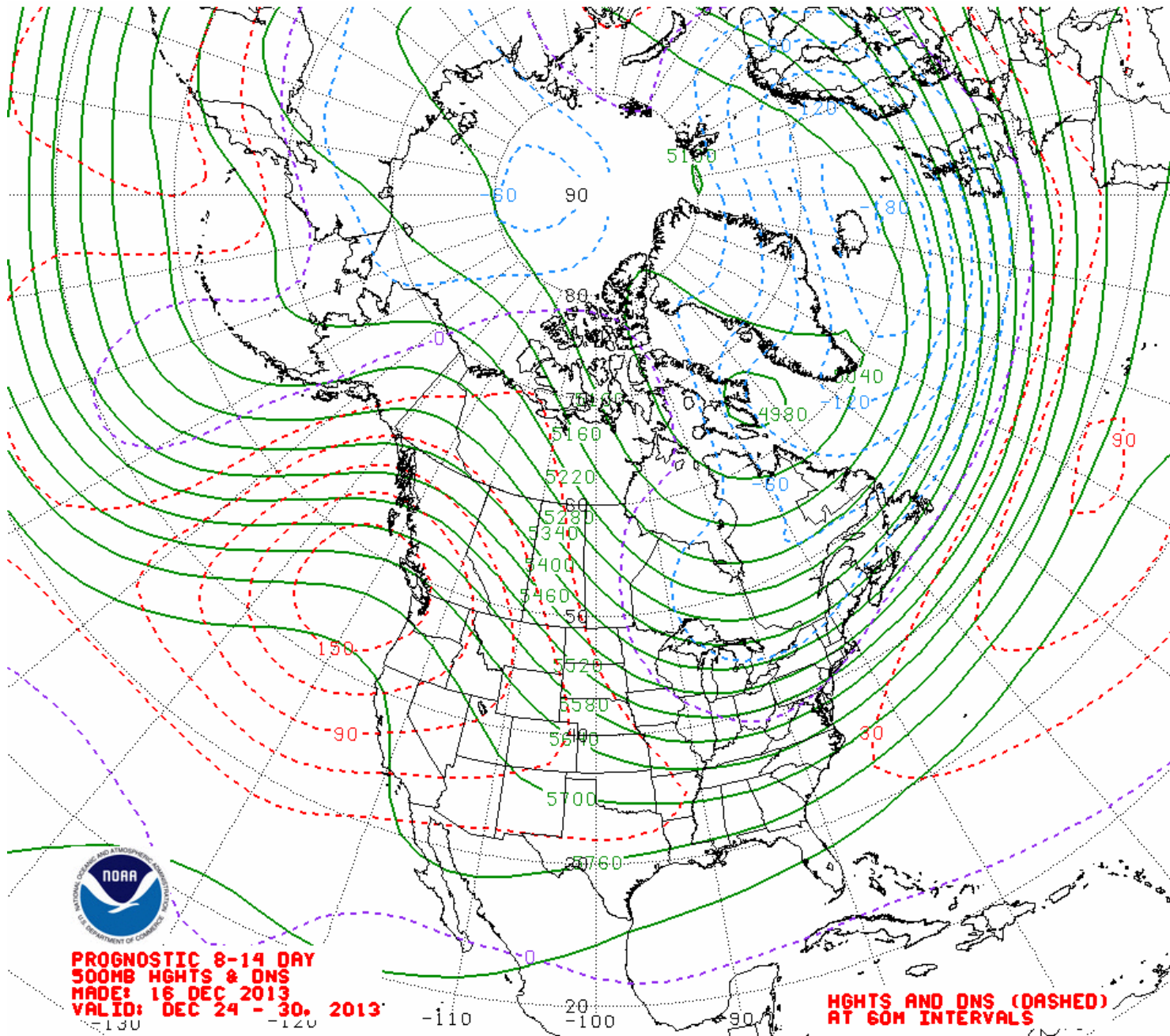
Days 9-12

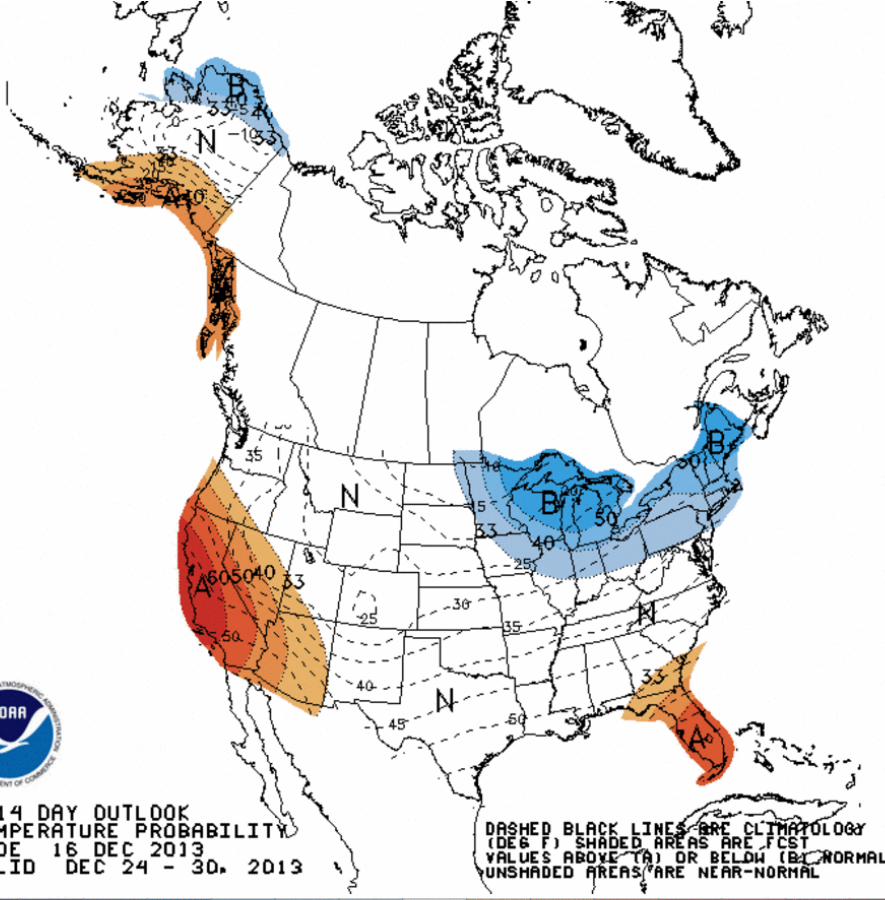


Days 13-16



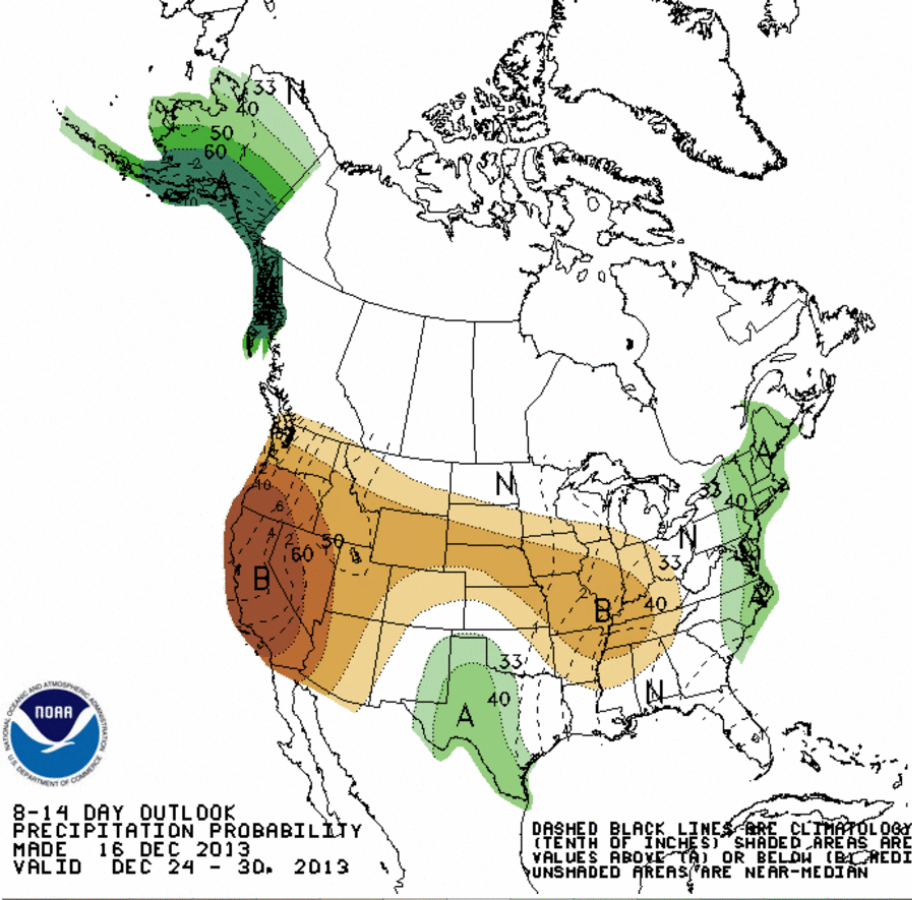
Track Count





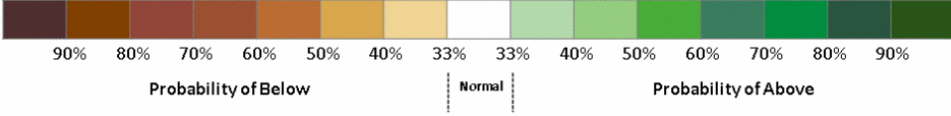
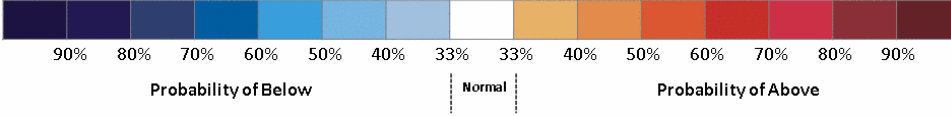
