

Global Tropics Hazards And Benefits Outlook

2/1/2022

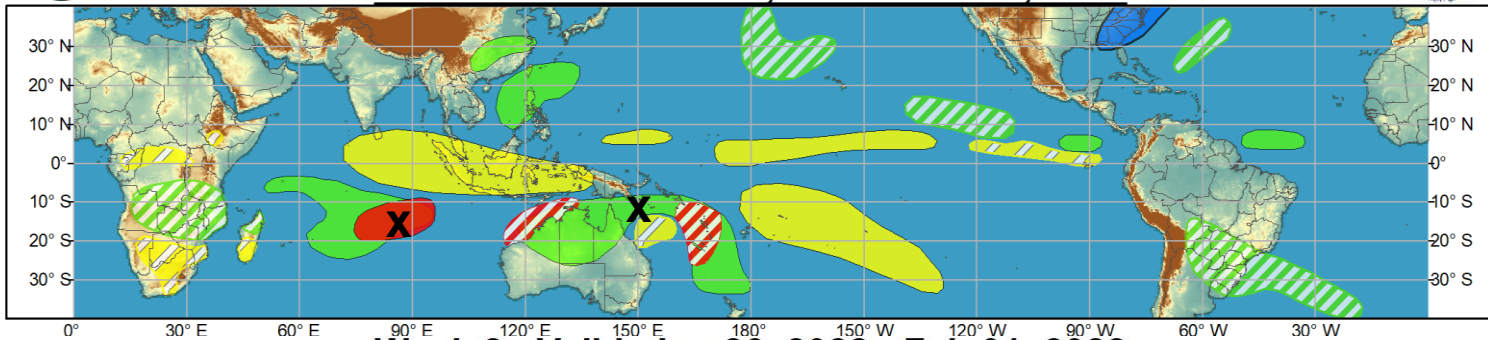
Adam Allgood

Outline

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



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

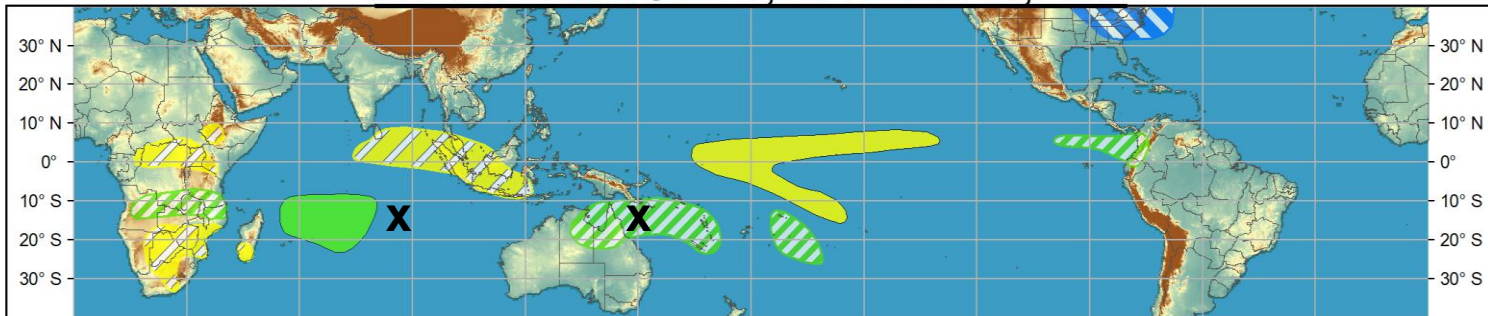


Outlook Review

X= Tropical Cyclone
Batsirai
(SW Indian Ocean)

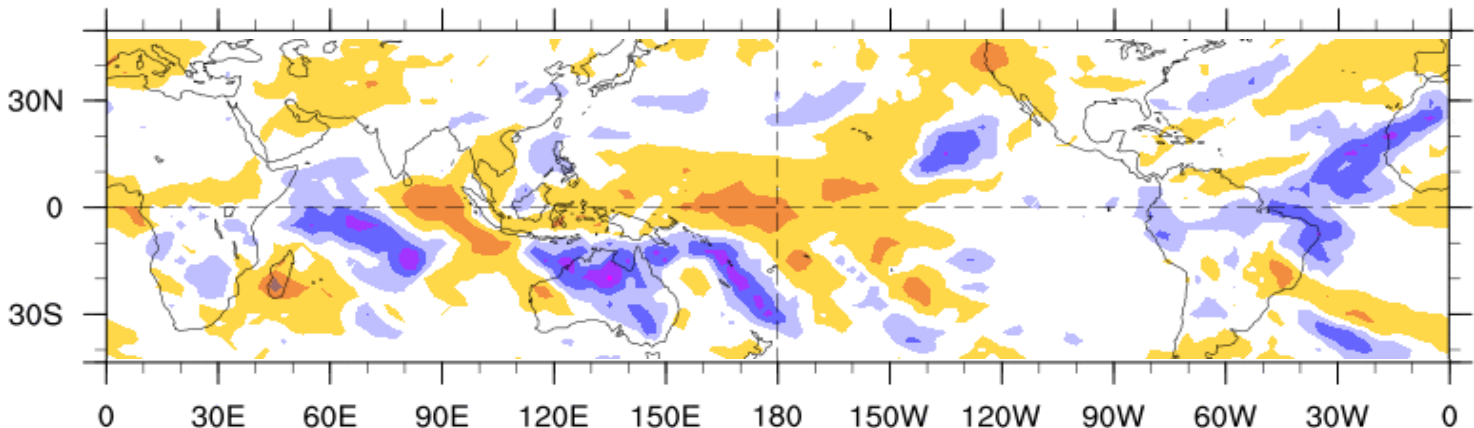
X= TC 09P
(Coral Sea)

Week 2 - Valid: Jan 26, 2022 - Feb 01, 2022



7-Day Average OLR Anomaly

2022/01/24 - 2022/01/30

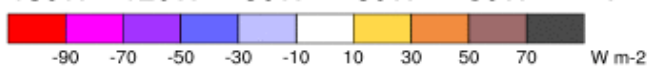


Cool shading
clouds/rain

Warm shading
Less clouds/rain

NOAA/PSL

Base Period: 1981-2010



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 March-May 2022) and then transition to ENSO-neutral (51% chance during April-June 2022).

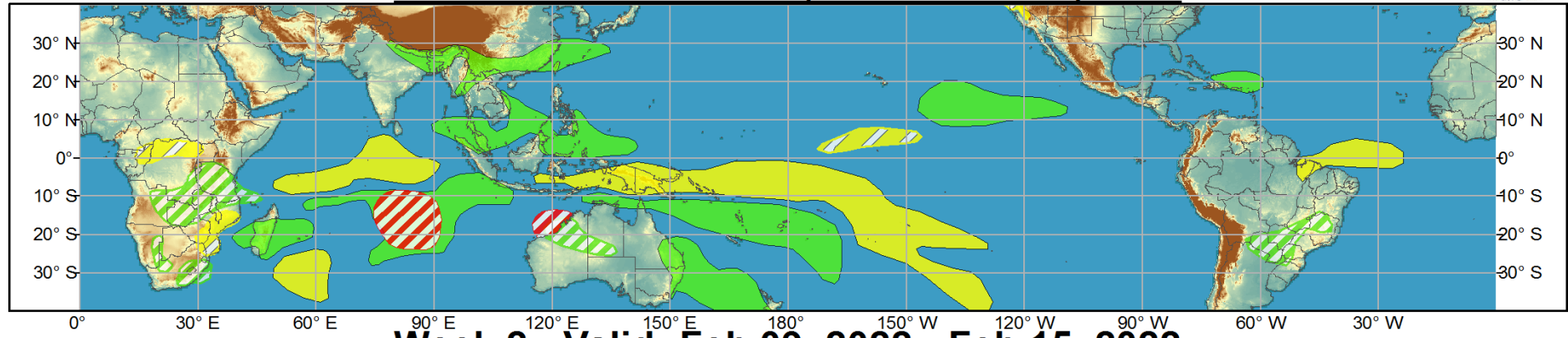
MJO and other subseasonal tropical variability:

- The MJO remained weak, with a potential new event initiating over the Indian Ocean currently disrupted by an unusually strong equatorial Rossby wave.
- Dynamical models favor rapid strengthening of the MJO signal over the Indian Ocean as the suppressed phase of the Rossby wave moves westward towards Africa.
- Some models show eastward propagation of the MJO across the Maritime Continent as far west as the West Pacific. Other models show slower evolution over the Indian Ocean, potentially linked to tropical cyclone activity.
- The MJO may play an increasingly important role in the evolution of the global circulation.

