

Global Tropics Hazards And Benefits Outlook

1/25/2022

Thomas Collow

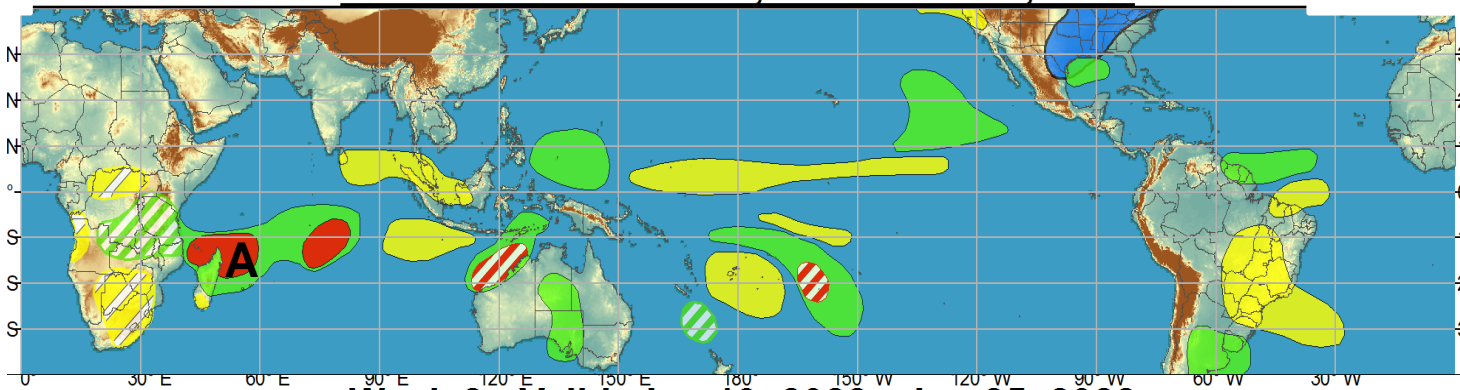
Outline

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

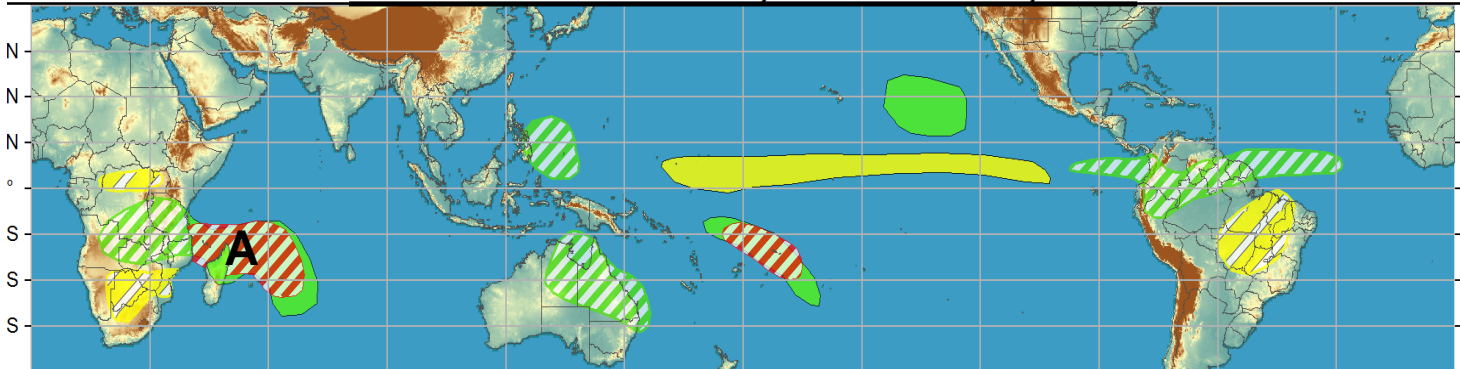
Outlook Review

TCs formed:
Ana (1/22)

Week 1 - Valid: Jan 19, 2022 - Jan 25, 2022

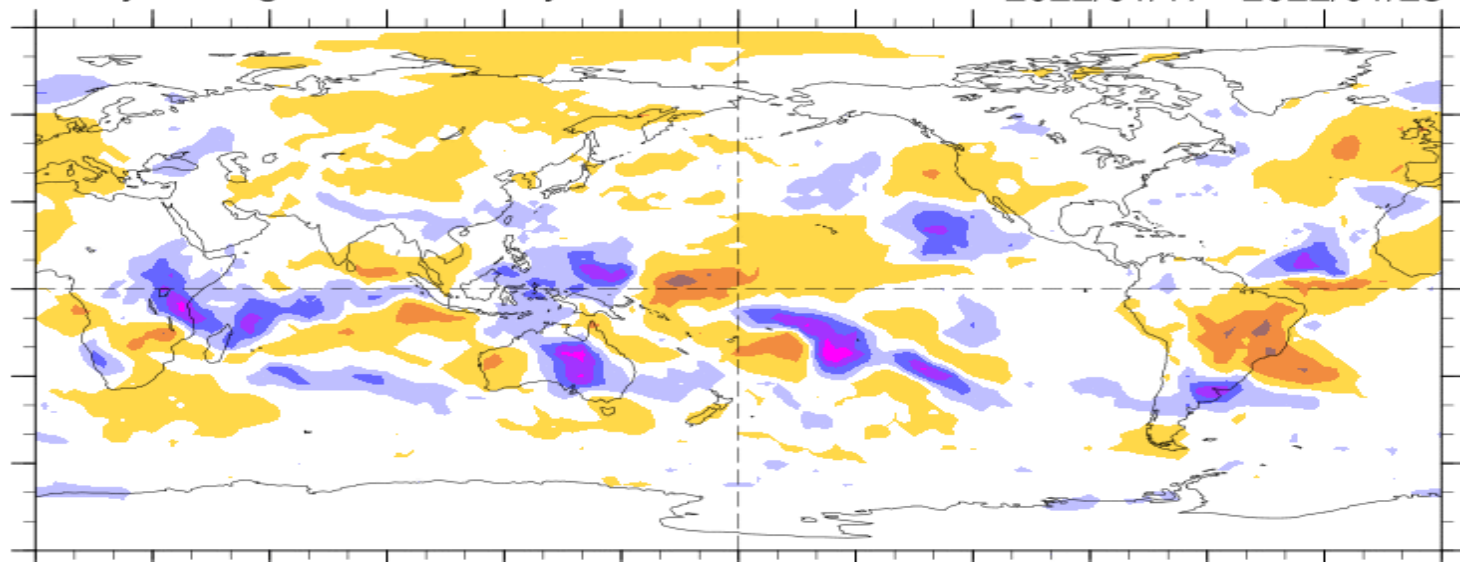


Week 2 - Valid: Jan 19, 2022 - Jan 25, 2022



7-Day Average OLR Anomaly

2022/01/17 - 2022/01/23



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (January 13, 2022 Update)

next update on 10th of Feb.!

