

Global Tropics Hazards And Benefits Outlook

1/18/2022

Nick Novella

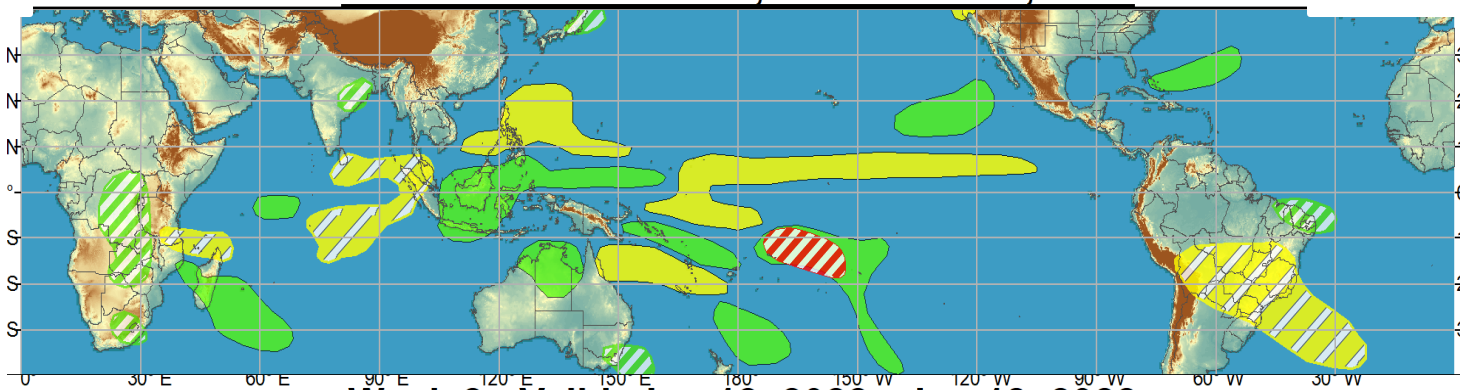
Outline

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

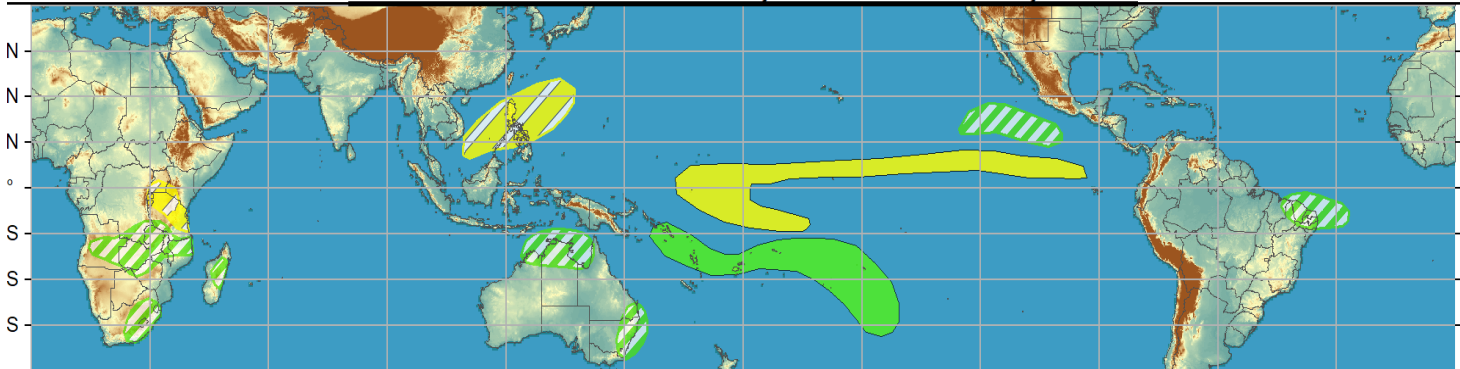
Outlook Review

** No TCs formed during the last week

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

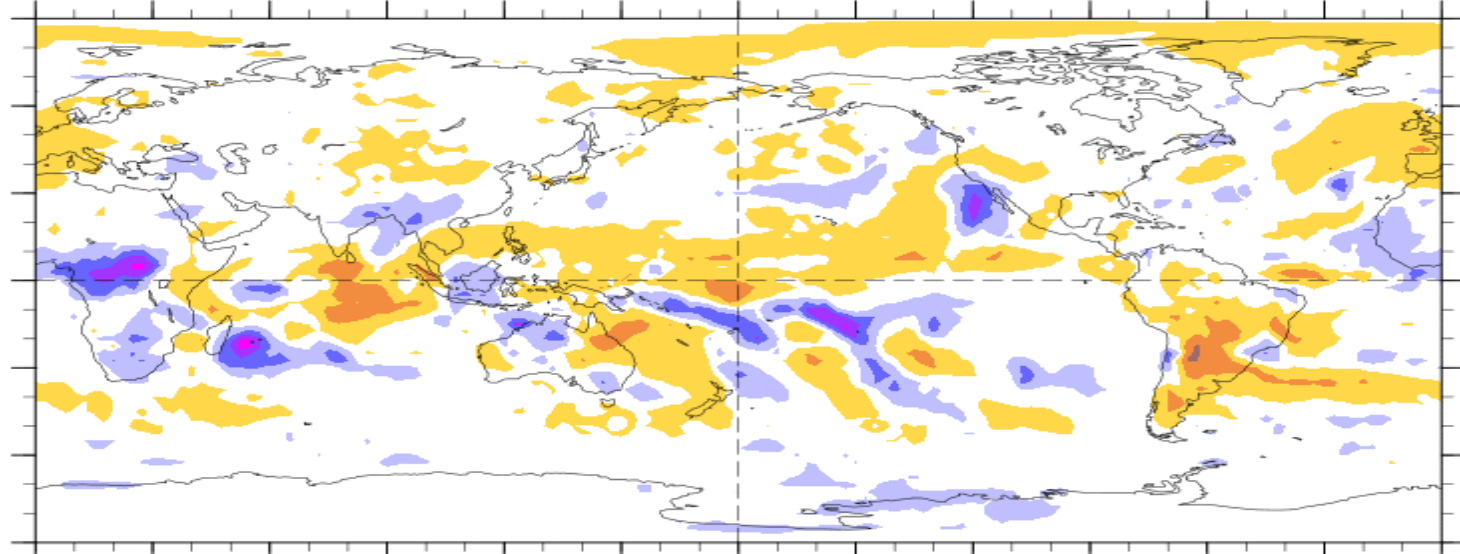


Week 2 - Valid: Jan 12, 2022 - Jan 18, 2022



7-Day Average OLR Anomaly

2022/01/10 - 2022/01/16



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (December 9, 2021 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:

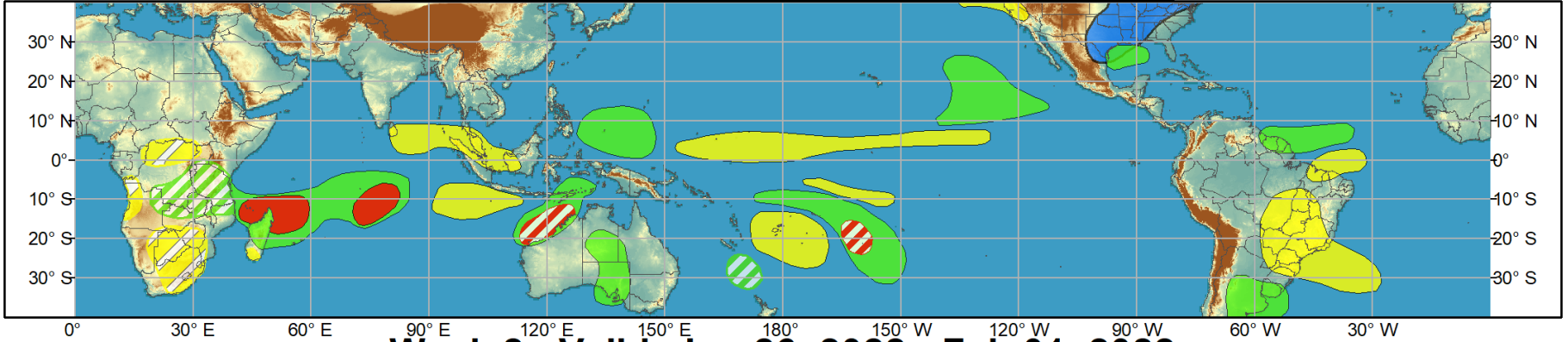
- Following a period of renewed eastward propagation of the MJO earlier in January, the RMM index indicates the intraseasonal signal has considerably weakened, having fallen within the unit circle during the last week, and presently resides near the origin in RMM space.
- Dynamical model forecasts generally favor the continuation of a weak and disorganized MJO, where other modes of tropical variability are more likely to be predominant drivers of tropical precipitation pattern and cyclone formation through the end of January.
- Tropical cyclone formation is most likely over the Southern Indian Ocean and South Pacific during week-1, with decreased chances for additional development later in January.



