

Global Tropics Hazards And Benefits Outlook

1/26/2021

Nick Novella

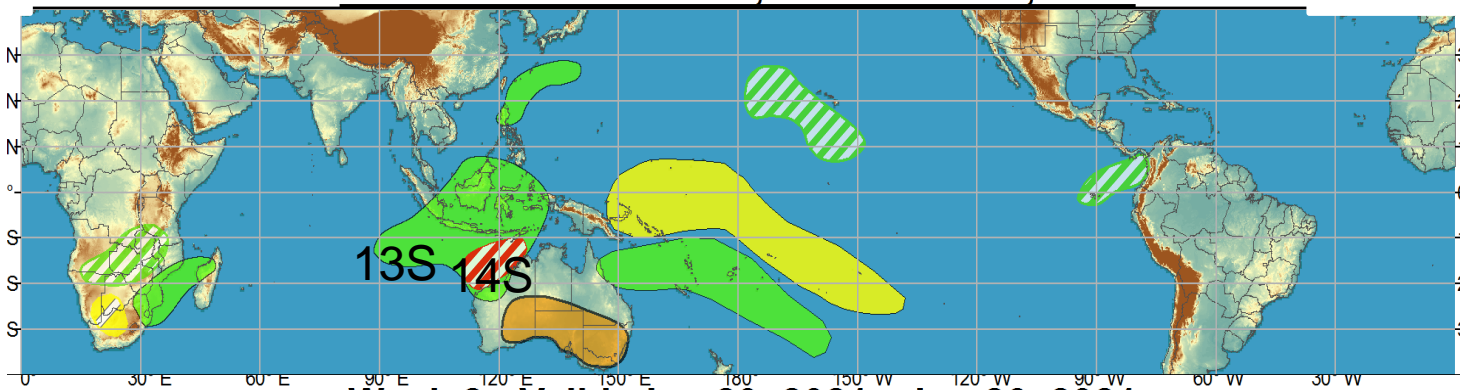
Outline

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

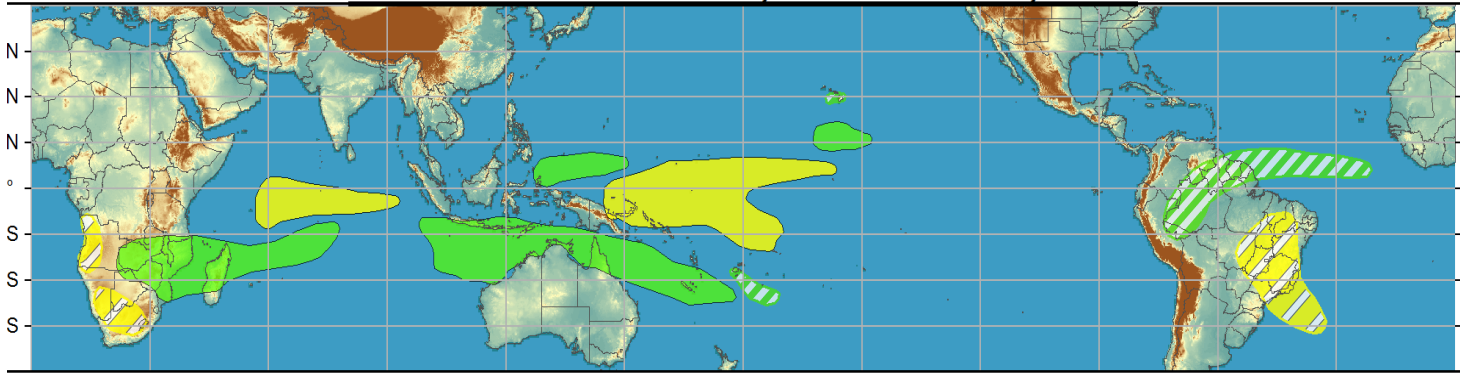
Outlook Review

13S (1/21)
14S (1/21)

Week 1 - Valid: Jan 20, 2021 - Jan 26, 2021

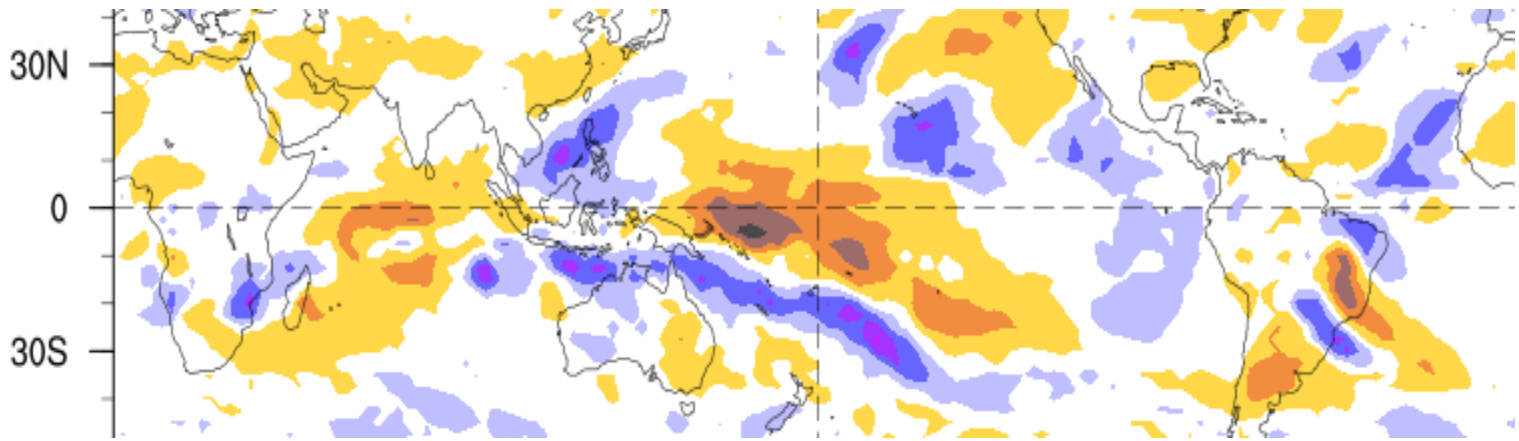


Week 2 - Valid: Jan 20, 2021 - Jan 26, 2021



Cool shading
More clouds/rain

Warm shading
Less clouds/rain



Synopsis of Climate Modes

ENSO: (January 14, 2021 Update)

next update on Feb. 11, 2021

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is expected to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March), with a potential transition to ENSO-neutral during the spring 2021 (55% chance during April-June).

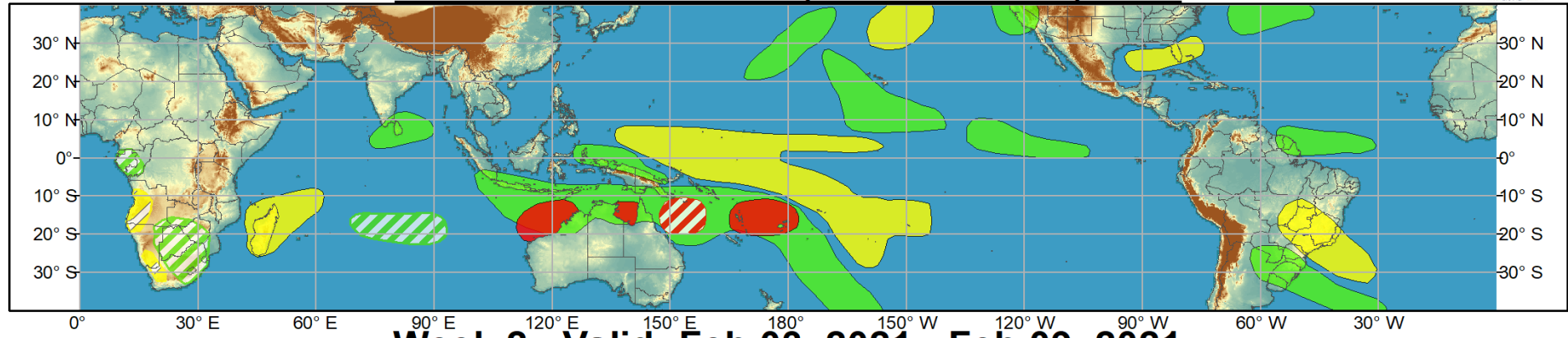
MJO and other subseasonal tropical variability:

- The MJO continues to become more coherent across the western Pacific within La Niña background conditions. However, there is uncertainty regarding the degree of MJO strength and evolution over the next two weeks.
- Fair agreement exists among the dynamical models which favor a westward moving variability near the Maritime Continent and the Date Line followed by eastward propagation of the signal across the western Pacific into early February .
- Tropical cyclogenesis is likely over the southern Indian and Pacific Oceans through early February. If the MJO continues to become more coherent and propagate across the western Pacific, this would favor increased chances for below-normal temperatures across parts of the CONUS into February.

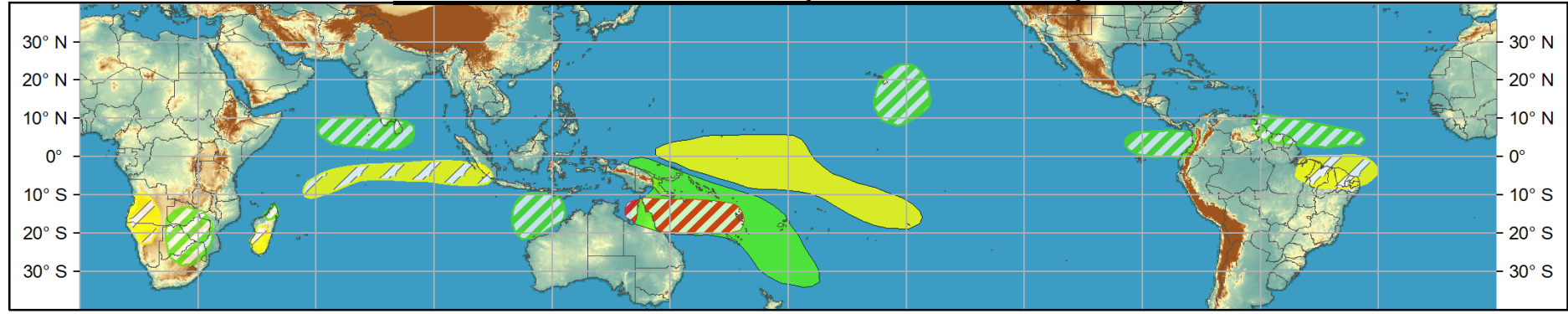


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 27, 2021 - Feb 02, 2021



Week 2 - Valid: Feb 03, 2021 - Feb 09, 2021



Produced: 01/26/2021
Forecaster: Novella

Confidence		
High	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.

