

Global Tropics Hazards And Benefits Outlook

11/23/2021

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

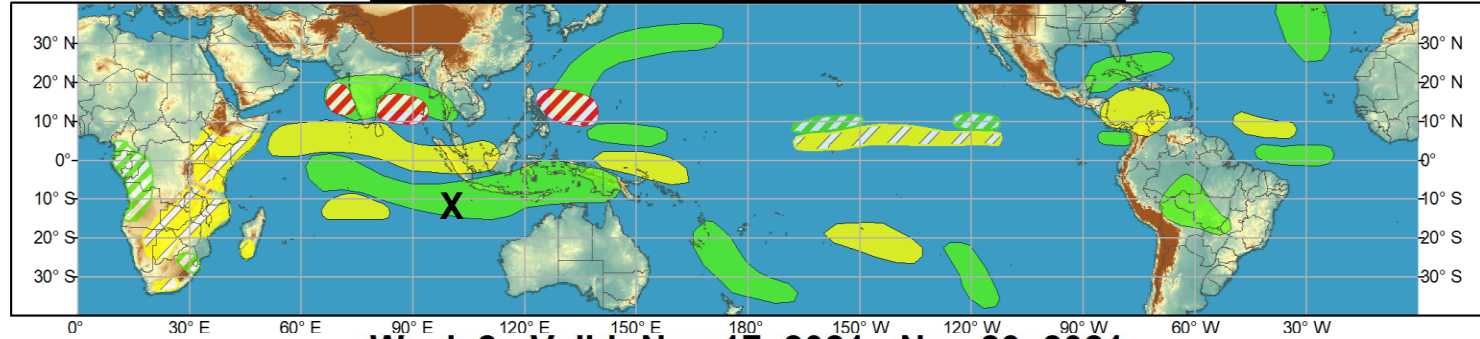


Outlook Review

TS Paddy formed over SE IO.

Nearly a month since last West Pac formation!

Week 1 - Valid: Nov 17, 2021 - Nov 23, 2021



Week 2 - Valid: Nov 17, 2021 - Nov 23, 2021

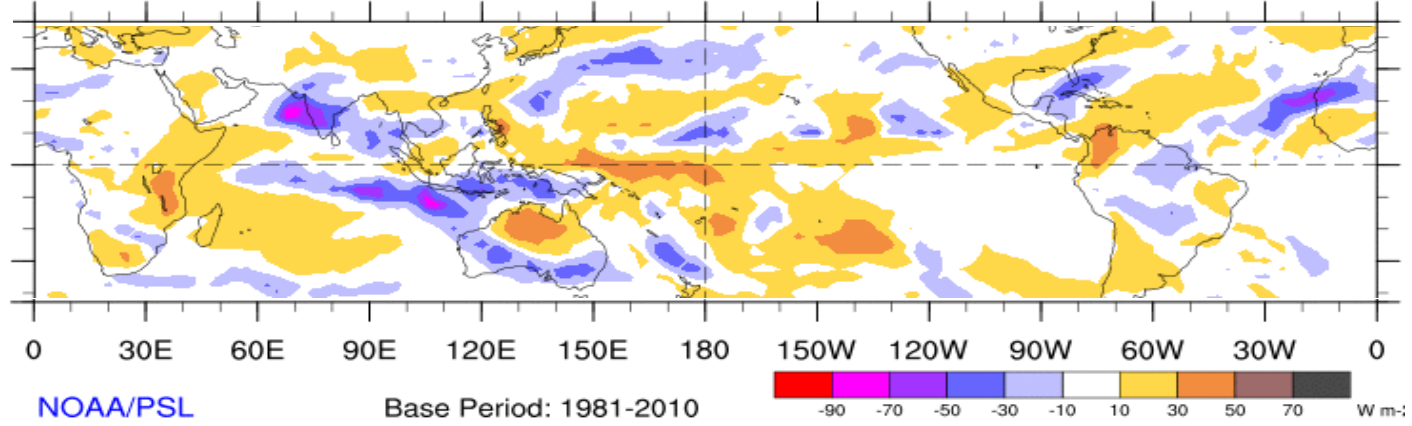


7-Day Average OLR Anomaly

2021/11/15 - 2021/11/21

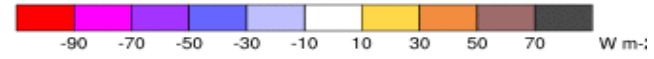
Cool shading
More clouds/rain

Warm shading
Less clouds/rain



NOAA/PSL

Base Period: 1981-2010



Synopsis of Climate Modes

ENSO: (November 11, 2021 Update)

next update on 9th of Dec.!

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is likely to continue through the Northern Hemisphere winter 2021-22 (~90% chance) and into spring 2022 (~50% chance during March-May).

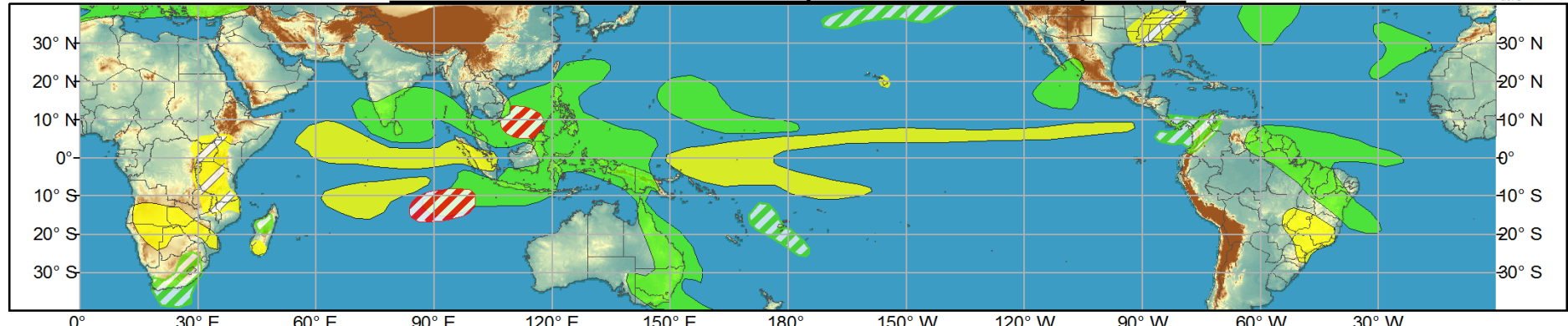
MJO and other subseasonal tropical variability:

- The MJO remained weak over the past week, although there is increasing evidence of an intraseasonal signal crossing the Maritime Continent to the West Pacific.
- Rossby wave activity and the low frequency state are resulting in a weak presentation on the RMM-based MJO index.
- Dynamical model MJO index forecasts show continued retrogression of the signal during Week-1, followed by a rapid jump and amplification over the West Pacific in Week-2.
- A Pacific MJO event has the potential to influence the midlatitude pattern over North America, but uncertainty is high due to the time of year and destructive interference from the La Niña conditions that will likely limit enhanced convection to the Southern Hemisphere.

