

Global Tropics Hazards And Benefits Outlook

April 8, 2014

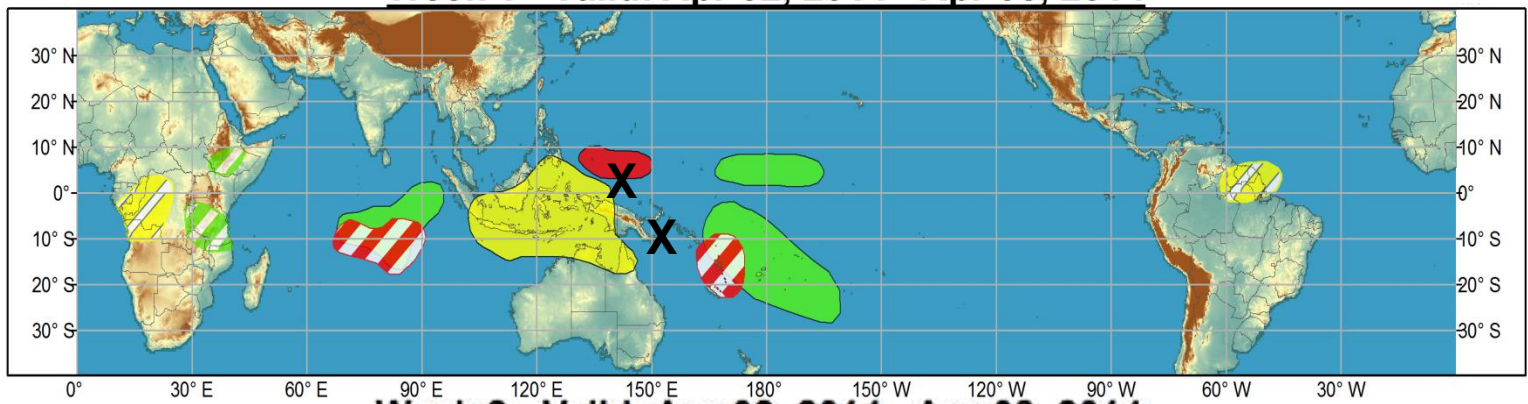
Adam Allgood

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: Apr 02, 2014 - Apr 08, 2014



Week 2 - Valid: Apr 02, 2014 - Apr 08, 2014

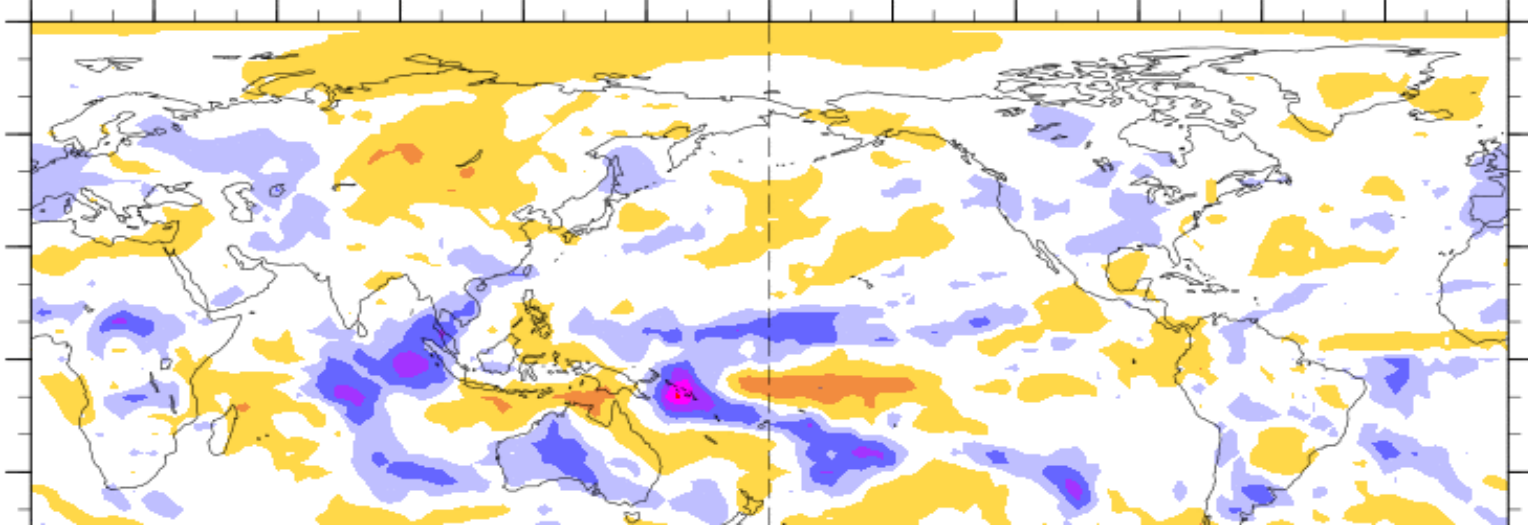


7-Day Average OLR Anomaly

2014/03/31 - 2014/04/06

Cool shading
More clouds/rain

Warm shading
Less clouds/rain



Synopsis of Climate Modes

ENSO:

- ENSO-neutral is expected to continue through the Northern Hemisphere spring 2014, with about a 50% chance of El Niño developing during the summer or fall.
- ENSO Alert System Status: El Niño Watch

MJO and other subseasonal tropical variability:

- The MJO became more coherent during the past week, with recent observations and MJO indices indicating that the enhanced convective phase is located over the eastern Indian Ocean and Maritime Continent.
- Other modes of coherent tropical subseasonal variability continue to strongly influence the pattern and are currently interfering constructively with the MJO signal.
- Dynamical model MJO index forecasts support continued eastward propagation during Week-1, with greater uncertainty regarding MJO evolution during Week-2.

Extratropics:

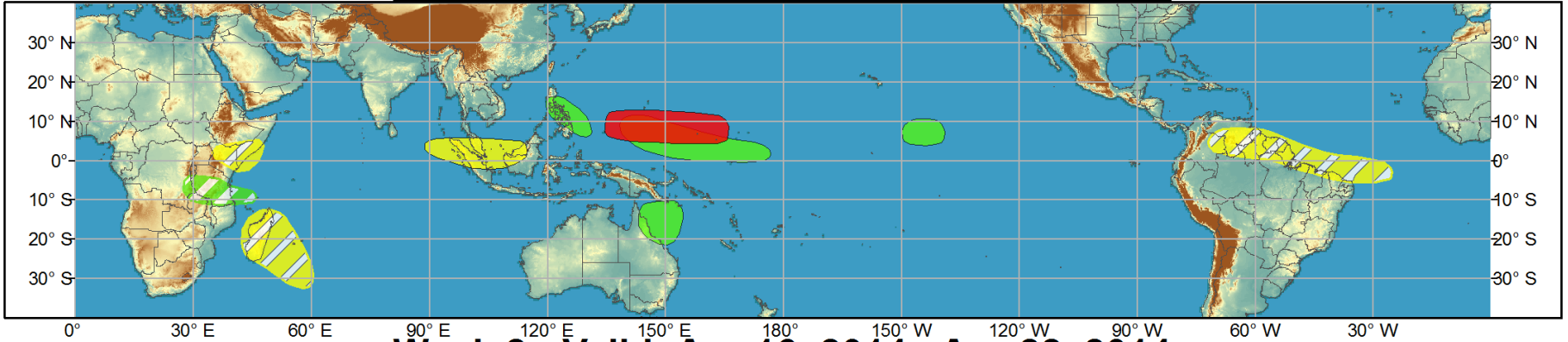
- The current and forecasted extended range pattern over North America aligns well with composites of the current MJO state, with troughing over the eastern U.S. and ridging over Alaska. Lagged composites of Phase-3 and 4 MJO events indicate a potential for ridging over eastern North America during late April (beyond Week-2). Connections are weaker in Spring than in Winter.



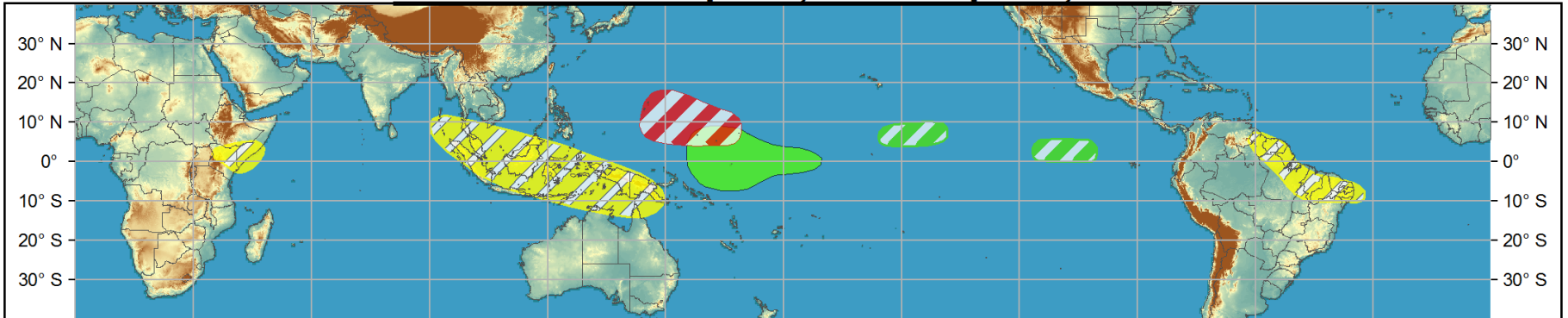
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Week 1 - Valid: Apr 09, 2014 - Apr 15, 2014



Week 2 - Valid: Apr 16, 2014 - Apr 22, 2014



Confidence
High Moderate

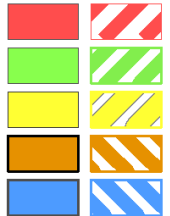
Tropical Cyclone Formation

Above-average rainfall

Below-average rainfall

Above-normal temperatures

Below-normal temperatures



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

Weekly total rainfall in the upper third of the historical range.

Weekly total rainfall in the lower third of the historical range.

7-day mean temperatures in the upper third of the historical range.