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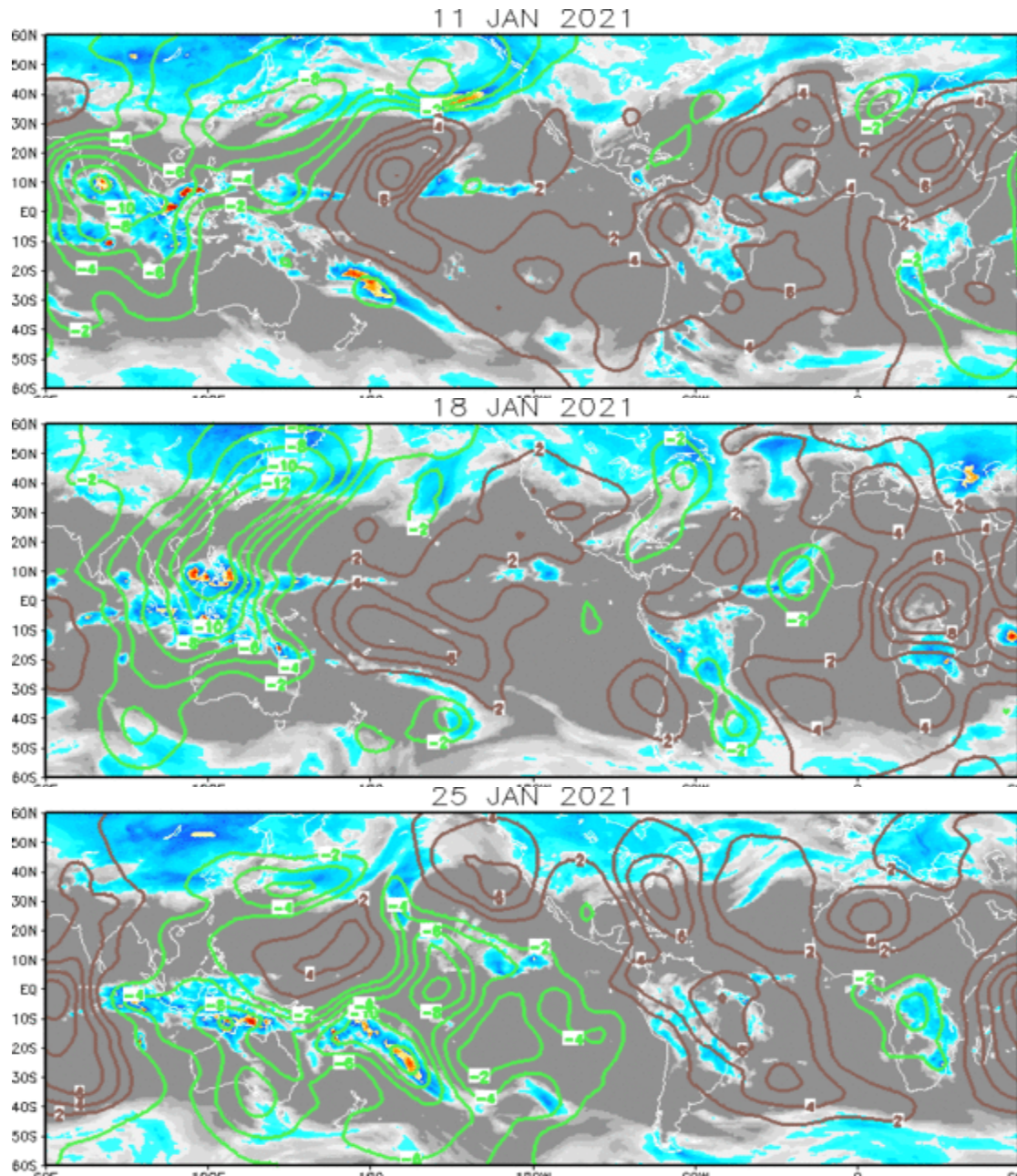
IR Satellite & 200-hpa Velocity Potential Anomalies

Green: Enhanced Divergence

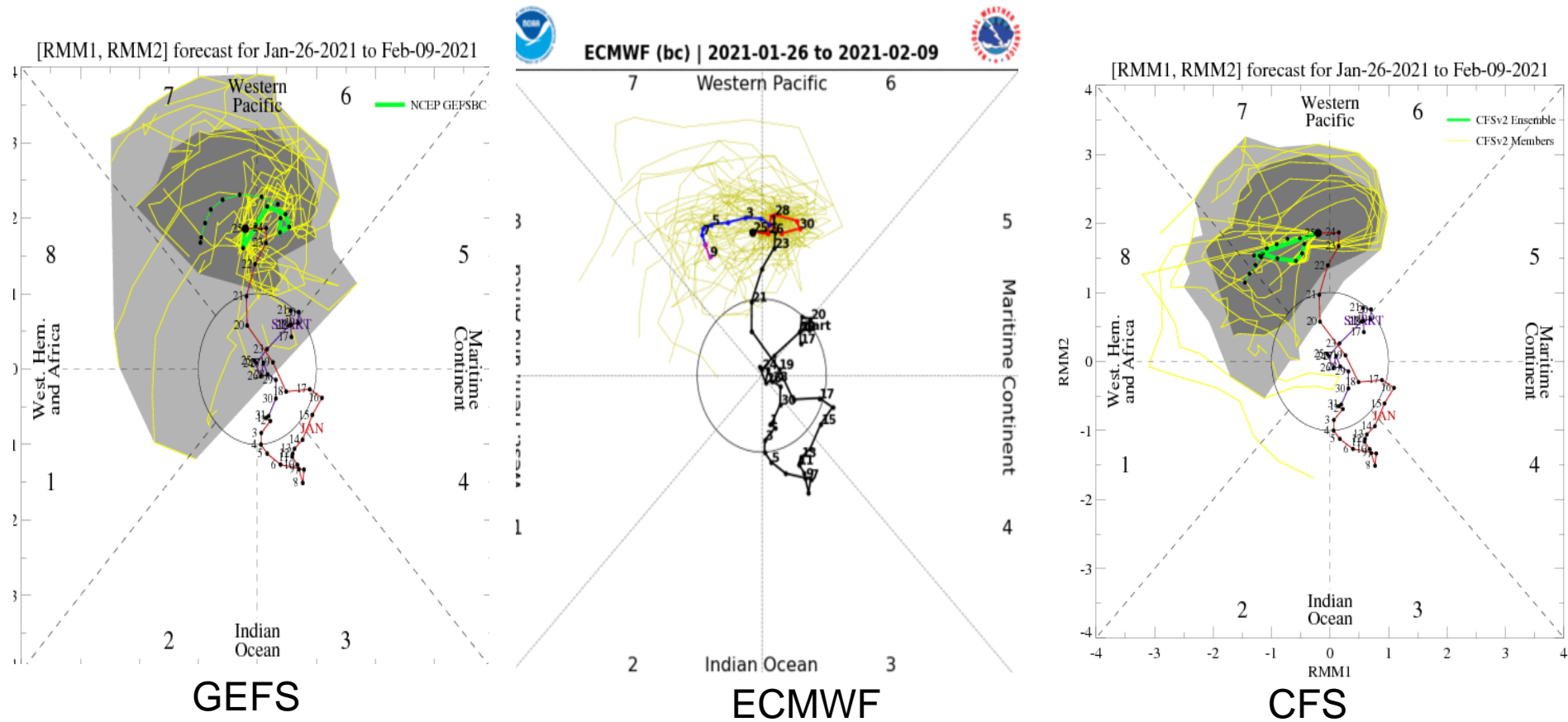
Brown: Enhanced Convergence

Enhanced convection around the Maritime Continent is consistent with the current La Niña.

The enhanced convection has recently shifted eastward and is destructively interfering with La Niña. Suppressed conditions have also shifted over the western Indian Ocean.