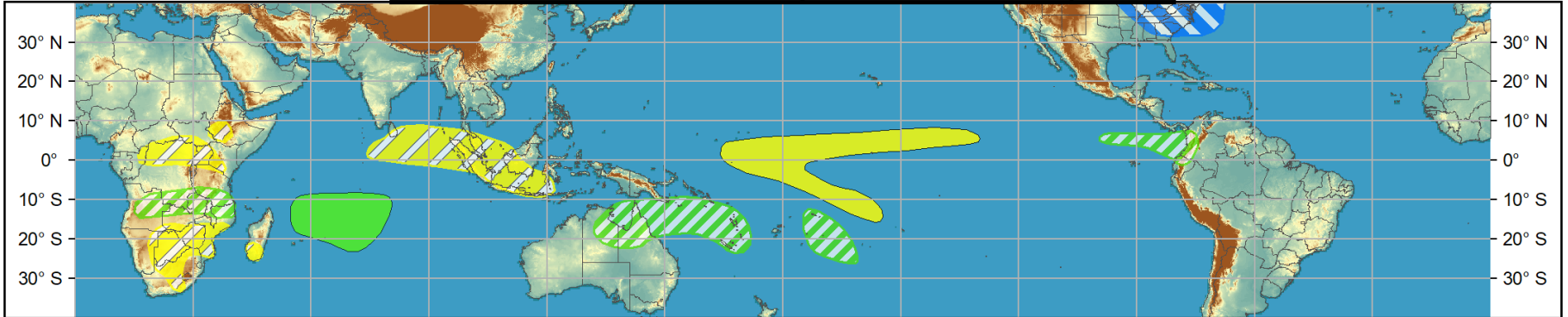
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



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



Week 2 - Valid: Jan 26, 2022 - Feb 01, 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.
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Produced: 01/18/2022
Forecaster: Novella

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

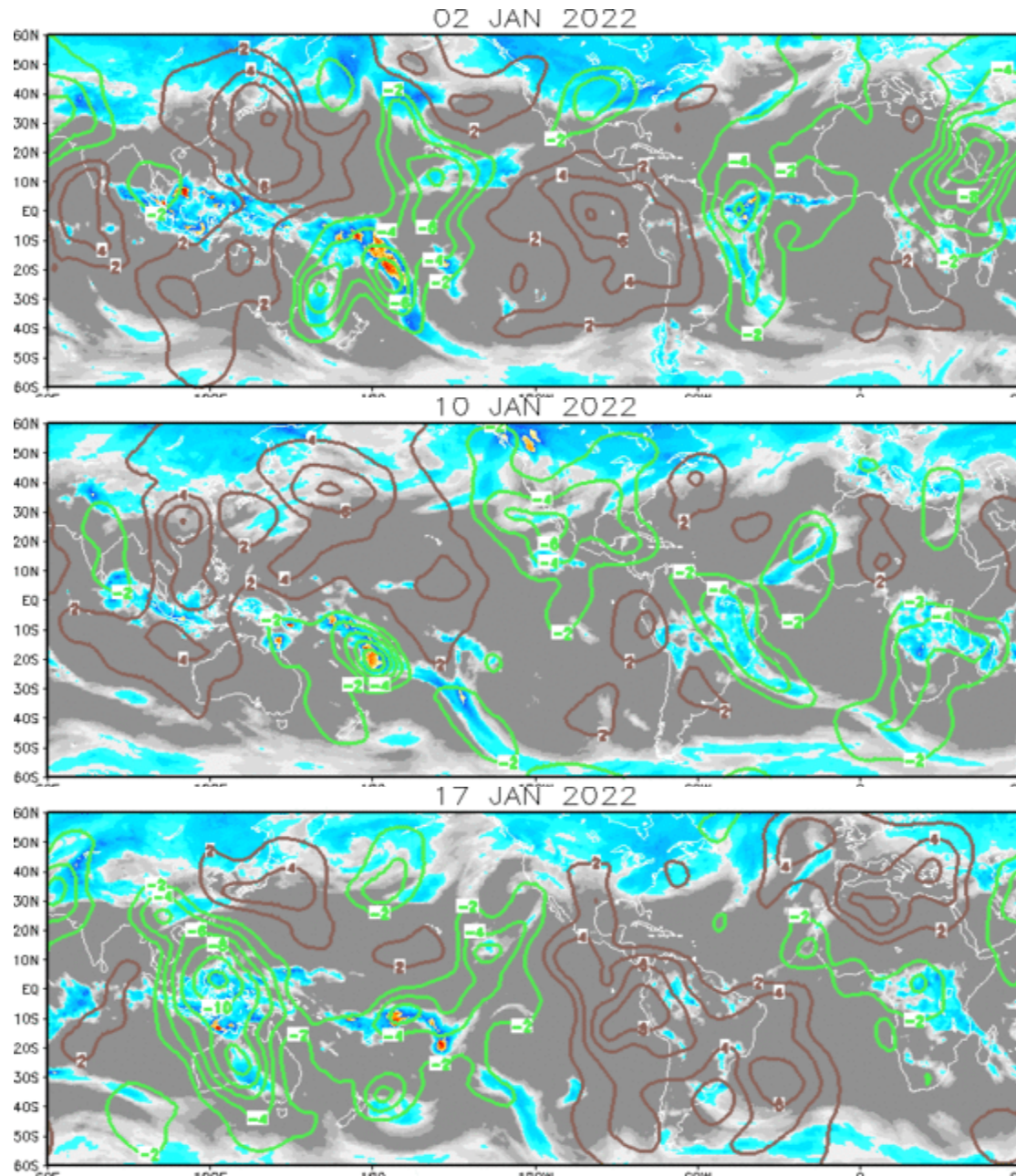
Green: Enhanced Divergence

Brown: Enhanced Convergence

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

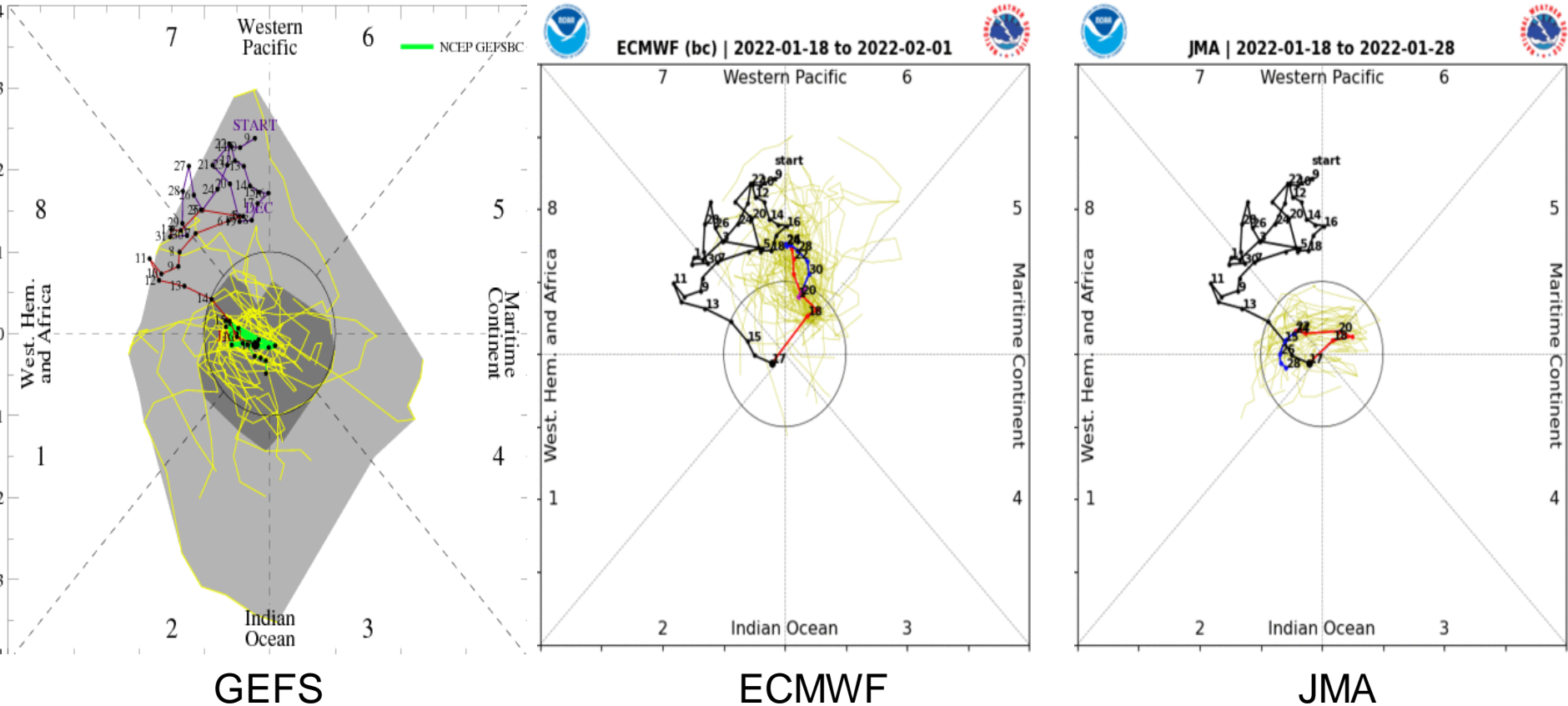
The pattern has become incoherent, though enhanced convection continues across the SPCZ region.

Despite the return of enhanced conditions over the Maritime Continent, the pattern remains incoherent.



