Global Tropics Hazards And Benefits Outlook

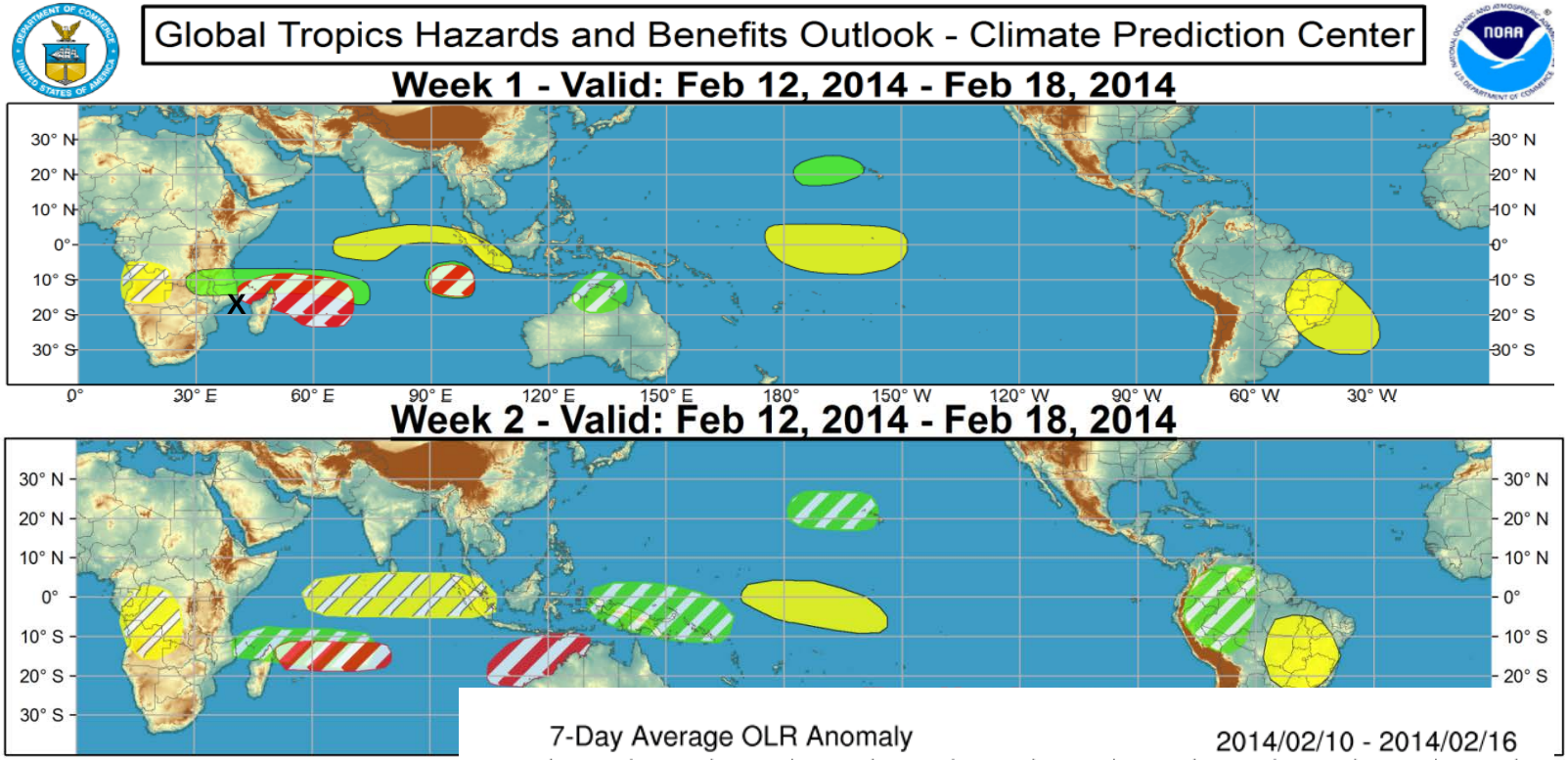
February 18, 2014

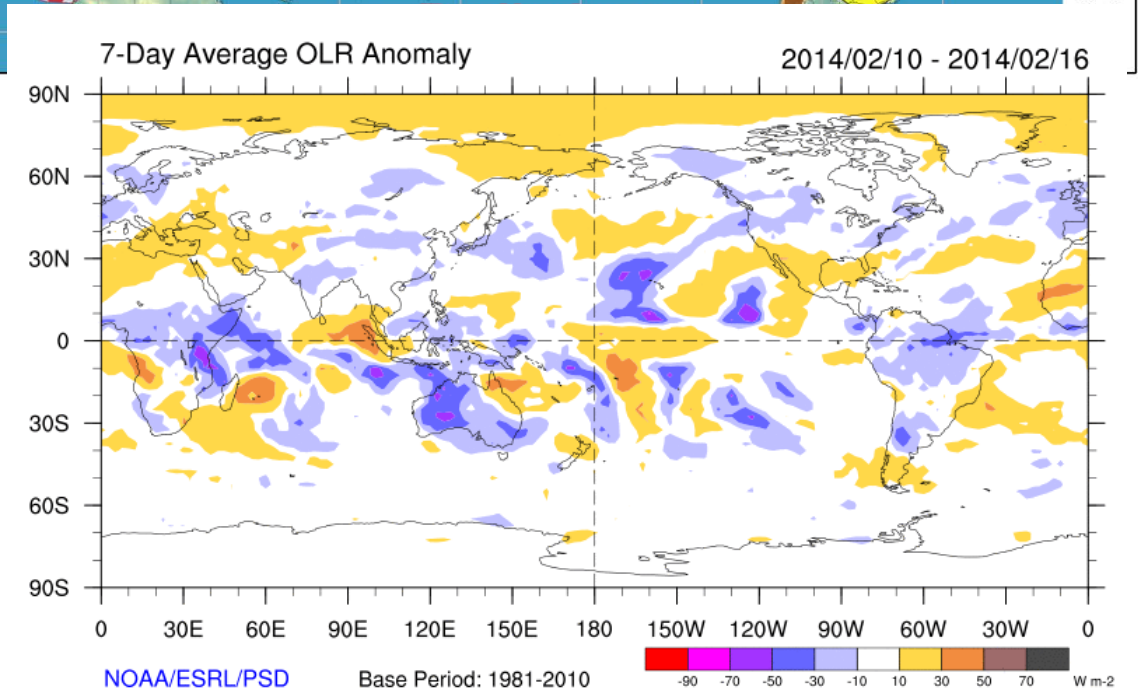
Stephen Baxter

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





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

MJO and other subseasonal tropical variability:

• The MJO showed some signs of strengthening, though several observational indicators are not consistent with coherent MJO activity. Enhanced (suppressed) convection is centered over the West Pacific (Africa/Indian Ocean).