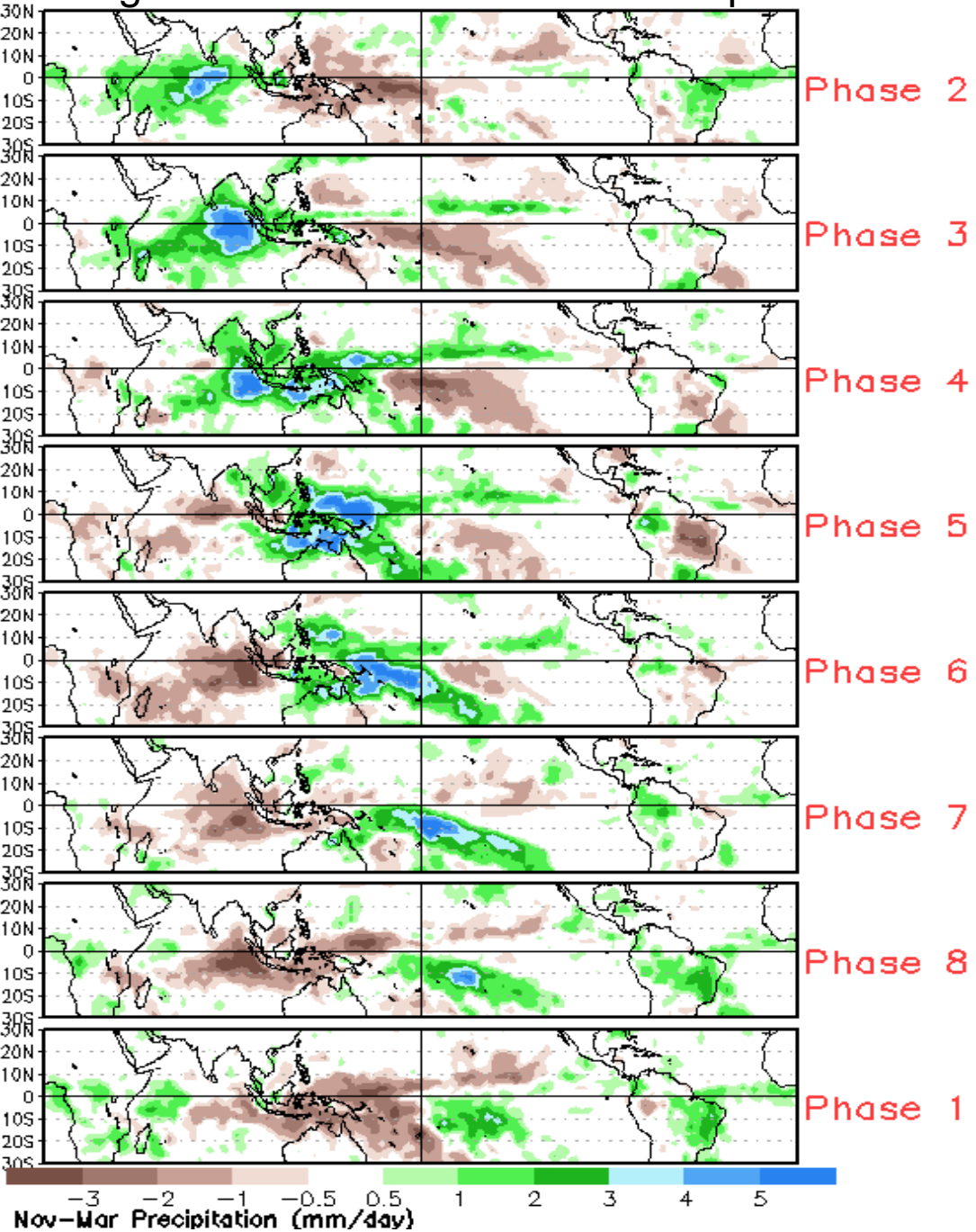
MJO Observation/Forecast



The RMM index indicates a considerable increase in amplitude since last week.

Despite differences relative to the forecast evolution, dynamical models favor a westward shift of the intraseasonal signal followed by eastward propagation by week-2. Several ensemble members suggest a robust MJO event emerging in early February.

Average Conditions when the MJO is present

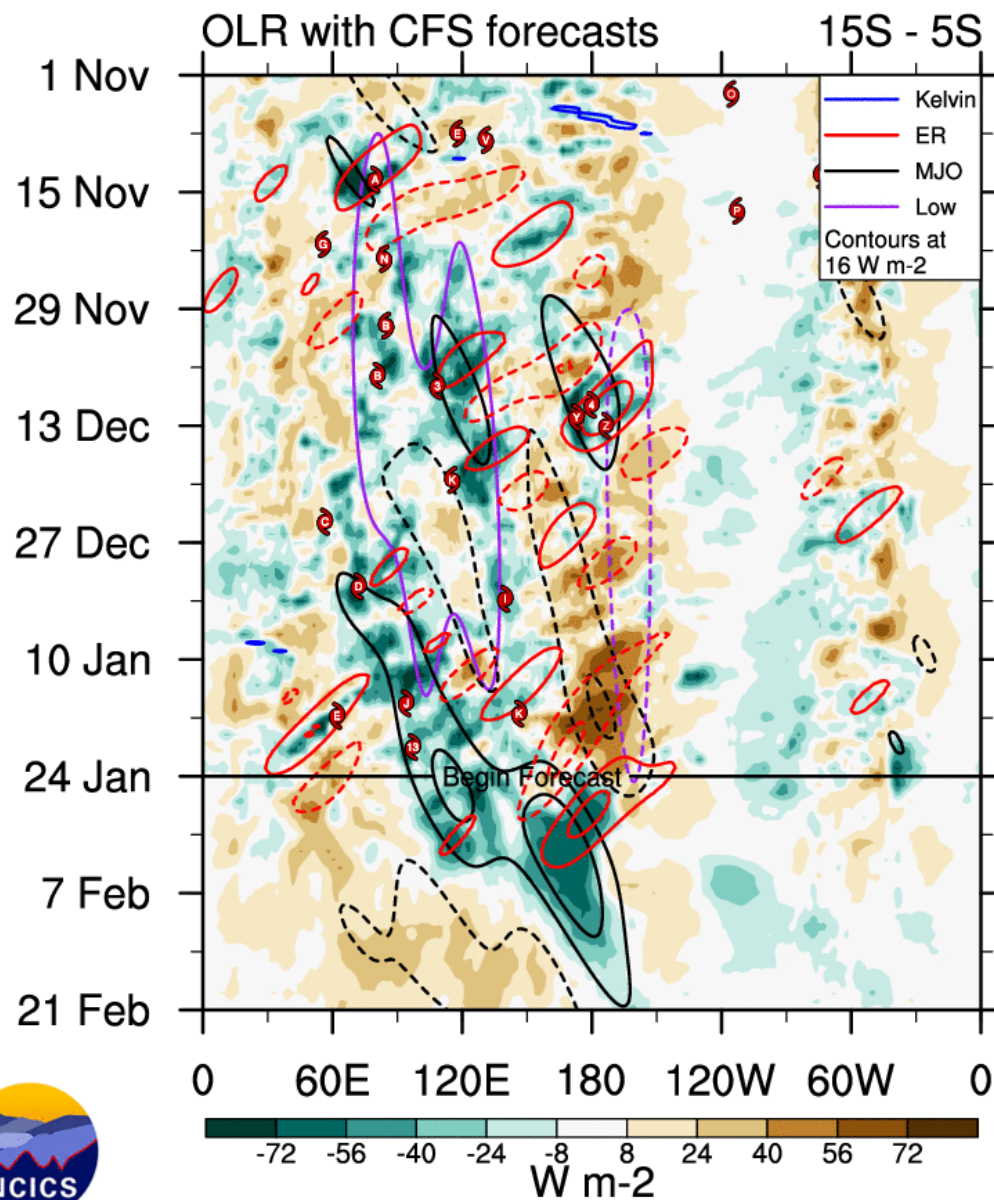


CAVEAT: These panels are representative of robust MJO events.

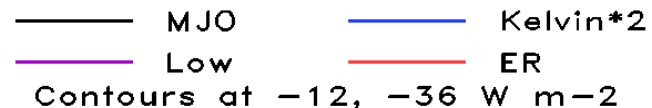
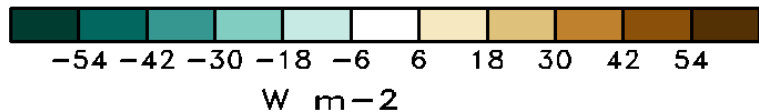
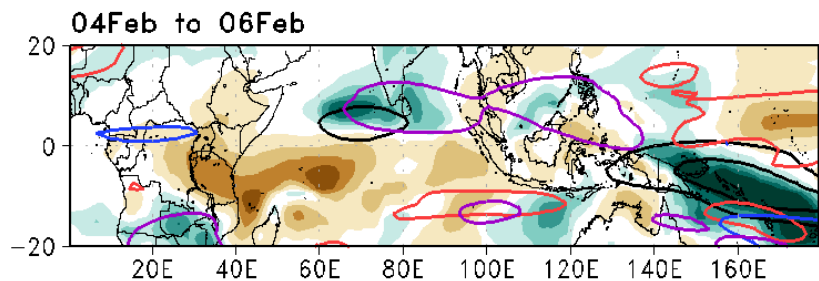
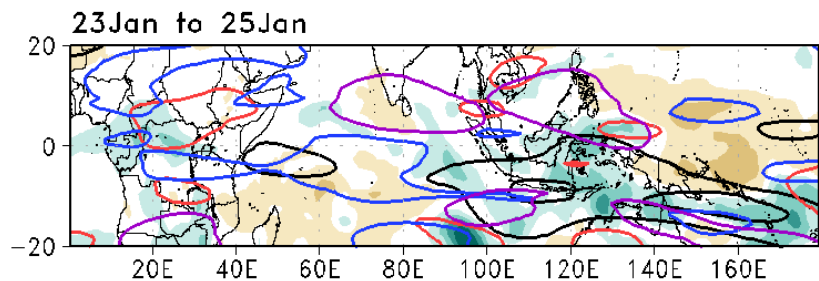
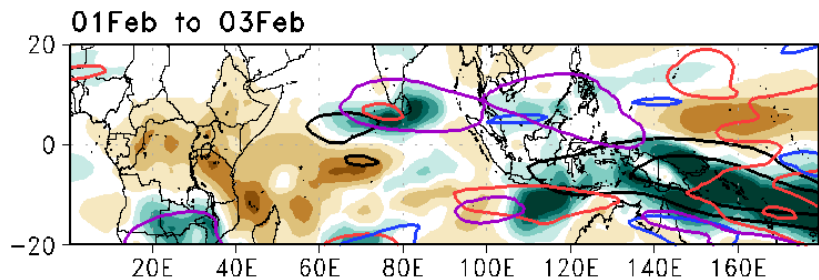
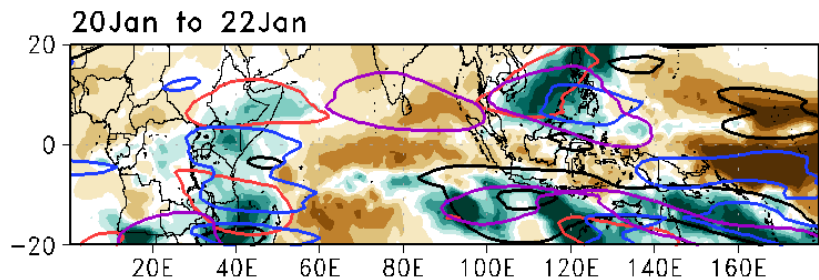
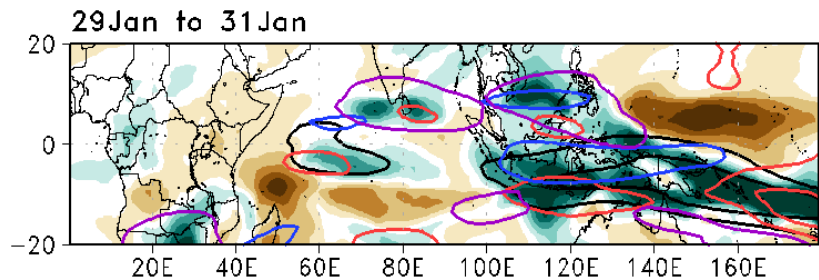
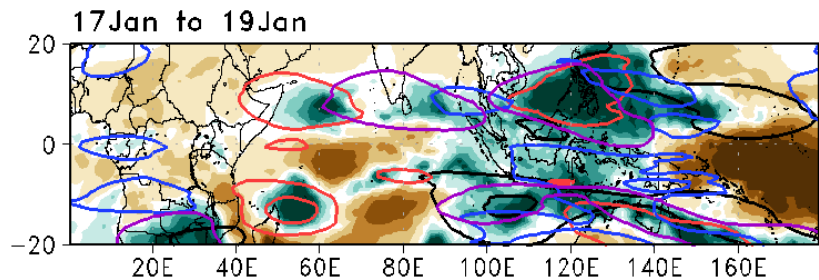
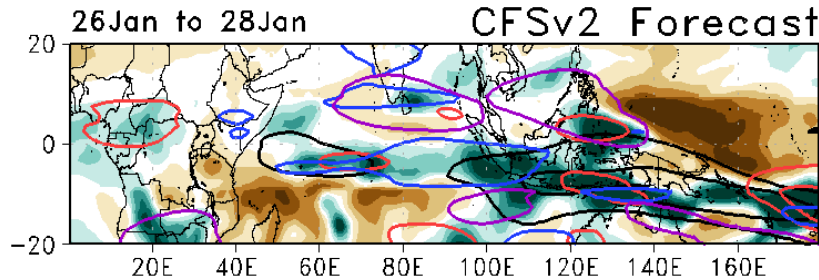
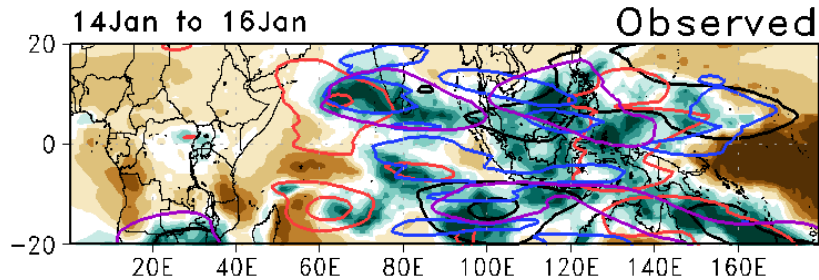
MJO activity looks more robust compared to previous weeks.