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is likely to continue into the Northern Hemisphere spring (67% chance during MAM 2022) and then transition to ENSO-neutral (51% during AMJ 2022)

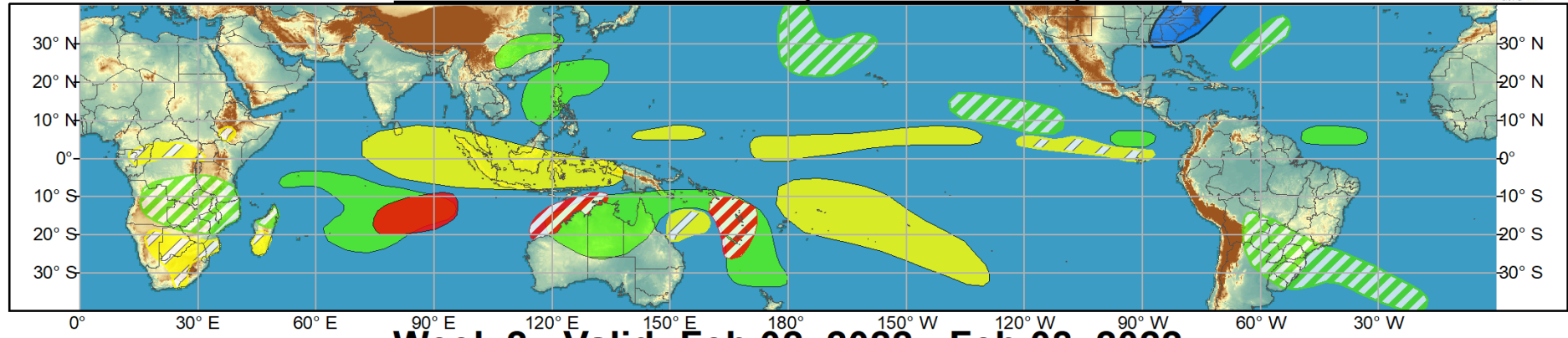
MJO and other subseasonal tropical variability:

- Following an eastward propagating Madden Julian Oscillation (MJO) across the western and central Pacific during December and early January, the RMM-based MJO index has retreated into the unit circle.
- Dynamical model ensembles exhibit large variability regarding the evolution of the MJO during the next two weeks, with some increasing amplitude in the intraseasonal signal possible across the Indian Ocean or Maritime Continent by the end of week-2.
- Tropical Cyclone development continues to be favored across the southern Indian Ocean and the southwest Pacific, tied to enhanced Rossby Wave Activity.

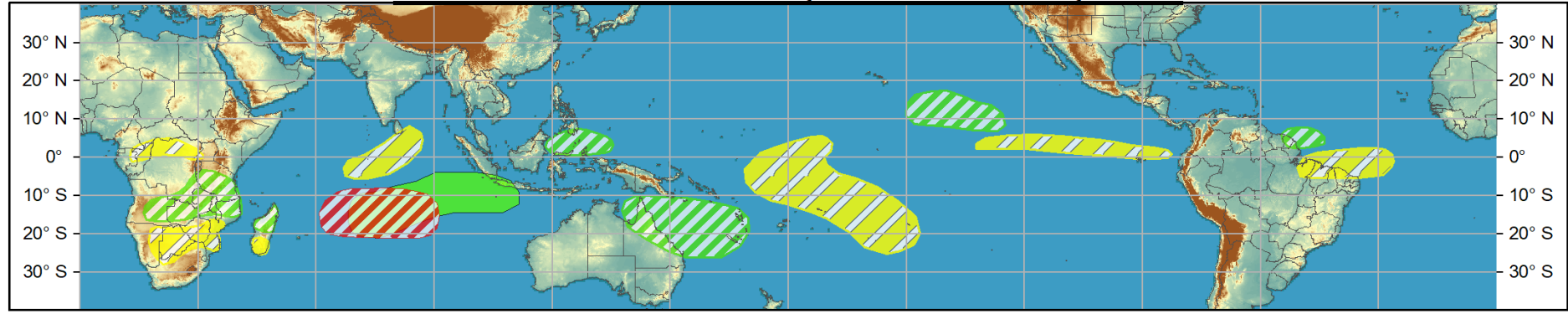


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Jan 26, 2022 - Feb 01, 2022



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



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.

Produced: 01/25/2022
Forecaster: Collow

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

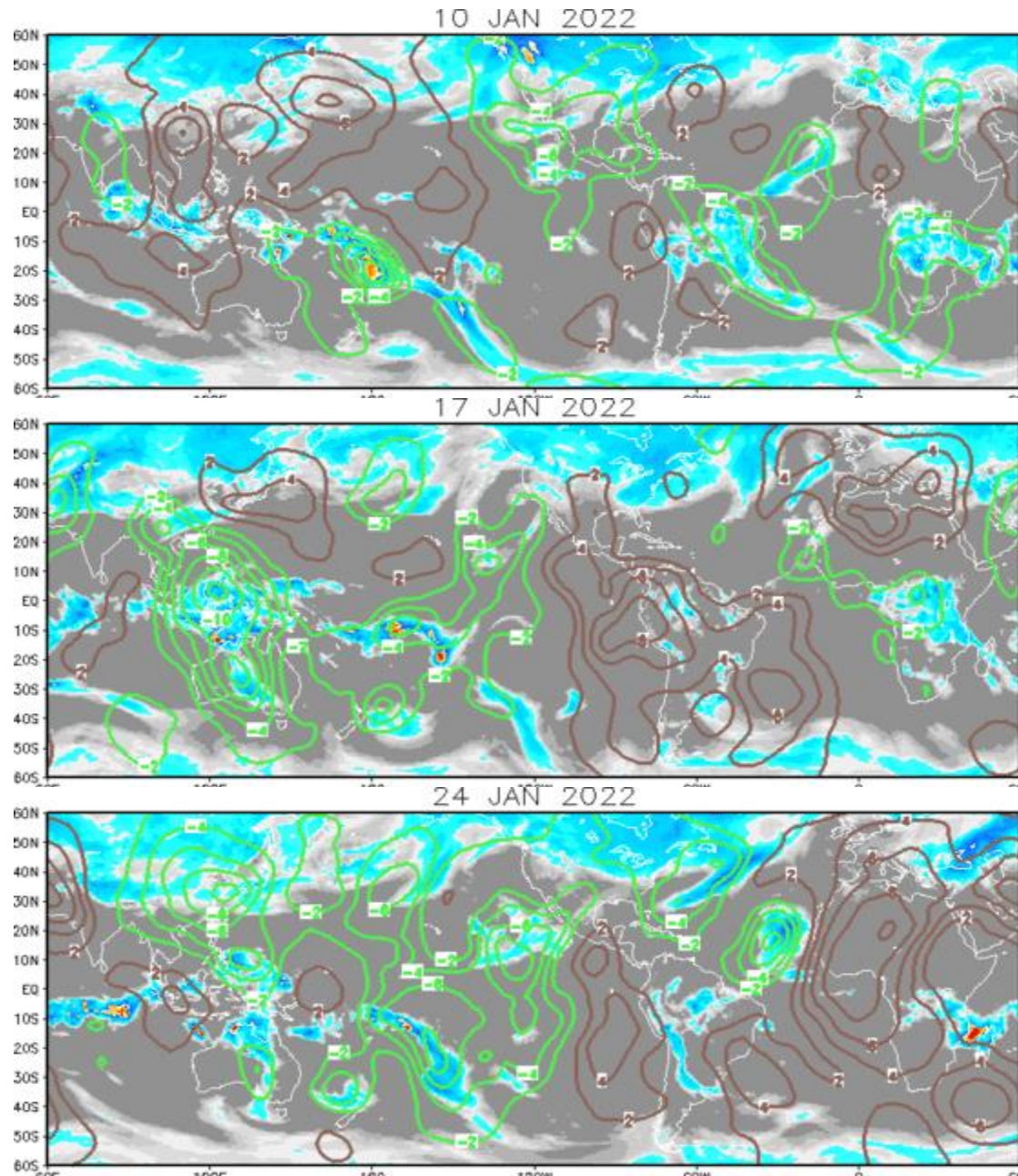
Green: Enhanced Divergence

Brown: Enhanced Convergence

Largely incoherent spatial pattern observed in the upper level velocity potential (VP) field as the MJO signal weakens.

