Global Tropics Hazards And Benefits Outlook

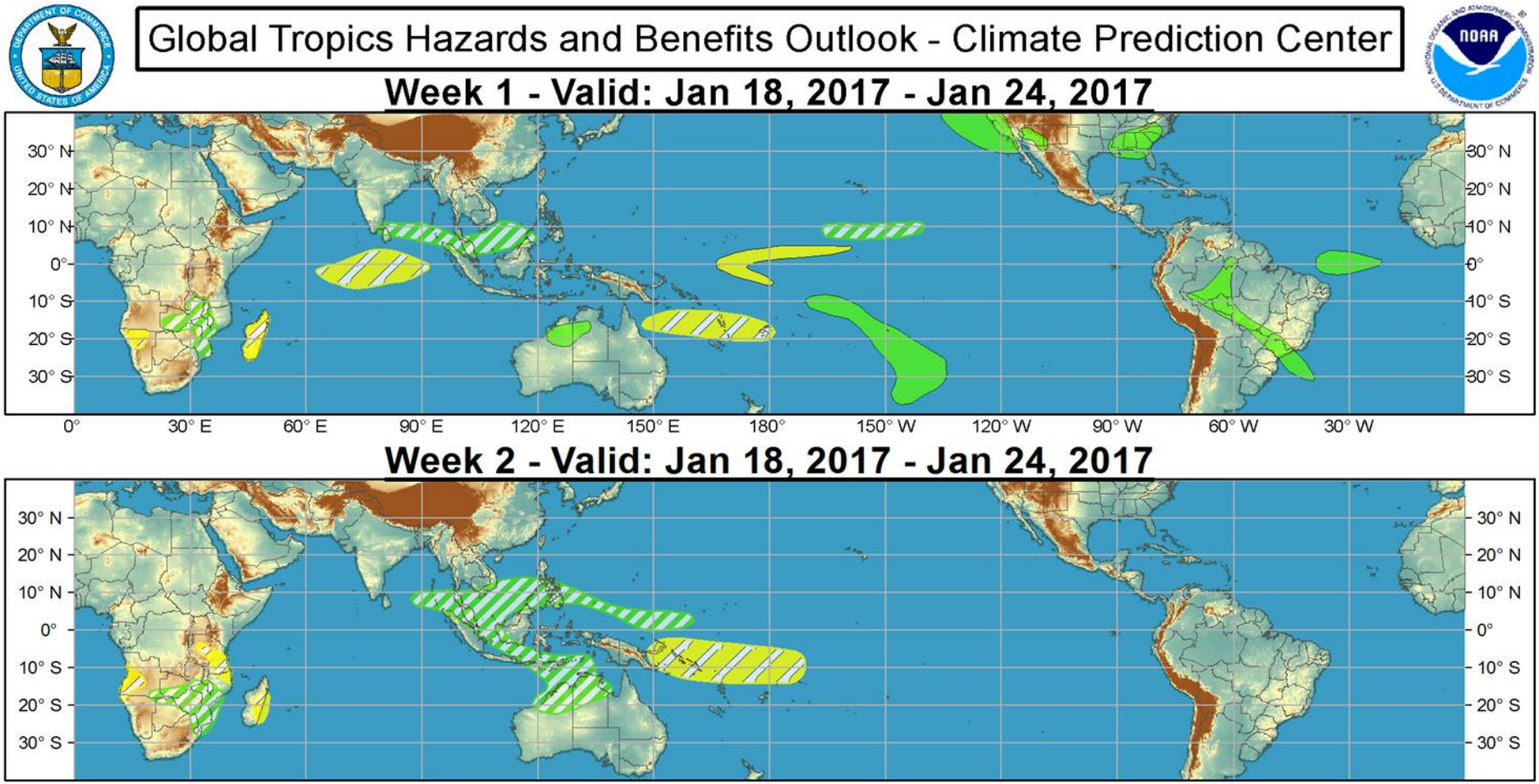
1/24/2017

Adam Allgood

Outline

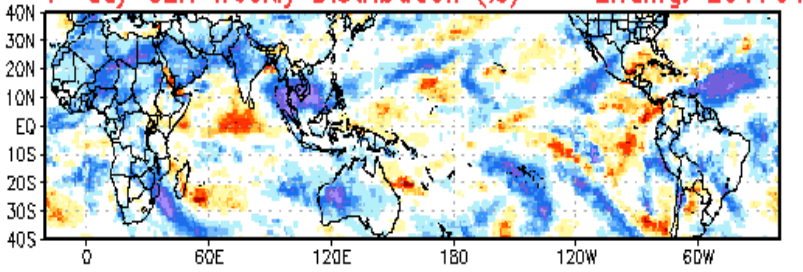
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

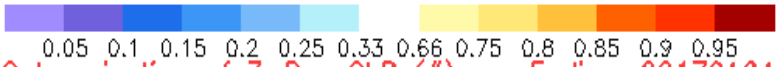
Outlook Review – Tropical Cyclones



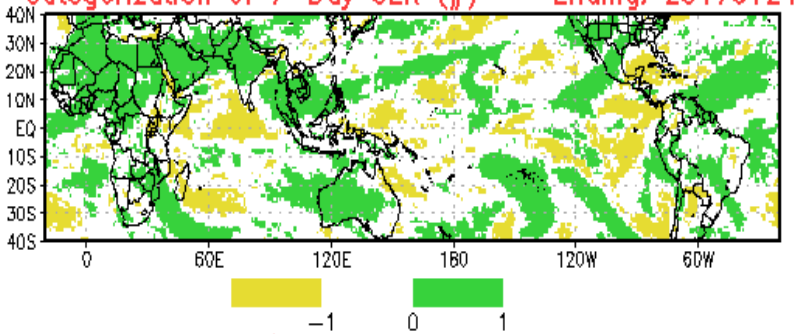
No tropical cyclone development forecast, no tropical cyclones formed. Perfection!

7-day OLR Weekly Distribution (%) -- Ending: 20170124

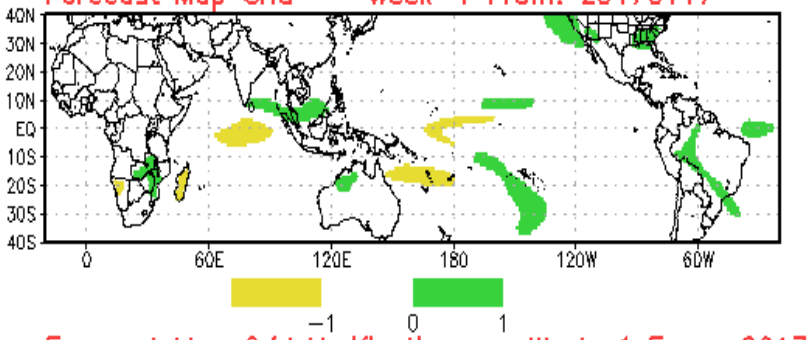




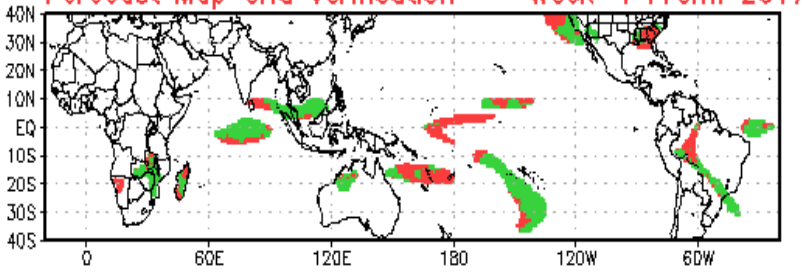
Categorization of 7-Day OLR (#) -- Ending: 20170124



