Global Tropics Hazards And Benefits Outlook

January 26, 2016

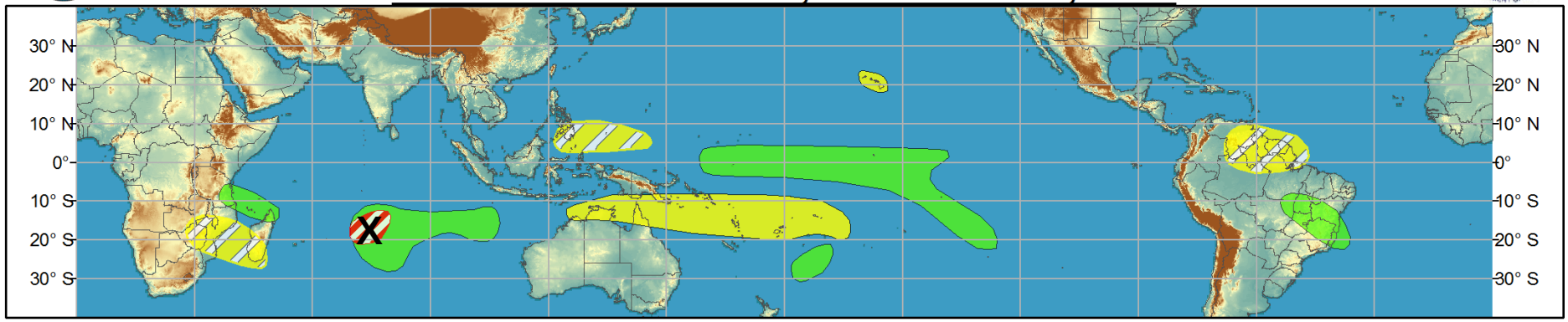
Adam Allgood

Outline

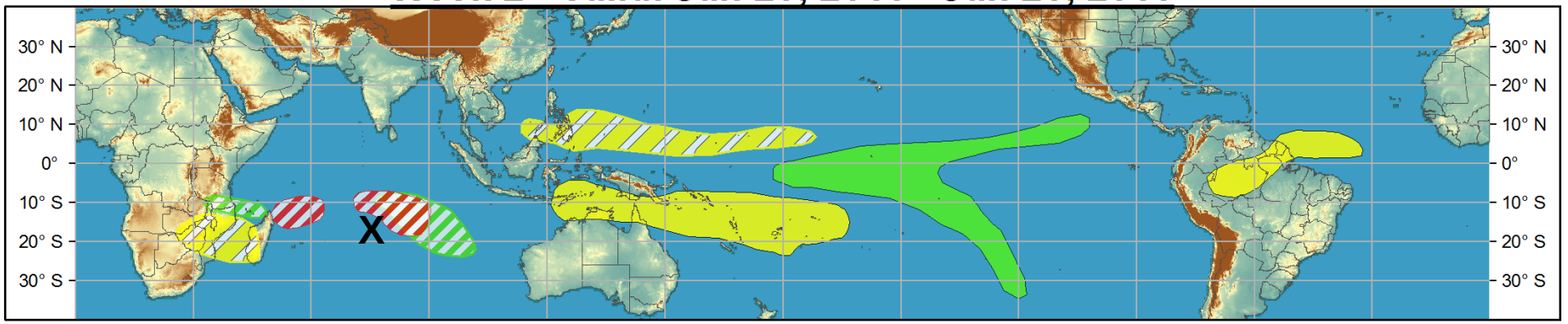
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

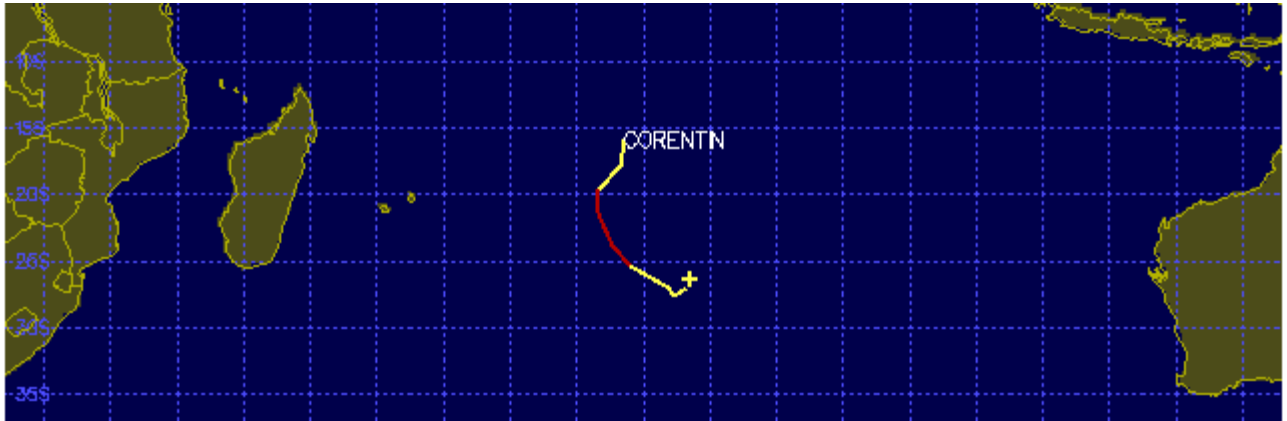
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 20, 2016 - Jan 26, 2016



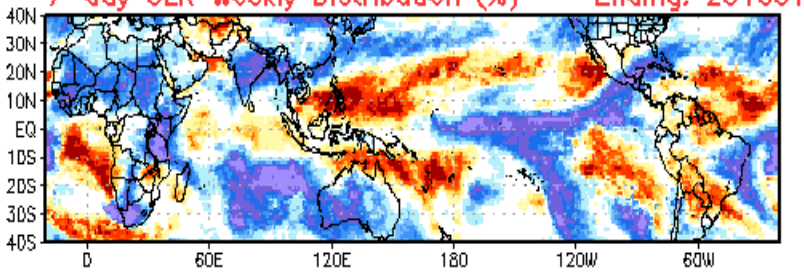
Week 2 - Valid: Jan 20, 2016 - Jan 26, 2016