Rossby wave activity seen over the Maritime Continent and to the west of the Date Line

Low frequency contours are seen centered over Maritime continent and the Date Line associated with La Nina.

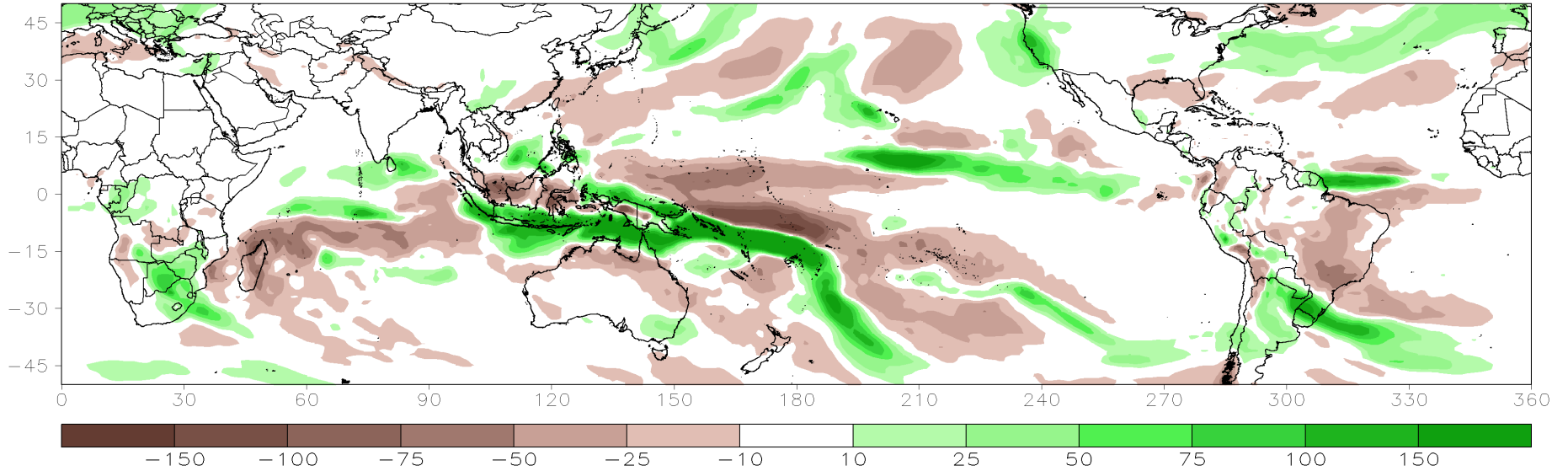


OLR 3-Day Means



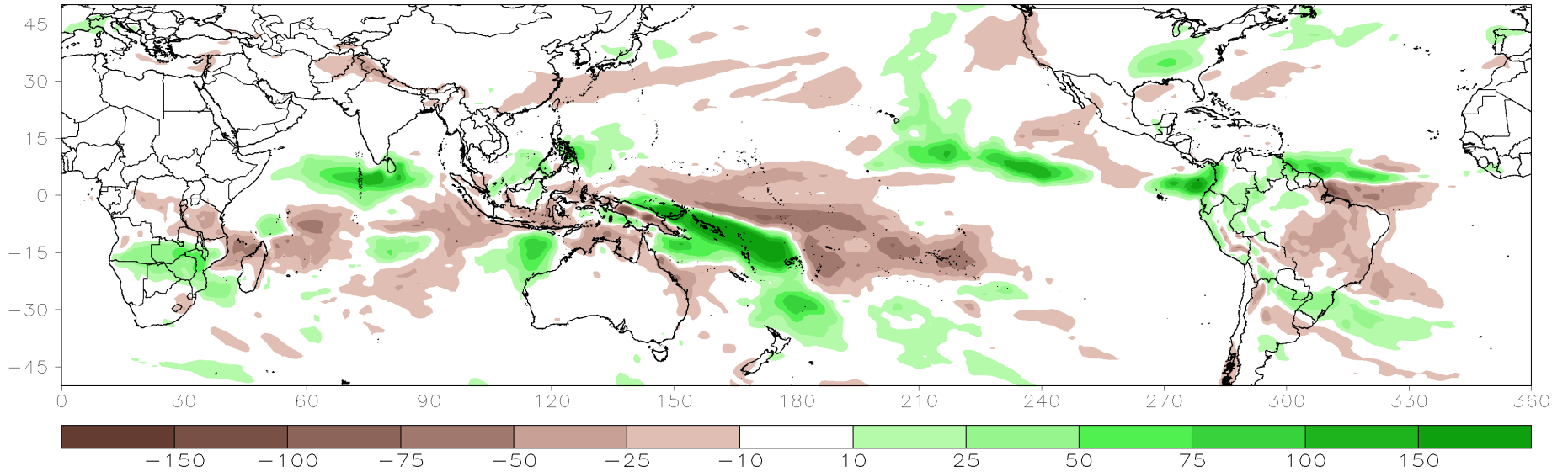
CFSv2 00z Ensemble Mean: Week1 Total Rainfall Anomaly (mm)

Valid: 27Jan2021-02Feb2021



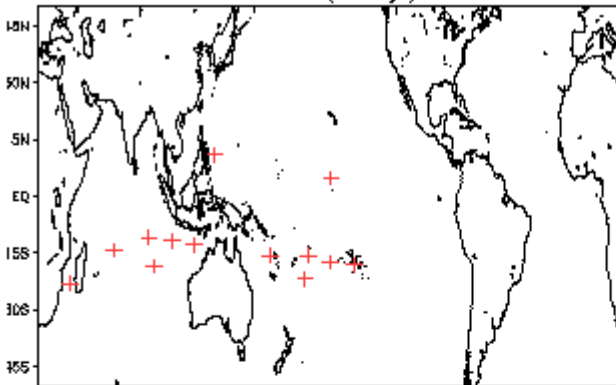
CFSv2 00z Ensemble Mean: Week2 Total Rainfall Anomaly (mm)

