

Global Tropics Hazards And Benefits Outlook

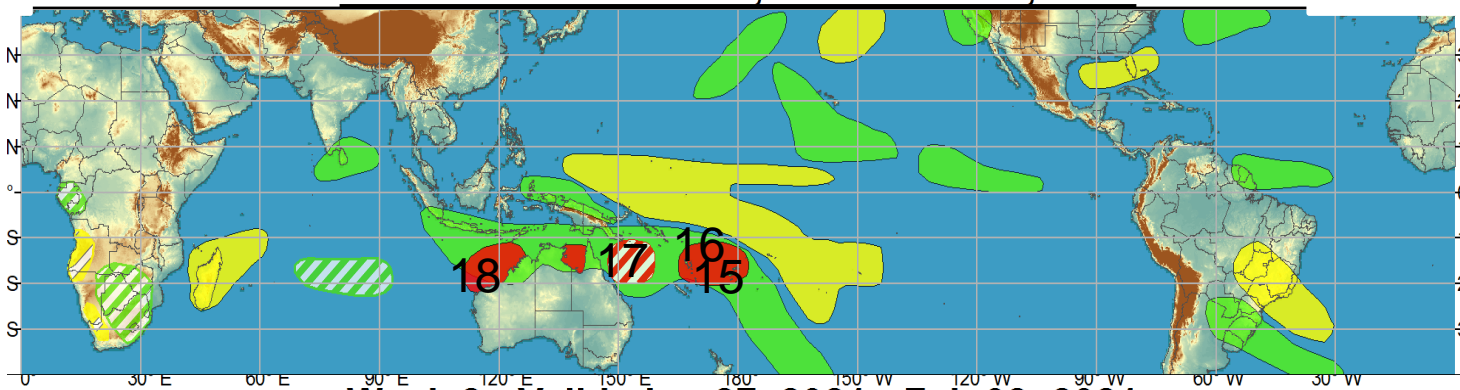
2/2/2021

Nick Novella

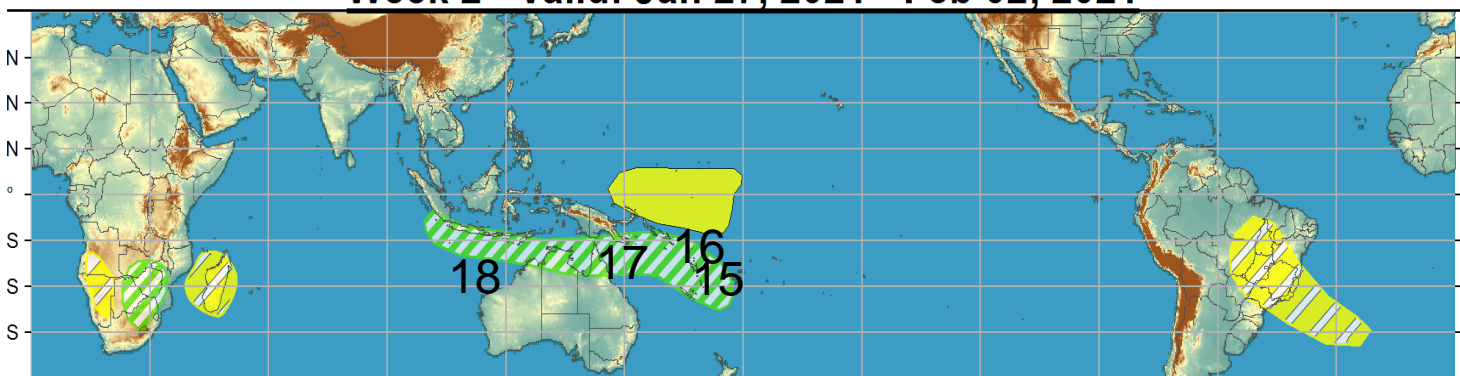
Outline

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

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

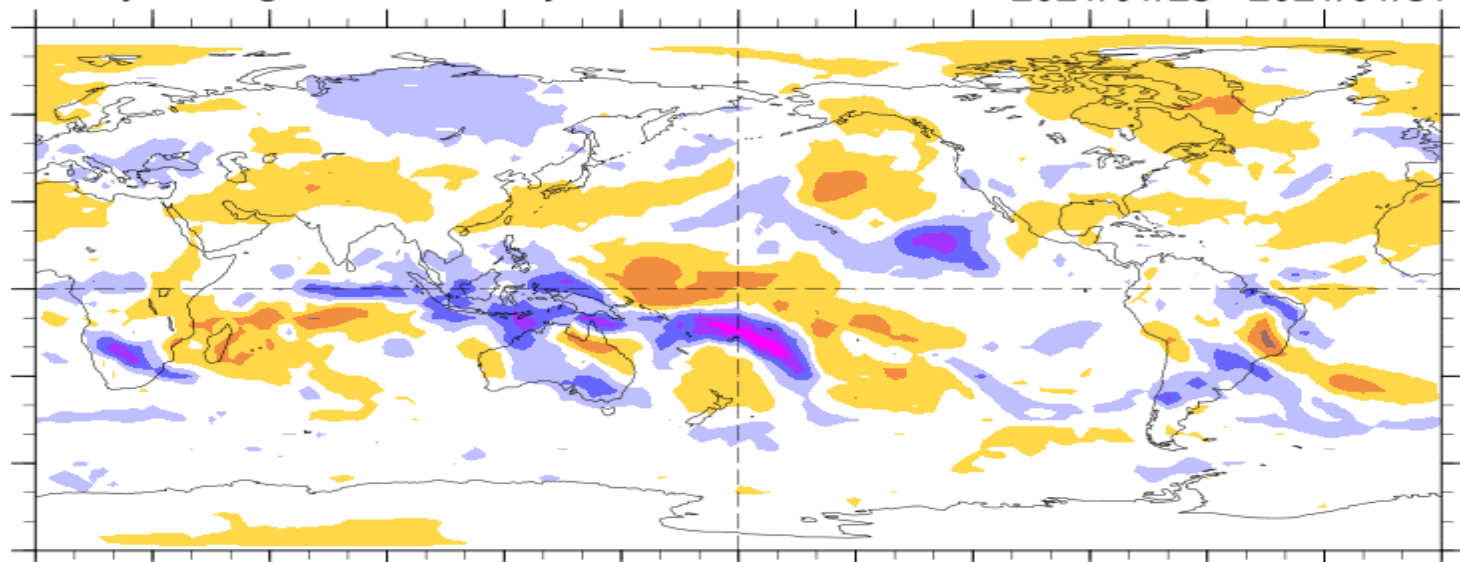


Week 2 - Valid: Jan 27, 2021 - Feb 02, 2021



7-Day Average OLR Anomaly

2021/01/25 - 2021/01/31



Outlook Review

- 18S (1/31)
- 17P "Lucas" (1/31)
- 16P "Bina" (1/30)
- 15P "Ana" (1/30)

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:

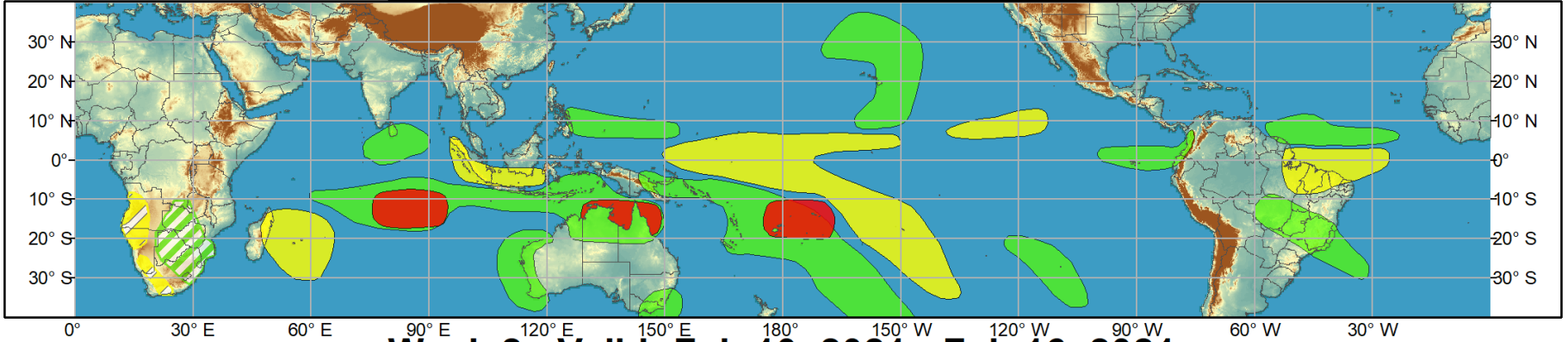
- Following an increase in amplitude suggesting a more coherent MJO during late January, the RMM index indicates the intraseasonal signal has shifted westward into phase 6 while destructively interfering with La Niña over the western Pacific during the past week.
- Differences exist among the dynamical models relative to the strength and evolution of the MJO, leading to increased uncertainty of its coherence heading into mid-February.
- In addition to ongoing TC activity, elevated odds for TC formation exist over the southern Indian and South Pacific Oceans during the next two weeks.
- The current state and potential propagation of the MJO favors increased chances for below normal temperatures across many parts of the CONUS.