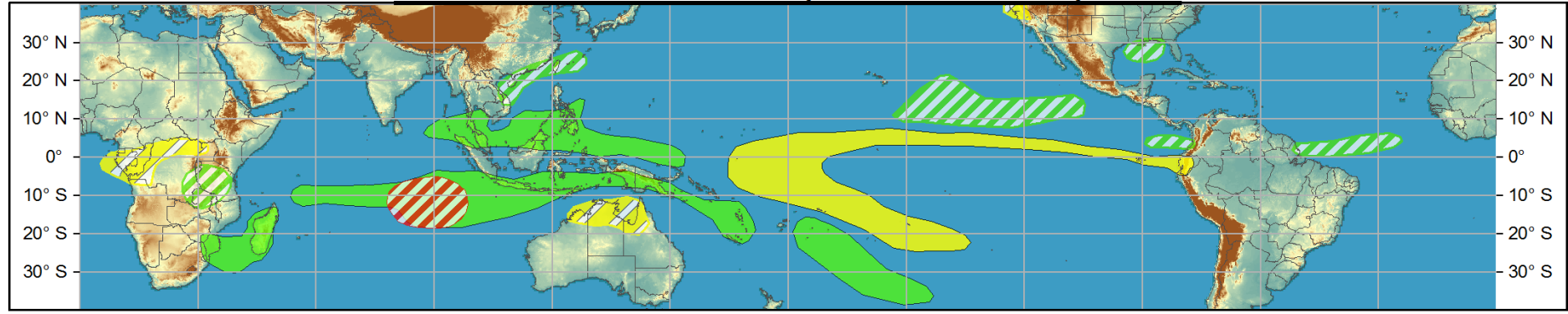


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Feb 02, 2022 - Feb 08, 2022



Week 2 - Valid: Feb 09, 2022 - Feb 15, 2022



Produced: 02/01/2022
Forecaster: Allgood

	Confidence		
	High	Moderate	
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Above-average rainfall			Weekly total rainfall in the upper third of the historical range.
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IR Satellite & 200-hpa Velocity Potential Anomalies

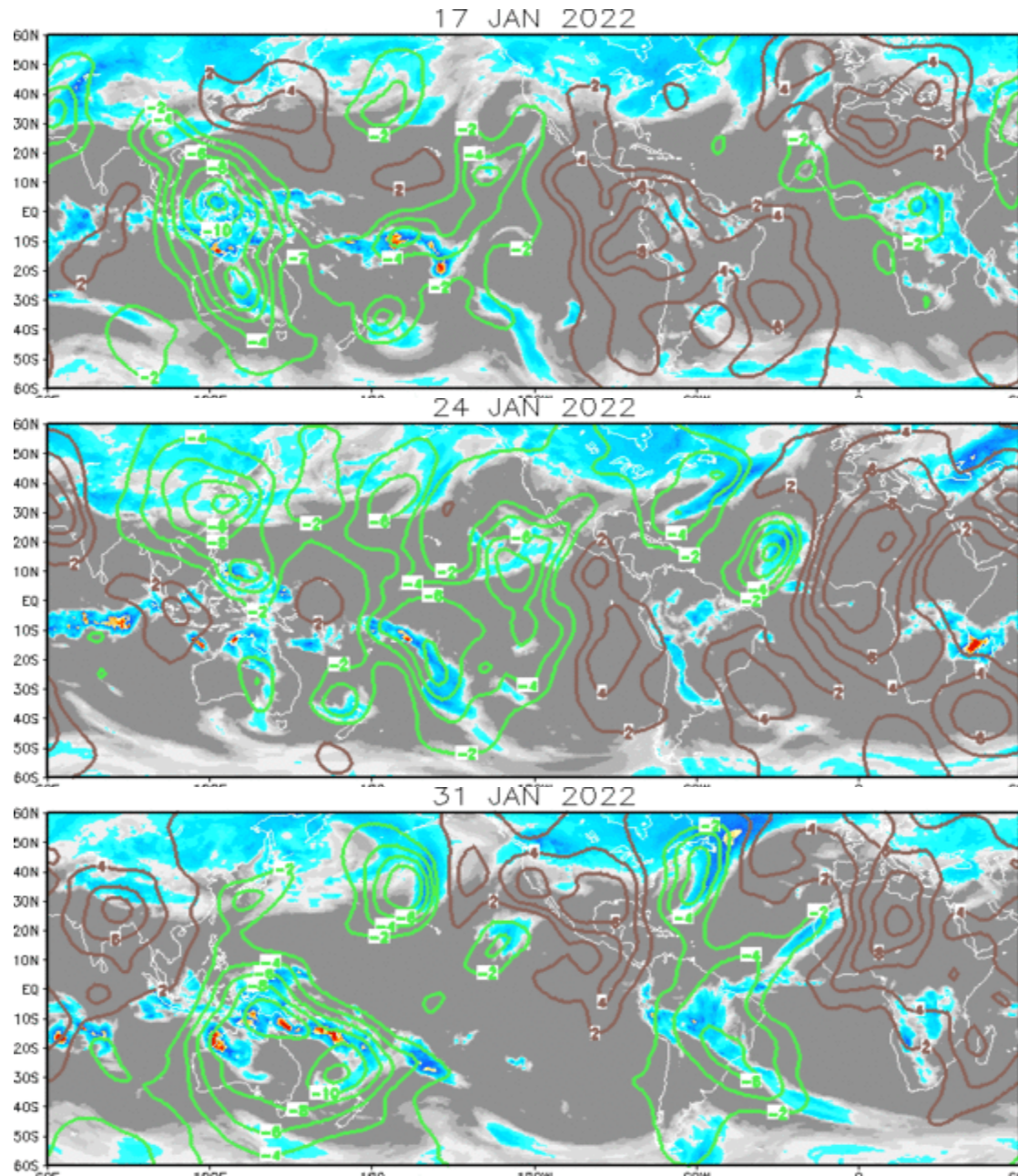
Green: Enhanced Divergence

Brown: Enhanced Convergence

The MJO weakened rapidly during mid-January as the signal tried to cross the Pacific

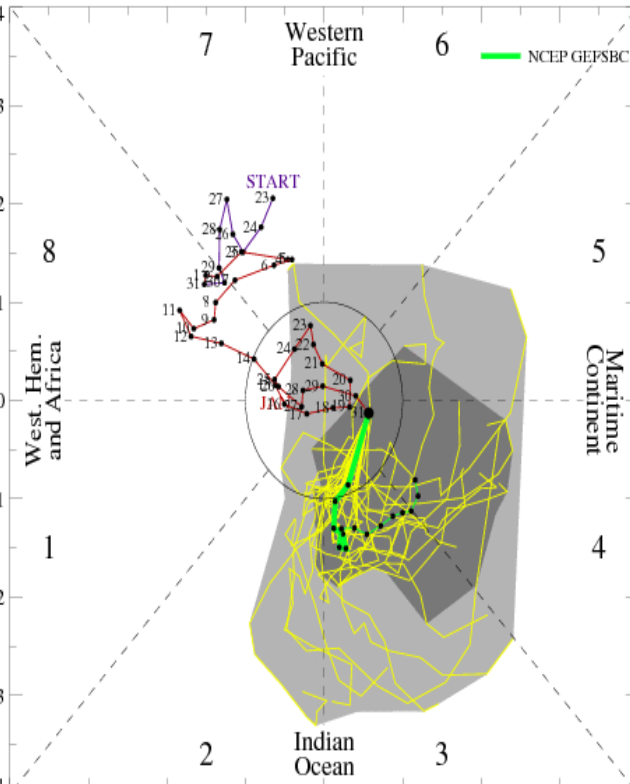
The La Niña atmospheric response was somewhat disrupted by late January, but the overall pattern was chaotic.

Strong convection over the southern Maritime Continent. I.O. Rossby wave more apparent in wind fields than OLR.