Valid: 03Feb2021-09Feb2021

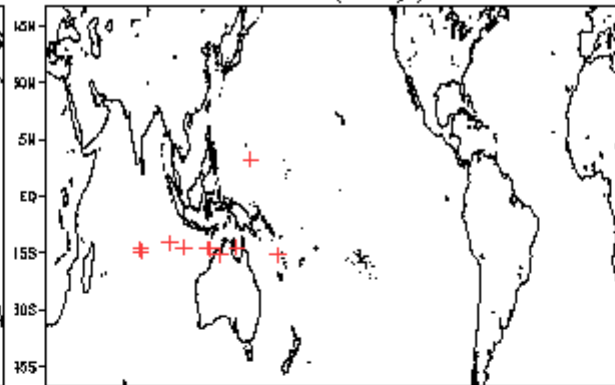


January Tropical Storm Formation by MJO phase

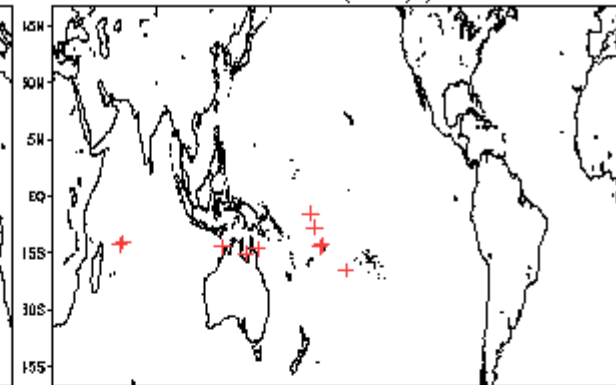
Phase 1 (67 days) 14 storms



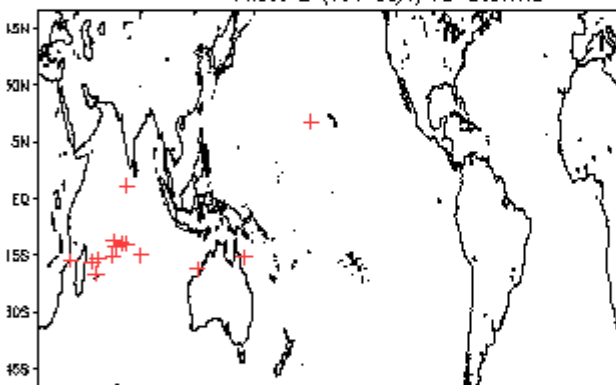
Phase 4 (69 days) 11 storms



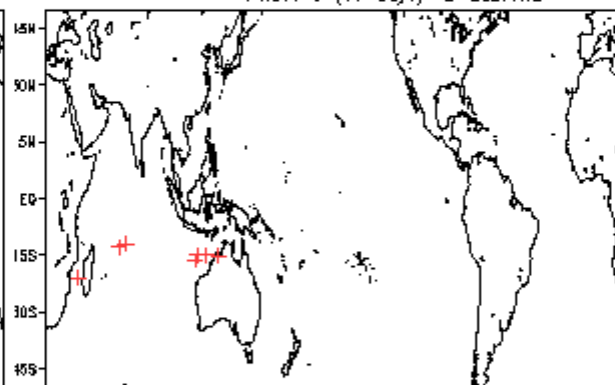
Phase 7 (81 days) 11 storms



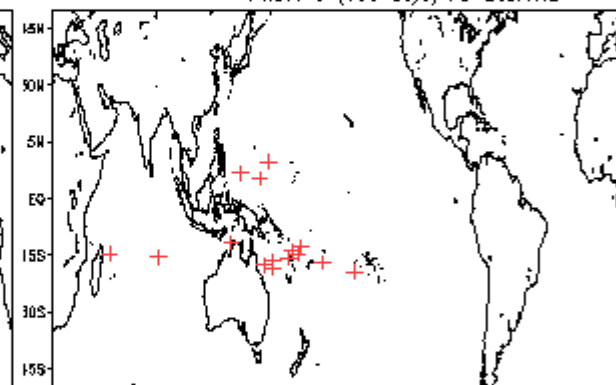
Phase 2 (101 days) 15 storms



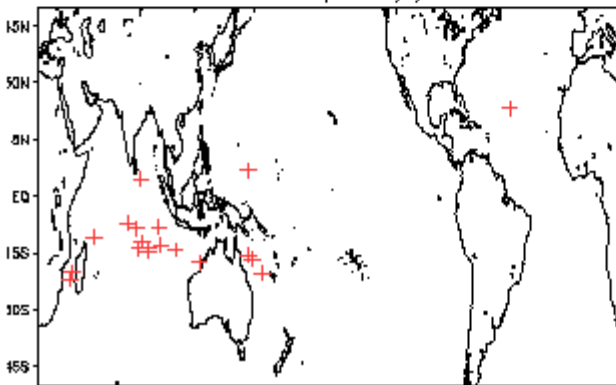
Phase 5 (67 days) 8 storms



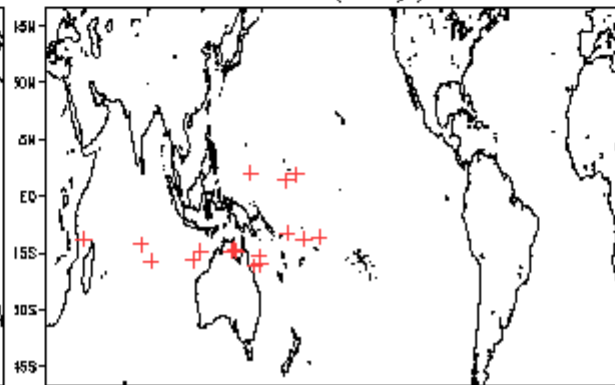
Phase 8 (105 days) 16 storms



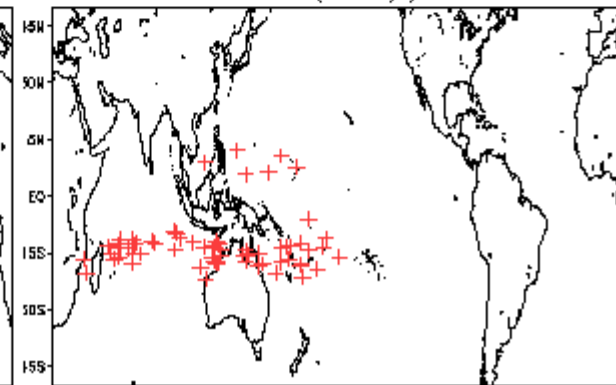
Phase 3 (112 days) 20 storms



Phase 6 (88 days) 18 storms

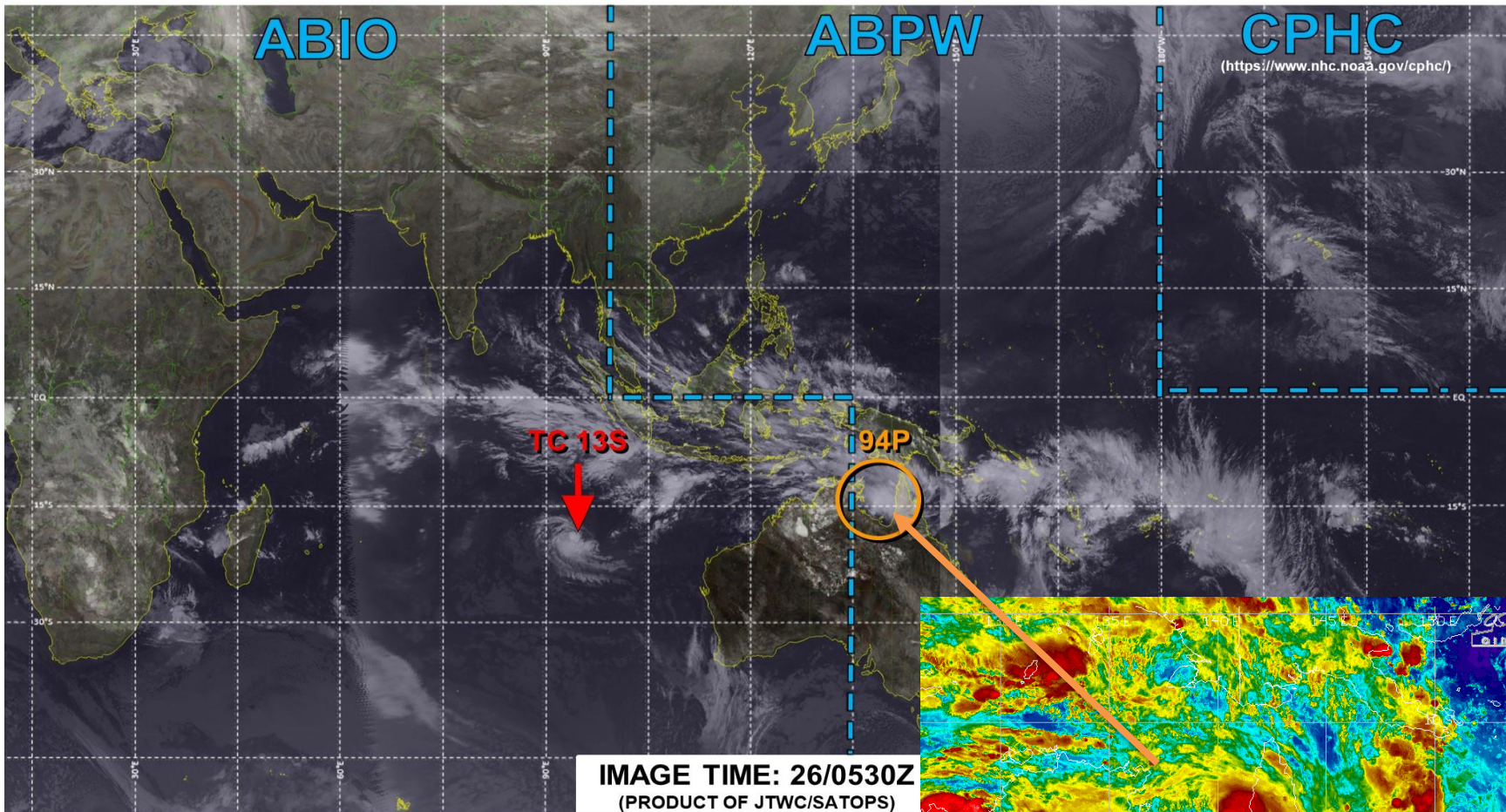


Null (364 days) 67 storms





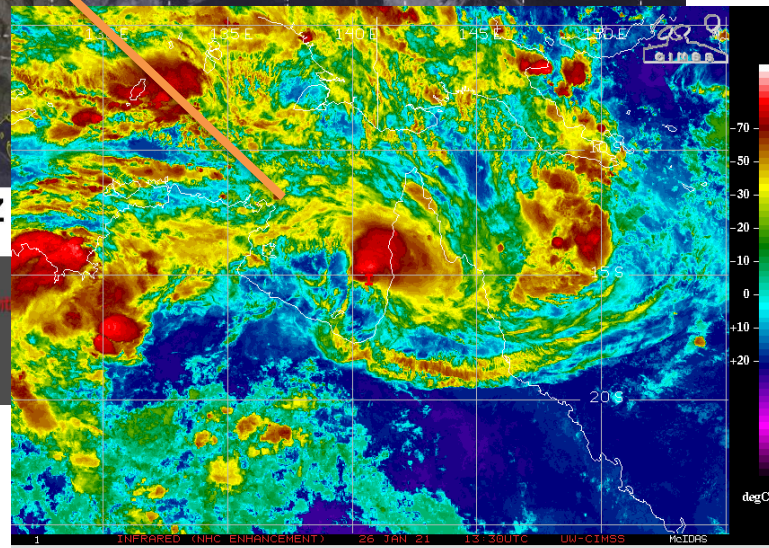
JOINT TYPHOON WARNING CENTER



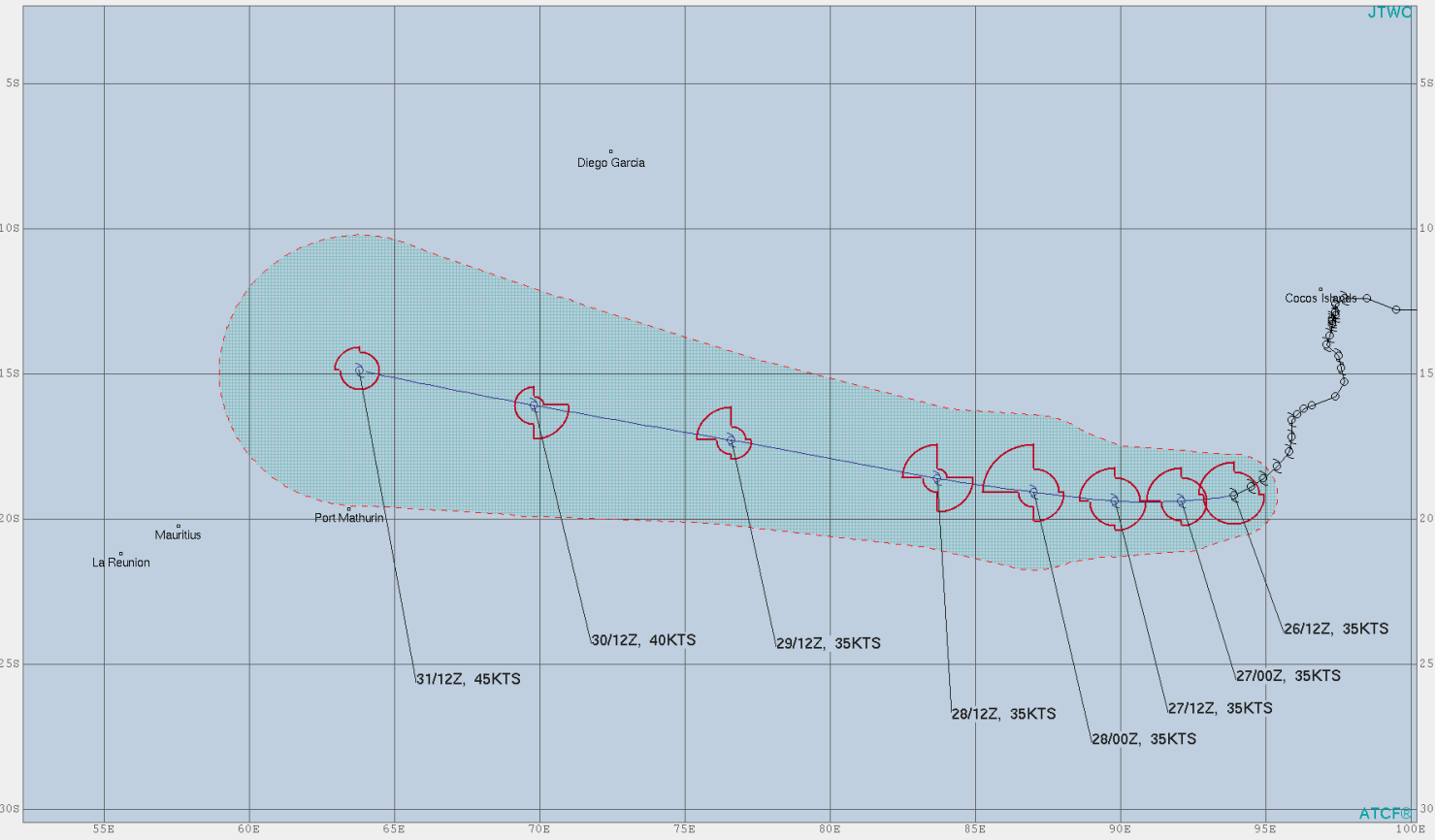
LOW TC development unlikely within 24 hours

MEDIUM TC development likely, but expected to occur beyond 24 hours

HIGH TC development likely within 24 hours (Reference TCFA)




- Low/None
- Tropical Dep.
- Tropical STFM
- Category 1
- Category 2
- Category 3
- Category 4