Forecast Map Grid -- Week-1 From: 20170117

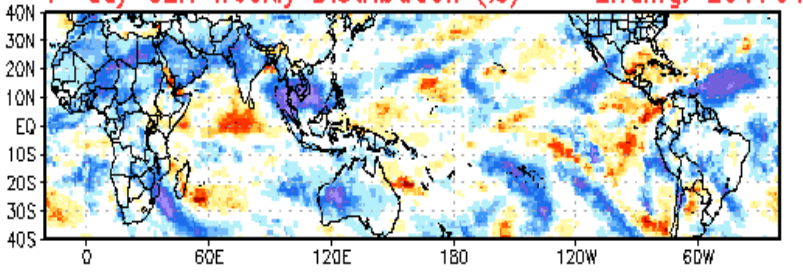


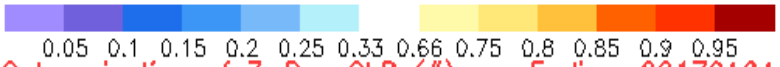
Forecast Map Grid Verification -- Week-1 From: 20170117



Hit: Green, Miss: Red
Heidke Skill Score: 40.1142

7-day OLR Weekly Distribution (%) -- Ending: 20170124





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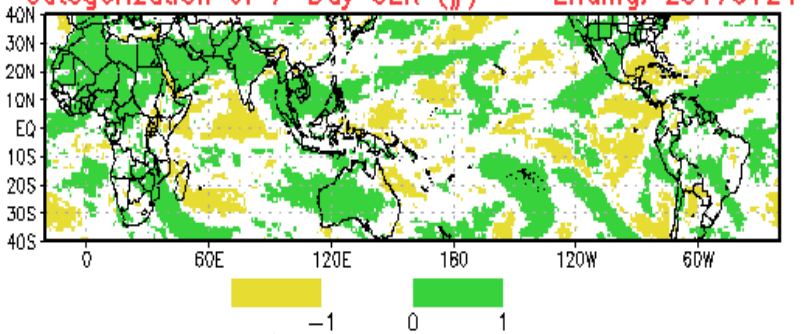
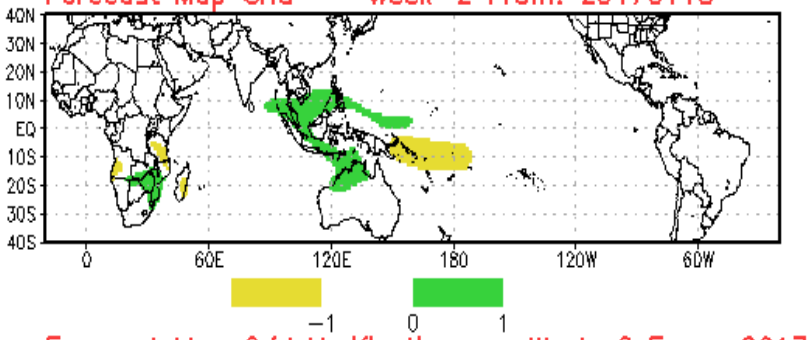
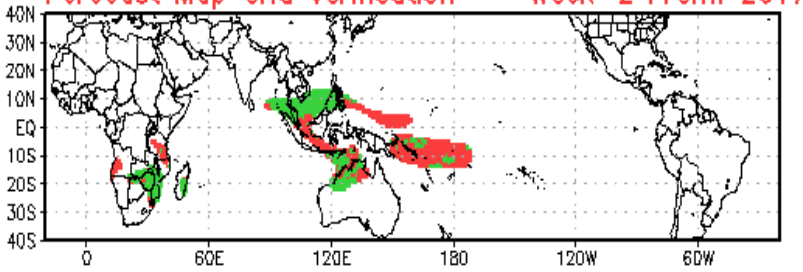


Forecast Map Grid -- Week-2 From: 20170110



Forecast Map Grid Verification -- Week-2 From: 20170110



Hit: Green, Miss: Red
Heidke Skill Score: 21.0547

Synopsis of Climate Modes

ENSO:

• ENSO Alert System Status: La Niña Advisory

• A transition to ENSO-neutral is expected to occur by February 2017, with ENSO-neutral then continuing through the first half of 2017

MJO and other subseasonal tropical variability:

• There is an active MJO – enhanced phase attempting to transition from the Western Hemisphere to the western Indian Ocean.

• Destructive interference between the MJO and the base state (negative IOD phase and decaying La Niña) is limiting the convective response over the Indian Ocean.

• The base state and an equatorial Rossby wave are promoting enhanced convection over the Maritime Continent and northwestern Pacific – out of phase with the MJO.

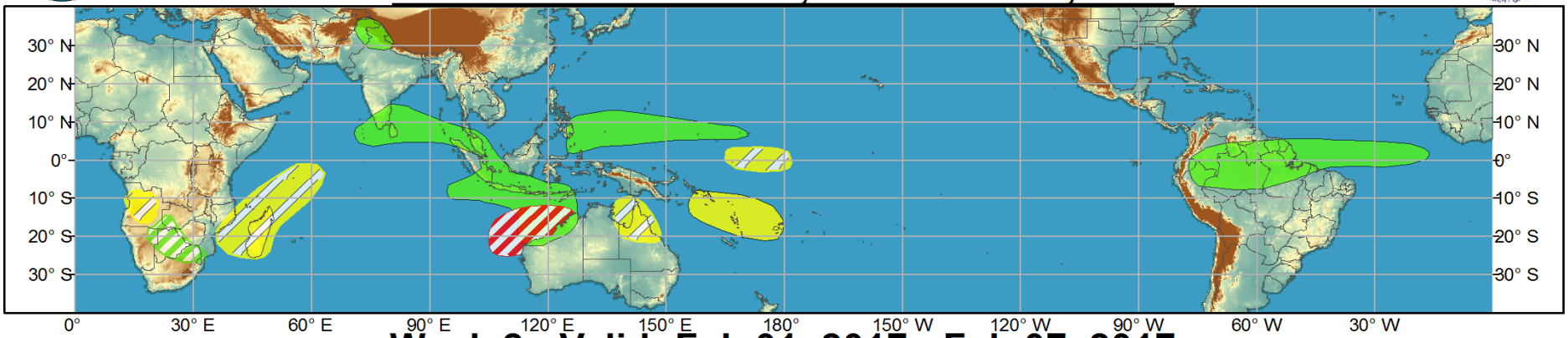
• The MJO is anticipated to continue propagating eastward, eventually entering a region of constructive interference with the base state.

Extratropics:

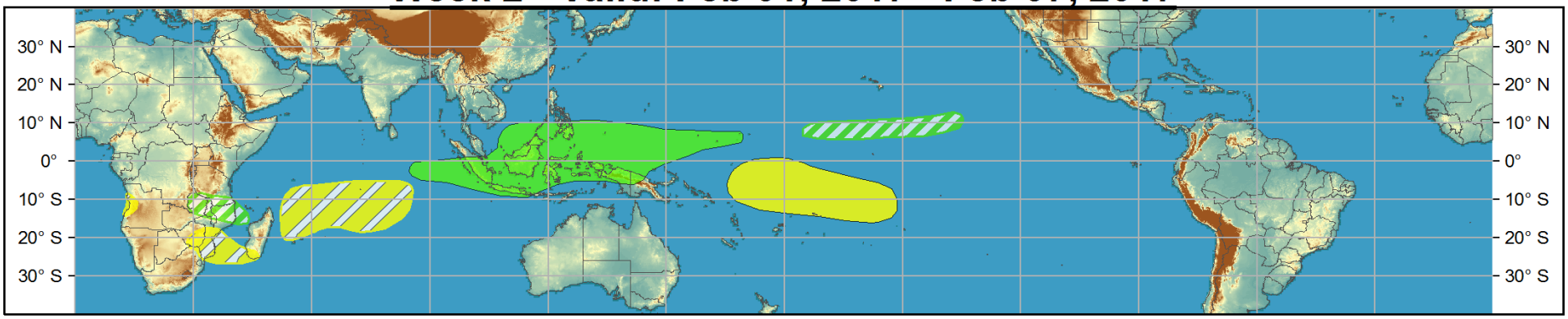
• The MJO can influence the evolution of the northern hemisphere extratropical pattern, but an anticipated blocking pattern over the northern Pacific may complicate the response.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 25, 2017 - Jan 31, 2017



Week 2 - Valid: Feb 01, 2017 - Feb 07, 2017



Produced: 01/24/2017

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.
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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.