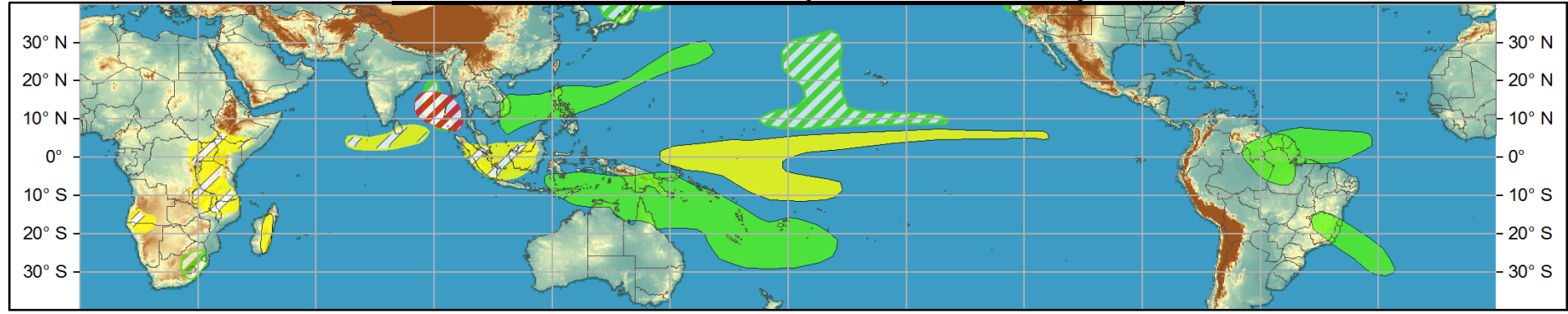


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Nov 24, 2021 - Nov 30, 2021



Week 2 - Valid: Dec 01, 2021 - Dec 07, 2021



Produced: 11/23/2021
Forecaster: Allgood

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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IR Satellite & 200-hpa Velocity Potential Anomalies

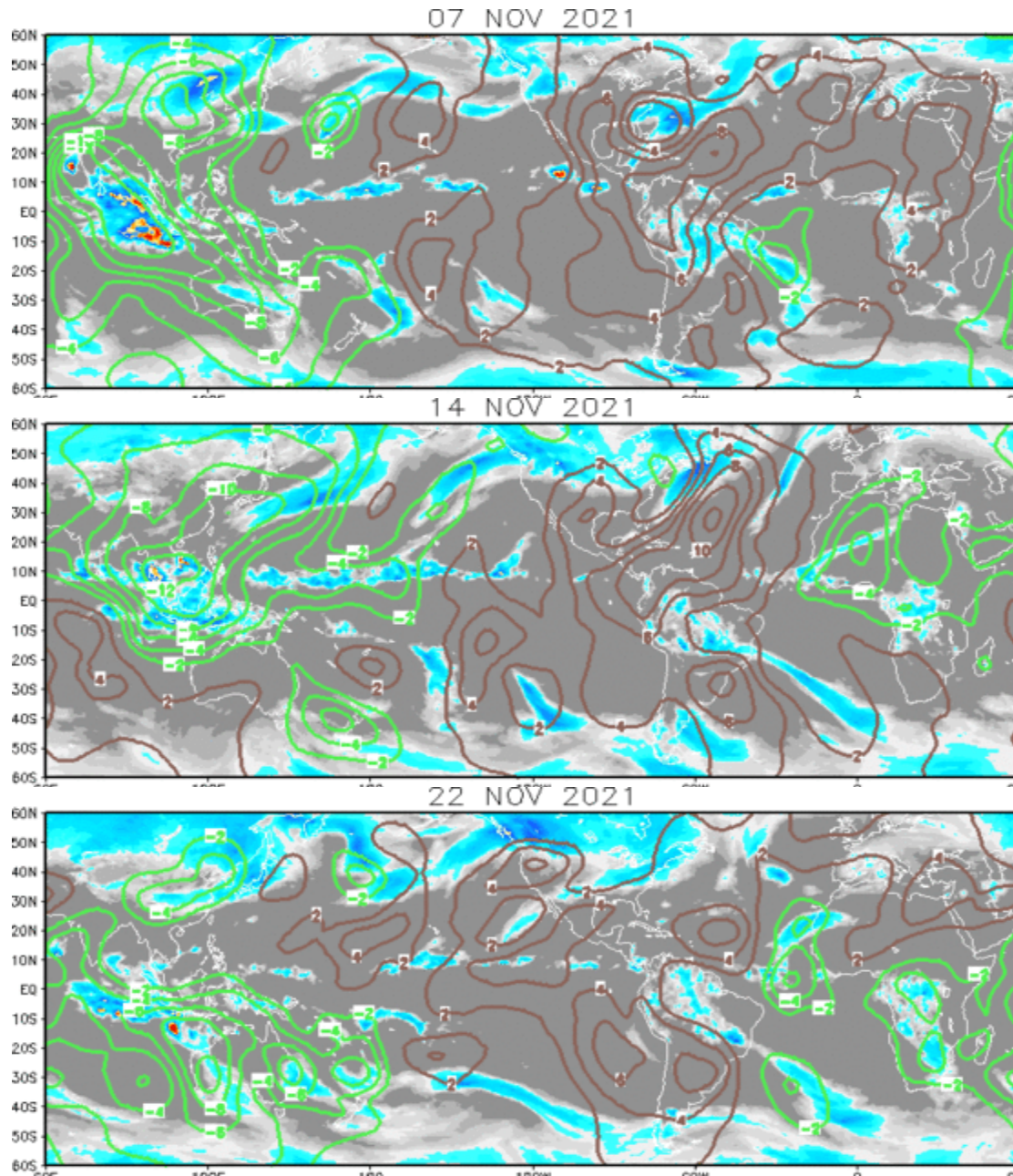
Green: Enhanced Divergence

Brown: Enhanced Convergence

Kelvin wave or intraseasonal signal generated a substantial convective reponse across the eastern Indian Ocean.

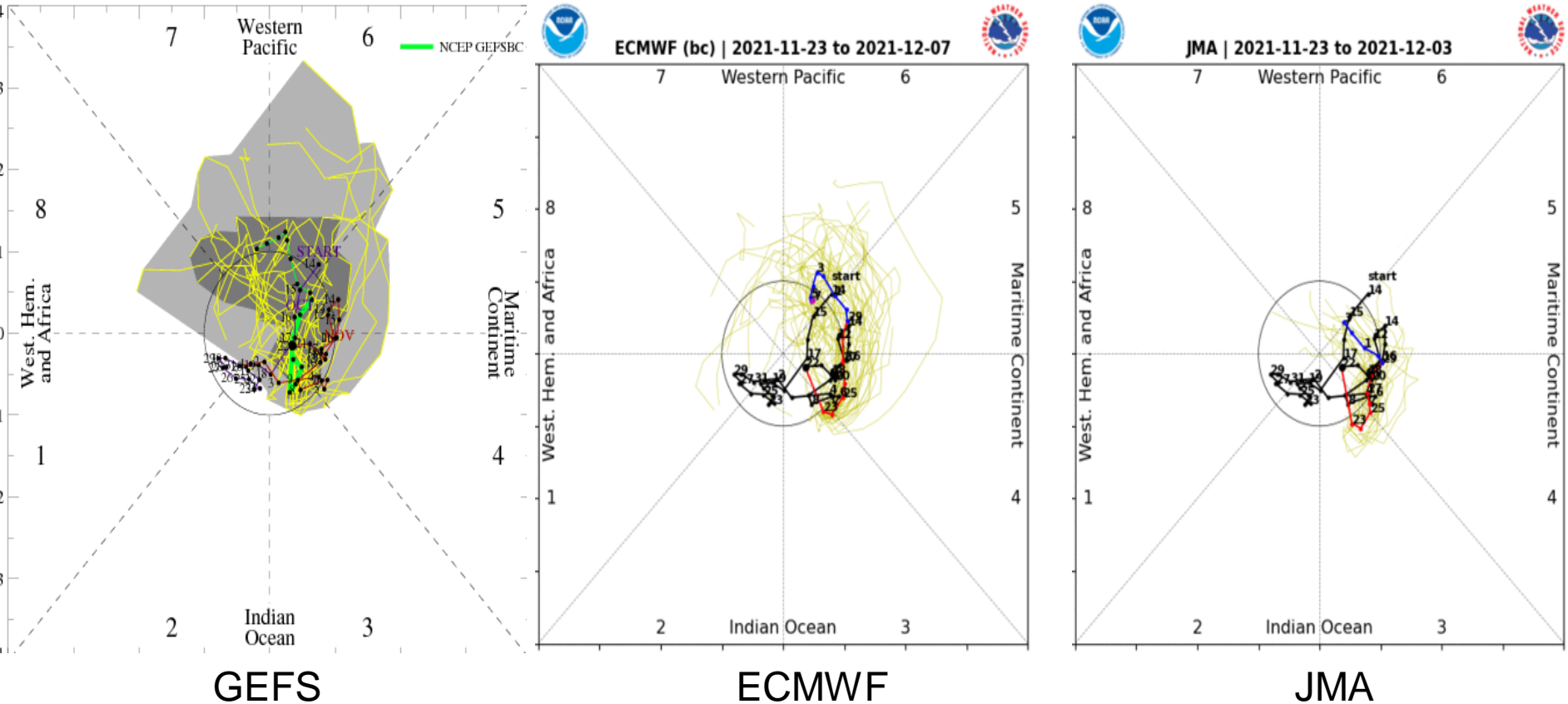
Kelvin wave activity crossed the Pacific with a return to an enhanced Maritime Continent.

