Global Tropics Hazards And Benefits Outlook

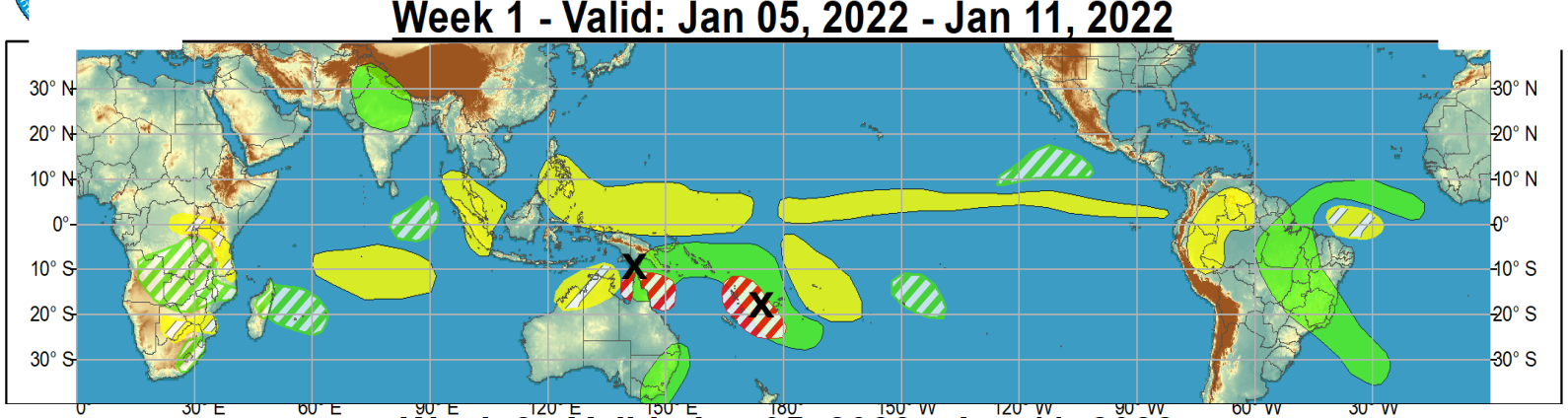
1/11/2022

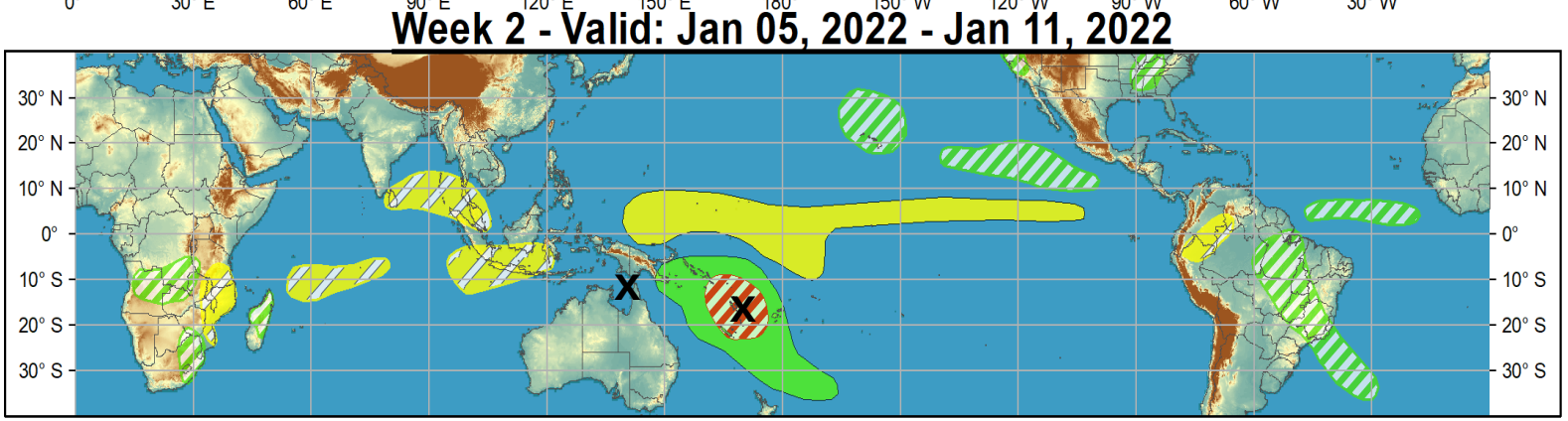
Adam Allgood

Outline

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

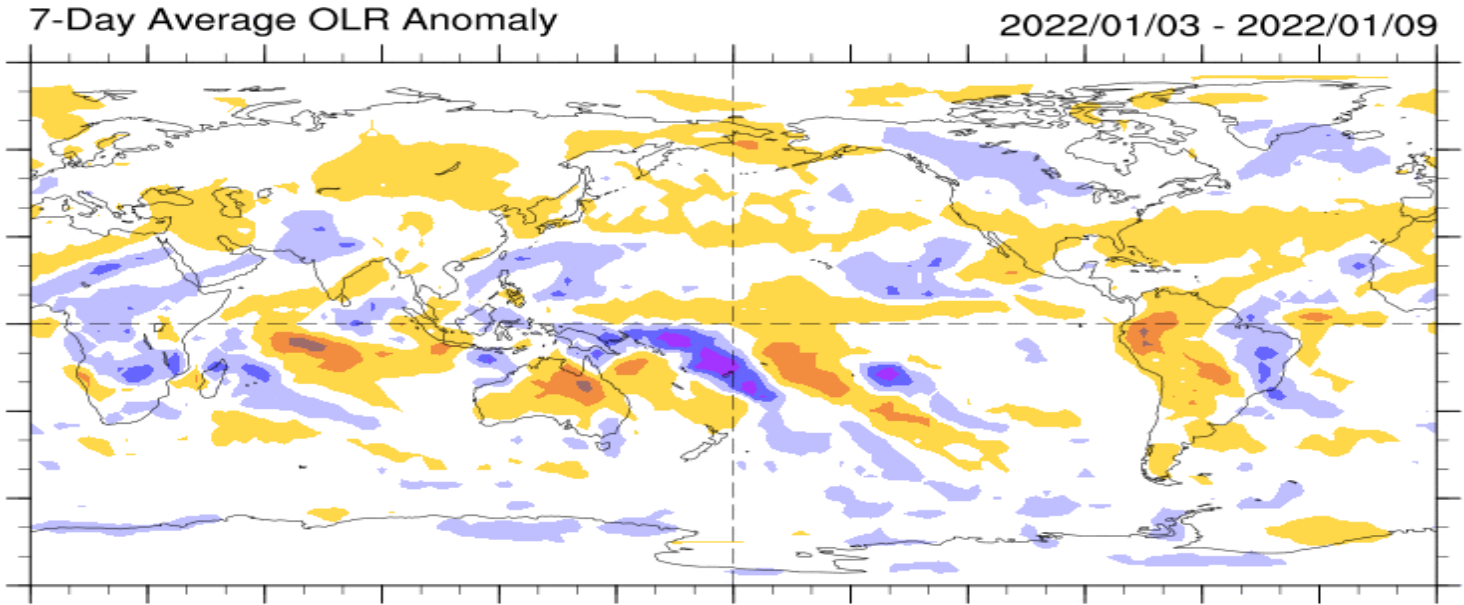
Outlook Review





Cool shading
More clouds/rain

Warm shading
Less clouds/rain



Synopsis of Climate Modes

ENSO: (December 9, 2021 Update) ***next update on 13h of Jan.!***

- ENSO Alert System Status: La Niña Advisory

- La Niña is favored to continue through the Northern Hemisphere winter 2021-22 (~95% chance) and transition to ENSO-neutral during the spring 2022 (~60% chance during April-June).

MJO and other subseasonal tropical variability:

- The MJO remained weak, with enhanced convection meandering over the West Pacific due primarily to repeated Rossby wave events.