中央氣象局 Central Weather Bureau

UNIVERSITY AT ALBANY State University of New York

EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

Australian Government Bureau of Meteorology

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NPS PRAESTANTIA PER SCIENTIAM

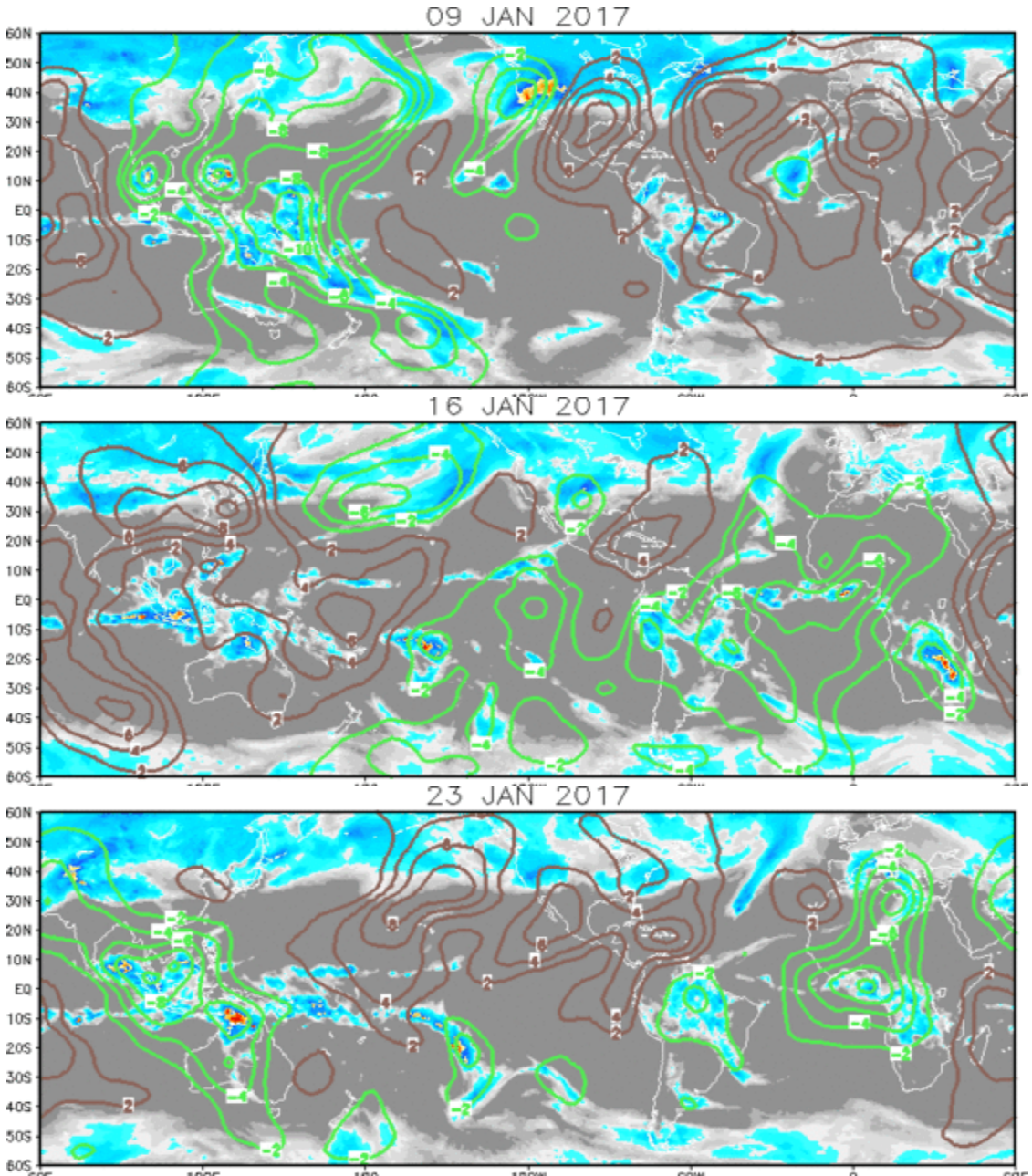
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

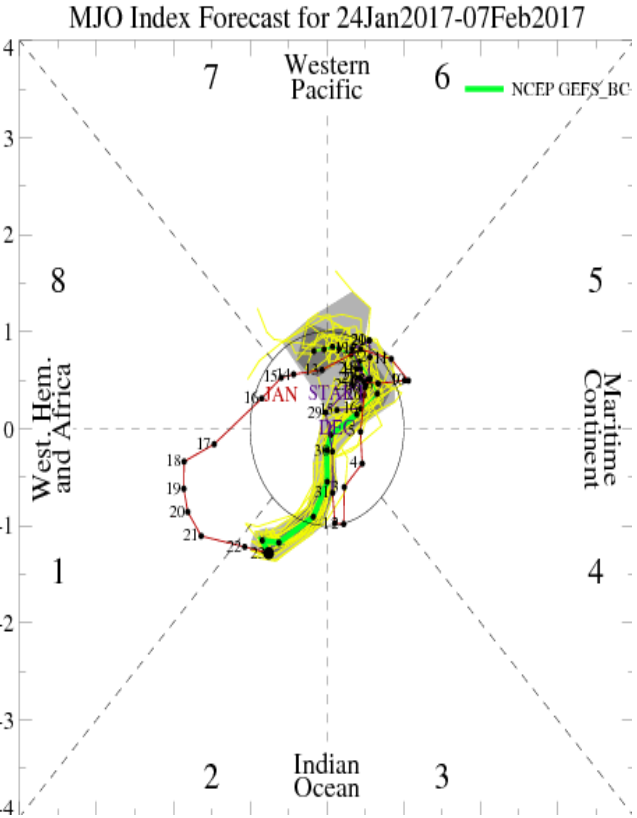
Wave-1 pattern emerging, with destructive interference between La Niña and the intraseasonal signal over the Pacific

Enhanced convective envelope shifts to the Western Hemisphere. Suppressed phase over Maritime Continent

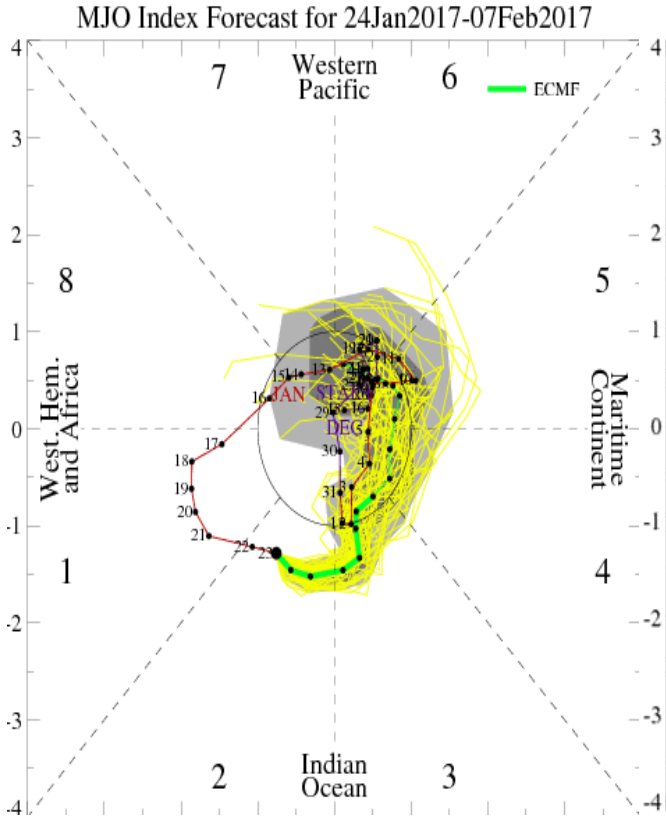
Wave-2 pattern unfolds due to destructive interference between the MJO and the base state/ERW favoring enhanced (suppressed) convection over the Maritime Continent (western IO).