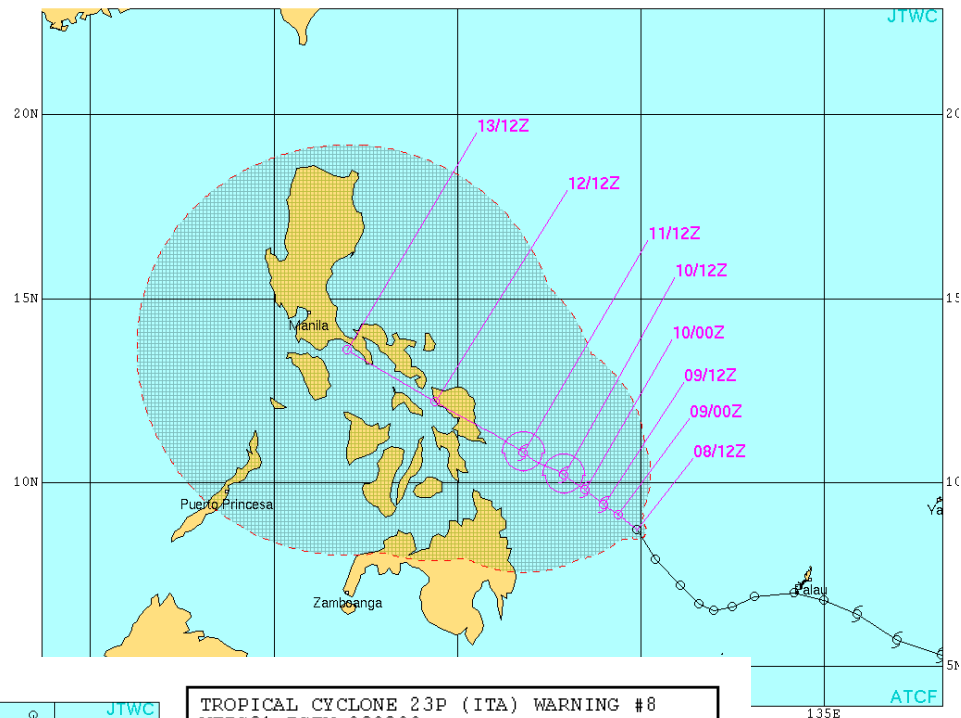
7-day mean temperatures in the lower third of the historical range.

Produced: 04/08/2014
Forecaster: Allgood

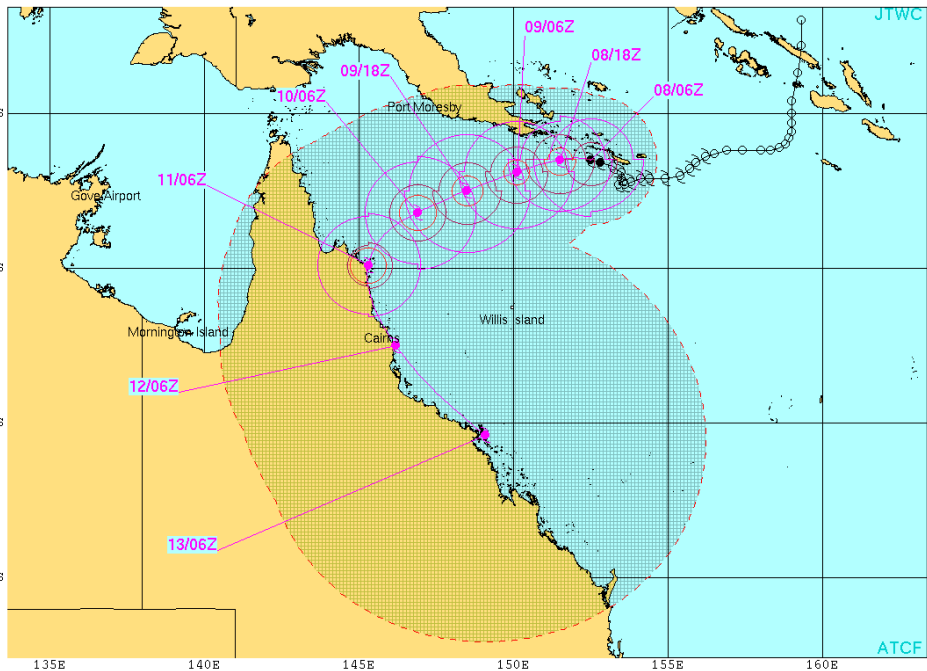
Product is updated once per week. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



Tropical Storm Peipah



Cyclone Ita



TROPICAL CYCLONE 23P (ITA) WARNING #8
 WTPS31 PGTW 080900
 080600Z POSIT: NEAR 11.5S 152.5E
 MOVING 290 DEGREES TRUE AT 03 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 23 FEET

08/06Z,	WINDS 065 KTS,	GUSTS TO 080 KTS
08/18Z,	WINDS 075 KTS,	GUSTS TO 090 KTS
09/06Z,	WINDS 085 KTS,	GUSTS TO 105 KTS
09/18Z,	WINDS 095 KTS,	GUSTS TO 115 KTS
10/06Z,	WINDS 105 KTS,	GUSTS TO 130 KTS
11/06Z,	WINDS 100 KTS,	GUSTS TO 125 KTS
12/06Z,	WINDS 080 KTS,	GUSTS TO 100 KTS
13/06Z,	WINDS 065 KTS,	GUSTS TO 080 KTS

CPA TO:	NM	DTG
CAIRNS	1	12/01Z

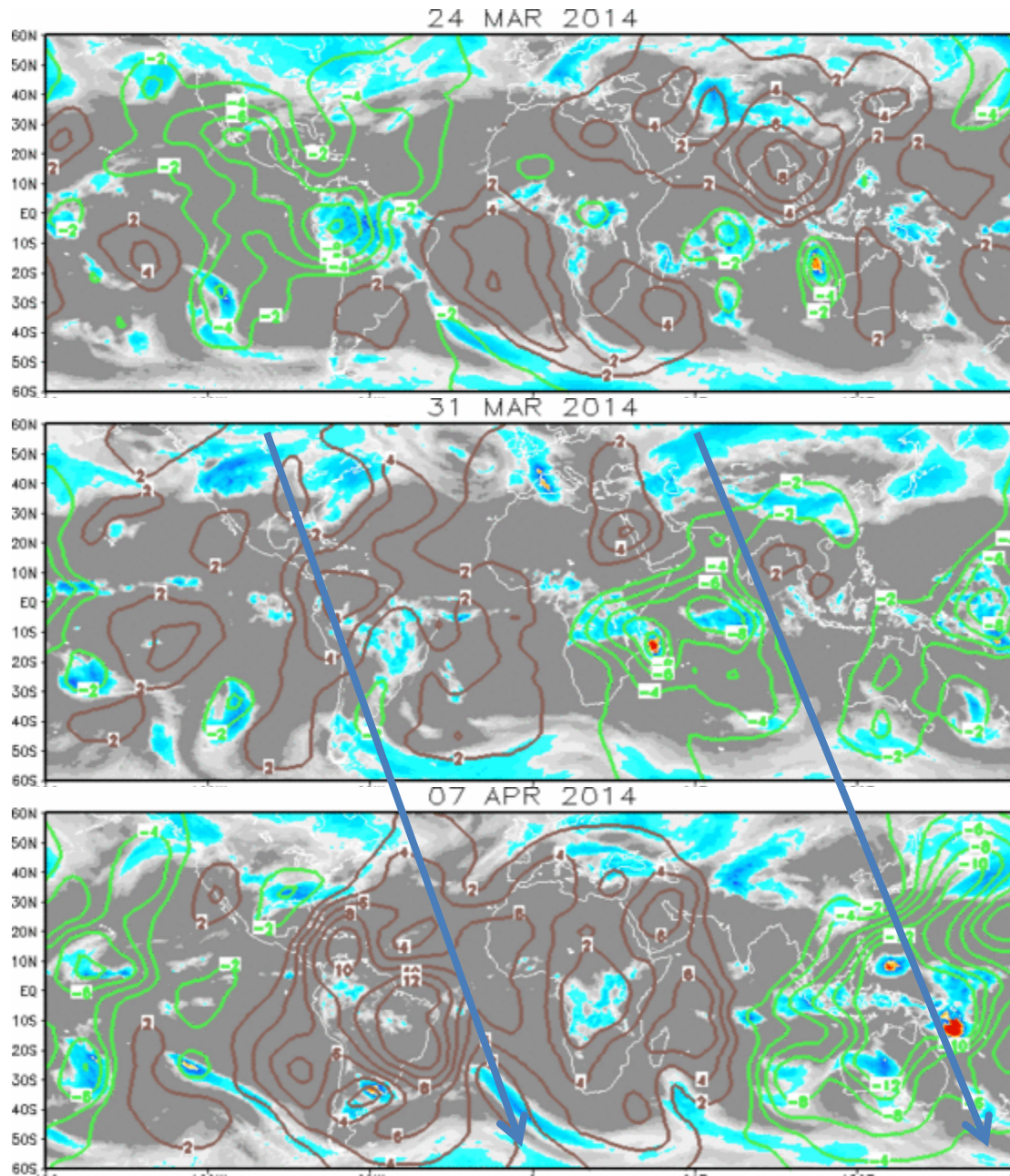
BEARING AND DISTANCE	DIR	DIST	TAU
CAIRNS	040	390	24
		(NM)	(HRS)