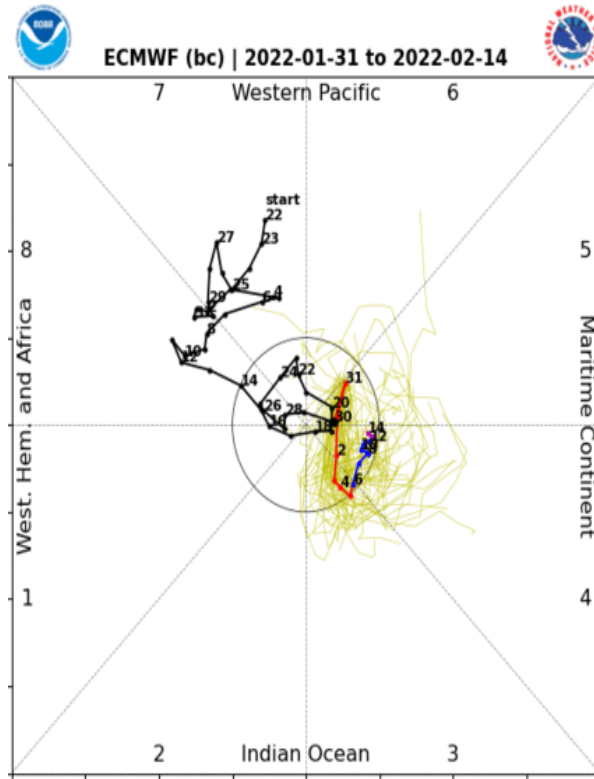


MJO Observation/Forecast

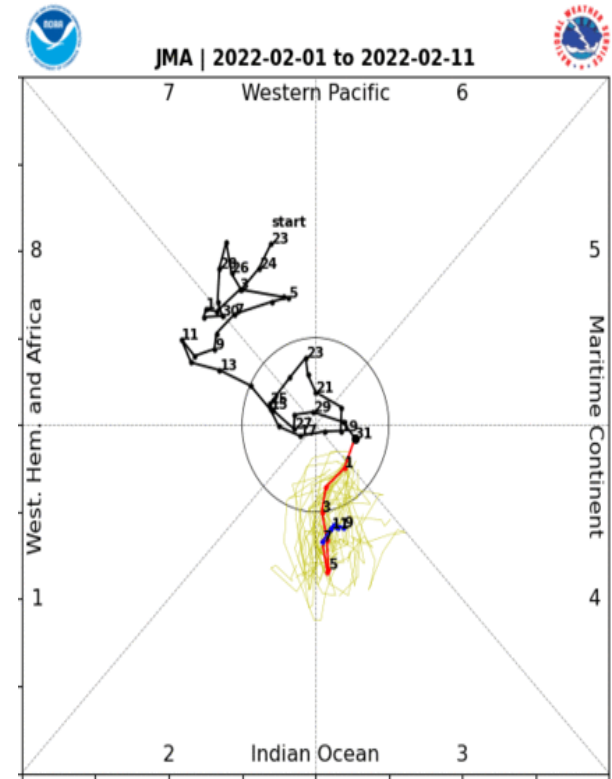
[RMM1, RMM2] forecast for Feb-01-2022 to Feb-15-2022



GEFS



ECMWF



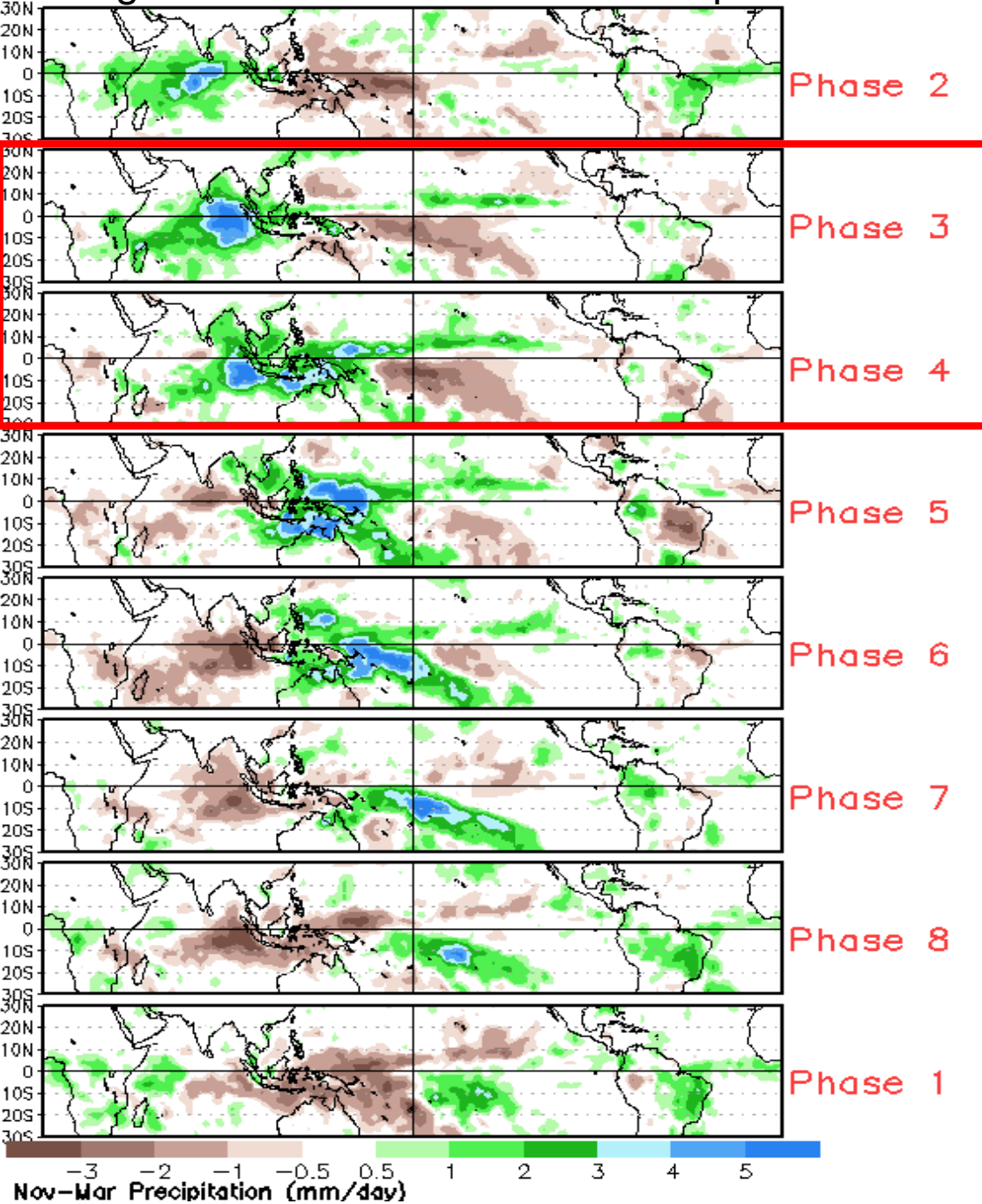
JMA

All three model systems depict a fairly rapid amplification over the Indian Ocean.

Many ensemble members depict a “hairpin turn” of the index with eastward propagation to the Maritime Continent, suggestive of relaxing interference from a particularly strong Rossby wave.

Some ensemble members slower and stronger over the I.O., some reach the Pacific.