Increased divergence aloft over the SPCZ region.



MJO Observation/Forecast

[RMM1, RMM2] forecast for Nov-23-2021 to Dec-07-2021

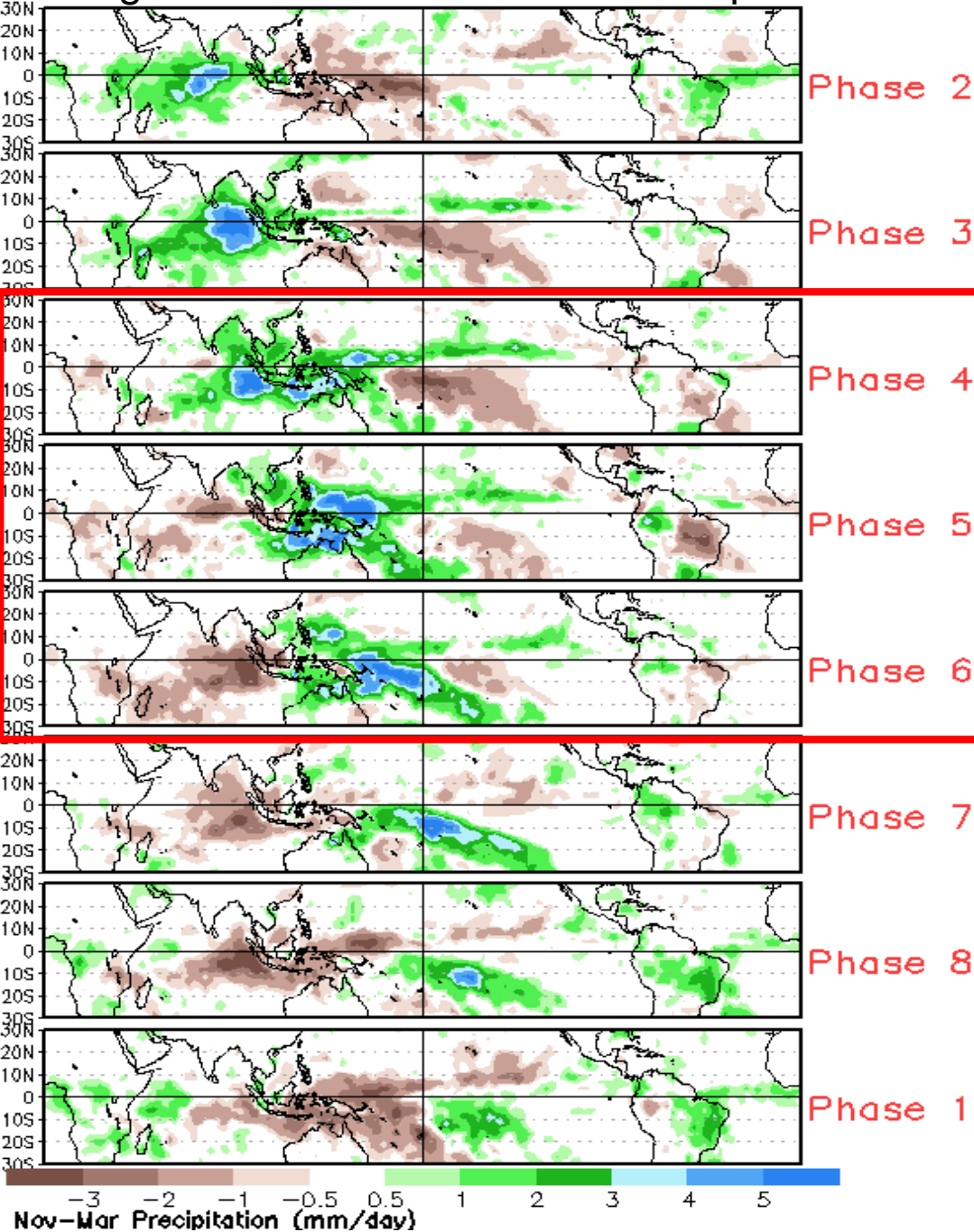


GEFS and ECWMF in fairly good agreement depicting Week-1 retrogression followed by a rapid shift to the West Pacific.

Some ensemble members depict a high amplitude West Pacific event, while others remain within the unit circle.

Note the 120-day period mean is removed.

Average Conditions when the MJO is present



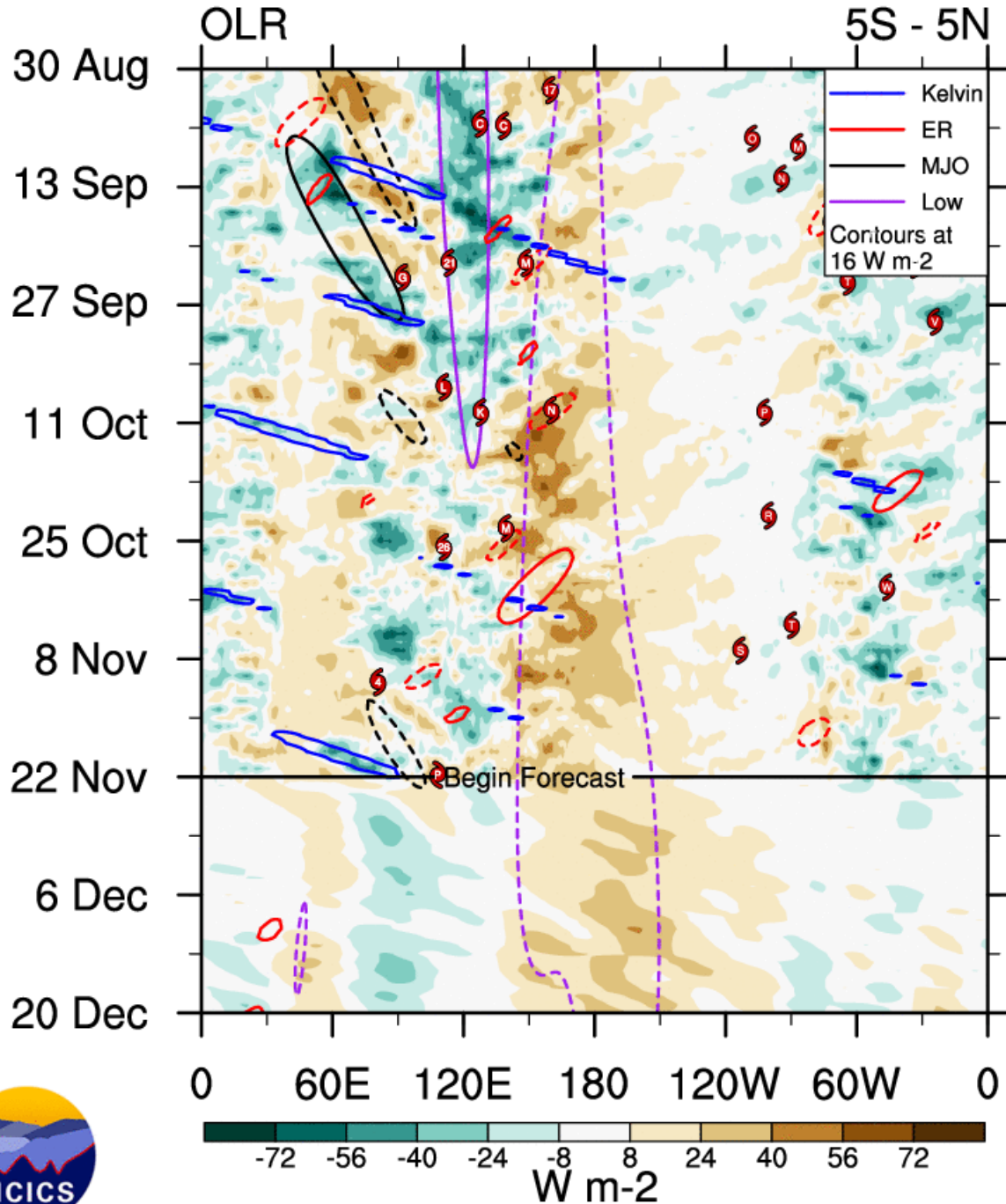
La Niña conditions will dampen the response near the Date Line and across the central Pacific.