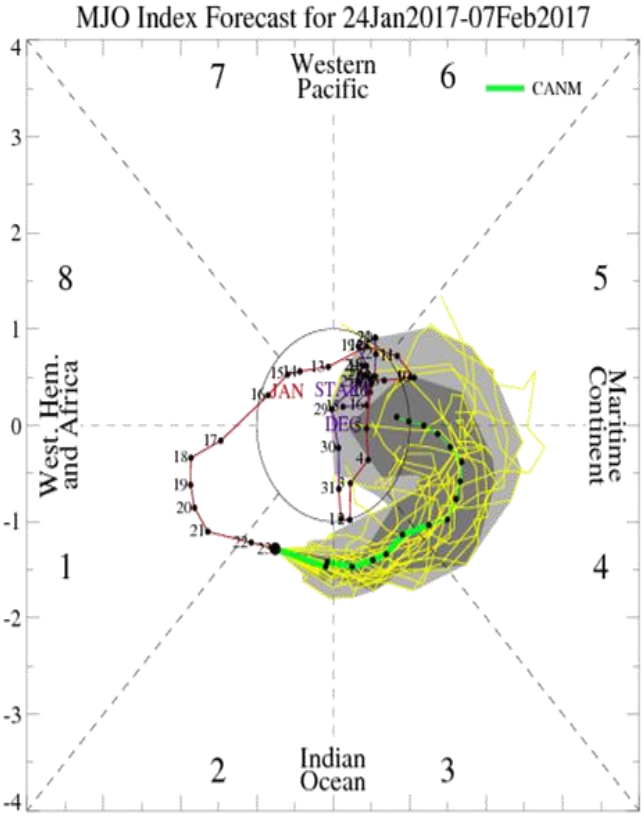
MJO Observation/Forecast



GEFS



ECMWF

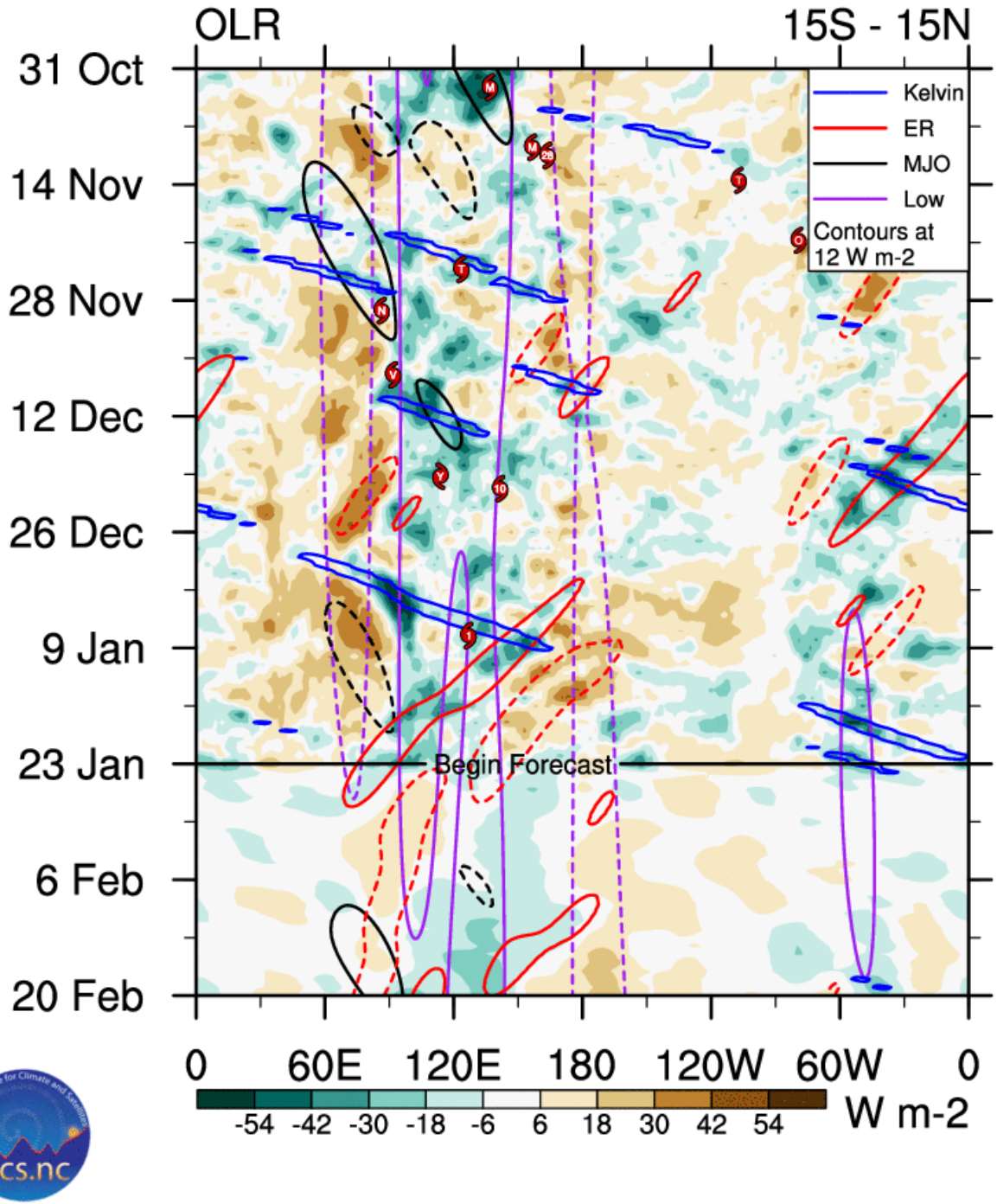


Canadian

GEFS – Kills the MJO quickly. (Note 120-day period mean removed – may dampen enhanced convective signal over Maritime Continent)
ECMWF – Continued MJO propagation with sharp left turn in index (ERW influence?)
Canadian – Stronger Maritime Continent evolution, but weakens and never reaches the West Pacific

MJO not robustly apparent in the OLR field.

ERW and base state favoring enhanced convection over the Maritime Continent.

