

Global Tropics Hazards And Benefits Outlook

2/22/2022

Nick Novella

Outline

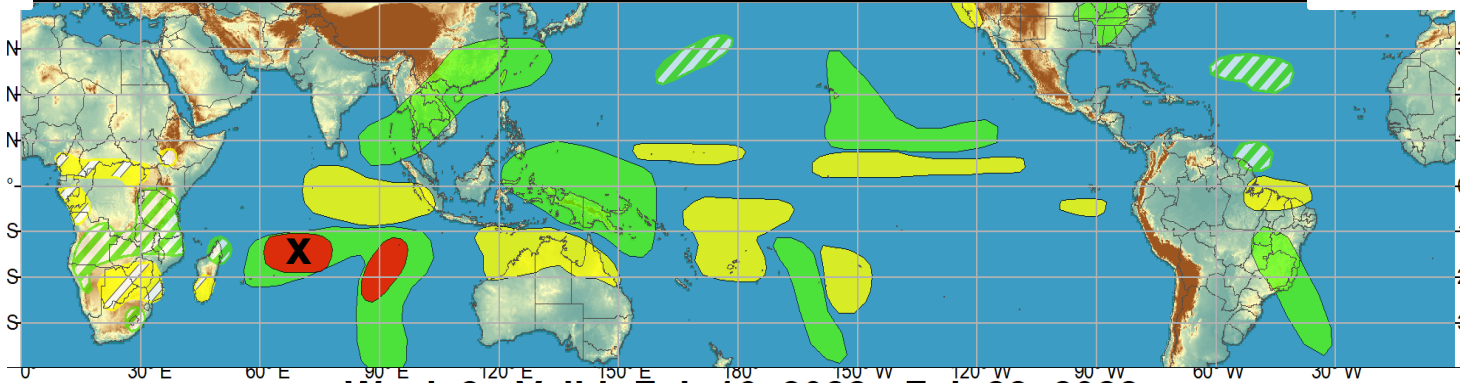
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

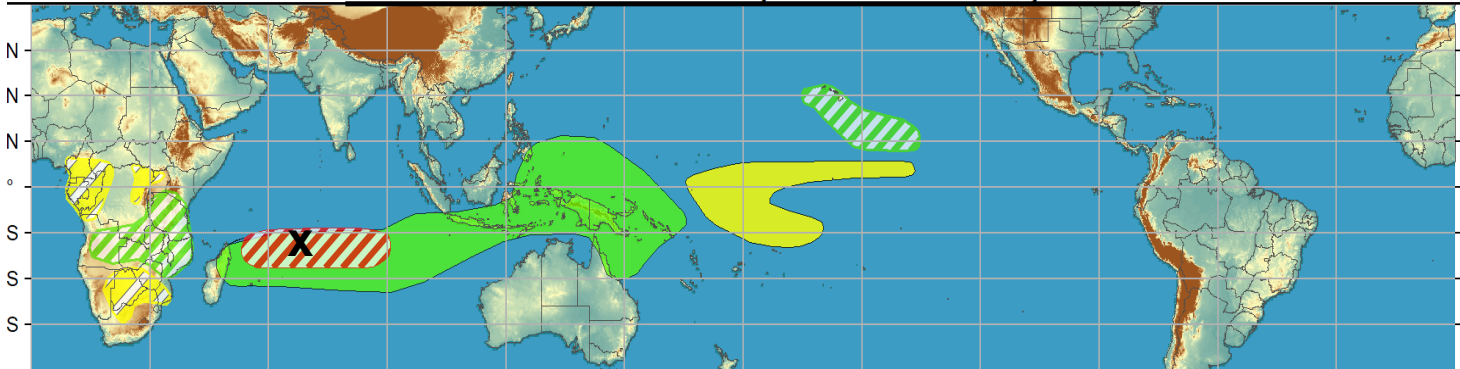
Latest TCs

X= Emnati (2/16)
(Southern Indian Ocean)

Week 1 - Valid: Feb 16, 2022 - Feb 22, 2022

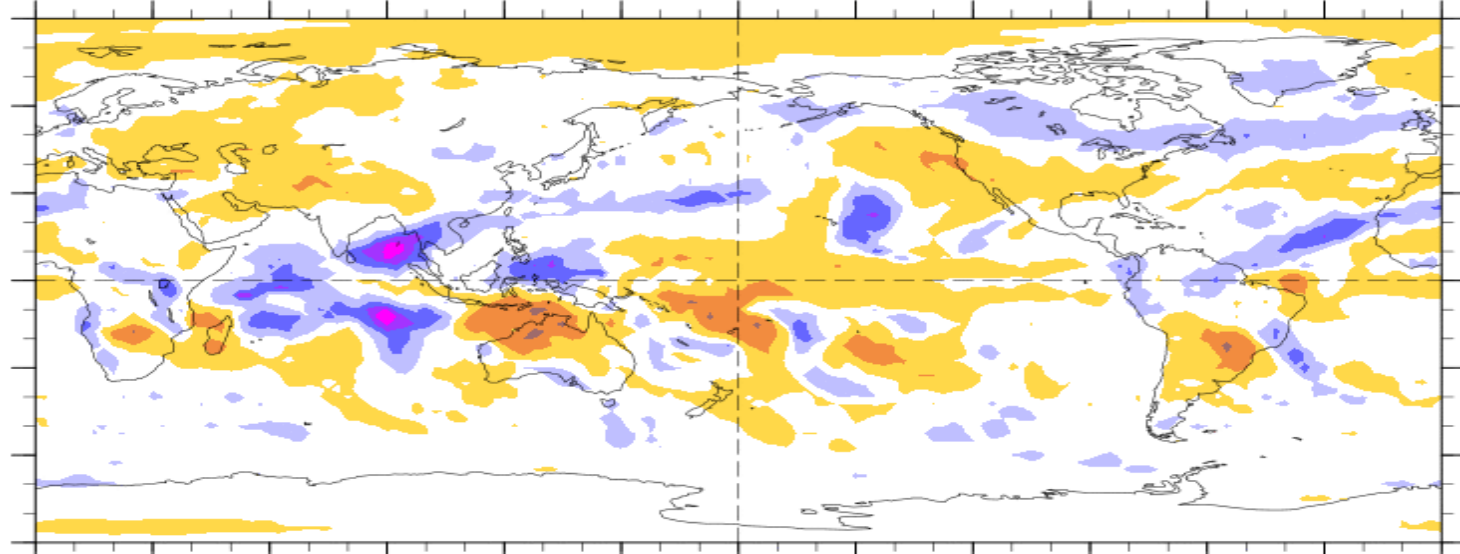


Week 2 - Valid: Feb 16, 2022 - Feb 22, 2022



7-Day Average OLR Anomaly

2022/02/14 - 2022/02/20



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (February 10, 2022 Update)

next update on 10th of Mar.!

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is likely to continue into the Northern Hemisphere spring (77% chance during March-May 2022) and then transition to ENSO-neutral (56% chance during May-July 2022).

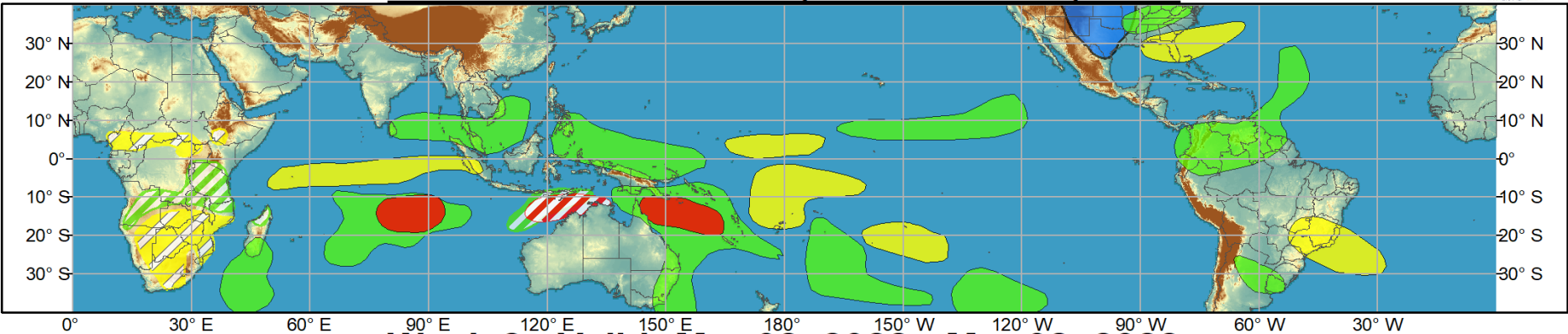
MJO and other subseasonal tropical variability:

- The MJO remains organized, but has been slow to continuously propagate eastward across the Indian Ocean during the past week.
- RMM forecasts favor the MJO to propagate eastward into the Maritime Continent, where there are differences among dynamical models in regards to the evolution and amplitude of the intraseasonal signal during the next two weeks.
- The enhanced phase of the MJO is expected to contribute to tropical cyclone (TC) activity over the southern Indian Ocean and South Pacific.
- Constructive interference with the low frequency footprint remains likely, with an anticipated extratropical response typical of La Niña downstream over the mid-latitudes by early March.

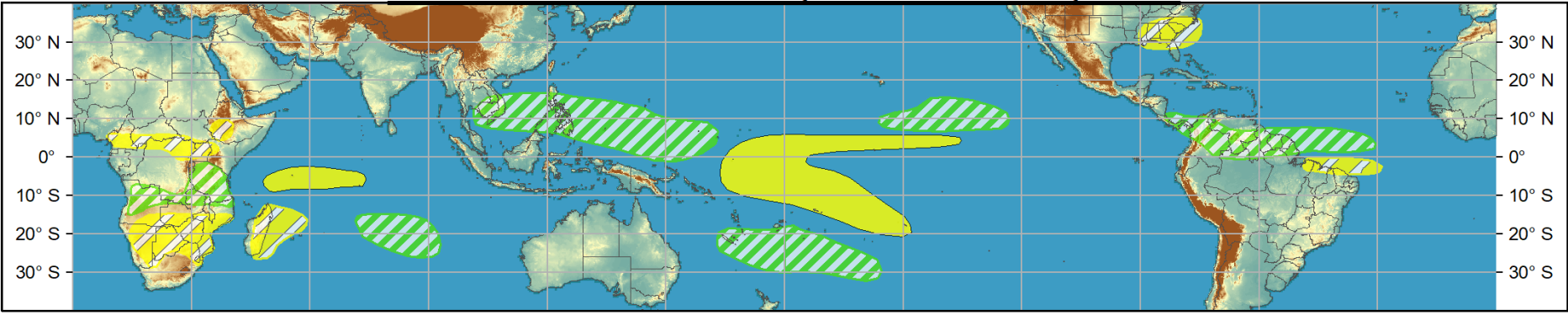


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 23, 2022 - Mar 01, 2022



Week 2 - Valid: Mar 02, 2022 - Mar 08, 2022



Produced: 02/22/2022
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.