MJO Observation/Forecast

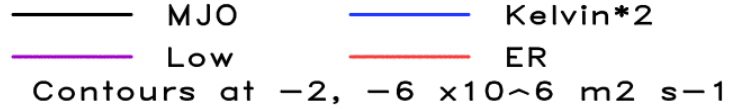
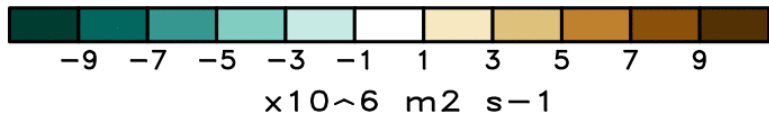
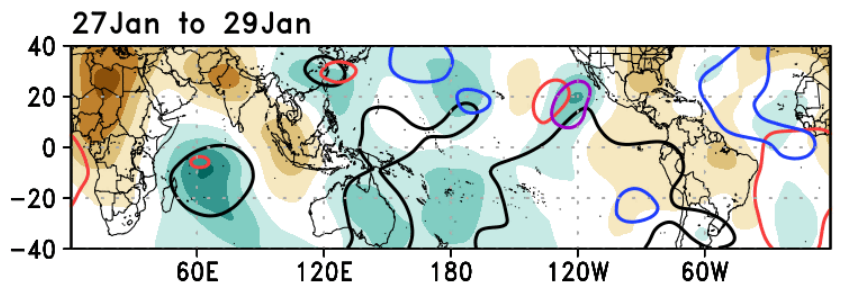
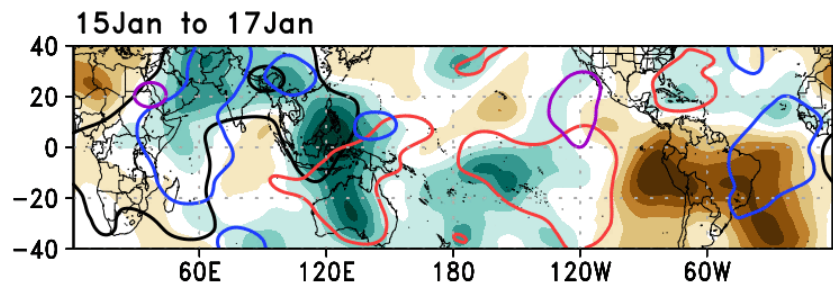
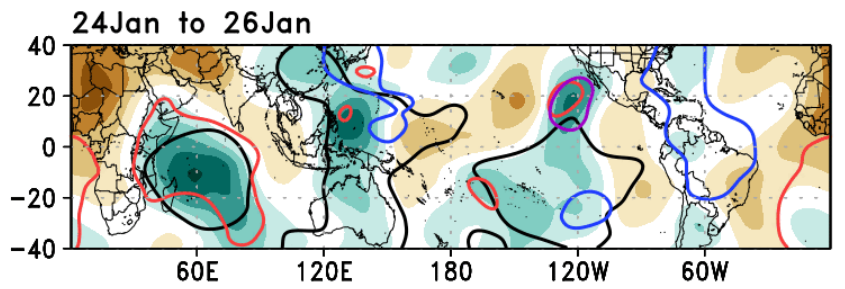
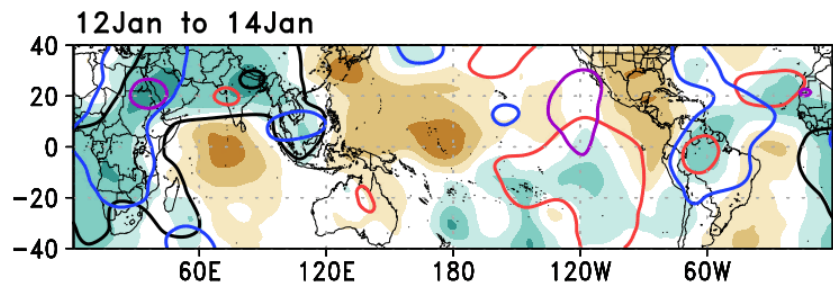
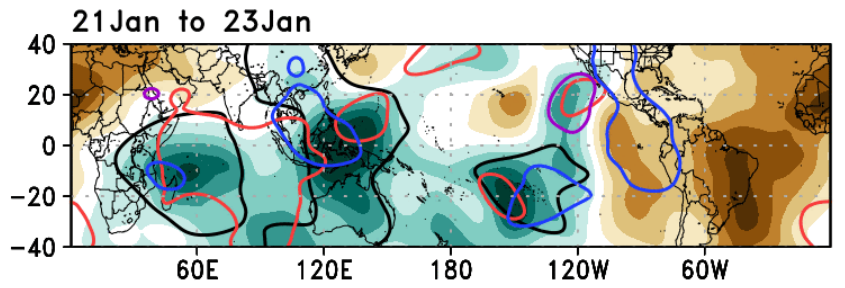
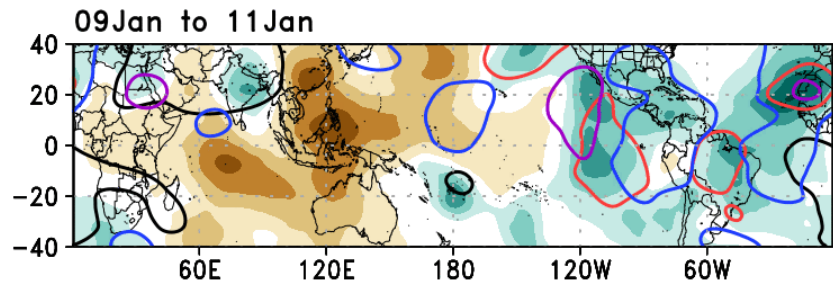
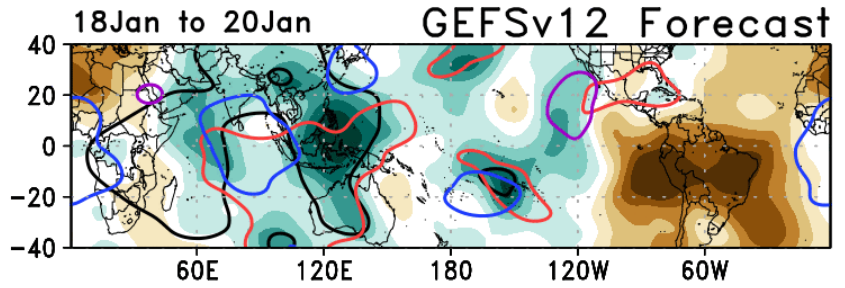
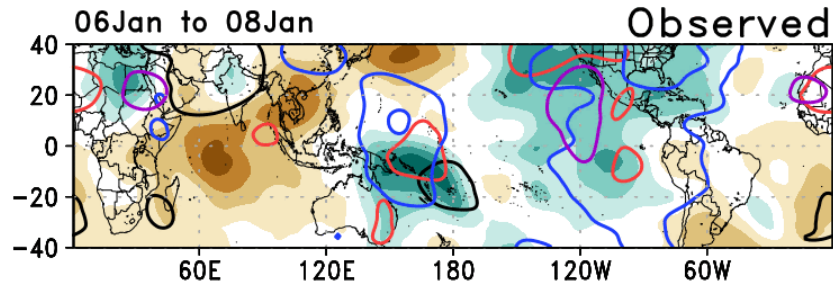
[RMM1, RMM2] forecast for Jan-18-2022 to Feb-01-2022



The GEFS and JMA forecasts depict a very weak MJO where the signal remains within the RMM unit circle during the next two weeks.

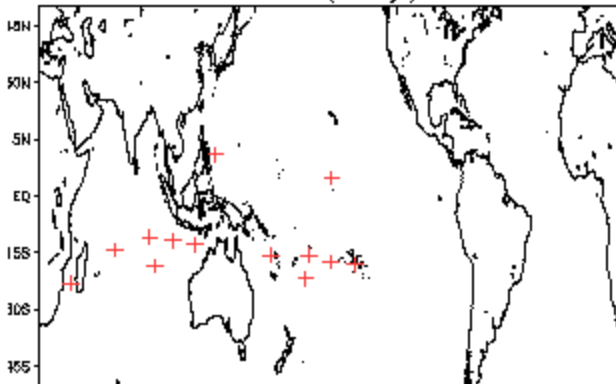
The ECMWF forecast favors more reemerging signal over the western Pacific but lacks any coherent eastward propagation indicative of canonical MJO, and is likely influenced by Rossby wave activity.