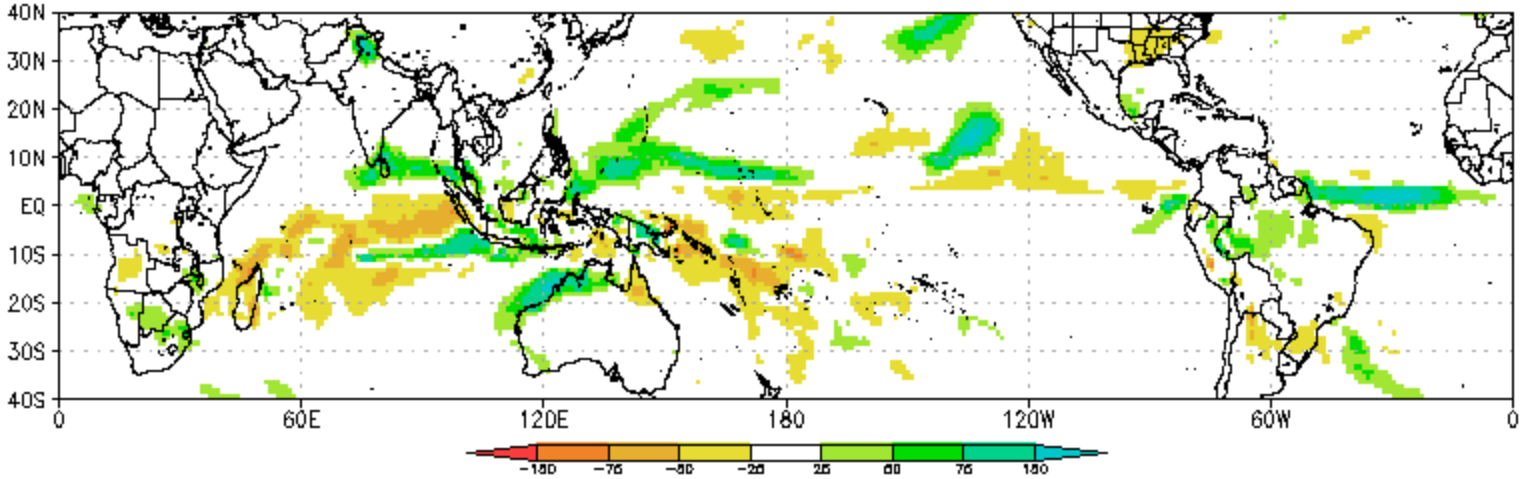


ncics.org/mjo

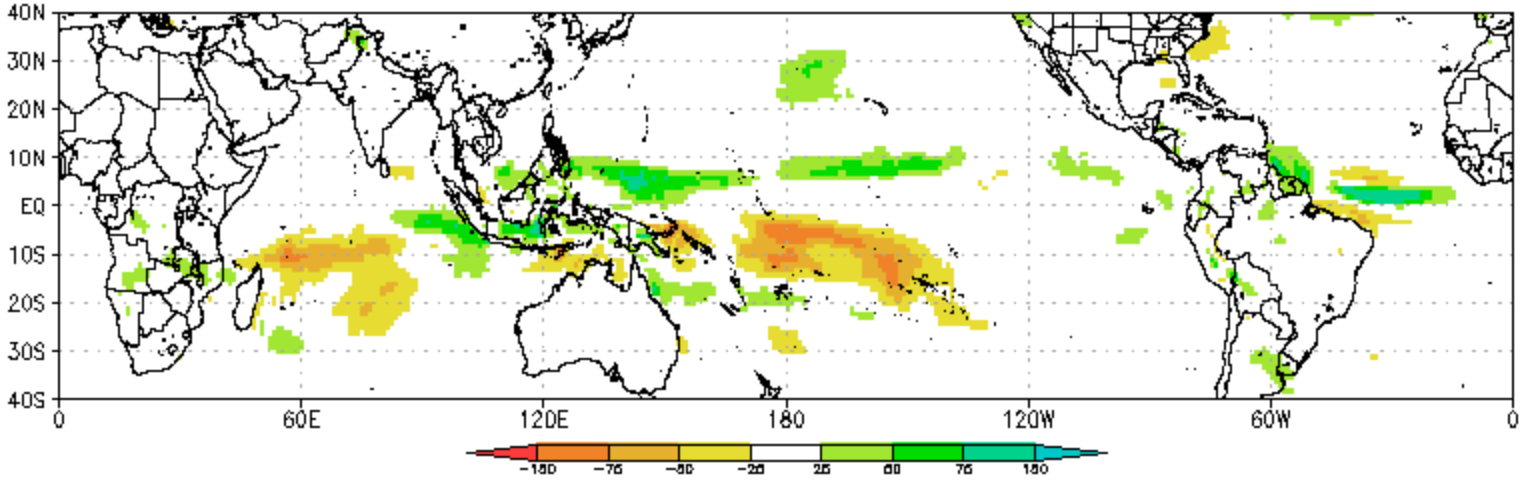
Tue 2017-01-24 1611 UTC

Carl Schreck (cjschrec@ncsu.edu)

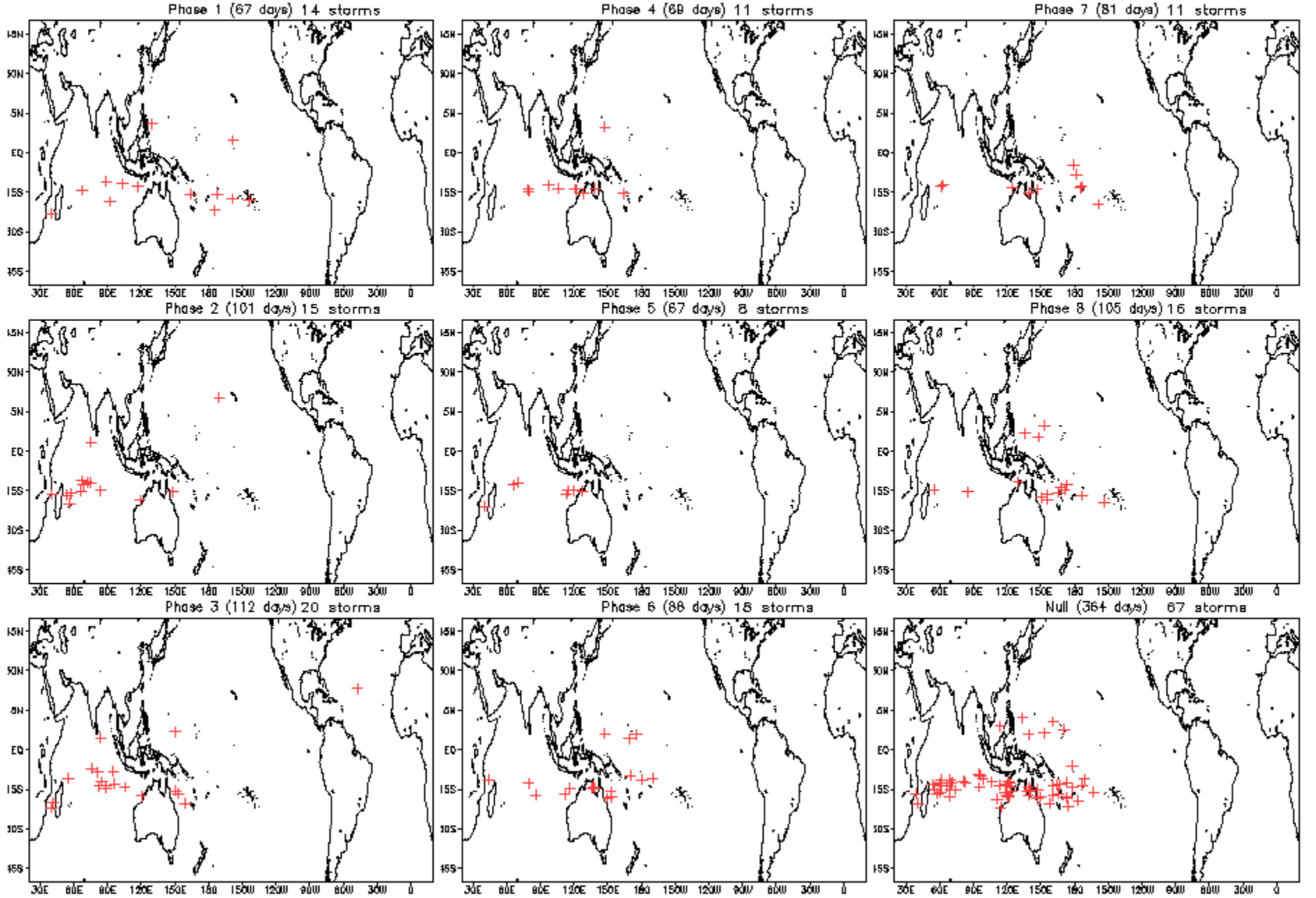
CFSv2 Precip Anomalies (mm) Issued 23Jan2017
Week-1 Forecast Ending 31Jan2017