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



IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

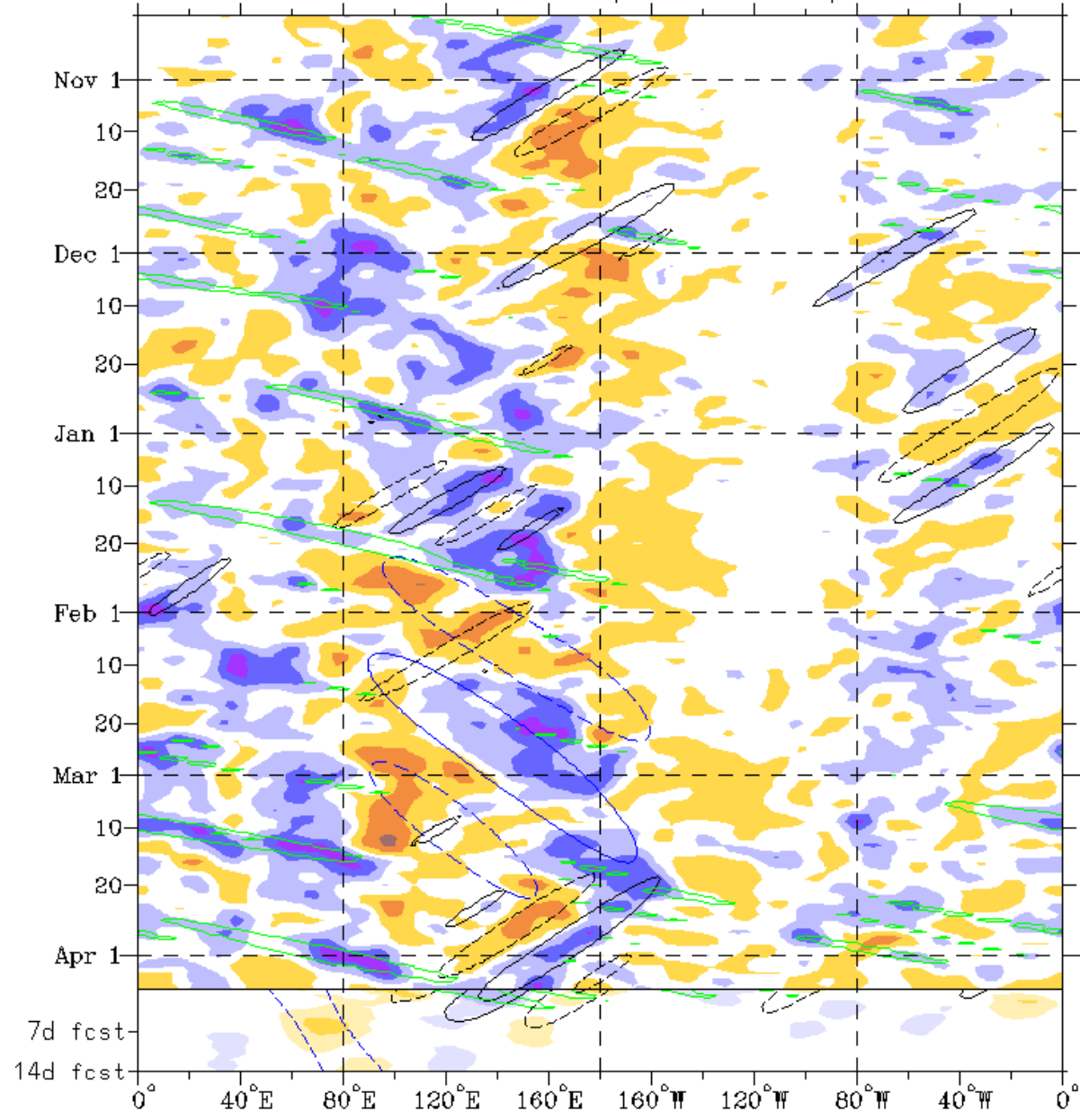


The velocity potential pattern has become more coherent during April

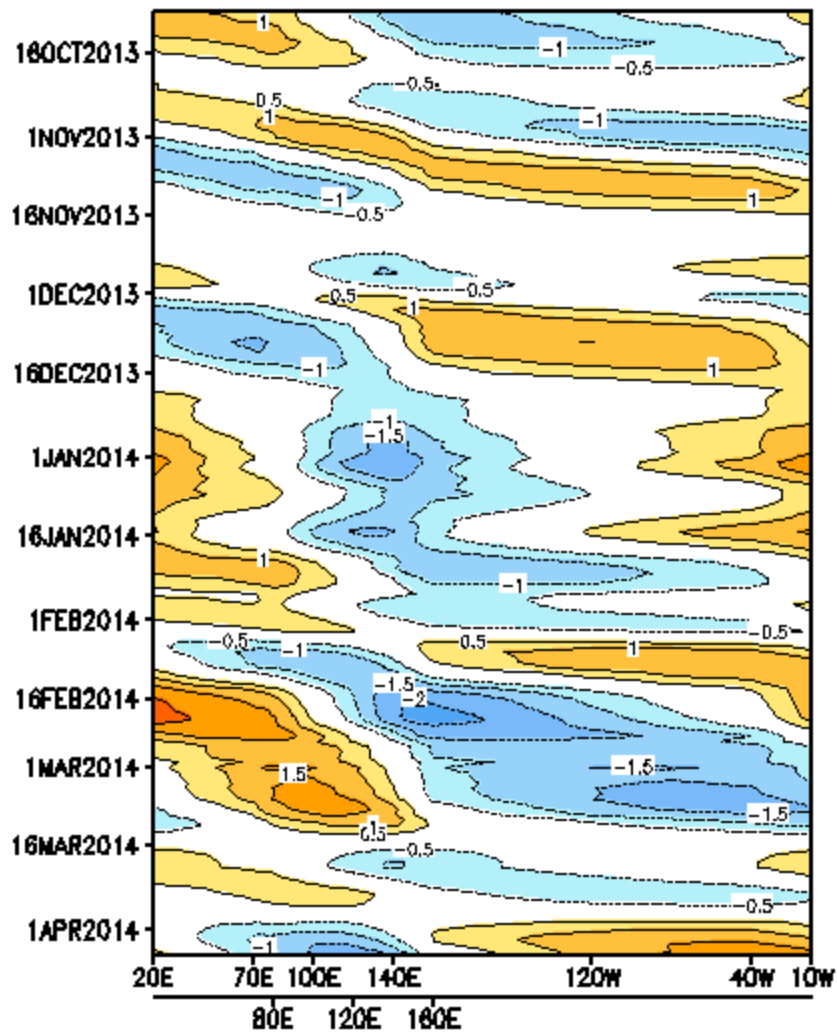
Several Kelvin Waves moved across the Indian Ocean during March and early April (convection fizzles over the Maritime Continent).

Equatorial Rossby Wave is evident over the western Pacific.

Constructive interference between these signals is resulting in a more coherent MJO-type pattern.