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.



IR Satellite & 200-hpa Velocity Potential Anomalies

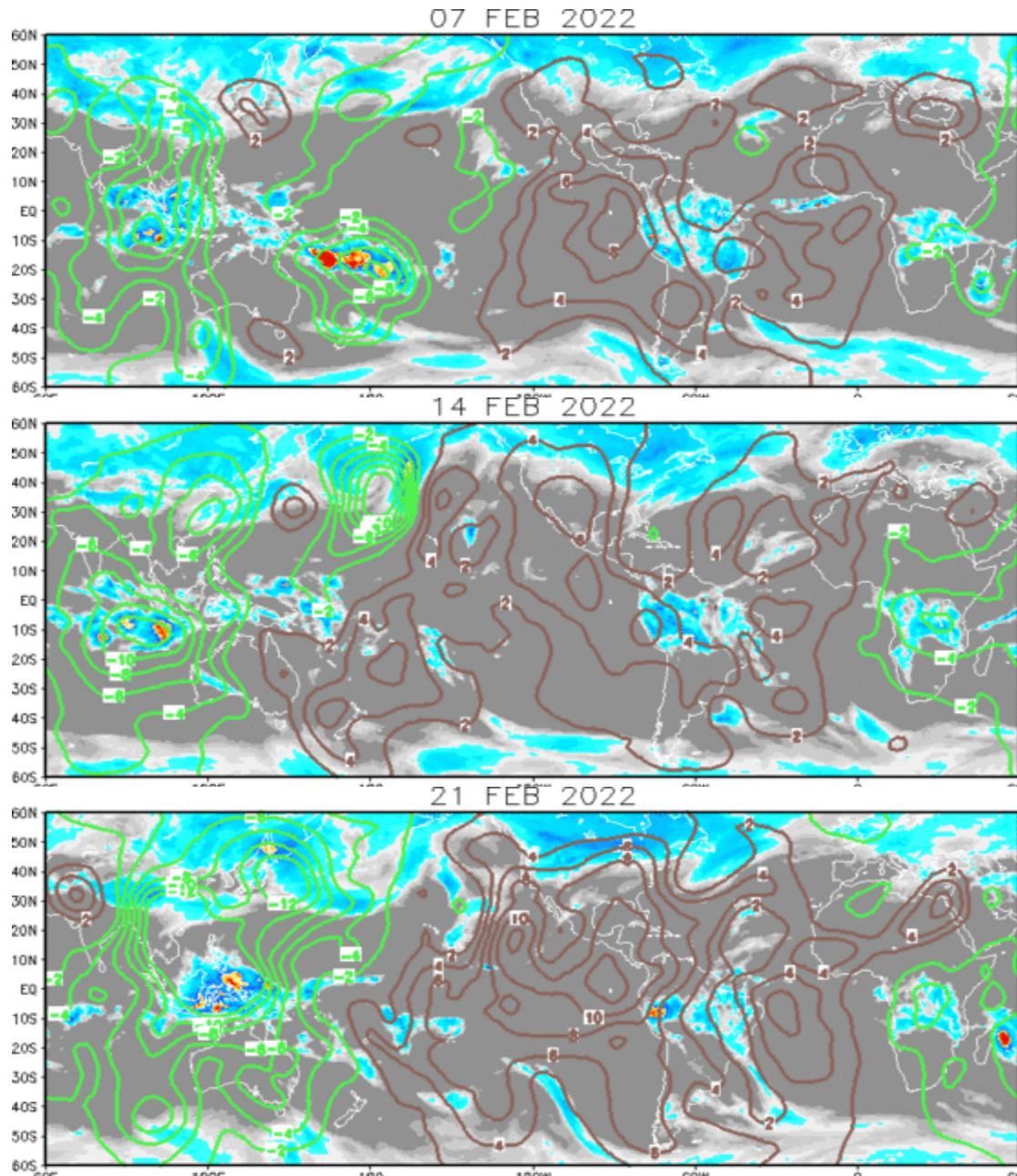
Green: Enhanced Divergence

Brown: Enhanced Convergence

A wave-1 spatial pattern in the velocity potential field developed in early February, with signs of a more coherent MJO emerging.

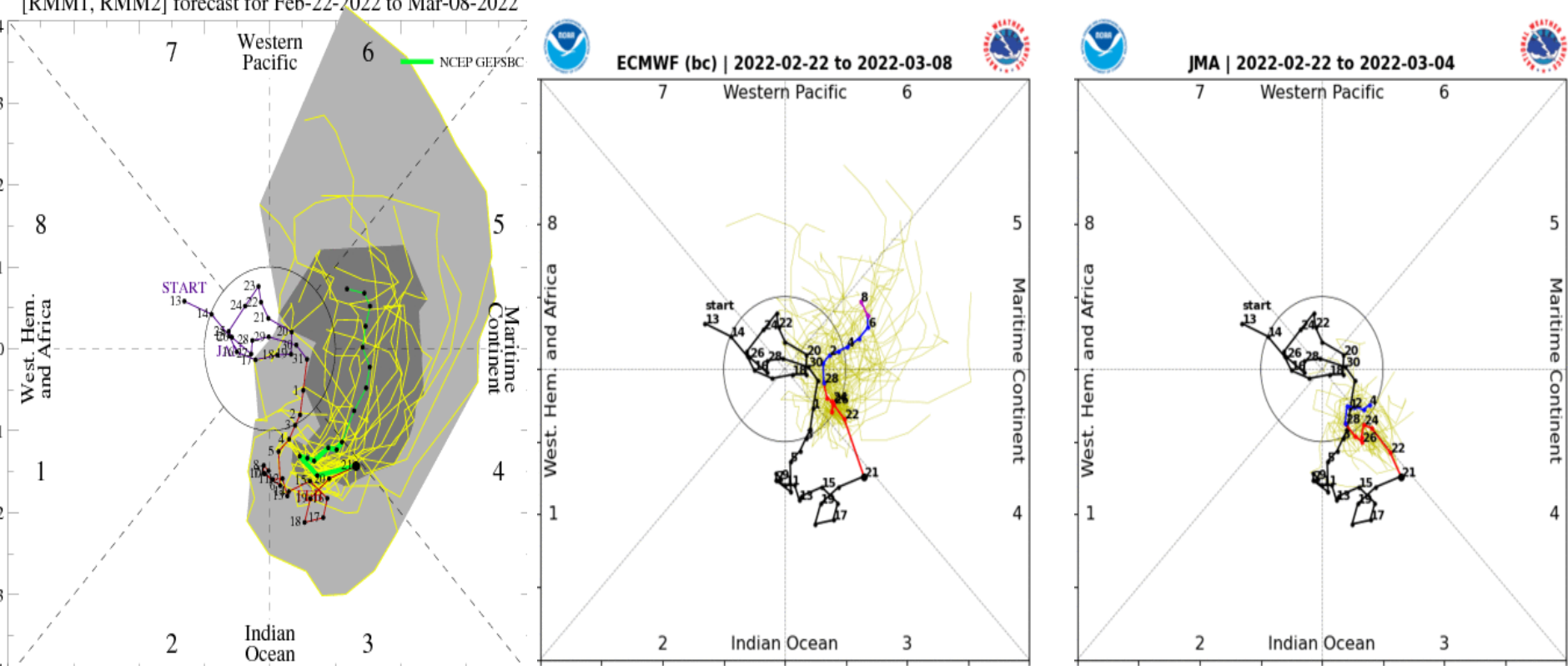
Enhanced convection persists west of the Date Line, particularly across the eastern Indian Ocean; convection remains suppressed over much of the Western Hemisphere.

Enhanced (suppressed) upper-level conditions remain predominately anchored over the eastern (western) Hemisphere indicative of little eastward propagation of the MJO during the past week.



MJO Observation/Forecast

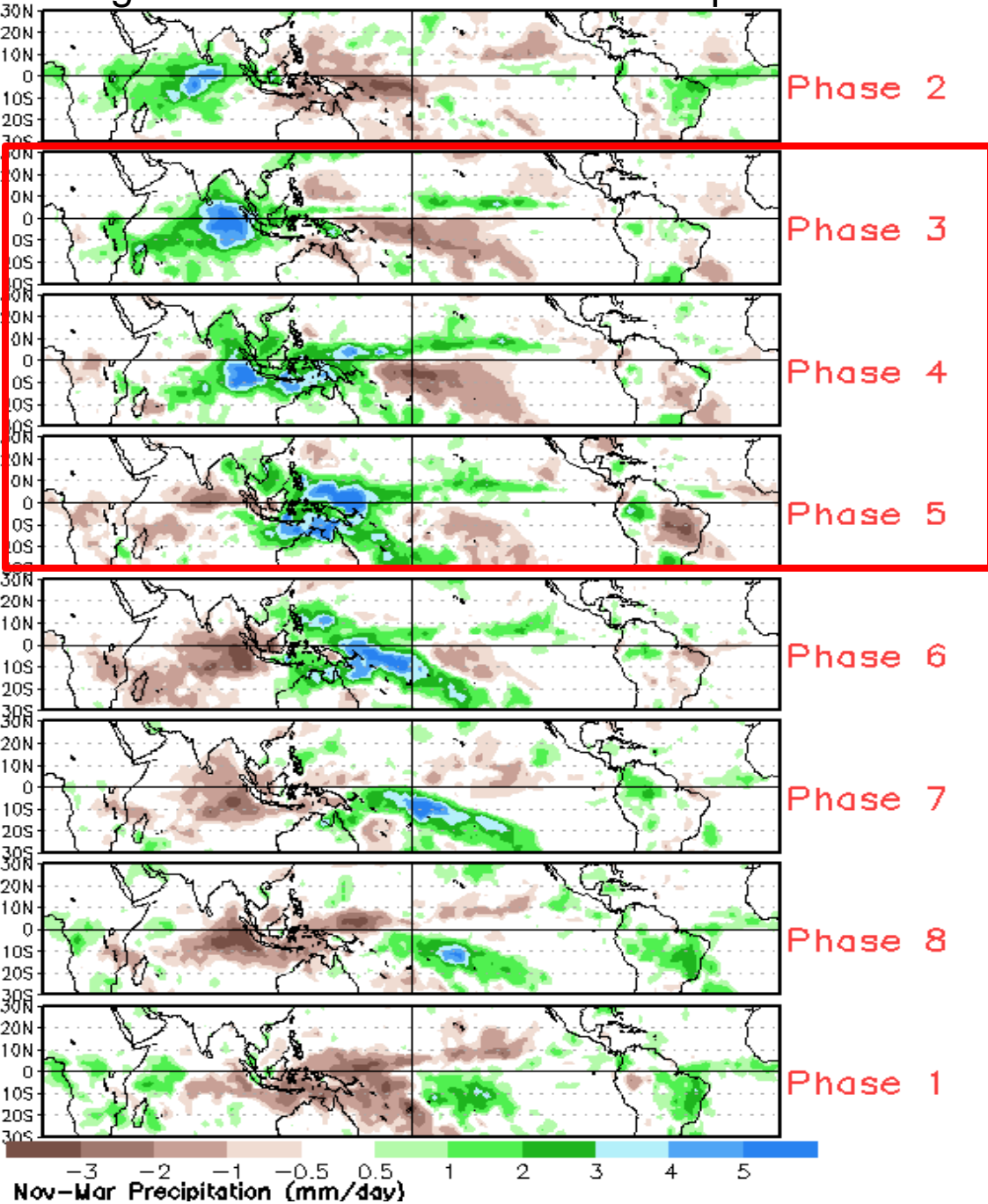
[RMM1, RMM2] forecast for Feb-22-2022 to Mar-08-2022