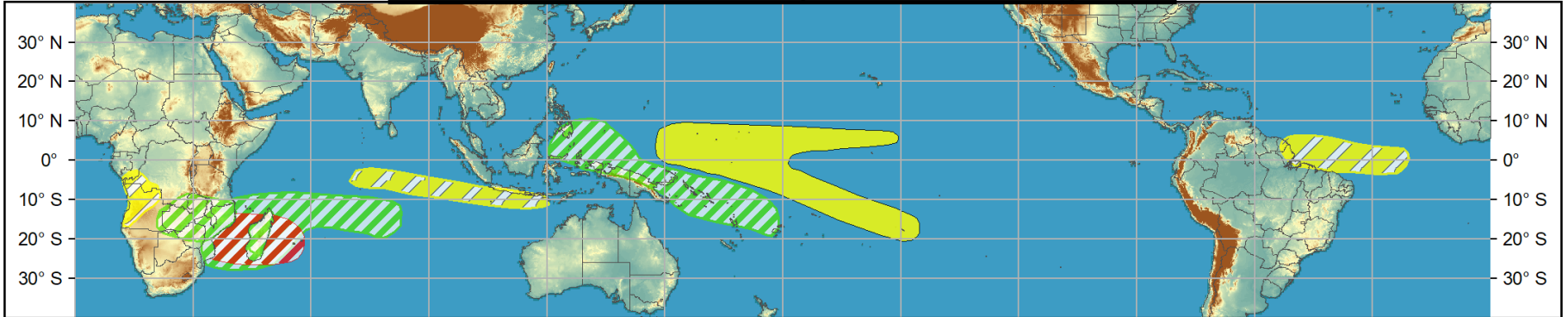
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Feb 03, 2021 - Feb 09, 2021



Week 2 - Valid: Feb 10, 2021 - Feb 16, 2021



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: 02/02/2021
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

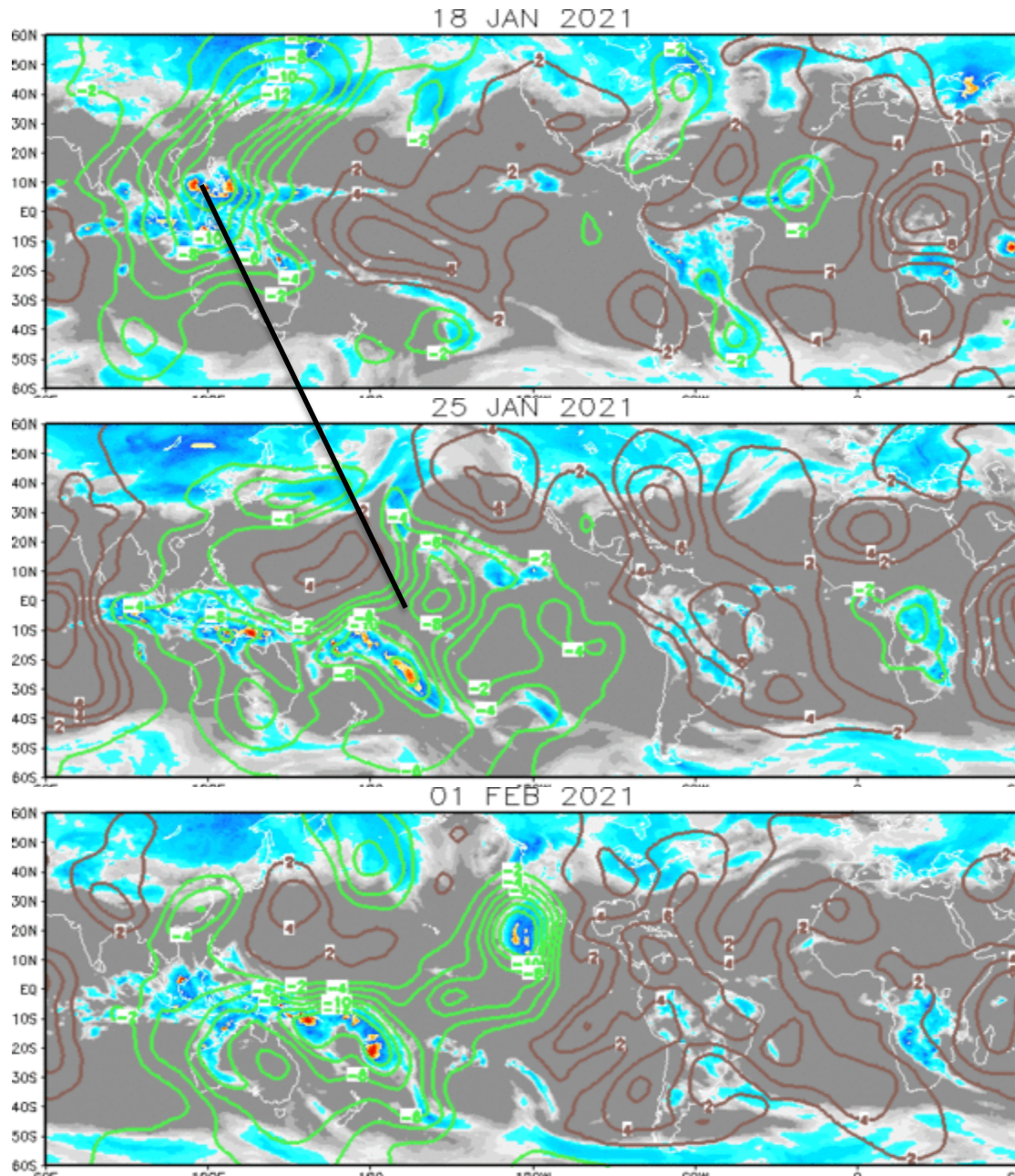
Green: Enhanced Divergence

Brown: Enhanced Convergence

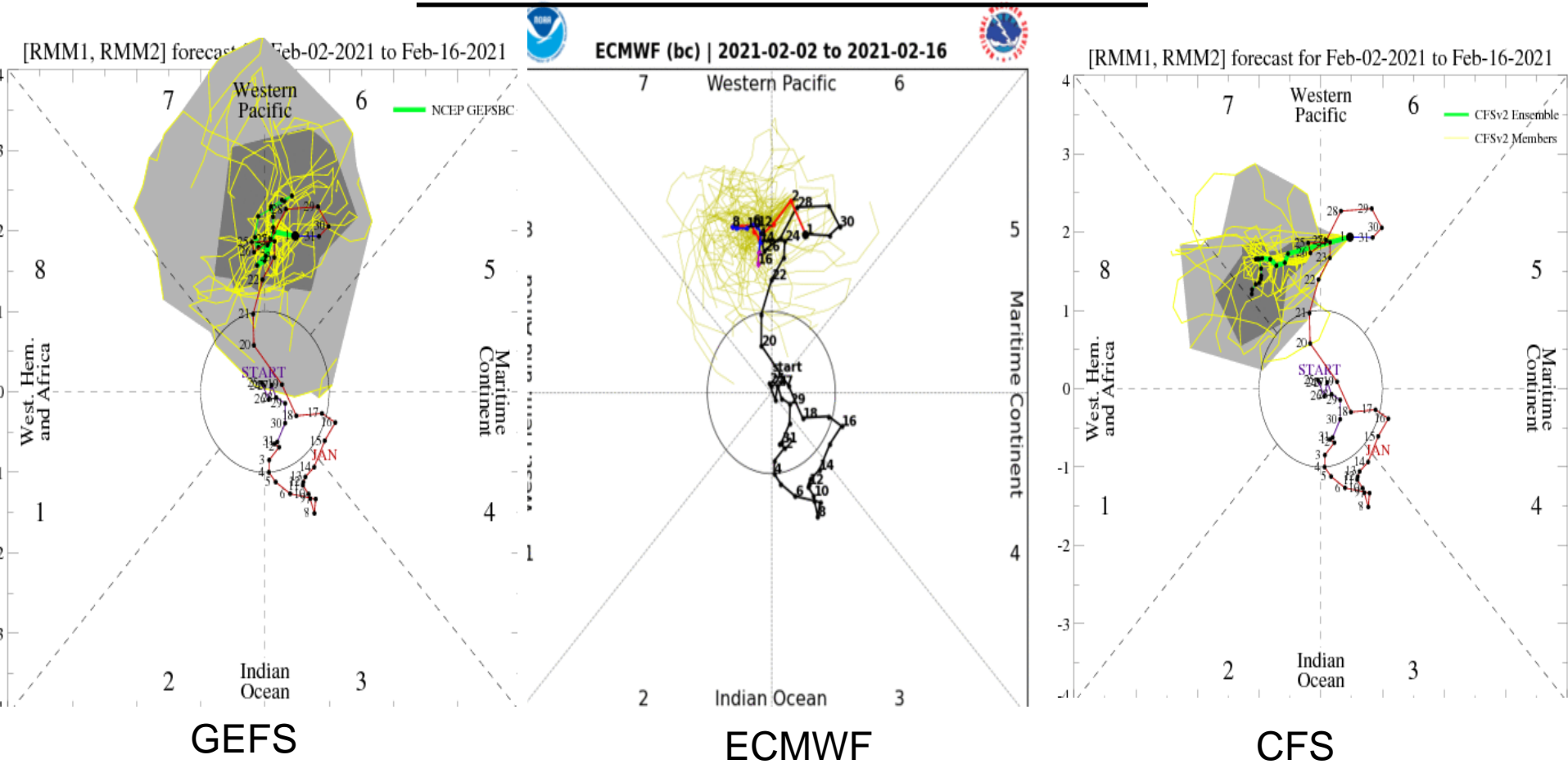
Enhanced convection around the Maritime Continent is consistent with the current La Niña.

The enhanced convection shifted eastward, destructively interfering with La Niña. Suppressed conditions also shifted east over the western Indian Ocean.

Enhanced convection remains anchored over the Maritime Continent and South Pacific associated with ongoing Tropical activity.