8-14 DAY OUTLOOK
 TEMPERATURE PROBABILITY
 MADE 16 DEC 2013
 VALID DEC 24 - 30, 2013

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



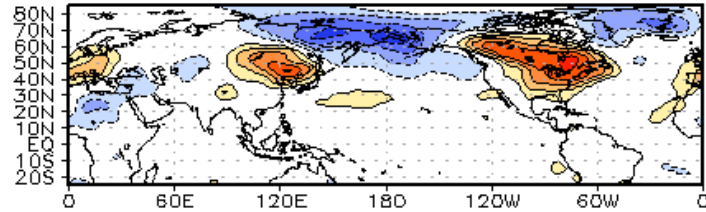
8-14 DAY OUTLOOK
 PRECIPITATION PROBABILITY
 MADE 16 DEC 2013
 VALID DEC 24 - 30, 2013

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

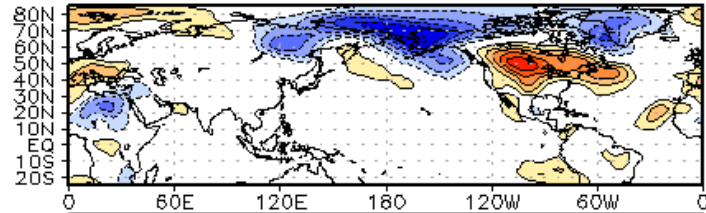


Lagged 850-hPa Temperature Composite

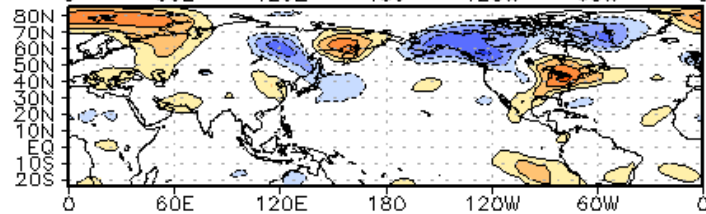
WHMJO Phase 4 t850 Lagged Composite (ndj)