• Dynamical model MJO index forecasts generally support eastward propagation through the West Pacific during Week-1, followed by a stationary signal during Week-2. This is likely due to the prominence of the low-frequency mode that has been shifting slowly eastward toward the West Pacific during the past couple of months.

Extratropics:

• The extended range forecast for the U.S. aligns well with composites of the typical extratropical response to anomalous convection over the West Pacific, namely, an anomalous trough in the northern Pacific and a downstream ridge over northwestern North America.

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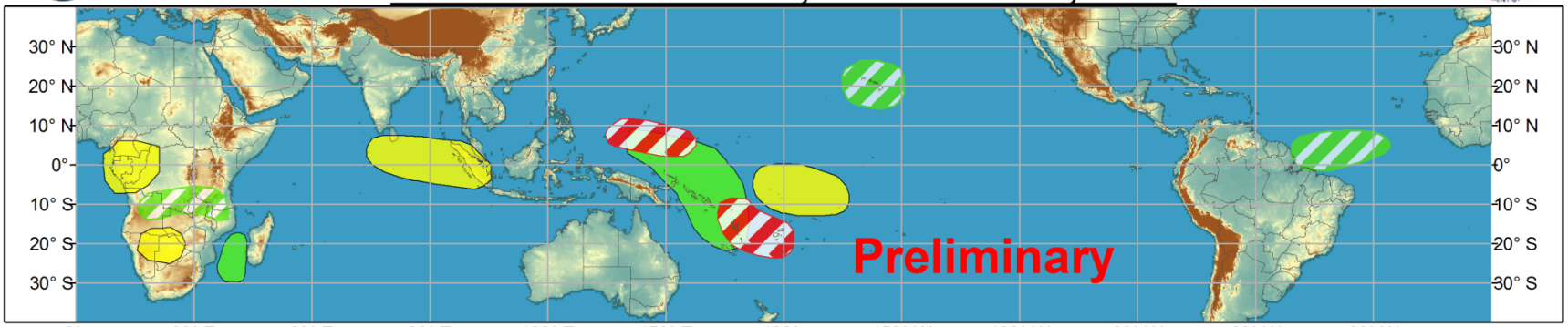
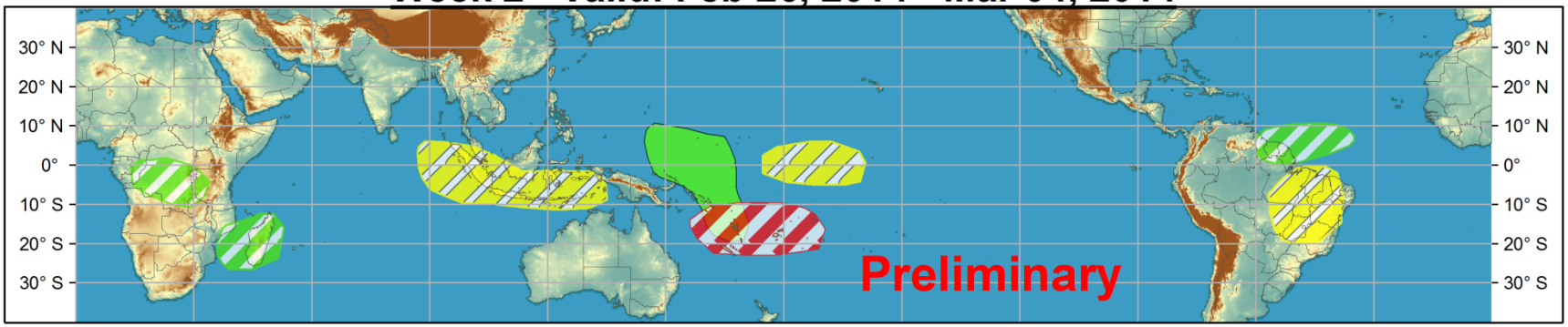
Week 1 - Valid: Feb 19, 2014 - Feb 25, 2014



Week 2 - Valid: Feb 26, 2014 - Mar 04, 2014



Produced: 02/18/2014

Forecaster: Baxter

	Confidence: High	Confidence: 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.
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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.

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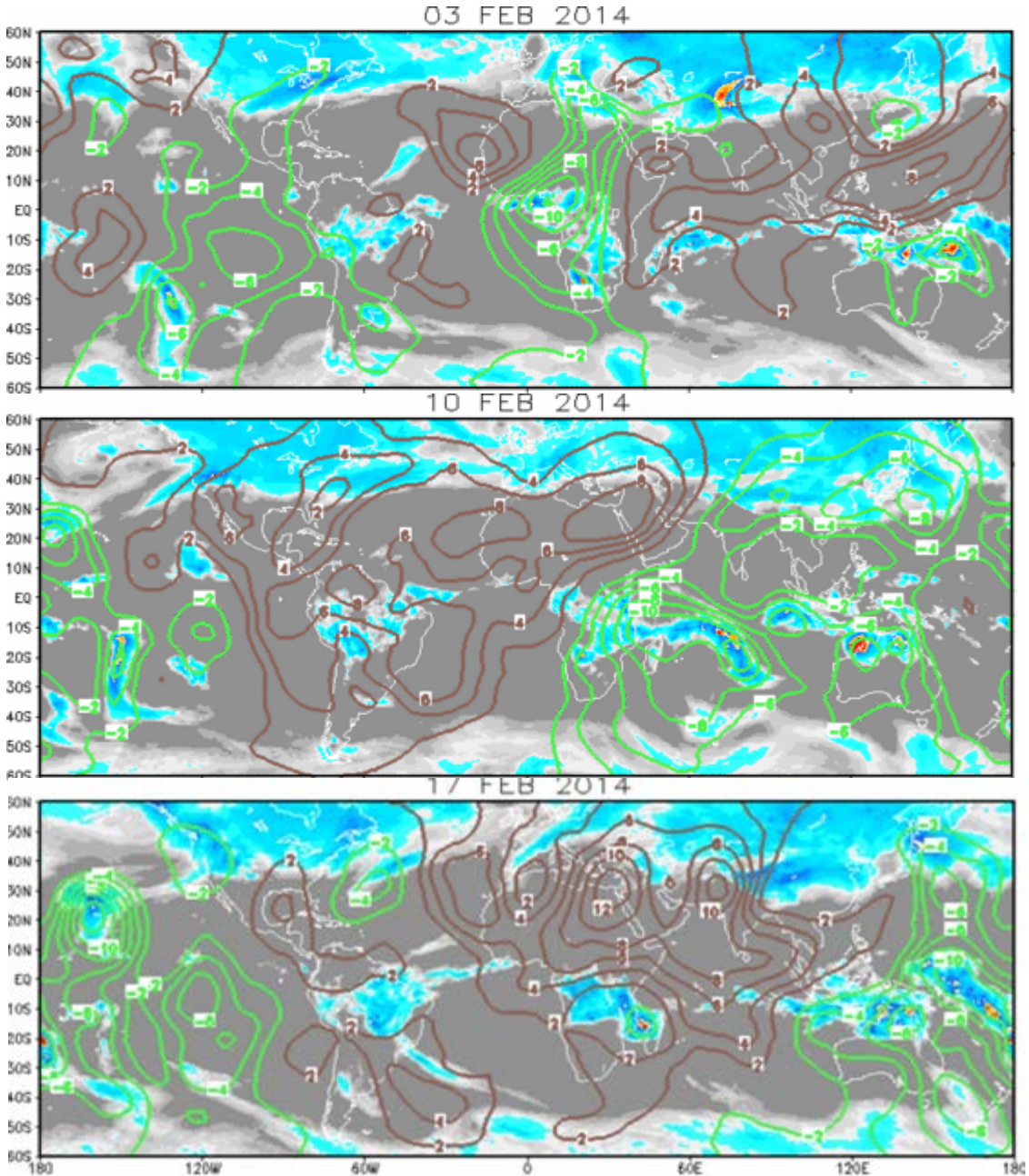
NPS PRAESTANTIA PER SCIENTIAM