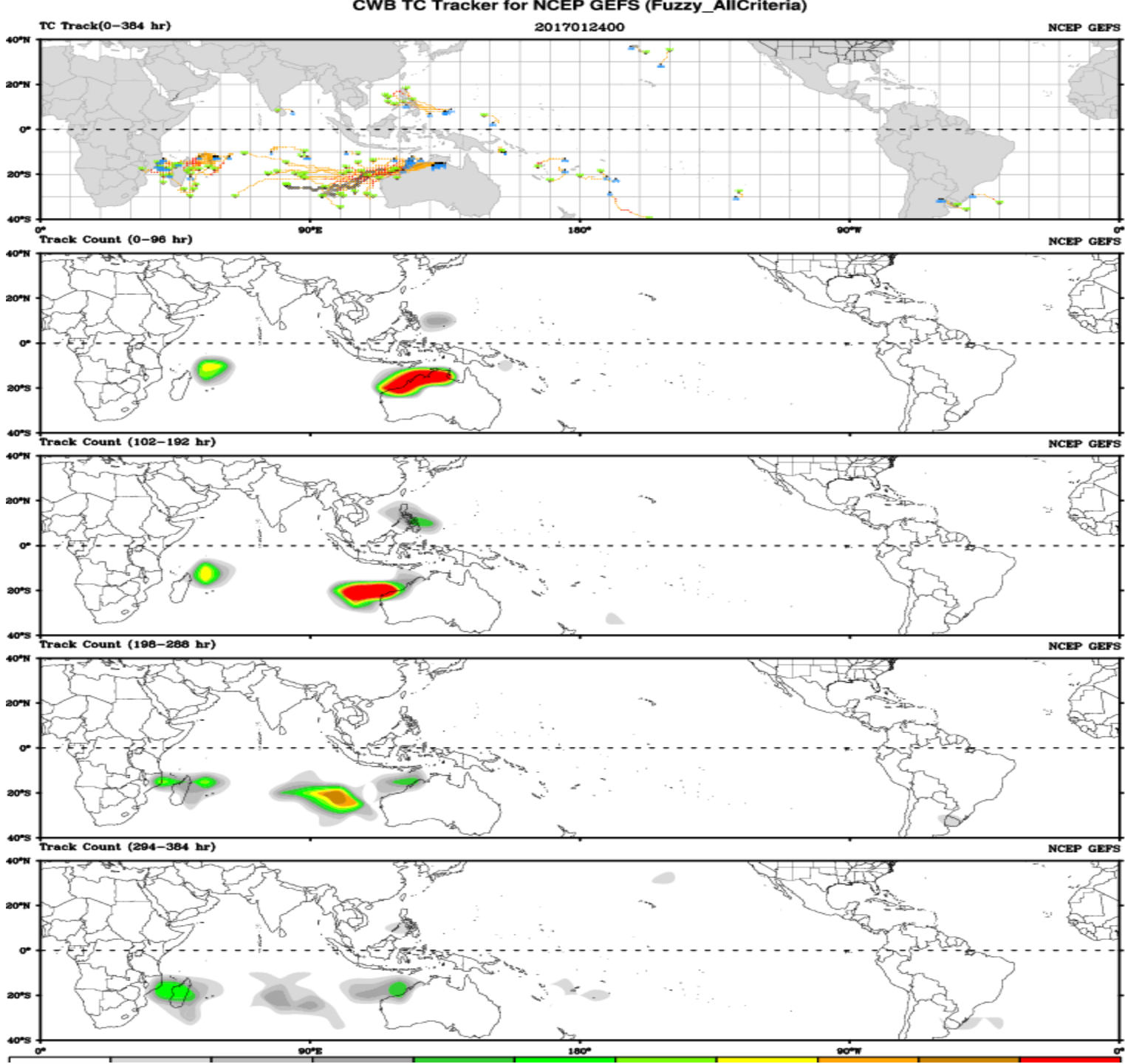


CFSv2 Precip Anomalies (mm) Issued 23Jan2017
Week-2 Forecast Ending 07Feb2017



January Tropical Storm Formation by MJO phase





Days 1-4

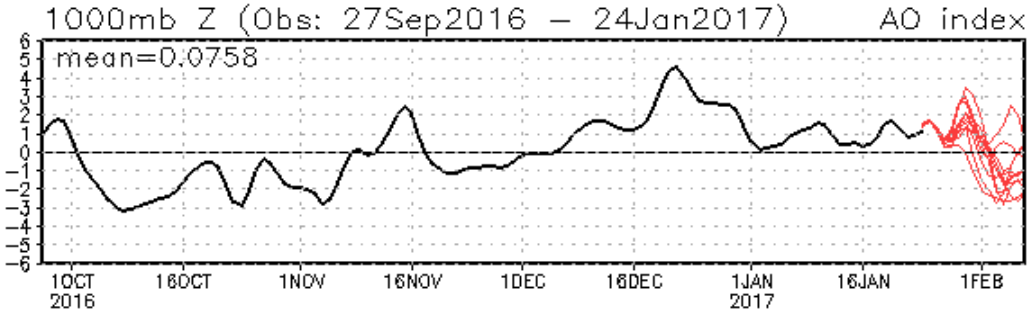
Day 5-8

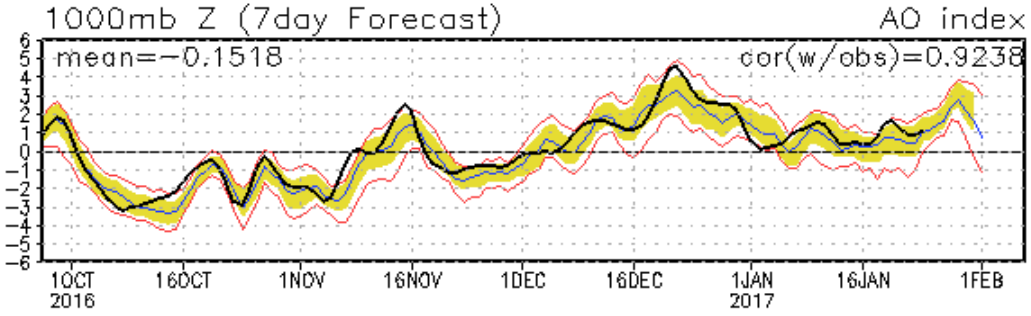
Day 9-12

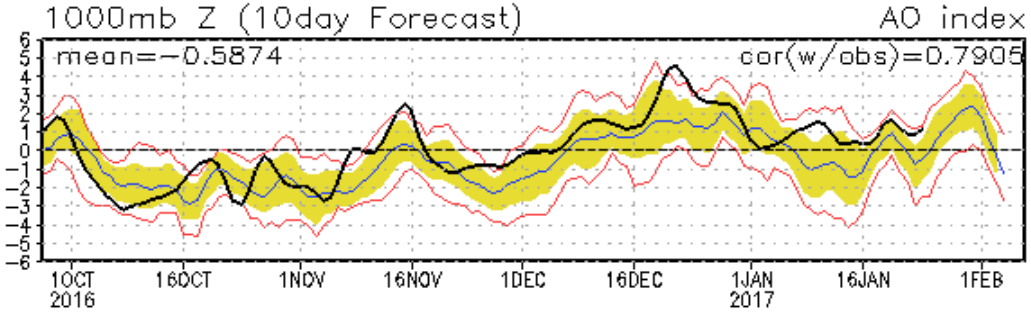