Average Conditions when the MJO is present

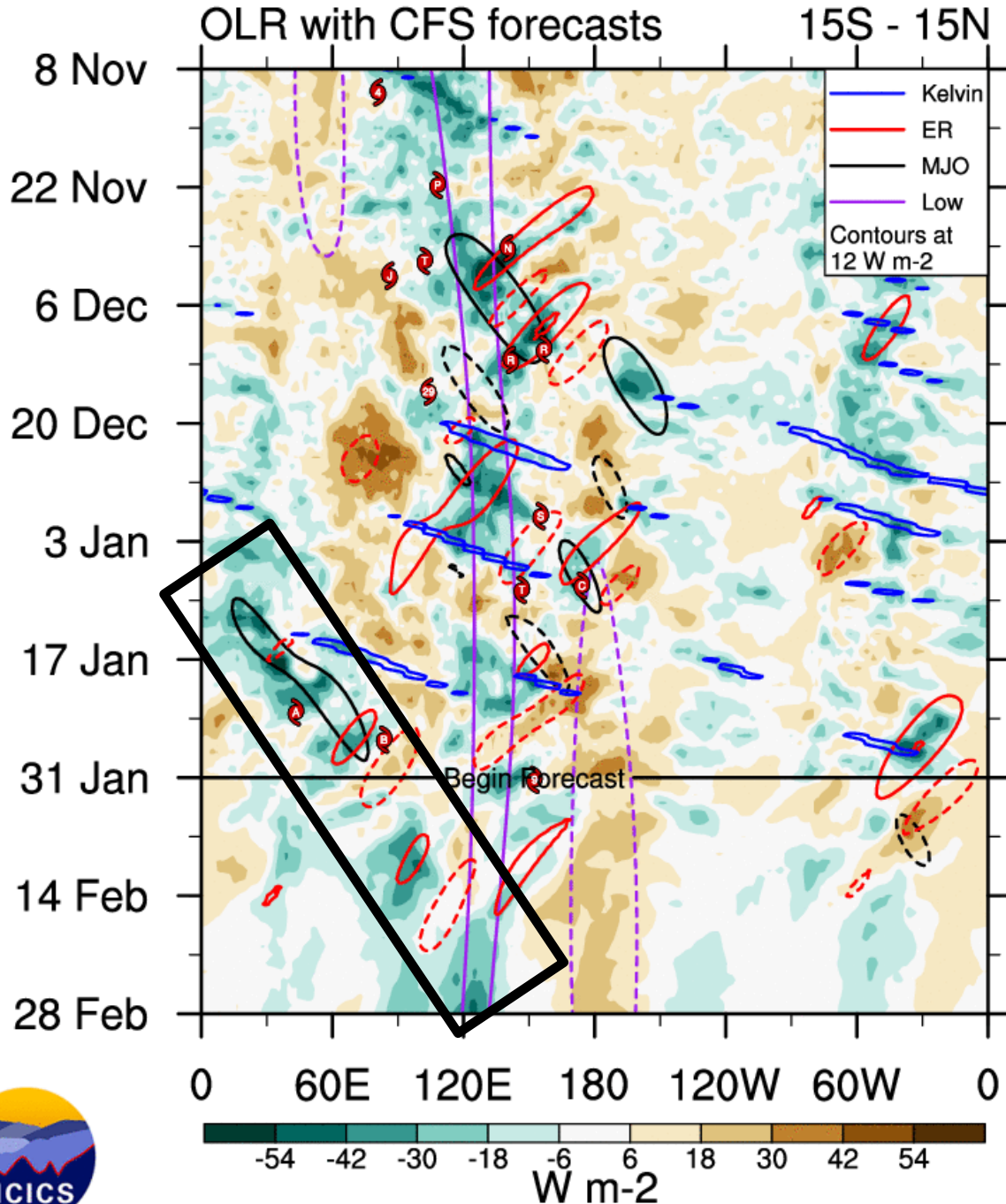


CAVEAT: These panels are representative of robust MJO events.

MJO activity is shifting from Africa to the I.O., but disrupted by **Rossby wave** activity.

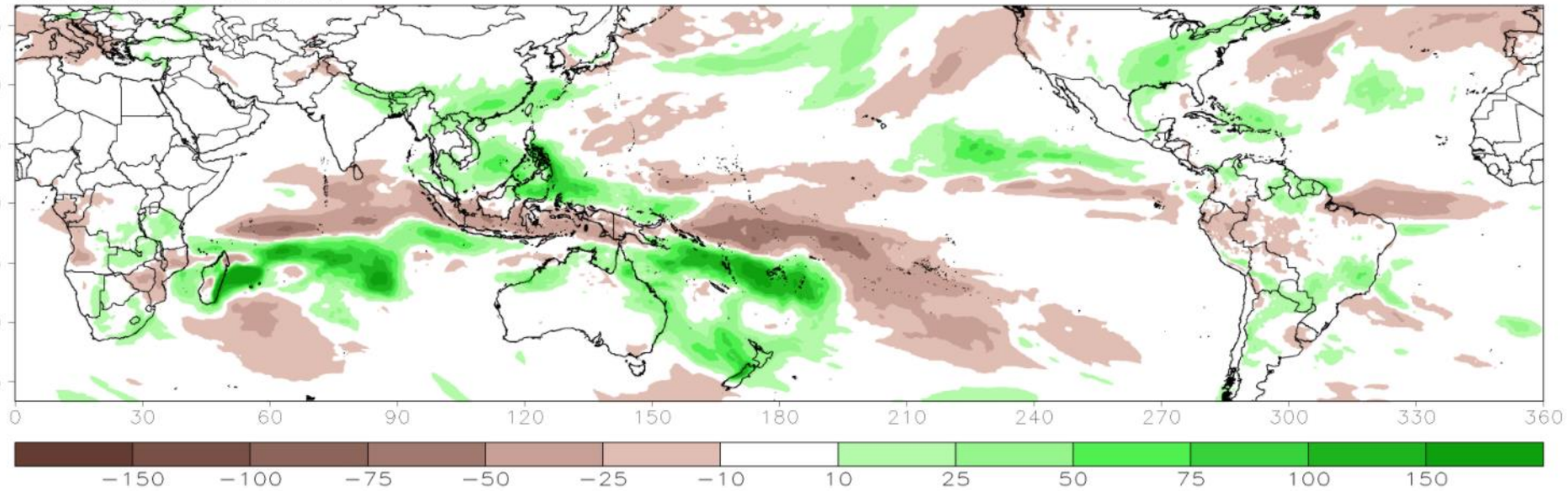
Kelvin wave activity over the Western Hemisphere may help kick up the MJO amplitude next week.

Low frequency contours depict ENSO cold conditions.



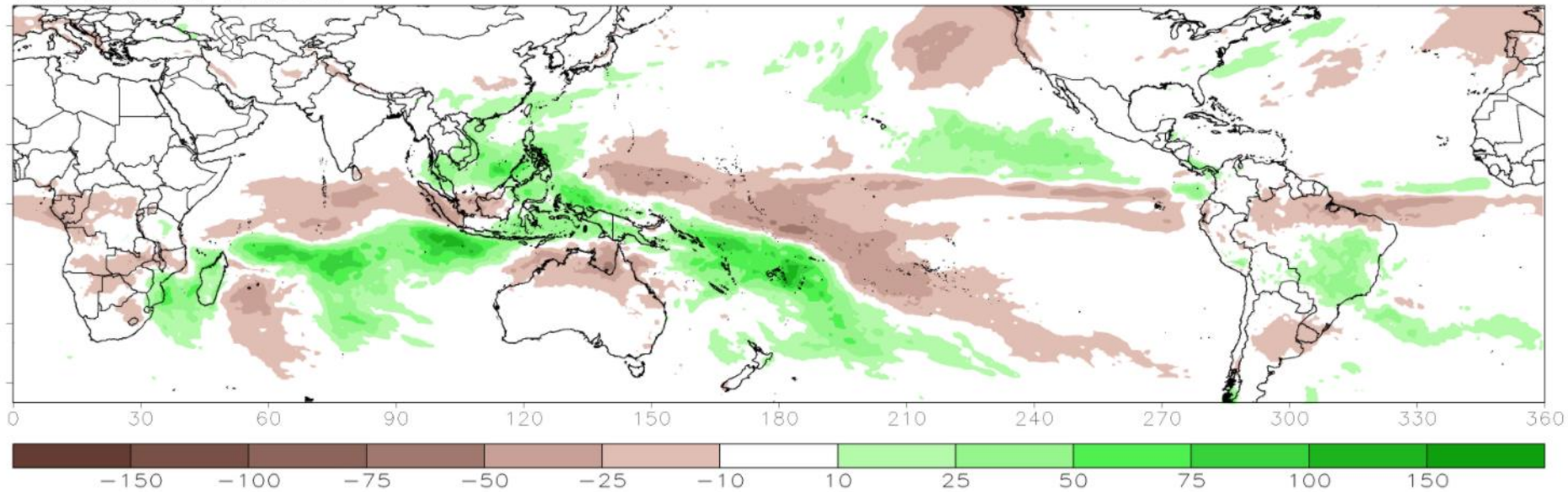
GEFSv12 00z Ensemble Mean: Week1 Total Rainfall Anomaly (mm)

Valid: 02Feb2022-08Feb2022



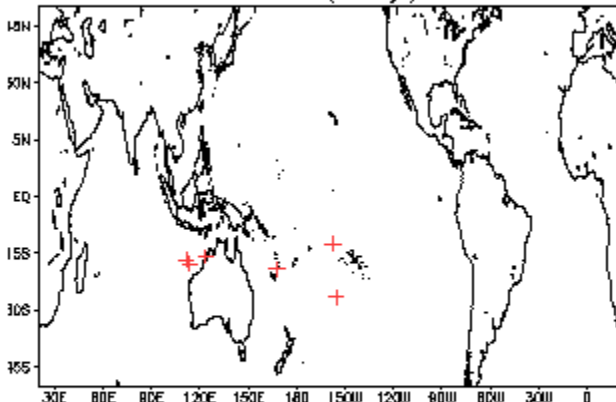
GEFSv12 00z Ensemble Mean: Week2 Total Rainfall Anomaly (mm)