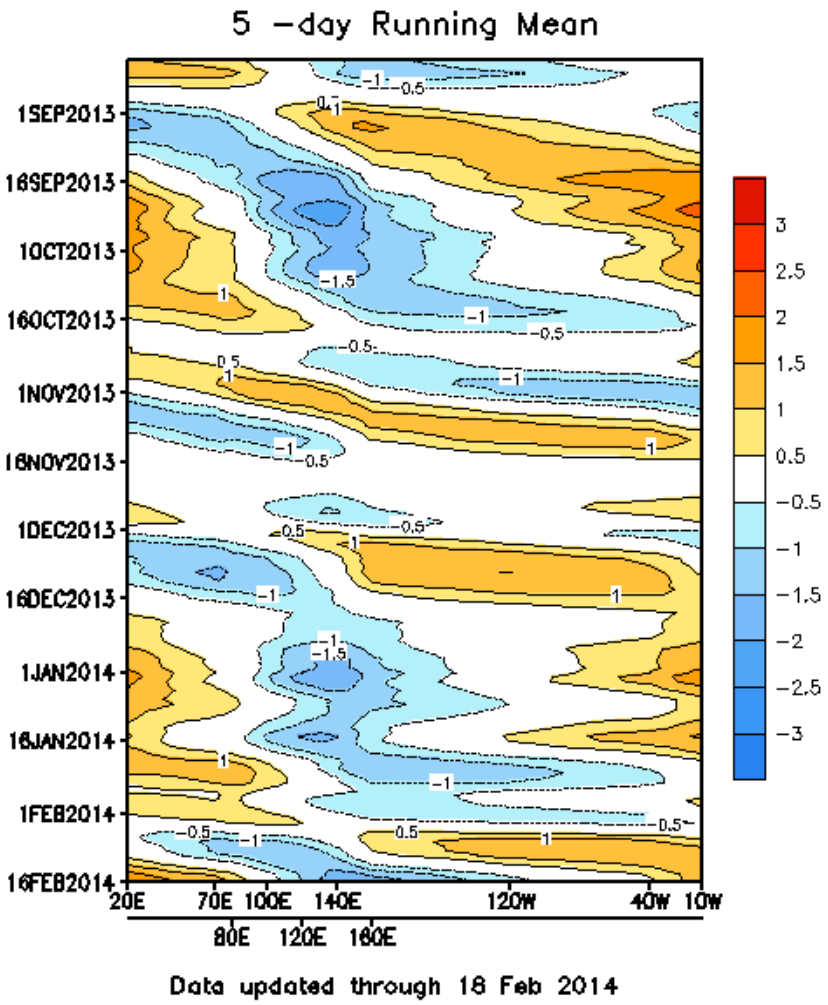
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