Day 13-15

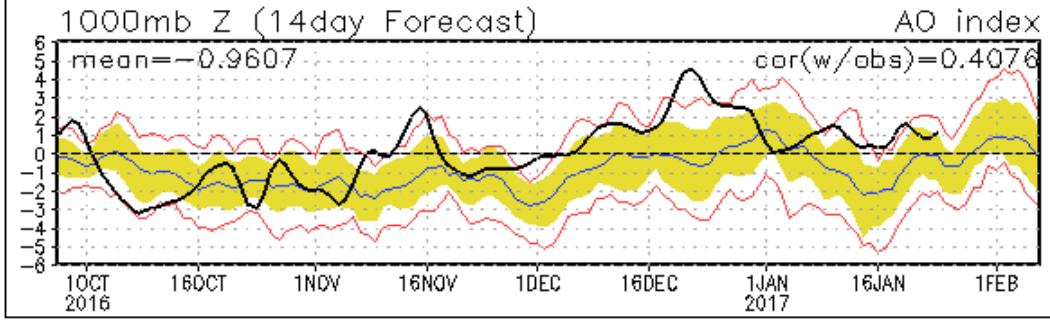
Connections to U.S. Impacts

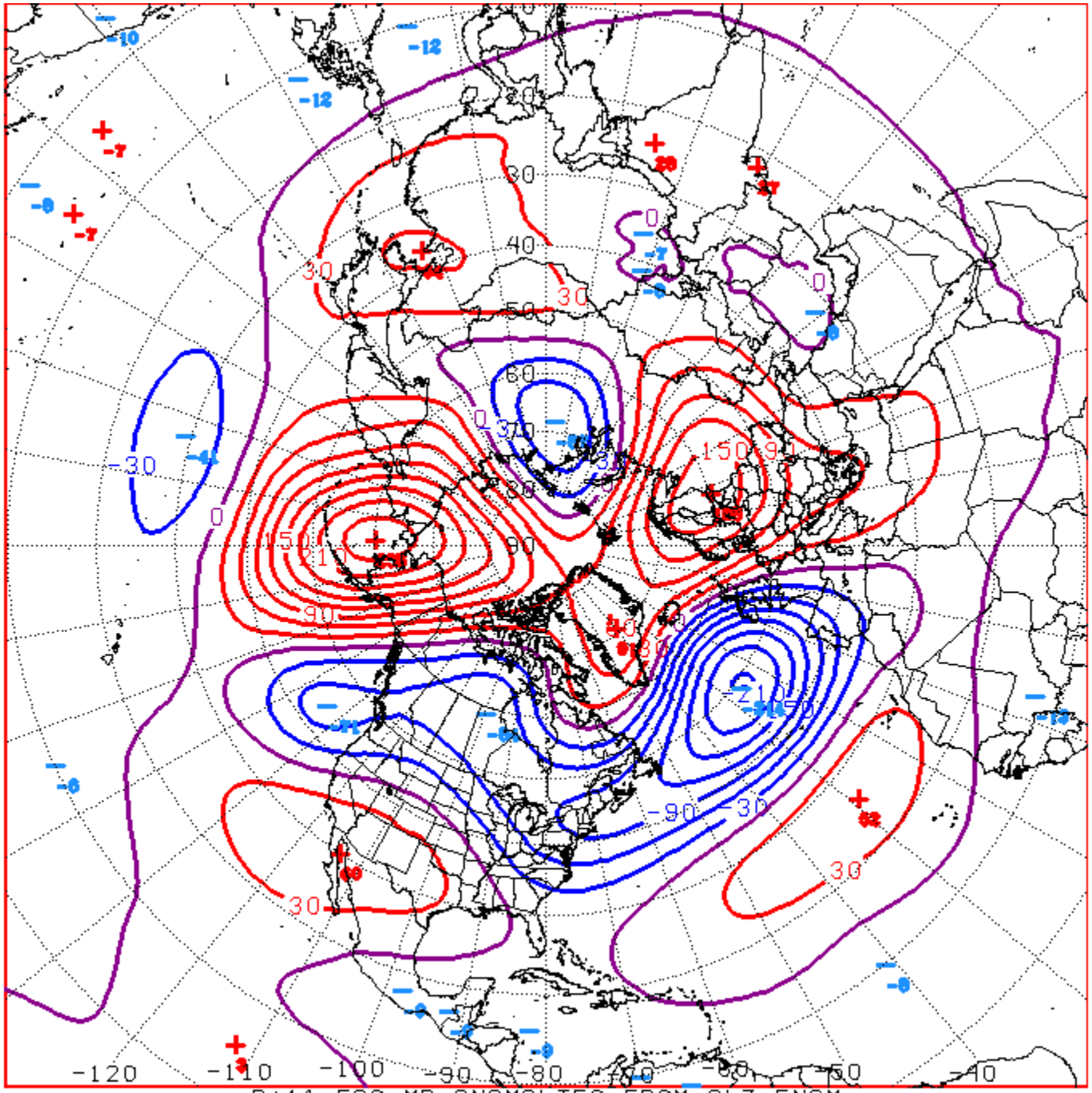
AO: Observed & ENSM forecasts





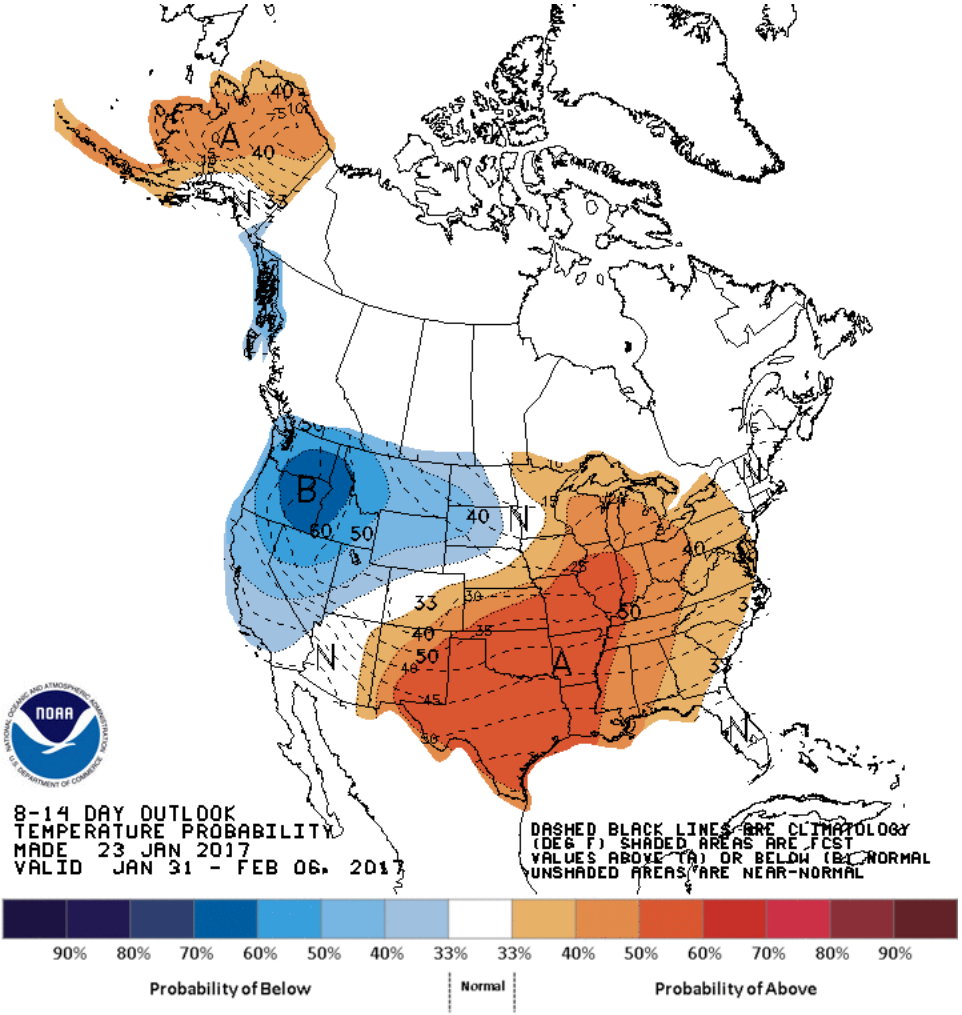


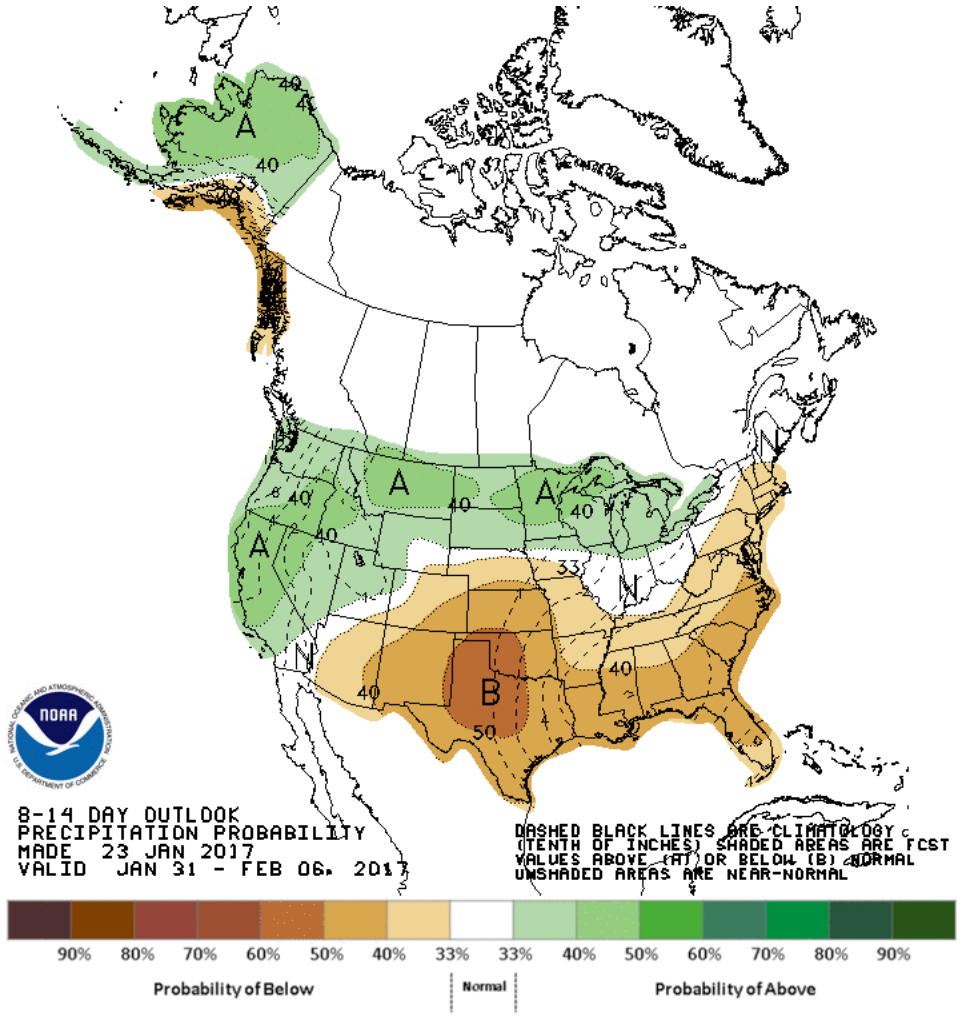




D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JAN 24 2017 1339 UTC CNTD FEB 04 2017