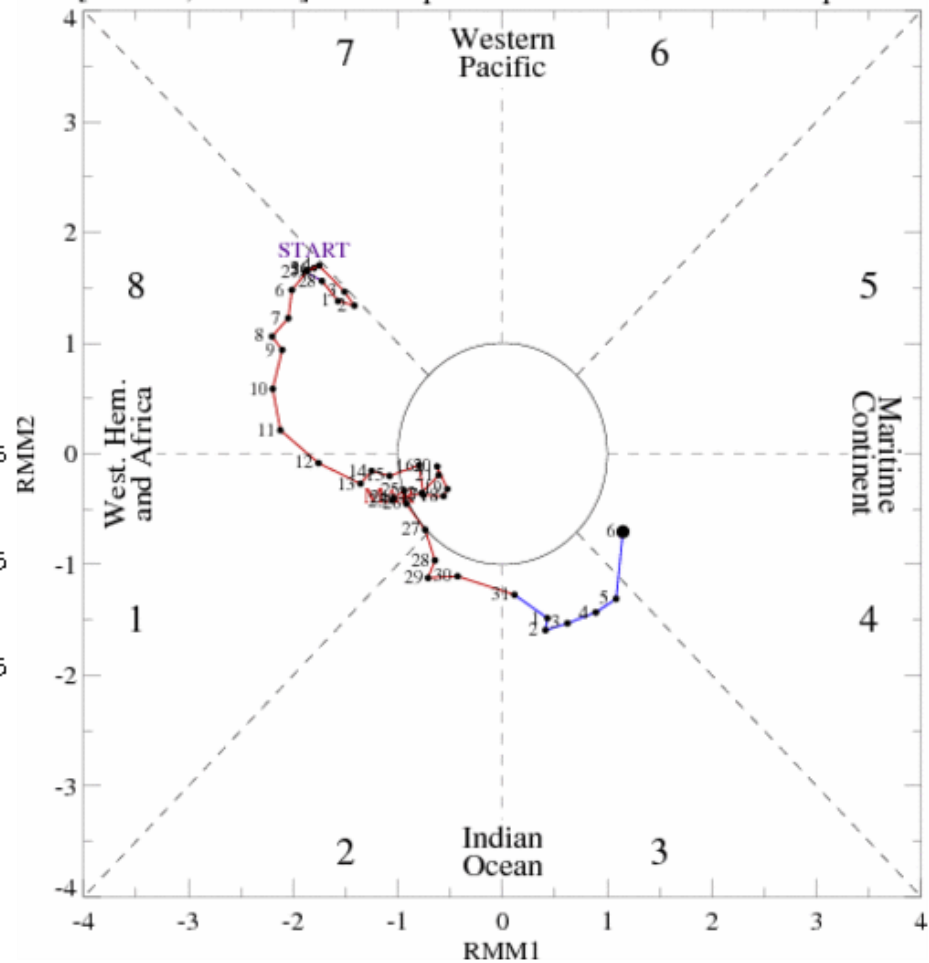


5 -day Running Mean

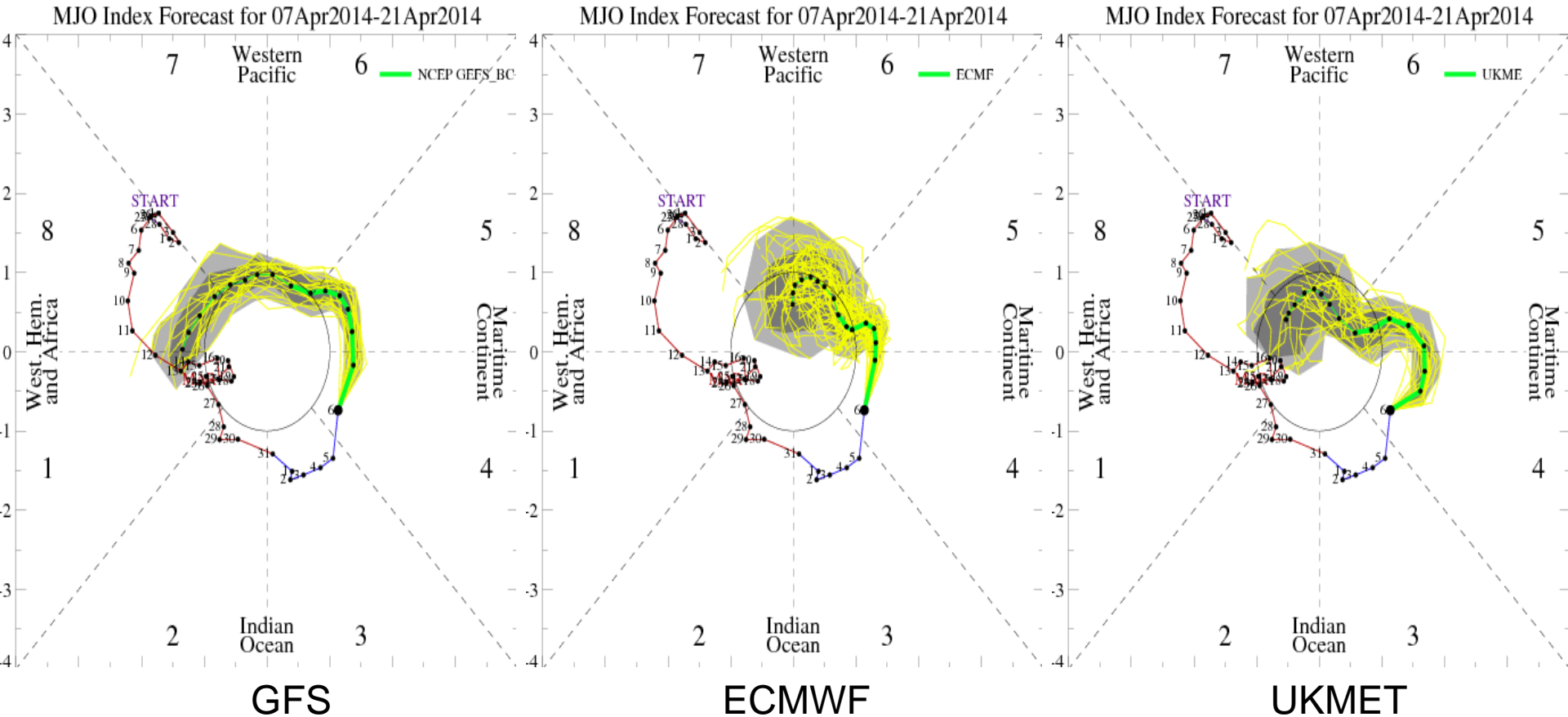


Data updated through 08 Apr 2014

[RMM1, RMM2] Phase Space for 26-Feb-2014 to 06-Apr-2014



MJO Observation/Forecast

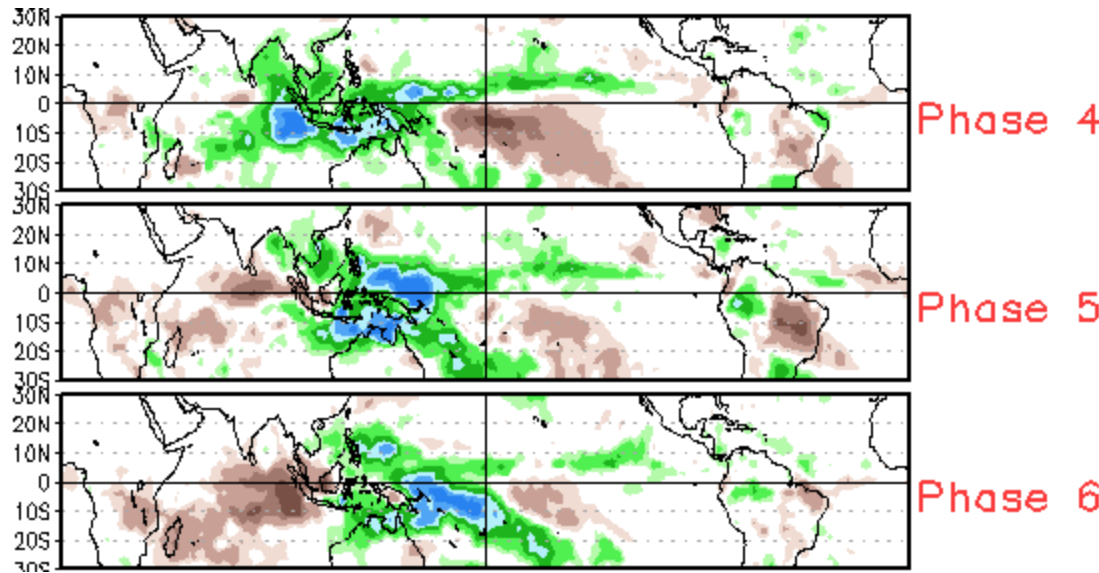


The GFS propagates the MJO signal rapidly across the MT (picking up on KW?)

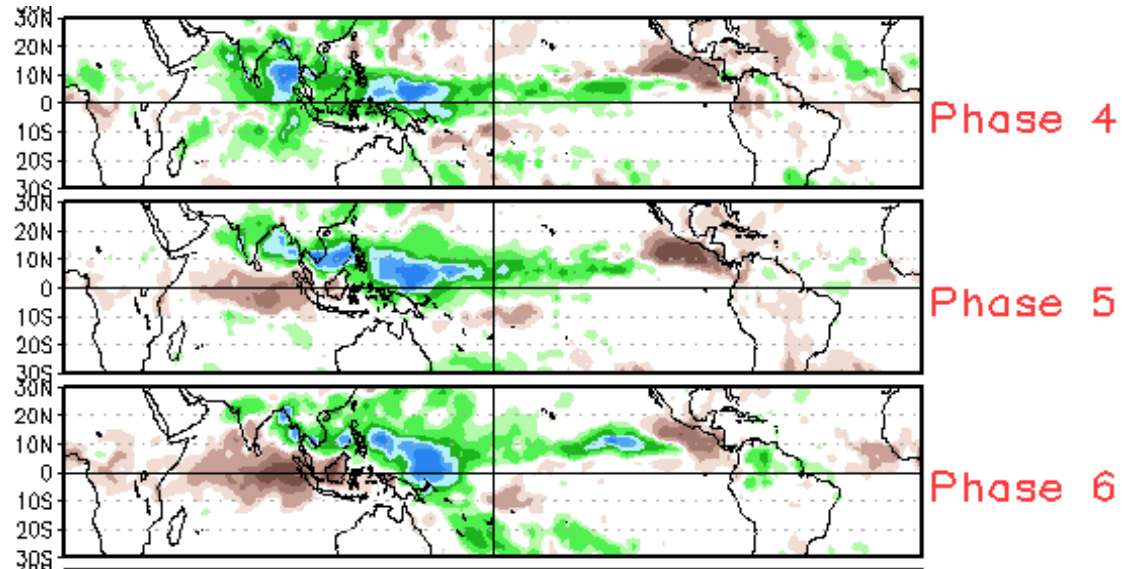
The European and UkMet models depict a weaker signal during Week-2, with enhanced convection over the Pacific.