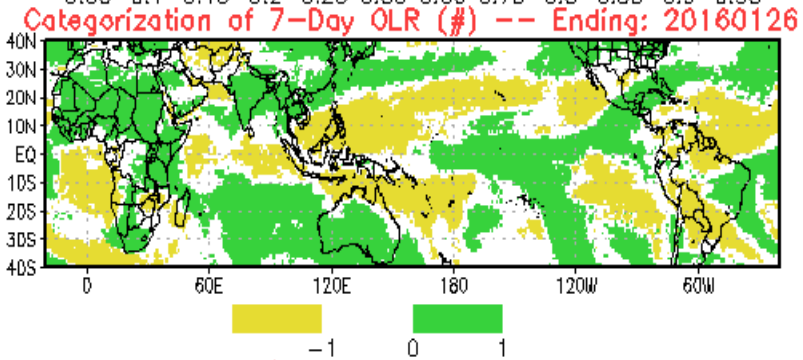


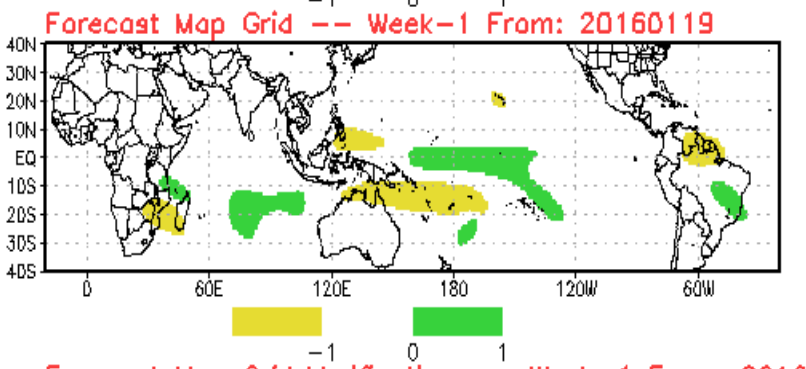


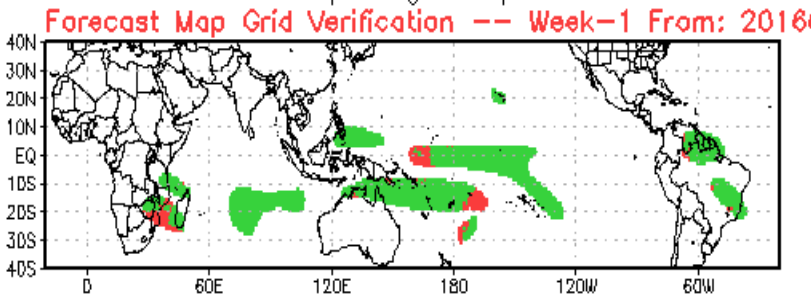
Cyclone Corentin

- Formed 21 January
- Max Intensity: 75kt

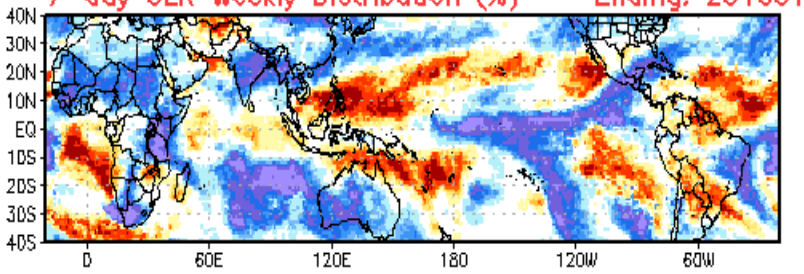


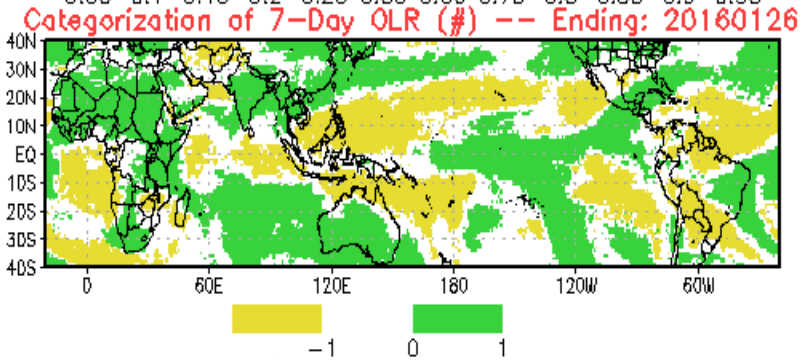


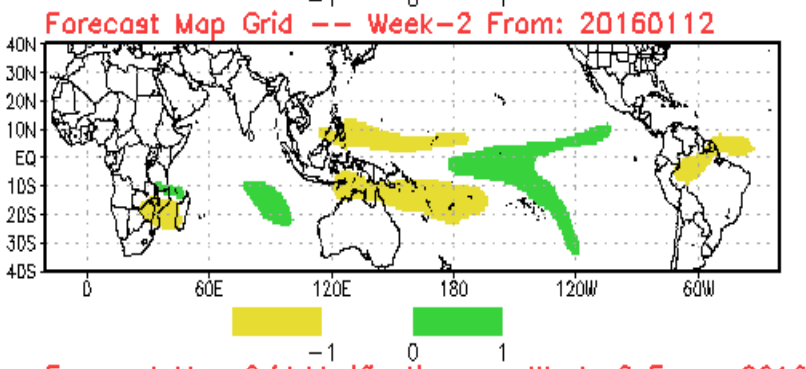


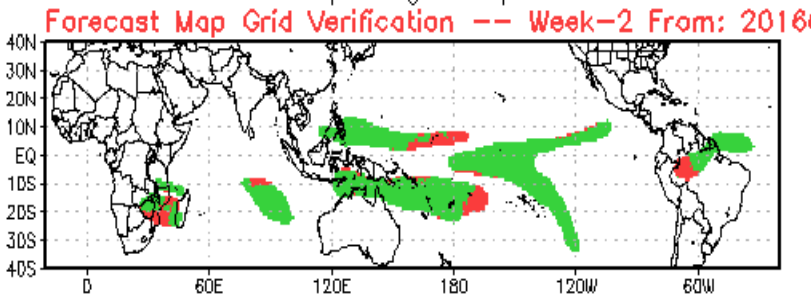


Hit: Green, Miss: Red
Heidke Skill Score: 83.6257









Hit: Green, Miss: Red
Heidke Skill Score: 77.6554

Synopsis of Climate Modes

ENSO:

• Current: **El Niño Advisory**

• A strong El Niño is expected to gradually weaken through spring 2016, and to transition to ENSO-neutral during late spring or early summer.

MJO and other subseasonal tropical variability:

• The MJO became incoherent during mid January, as the enhanced phase encountered destructive interference with the robust ENSO base state. Kelvin Wave activity is apparent over the Maritime Continent.

• Most dynamical model MJO index forecasts show an amplifying signal over the Maritime Continent by the end of Week-2 (hard to do during a strong El Niño). This signal may be partly associated with potential TC activity, but the EMCWF monthly depicts robust eastward propagation to the Pacific.

Extratropics:

• There is uncertainty regarding whether an intraseasonal signal will develop, but if a Maritime Continent MJO event does evolve, the downstream mid-latitude impacts would be largely in opposition to the canonical ENSO impacts. This introduces considerable uncertainty to the longer range forecast for the U.S.

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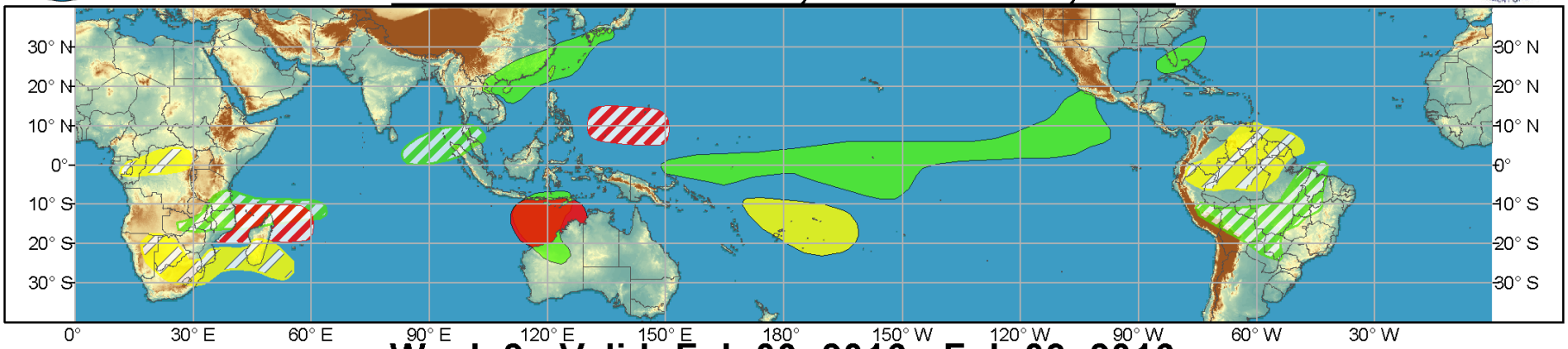
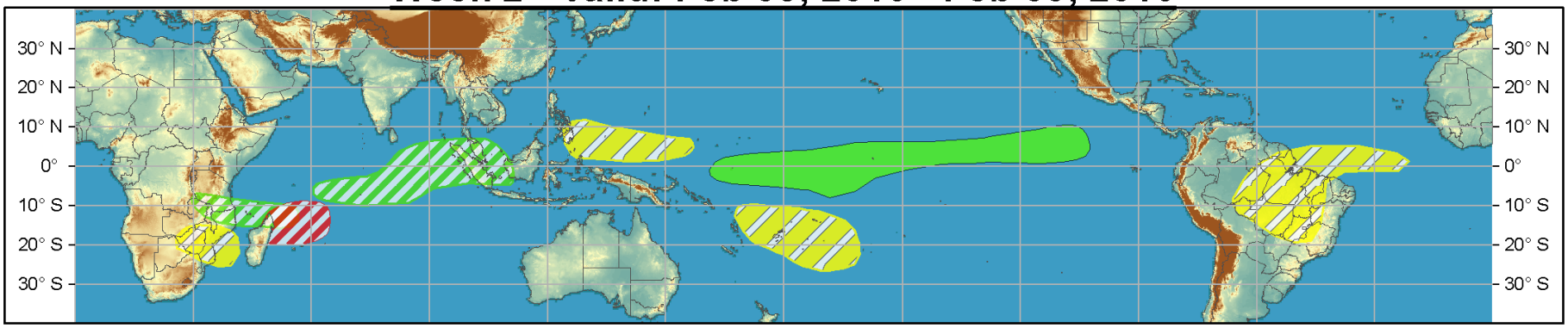
Week 1 - Valid: Jan 27, 2016 - Feb 02, 2016



Week 2 - Valid: Feb 03, 2016 - Feb 09, 2016



Produced: 01/26/2016

Forecaster: Allgood

	Confidence: High	Confidence: 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.
Below-normal temperatures			7-day mean temperatures in the lower third of the historical range.

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.