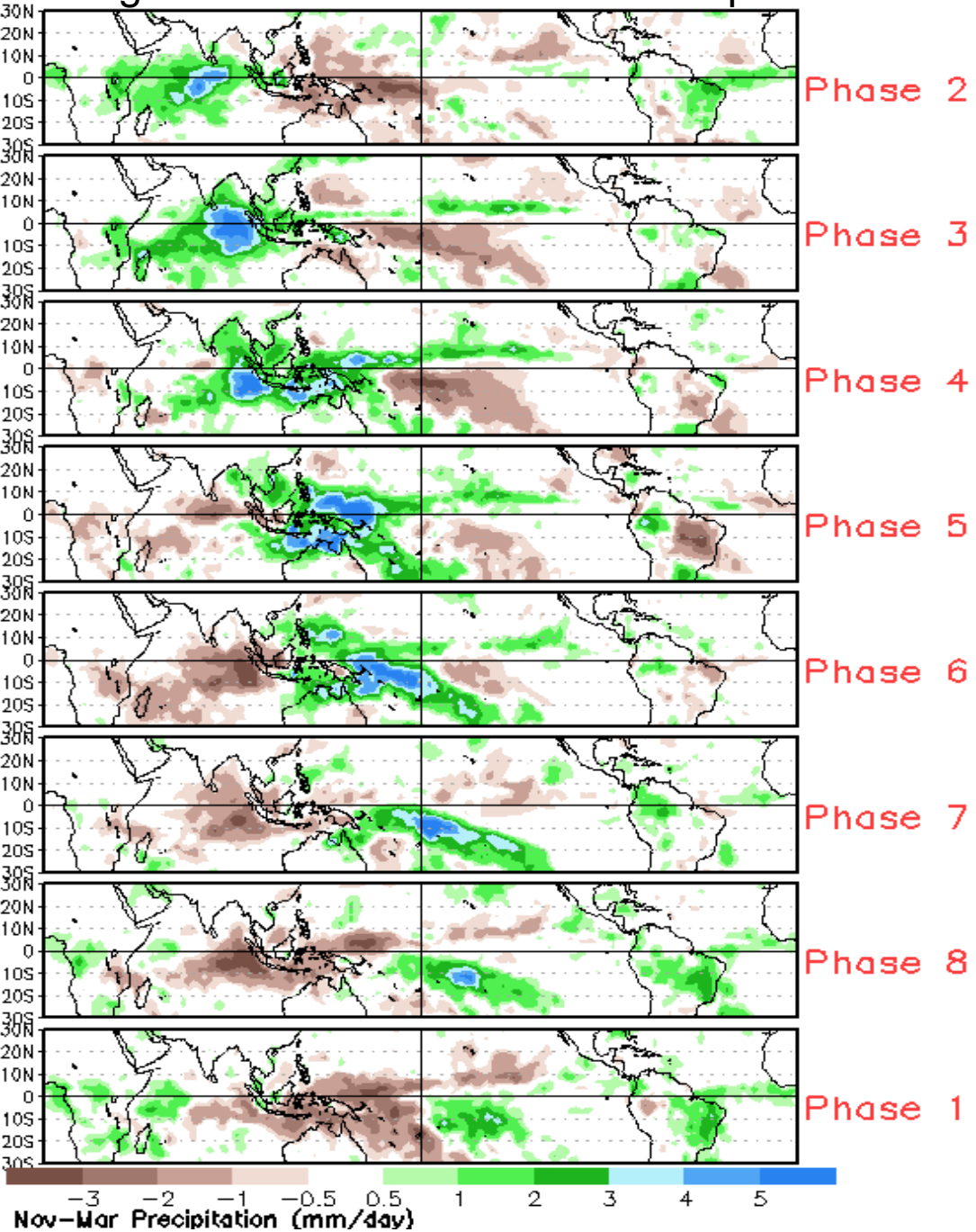
MJO Observation/Forecast



The RMM index indicates the intraseasonal signal shifted westward into phase 6 during the past week.

Dynamical models continue to favor an eastward propagation of the MJO during early week-1. Beyond this lead, there are differences in the ensemble means relative to the strength and evolution of the MJO with increased spread in the members compared to previous guidance.

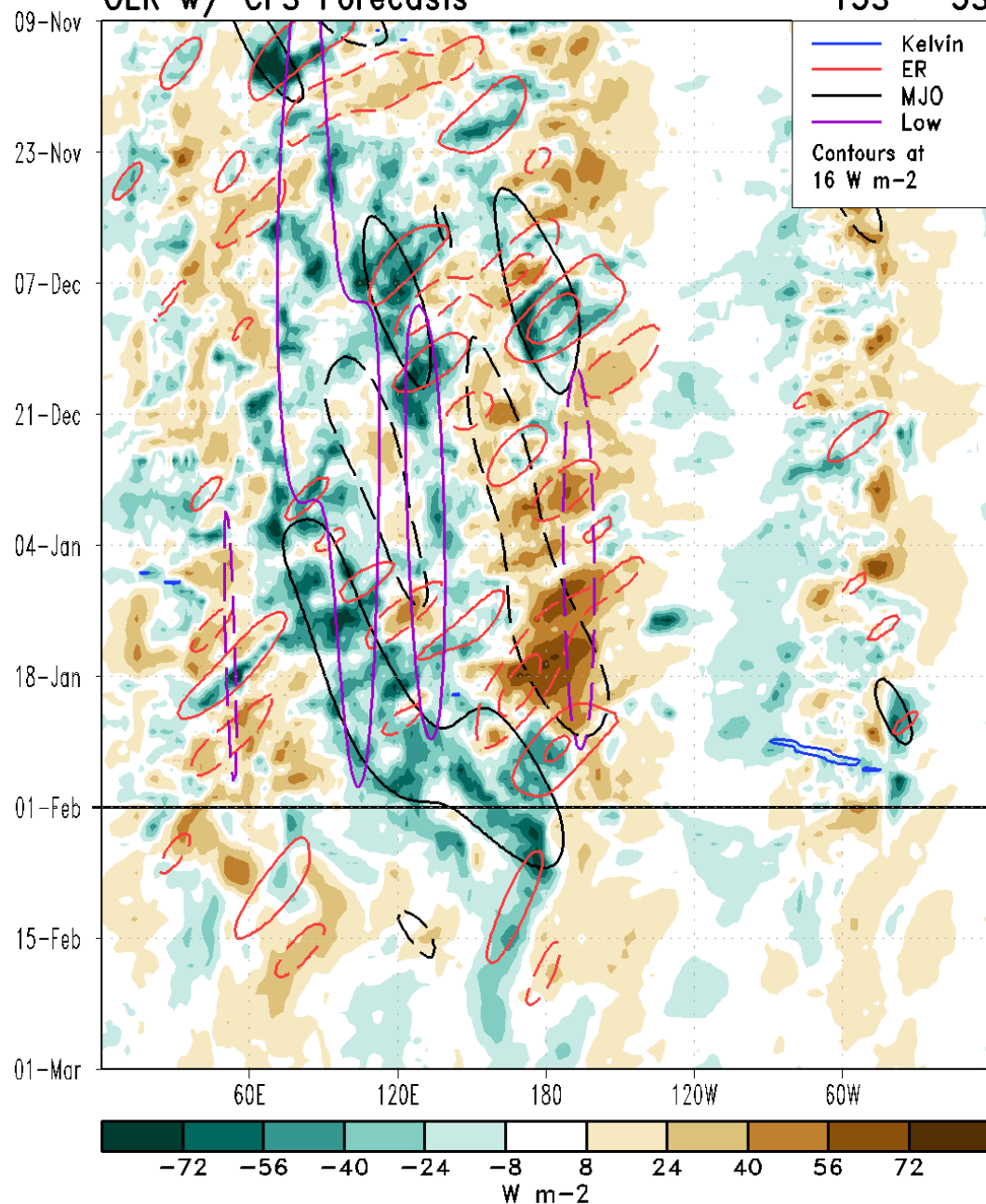
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

OLR w/ CFS Forecasts

15S - 5S



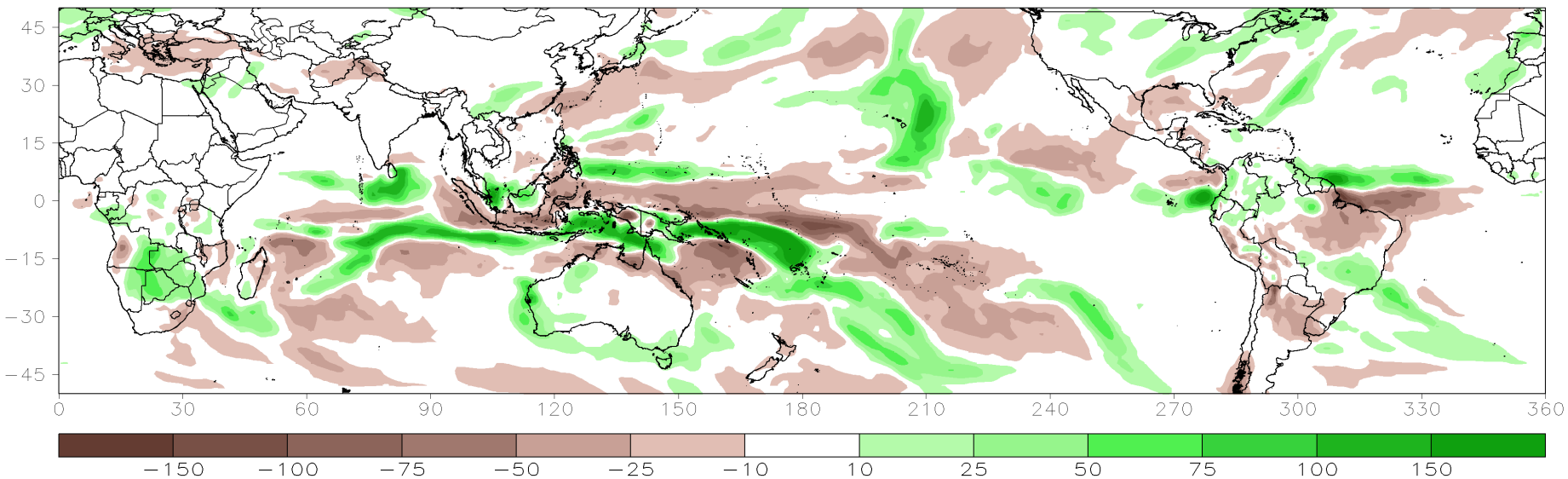
MJO activity appears more coherent compared to previous weeks.

Rossby wave activity is favored to the west of the Date Line and the southern Indian Ocean.