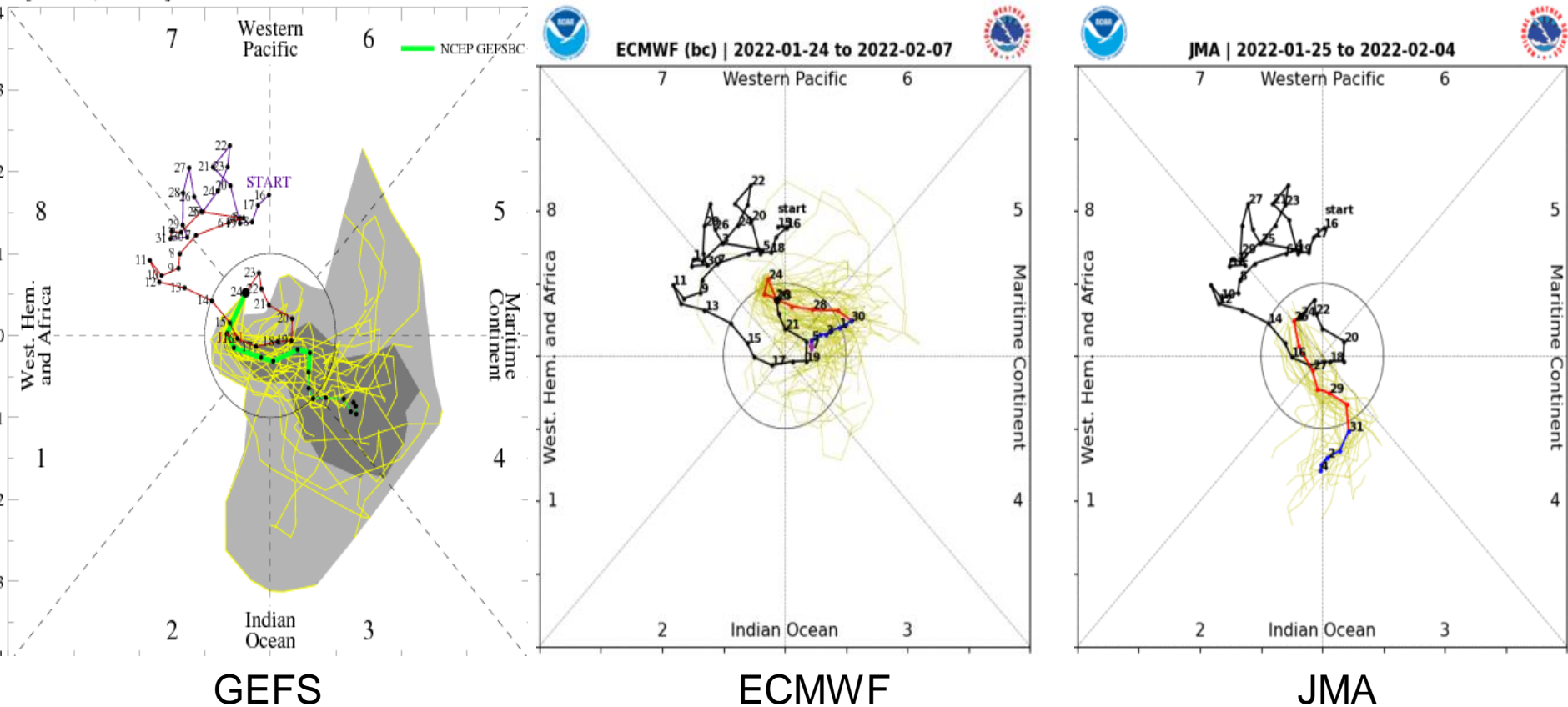
Enhanced convection developed across the Maritime Continent and Australia, with the VP field generally remaining incoherent elsewhere.

Some evidence of a wave-1 asymmetry pattern trying to develop, but still several localized extrema suggestive of contributions from higher frequency modes of tropical and extratropical variability.



MJO Observation/Forecast

[RMM1, RMM2] forecast for Jan-25-2022 to Feb-08-2022



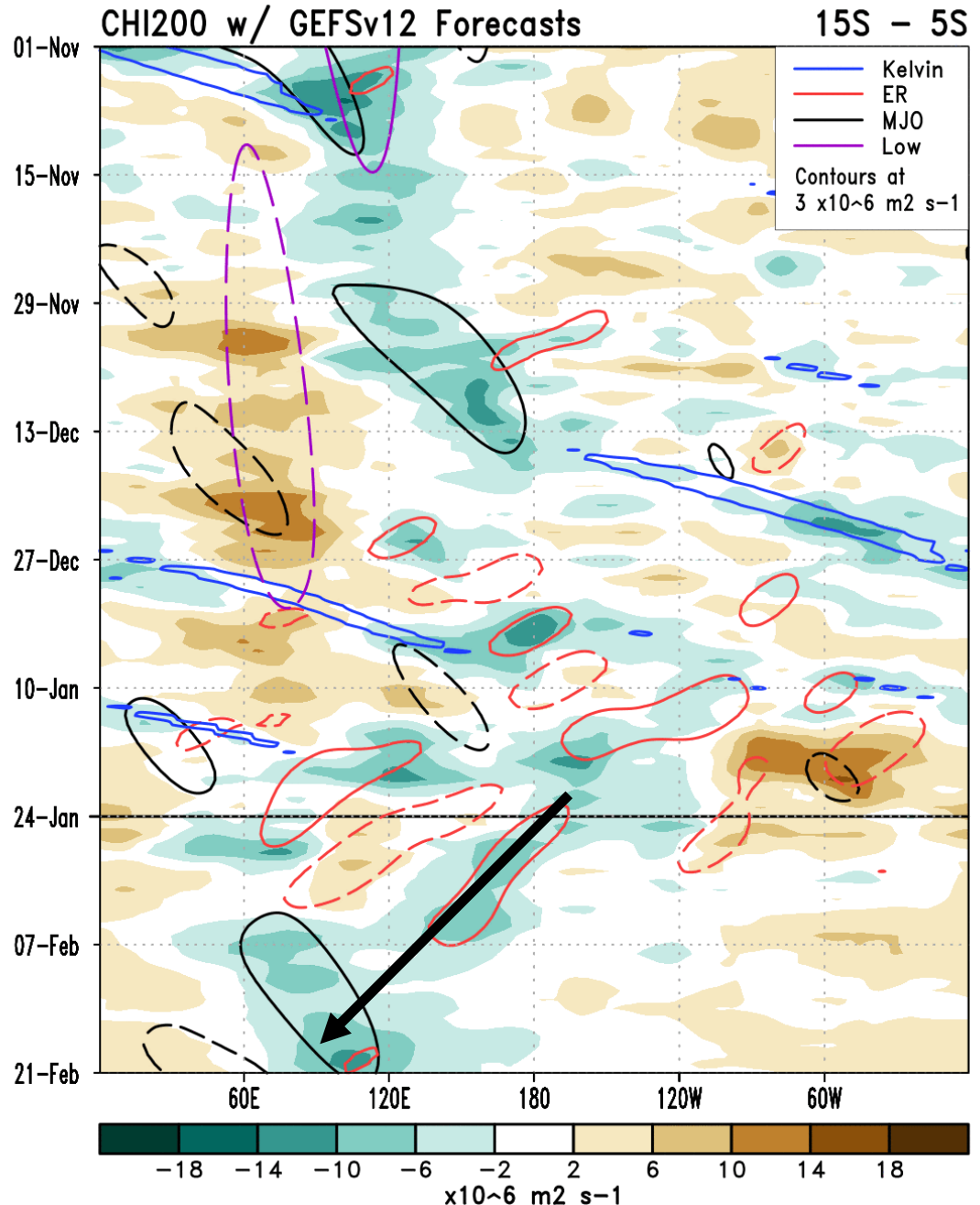
There is large ensemble variability in the GEFS and ECMWF, with a meandering MJO signal forecast during the next two weeks.