Valid: 09Feb2022-15Feb2022

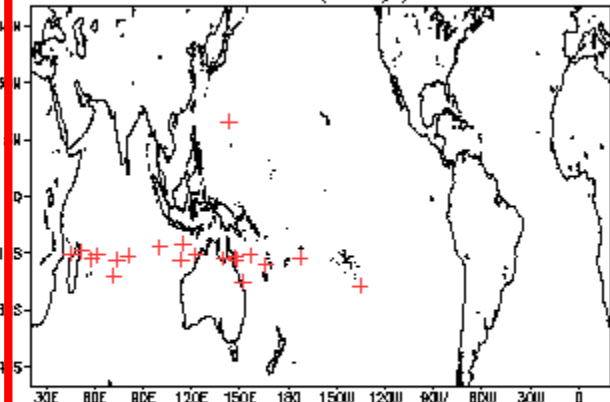


February Tropical Storm Formation by MJO phase

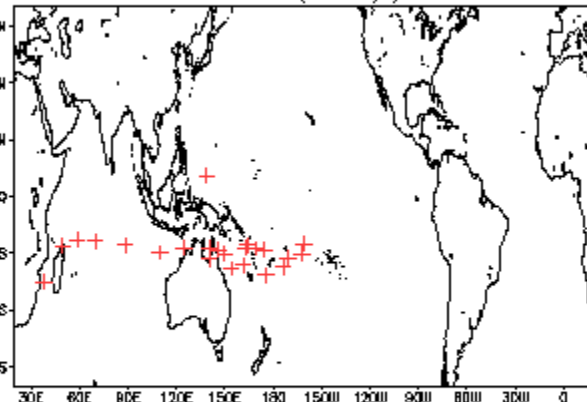
Phase 1 (41 days) 7 storms



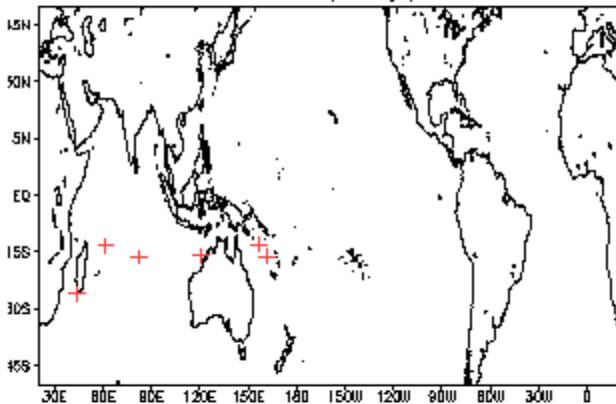
Phase 4 (92 days) 21 storms



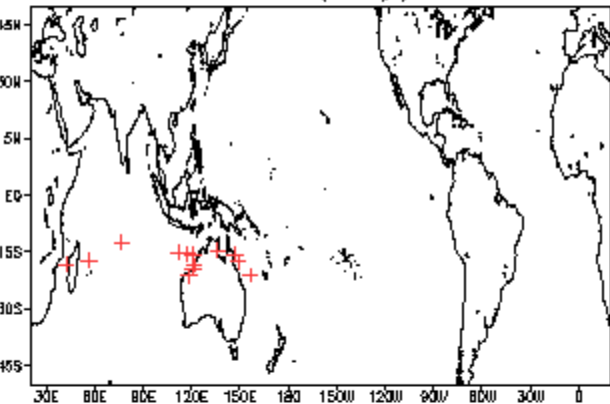
Phase 7 (125 days) 24 storms



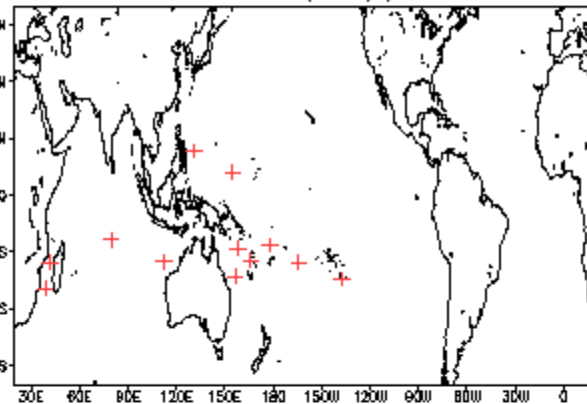
Phase 2 (51 days) 7 storms



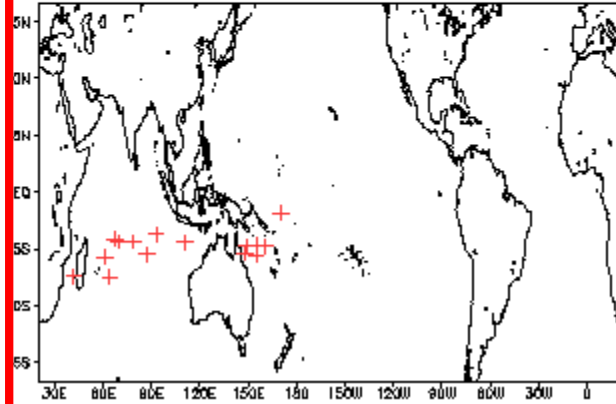
Phase 5 (70 days) 14 storms



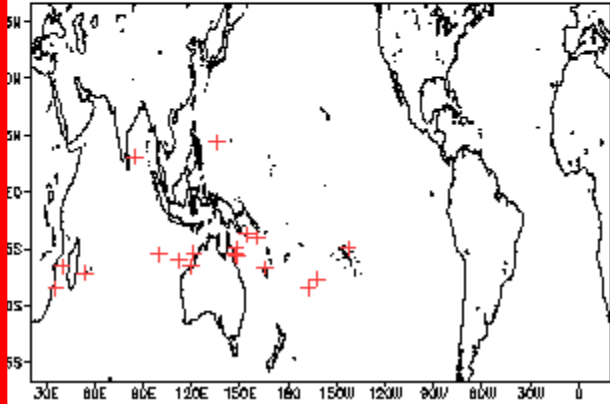
Phase 8 (84 days) 13 storms



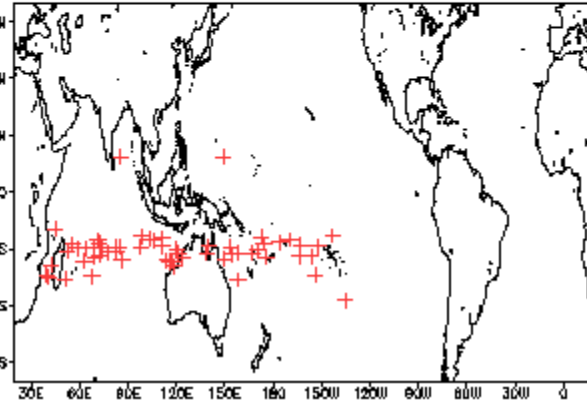
Phase 3 (89 days) 18 storms



Phase 6 (92 days) 19 storms

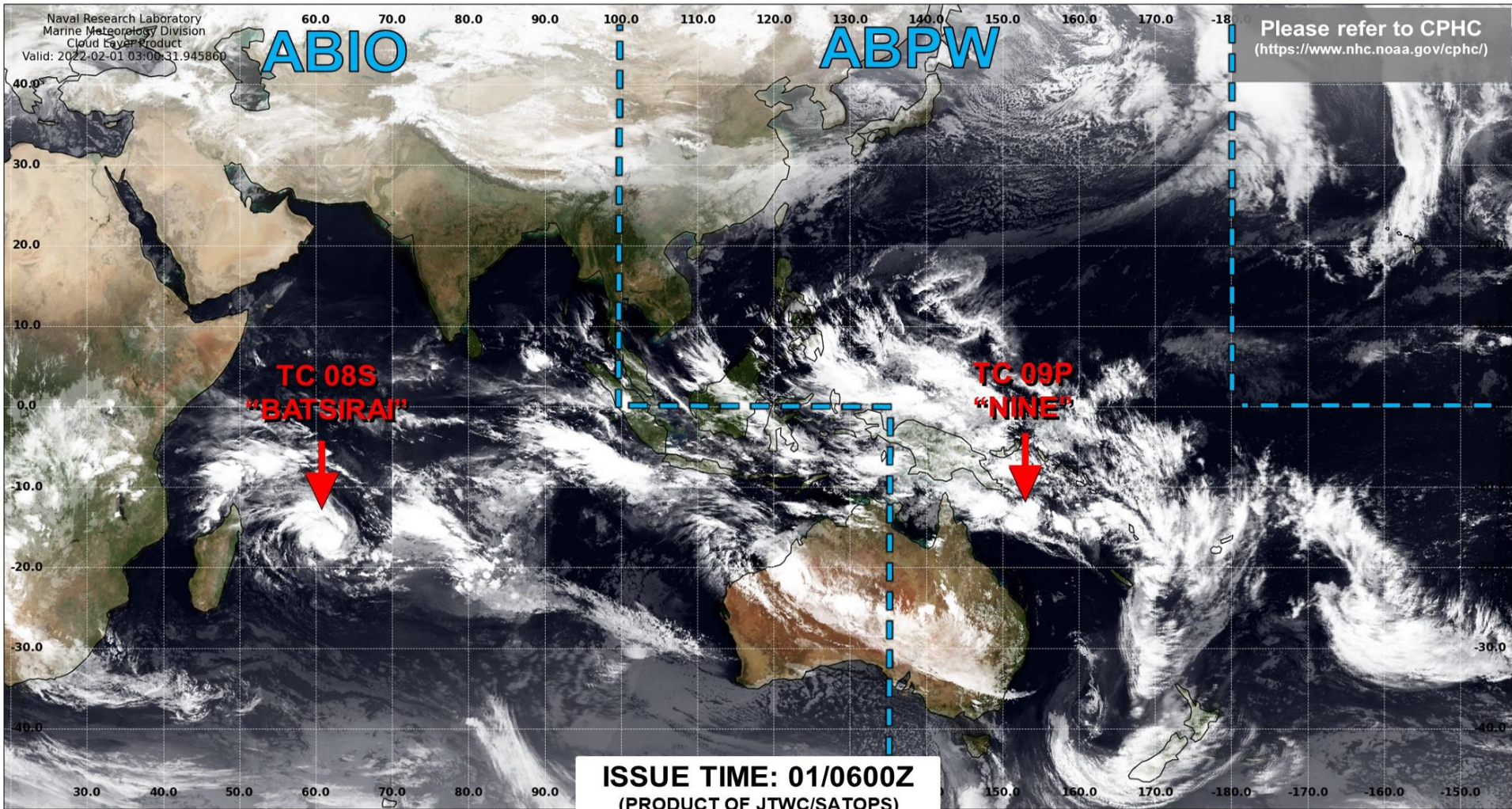


Null (308 days) 60 storms





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





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



7:00 pm EST
Tue Nov 30 2021

100W 90W 80W 70W 60W 50W