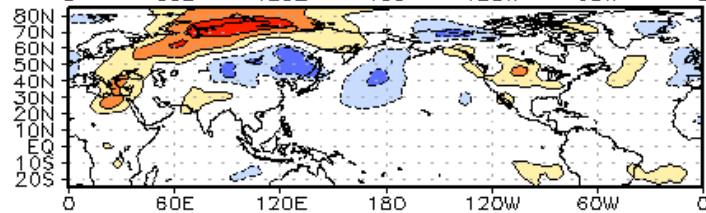
Phase 4
T = 0



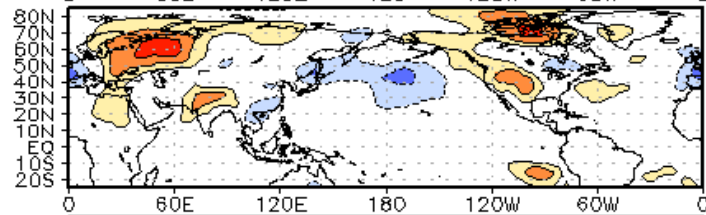
T + 5



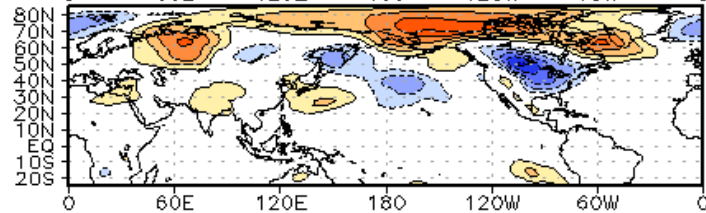
T + 10



T + 15

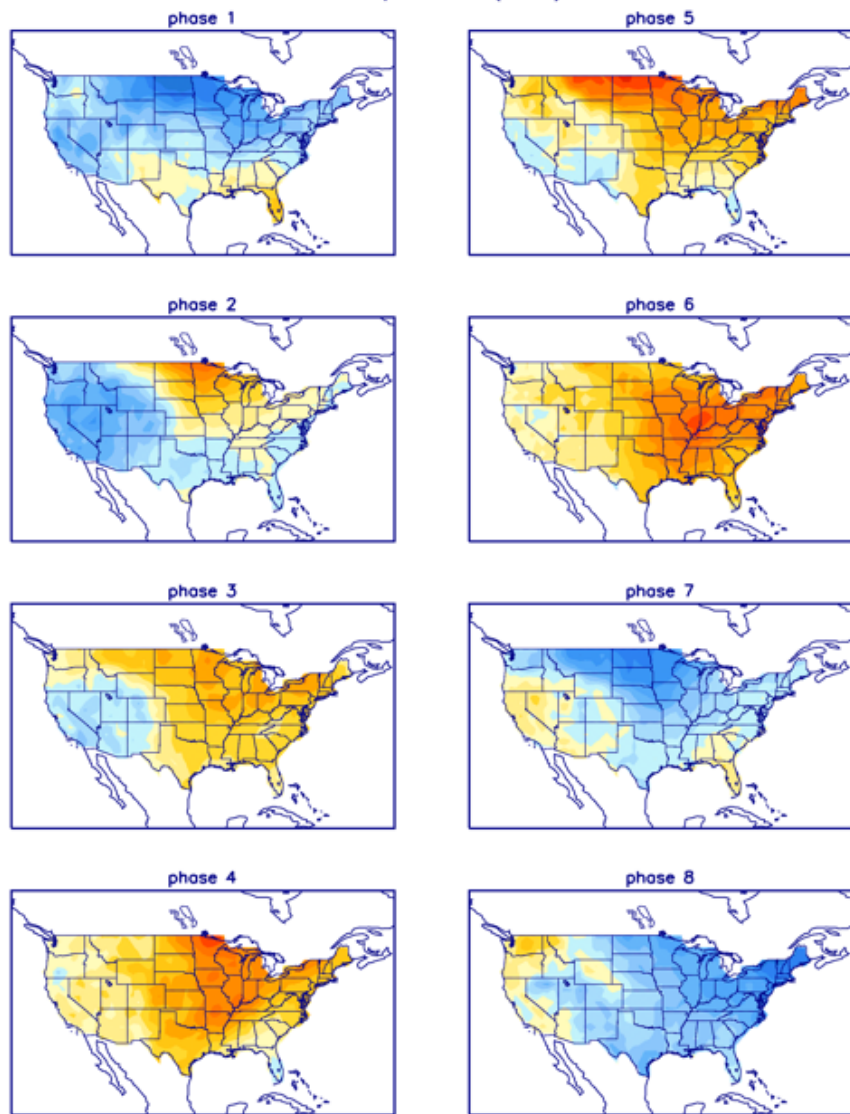


T + 20