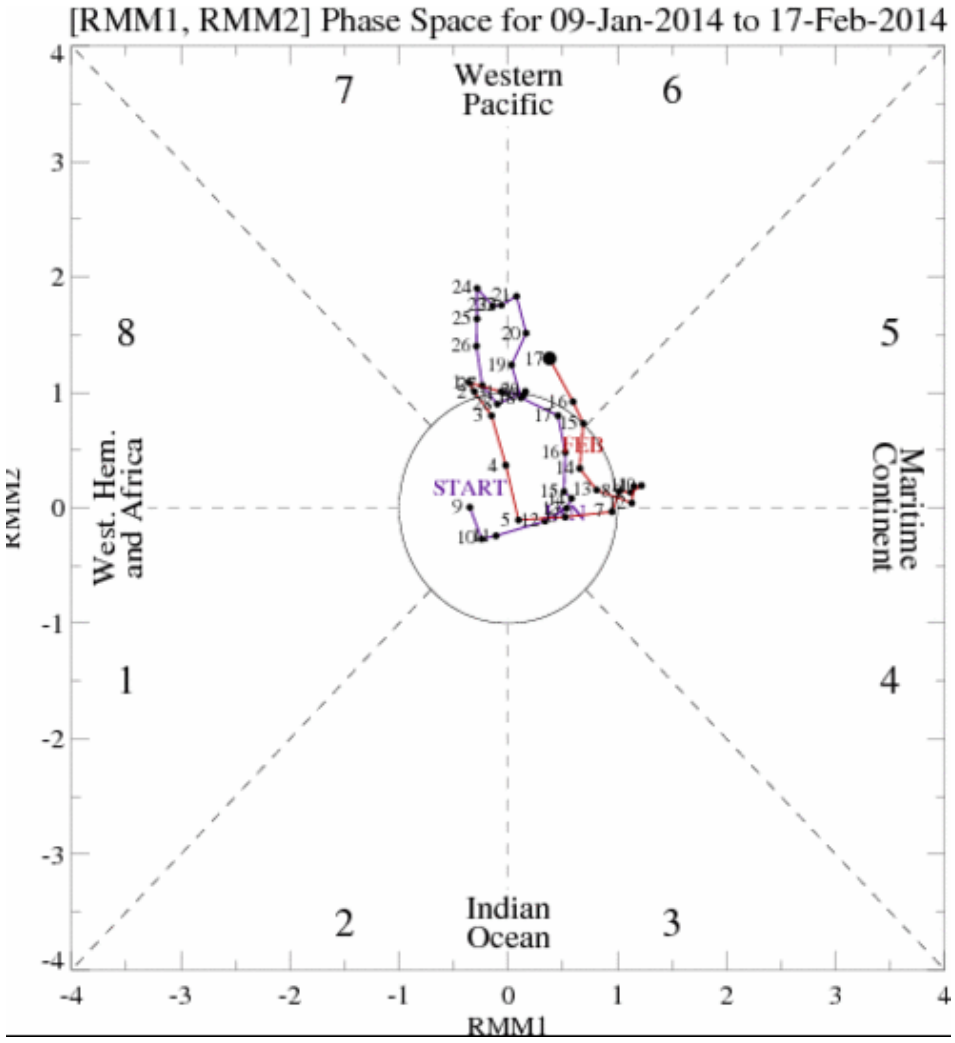


The velocity potential field has become more coherent over the past few weeks.

CPC VP Based MJO Index

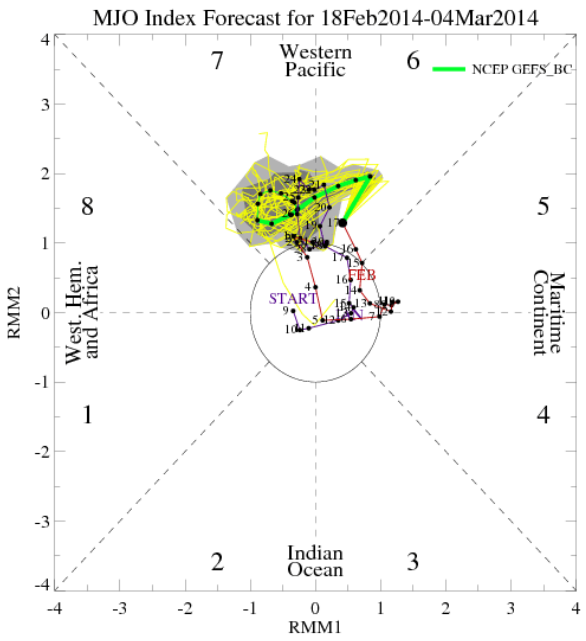


Wheeler-Hendon MJO Index

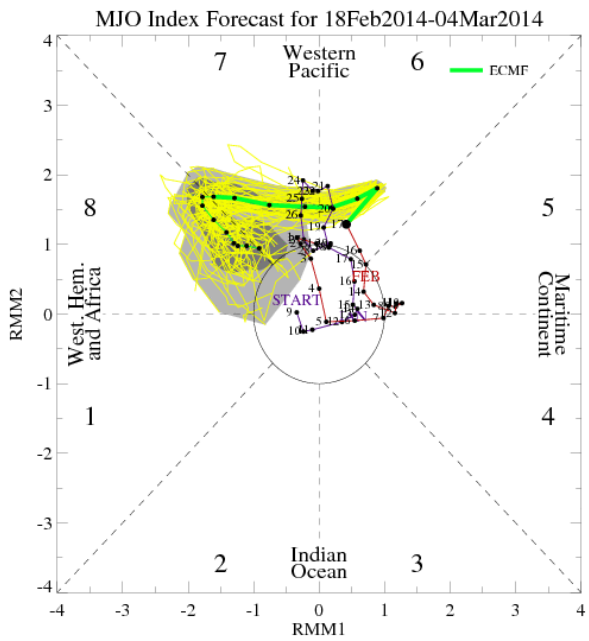


Both indices are consistent with convection over the West Pacific.