The dynamical models indicate some evidence of a reemergence of the intraseasonal signal around the end of January (JMA over the eastern Indian Ocean; GEFS and ECMWF over the Maritime Continent).

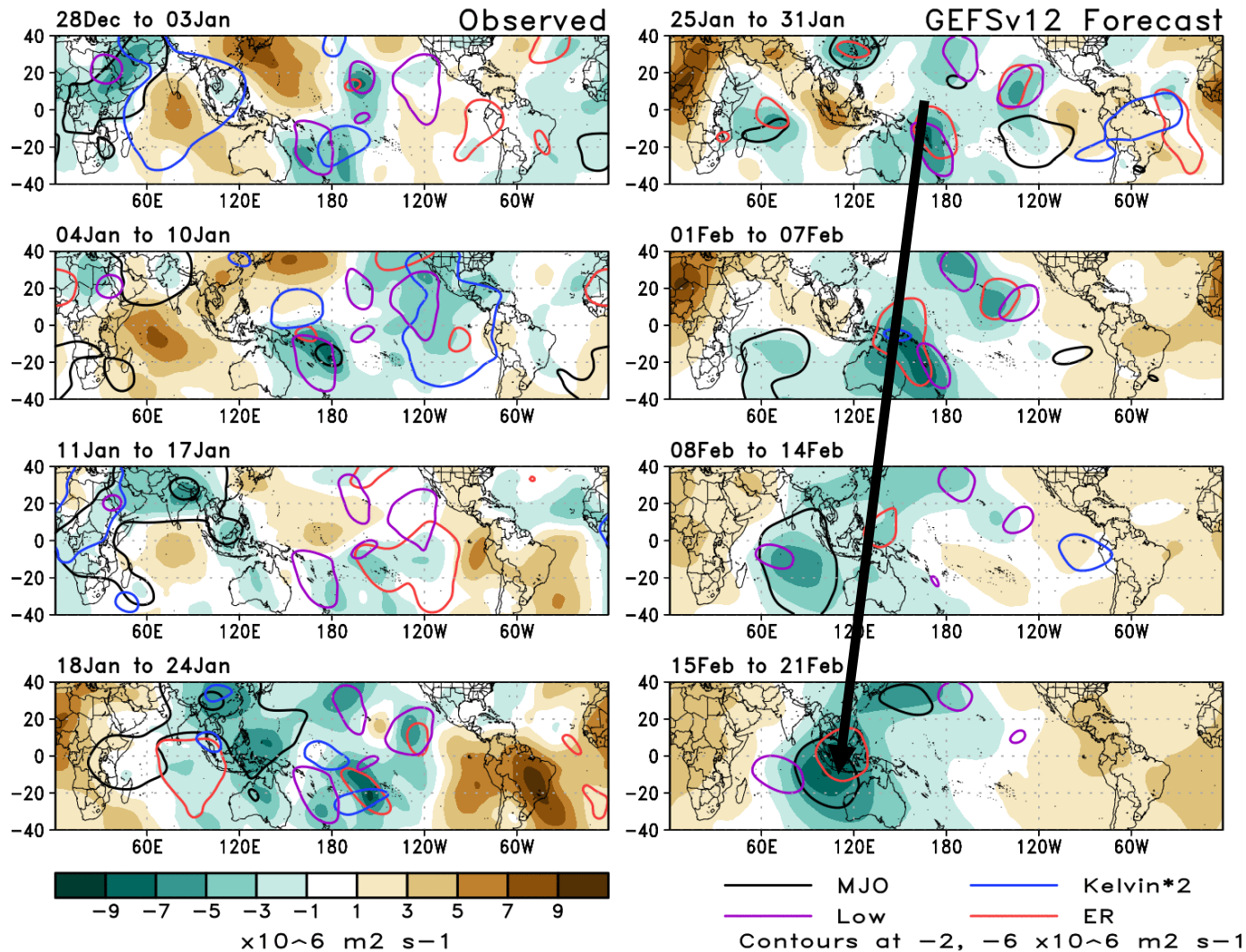
MJO activity has generally been weak and incoherent, with several higher frequency modes of tropical variability coming through the filtering in the velocity potential field.

Rosby Wave activity over the southern Indian Ocean likely promoted tropical cyclone development, and continues to enhance convection across the southwest Pacific.

Retrogression of the enhanced convection favored during next few weeks; possible redevelopment of the **MJO** by the end of week-2.



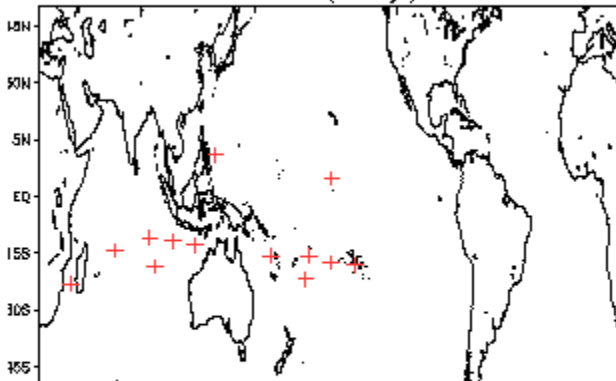
CHI200 7-Day Means



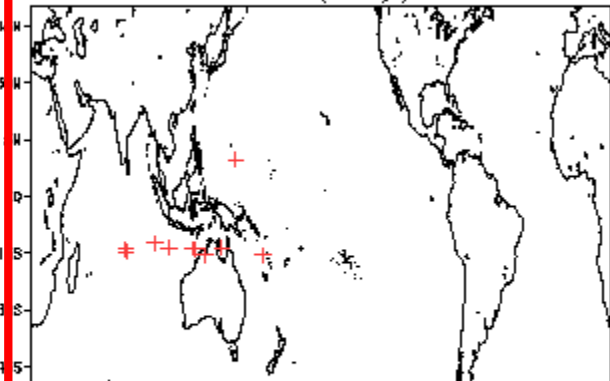
Westward expansion of the enhanced convective signal is depicted during the next 2-3 weeks, consistent with a possible reemergence of the MJO across the Maritime Continent or eastern Indian Ocean, along with a return to typical La Niña conditions following its disruption by the MJO event during the past month.