CHI200 3-Day Means

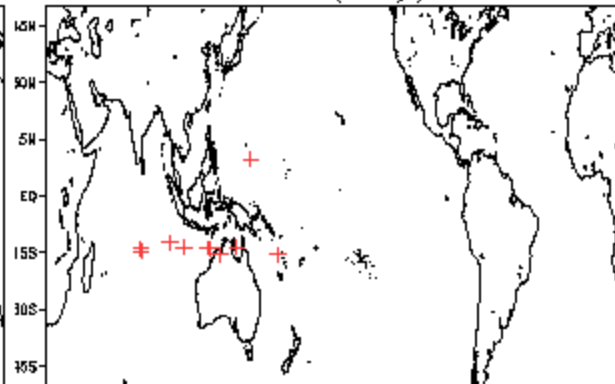


January Tropical Storm Formation by MJO phase

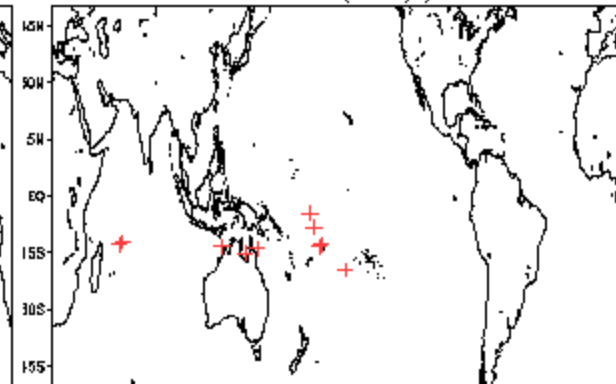
Phase 1 (67 days) 14 storms



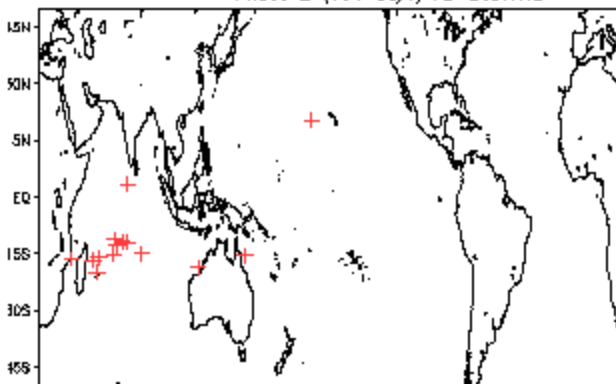
Phase 4 (69 days) 11 storms



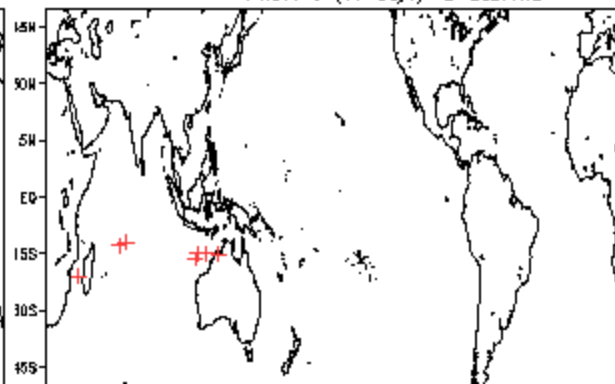
Phase 7 (81 days) 11 storms



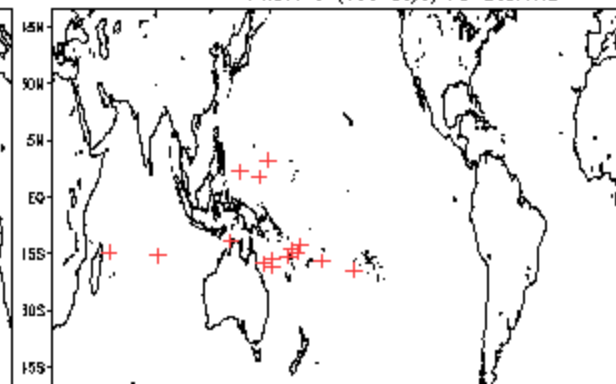
Phase 2 (101 days) 15 storms



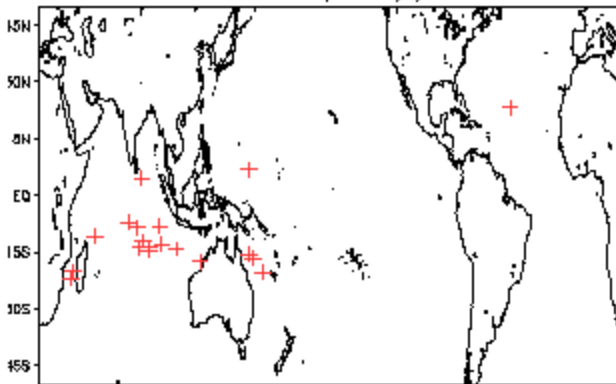
Phase 5 (67 days) 8 storms



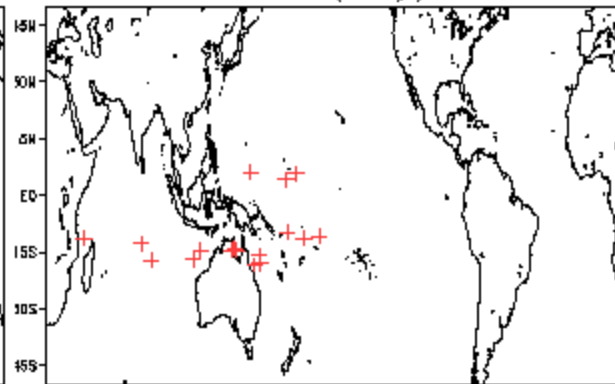
Phase 8 (105 days) 16 storms



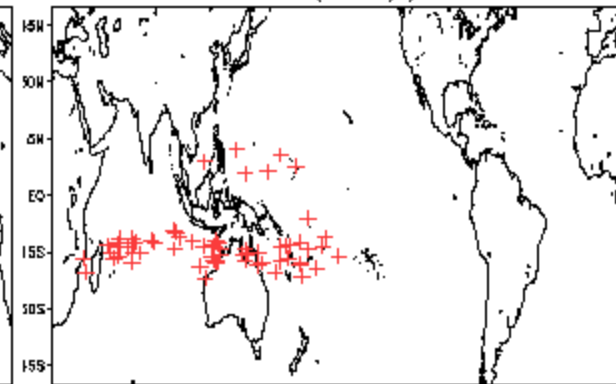
Phase 3 (112 days) 20 storms



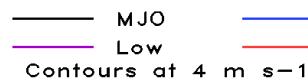
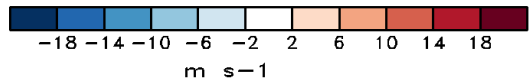
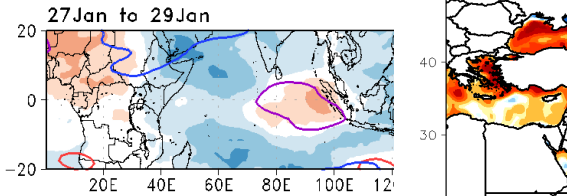
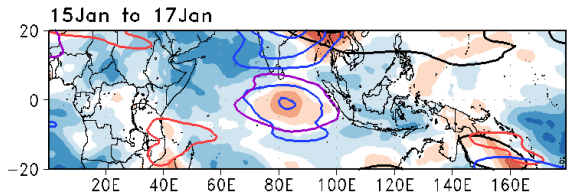
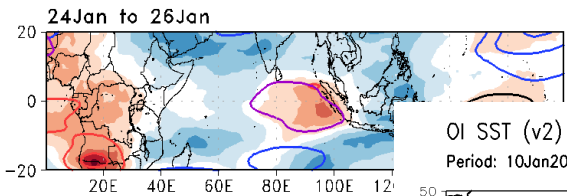
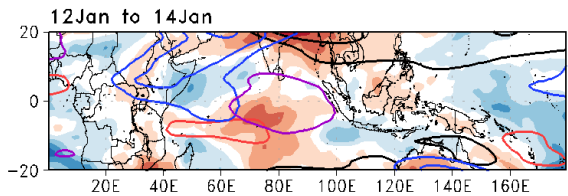
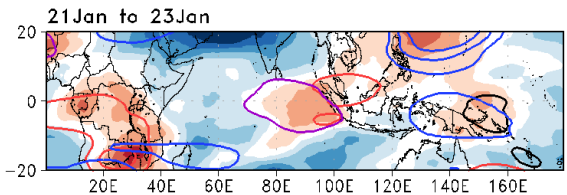
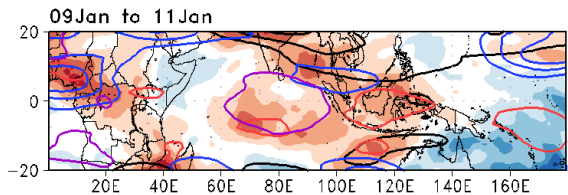
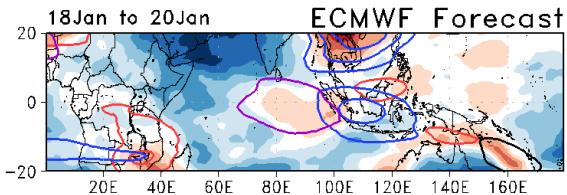
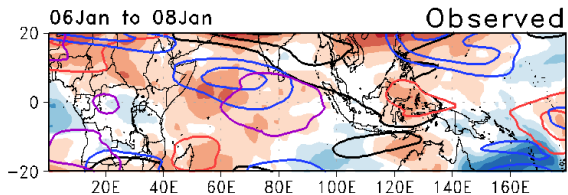
Phase 6 (88 days) 18 storms