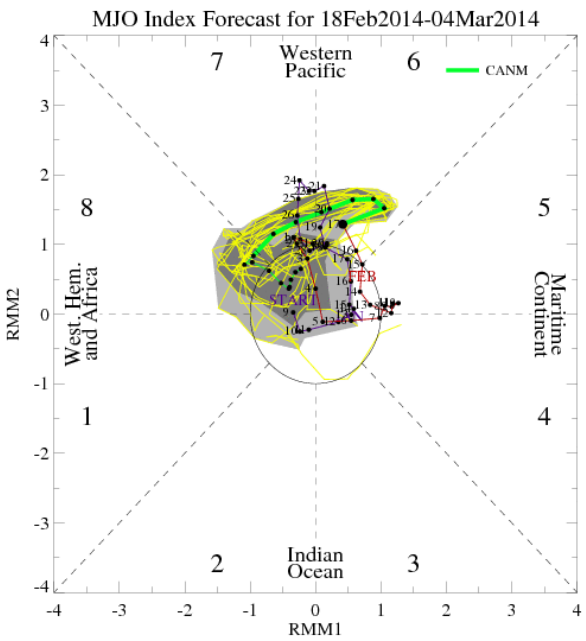
MJO Observation/Forecast



GFS



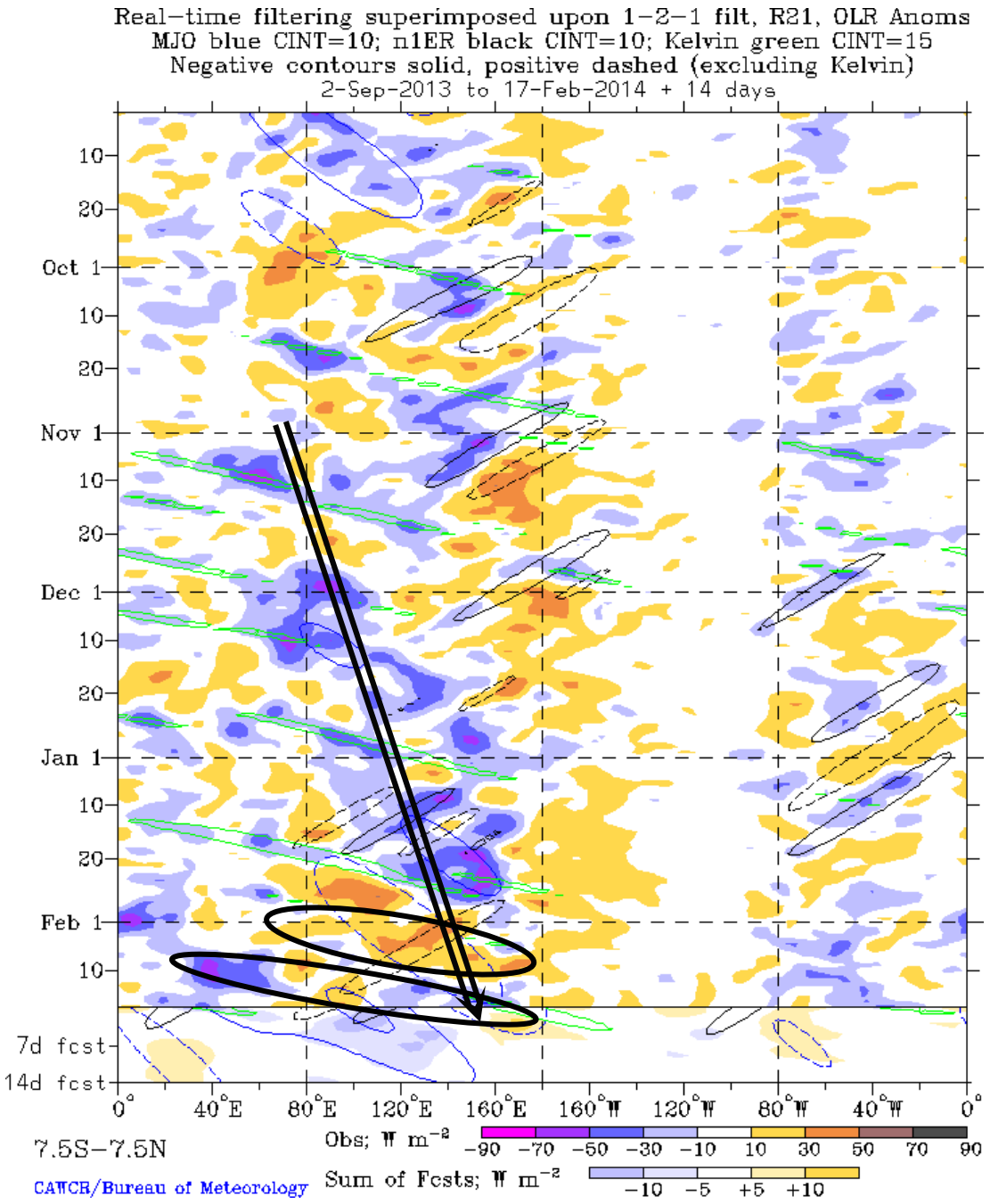
ECMWF



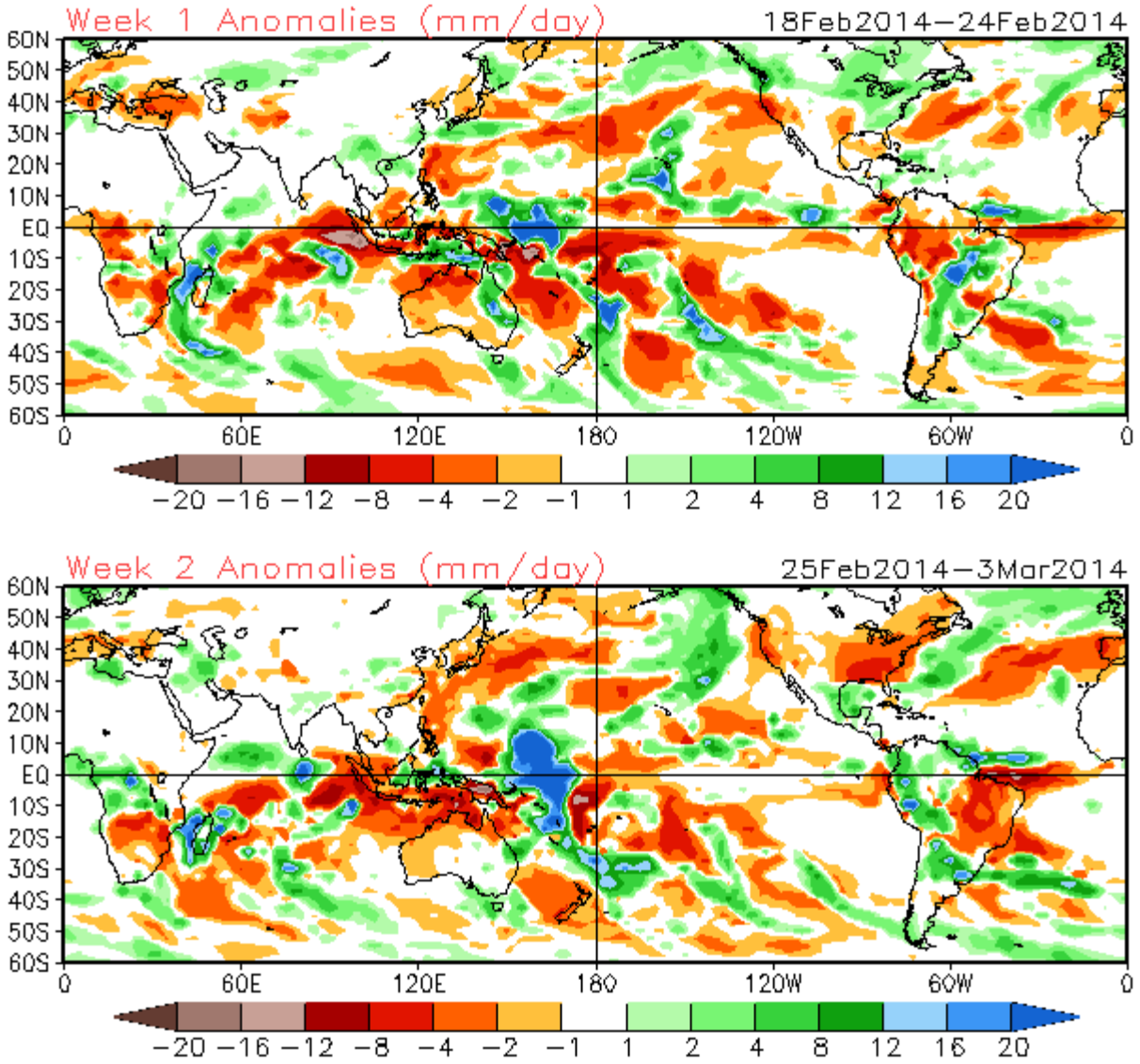
Canadian

Dynamical models propagate the signal eastward during Week-1, then remain stationary thereafter.