CAVEAT: These panels are representative of robust MJO events.

Low frequency contours depict ENSO cold conditions.

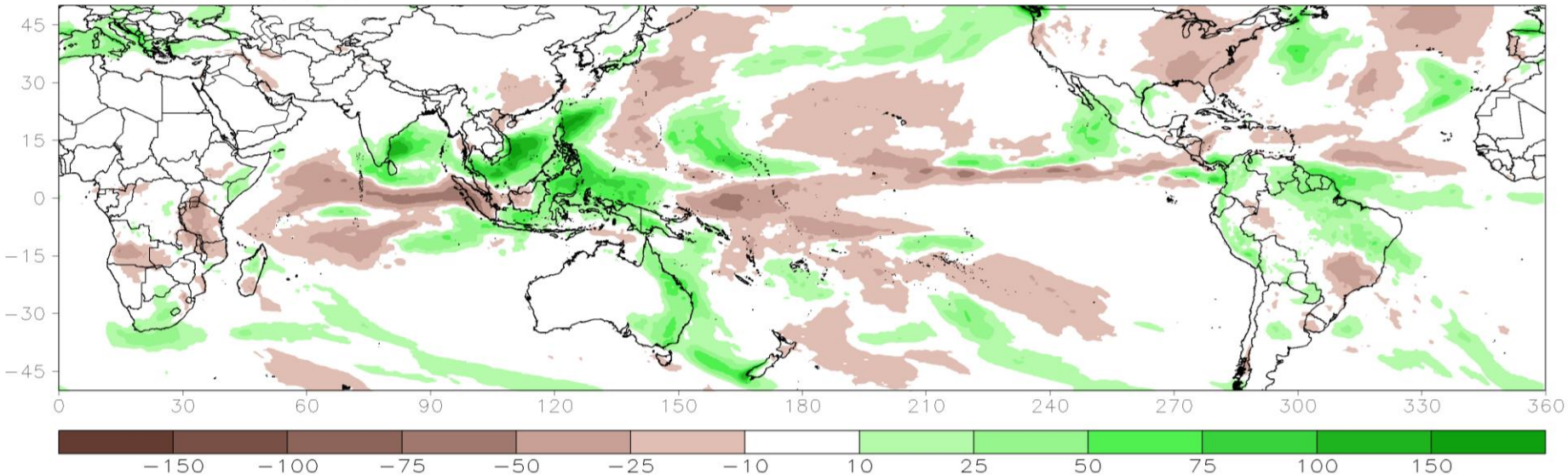
Kelvin wave activity has modulated the low frequency response.

Note lack of tropical cyclone activity overall, particularly across the West Pacific.



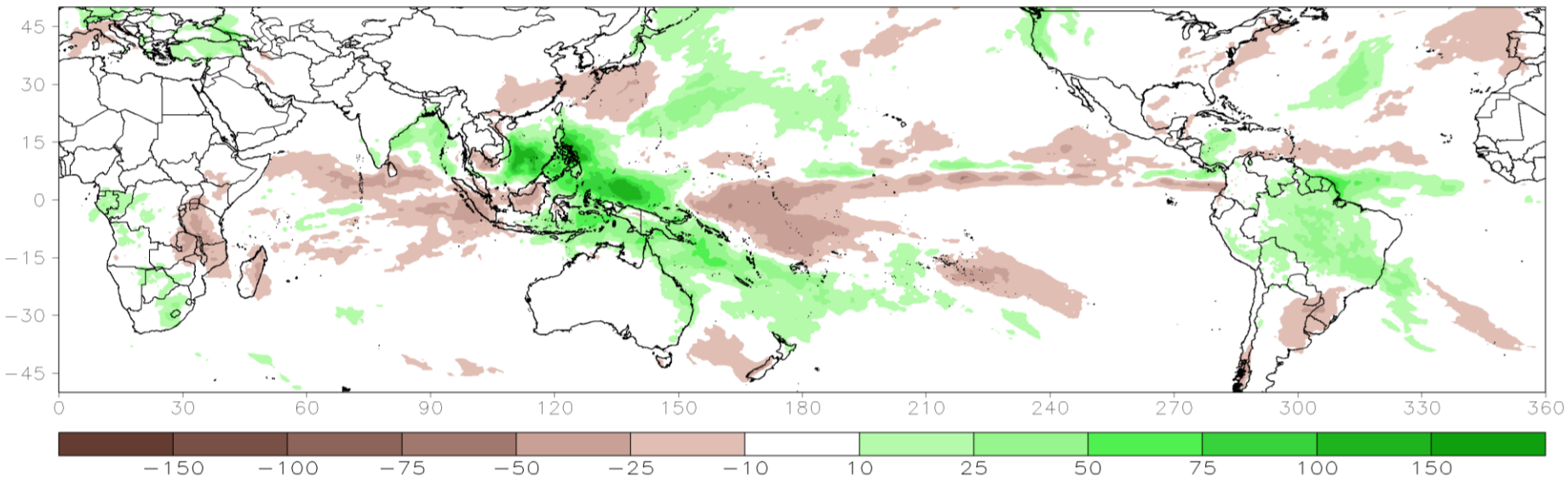
GEFSv12 00z Ensemble Mean: Week1 Total Rainfall Anomaly (mm)

Valid: 24Nov2021-30Nov2021



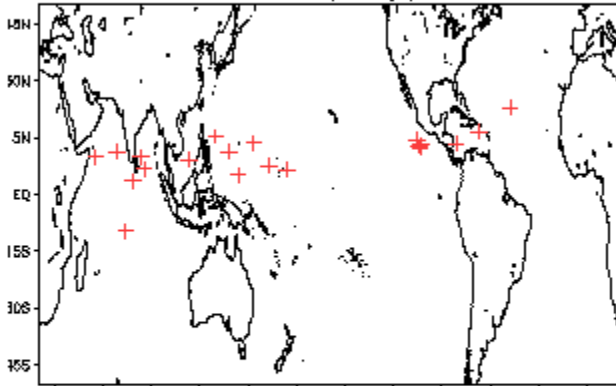
GEFSv12 00z Ensemble Mean: Week2 Total Rainfall Anomaly (mm)