Average Conditions when the MJO is present

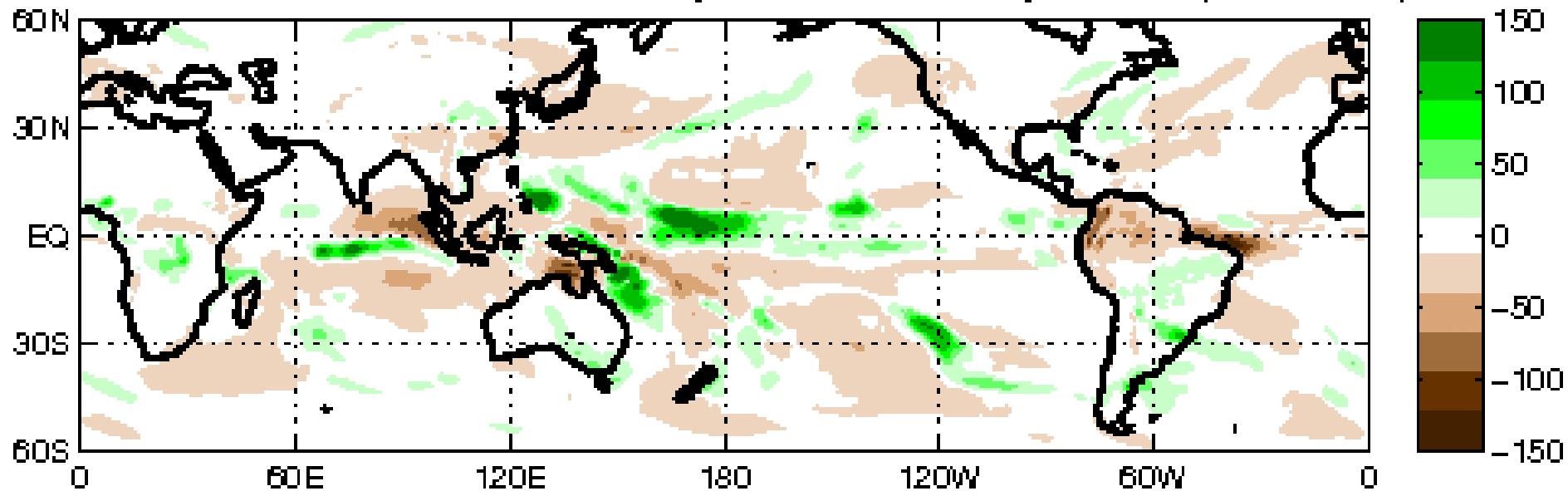
November - March



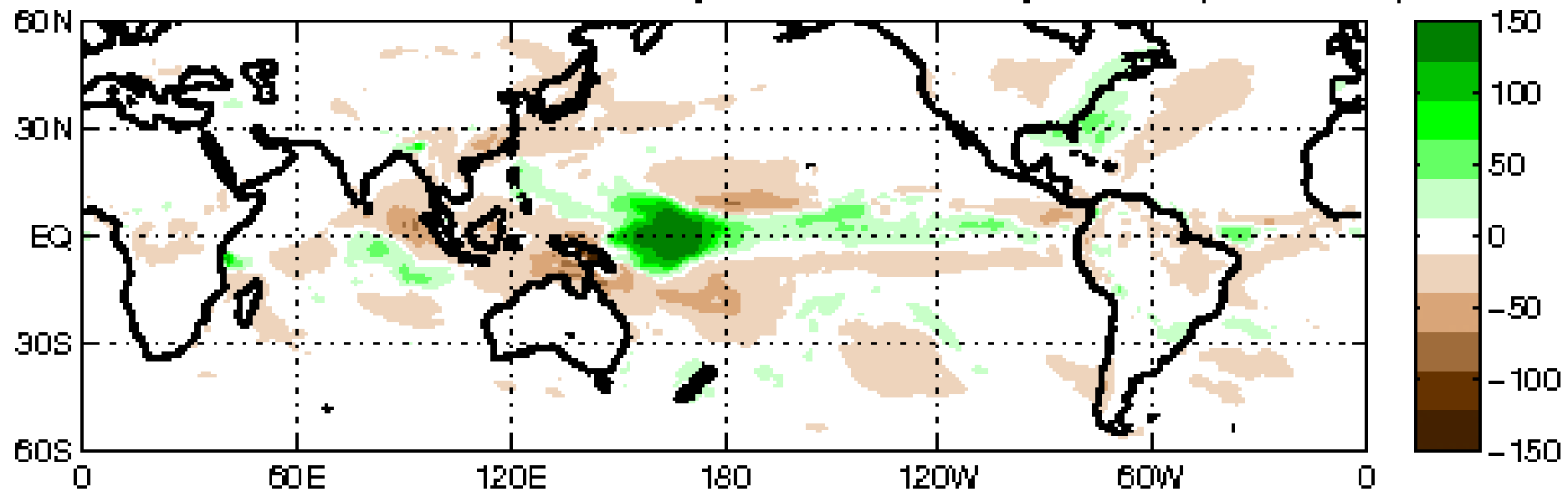
May - September



CFS: Anom. PREC Week1: 08-Apr-2014 to 14-Apr-2014 (mm/week)

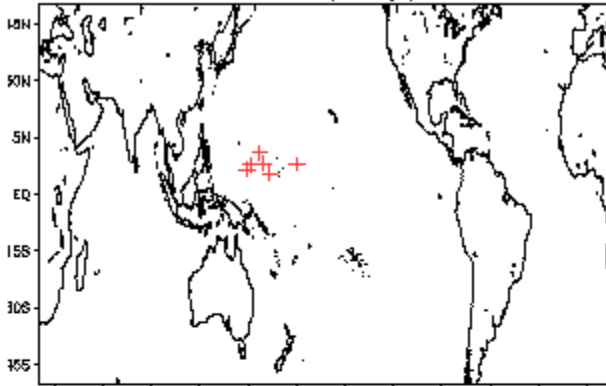


CFS: Anom. PREC Week2: 15-Apr-2014 to 21-Apr-2014 (mm/week)