MJO/Kelvin activity interrupted the low-frequency signal.



CFSv2 Ensemble Precipitation Forecast

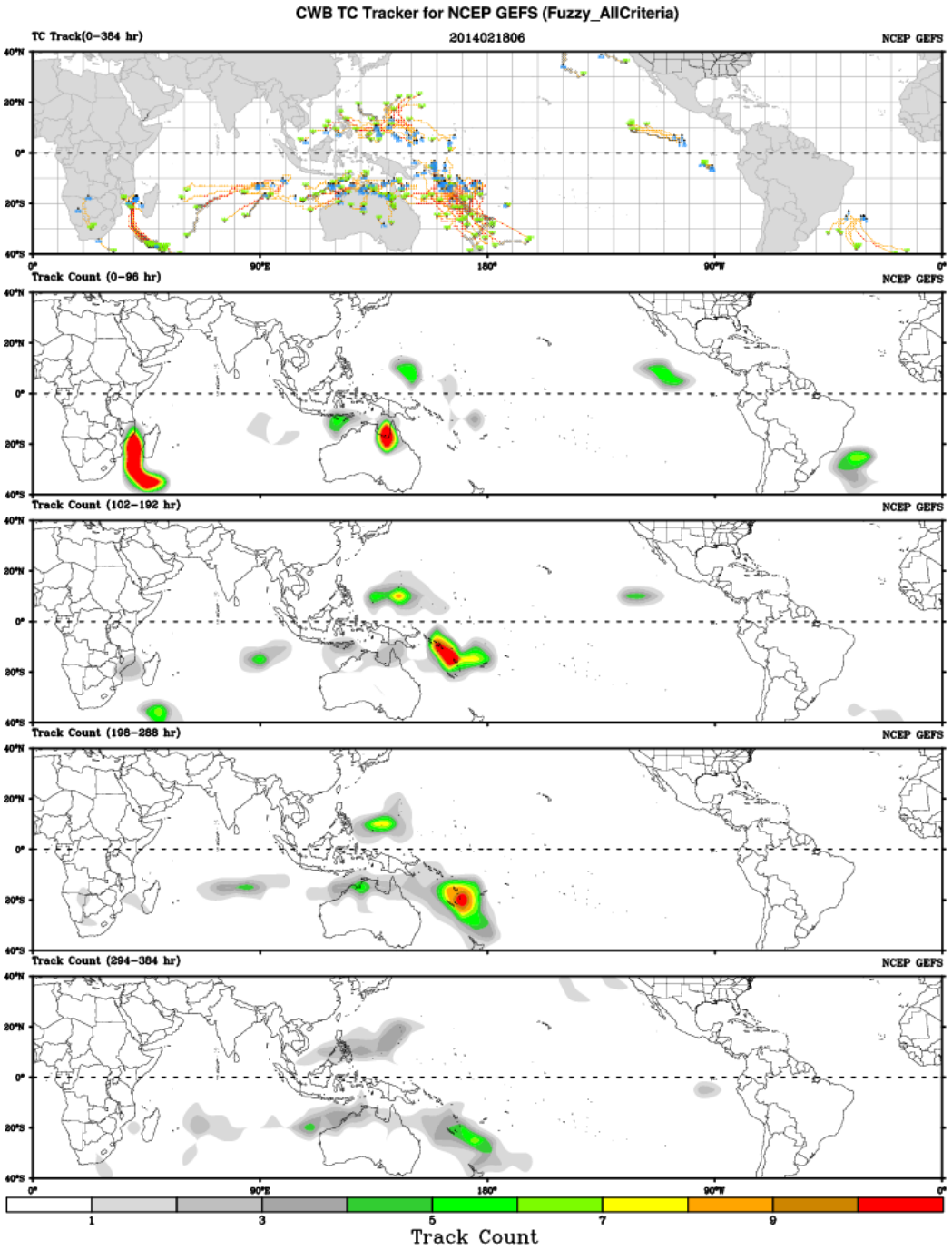


Days 1-4

Days 5-8

Days 9-12

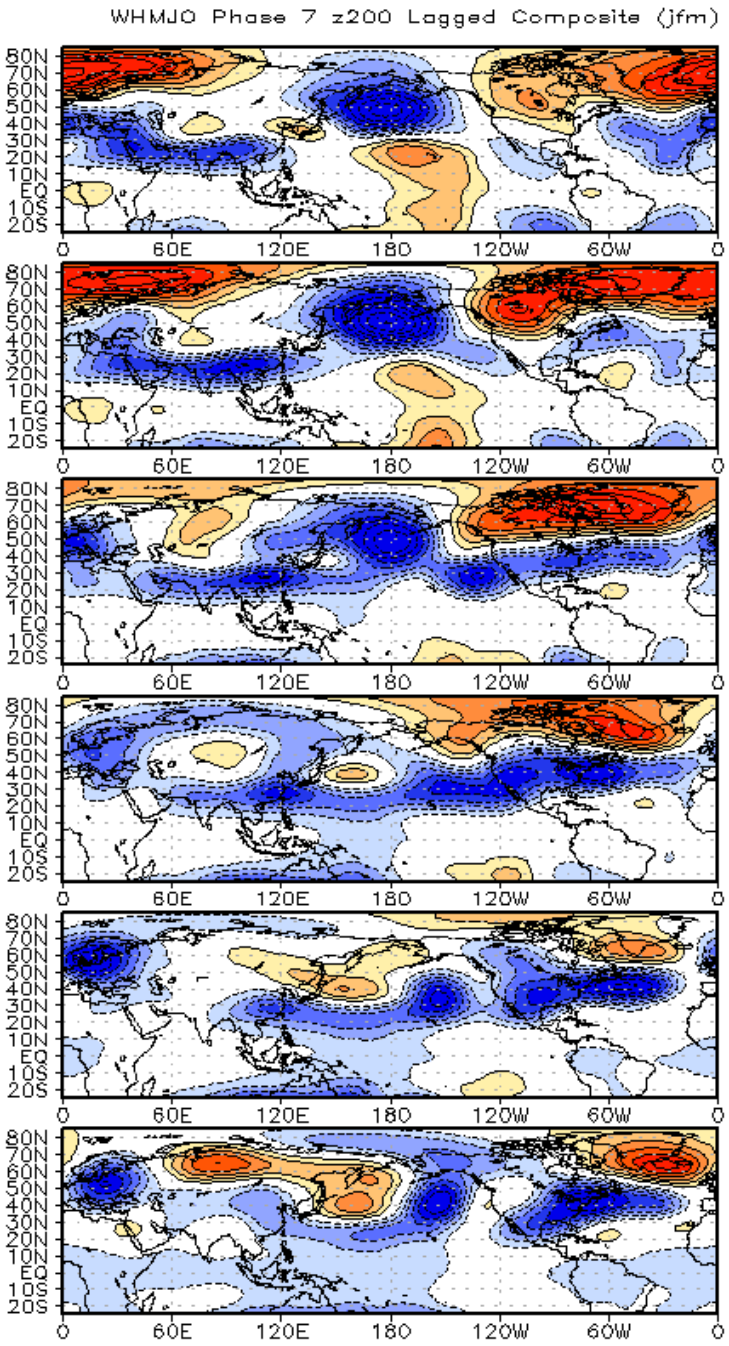
Days 13-16