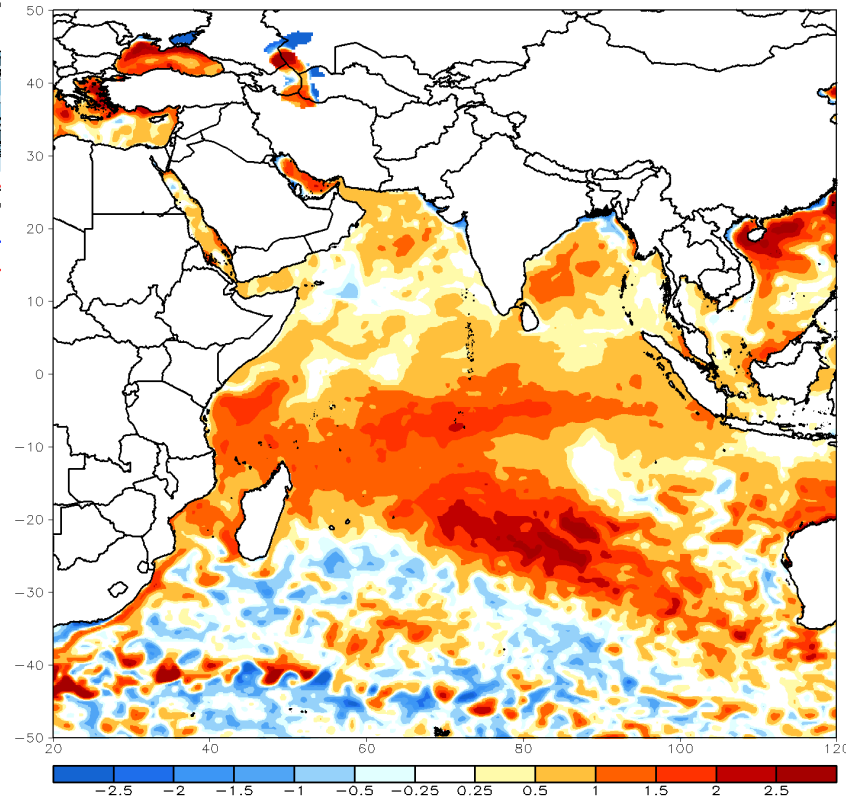
Null (364 days) 67 storms



USHEAR 3-Day Means



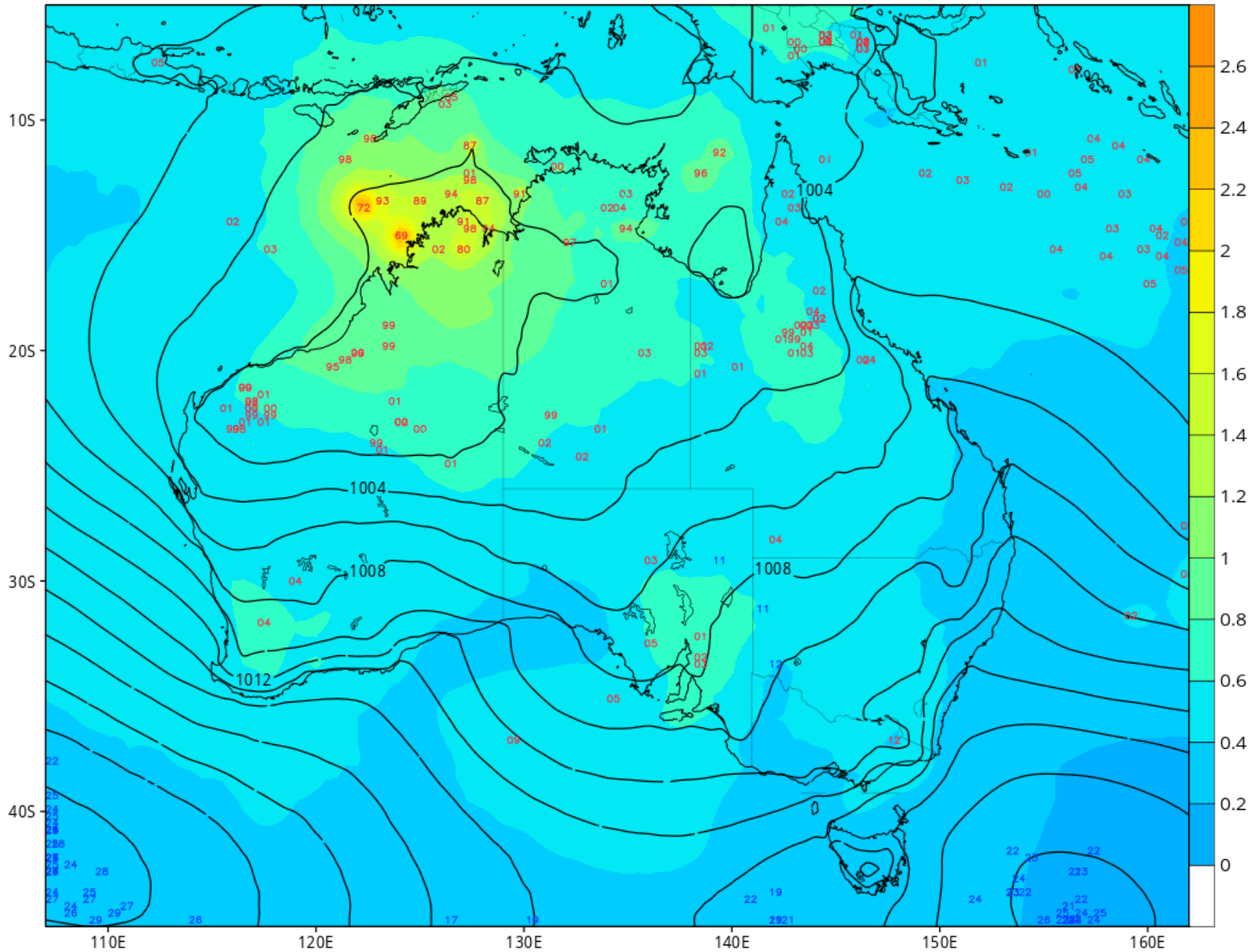
OI SST (v2) 7-Day Anomaly (C)
Period: 10Jan2022 – 16Jan2022



GEFS Mean MSLP (mb), Ensemble Member Pressure Centers (Lows: red | Highs: blue), & Normalized Spread (σ)

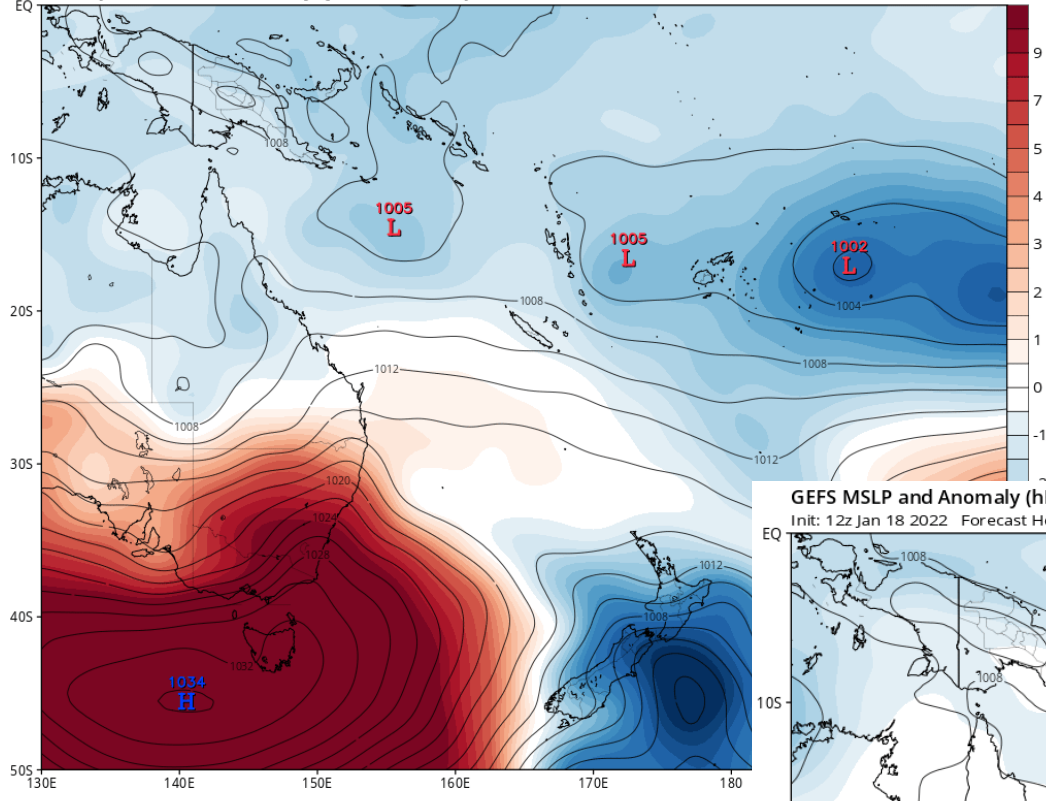
Init: 12z Jan 18 2022 Forecast Hour: [114] valid at 06z Sun, Jan 23 2022