January Tropical Storm Formation by MJO phase

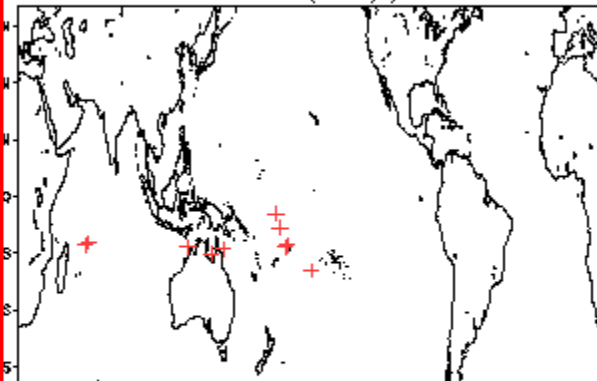
Phase 1 (67 days) 14 storms



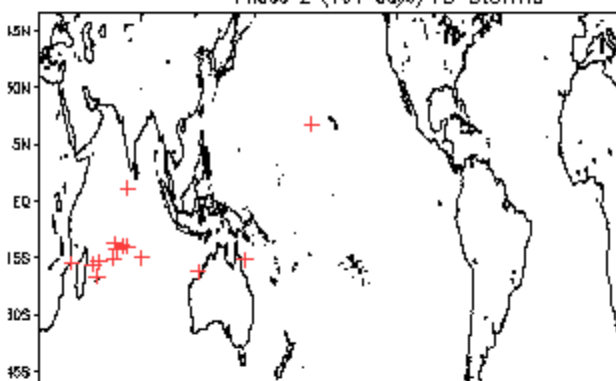
Phase 4 (88 days) 11 storms



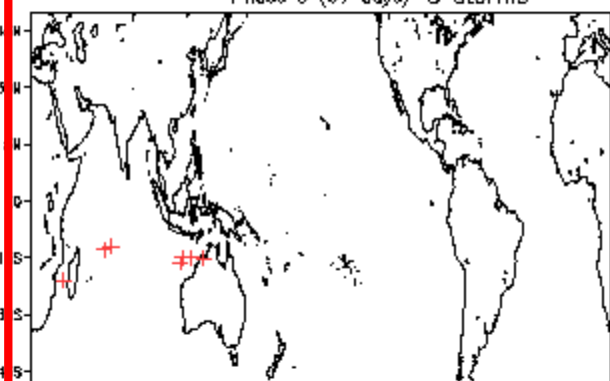
Phase 7 (81 days) 11 storms



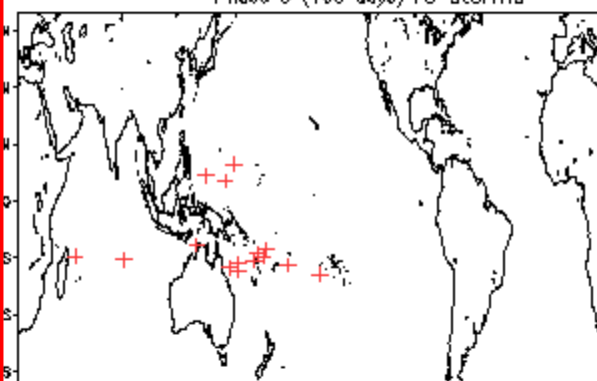
Phase 2 (101 days) 15 storms



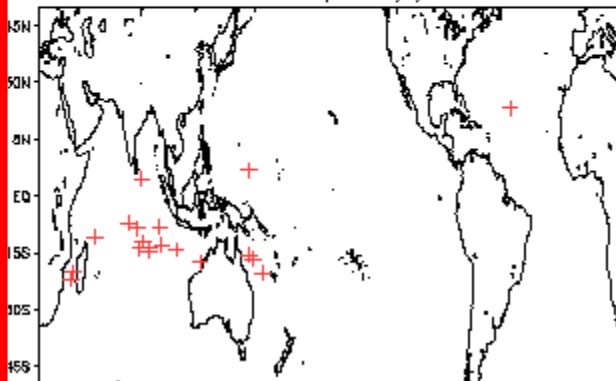
Phase 5 (67 days) 8 storms



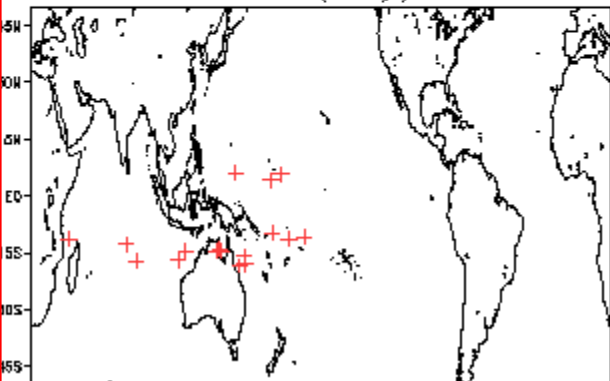
Phase 8 (105 days) 16 storms



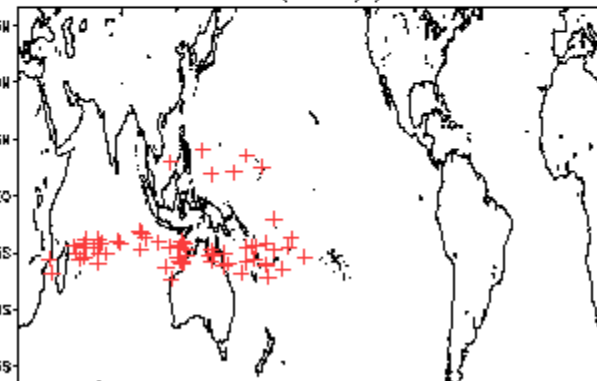
Phase 3 (112 days) 20 storms



Phase 6 (88 days) 18 storms



Null (364 days) 67 storms





JOINT TYPHOON WARNING CENTER

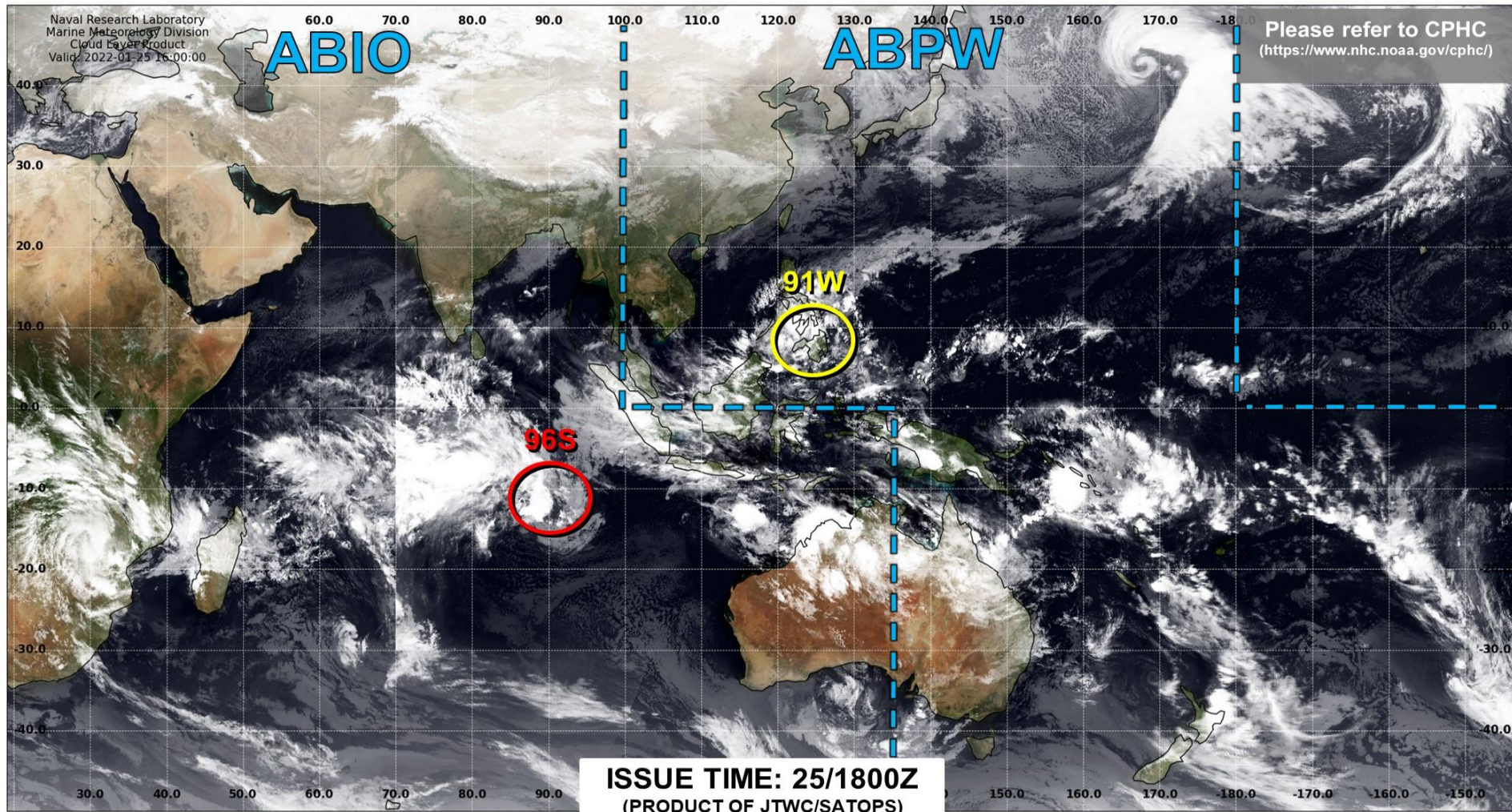


Naval Research Laboratory
Marine Meteorology Division
Cloud Layer Product
Valid: 2022-01-25 16:00:00