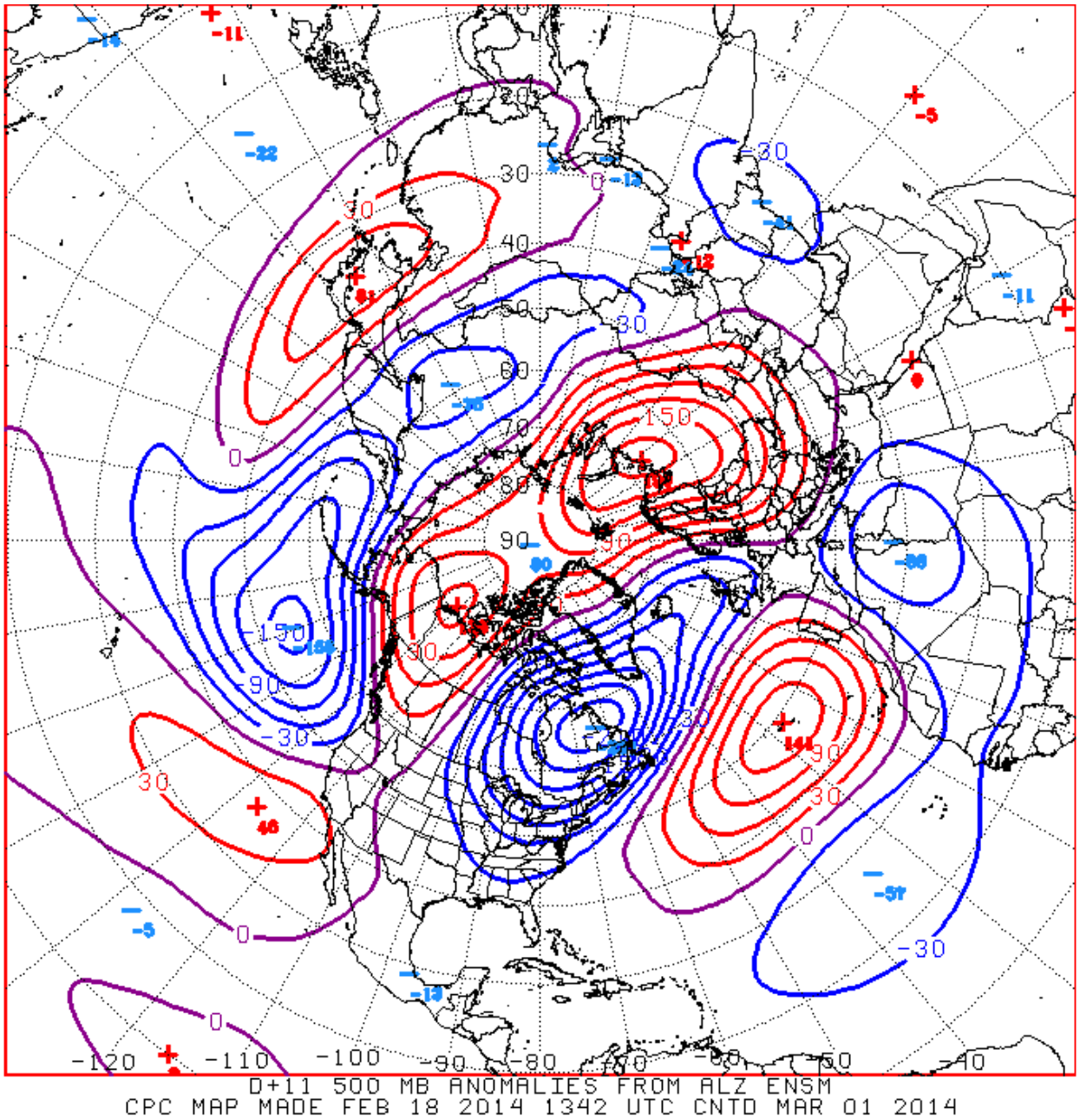
Connections to U.S. Impacts

Lagged composites based on a Phase-7 of the RMM index.

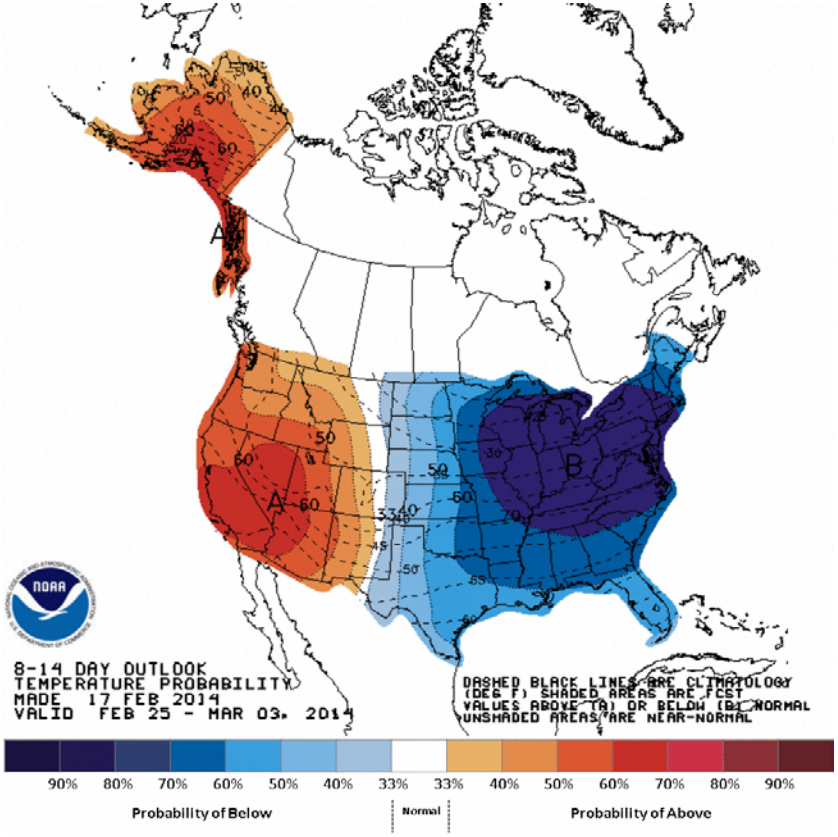
Note the ridging over northern North America will undercutting across the CONUS.