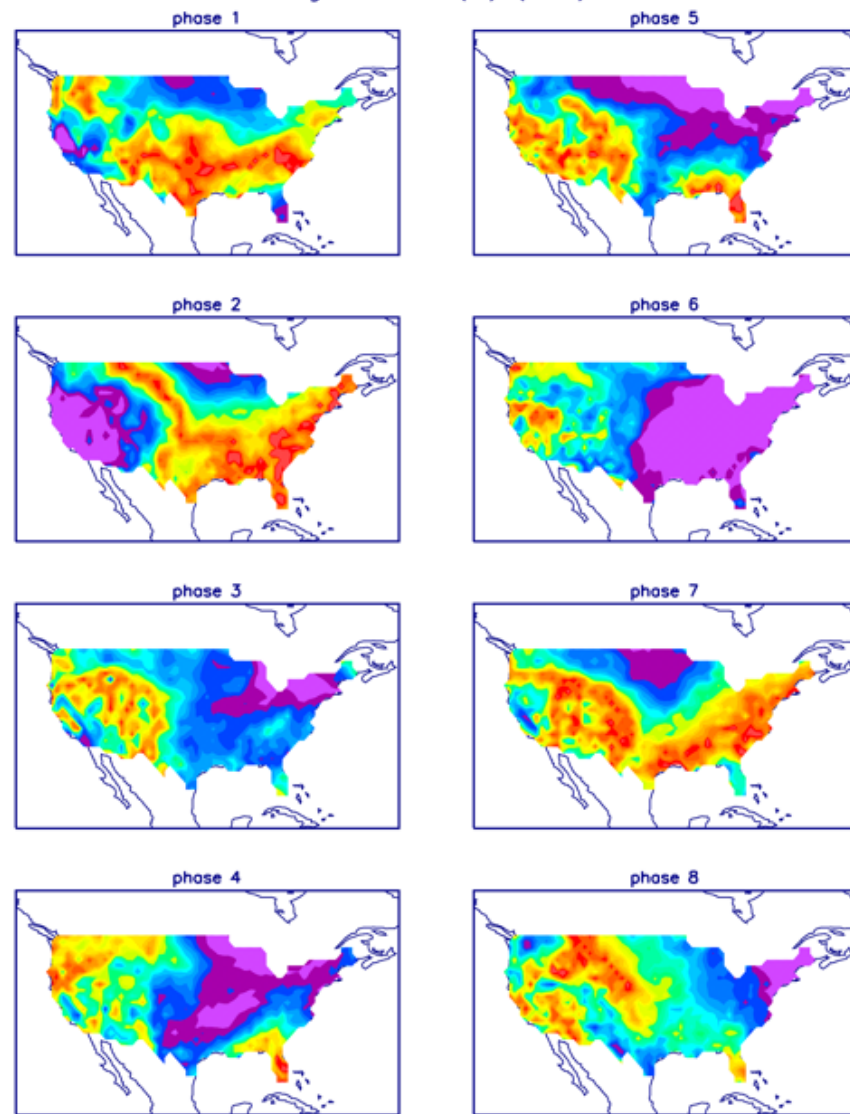


T + 25

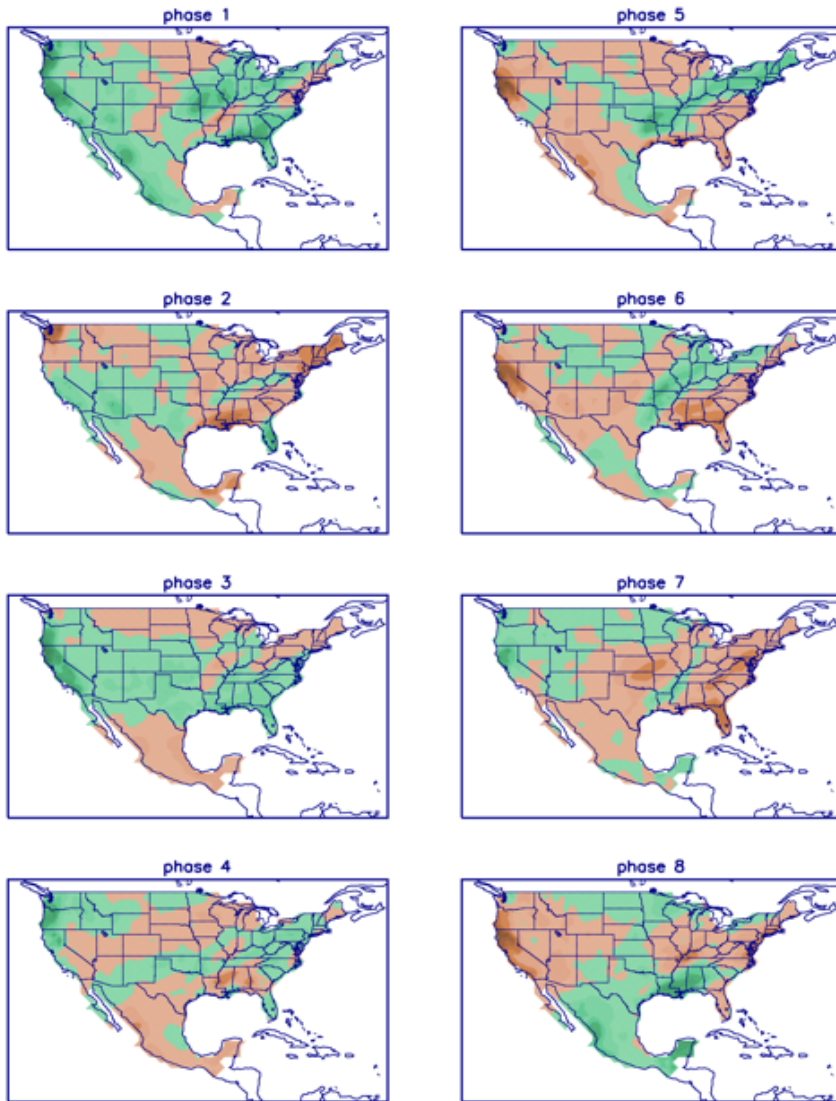
T composites (NDJ)