The ECMWF and GEFS ensembles depict eastward propagation of the MJO into the Maritime Continent, but differ in regards to its amplitude during the next two weeks.

Similar to last week, the JMA remains an outlier as it favors little to no eastward propagation of the MJO.

Average Conditions when the MJO is present

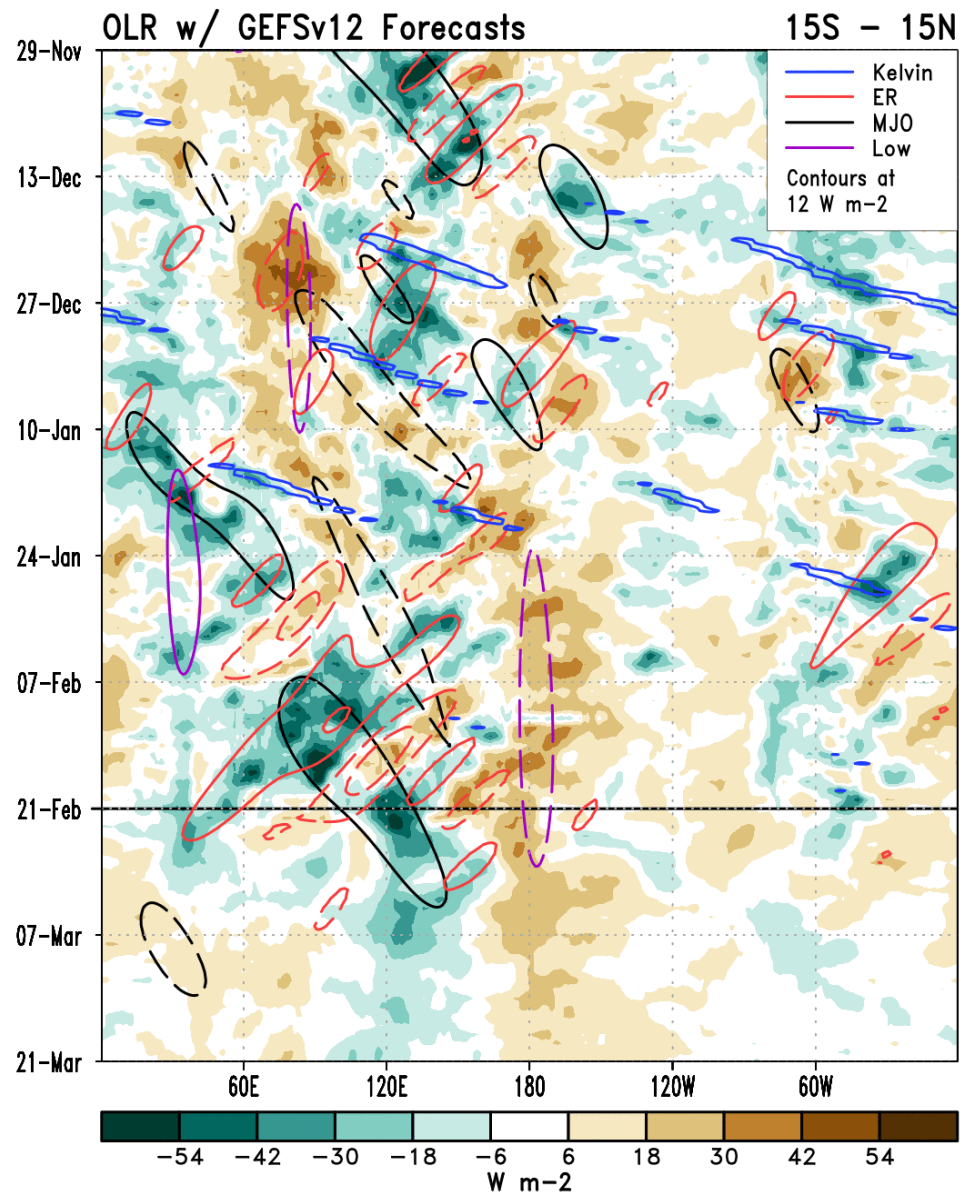


CAVEAT: These panels are representative of robust MJO events.

Rossby Wave activity contributed to the convective pattern over the Indian Ocean since early February.

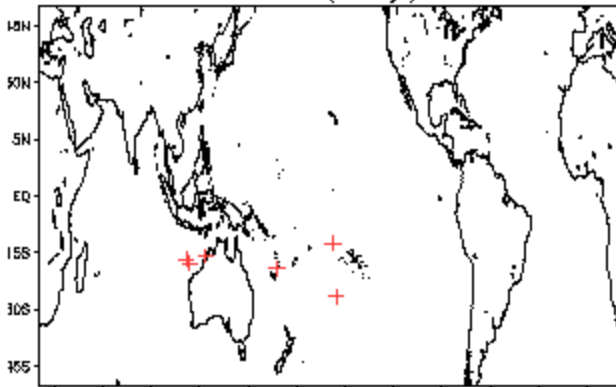
MJO activity is coming through the filtering over the Indian Ocean and Maritime Continent, which is expected to constructively interfere with the enhanced convective footprint tied to La Nina.

Low frequency suppressed convection remains apparent along and to the west of the Date Line, where there is the potential for destructive interference with the MJO later in March.