Valid: 01Dec2021-07Dec2021

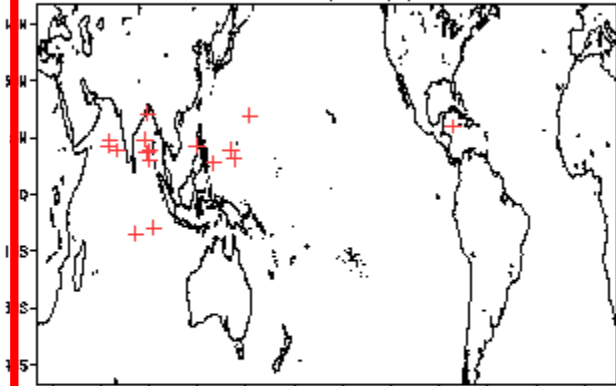


November Tropical Storm Formation by MJO phase

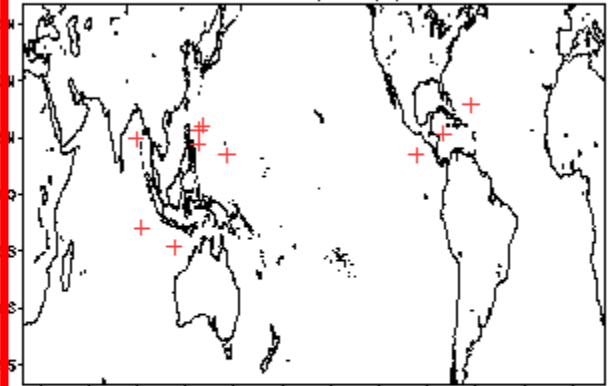
Phase 1 (65 days) 21 storms



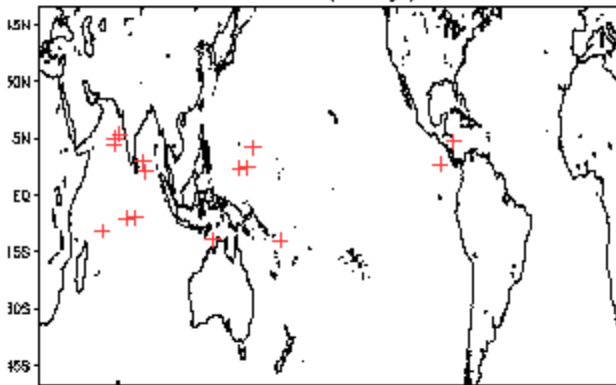
Phase 4 (77 days) 17 storms



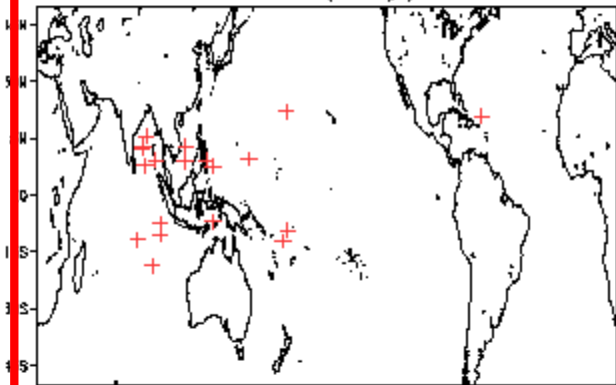
Phase 7 (68 days) 11 storms



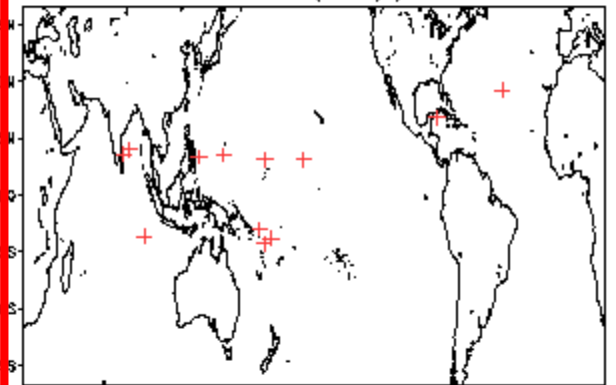
Phase 2 (88 days) 16 storms



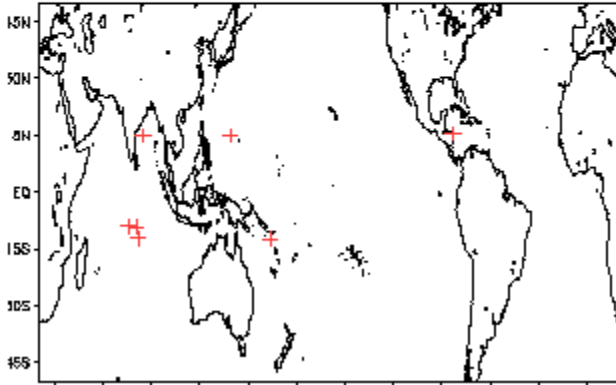
Phase 5 (72 days) 20 storms



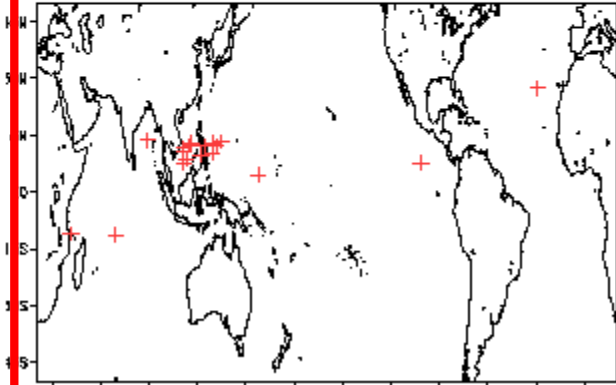
Phase 8 (60 days) 14 storms



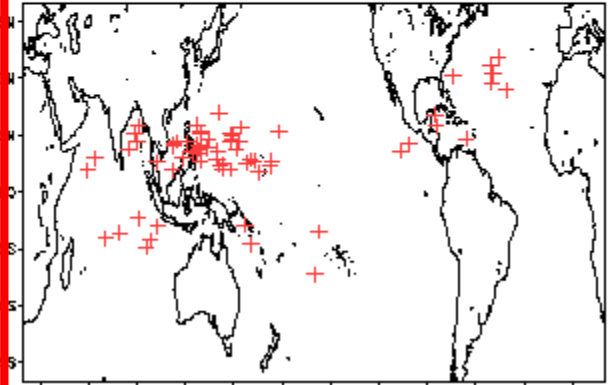
Phase 3 (89 days) 8 storms



Phase 6 (91 days) 19 storms



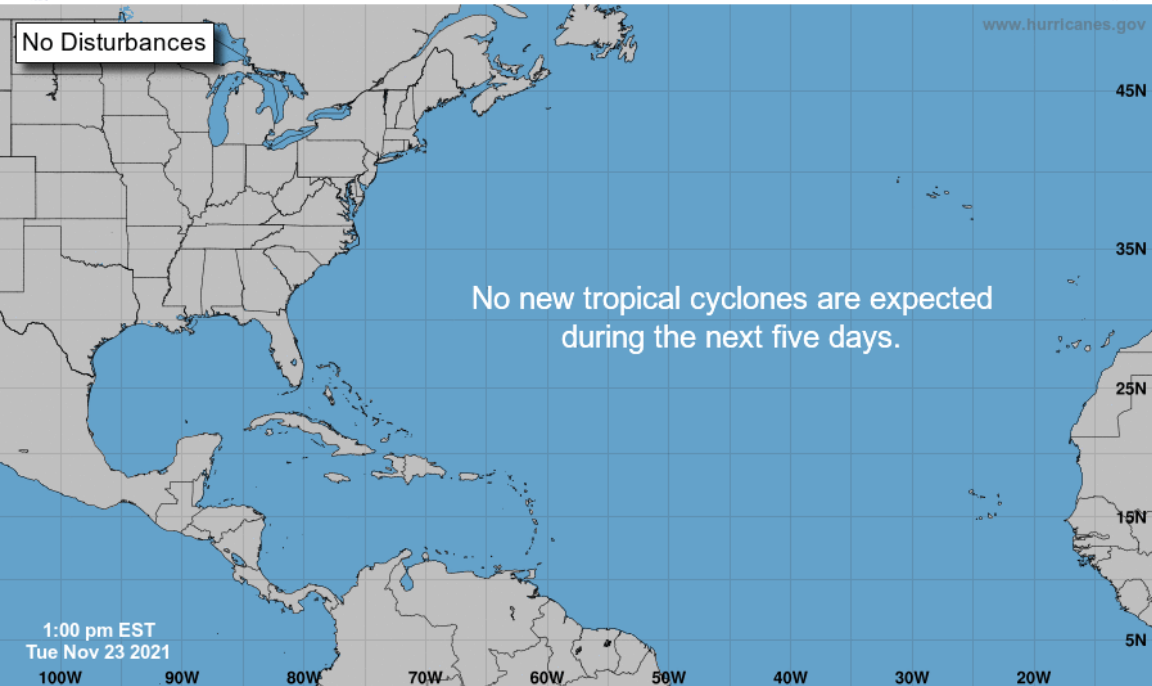
Null (380 days) 65 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