← Central Pacific



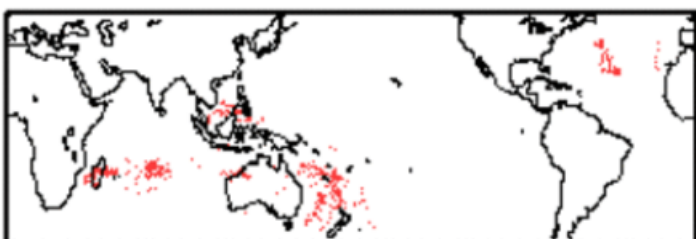
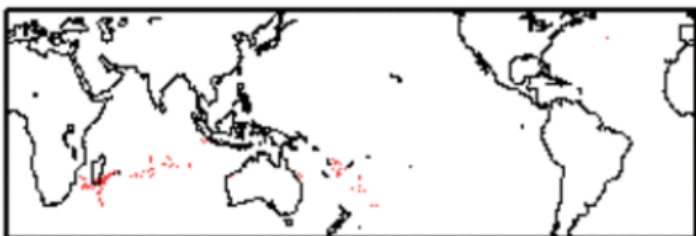
Current Disturbances and Five-Day Cyclone Formation Chance: Tropical or Sub-Tropical Cyclone: Depression Storm Post-Tropical Cyclone or Remnants

Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%
Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane
 Post-Tropical Cyclone or Remnants

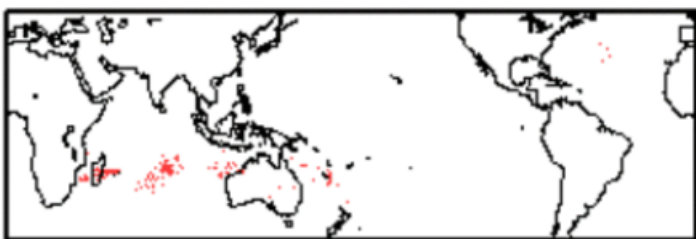
FILTERED

Week-1

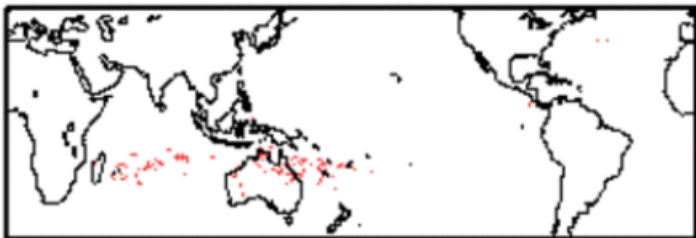
CFS



ECMWF



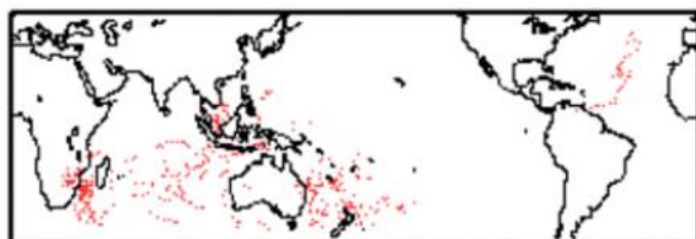
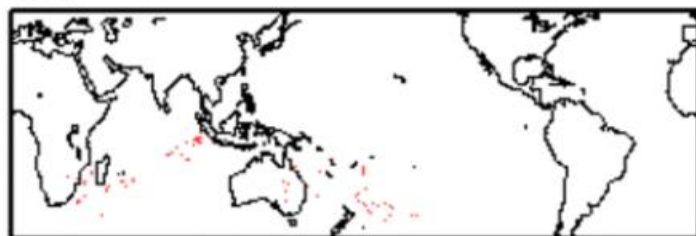
ECCC, IC=20220127



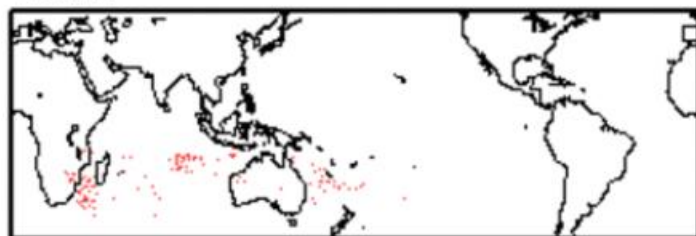
FILTERED

Week-2

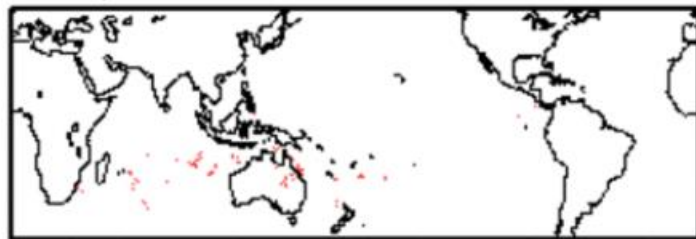
CFS



ECMWF



ECCC, IC=20220127

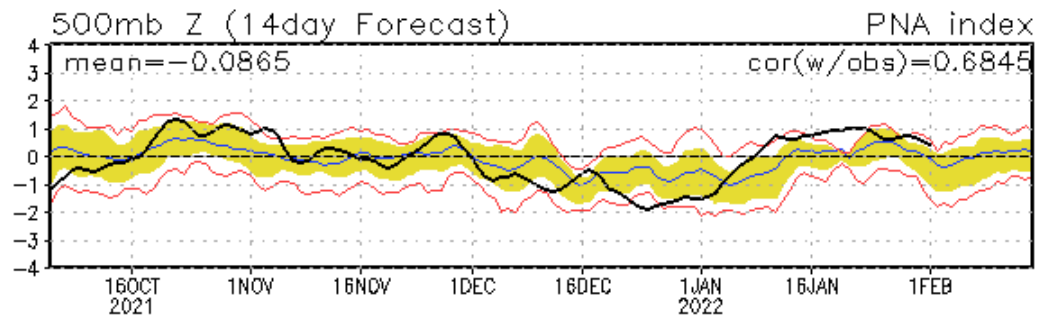
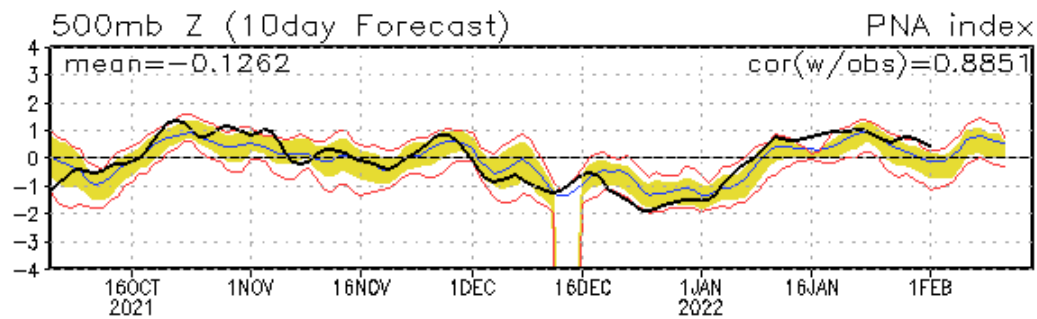
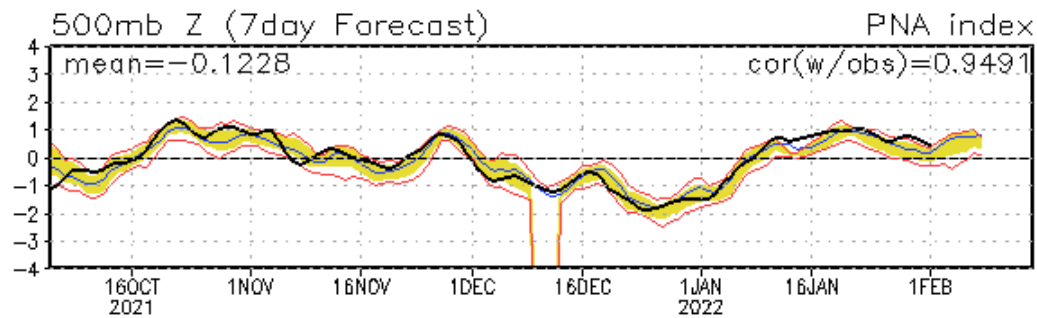
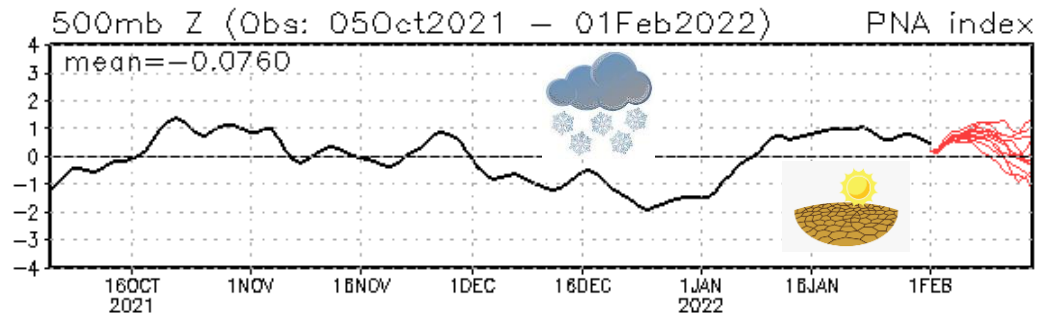