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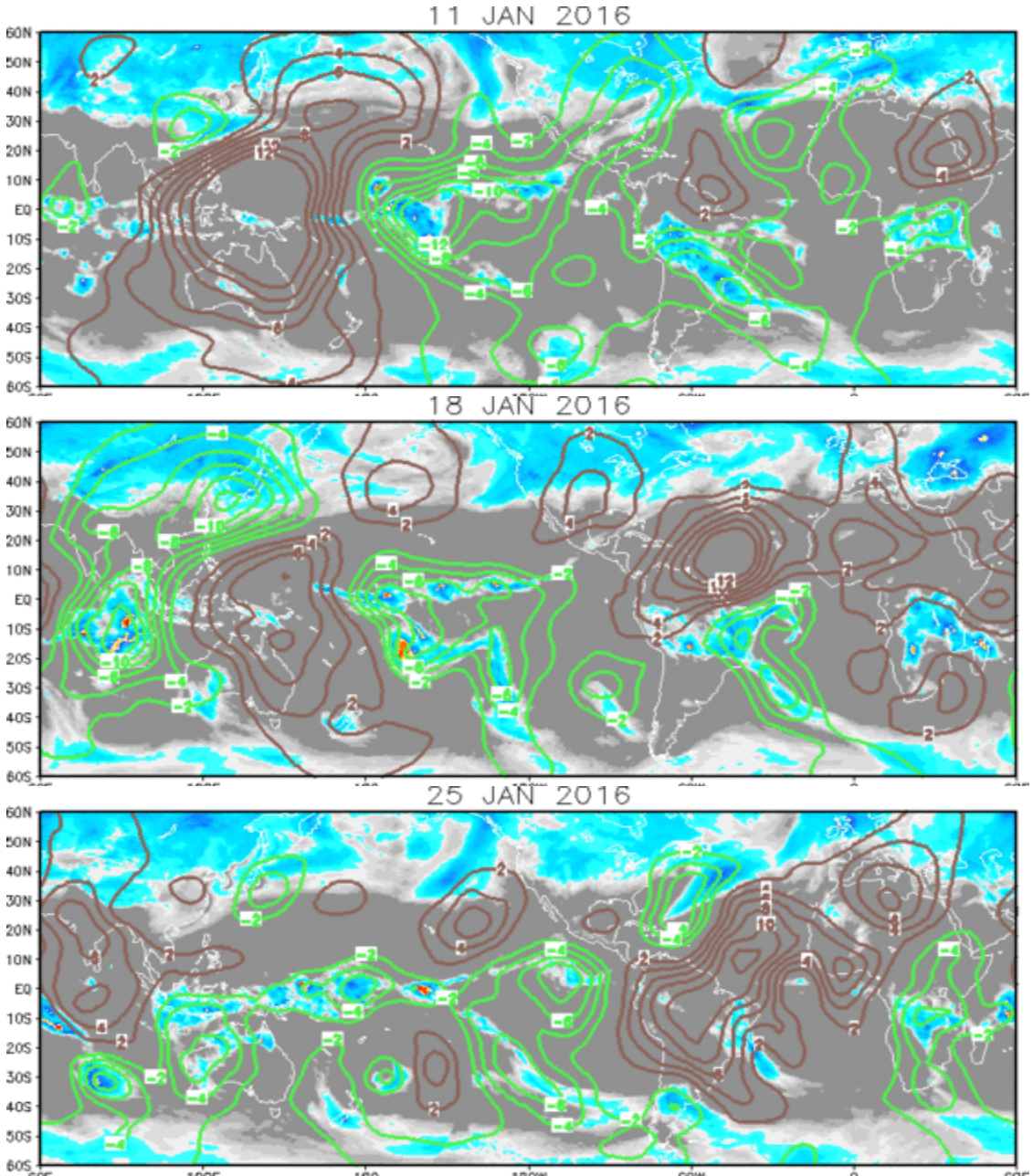
NPS PRAESTANTIA PER SCIENTIAM

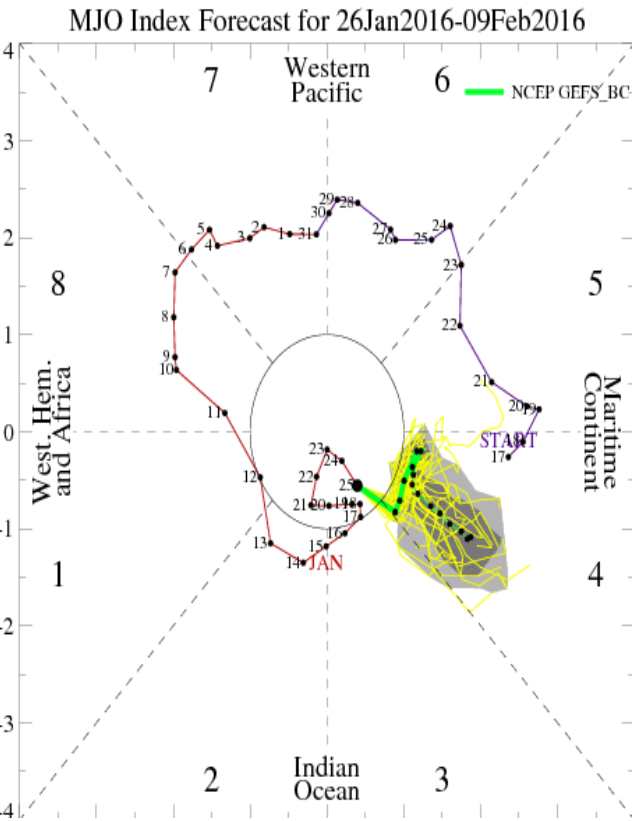
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

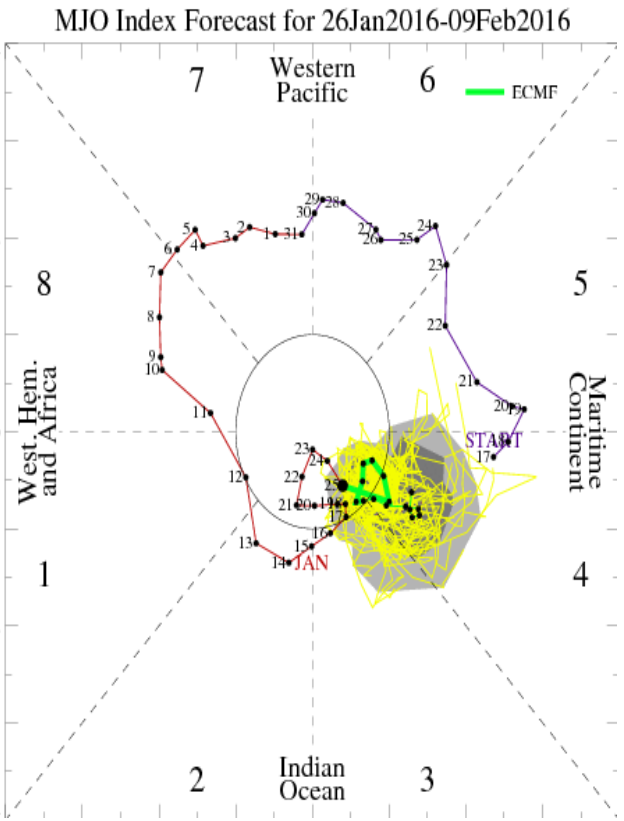


Incoherent upper-level pattern as ENSO continues to dominate Pacific, KWs interfere over the I.O. and M.C.