- Dynamical model forecasts depict another Rossby wave moving from the central to the West Pacific during the outlook period.

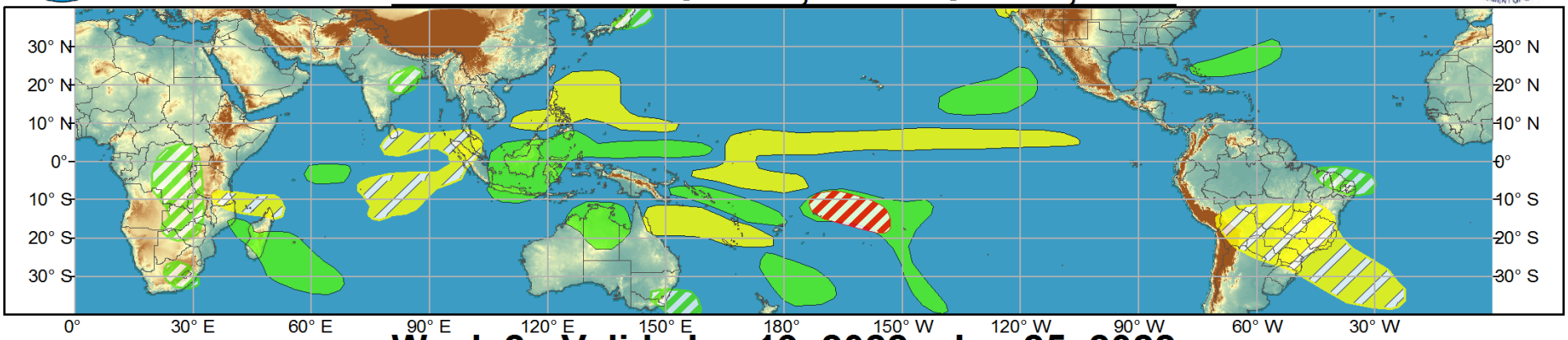
- The MJO is not favored to substantially impact the tropical or extratropical patterns.

- Tropical cyclone formations in the vicinity of American Samoa are possible due to Rossby wave activity.

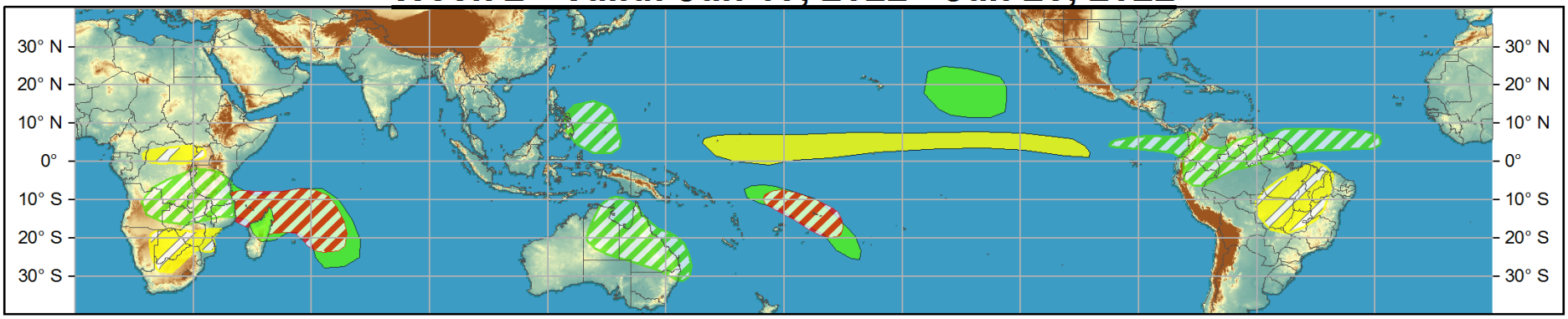
- The Rossby waves are destructively interfering with the ongoing La Niña.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 12, 2022 - Jan 18, 2022



Week 2 - Valid: Jan 19, 2022 - Jan 25, 2022



Produced: 01/11/2022

Forecaster: Allgood

	Confidence: High	Confidence: Moderate	
Tropical Cyclone Formation			Development of a tropical cyclone (tropical depression - TD, or greater strength).
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中央氣象局 Central Weather Bureau

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EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

Australian Government Bureau of Meteorology

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NPS PRAESTANTIA PER SCIENTIAM

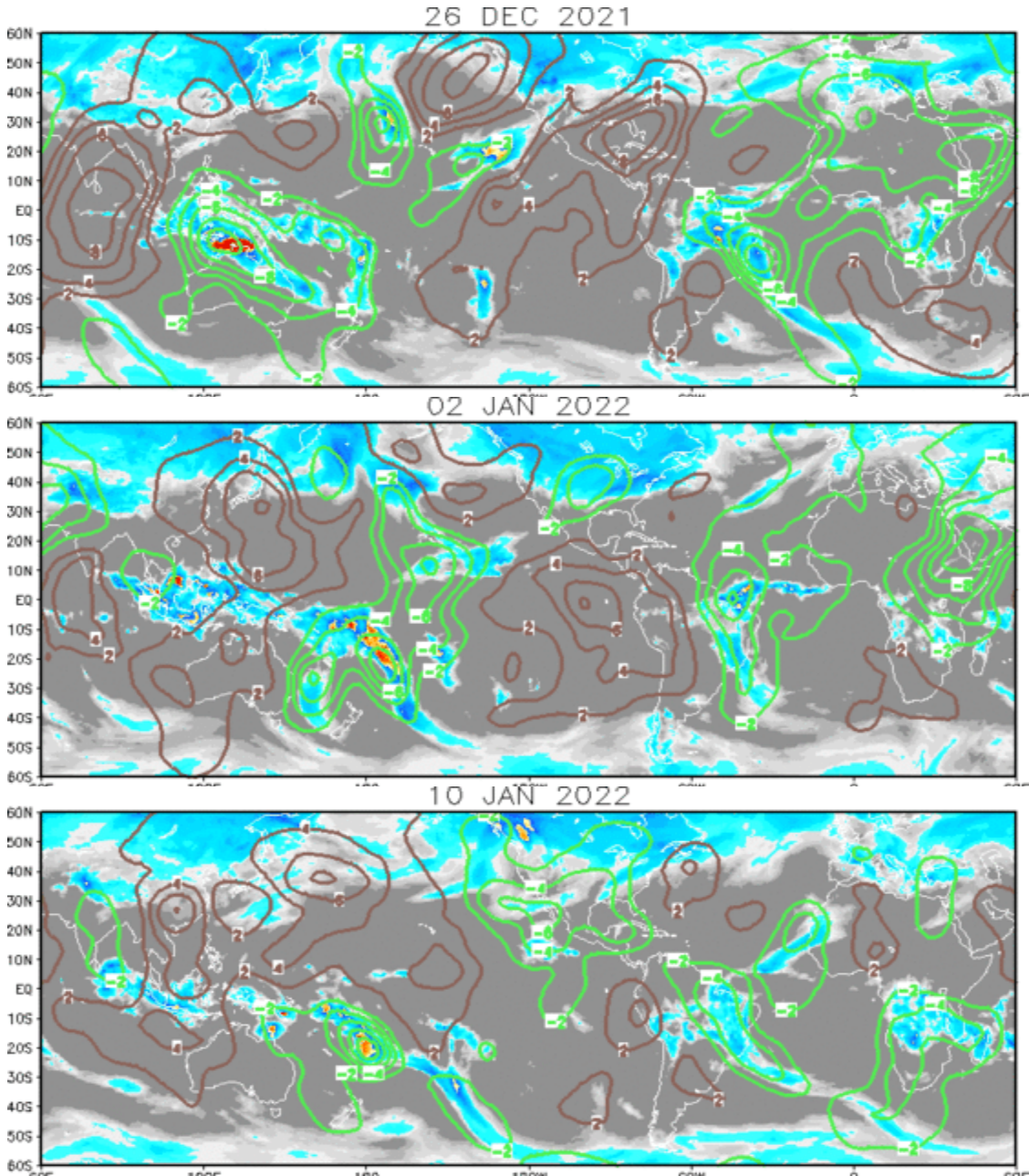
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence Brown: Enhanced Convergence