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

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

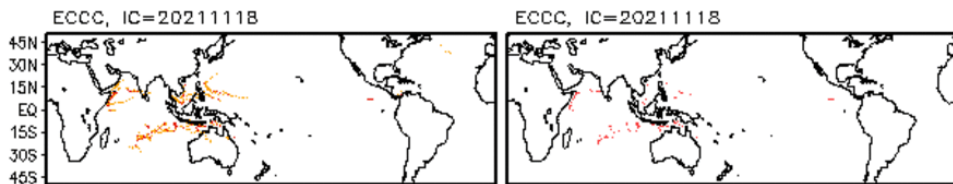
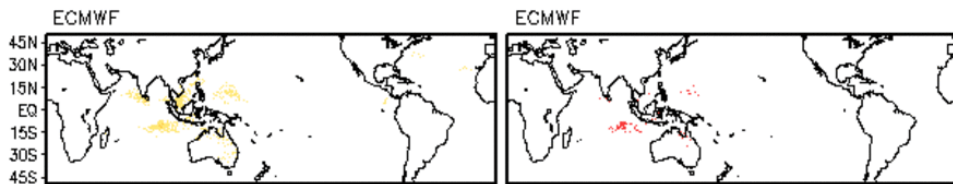
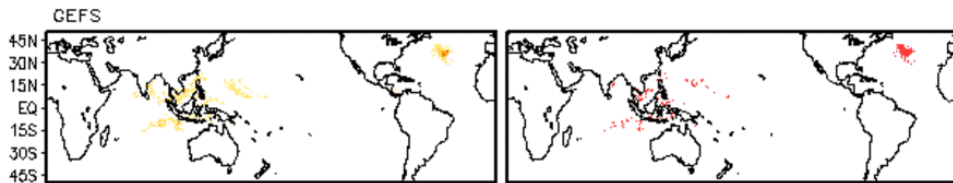
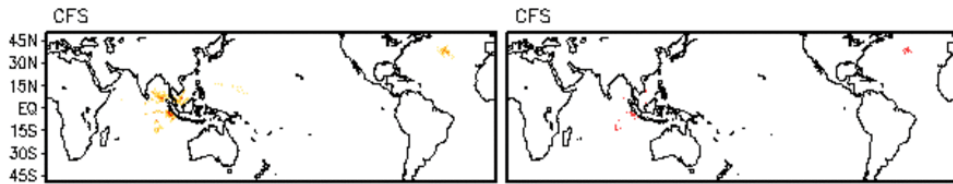
Post-Tropical Cyclone or Remnants

Storm Track Density Distribution, IC=20211122

Week 1 Forecast: 1124-1130

TRACK DENSITY

FILTERED

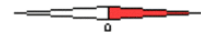
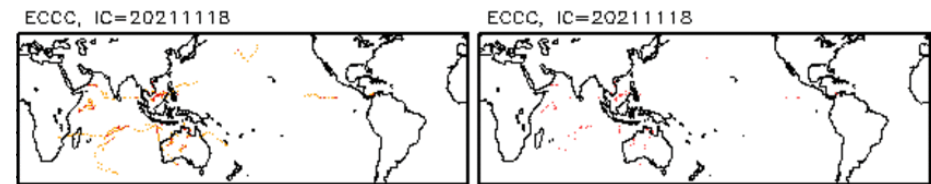
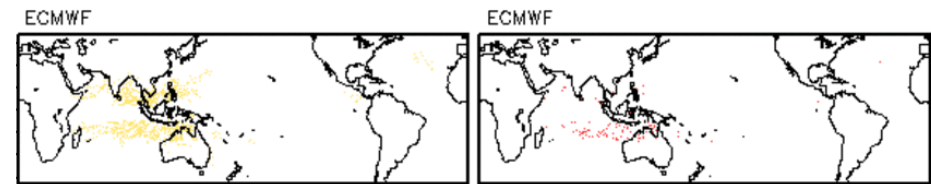
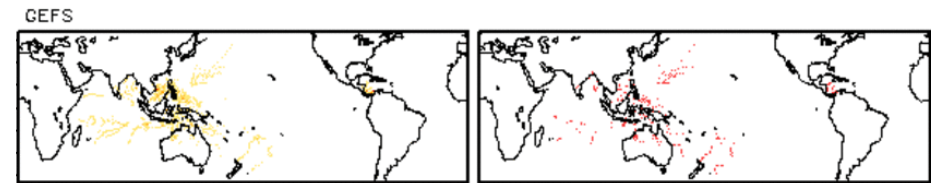
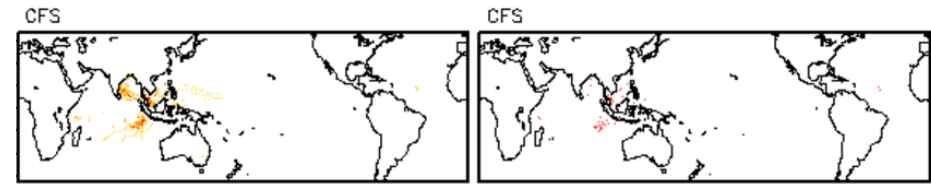