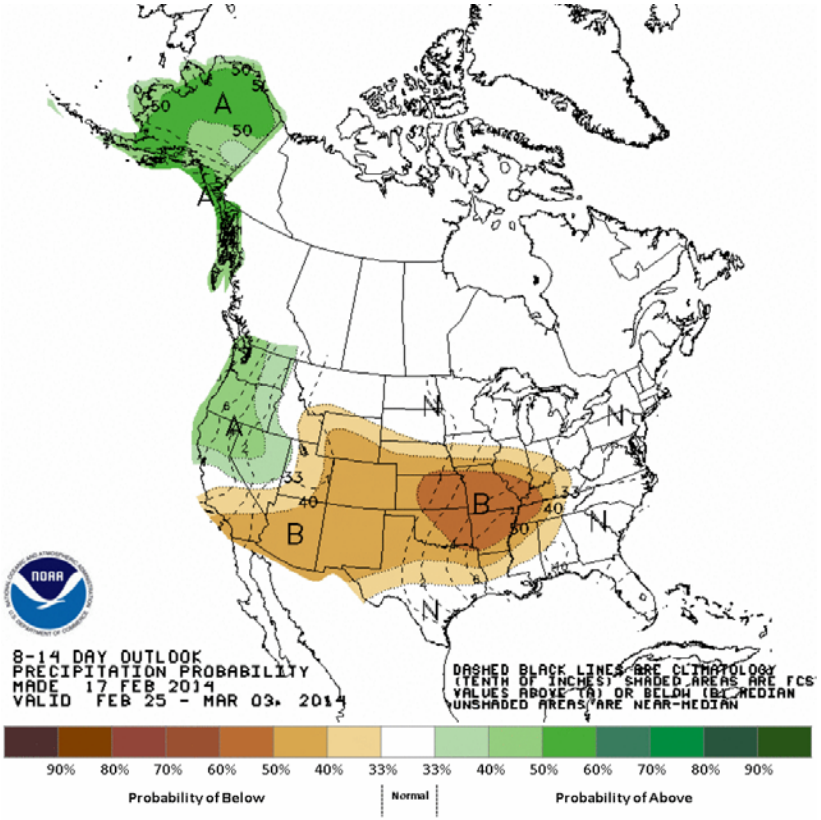


Week-2 500-mb forecast height anomalies from the GFS superensemble.



Week 2 – Temperature and Precipitation





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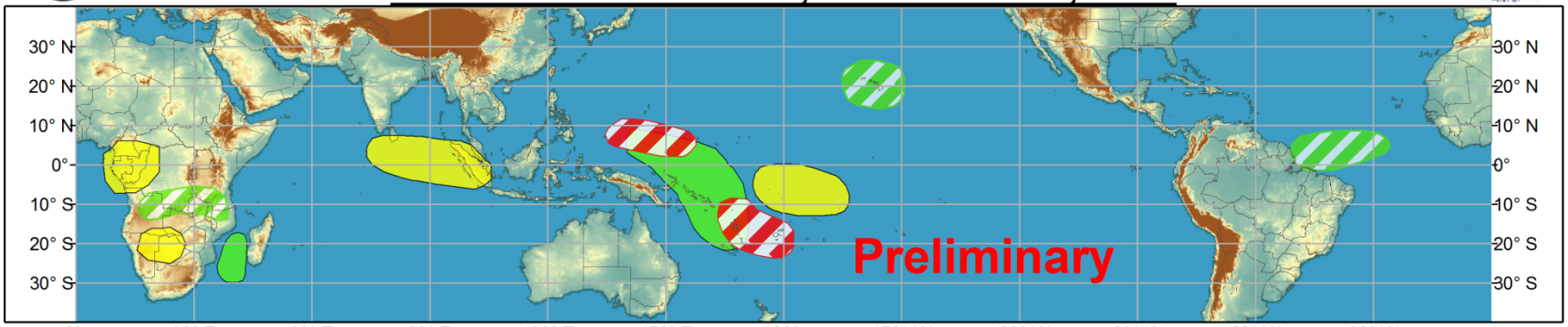

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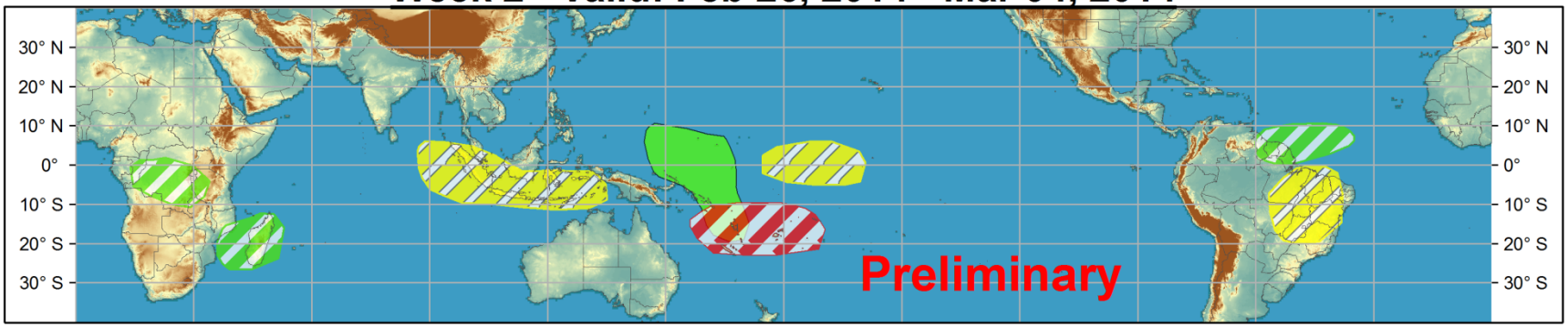

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