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

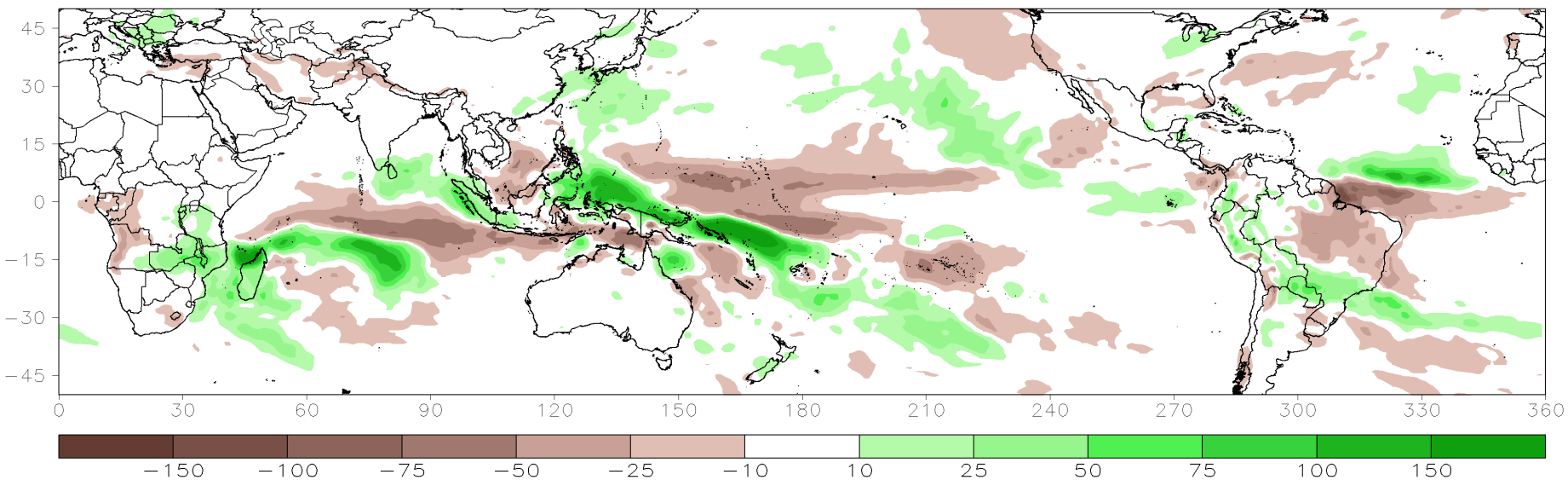
CFSv2 00z Ensemble Mean: Week1 Total Rainfall Anomaly (mm)

Valid: 03Feb2021-09Feb2021

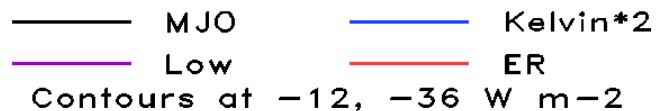
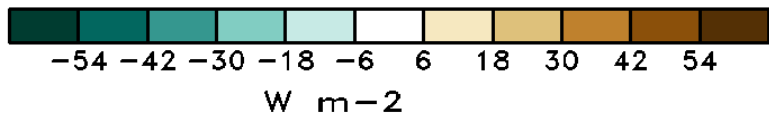
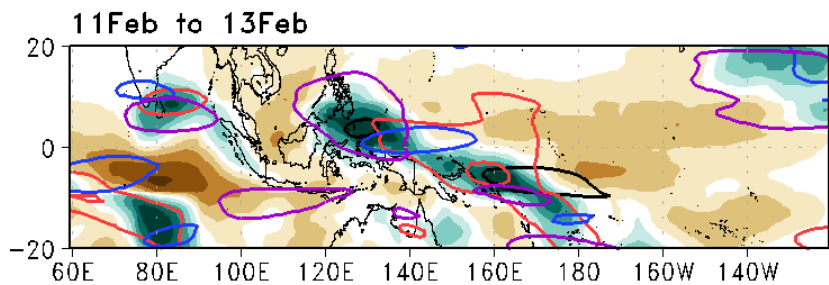
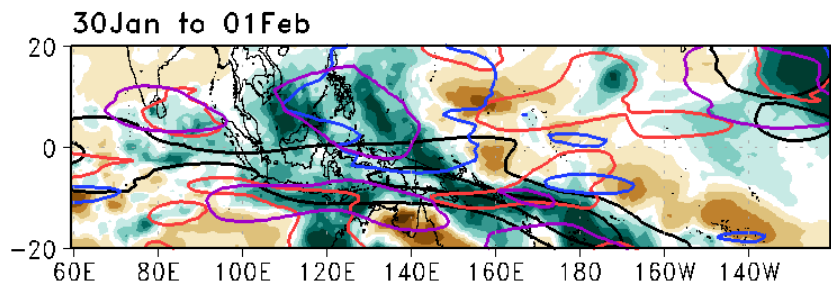
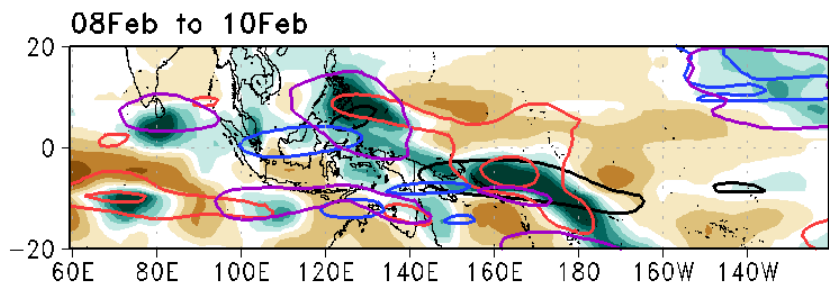
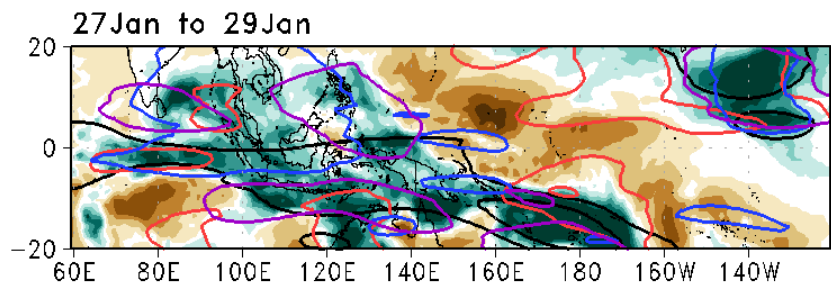
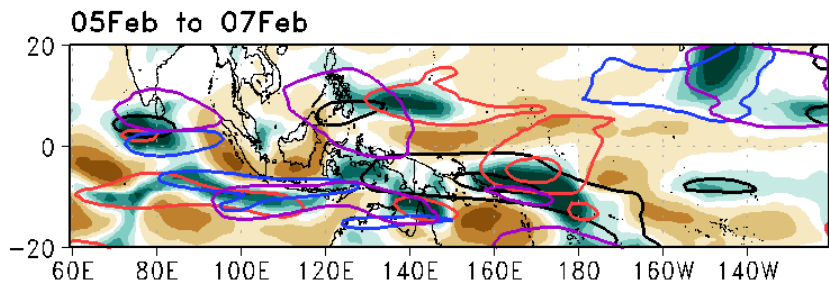
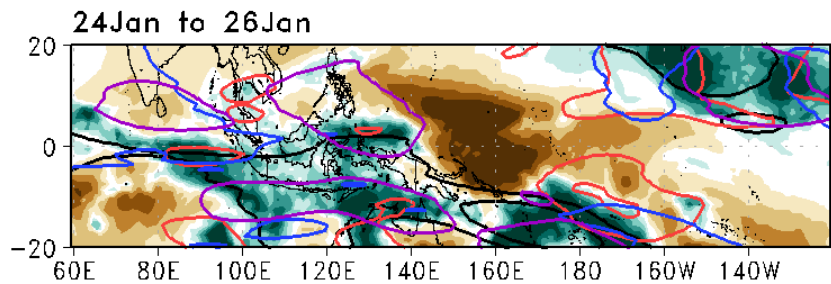
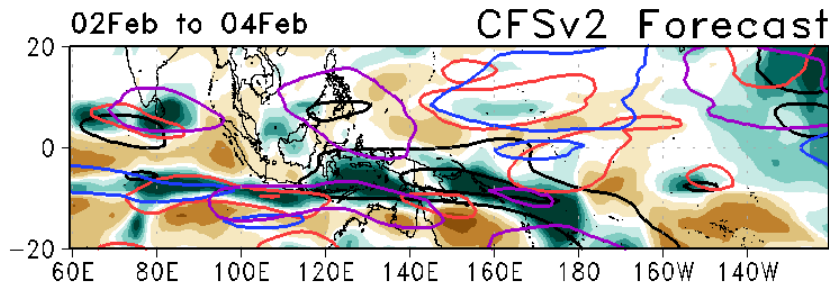
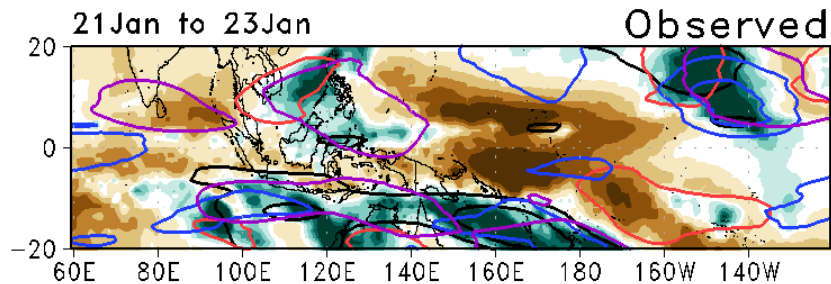


CFSv2 00z Ensemble Mean: Week2 Total Rainfall Anomaly (mm)