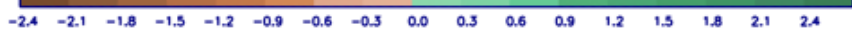
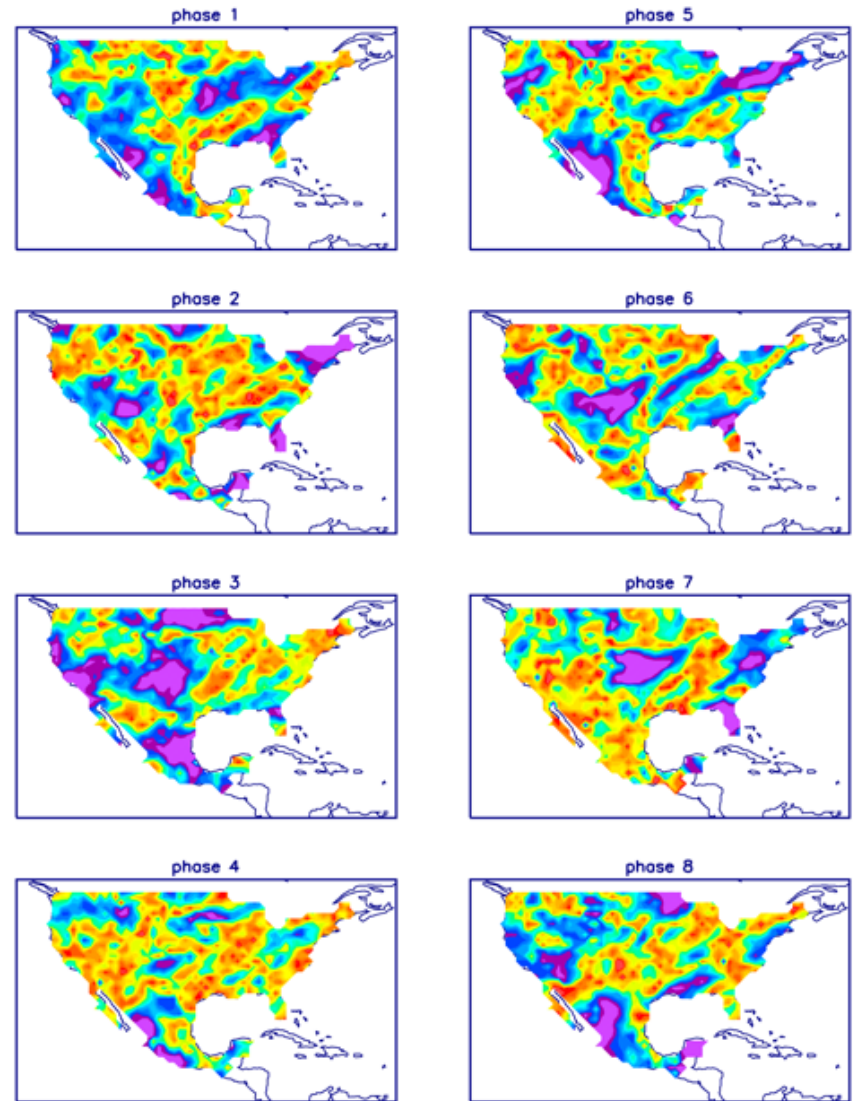
Significance (%) (NDJ)



P composites (NDJ)



Significance (%) (NDJ)

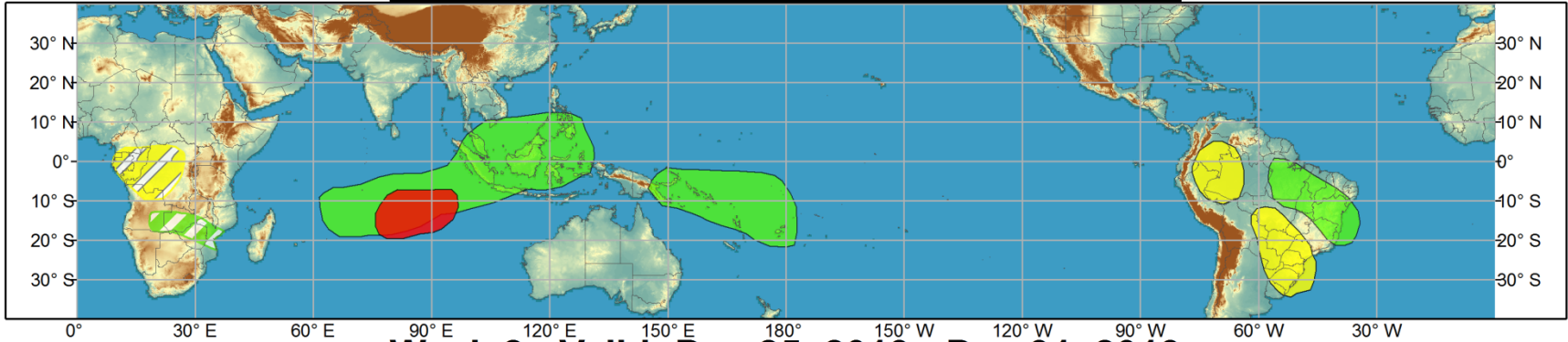




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