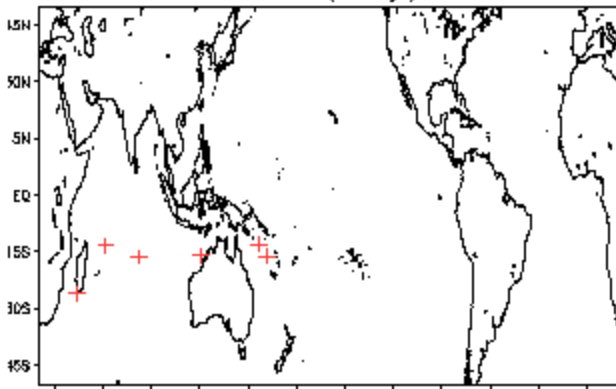


February Tropical Storm Formation by MJO phase

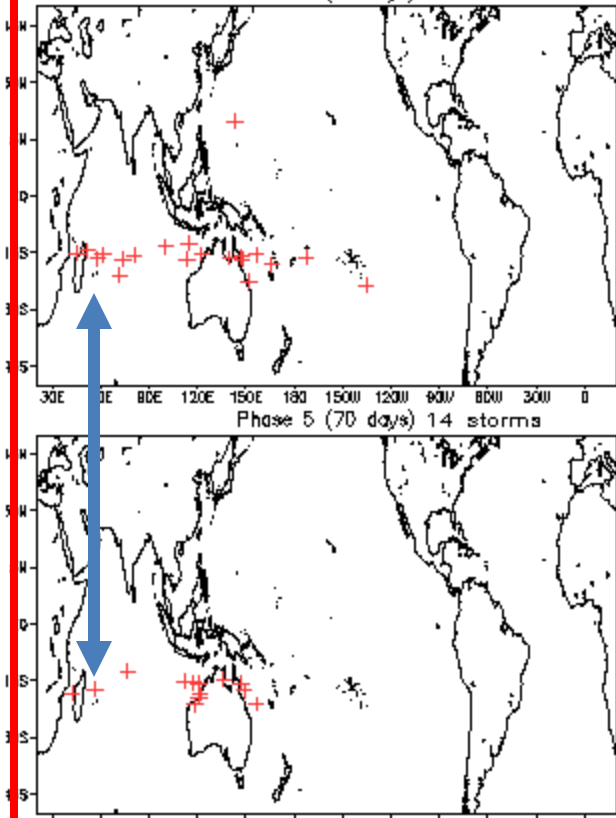
Phase 1 (41 days) 7 storms



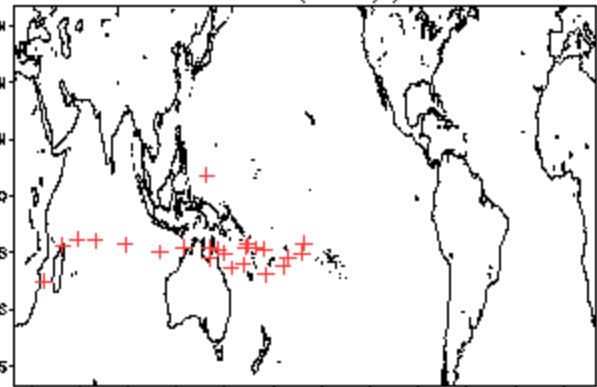
Phase 2 (51 days) 7 storms



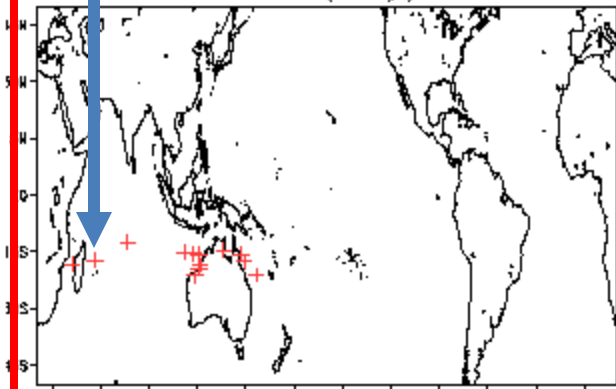
Phase 4 (92 days) 21 storms



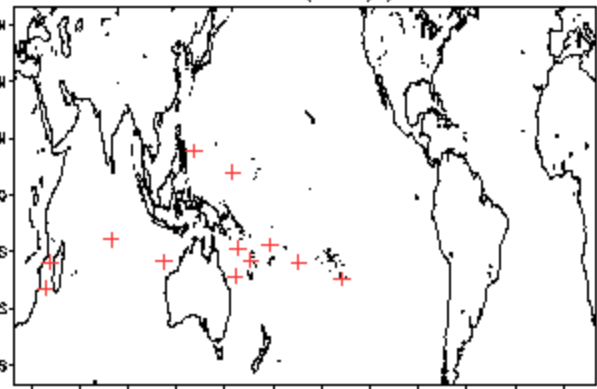
Phase 7 (125 days) 24 storms



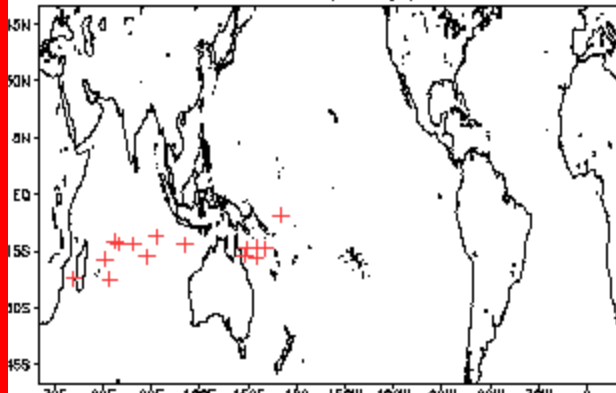
Phase 5 (70 days) 14 storms



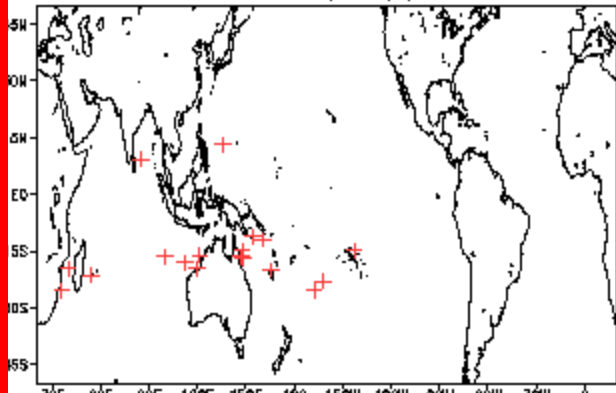
Phase 8 (84 days) 13 storms



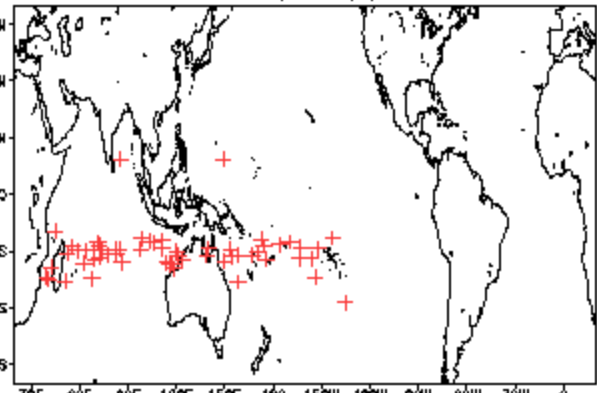
Phase 3 (89 days) 18 storms



Phase 6 (92 days) 19 storms

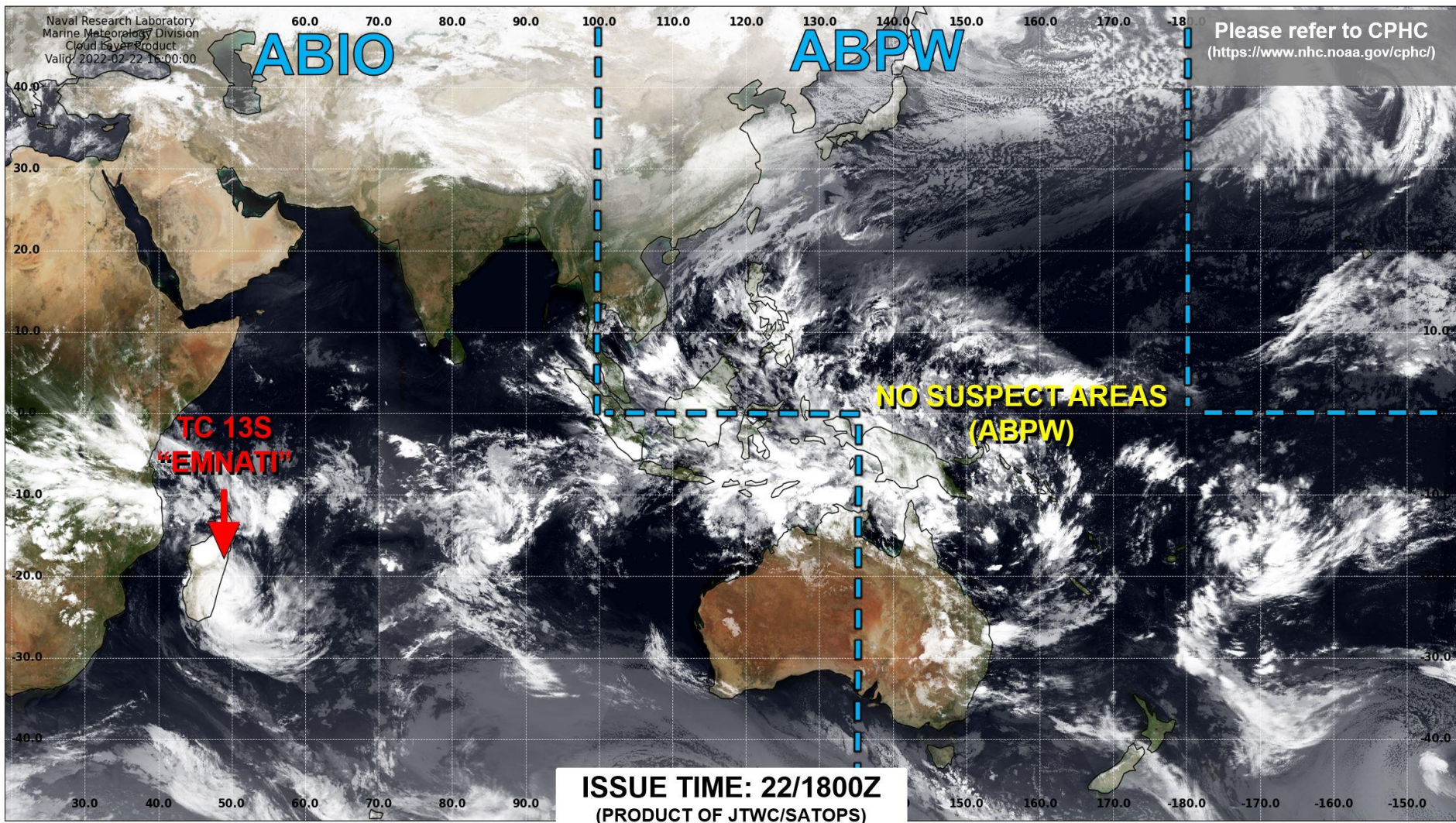


Null (308 days) 60 storms





JOINT TYPHOON WARNING CENTER



TC development unlikely within 24 hours



TC development likely, but expected to occur beyond 24 hours

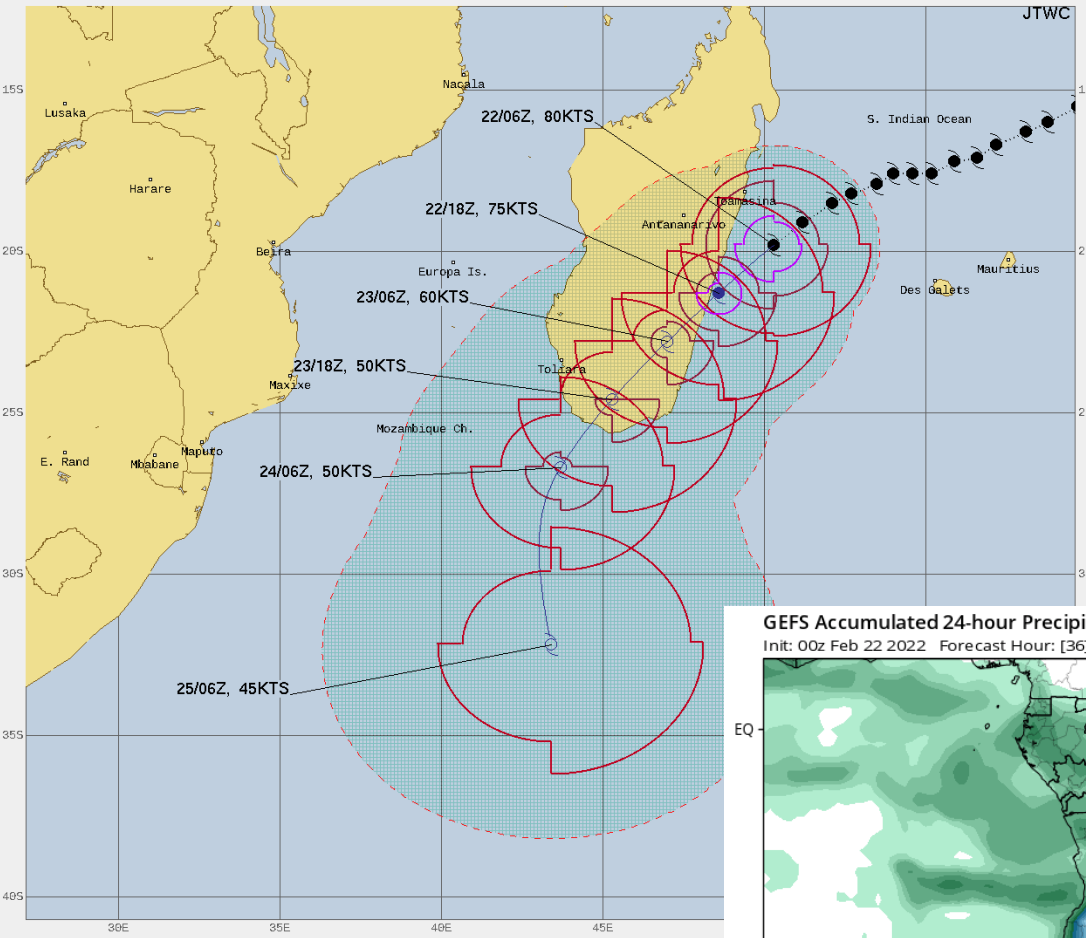


TC development likely within 24 hours (Reference TCFA)