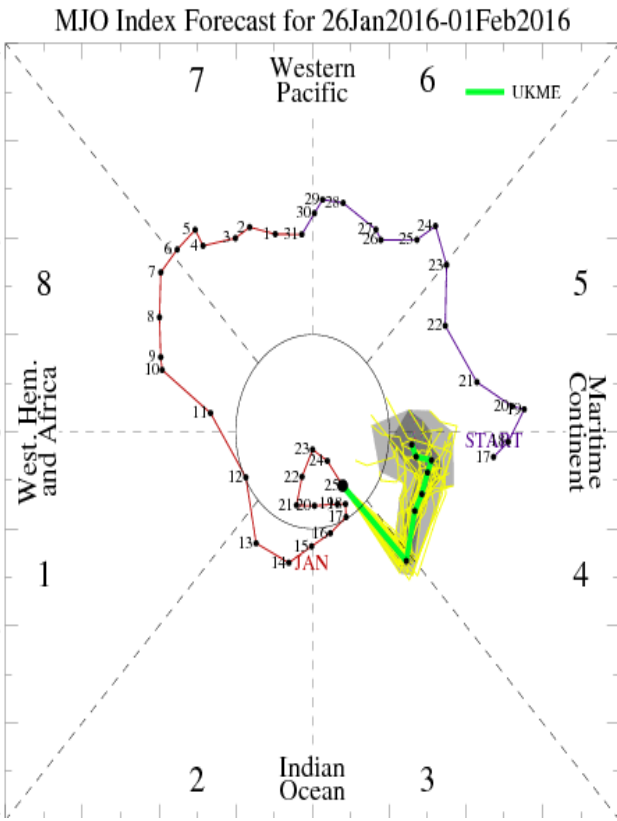
MJO Observation/Forecast



GFS



ECMWF

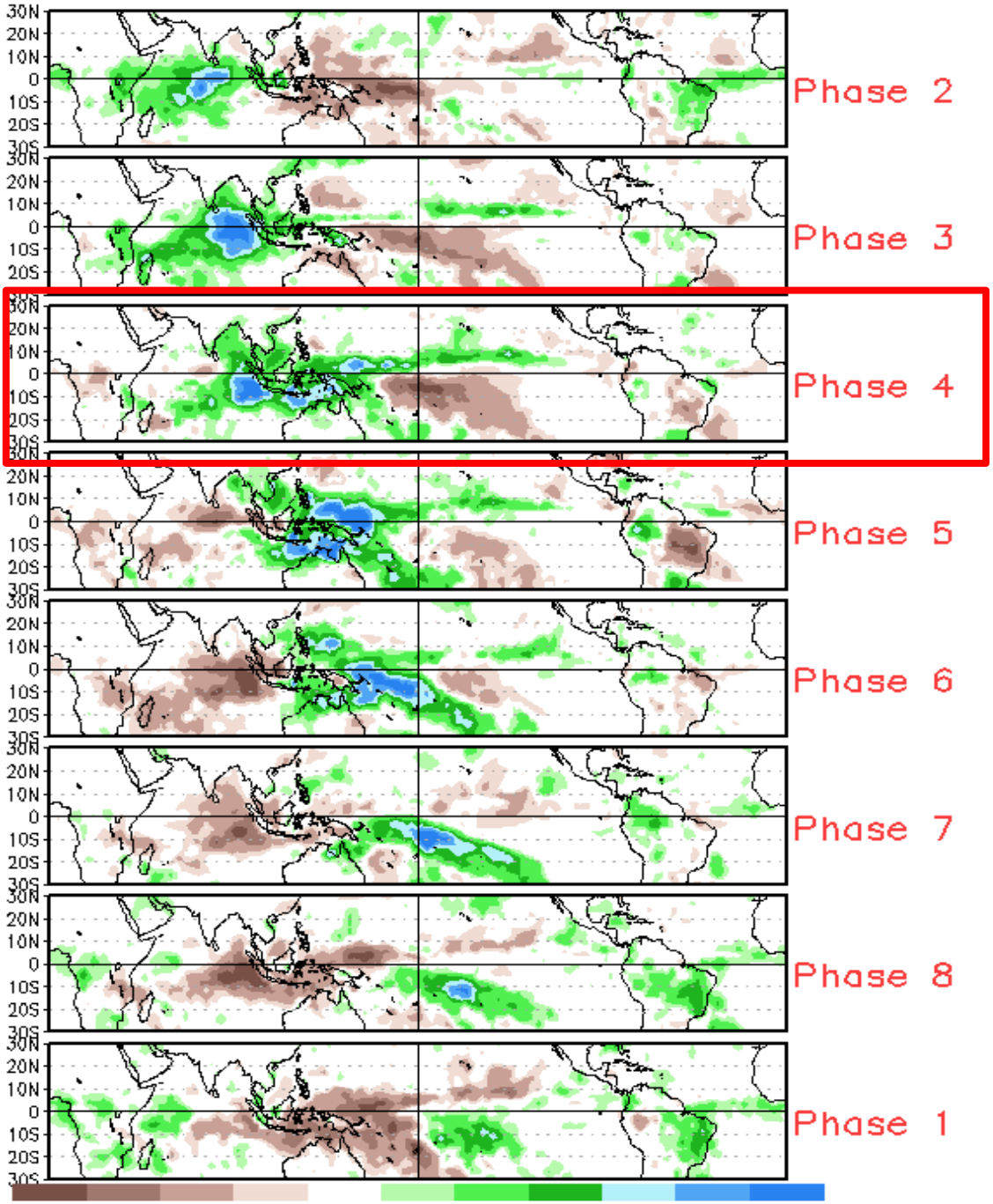


UKMET

Dynamical Model RMM Index Forecasts all support an emerging signal over the Maritime Continent (Phase-4) by Week-2.

Note: Since 120-Day period mean removed, this amplitude may reflect interference with the base state more than robust MJO enhanced/suppressed envelopes.

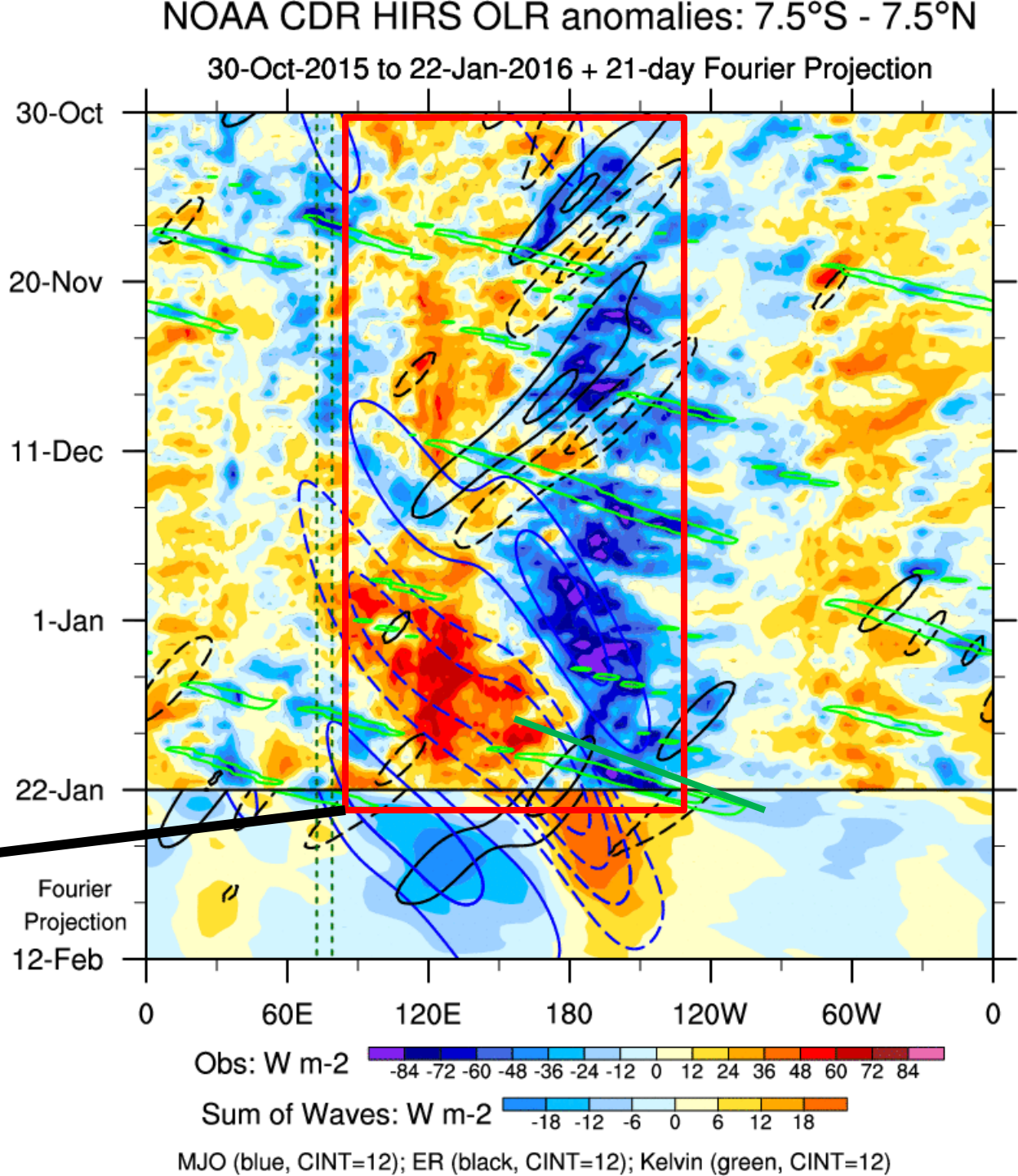
Average Conditions when the MJO is present

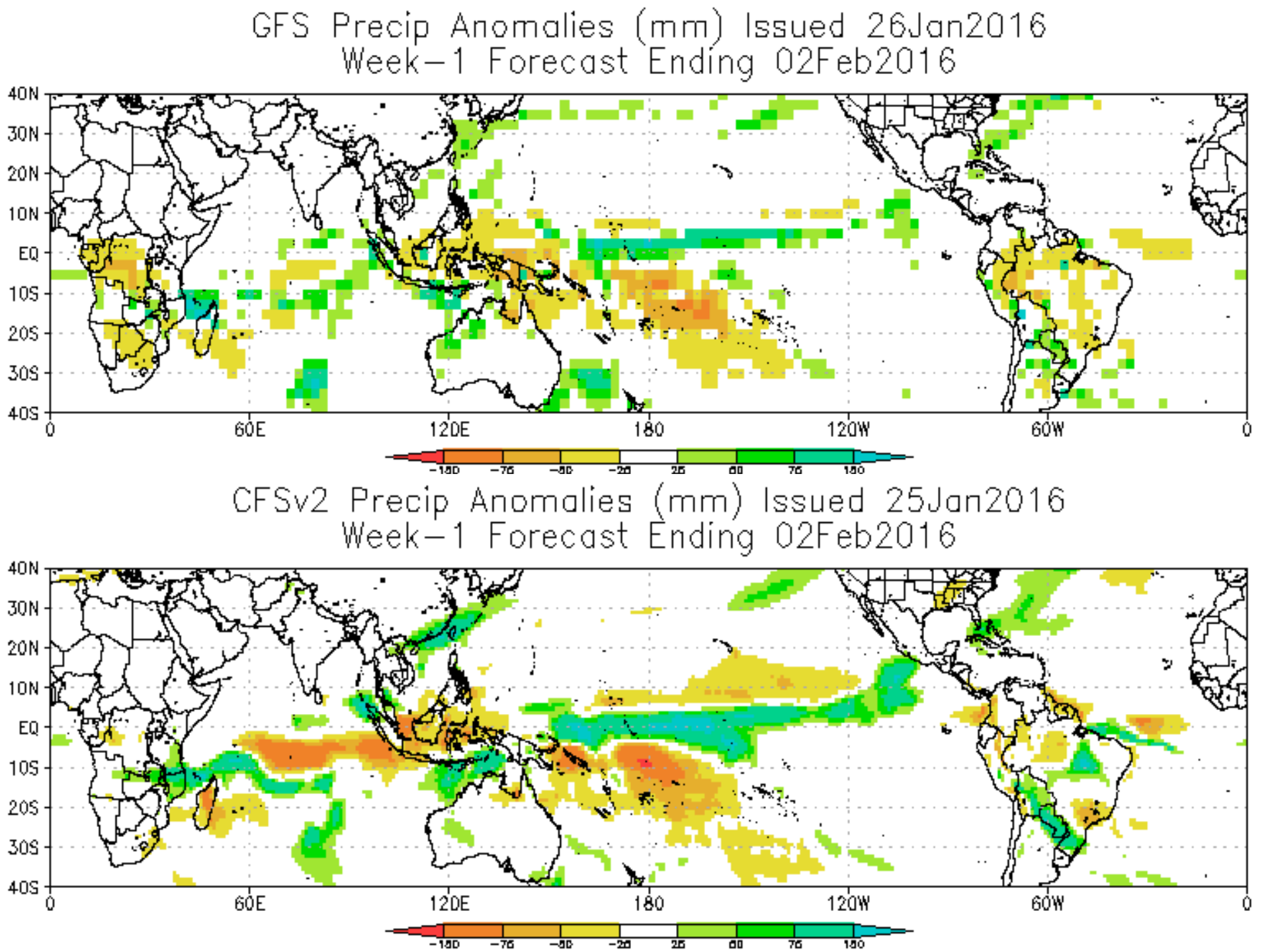


CAVEAT: These panels are representative of robust MJO events, with all phases of ENSO.