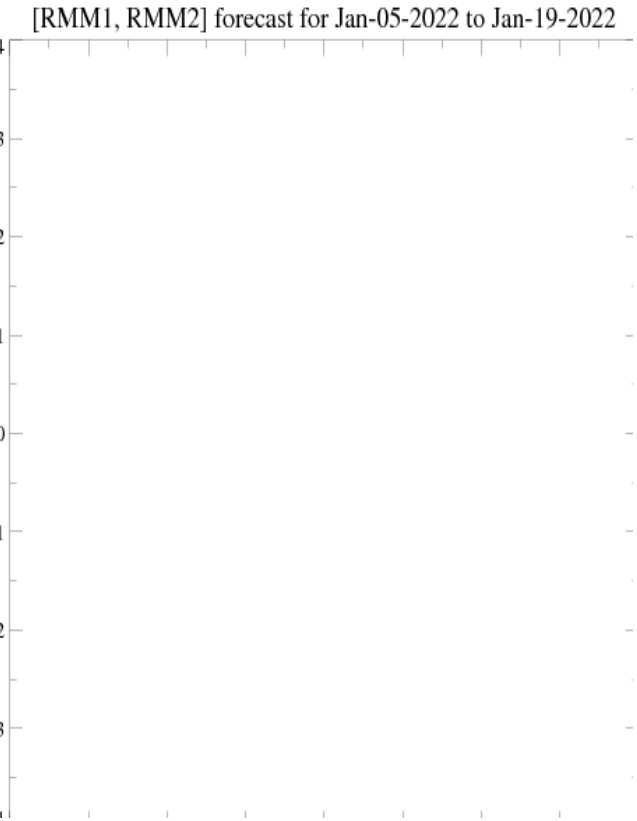
Wave-2 pattern with active (suppressed) Maritime Continent/SPCZ, South America and Africa (Indian Ocean and East Pacific)

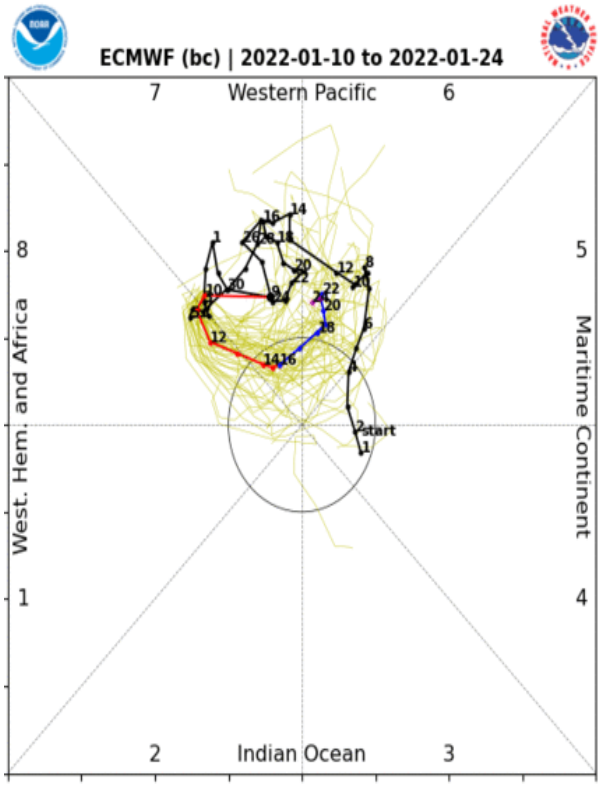
Enhanced convection over the central Pacific was generated by Rossby wave activity.

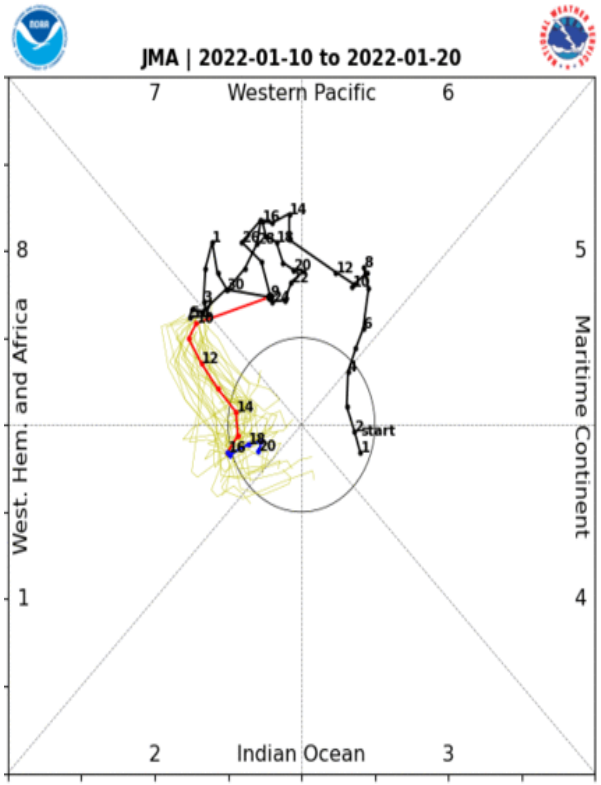
The pattern has become incoherent, though enhanced convection continues across the SPCZ region.