Valid: 10Feb2021-16Feb2021

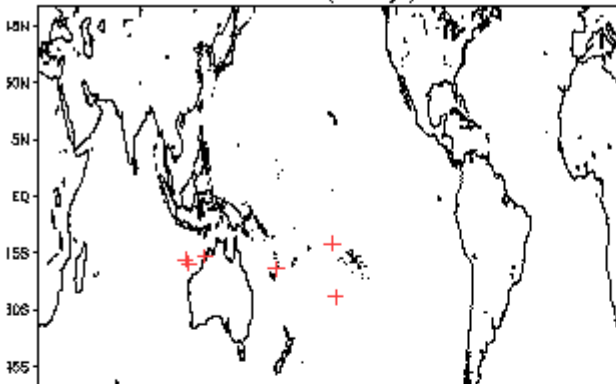


OLR 3-Day Means

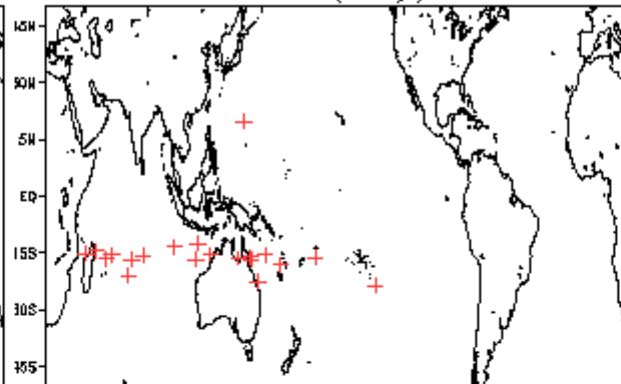


February Tropical Storm Formation by MJO phase

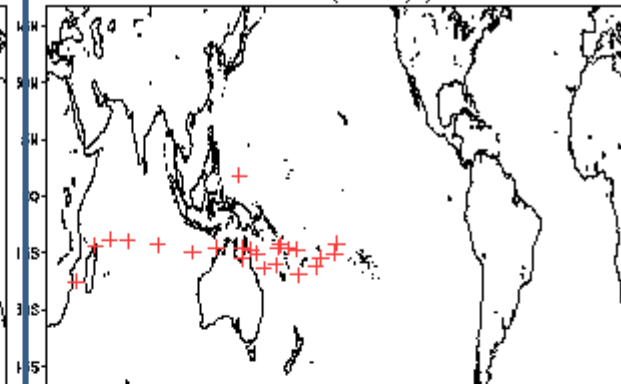
Phase 1 (41 days) 7 storms



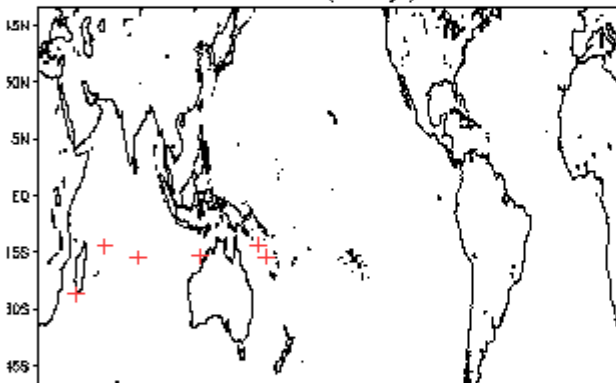
Phase 4 (92 days) 21 storms



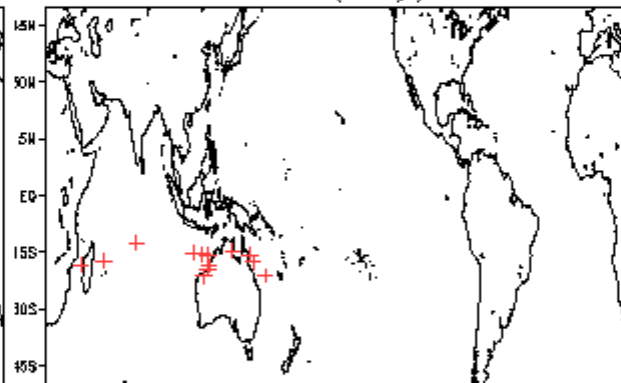
Phase 7 (125 days) 24 storms



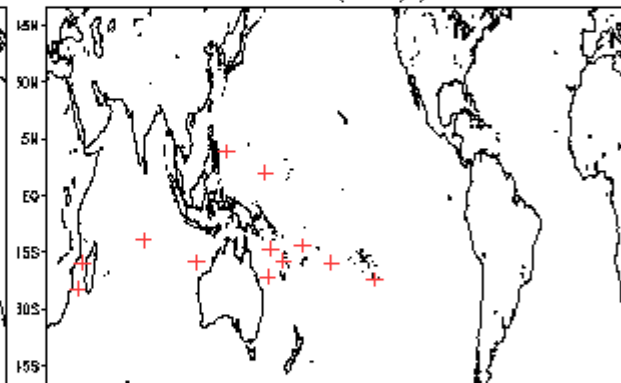
Phase 2 (51 days) 7 storms



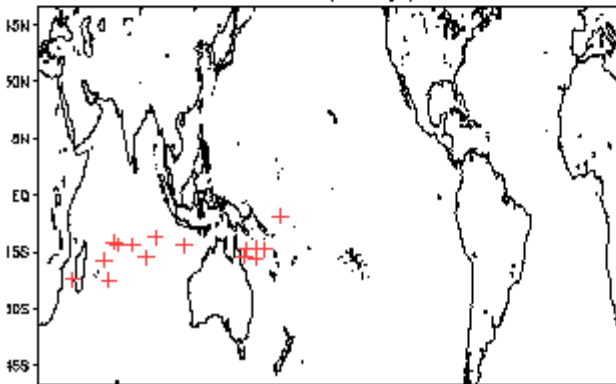
Phase 5 (70 days) 14 storms



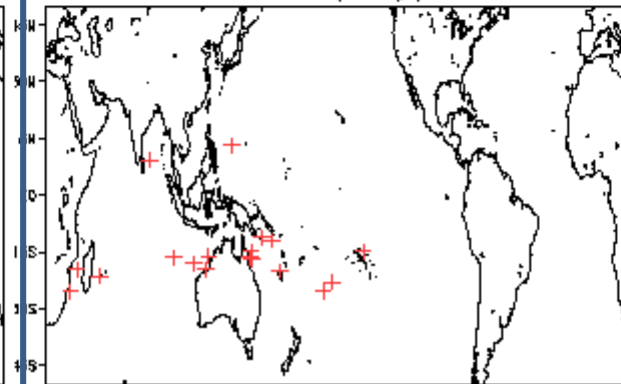