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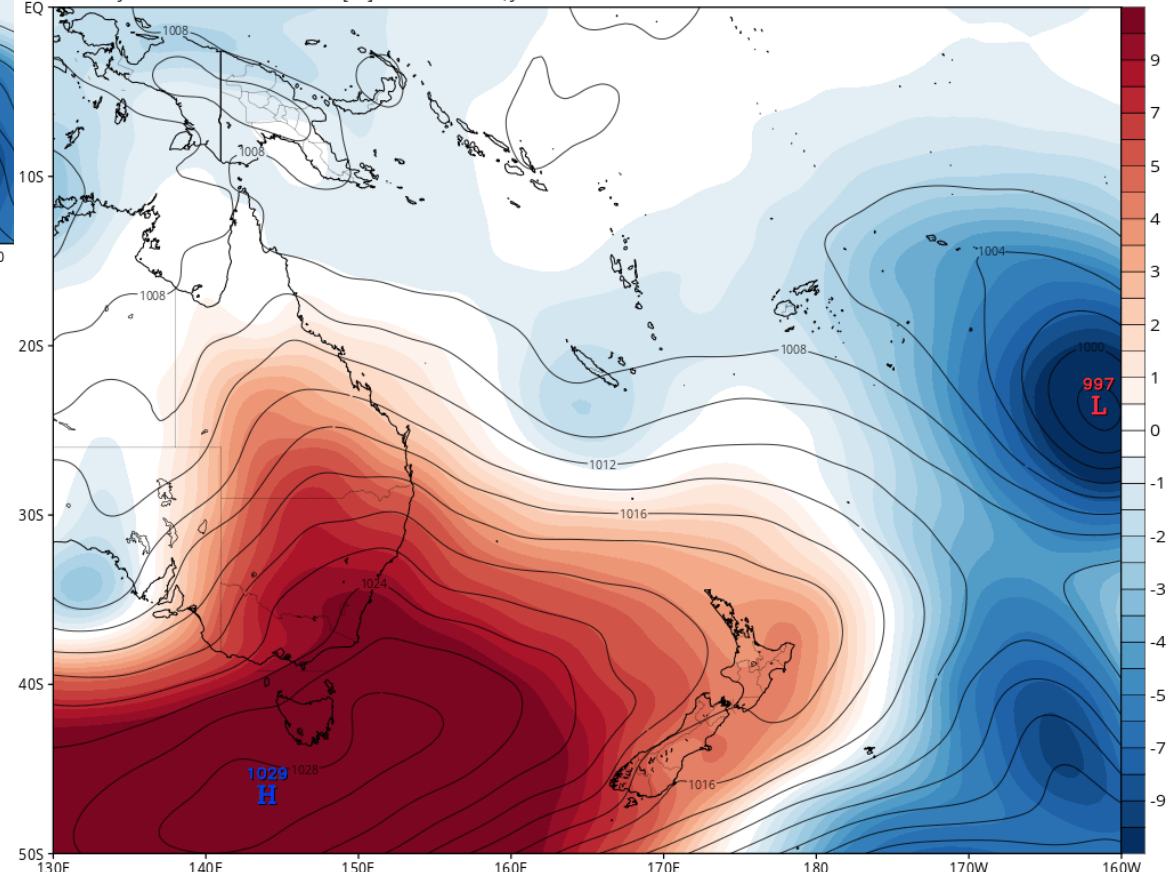
GEFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)
Init: 12z Jan 18 2022 Forecast Hour: [24] valid at 12z Wed, Jan 19 2022

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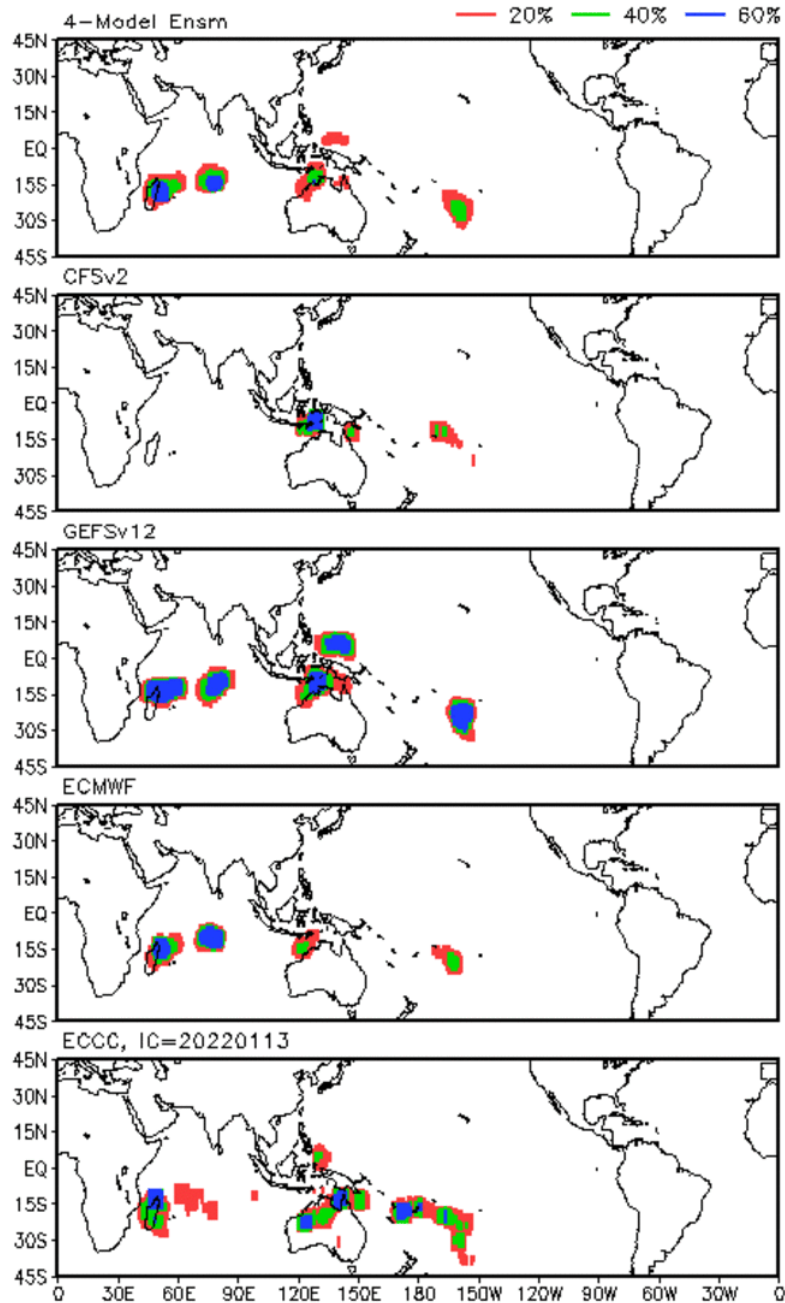
GEFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)
Init: 12z Jan 18 2022 Forecast Hour: [84] valid at 00z Sat, Jan 22 2022

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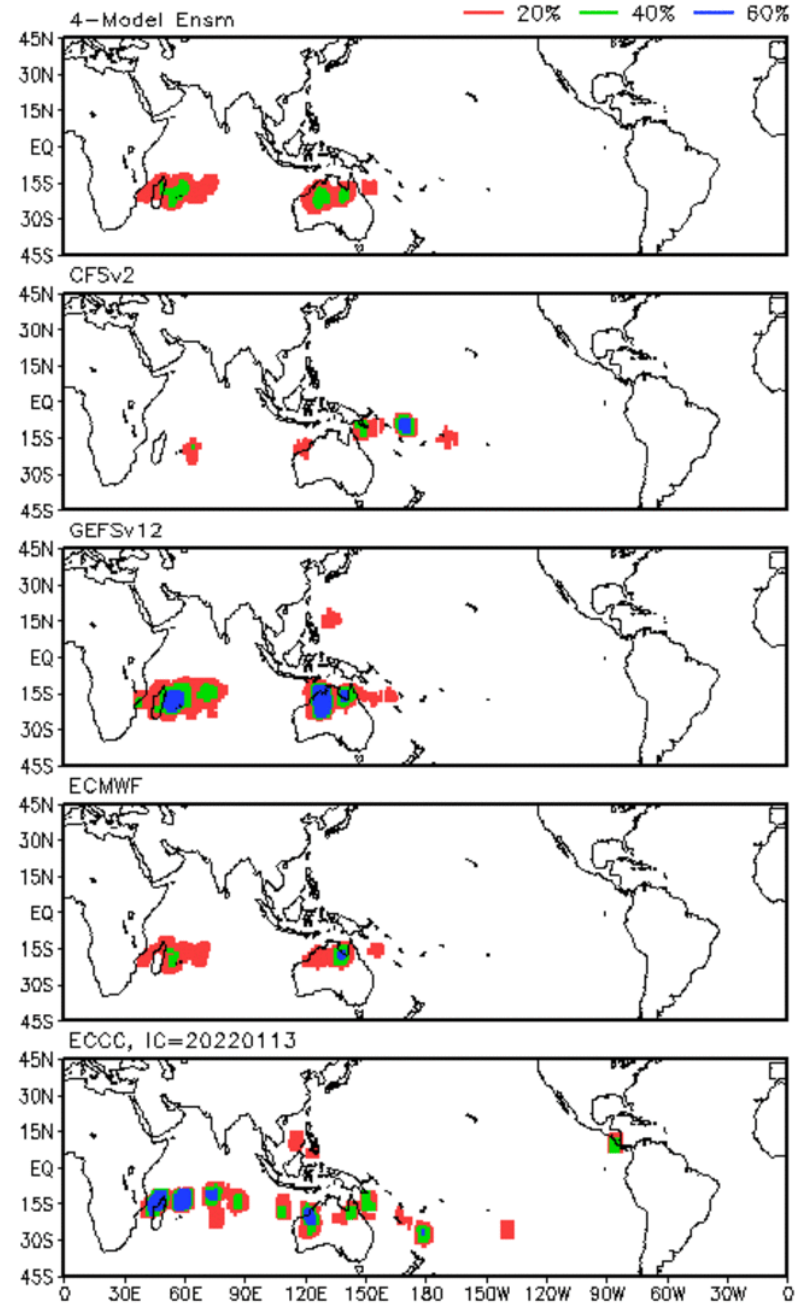
Storm Track Probabilities, IC=20220117