MJO Observation/Forecast







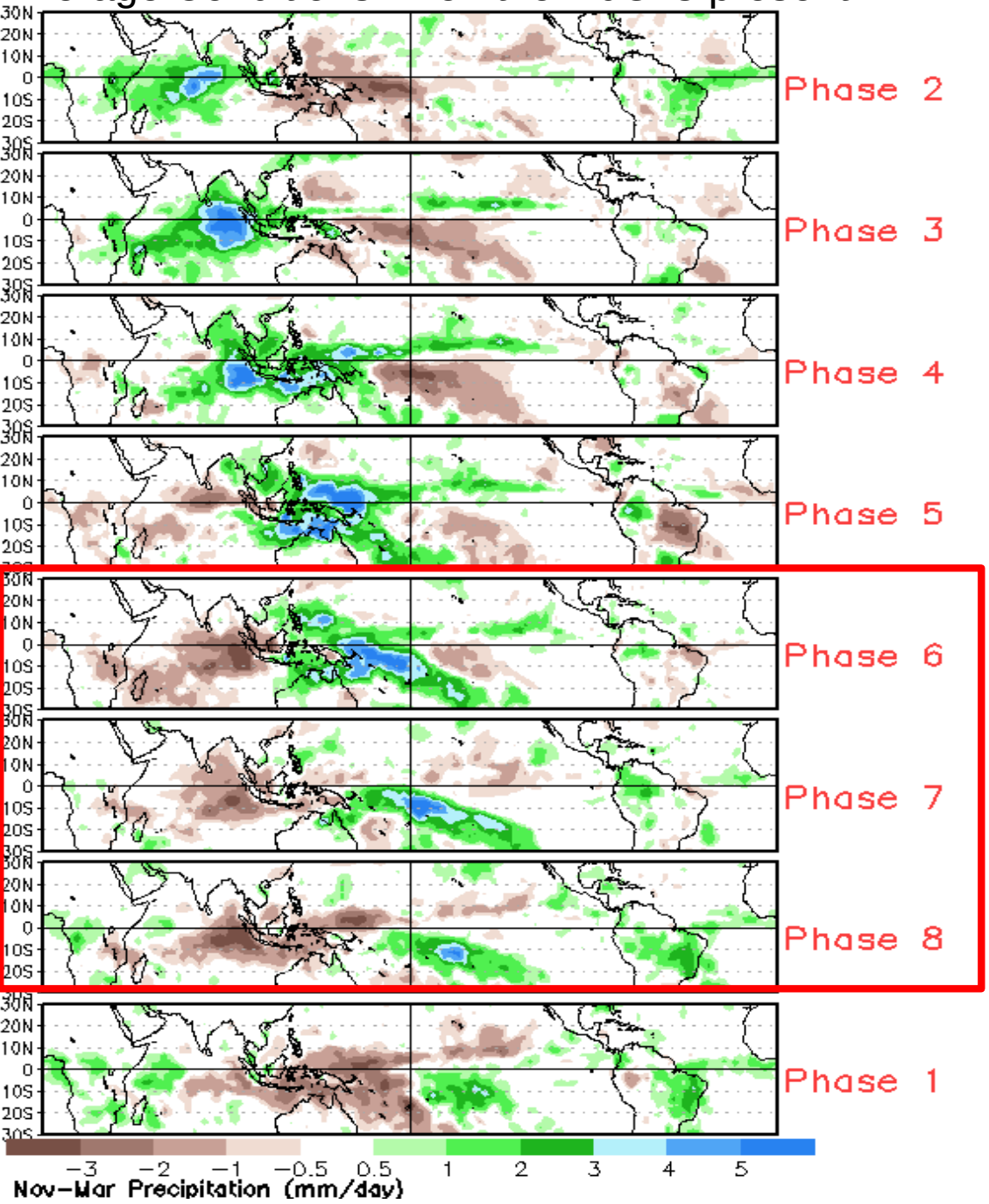
GEFS ECMWF JMA

The GEFS forecast is unavailable today due to technical difficulties.

The ECMWF RMM-index forecast is heavily influenced by Rossby wave activity, with enhanced convection shifting from the central Pacific to the West Pacific by Week-2.

The JMA forecast is more progressive with the signal.

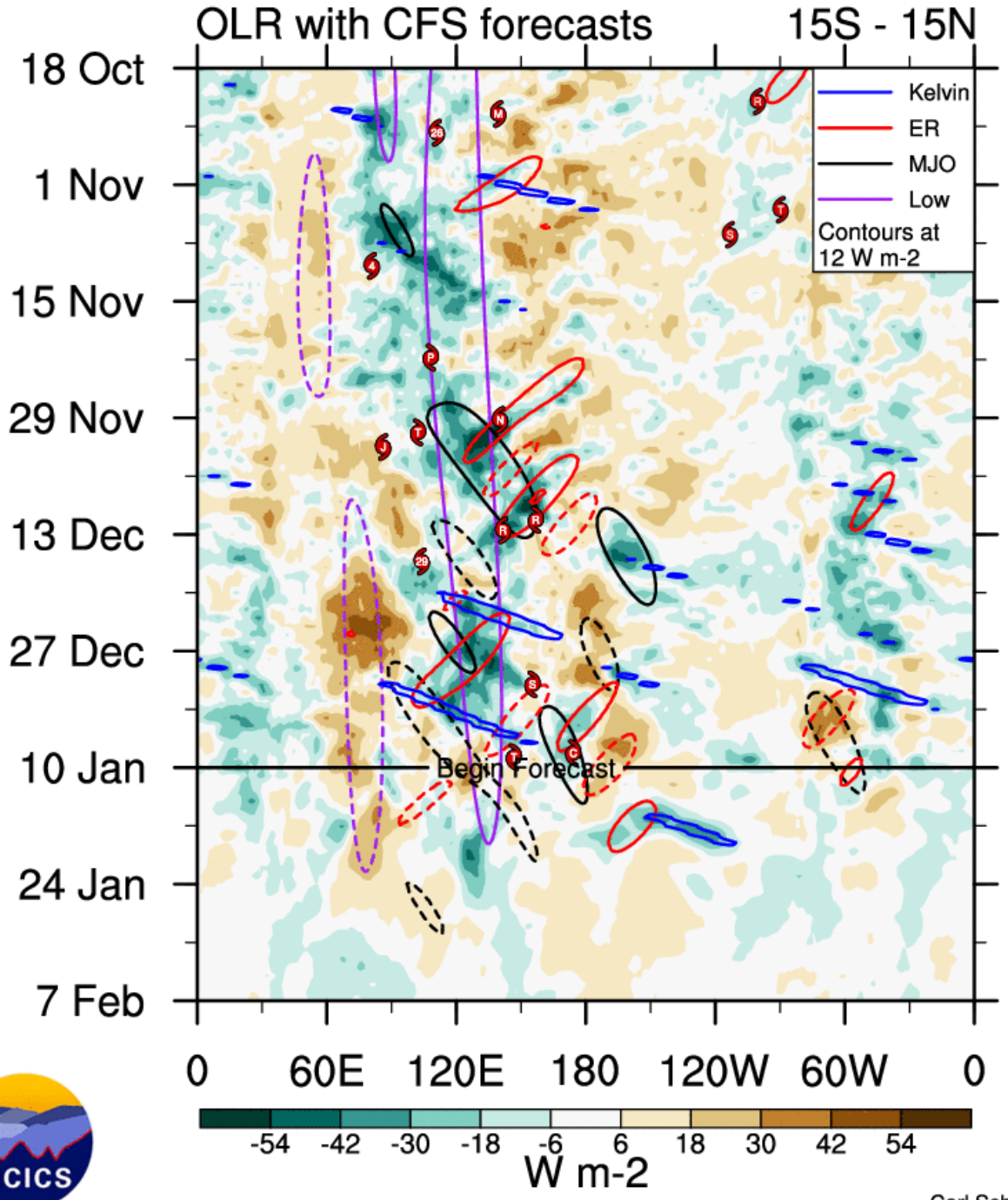
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

Rossby wave activity coming through the filtering on the wider band analysis (mostly off-equator and generated by extratropical intrusions into the tropics)

Kelvin wave activity is also modulating the pattern, causing eastward shifts of convection.