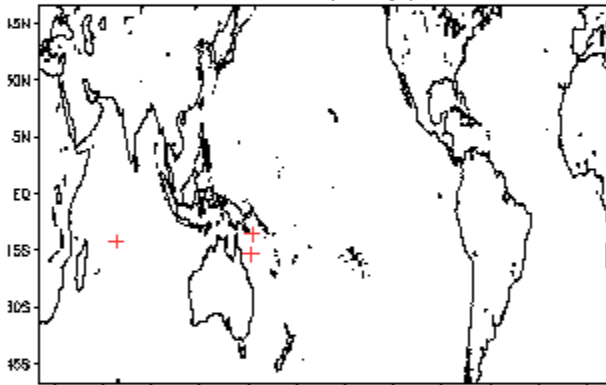


April Tropical Storm Formation by MJO phase

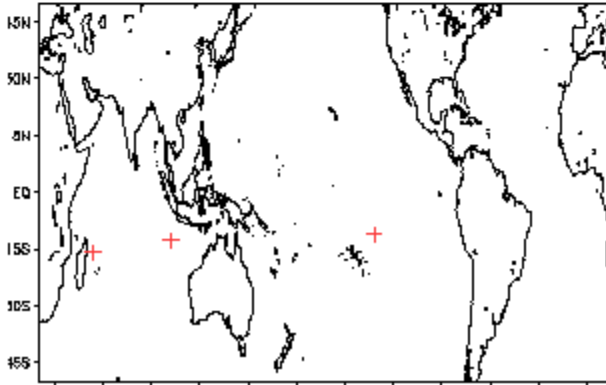
Phase 1 (70 days) 7 storms



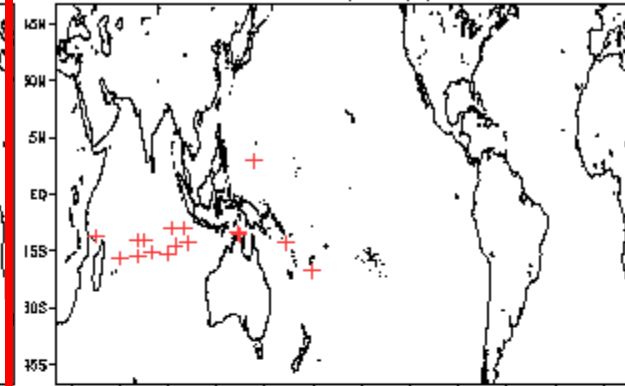
Phase 2 (65 days) 4 storms



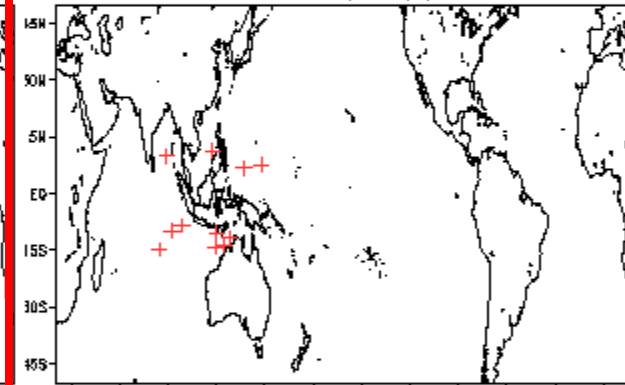
Phase 3 (68 days) 4 storms



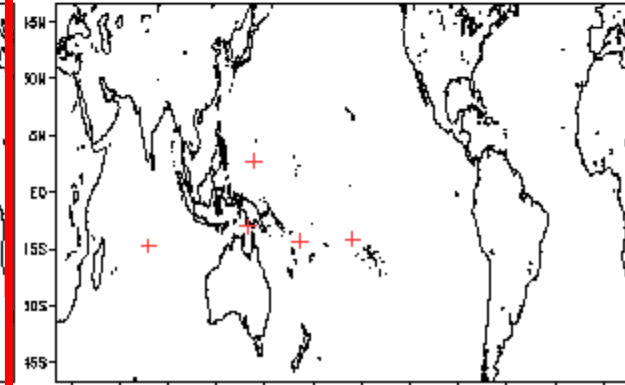
Phase 4 (95 days) 17 storms



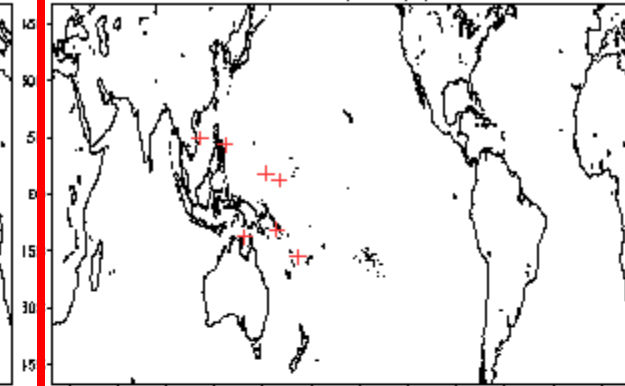
Phase 5 (77 days) 12 storms



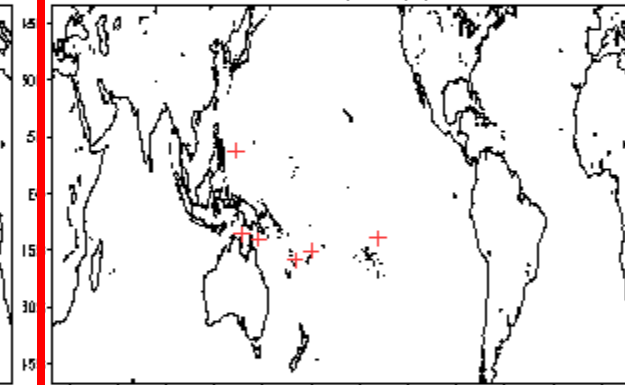
Phase 6 (65 days) 8 storms



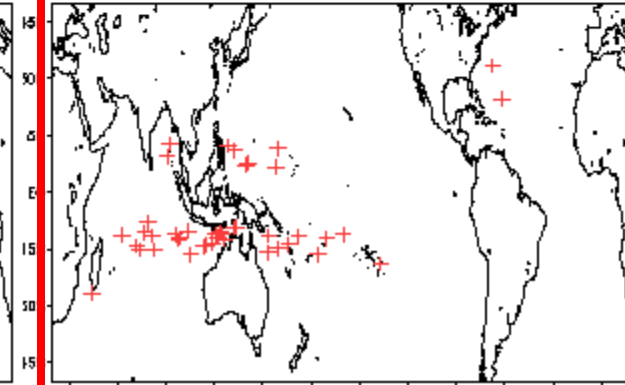
Phase 7 (87 days) 8 storms



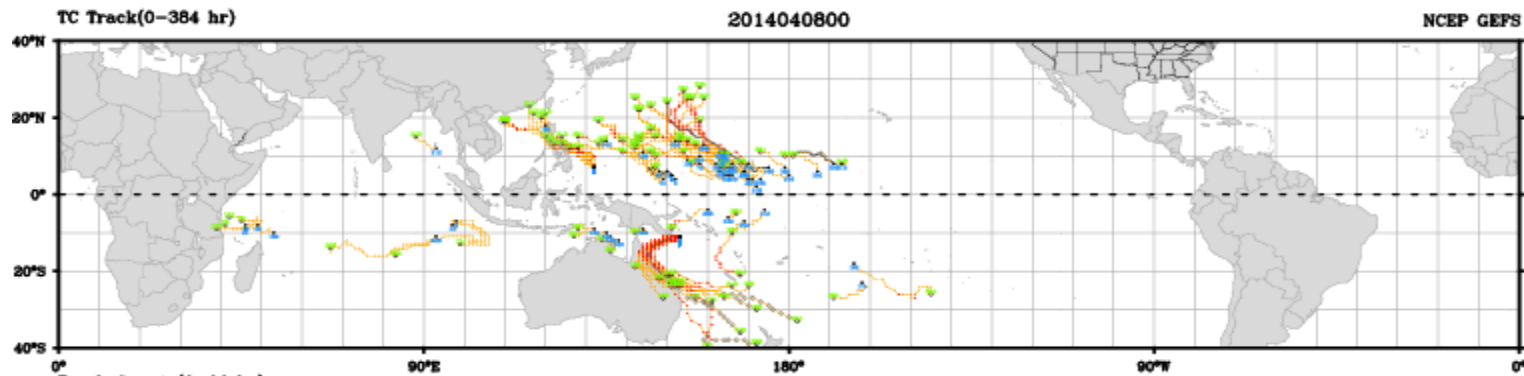
Phase 8 (75 days) 7 storms



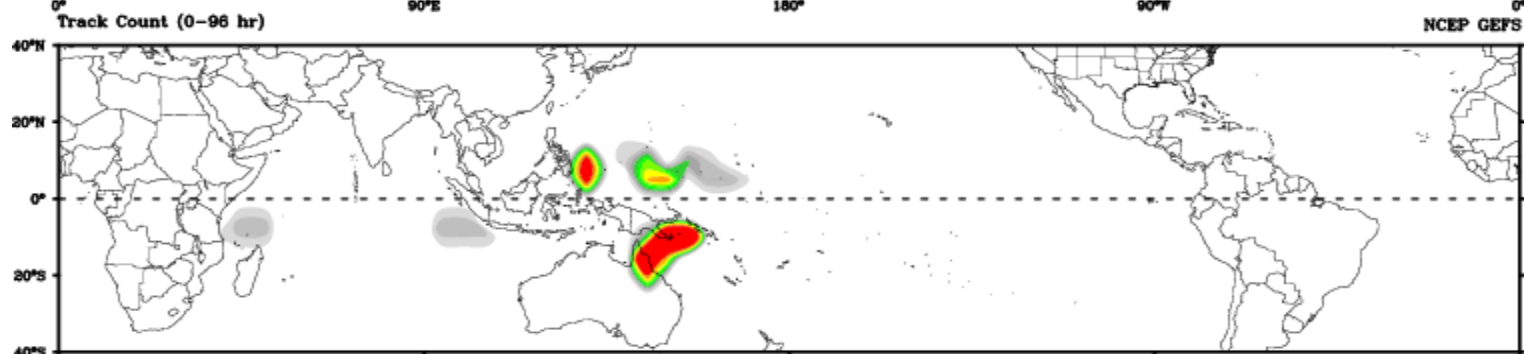
Null (388 days) 43 storms



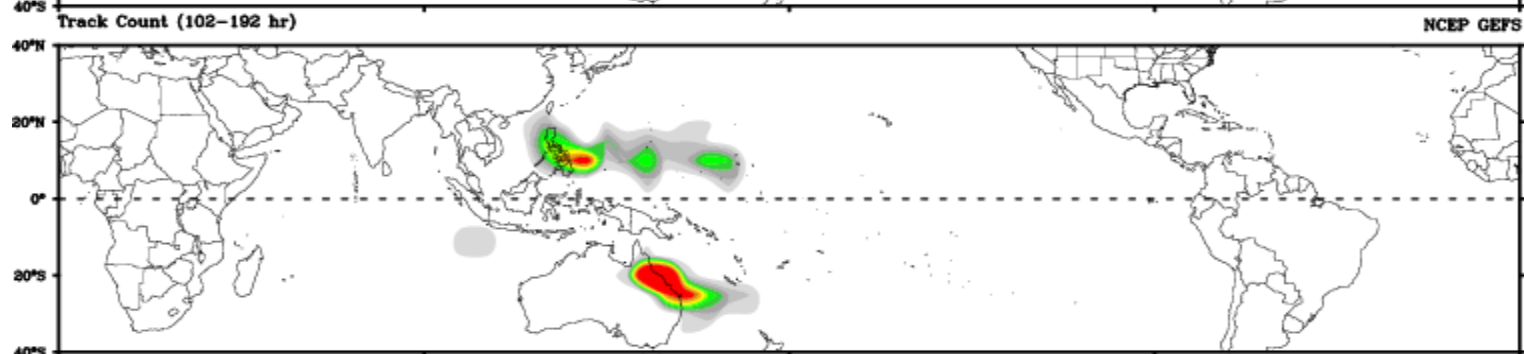
CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)