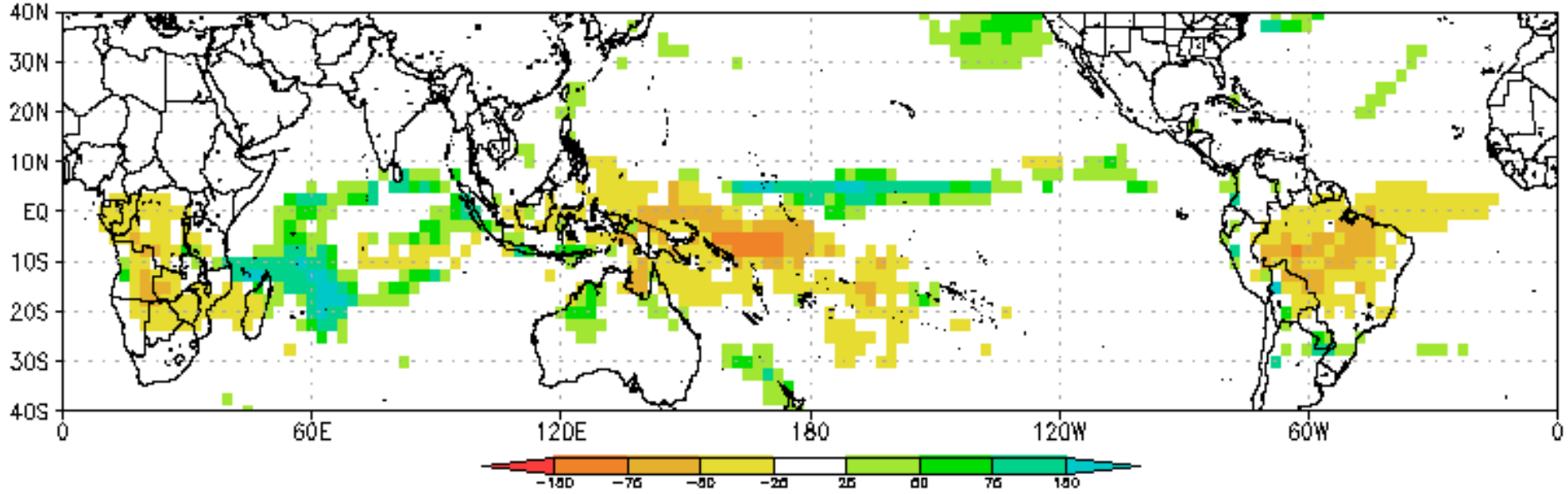
Low frequency likely to continue playing a dominant role.

KW activity apparent over the Pacific and Maritime Continent.

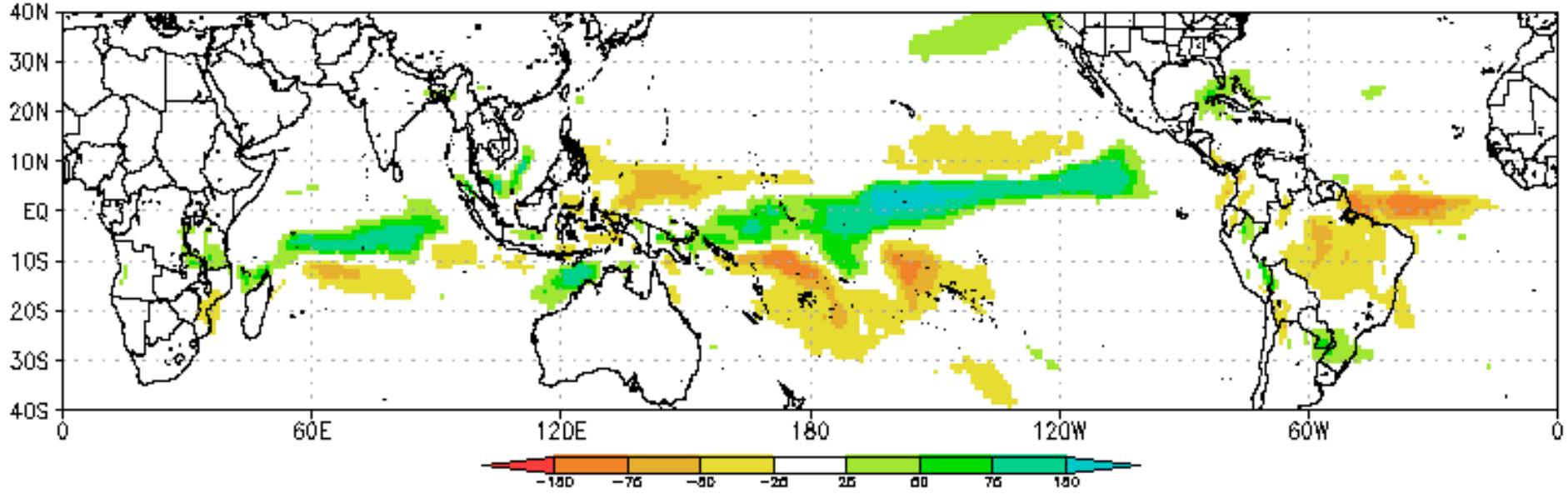



GFS Precip Anomalies (mm) Issued 26Jan2016
Week-1 Forecast Ending 02Feb2016
40N
30N
20N
10N
EQ
10S
20S
30S
40S
0
60E
120E
180
120W
60W
0
-150
-75
-50
-25
25
50
75
150
CFSv2 Precip Anomalies (mm) Issued 25Jan2016
Week-1 Forecast Ending 02Feb2016
40N
30N
20N
10N
EQ
10S
20S
30S
40S
0
60E
120E
180
120W
60W
0
-150
-75
-50
-25
25
50
75
150

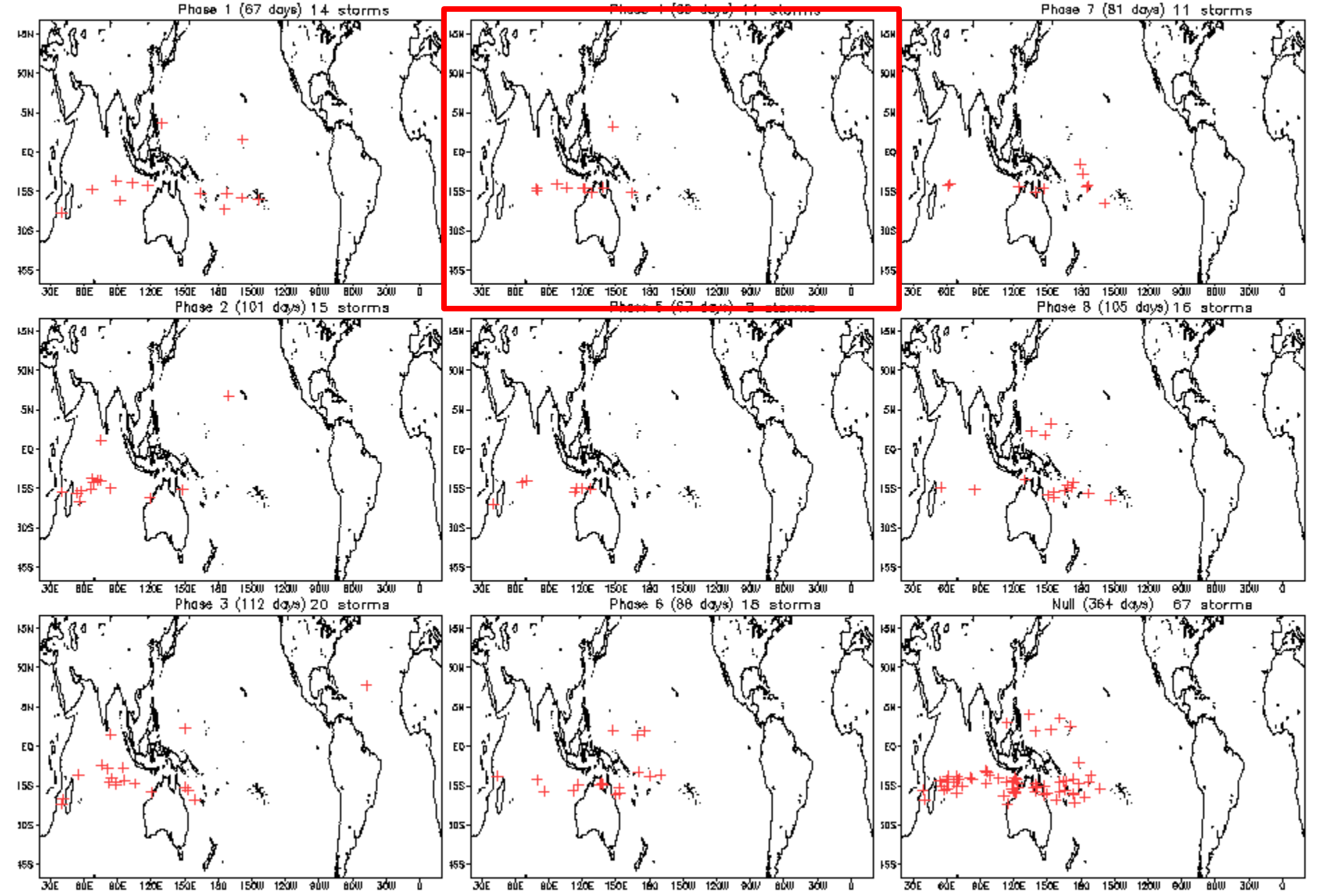
GFS Precip Anomalies (mm) Issued 26Jan2016
Week-2 Forecast Ending 09Feb2016