NCICS

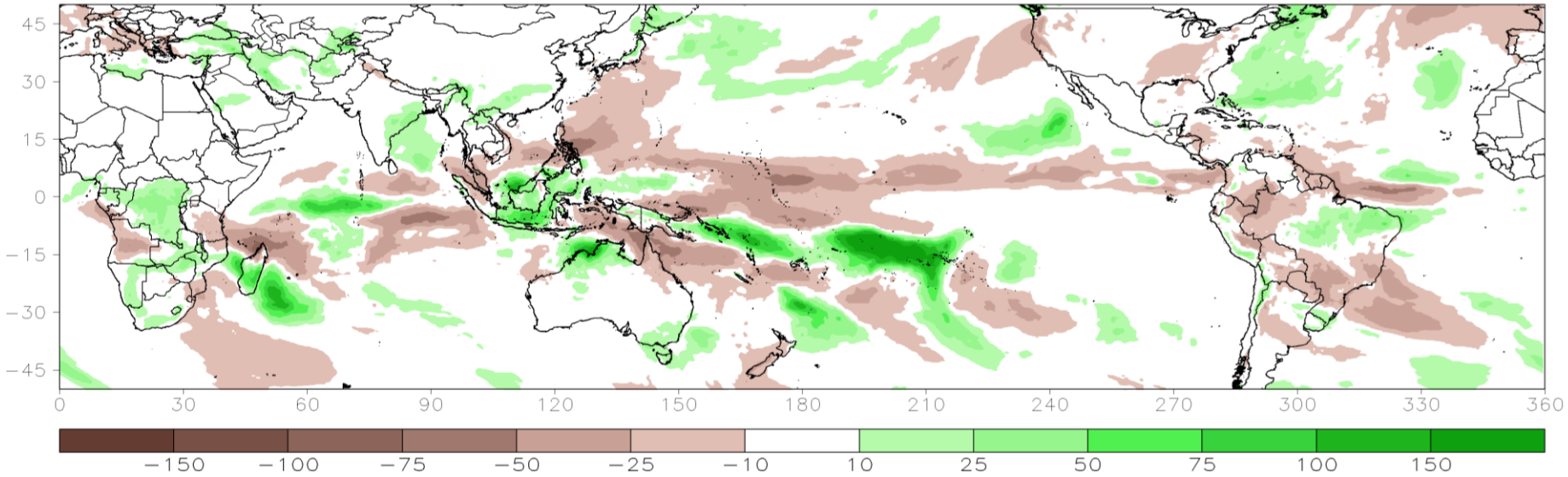
ncics.org/mjo

Tue 2022-01-11 1611 UTC

Carl Schreck
carl_schreck@ncsu.edu

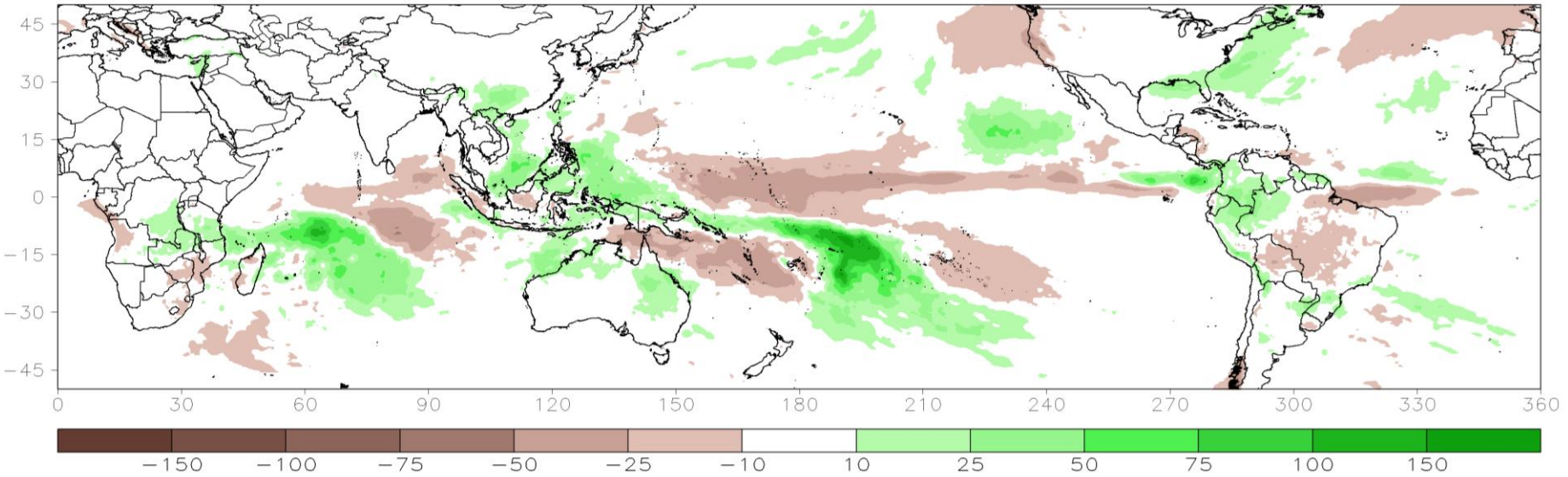
GEFSv12 00z Ensemble Mean: Week1 Total Rainfall Anomaly (mm)

Valid: 12Jan2022–18Jan2022

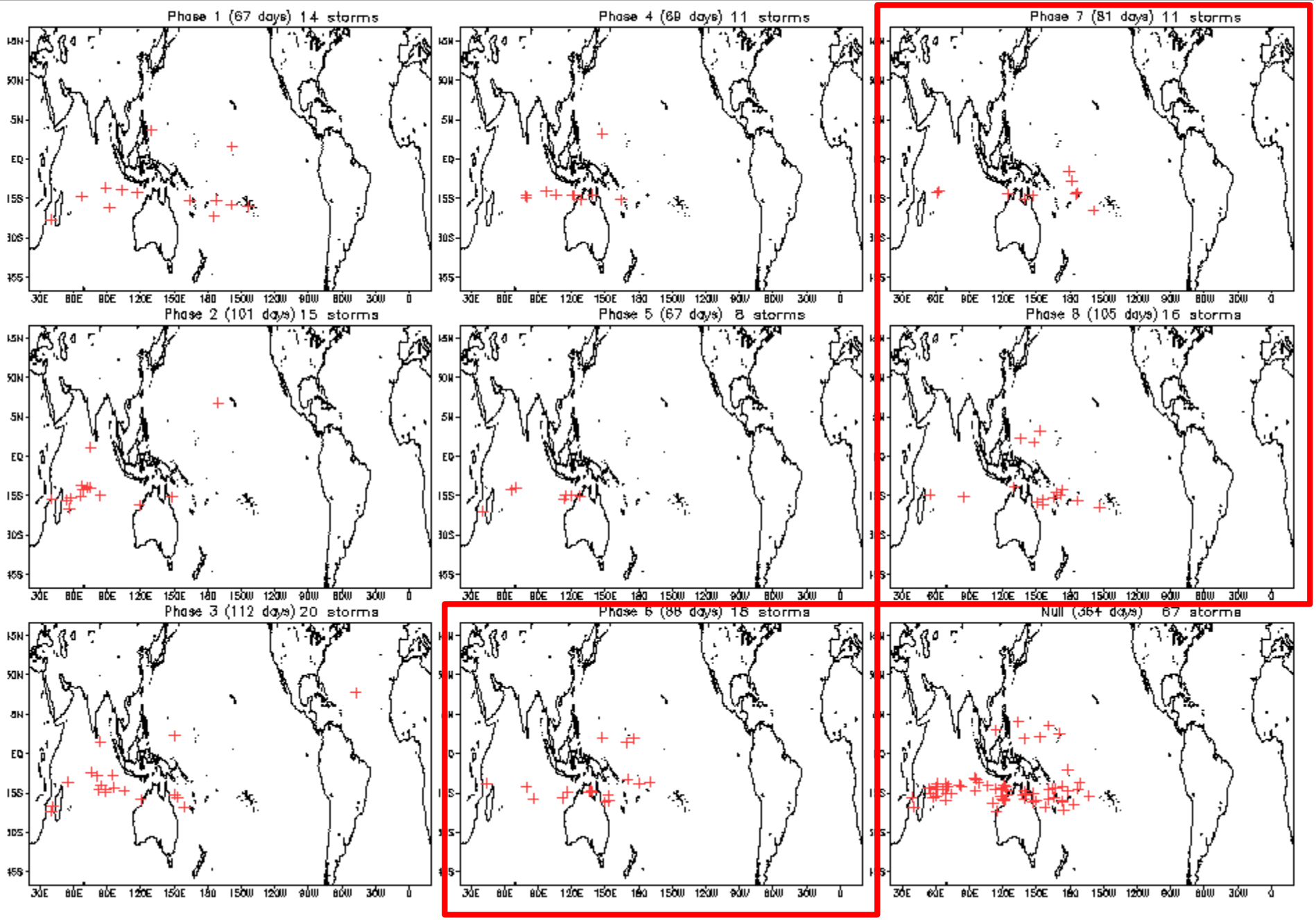


GEFSv12 00z Ensemble Mean: Week2 Total Rainfall Anomaly (mm)