Phase 8 (84 days) 13 storms



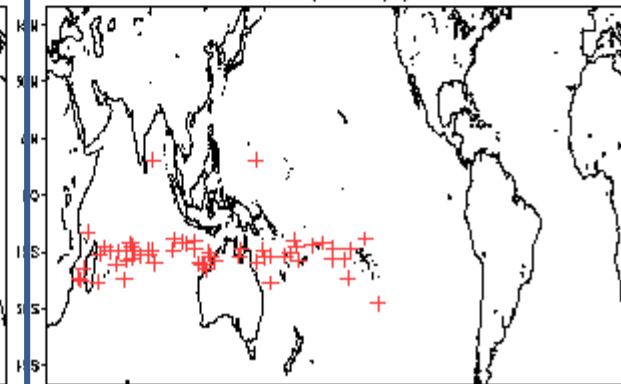
Phase 3 (89 days) 16 storms



Phase 6 (92 days) 19 storms

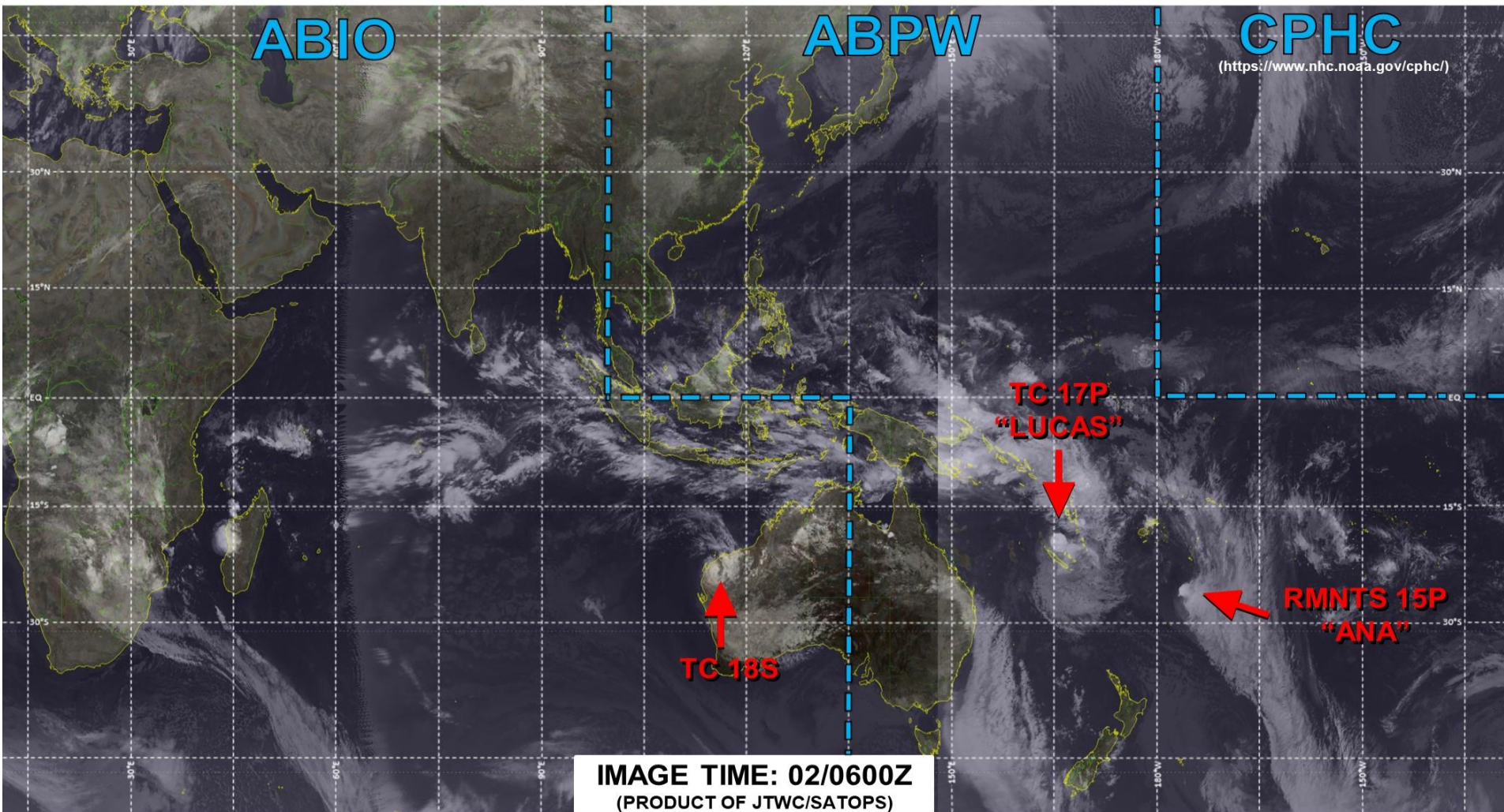


Null (308 days) 60 storms





JOINT TYPHOON WARNING CENTER



LOW

TC development unlikely within 24 hours

MEDIUM

TC development likely, but expected to occur beyond 24 hours

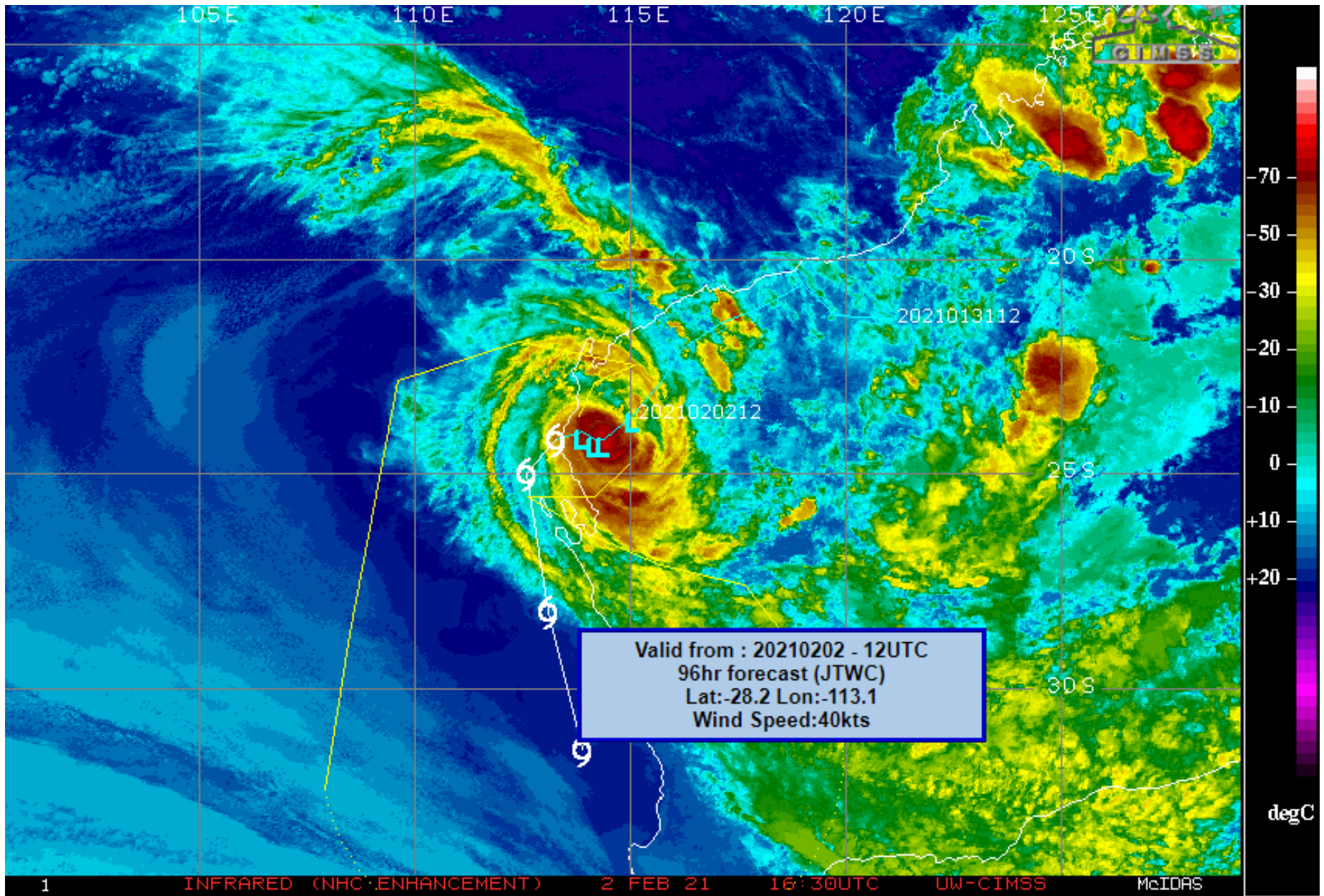
HIGH

TC development likely within 24 hours (Reference TCFA)

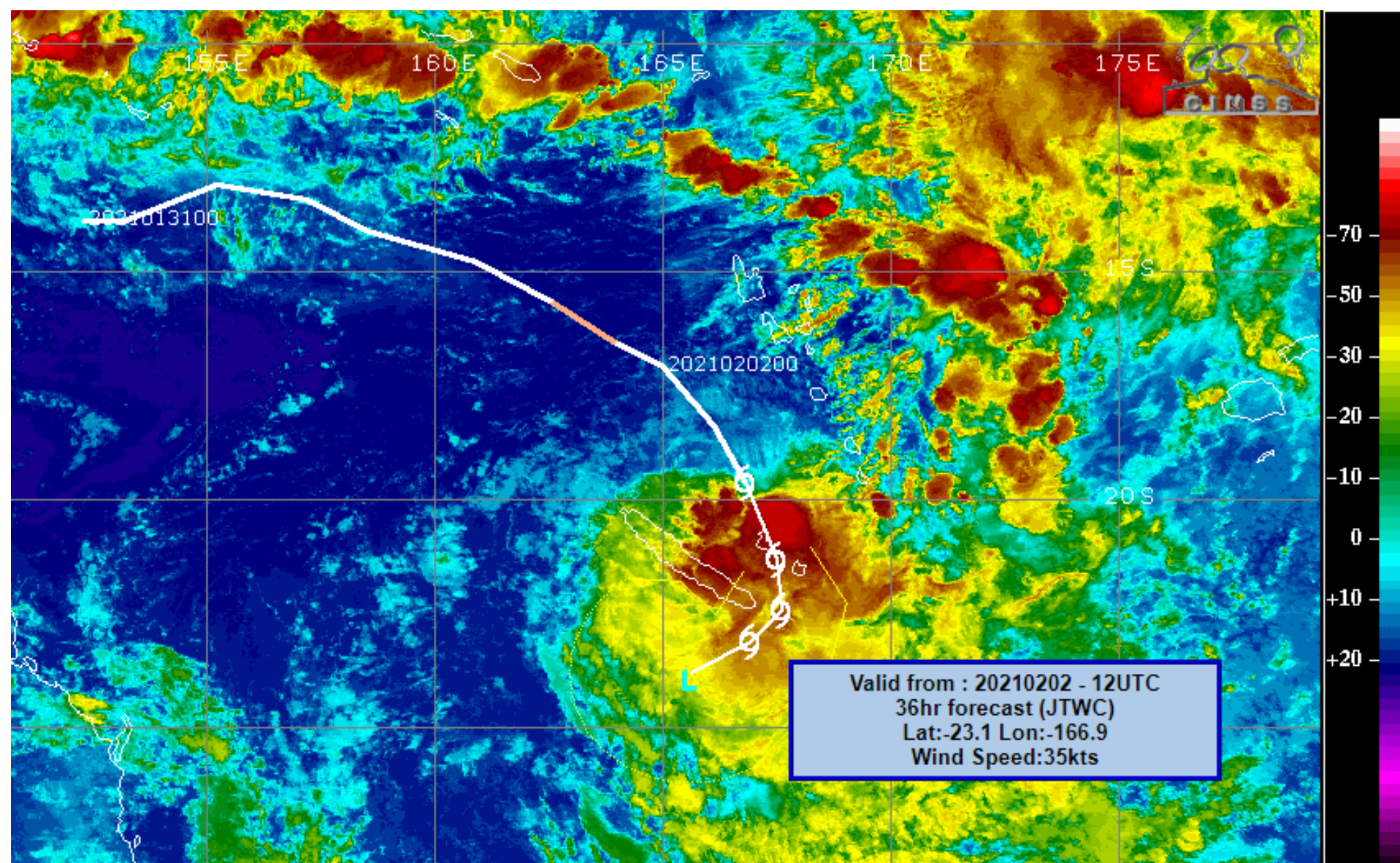
SUB TROPICAL

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

 Tropical Cyclone (Reference Warning)