ABIO

ABPW

Please refer to CPHC
(<https://www.nhc.noaa.gov/cphc/>)



LOW

TC development unlikely within 24 hours

MEDIUM

TC development likely, but expected to occur beyond 24 hours

HIGH

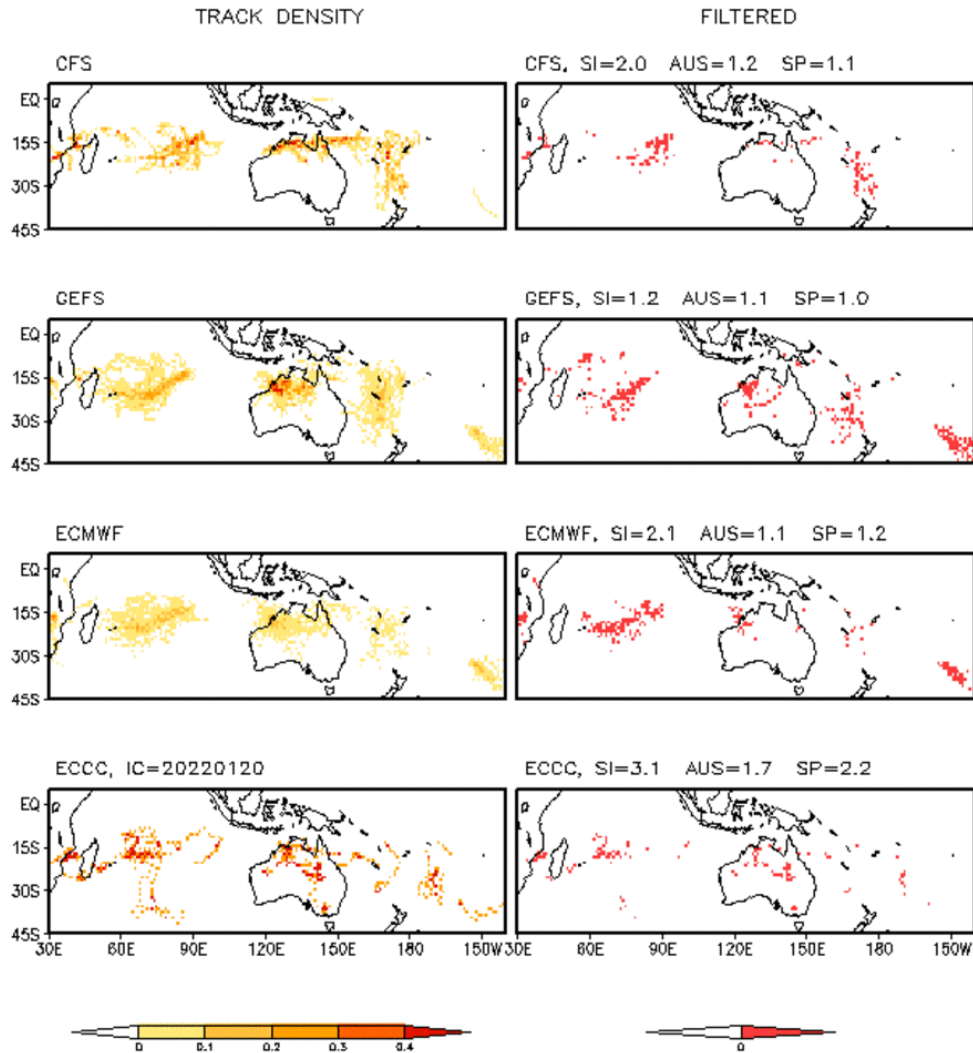
TC development likely within 24 hours
(Reference TCFA)

SUB TROPICAL

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

 Tropical Cyclone
(Reference Warning)

Storm Track Density Distribution, IC=20220124
 Week 1 Forecast: 0126-0201

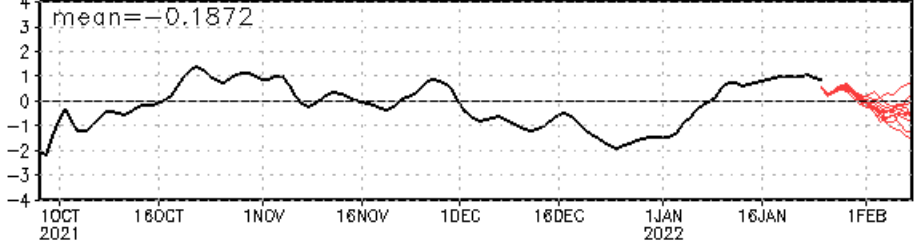


- Good model agreement regarding TC development over southern Indian Ocean (96S).
- ECMWF and GEFS indicate a disturbance near the northwest coast of Australia that may develop into a TC during the next week, with uncertainty as to whether or not this system will develop off the coast or inland over Australia.
- CFS and GEFS indicate TC development near the South-Pacific Convergence Zone

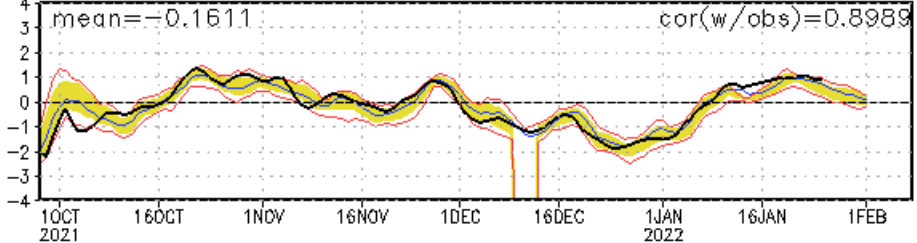
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts

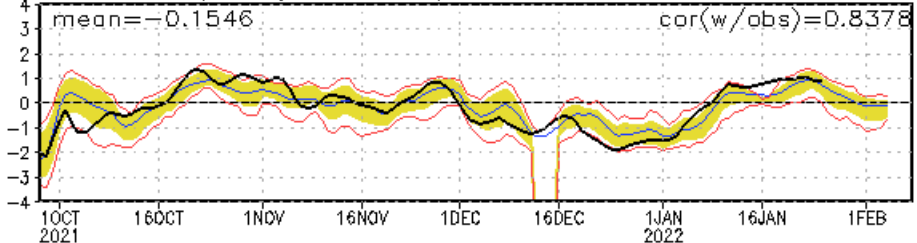
500mb Z (Obs: 28Sep2021 – 25Jan2022) PNA index