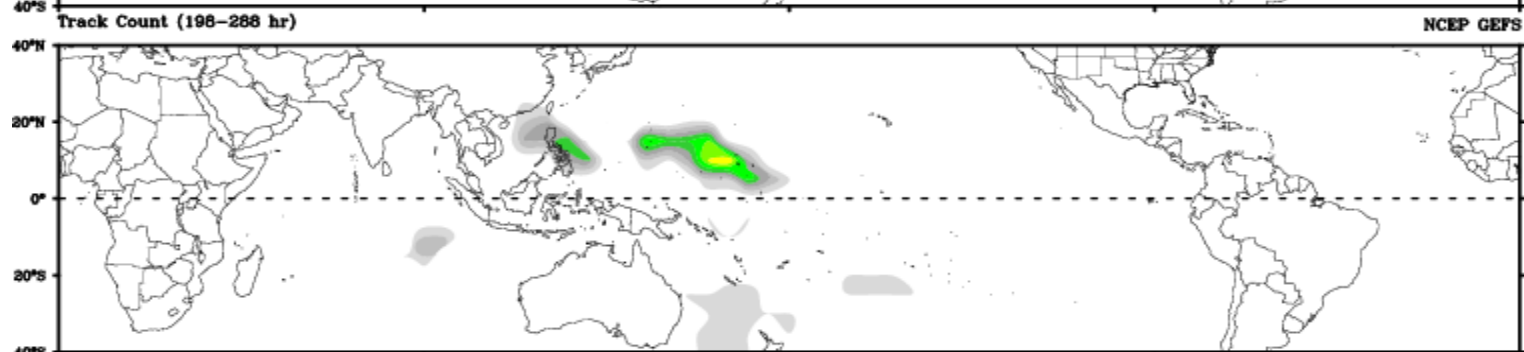
Days 1-4



Day 5-8

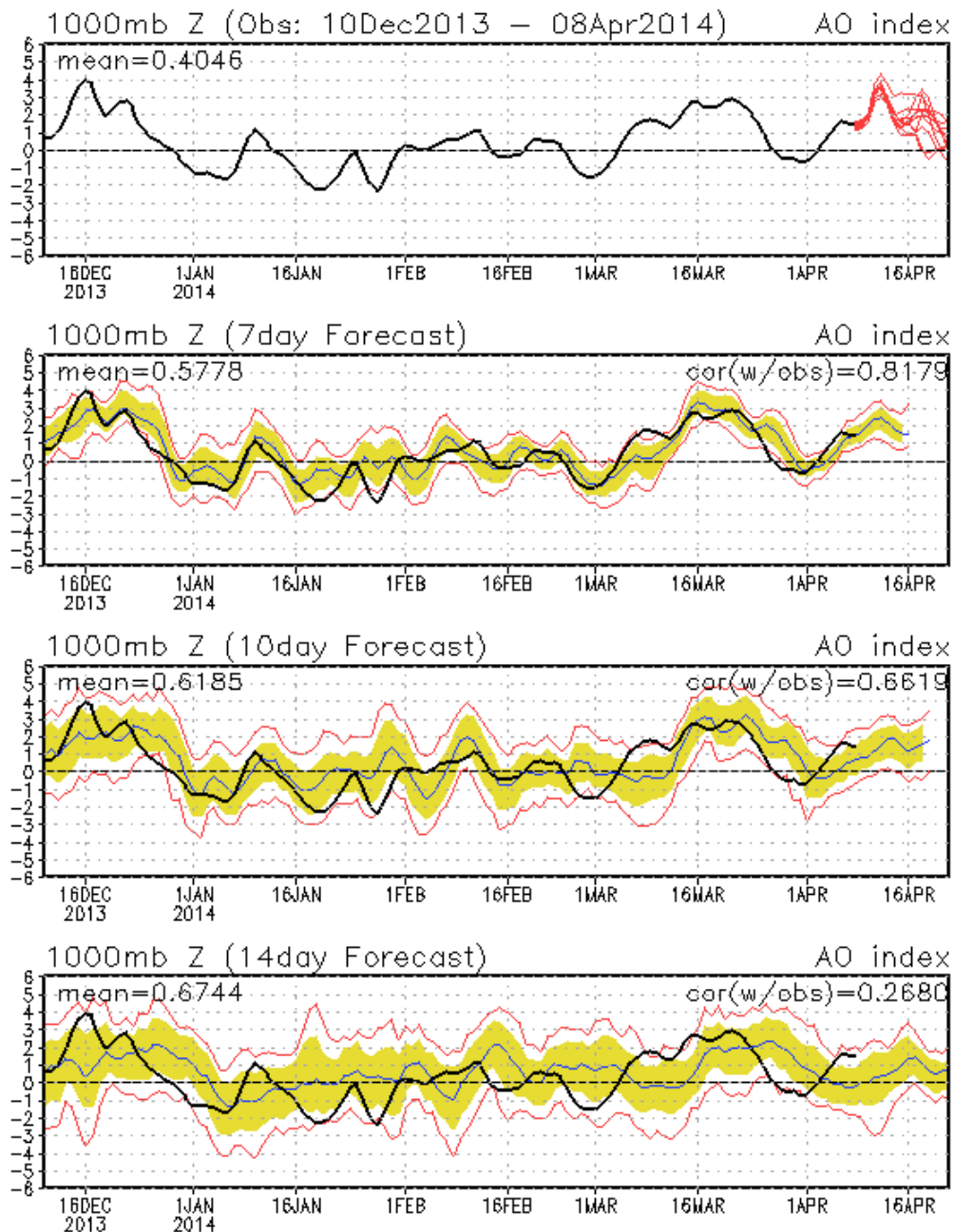


Day 9-12



Connections to U.S. Impacts

AO: Observed & ENSM forecasts

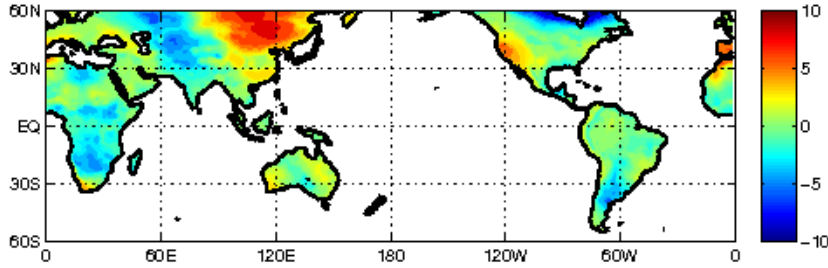


CFSv2 Forecasted 2m T Anomalies

Week

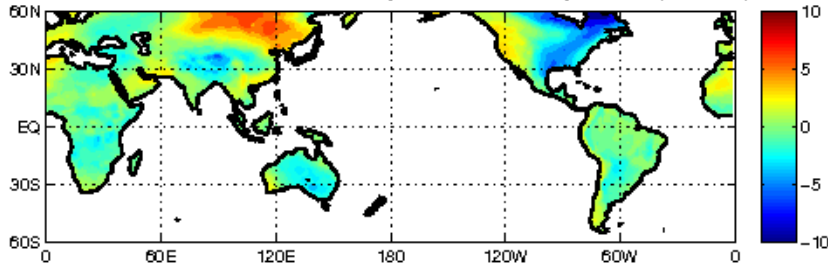
TEMP2MLAND Anomalies

CFS: Anom. TMP2M Week1: 08-Apr-2014 to 14-Apr-2014 (Celsius)



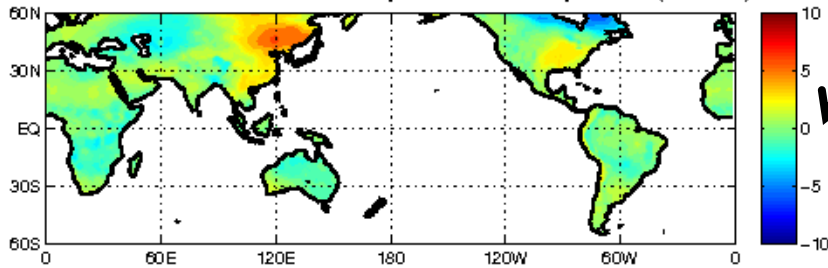
1

CFS: Anom. TMP2M Week2: 15-Apr-2014 to 21-Apr-2014 (Celsius)



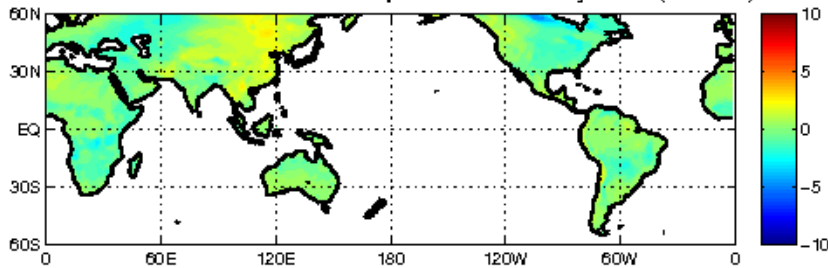
2

CFS: Anom. TMP2M Week3: 22-Apr-2014 to 28-Apr-2014 (Celsius)



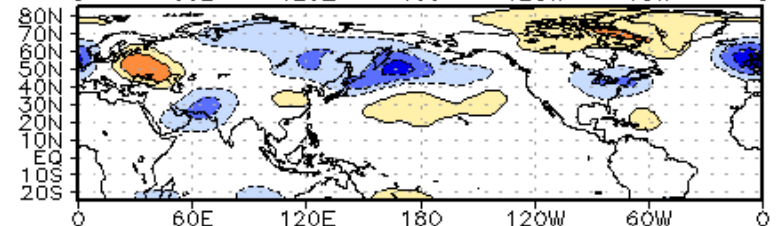
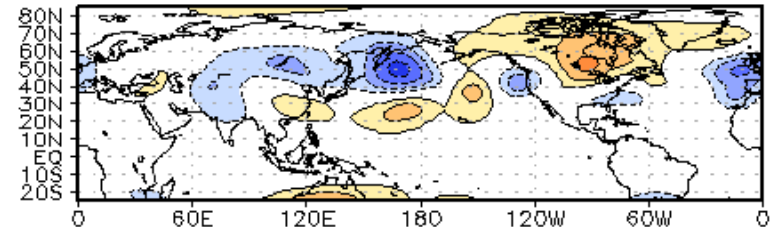
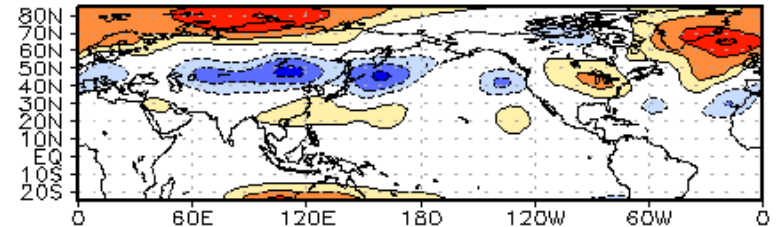
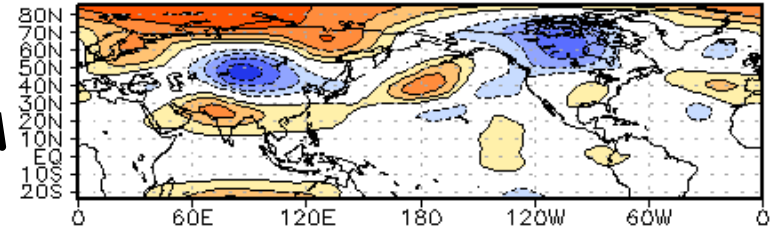
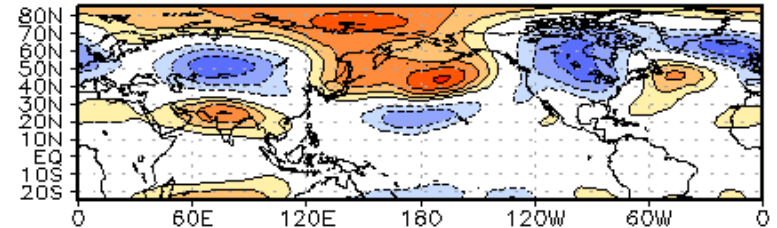
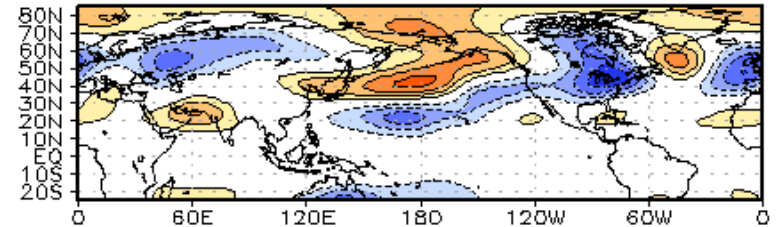
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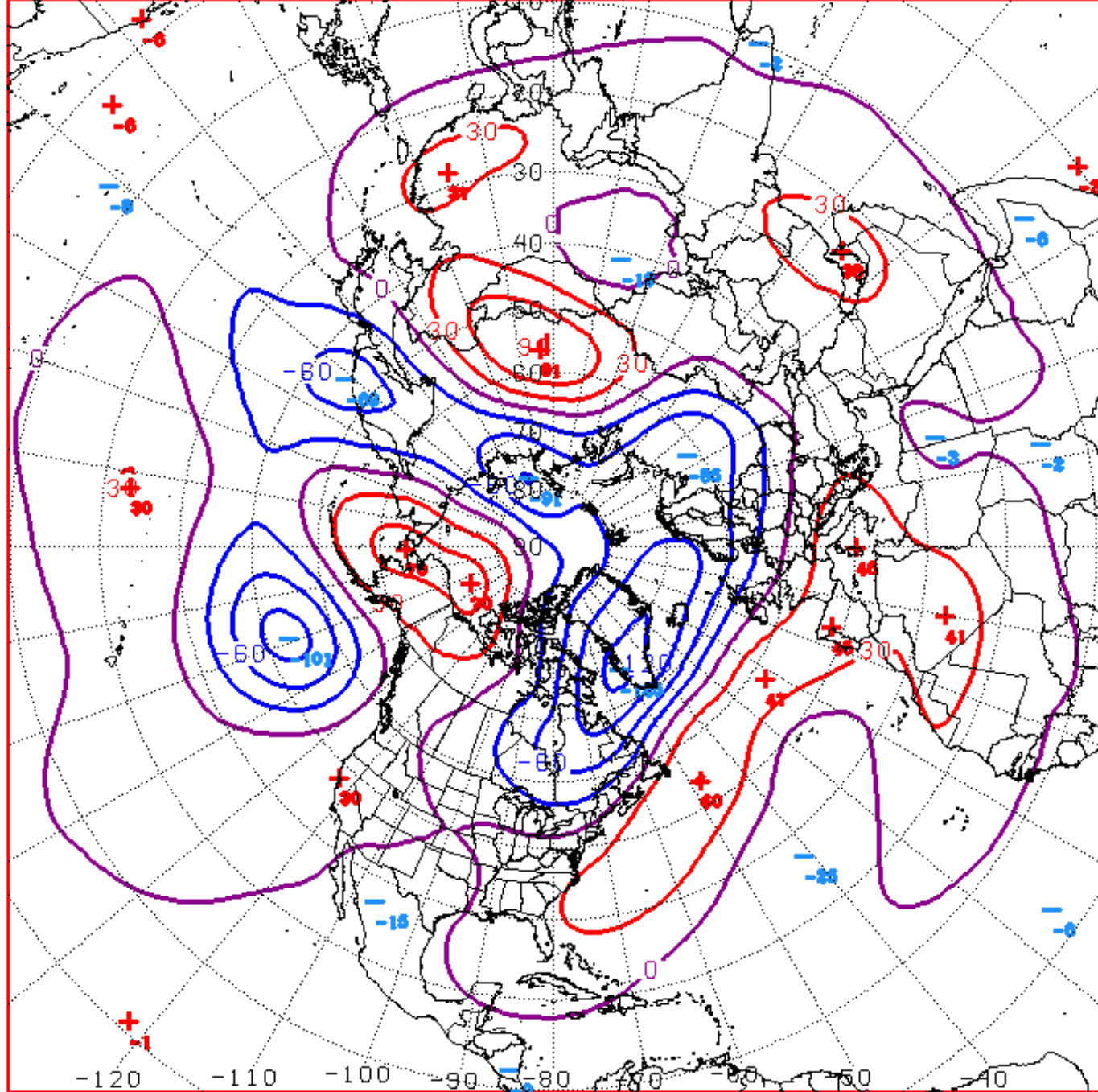
CFS: Anom. TMP2M Week4: 29-Apr-2014 to 05-May-2014 (Celsius)