- Invest Area
- Tropical Depression
- Tropical Storm
- Hurricane/typhoon



TROPICAL CYCLONE 13E (THIRTEEN) WARNING #12
 WTS31 PGTW 261500
 261200Z POSIT: NEAR 19.2S 93.9E
 MOVING 240 DEGREES TRUE AT 06 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 13 FEET
 26/12Z, WINDS 035 KTS, GUSTS TO 045 KTS
 27/00Z, WINDS 035 KTS, GUSTS TO 045 KTS
 27/12Z, WINDS 035 KTS, GUSTS TO 045 KTS
 28/00Z, WINDS 035 KTS, GUSTS TO 045 KTS
 28/12Z, WINDS 035 KTS, GUSTS TO 045 KTS
 29/12Z, WINDS 035 KTS, GUSTS TO 045 KTS
 30/12Z, WINDS 040 KTS, GUSTS TO 050 KTS
 31/12Z, WINDS 045 KTS, GUSTS TO 055 KTS

CPA TO: NM DTG
 FORT_MATHURIN 286 31/09Z

○ LESS THAN 34 KNOTS
 ○ 34-63 KNOTS
 ○ MORE THAN 63 KNOTS
 — FORECAST CYCLONE TRACK
 - - - PAST CYCLONE TRACK
 ■ DENOTES 34 KNOT WIND DANGER AREA/USN SHIP AVOIDANCE AREA
 ○ FORECAST 34/50/64 KNOT WIND RADII (WINDS VALID OVER OPEN OCEAN ONLY)



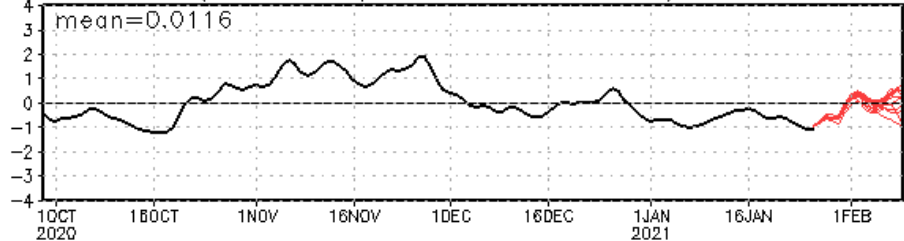
JTWC

ATCF

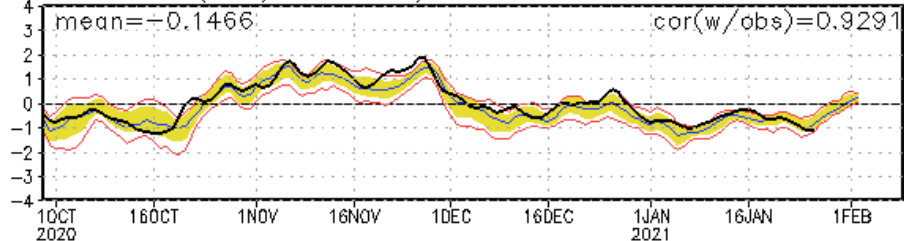
Connections to U.S. Impacts

NAO: Observed & ENSM forecasts

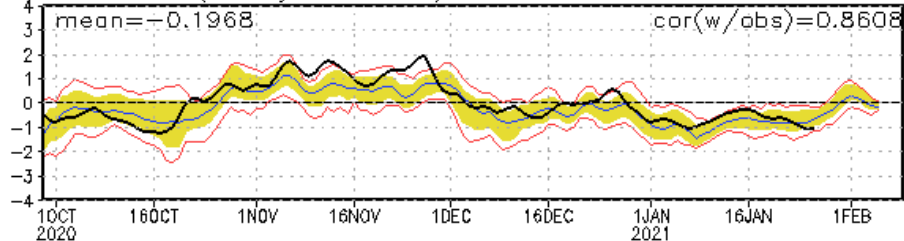
500mb Z (Obs: 29Sep2020 – 26Jan2021) NAO index