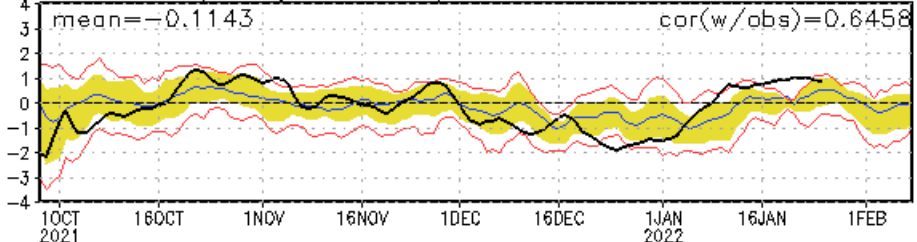
500mb Z (7day Forecast) PNA index



500mb Z (10day Forecast) PNA index

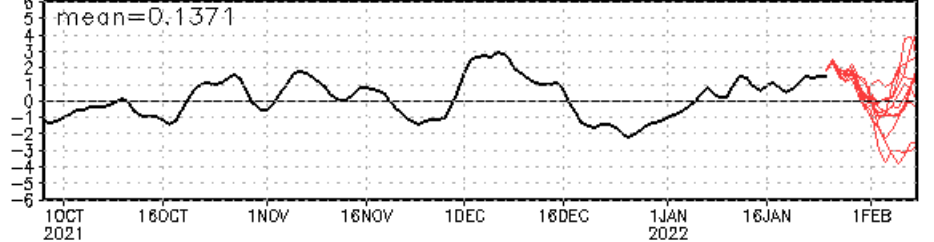


500mb Z (14day Forecast) PNA index

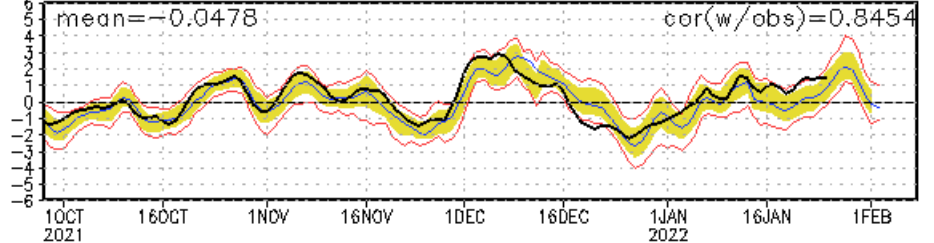


AO: Observed & ENSM forecasts

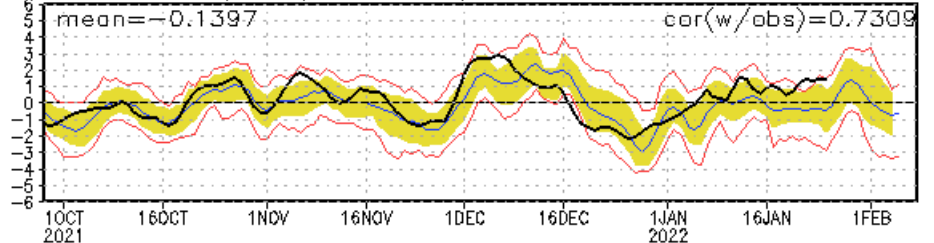
1000mb Z (Obs: 28Sep2021 – 25Jan2022) AO index



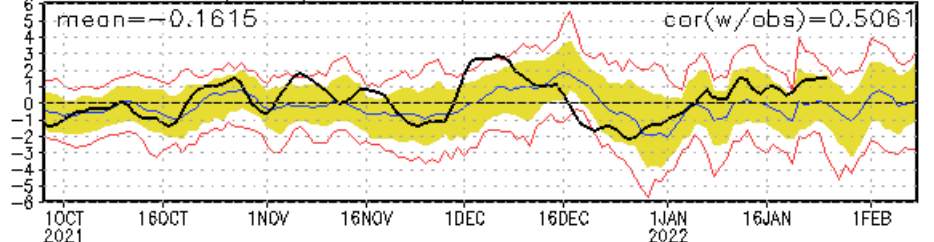
1000mb Z (7day Forecast) AO index

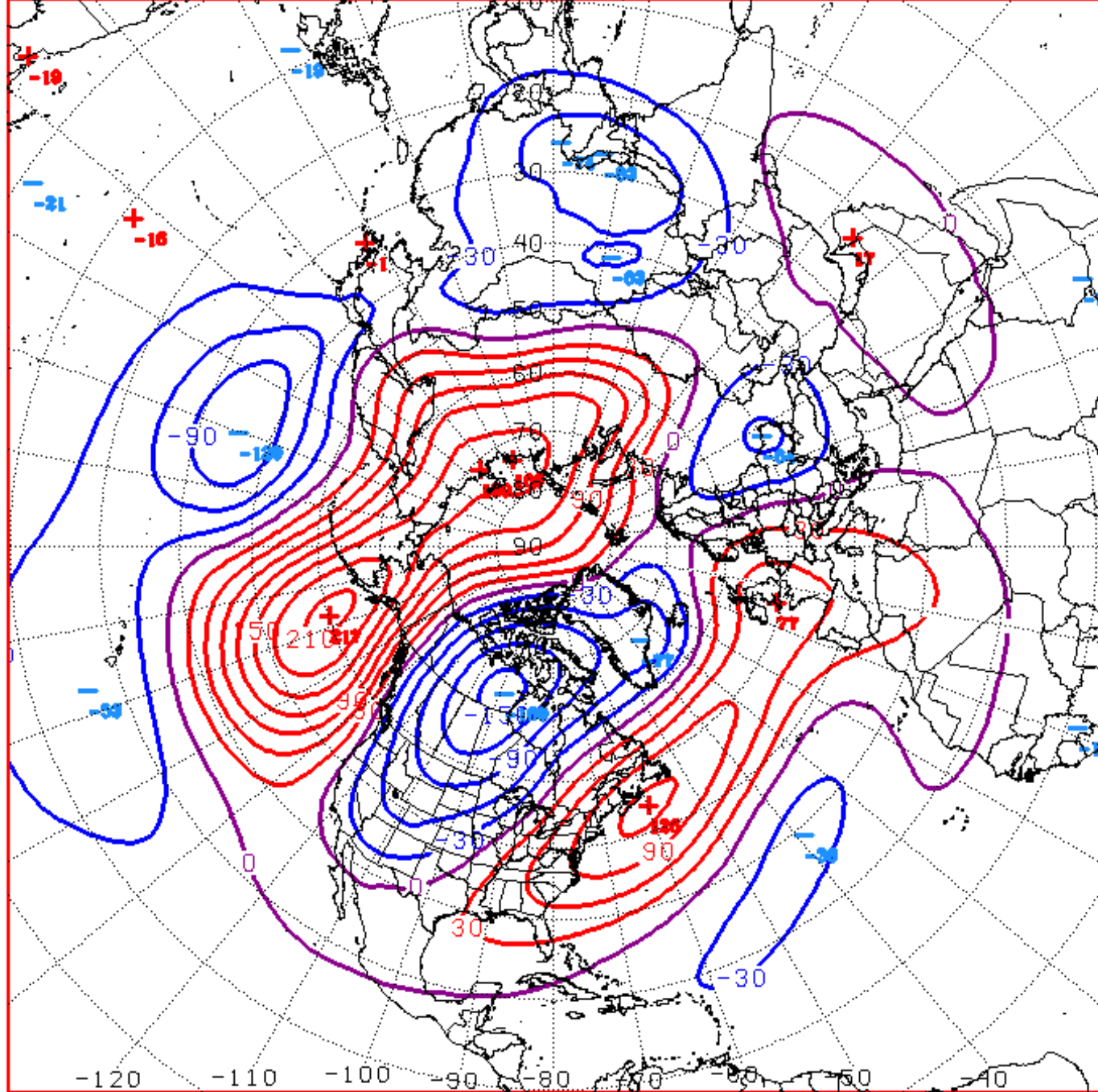


1000mb Z (10day Forecast) AO index



1000mb Z (14day Forecast) AO index





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JAN 25 2022 1359 UTC CNTD FEB 05 2022