0 30E 60E 90E 120E 150E 180 150W 120W 90W 60W 30W 0

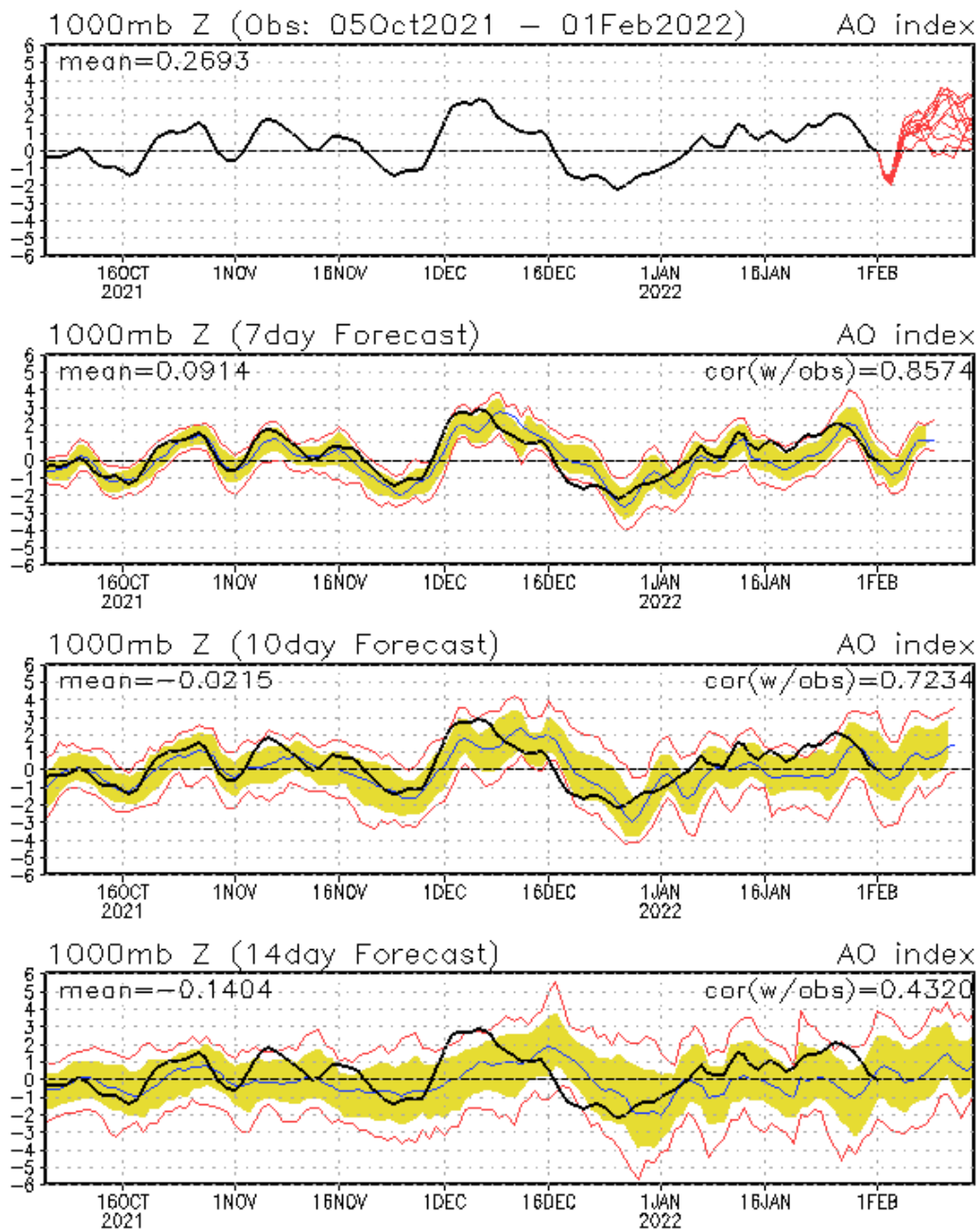
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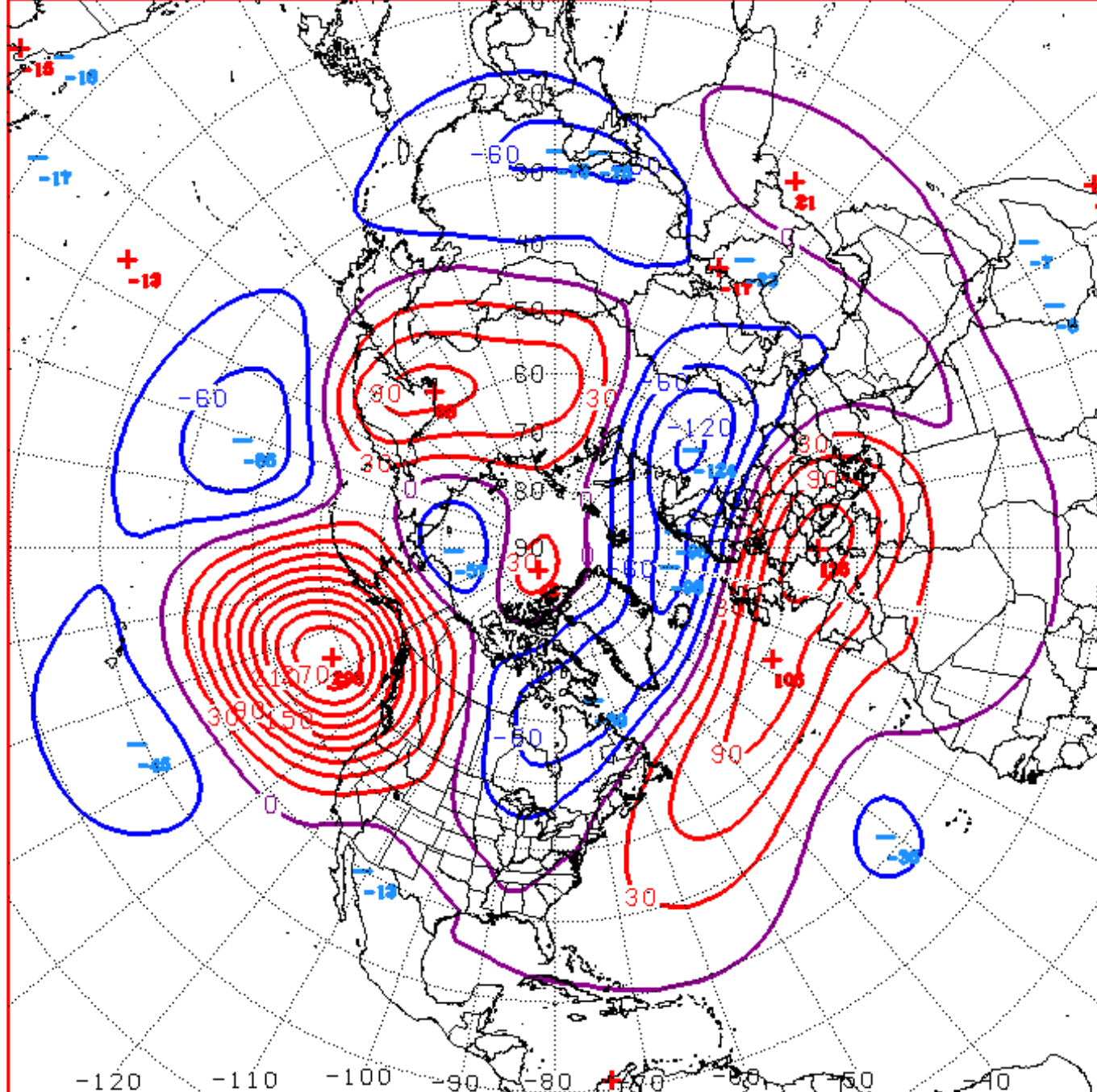
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts



AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE FEB 01 2022 1357 UTC CNTD FEB 12 2022

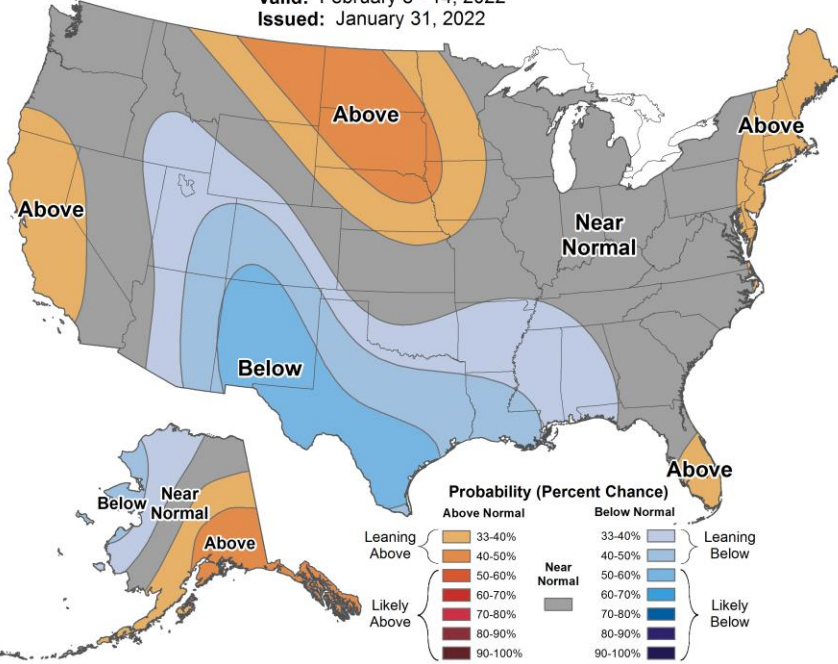
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



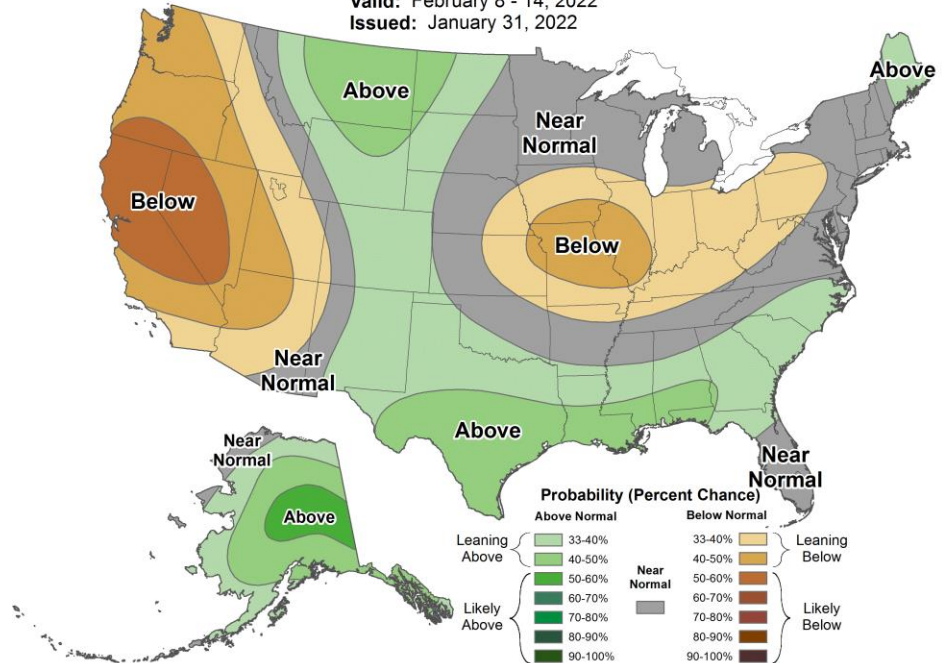
Valid: February 8 - 14, 2022
 Issued: January 31, 2022



8-14 Day Precipitation Outlook



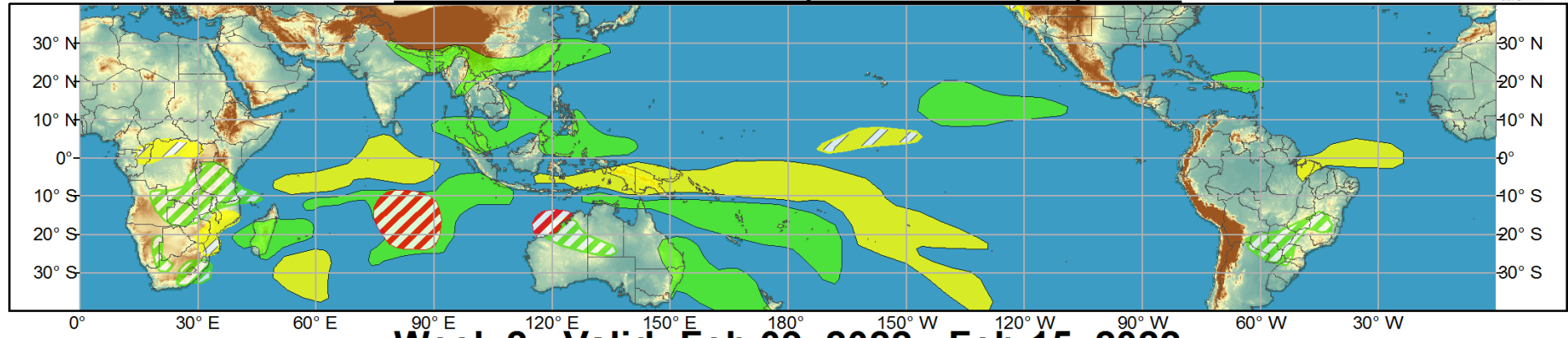
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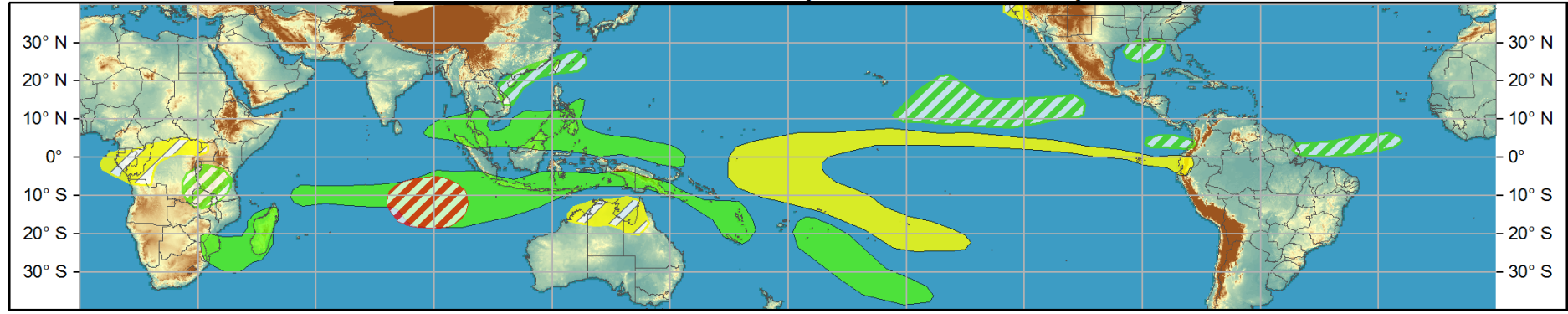


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