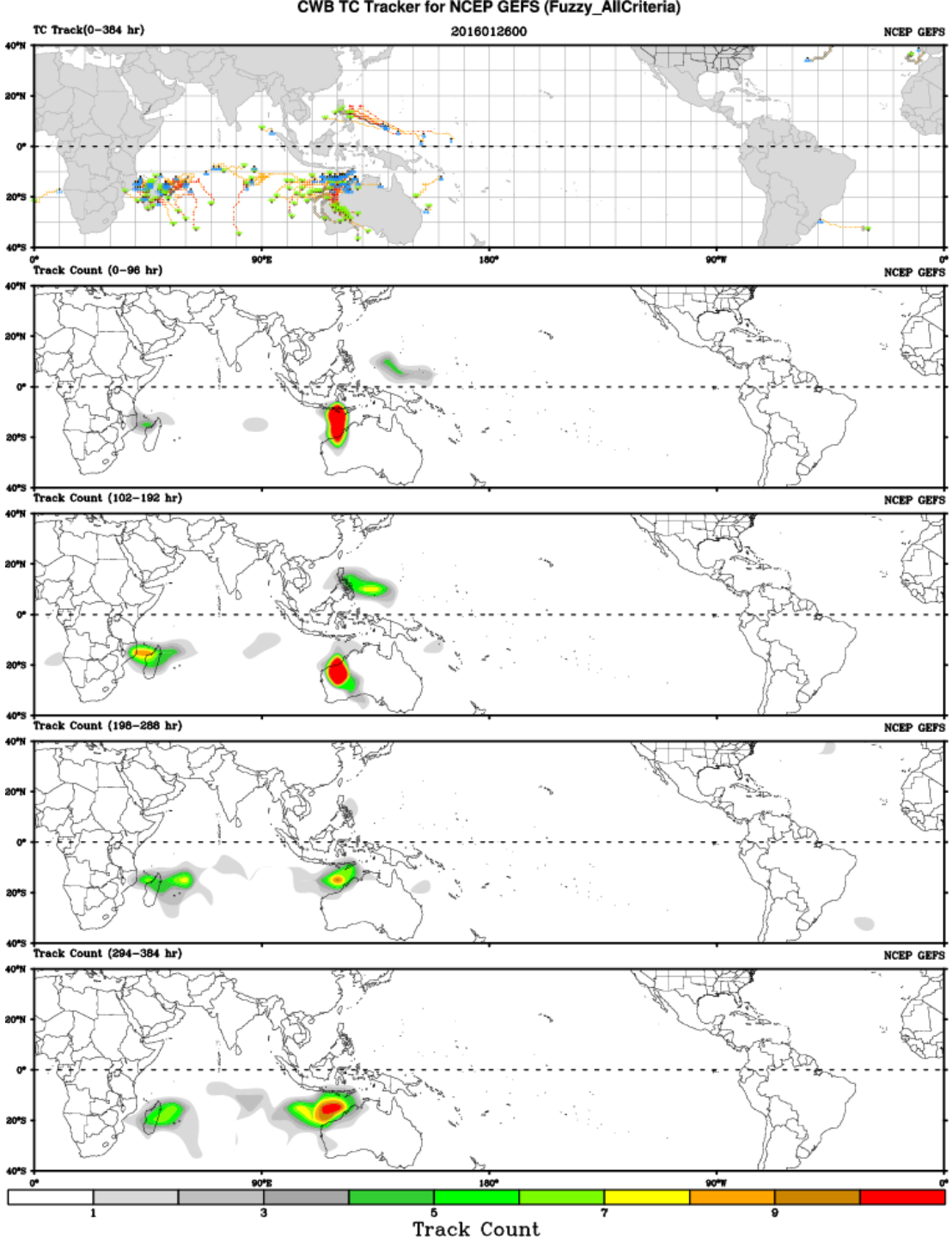


CFSv2 Precip Anomalies (mm) Issued 25Jan2016
Week-2 Forecast Ending 09Feb2016



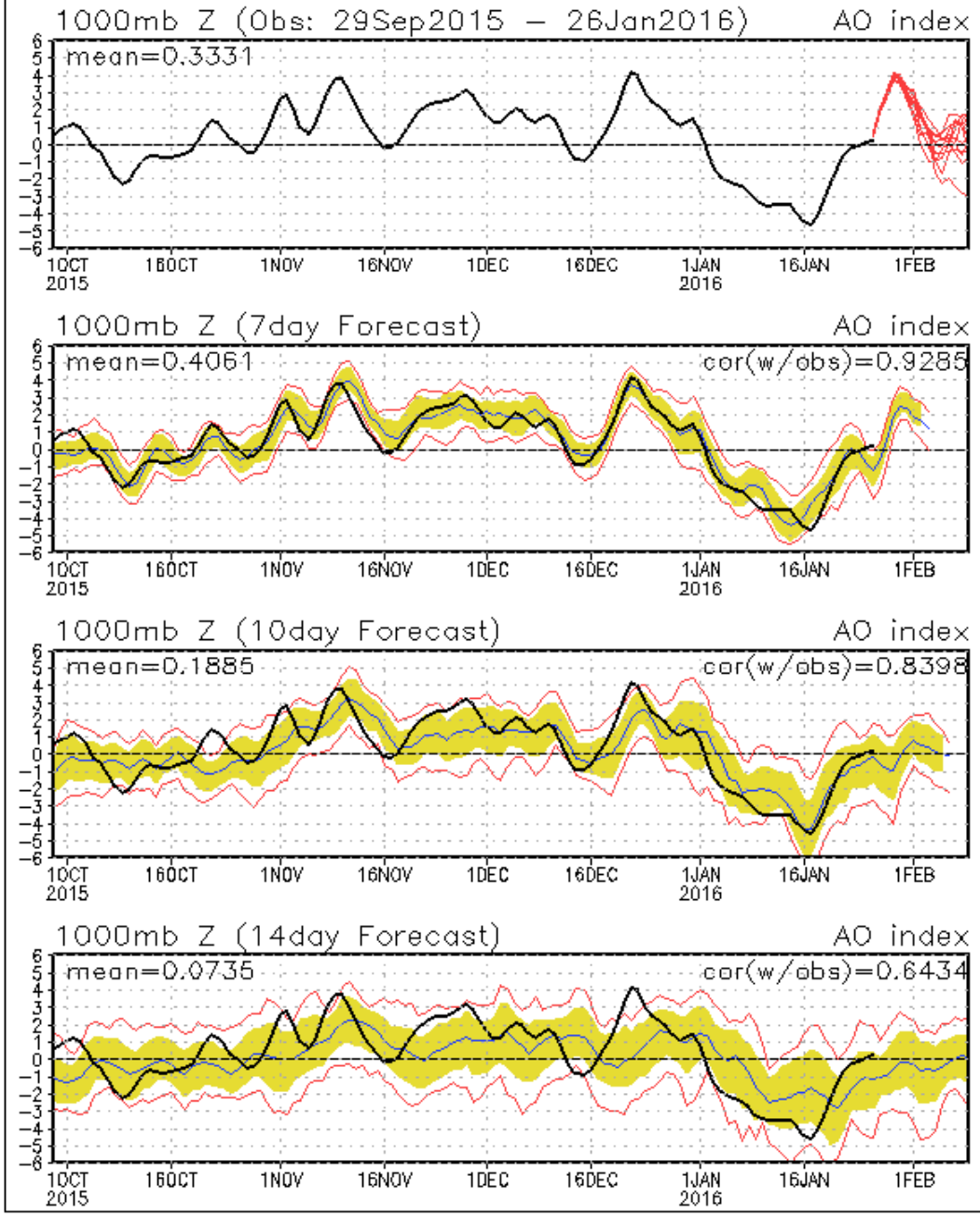
January Tropical Storm Formation by MJO phase