Monitoring for potential transition to TC. Invest label color denotes tropical transition probability





TROPICAL CYCLONE 135 (EMNATI) WARNING #13
 WTX531 PGTW 220900
 220600Z POSIT: NEAR 19.8S 50.3E
 MOVING 239 DEGREES TRUE AT 11 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 32 FEET
 22/06Z, WINDS 060 KTS, GUSTS TO 100 KTS
 22/18Z, WINDS 075 KTS, GUSTS TO 090 KTS
 23/06Z, WINDS 060 KTS, GUSTS TO 075 KTS
 23/18Z, WINDS 050 KTS, GUSTS TO 065 KTS
 24/06Z, WINDS 050 KTS, GUSTS TO 065 KTS
 25/06Z, WINDS 045 KTS, GUSTS TO 055 KTS

CPA TO:	NM	DTG
ANTANANARIVO	149	02/22/14Z
EUROPA_ISLAND	382	02/23/22Z

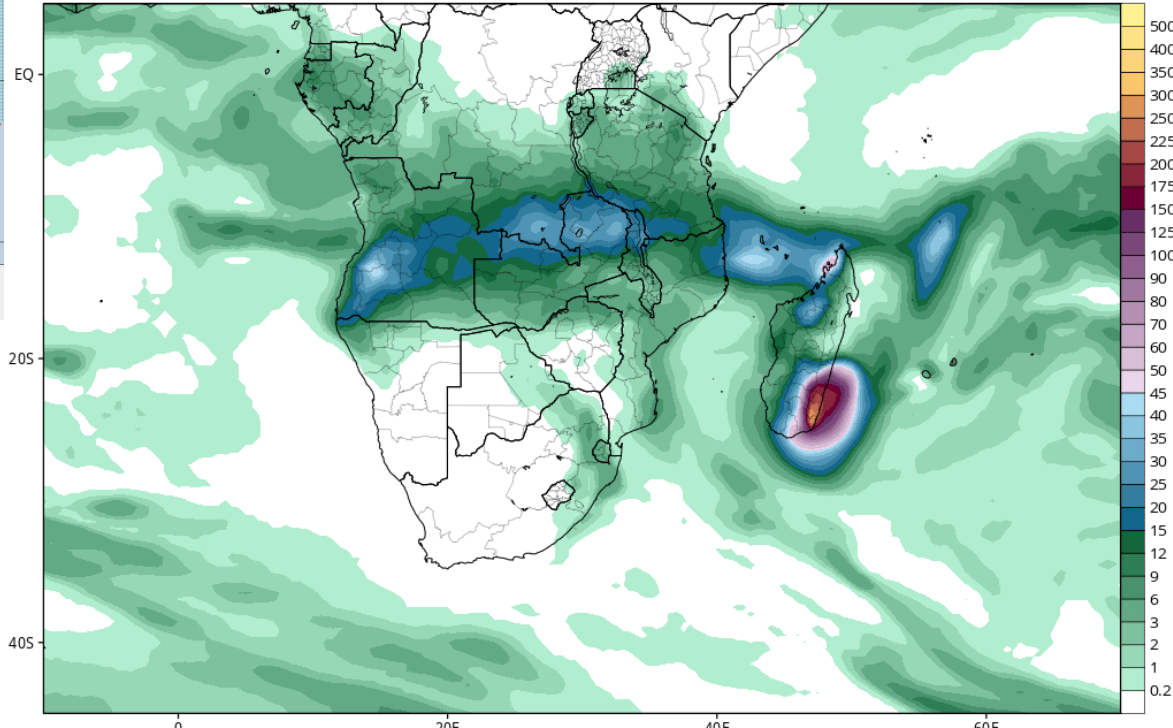
BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
ANTANANARIVO	109	167	0
PORT_LOUIS	271	395	0
ST_DENIS	282	300	0
LA_REUNION	284	303	0

- 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)

GEFS Accumulated 24-hour Precipitation (mm)

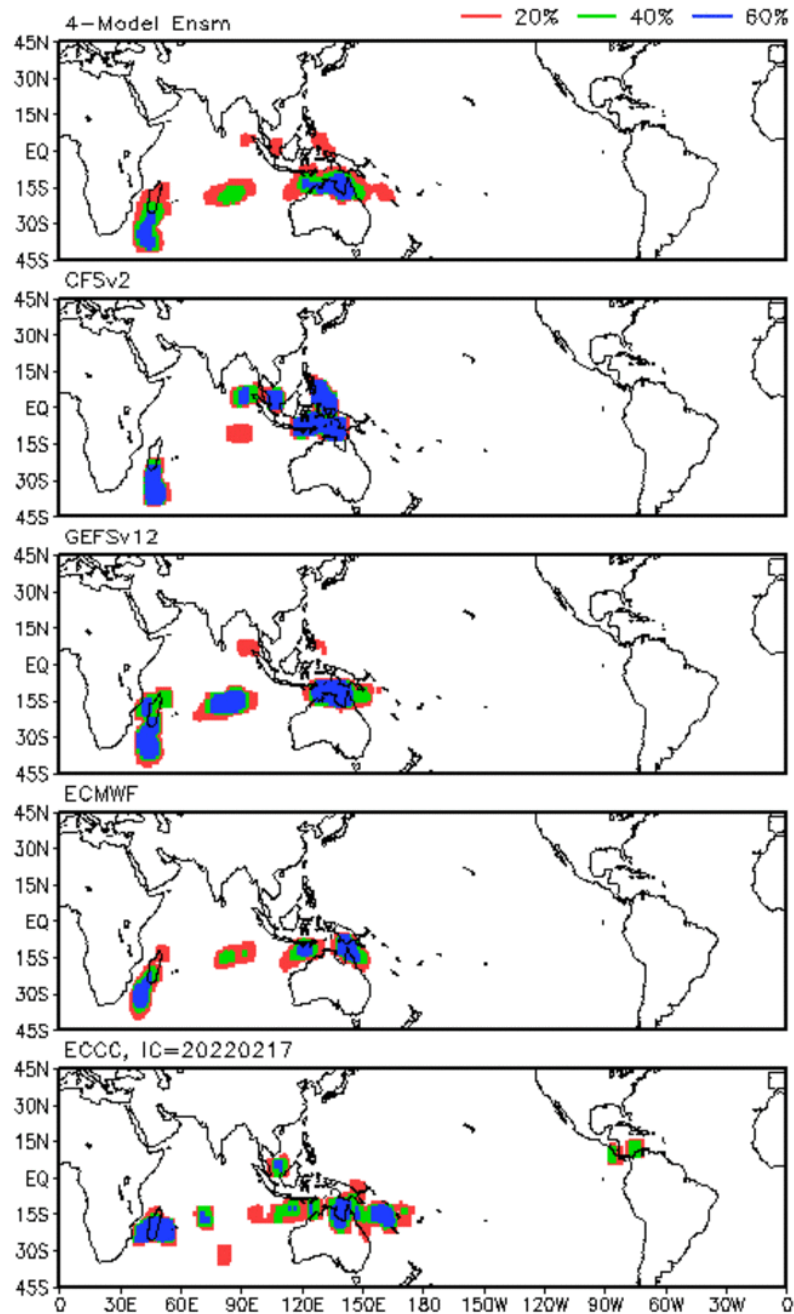
Init: 00z Feb 22 2022 Forecast Hour: [36] valid at 12z Wed, Feb 23 2022