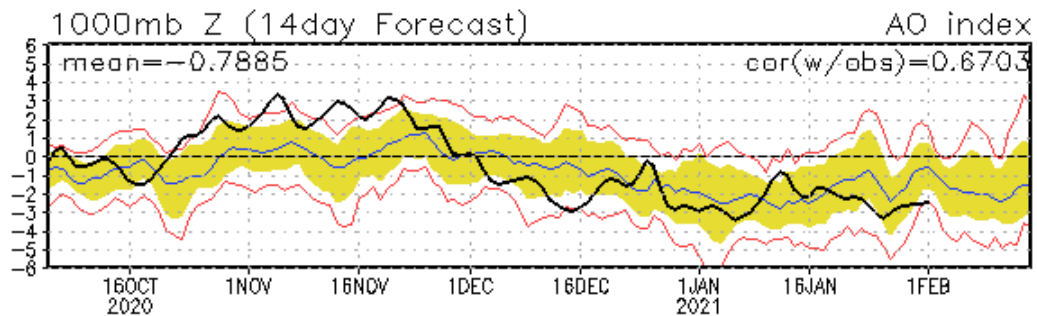
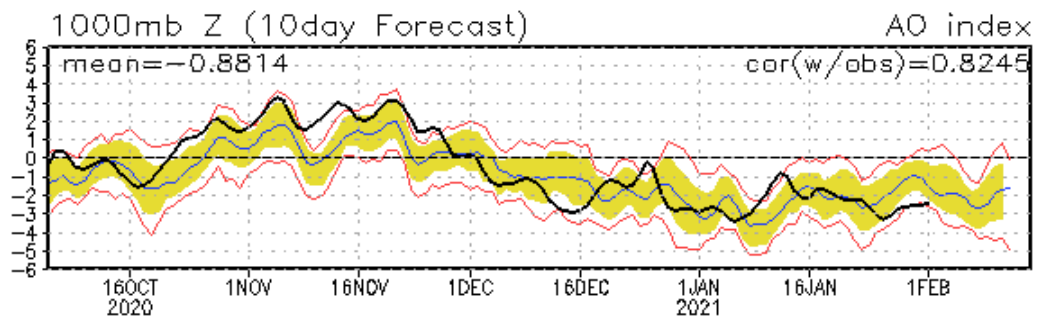
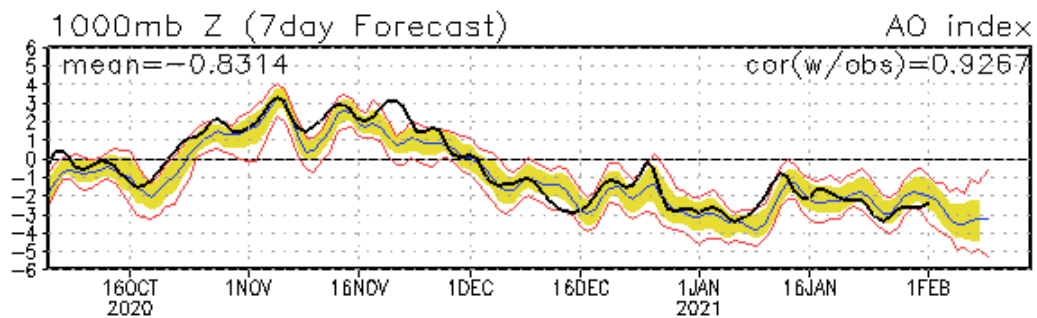
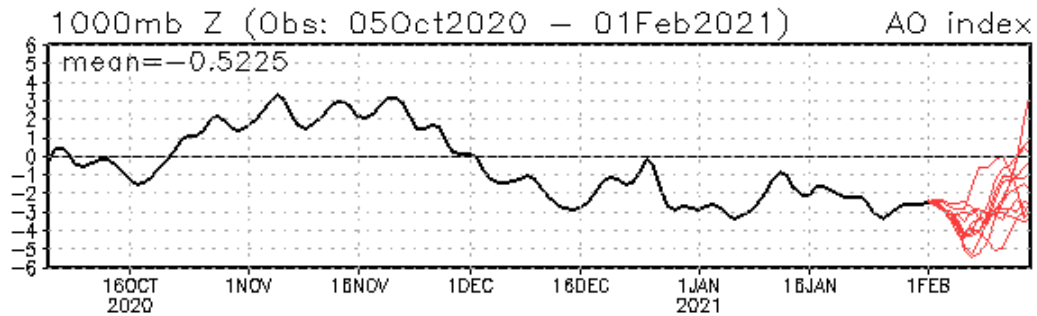


Valid from : 20210202 - 12UTC
96hr forecast (JTWC)
Lat:-28.2 Lon:-113.1
Wind Speed:40kts