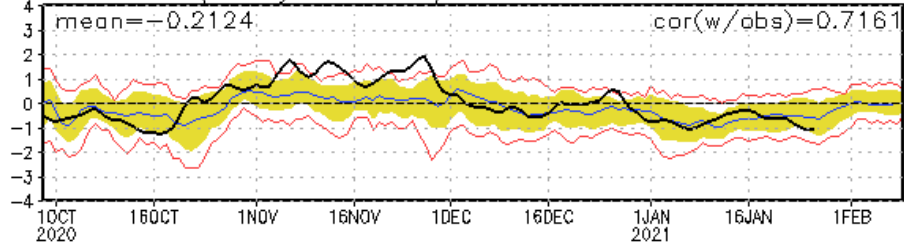
500mb Z (7day Forecast) NAO index



500mb Z (10day Forecast) NAO index

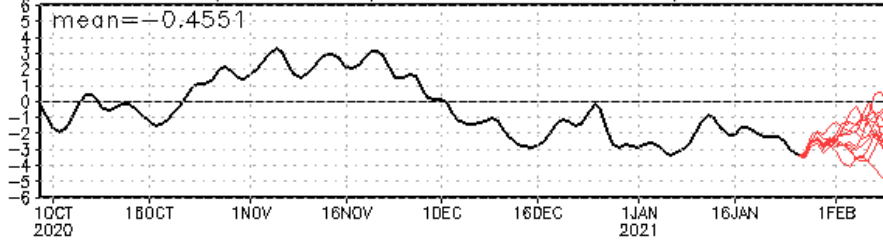


500mb Z (14day Forecast) NAO index

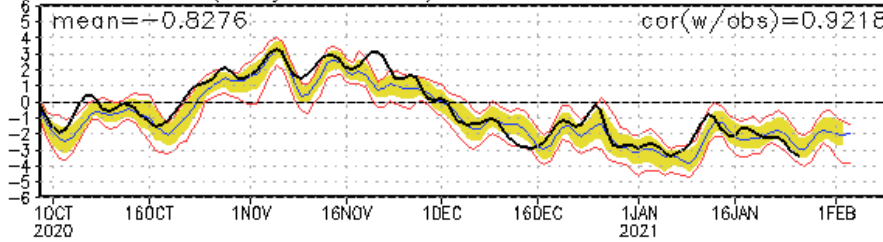


AO: Observed & ENSM forecasts

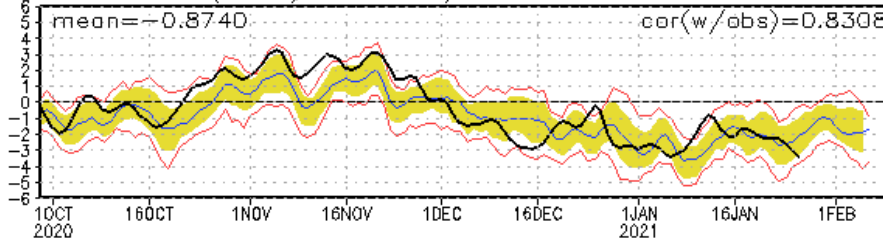
1000mb Z (Obs: 29Sep2020 – 26Jan2021) AO index