TROPICALTIDBITS.COM



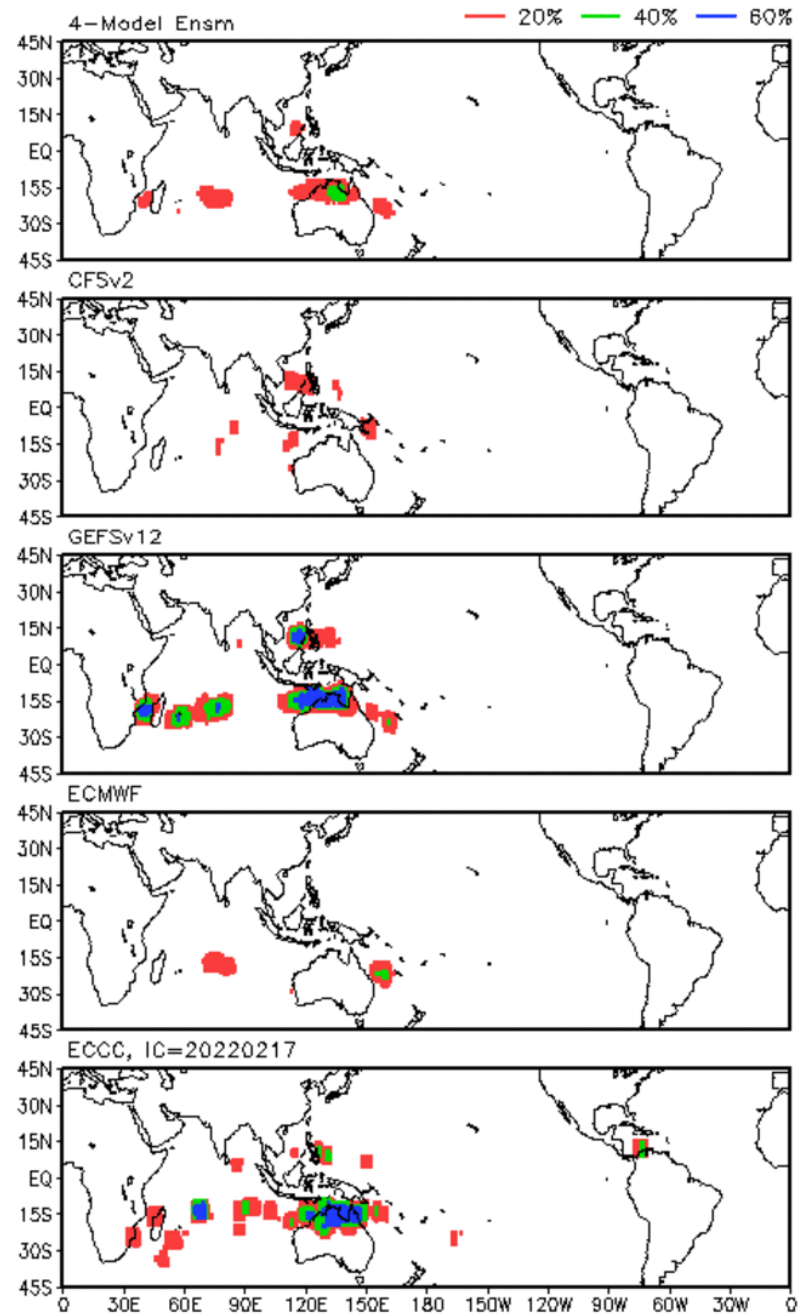
Storm Track Probabilities, IC=20220221

Week 1: 0223 - 0301



Storm Track Probabilities, IC=20220221

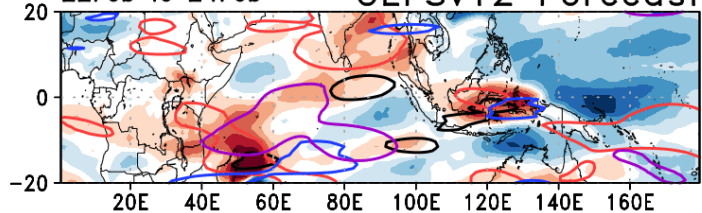
Week 2: 0302 - 0308



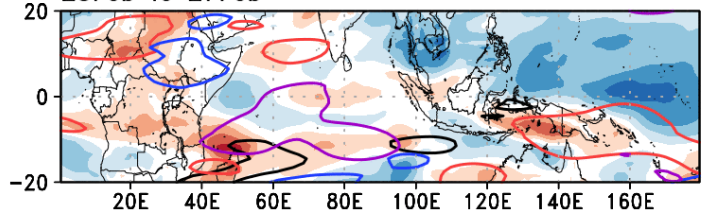
3-Day Means

22Feb to 24Feb

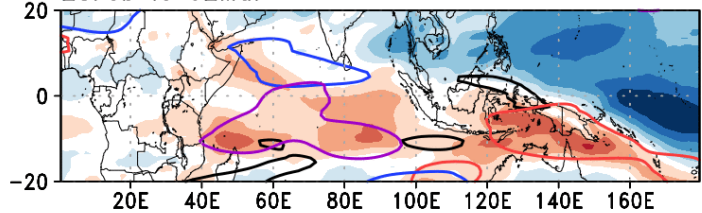
GEFSv12 Forecast



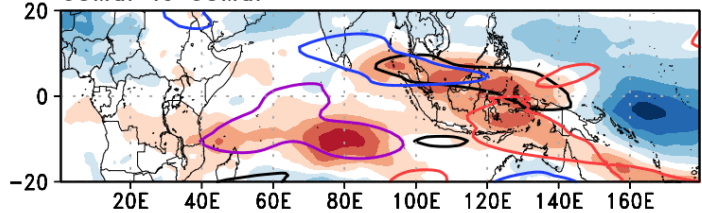
25Feb to 27Feb



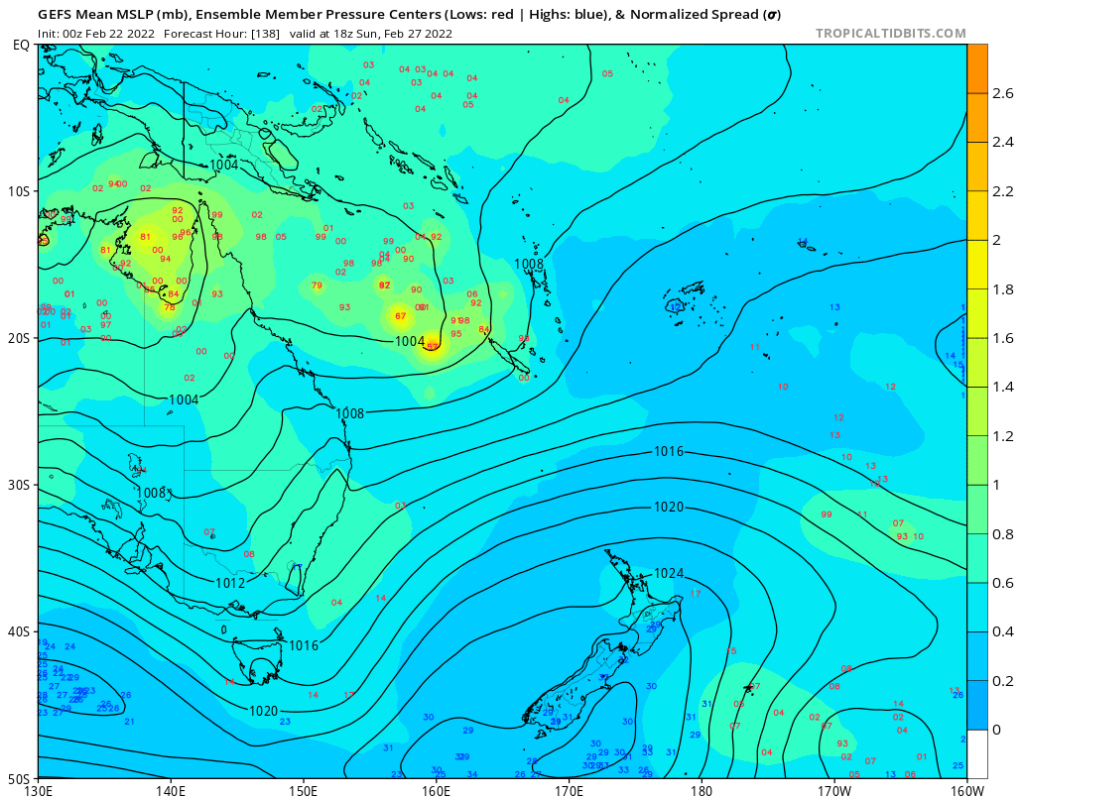
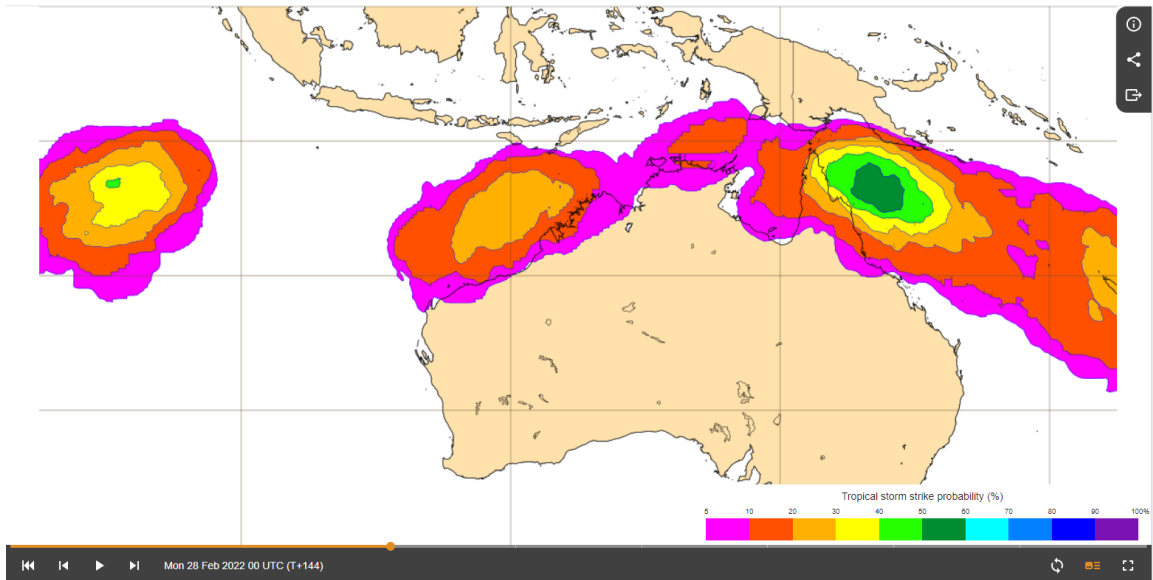
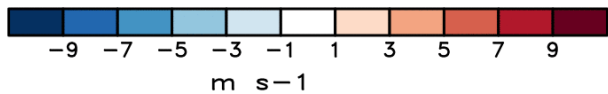
28Feb to 02Mar



03Mar to 05Mar



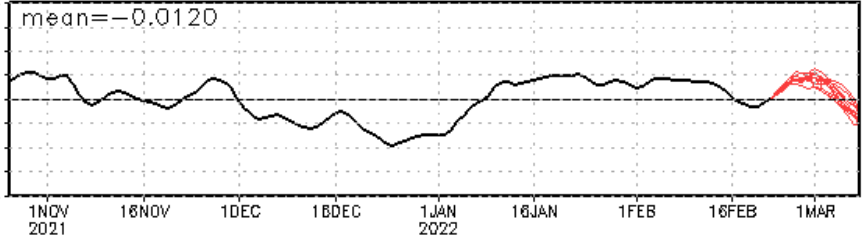
— MJO — Kelvin*2
 — Low — ER
 Contours at 2, 6 m s⁻¹