Week 1: 0119 - 0125



Storm Track Probabilities, IC=20220117

Week 2: 0126 - 0201

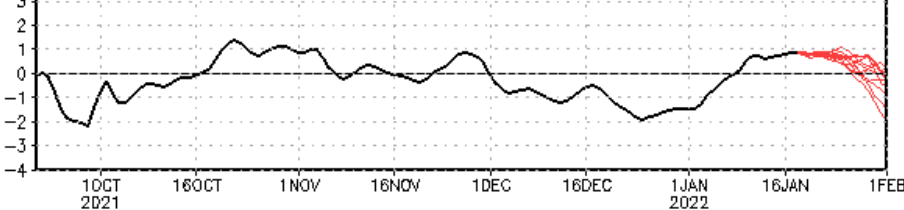


Connections to U.S. Impacts

PNA: Observed & ENSM forecasts

500mb Z (Obs: 21Sep2021 – 18Jan2022) PNA index

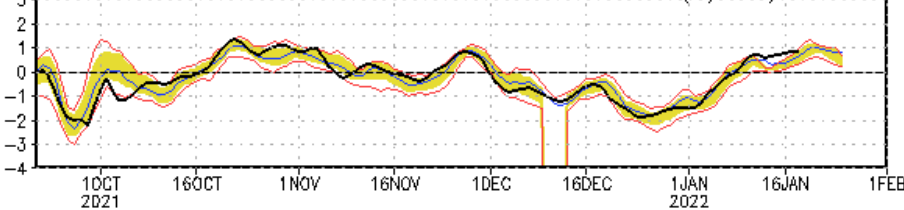
mean=-0.2963



500mb Z (7day Forecast) PNA index

mean=-0.2795

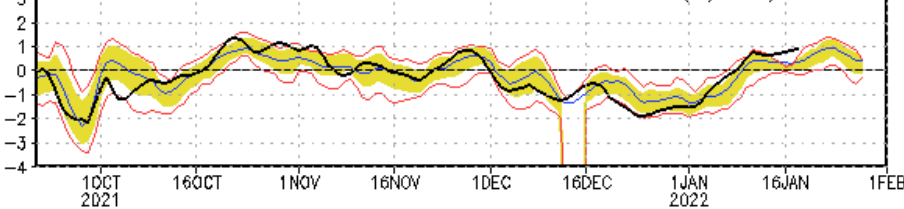
cor(w/obs)=0.9128



500mb Z (10day Forecast) PNA index

mean=-0.2580

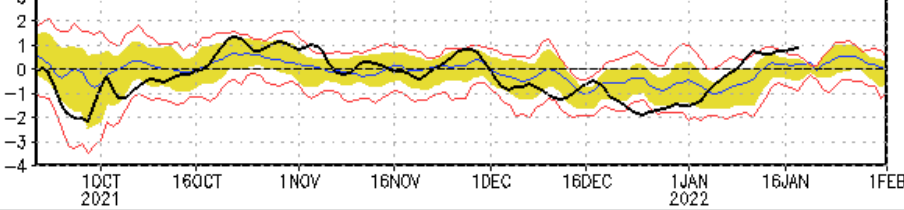
cor(w/obs)=0.8498



500mb Z (14day Forecast) PNA index

mean=-0.1268

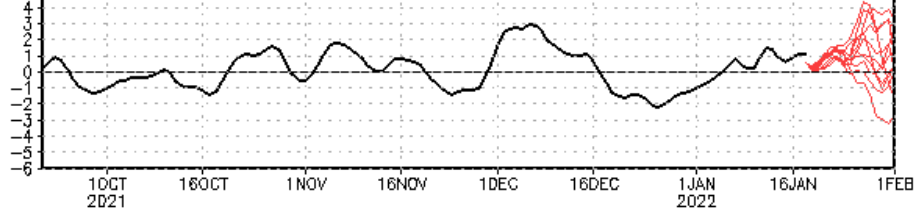
cor(w/obs)=0.6260



AO: Observed & ENSM forecasts

1000mb Z (Obs: 21Sep2021 – 18Jan2022) AO index

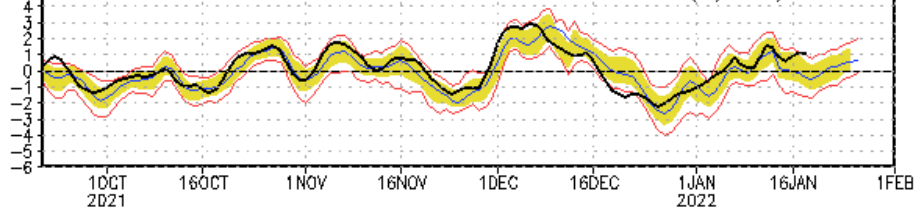
mean=0.0809



1000mb Z (7day Forecast) AO index

mean=-0.1003