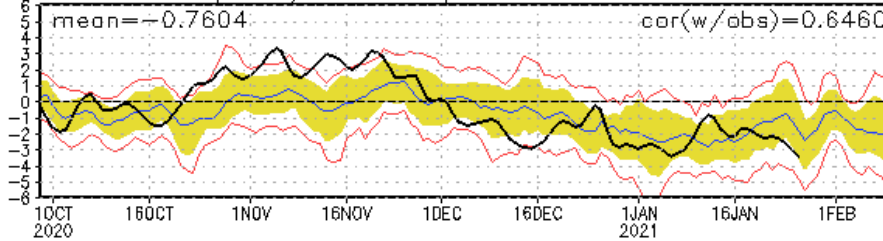
1000mb Z (7day Forecast) AO index



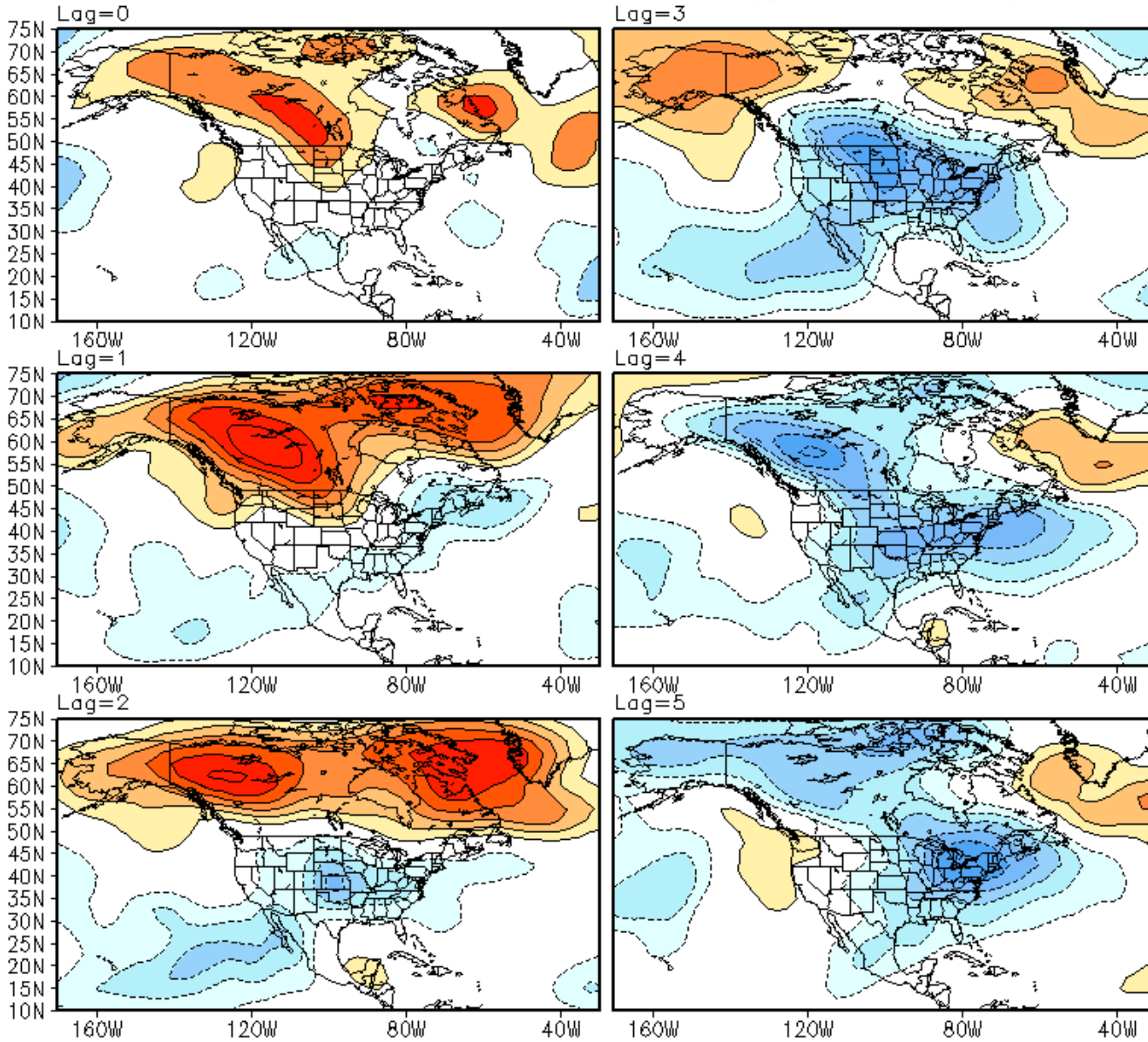
1000mb Z (10day Forecast) AO index

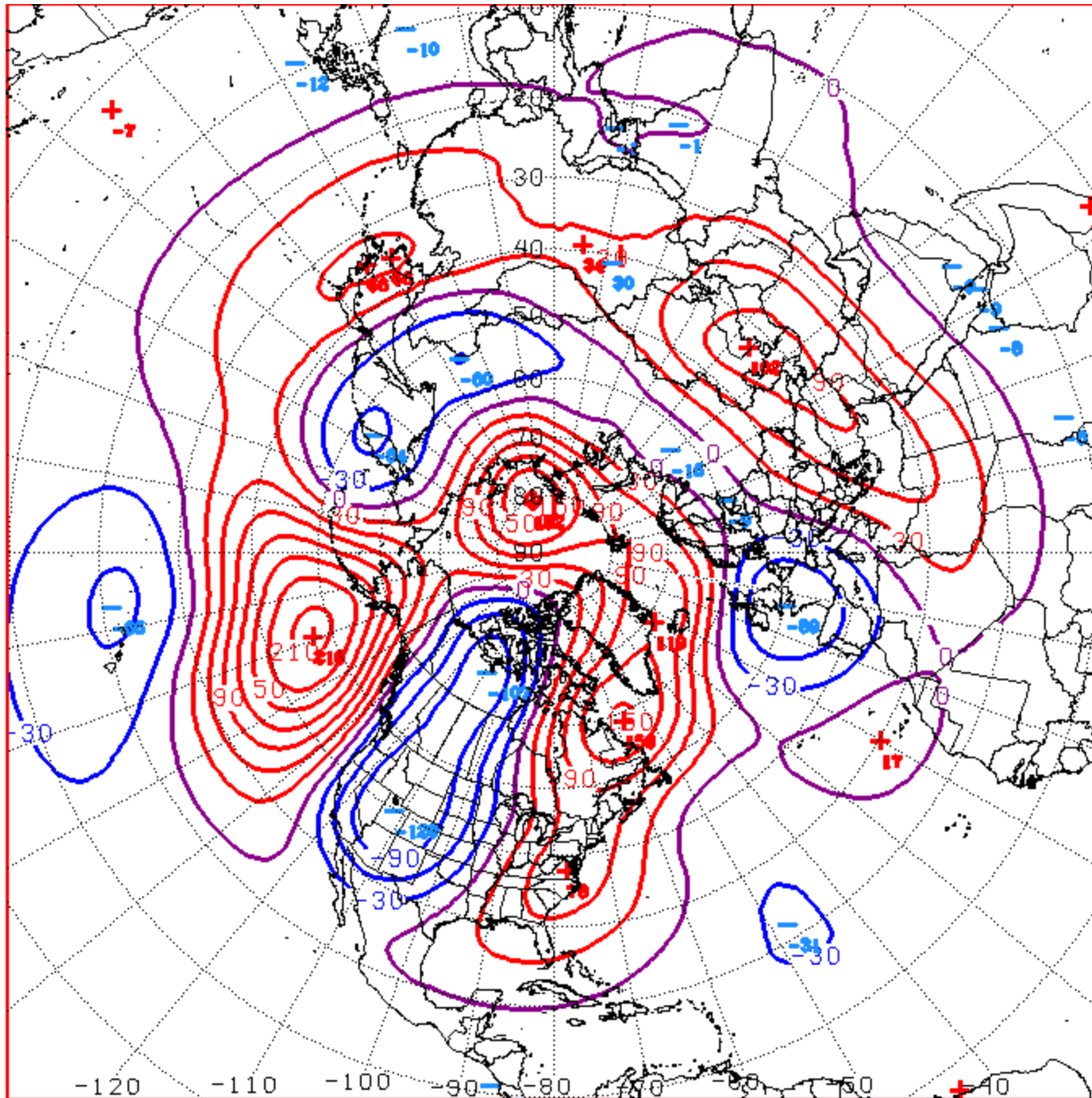


1000mb Z (14day Forecast) AO index



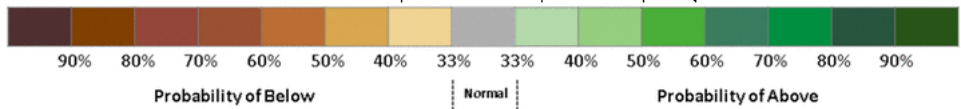
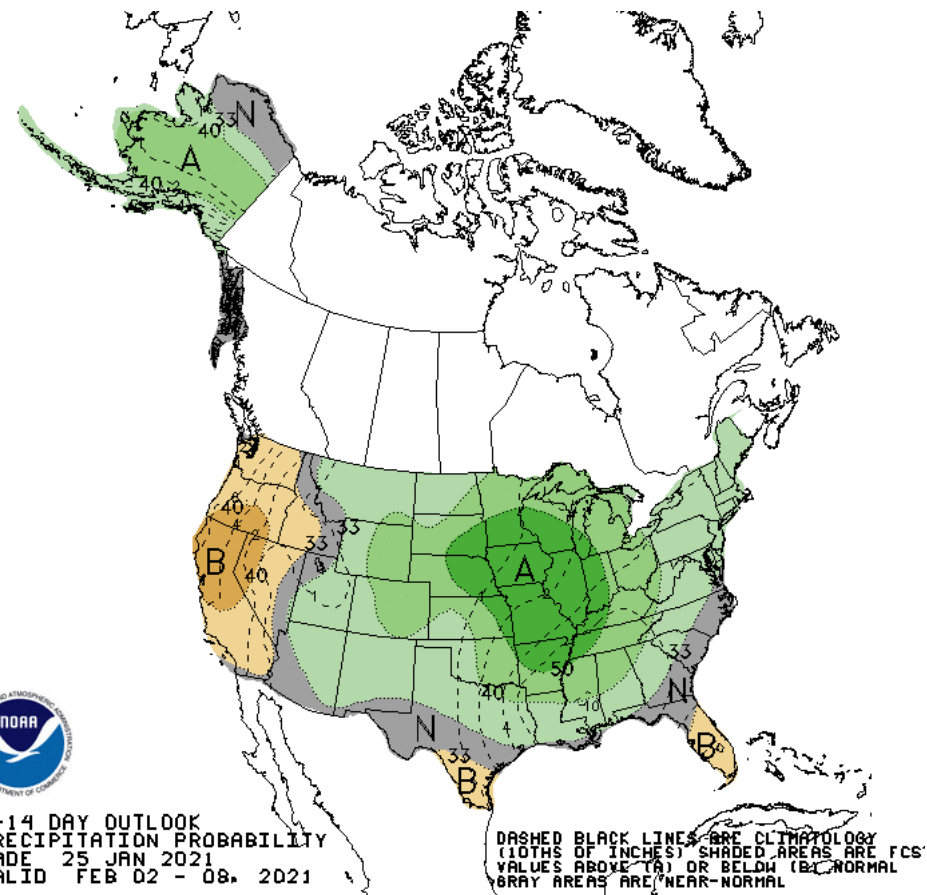
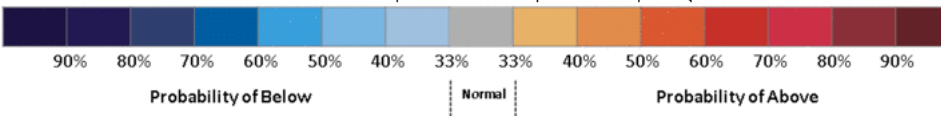
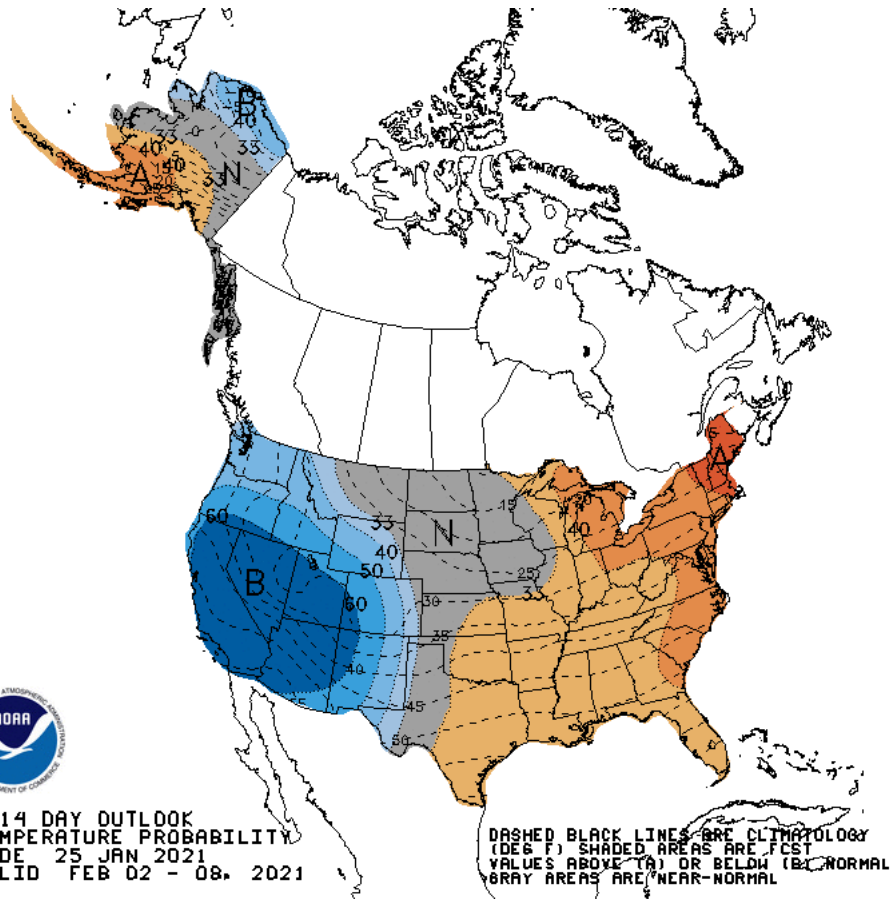
RMM Phase 7 850-hPa Temperature Lagged Composite (jfm)





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JAN 26 2021 1424 UTC CNTD FEB 06 2021

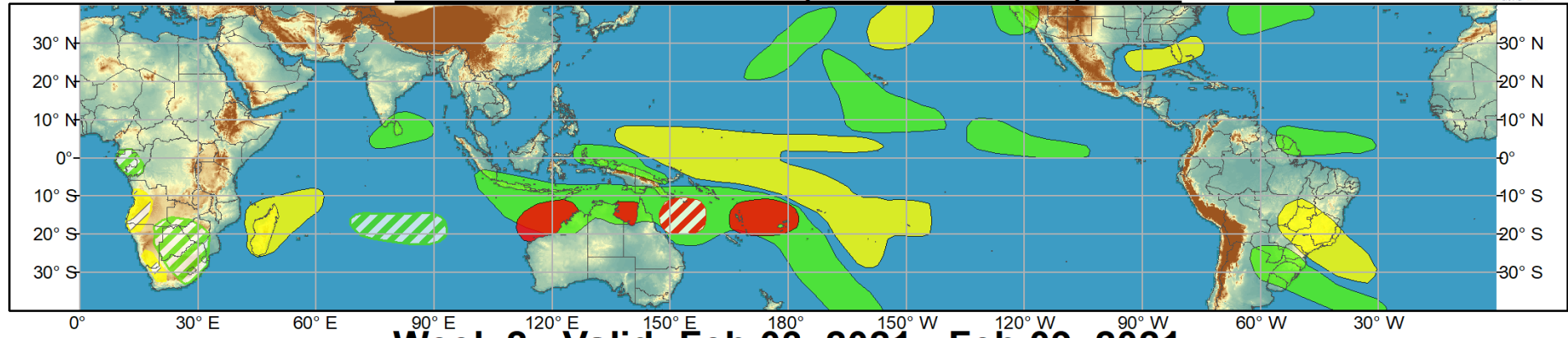
Week 2 – Temperature and Precipitation



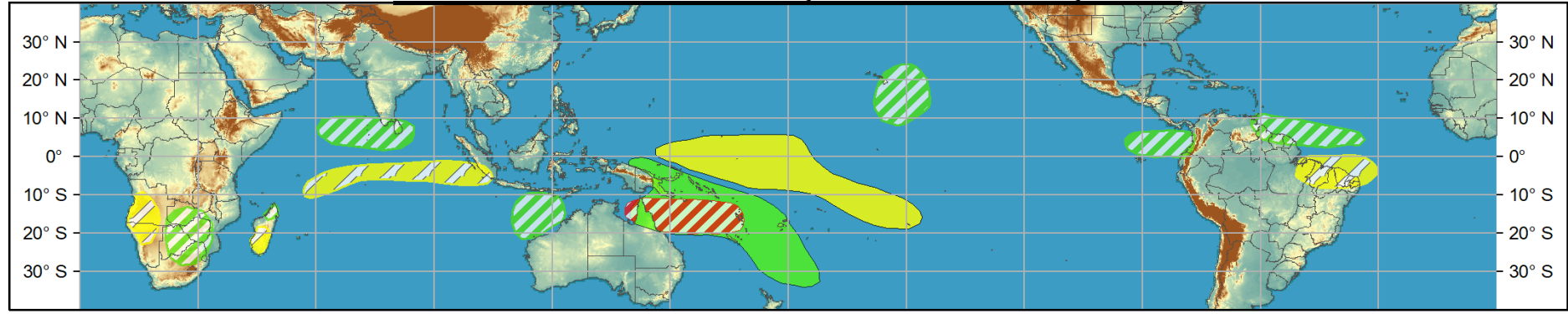


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