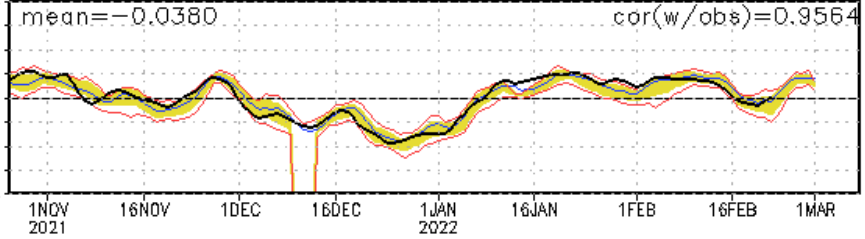
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts

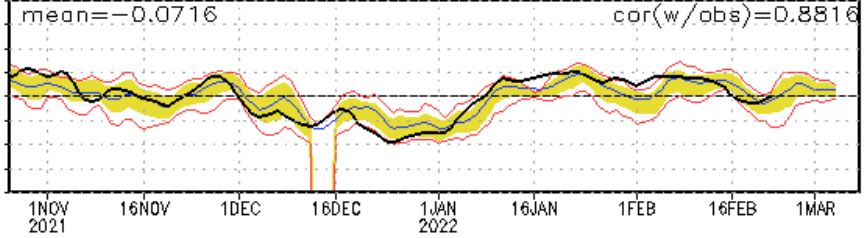
500mb Z (Obs: 26Oct2021 - 22Feb2022) PNA index



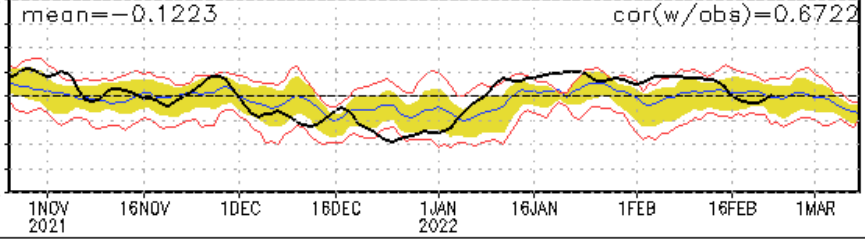
500mb Z (7day Forecast) PNA index



500mb Z (10day Forecast) PNA index

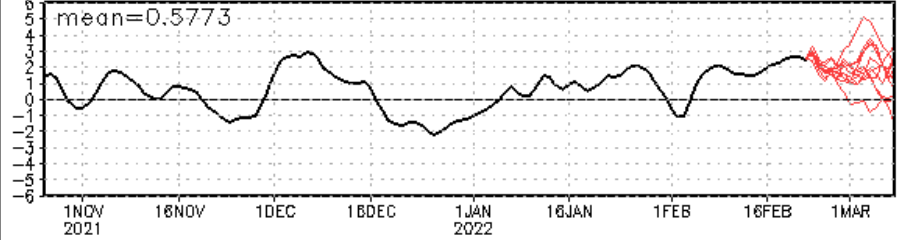


500mb Z (14day Forecast) PNA index

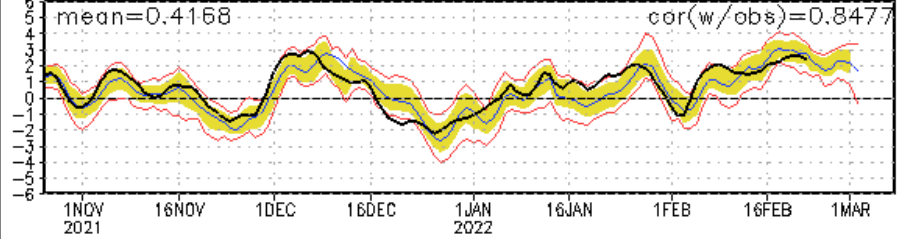


AO: Observed & ENSM forecasts

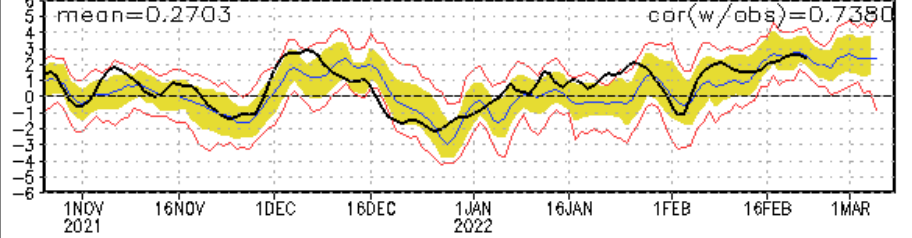
1000mb Z (Obs: 26Oct2021 - 22Feb2022) AO index