Storm Track Density Distribution, IC=20211122

Week 2 Forecast: 1201-1207

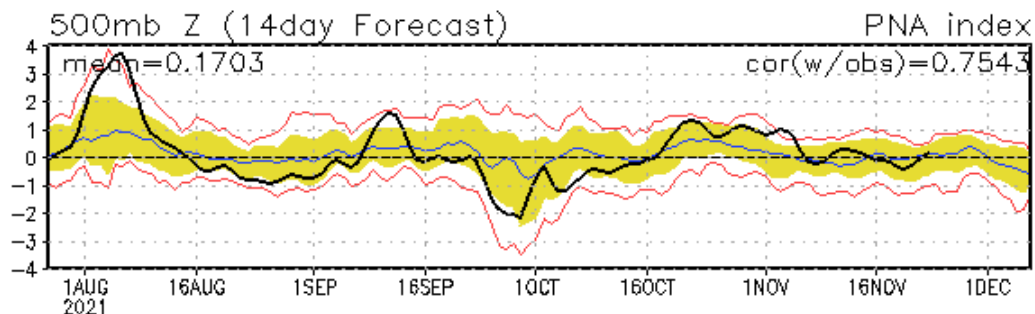
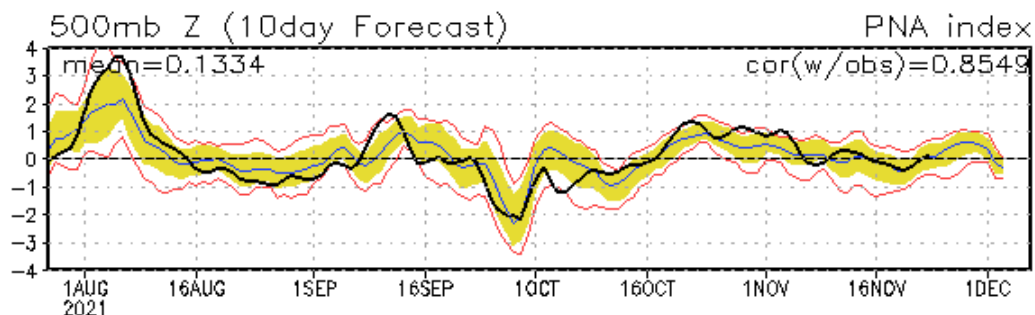
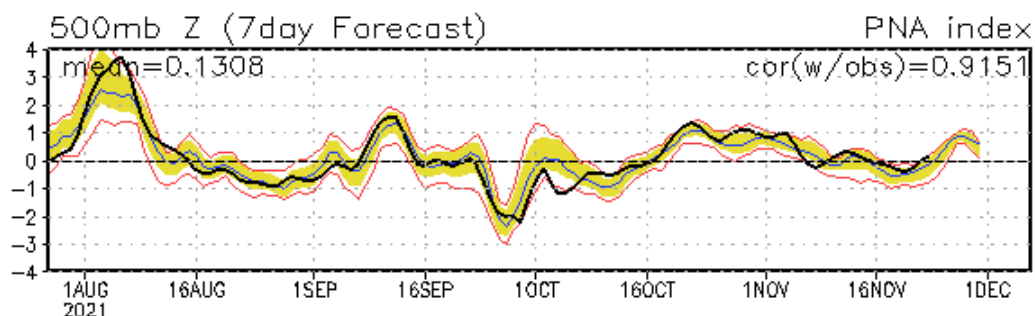
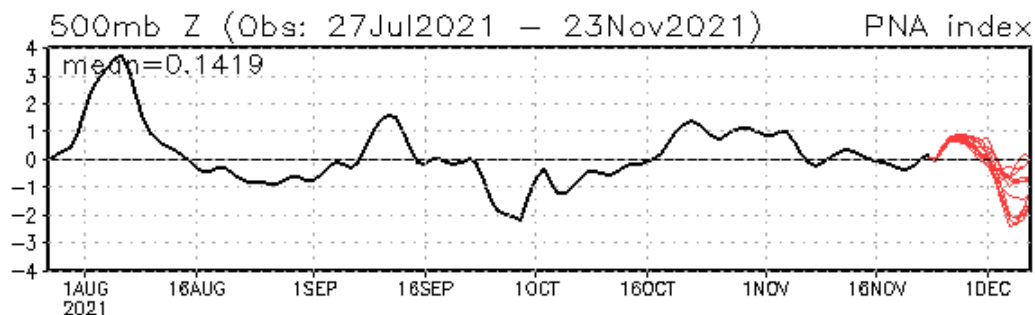
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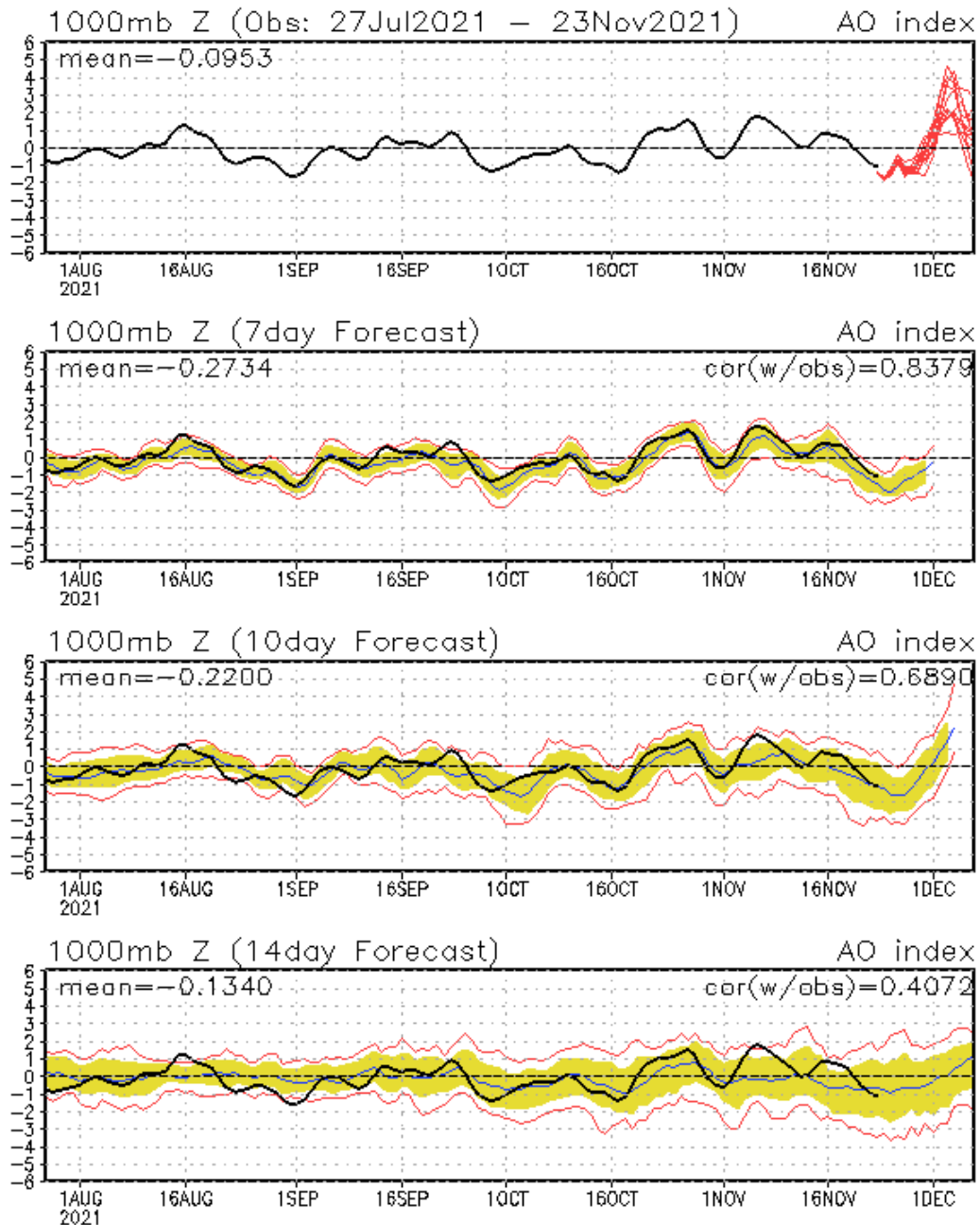