Week 2 – Temperature and Precipitation





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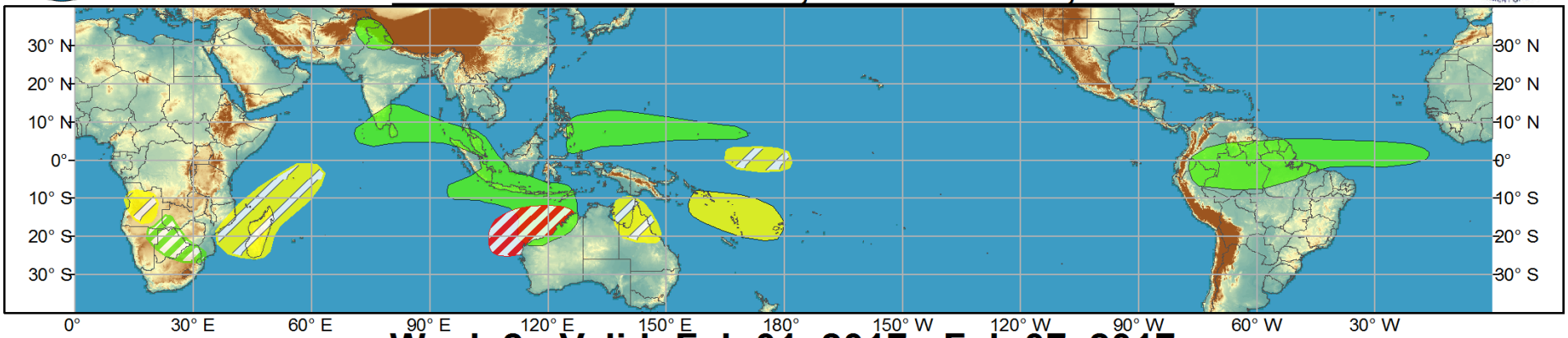

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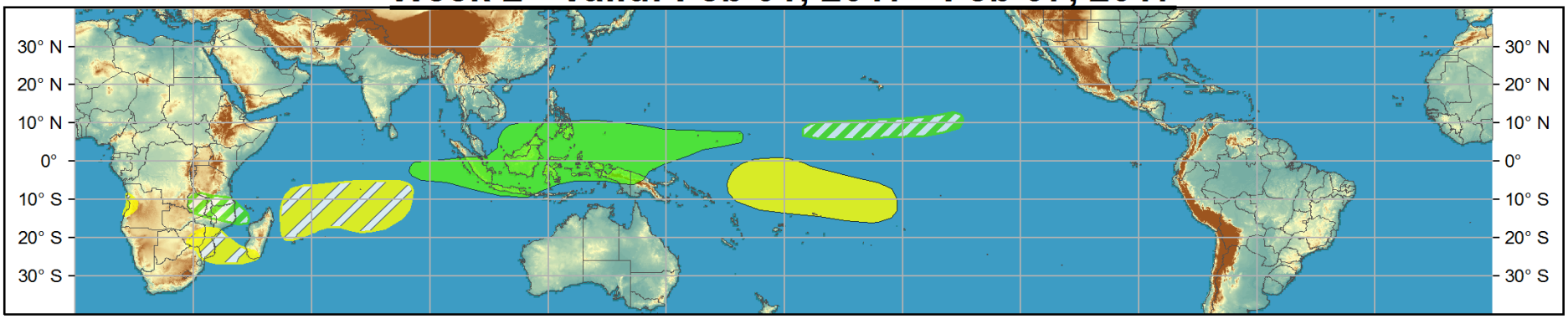

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