4

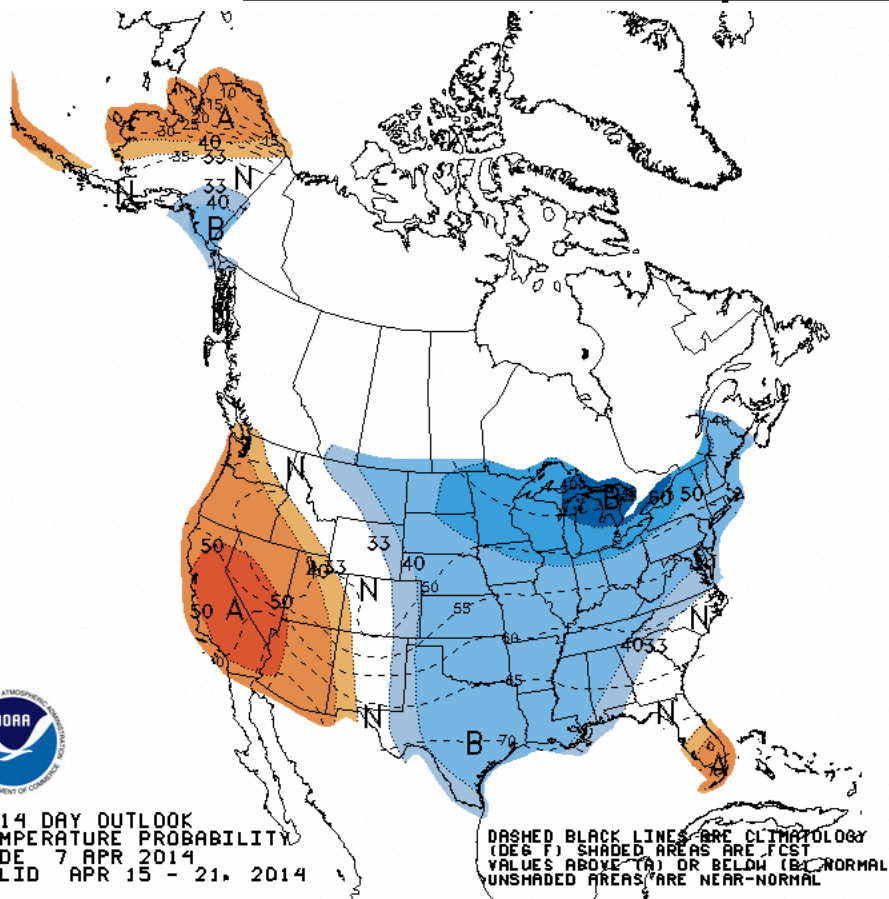
WHMJO Phase 3 z200 Lagged Composite (mam)



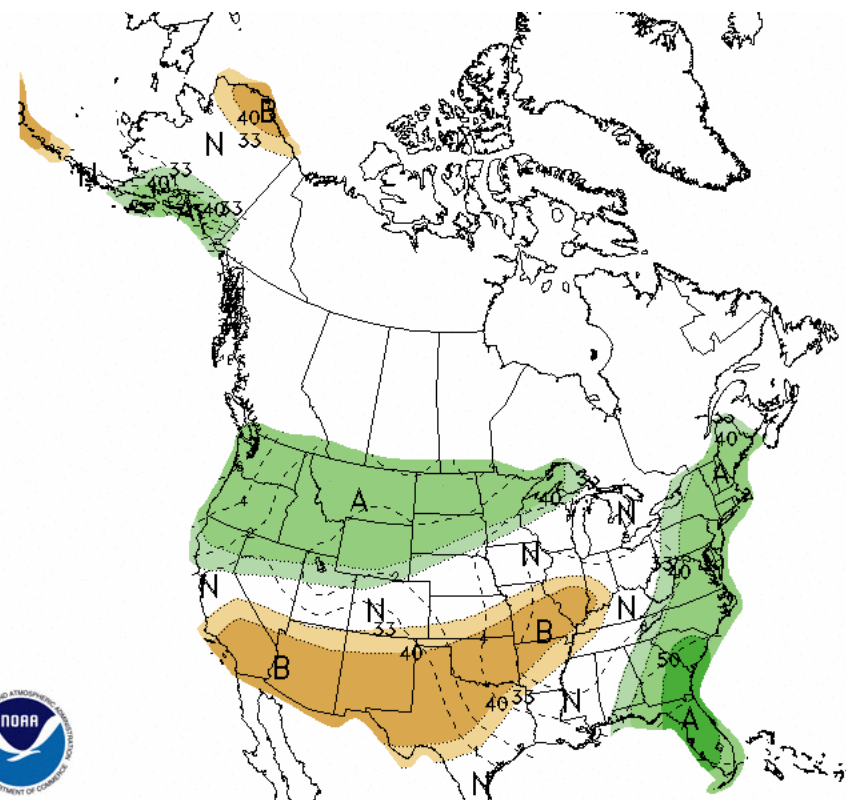
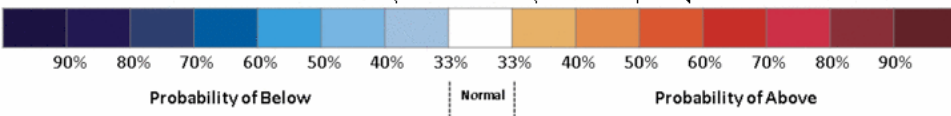


D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE APR 08 2014 1100 UTC CNTD APR 19 2014

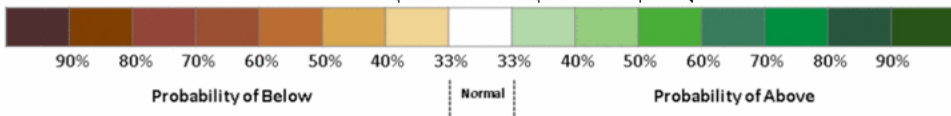
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 7 APR 2014
VALID APR 15 - 21, 2014



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 7 APR 2014
VALID APR 15 - 21, 2014

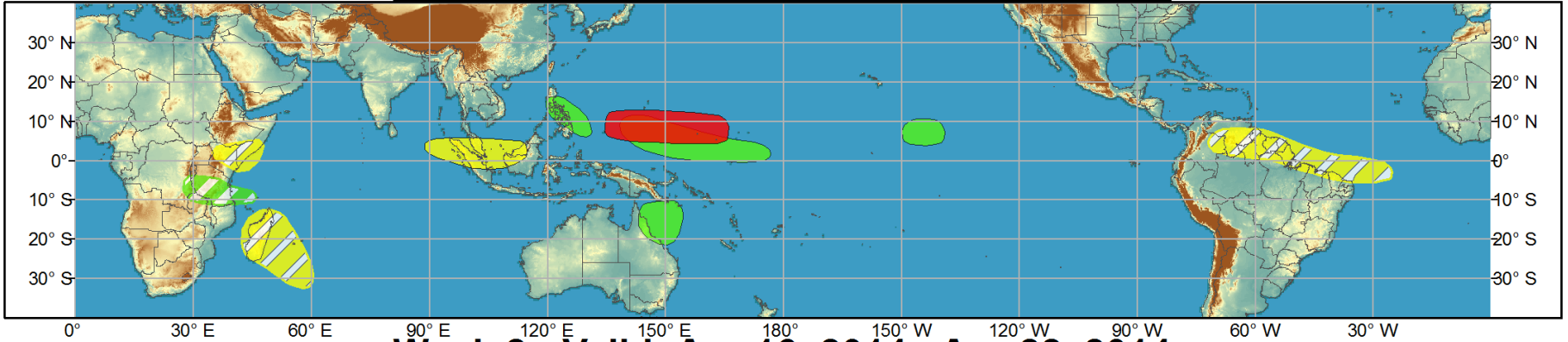




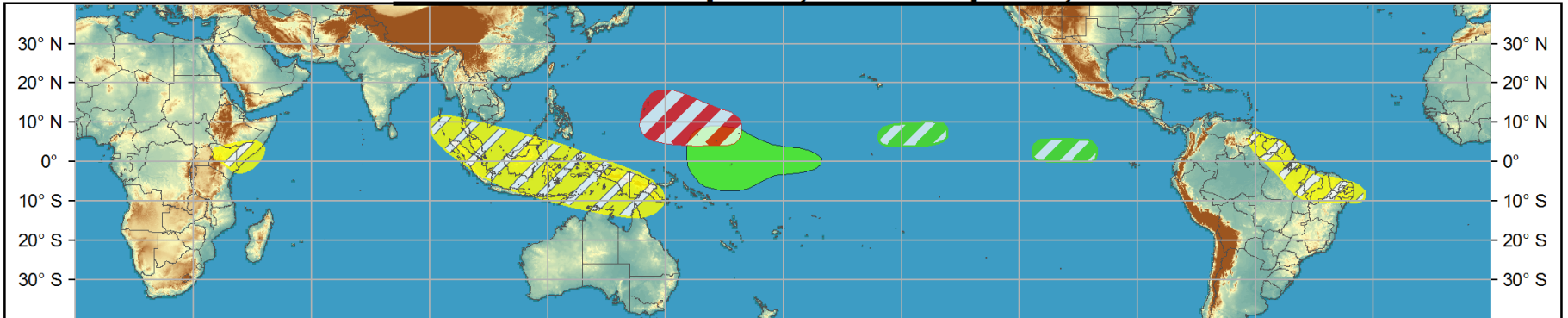
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- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
- Below-average rainfall** Weekly total rainfall in the lower third of the historical range.
- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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