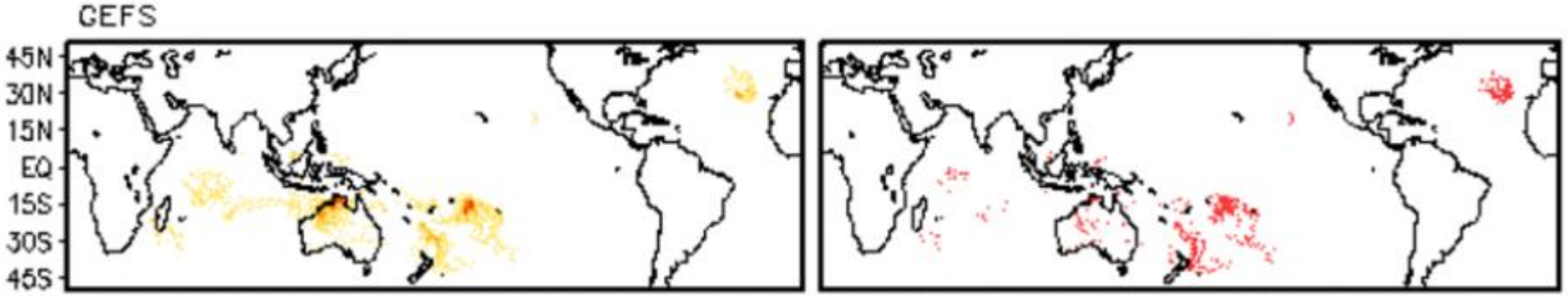
Valid: 19Jan2022–25Jan2022



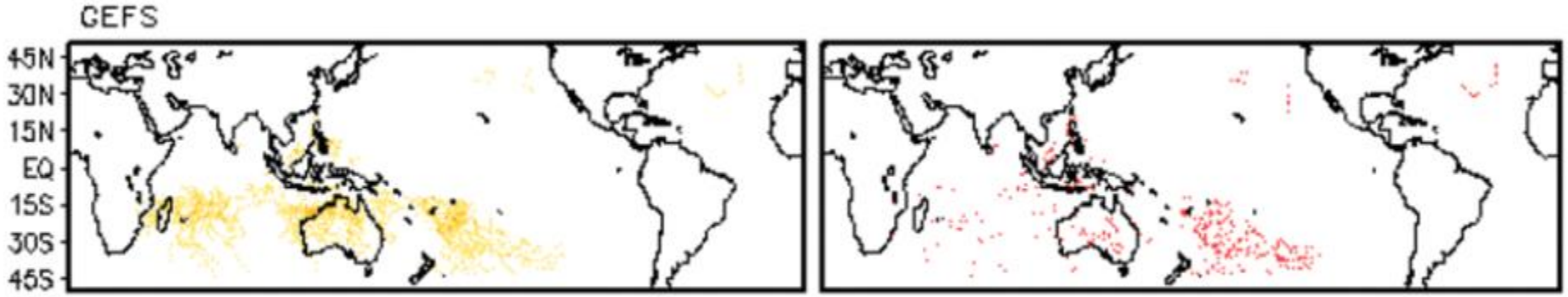
January Tropical Storm Formation by MJO phase



Week-1

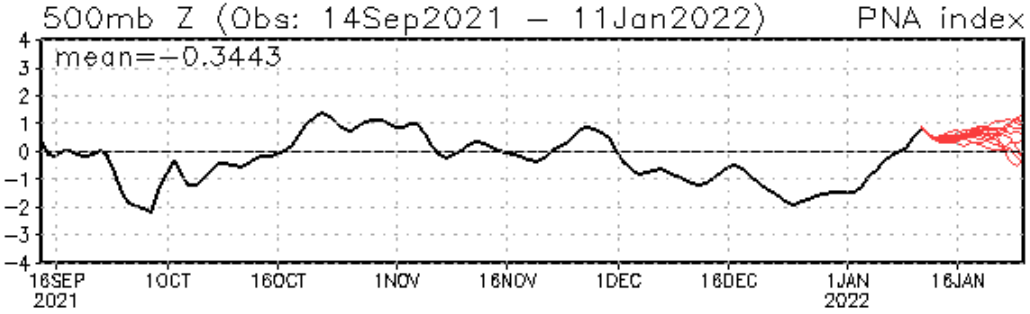


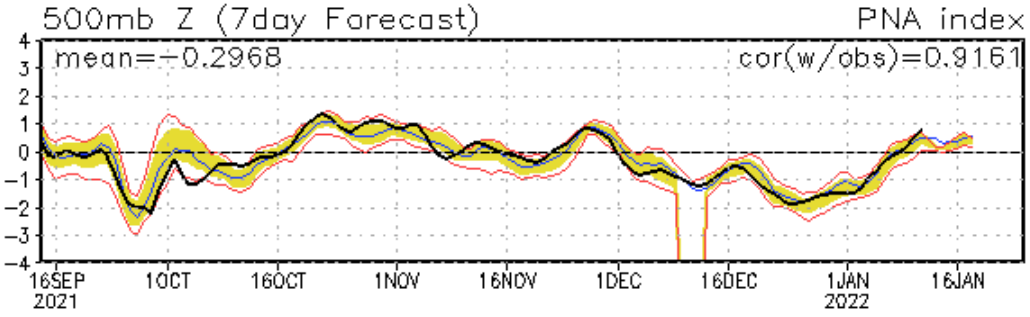
Week-2

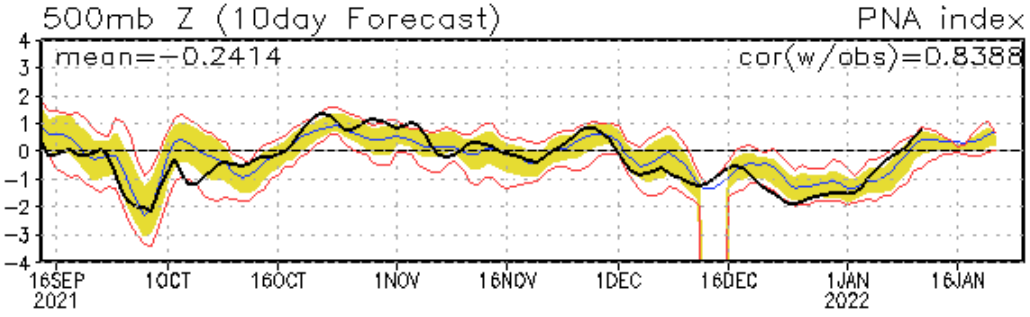


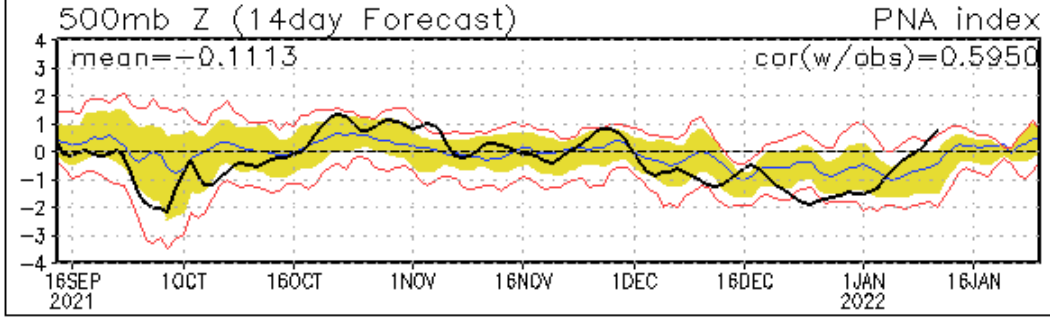
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts

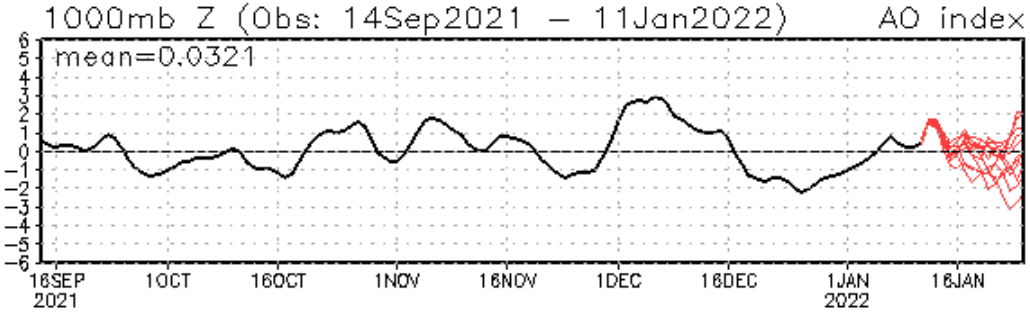


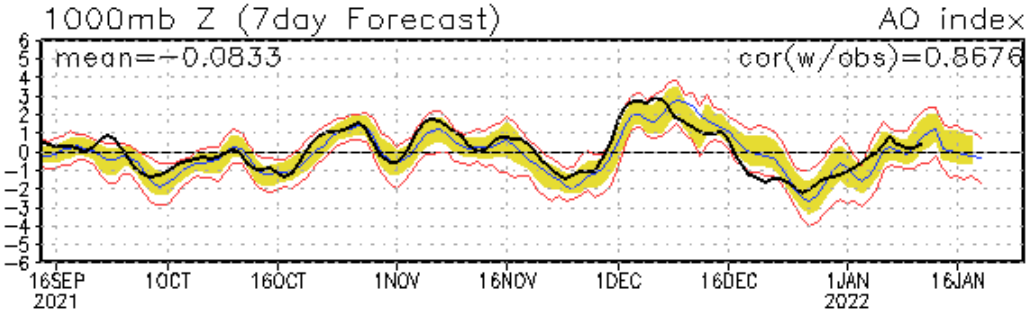


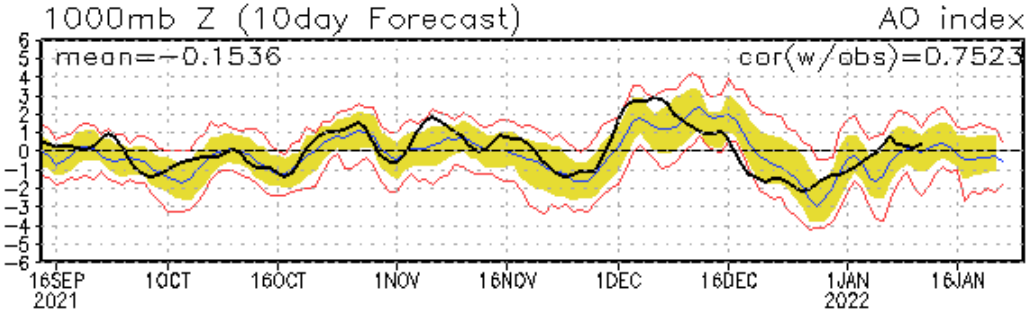


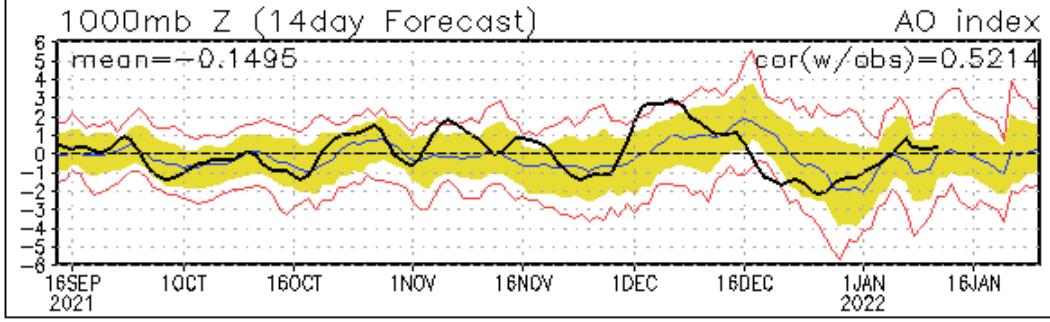


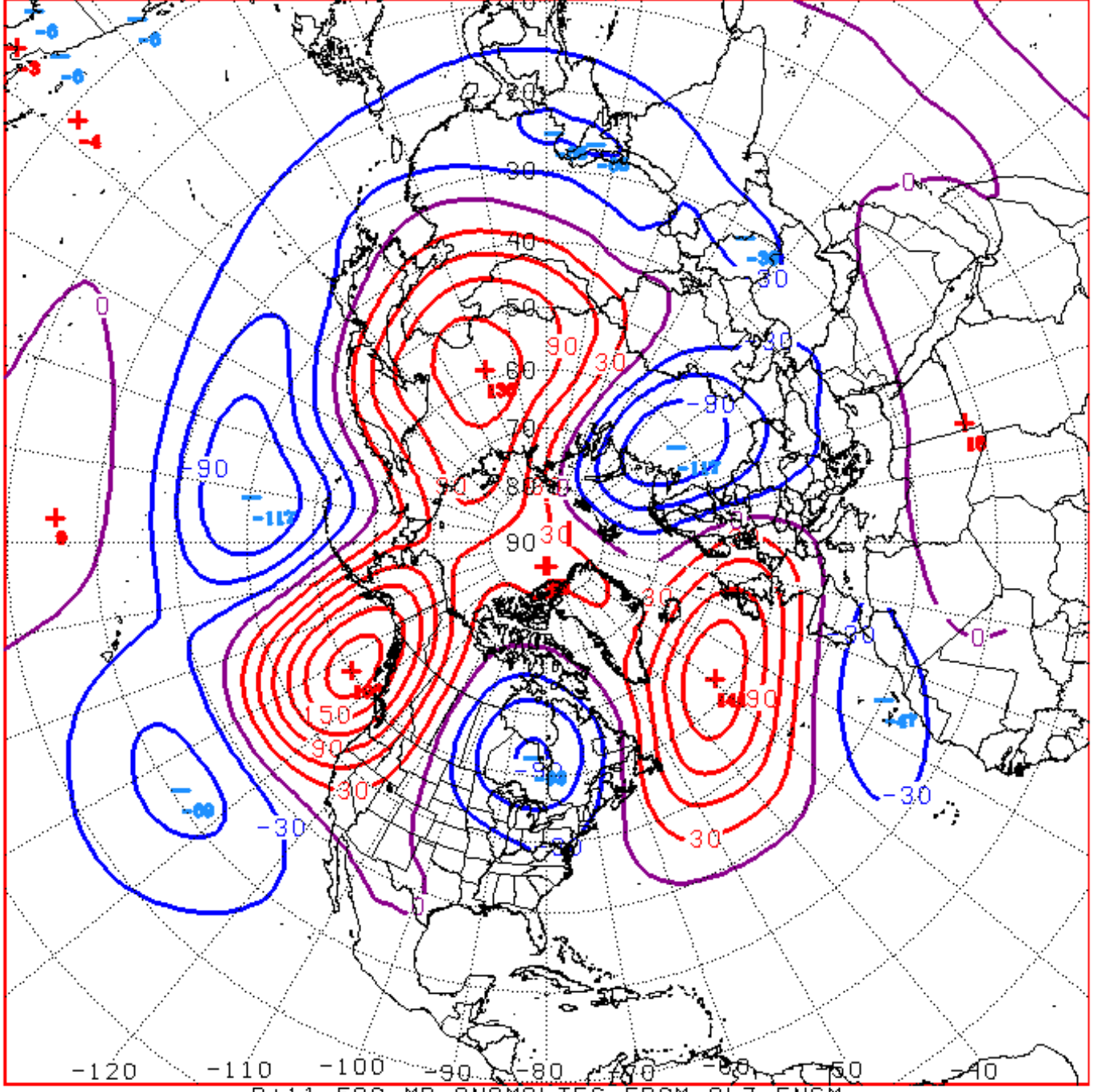
AO: Observed & ENSM forecasts





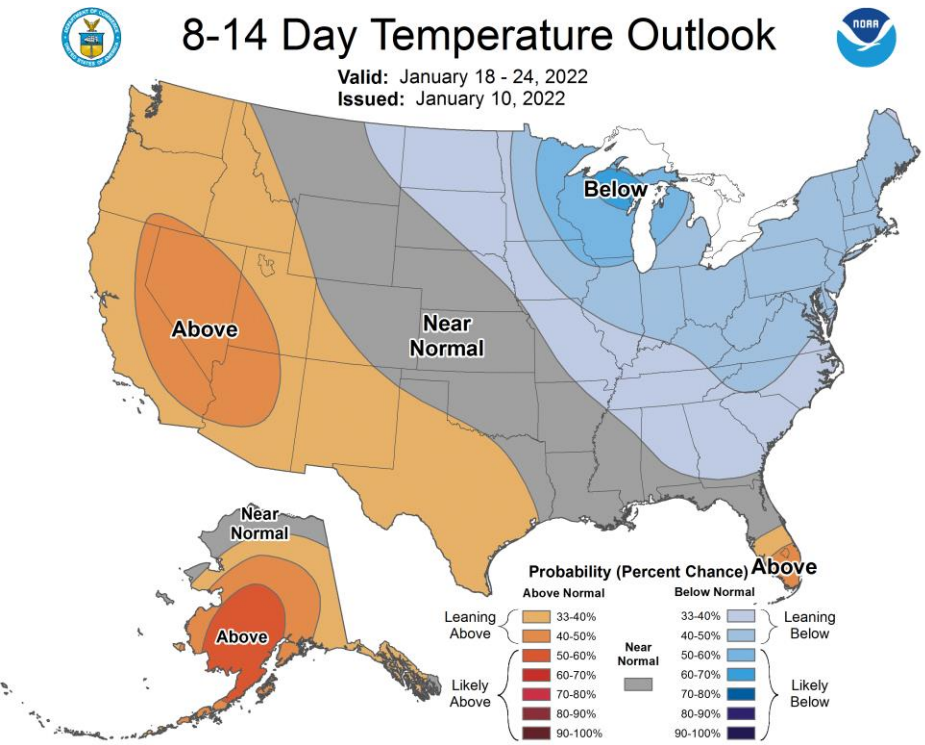


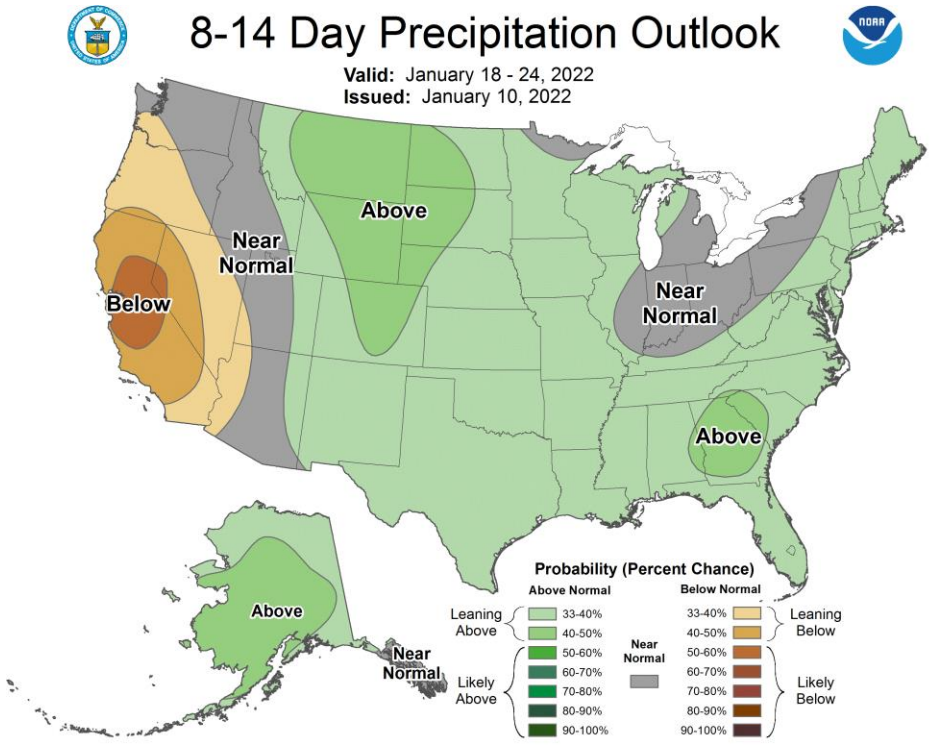




D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JAN 11 2022 1353 UTC CNTD JAN 22 2022