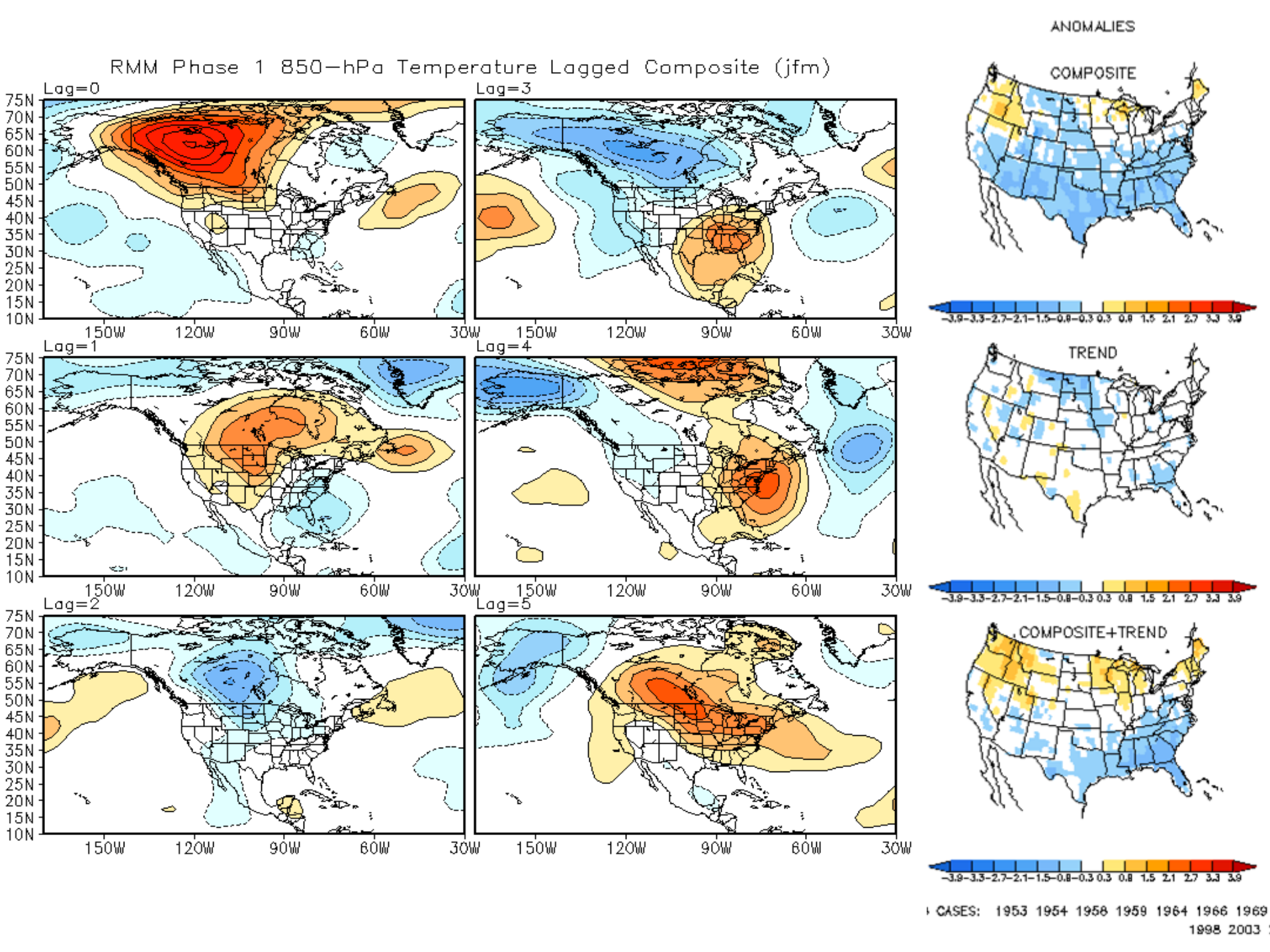


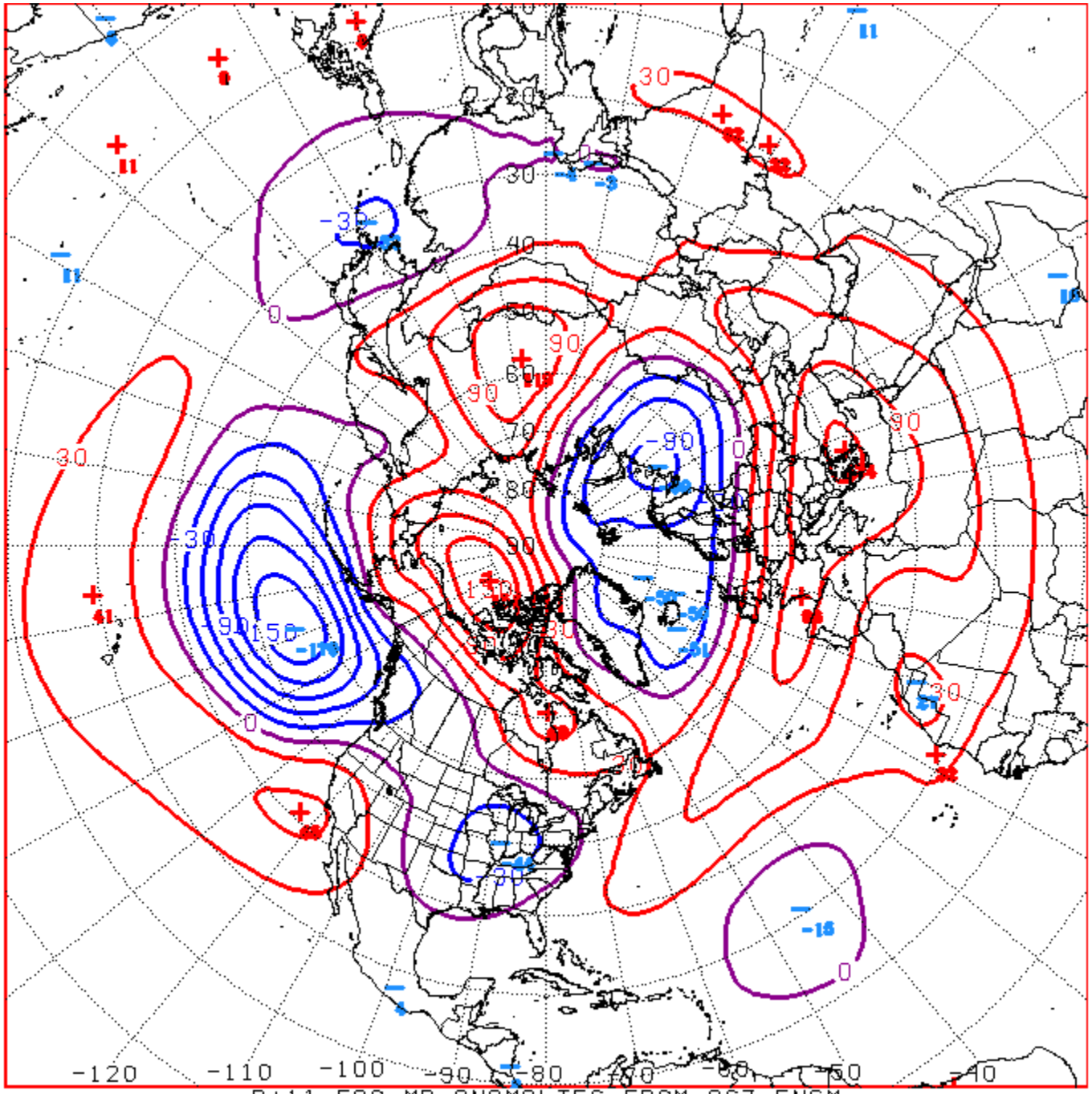

CWB TC Tracker for NCEP GEFS (Fuzzy_AllCriteria)
TC Track(0-384 hr)
2016012600
NCEP GEFS
Track Count (0-96 hr)
Track Count (102-192 hr)
Track Count (198-288 hr)
Track Count (294-384 hr)
40°N
20°N
0°
20°S
40°S
0°
90°E
180°
90°W
1
3
5
7
9
Track Count