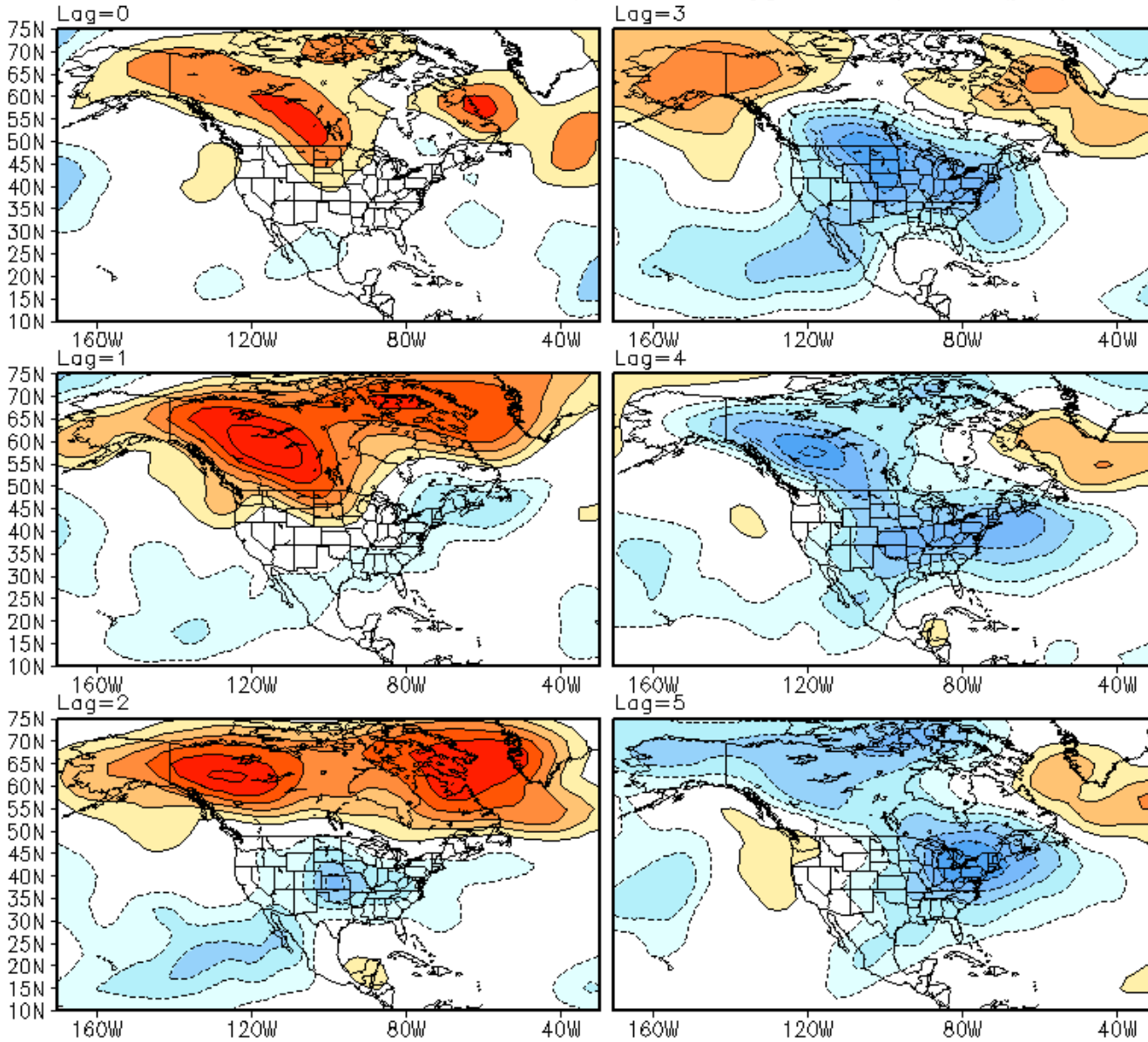


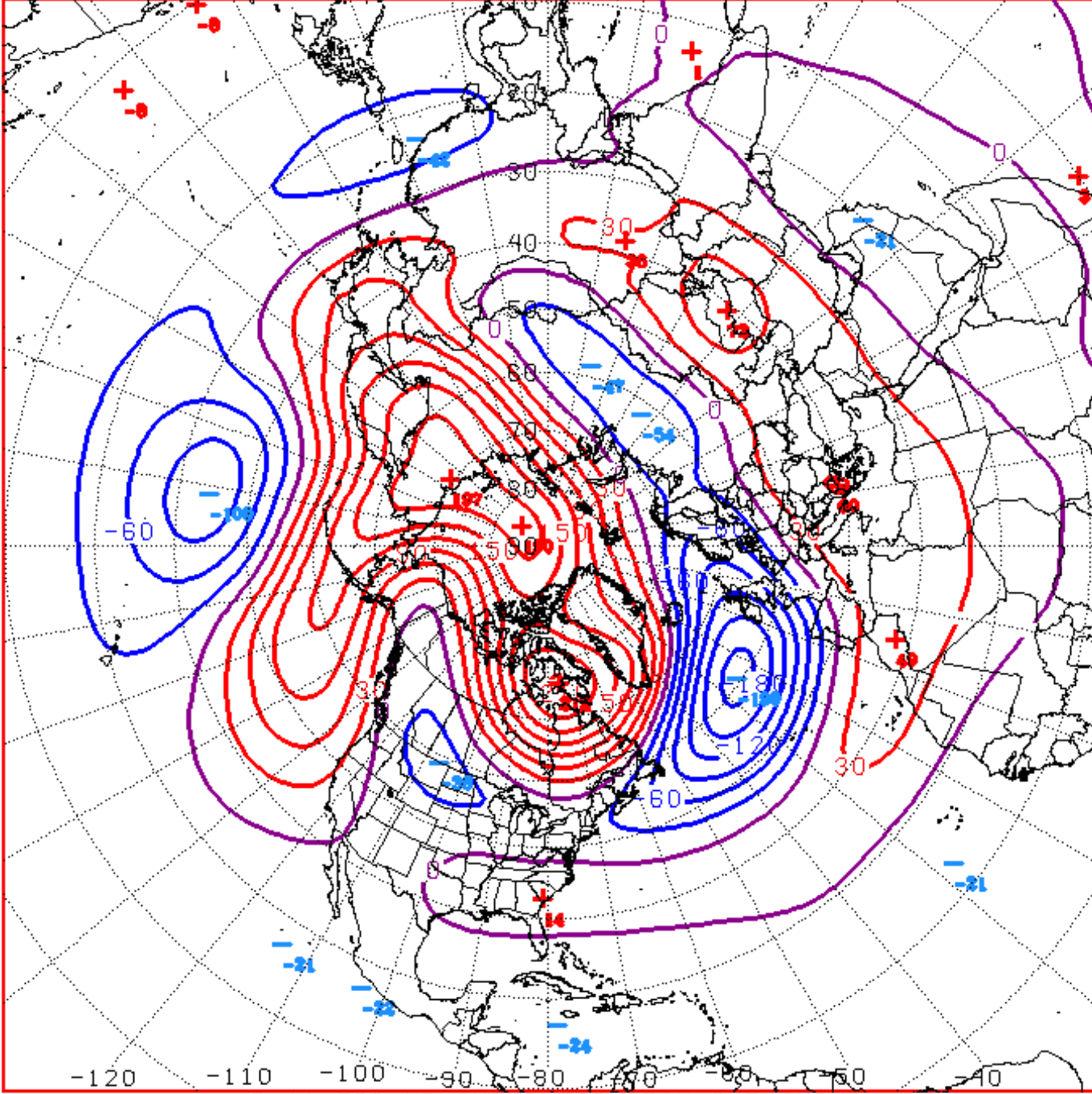
Connections to U.S. Impacts

AO: Observed & ENSM forecasts



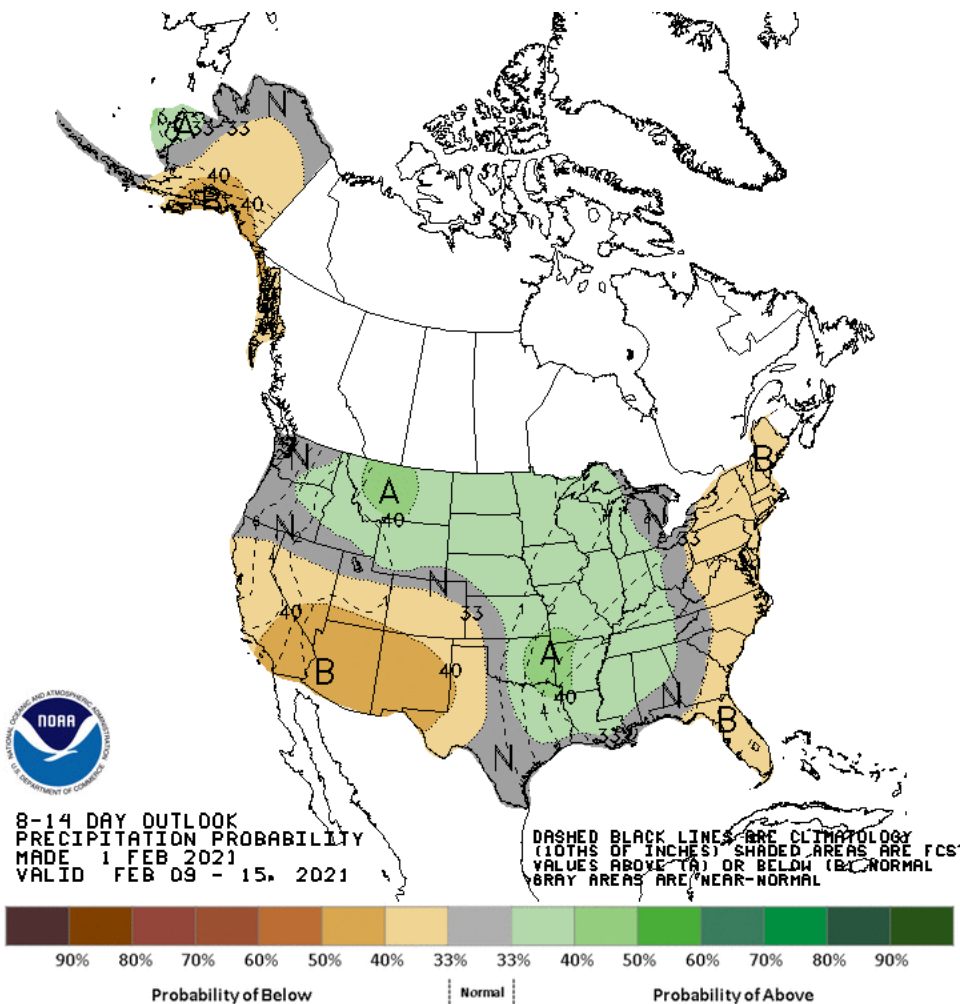
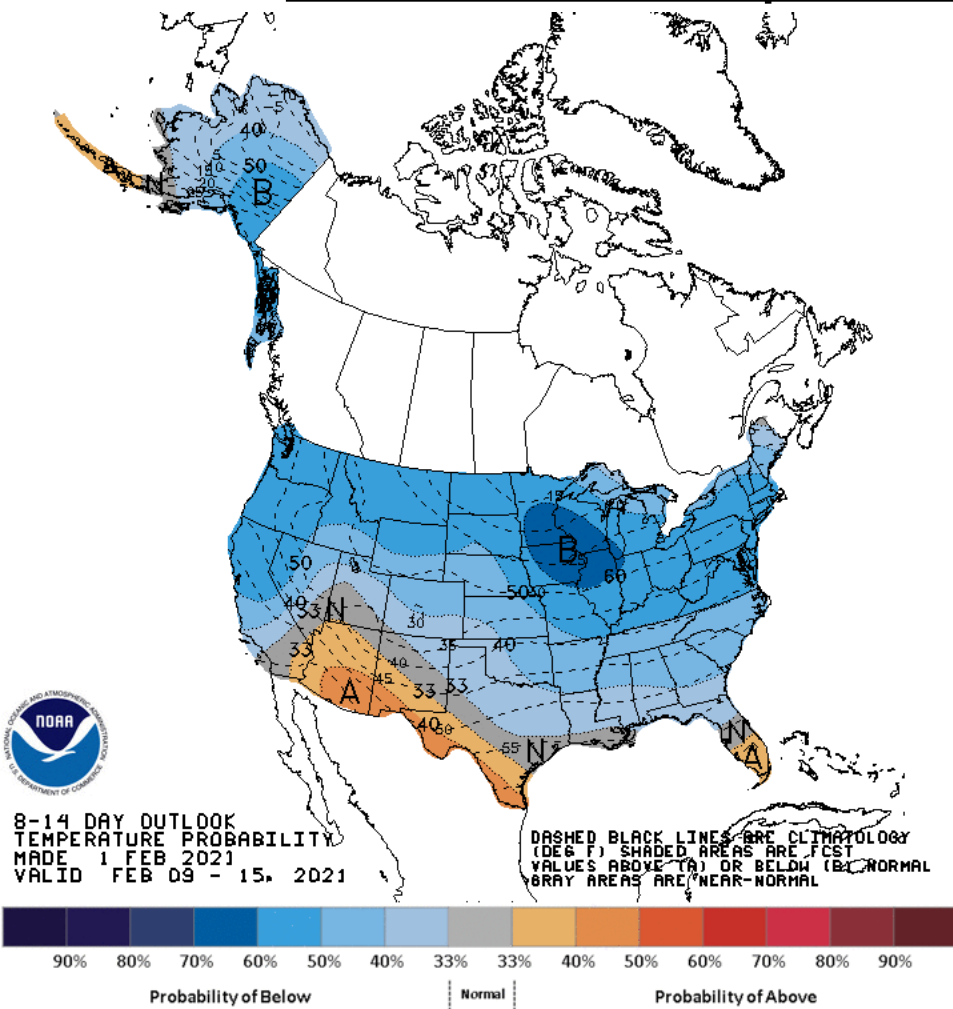
RMM Phase 7 850-hPa Temperature Lagged Composite (jfm)





D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE FEB 02 2021 1422 UTC CNTD FEB 13 2021

Week 2 – Temperature and Precipitation

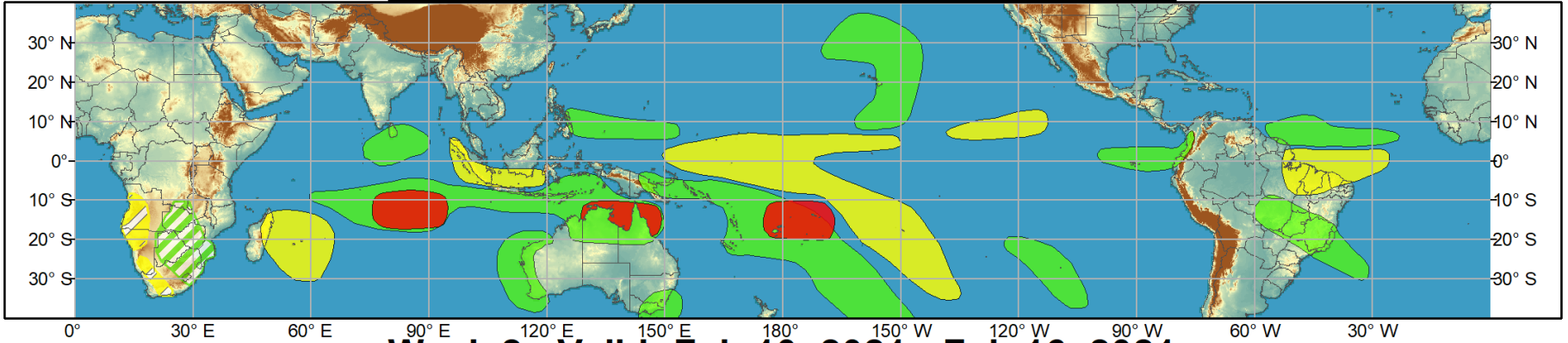




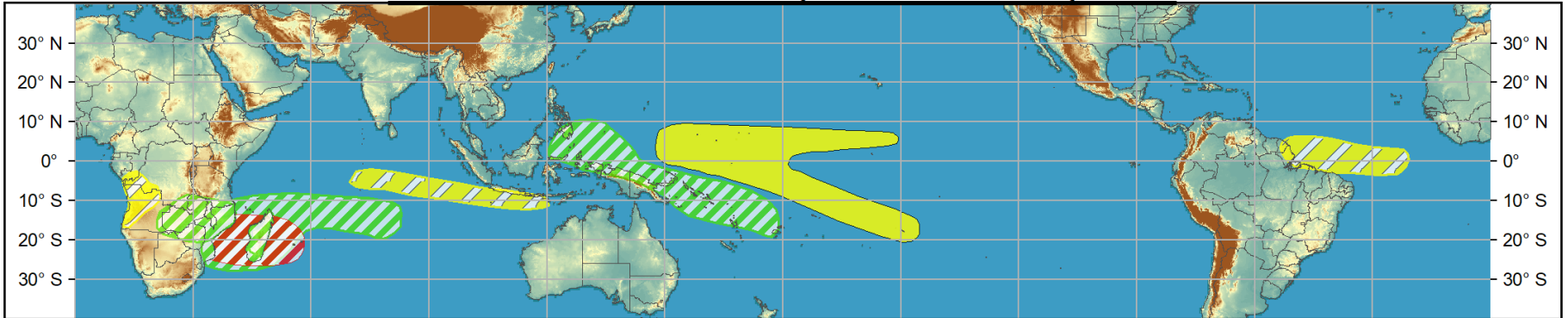
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Tropical Cyclone Formation



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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