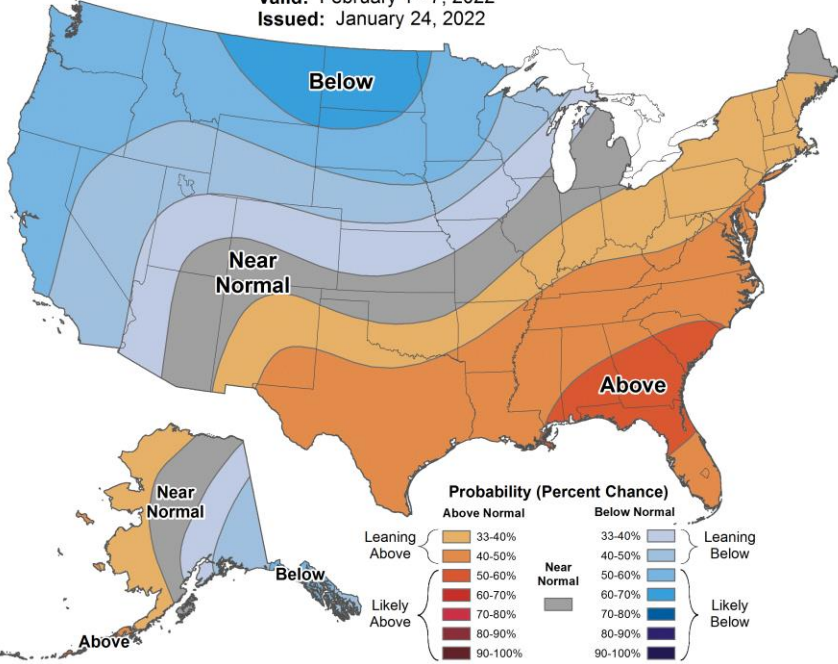
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



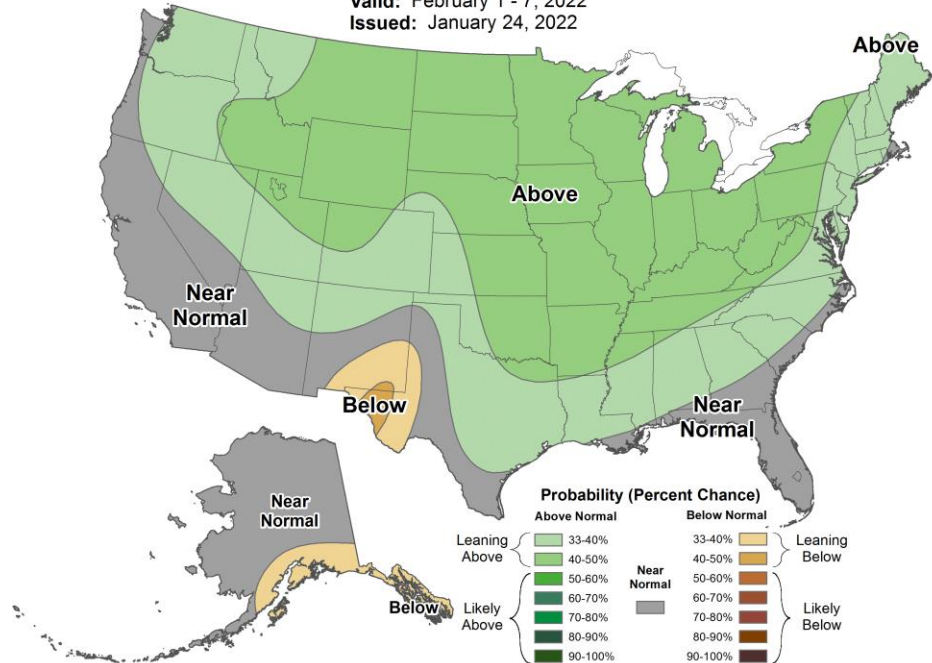
Valid: February 1 - 7, 2022
 Issued: January 24, 2022



8-14 Day Precipitation Outlook



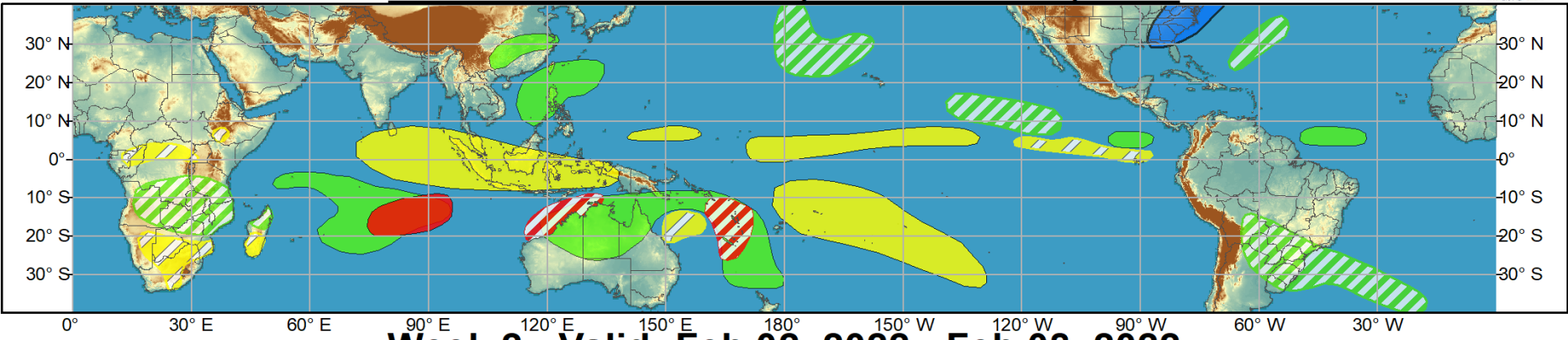
Valid: February 1 - 7, 2022
 Issued: January 24, 2022



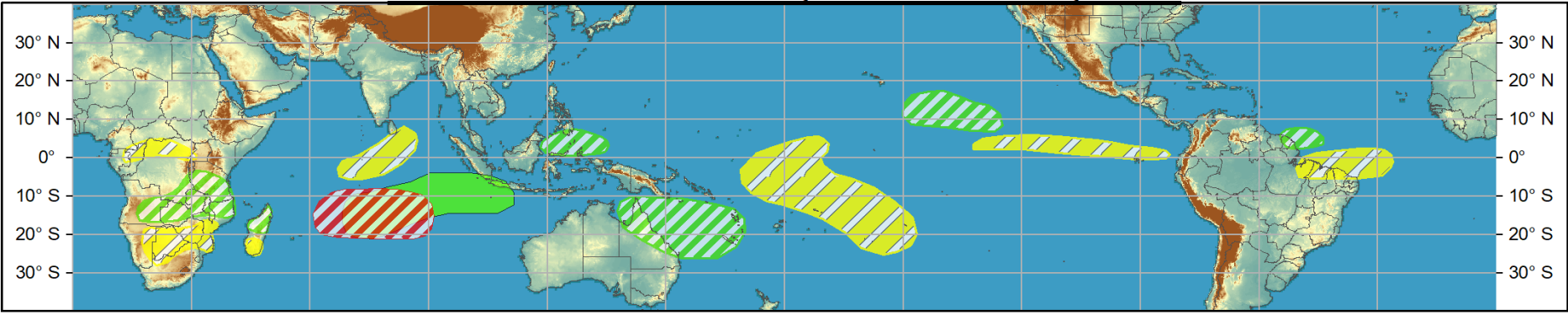


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