Week 2 – Temperature and Precipitation





Since we are in an amplified, stable pattern today's outlooks are likely to be similar.

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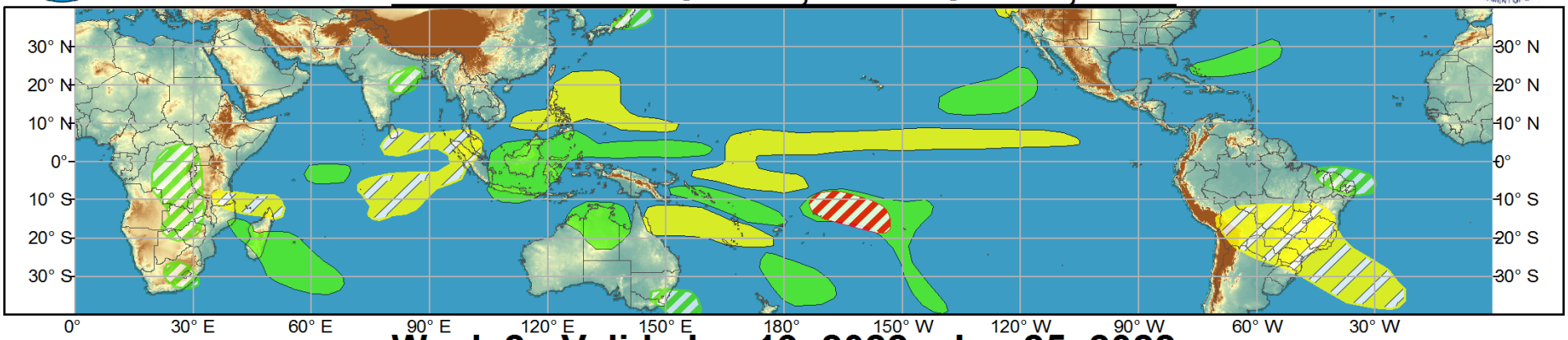

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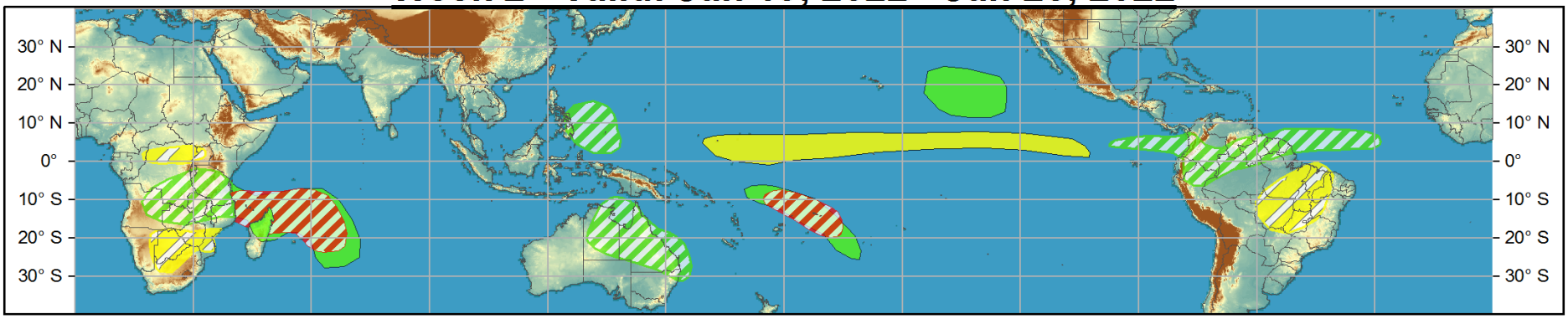

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