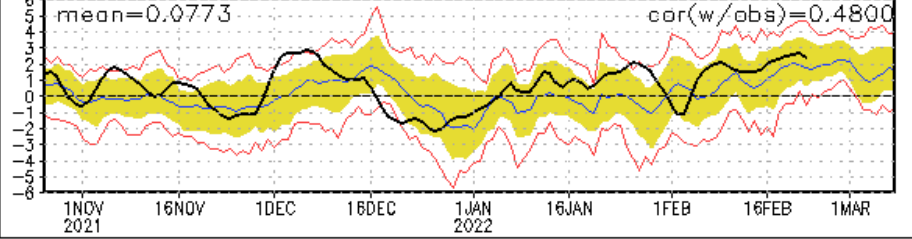
1000mb Z (7day Forecast) AO index



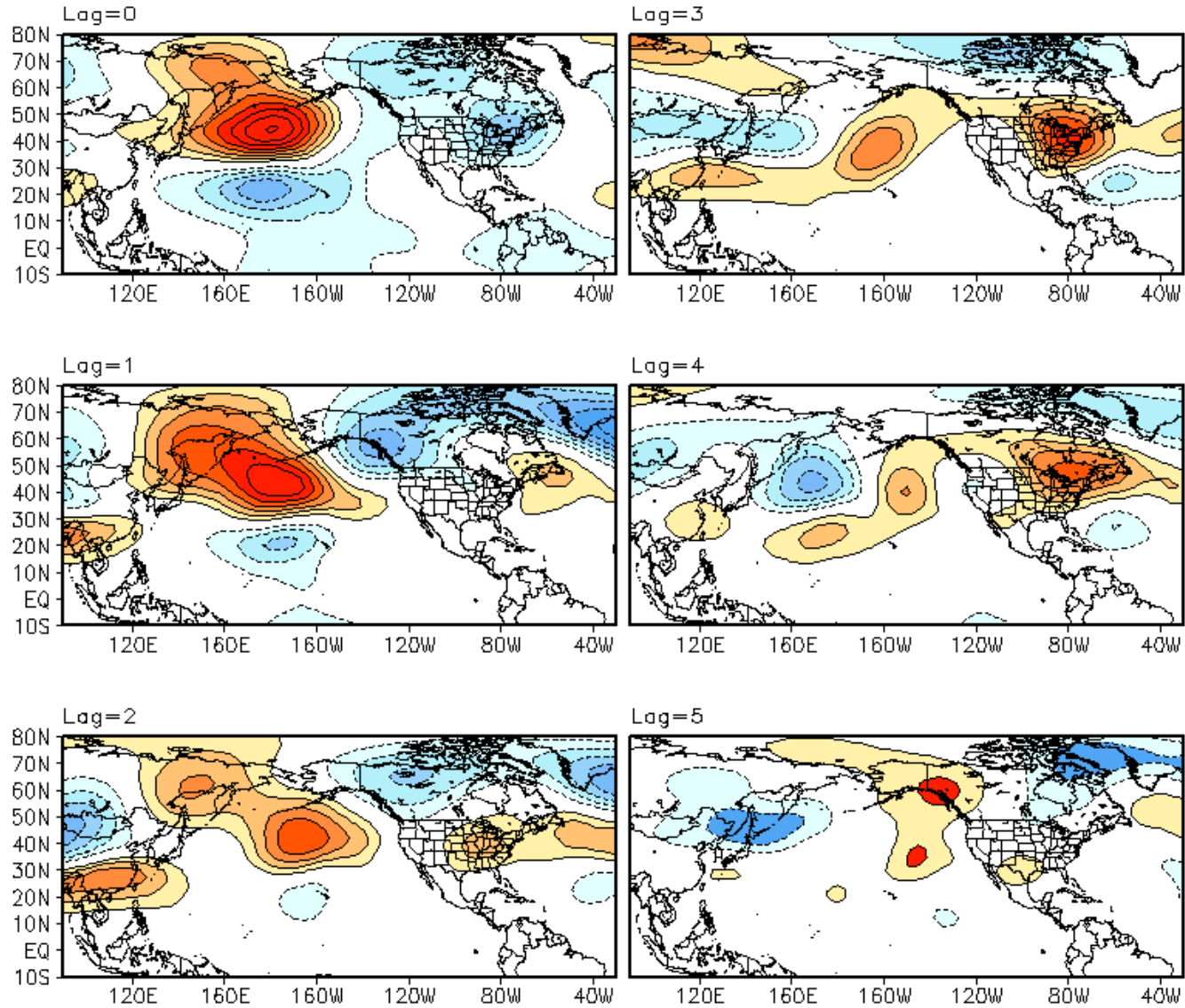
1000mb Z (10day Forecast) AO index

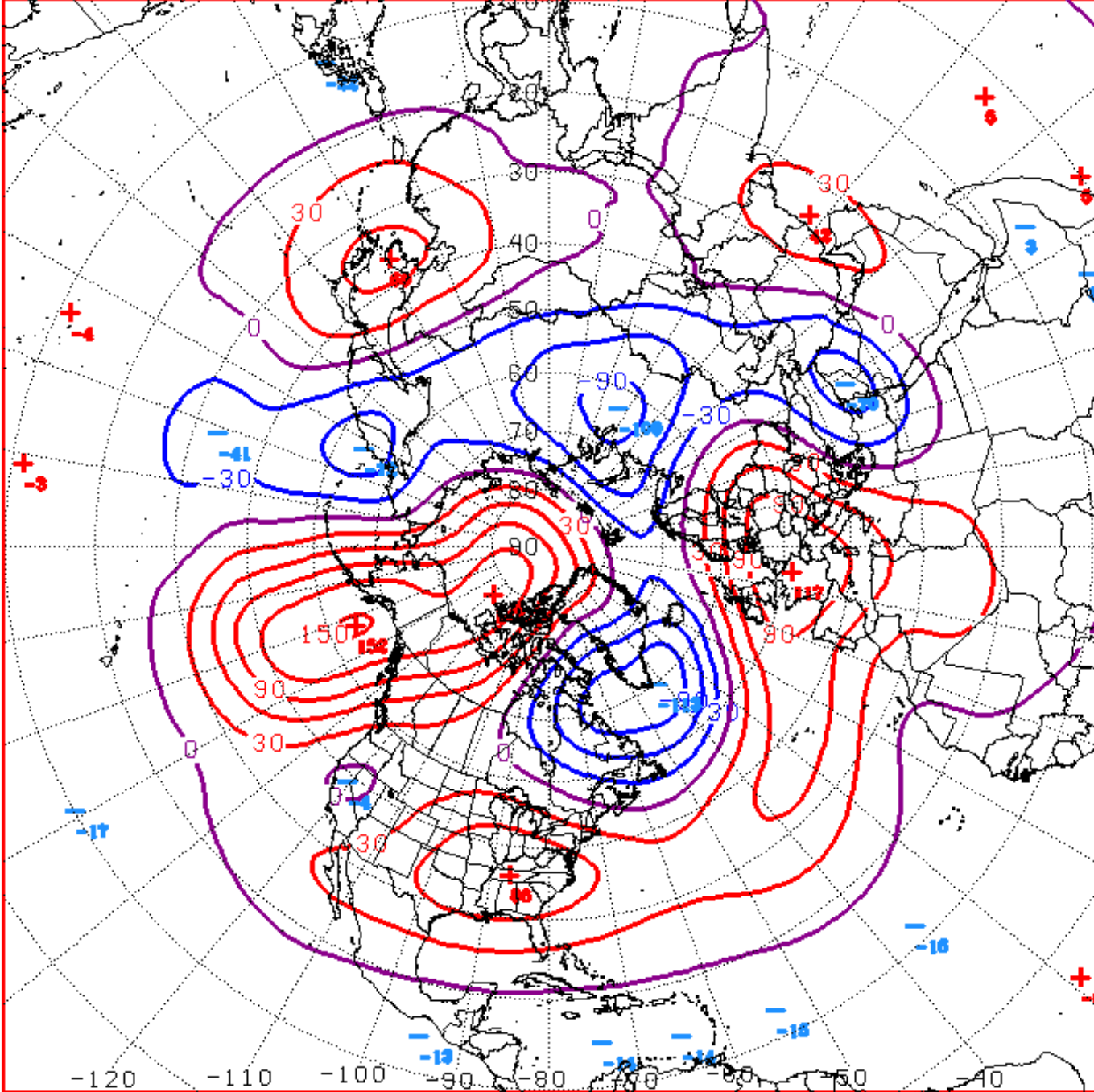


1000mb Z (14day Forecast) AO index



RMM Phase 3 200-hPa Height Lagged Composite (fma)





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE FEB 22 2022 1358 UTC CNTD MAR 05 2022

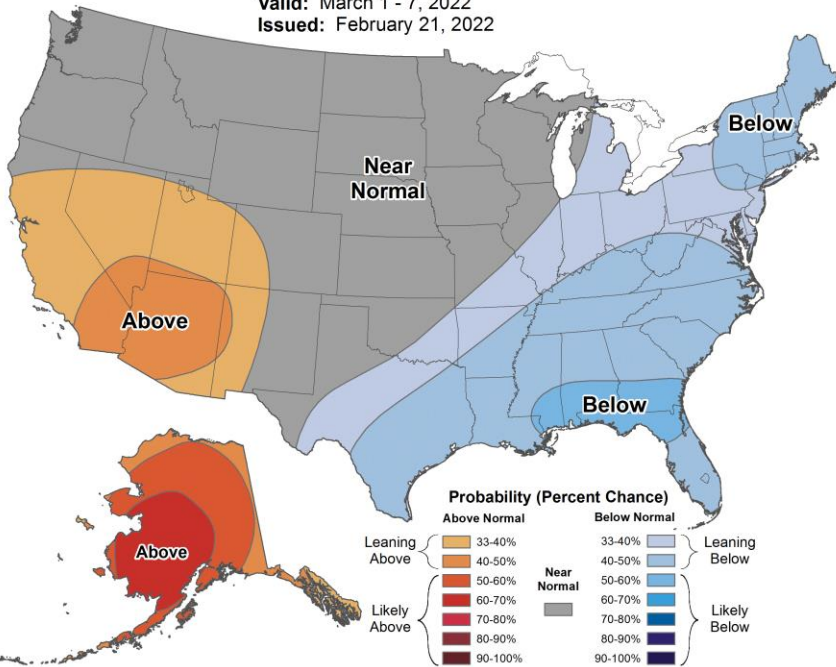
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



Valid: March 1 - 7, 2022
 Issued: February 21, 2022



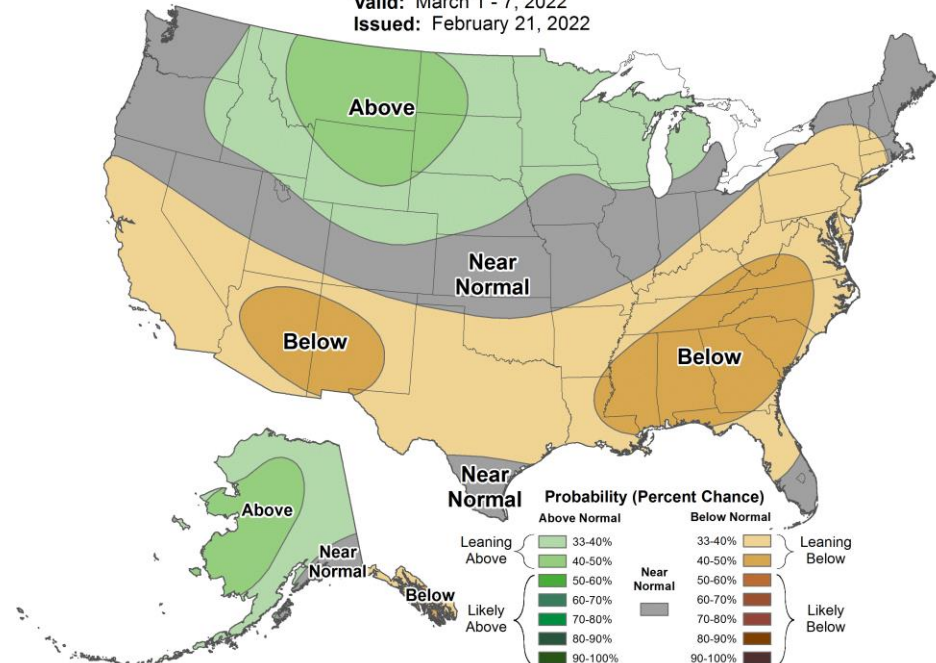
Mid-level pattern change expected late in week-1 / early week-2, so outlooks are likely to be different today.



8-14 Day Precipitation Outlook



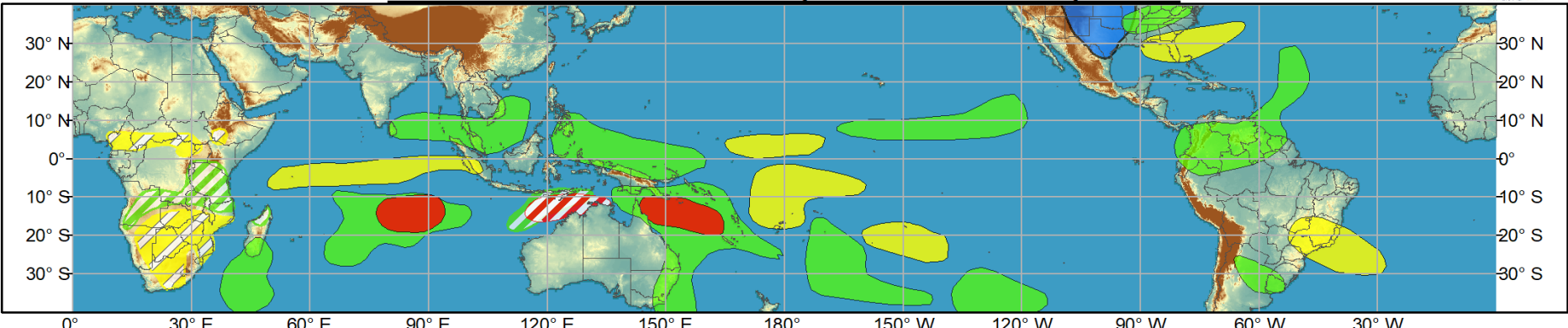
Valid: March 1 - 7, 2022
 Issued: February 21, 2022



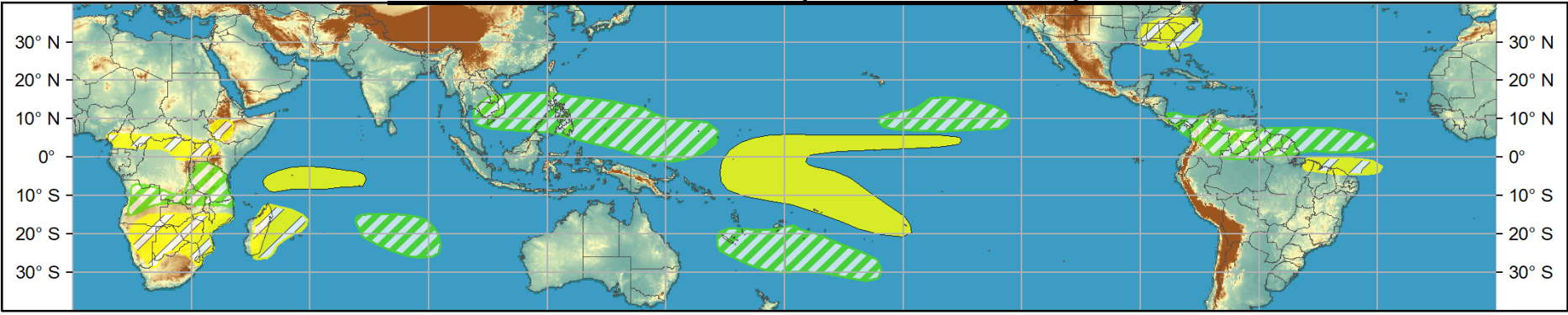


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 23, 2022 - Mar 01, 2022



Week 2 - Valid: Mar 02, 2022 - Mar 08, 2022



Produced: 02/22/2022
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.

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.