Connections to U.S. Impacts

AO: Observed & ENSM forecasts

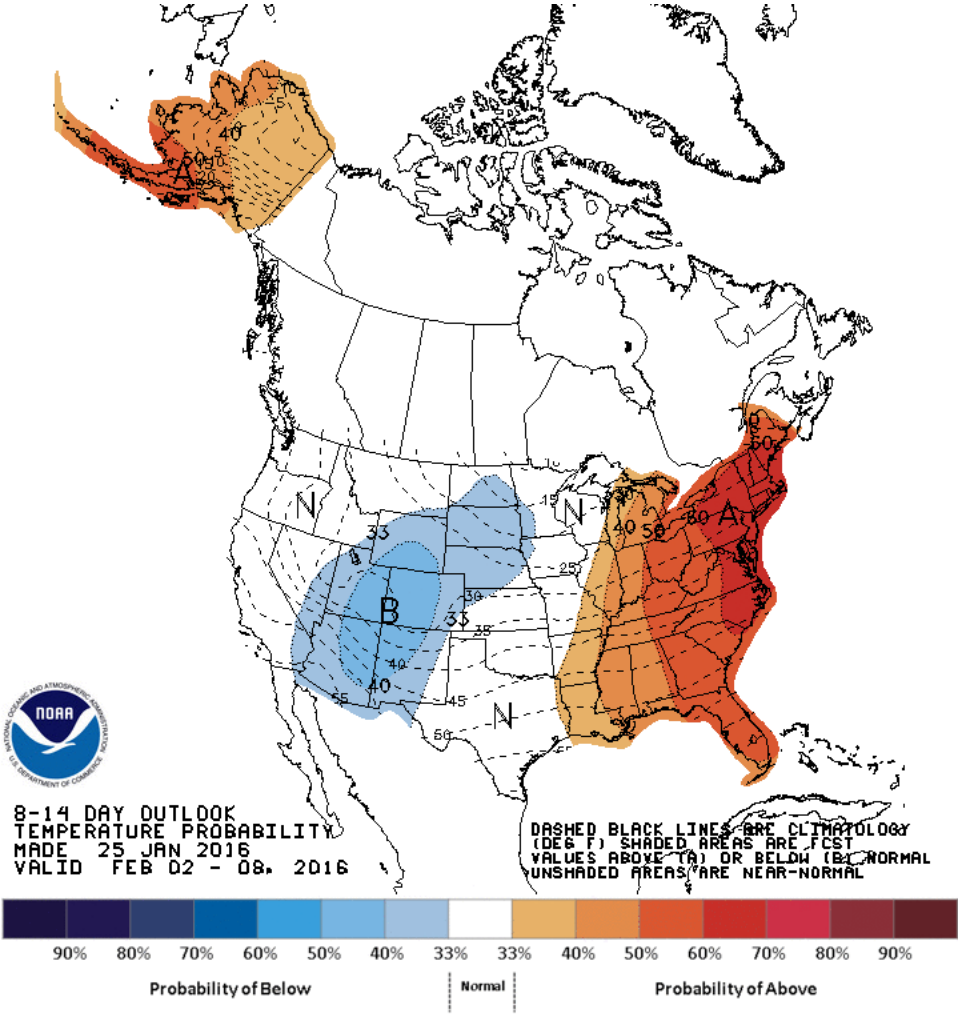


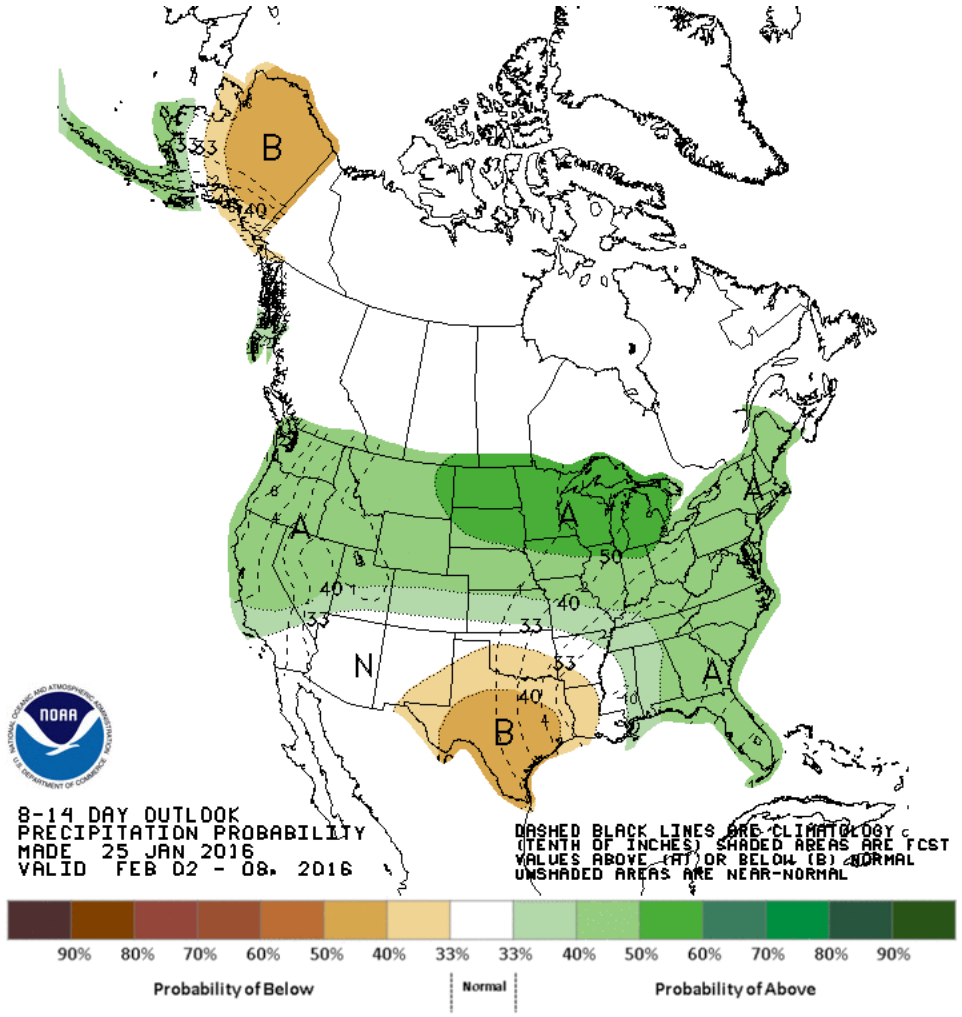

ANOMALIES
RMM Phase 1 850-hPa Temperature Lagged Composite (jfm)
Lag=0
Lag=3
Lag=1
Lag=4
Lag=2
Lag=5
75N
70N
65N
60N
55N
50N
45N
40N
35N
30N
25N
20N
15N
10N
150W
120W
90W
60W
30W
COMPOSITE
TREND
COMPOSITE+TREND
-3.9 -3.3 -2.7 -2.1 -1.5 -0.8 -0.3 0.3 0.8 1.5 2.1 2.7 3.3 3.9
CASES: 1953 1954 1958 1959 1964 1966 1969
1998 2003



D+11 500 MB ANOMALIES FROM 06Z ENSM
CPC MAP MADE JAN 26 2016 1226 UTC CNTD FEB 06 2016

Week 2 – Temperature and Precipitation





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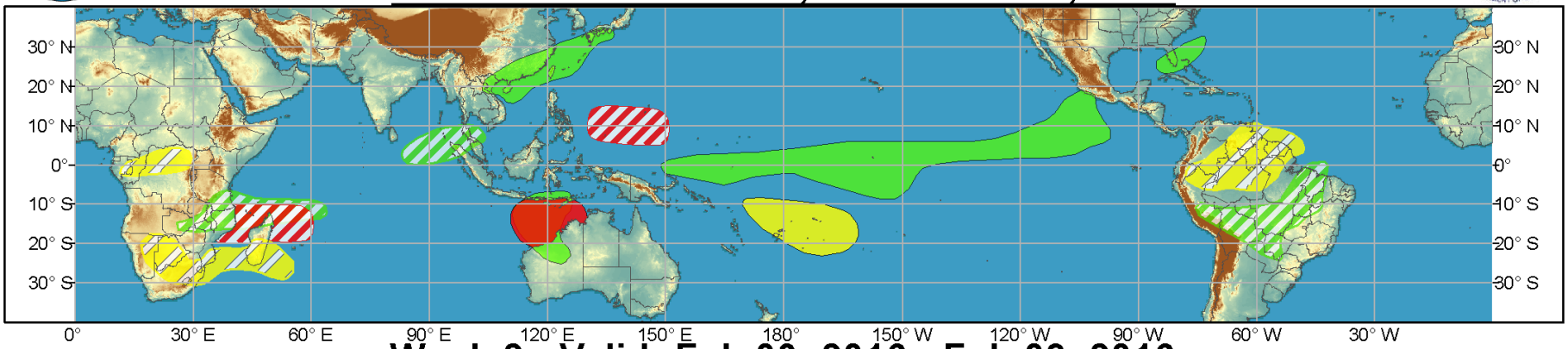

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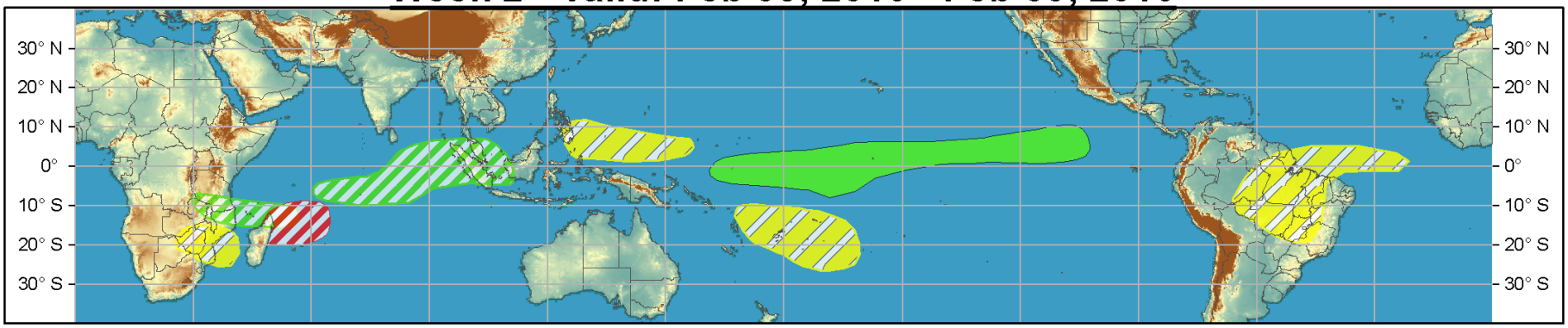

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