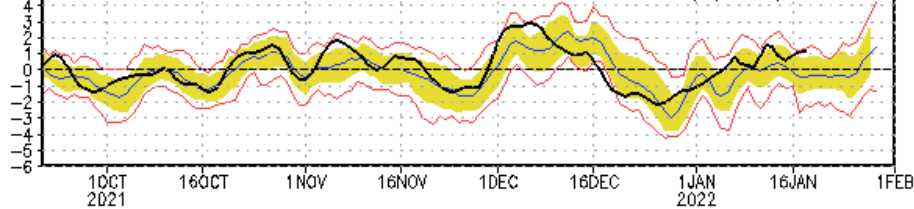
cor(w/obs)=0.8548



1000mb Z (10day Forecast) AO index

mean=-0.1457

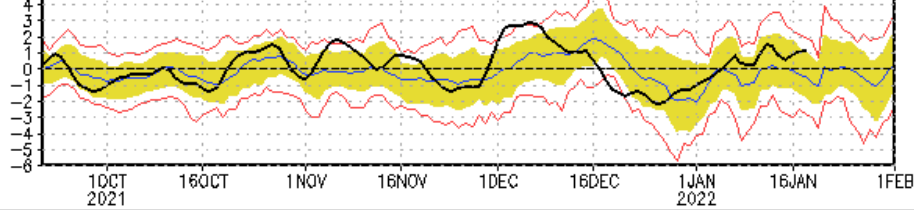
cor(w/obs)=0.7570

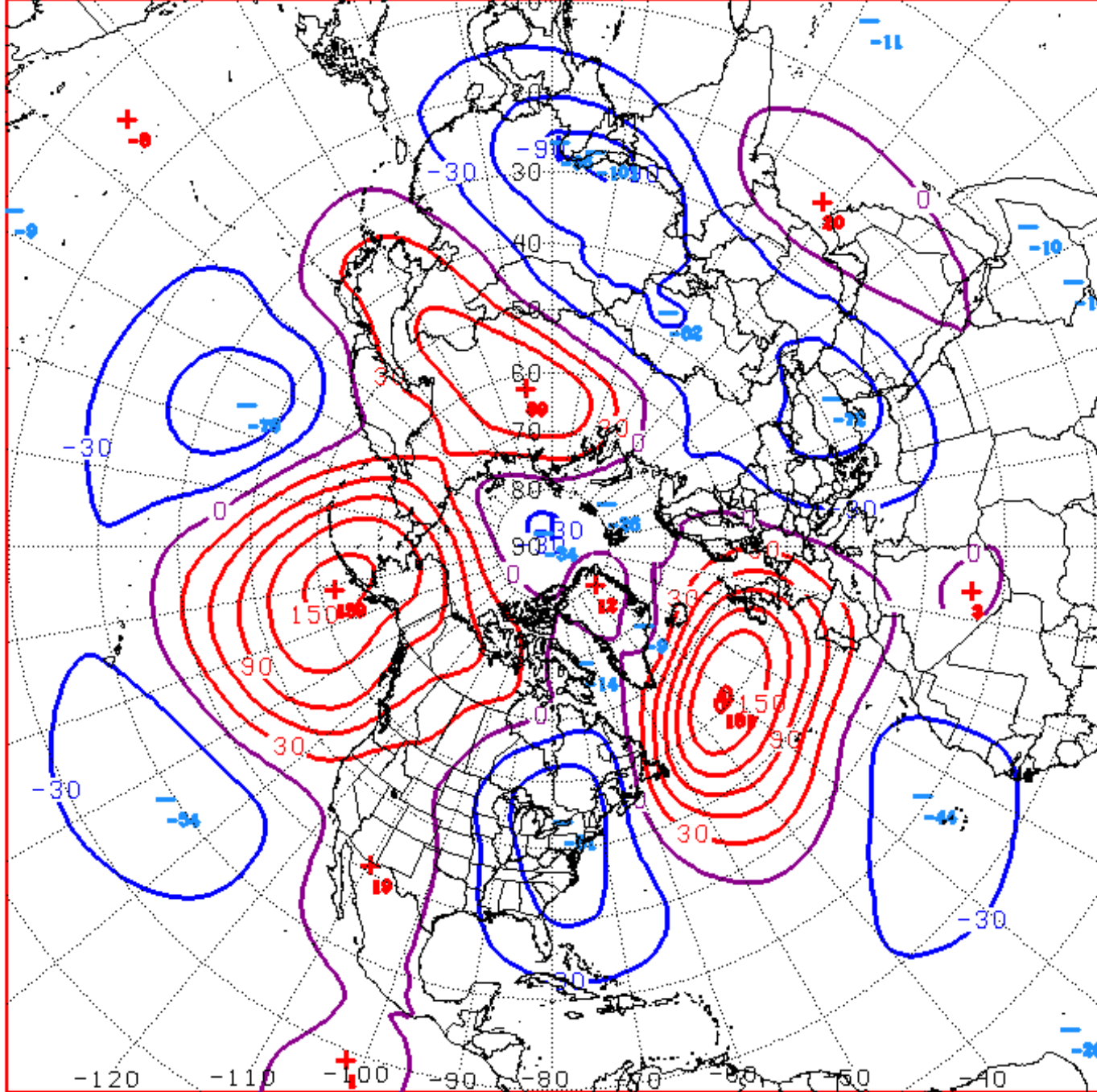


1000mb Z (14day Forecast) AO index

mean=-0.1539

cor(w/obs)=0.5131





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JAN 18 2022 1353 UTC CNTD JAN 29 2022

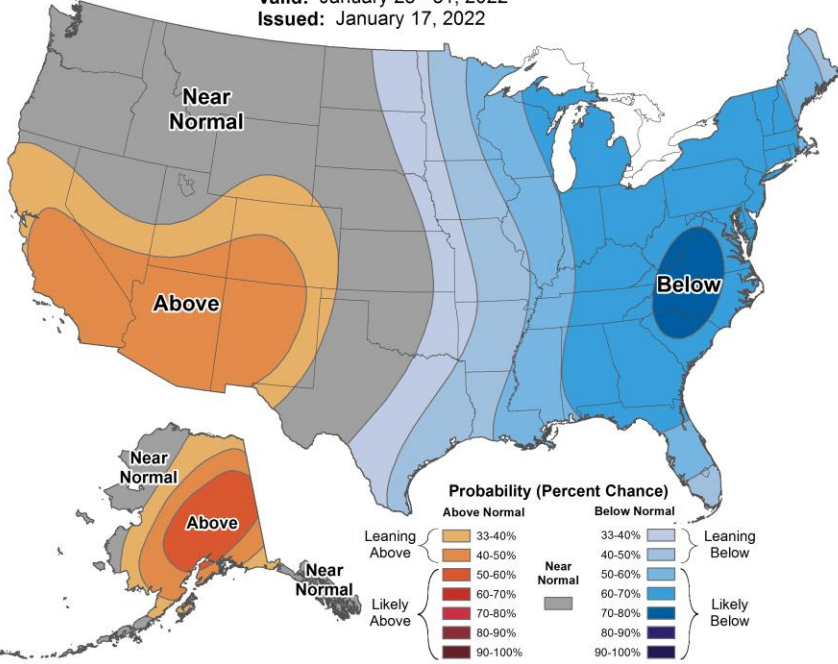
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



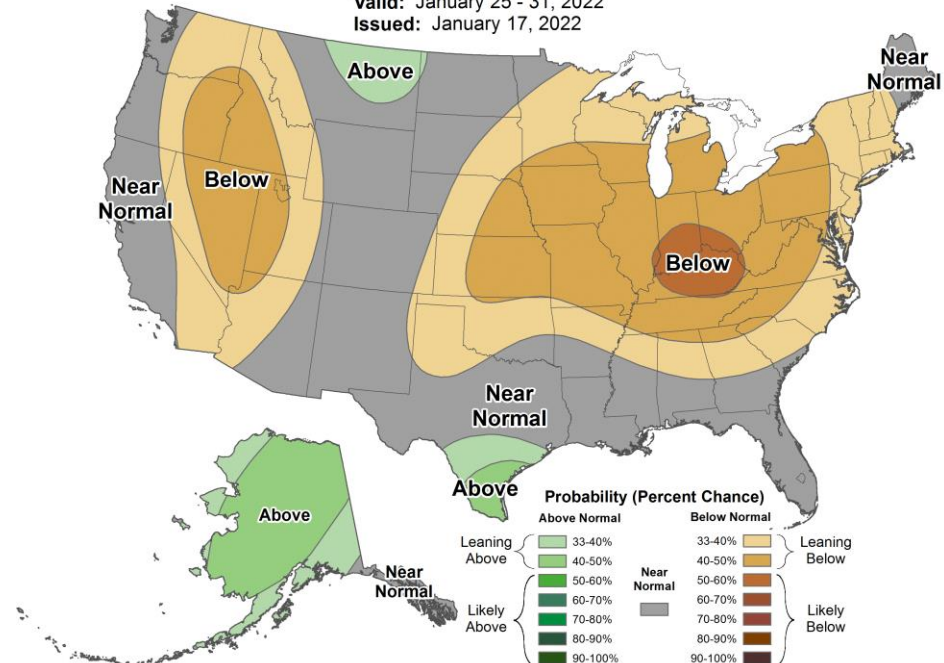
Valid: January 25 - 31, 2022
 Issued: January 17, 2022



8-14 Day Precipitation Outlook



Valid: January 25 - 31, 2022
 Issued: January 17, 2022

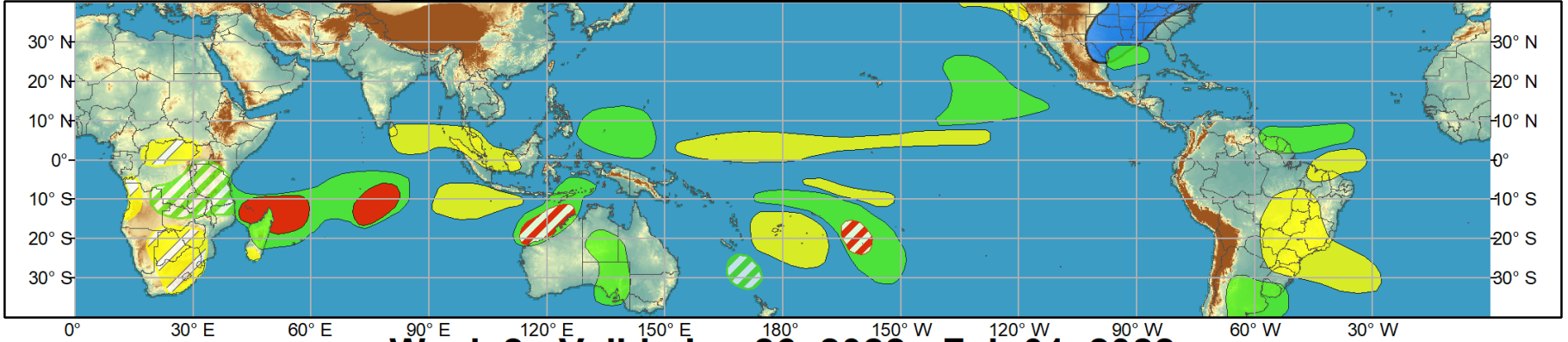




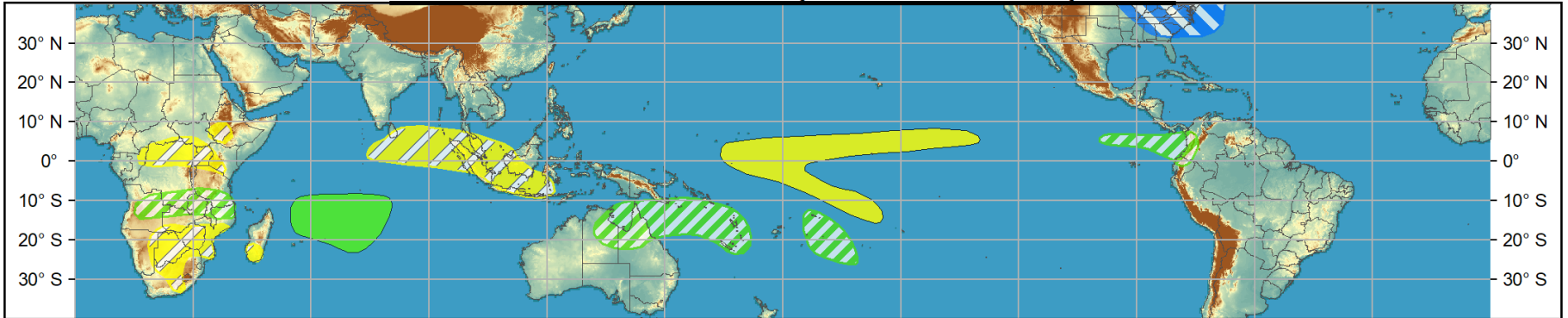
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