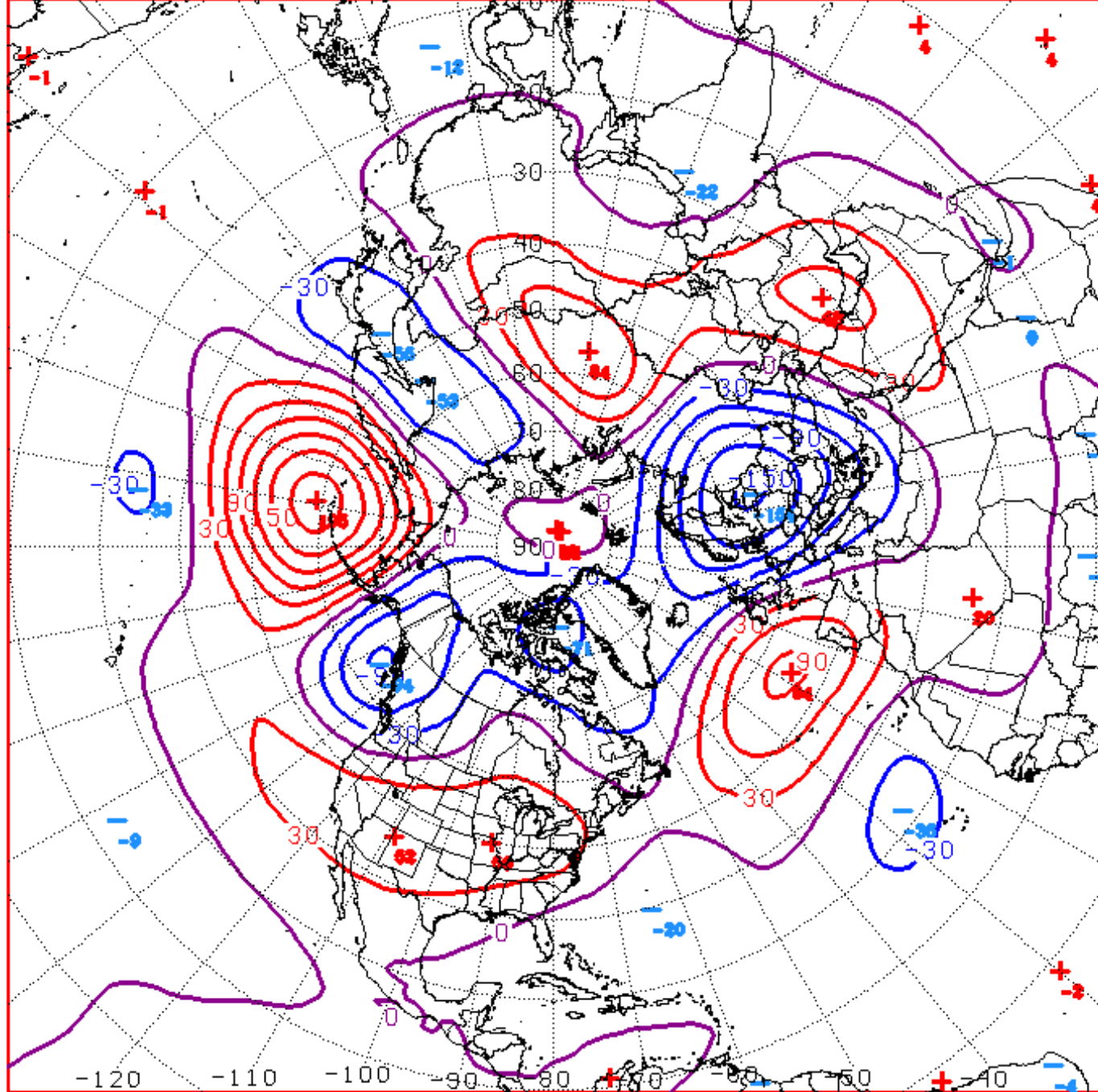
Connections to U.S. Impacts

PNA: Observed & ENSM forecasts



AO: Observed & ENSM forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE NOV 23 2021 1358 UTC CNTD DEC 04 2021

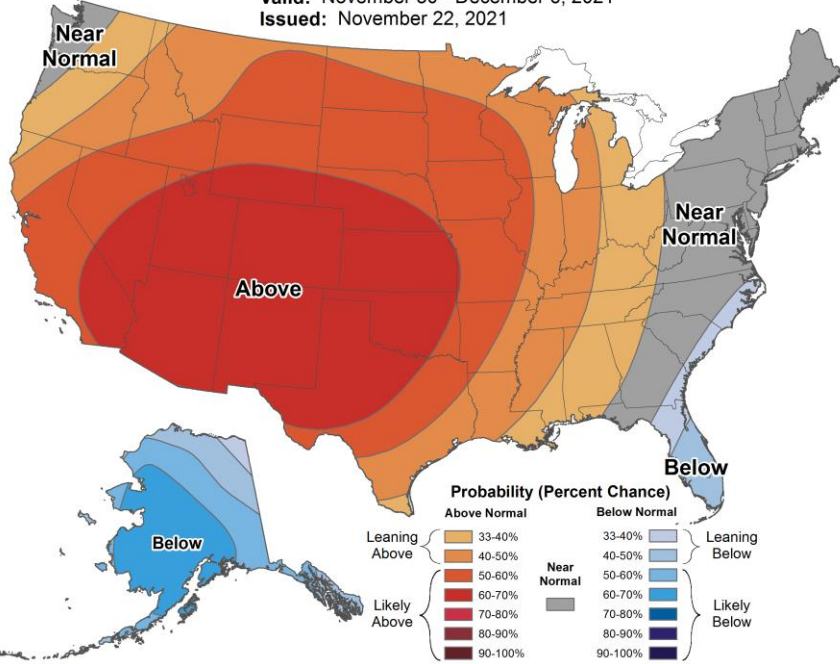
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



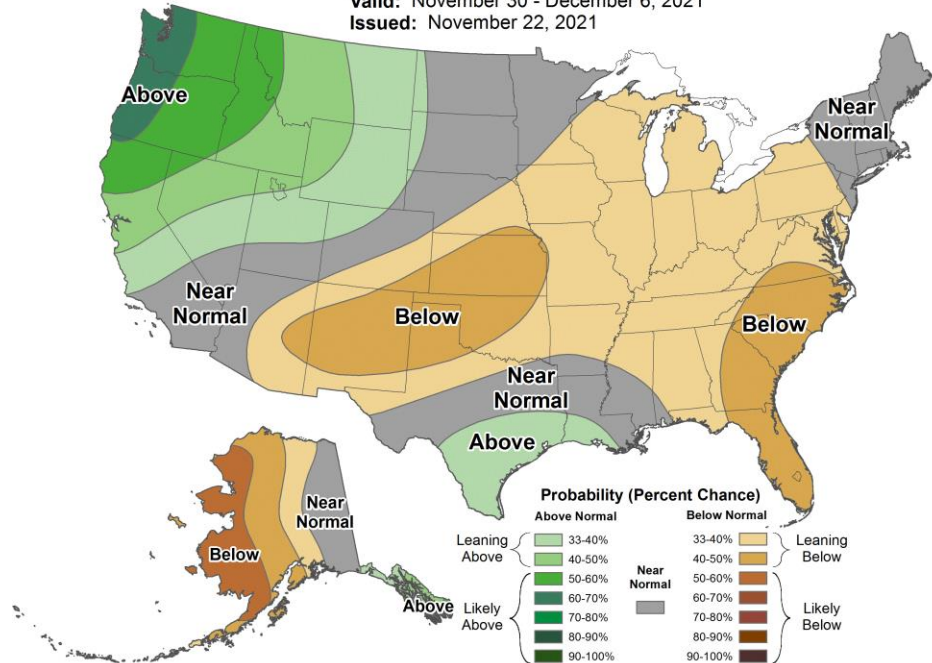
Valid: November 30 - December 6, 2021
Issued: November 22, 2021



8-14 Day Precipitation Outlook



Valid: November 30 - December 6, 2021
Issued: November 22, 2021

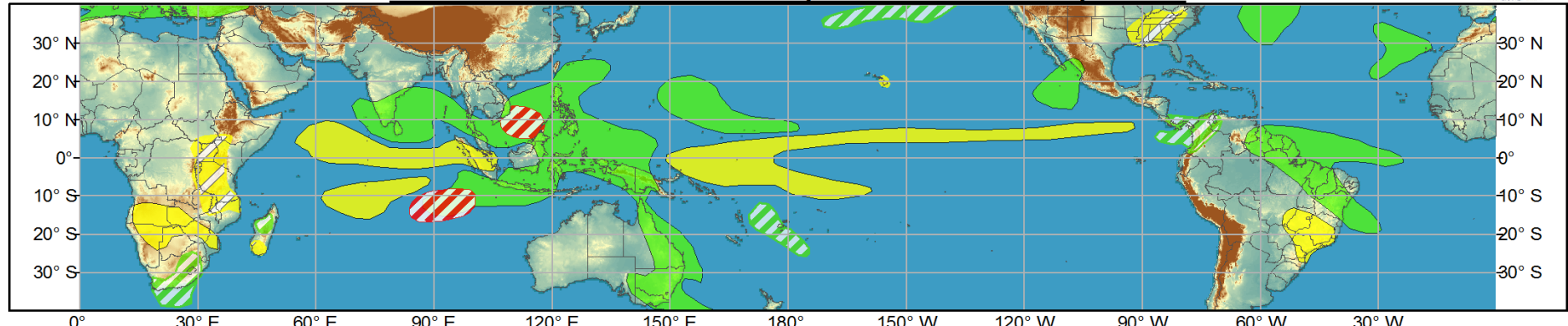


Since we are in an amplified, stable pattern today's outlooks are likely to be similar.

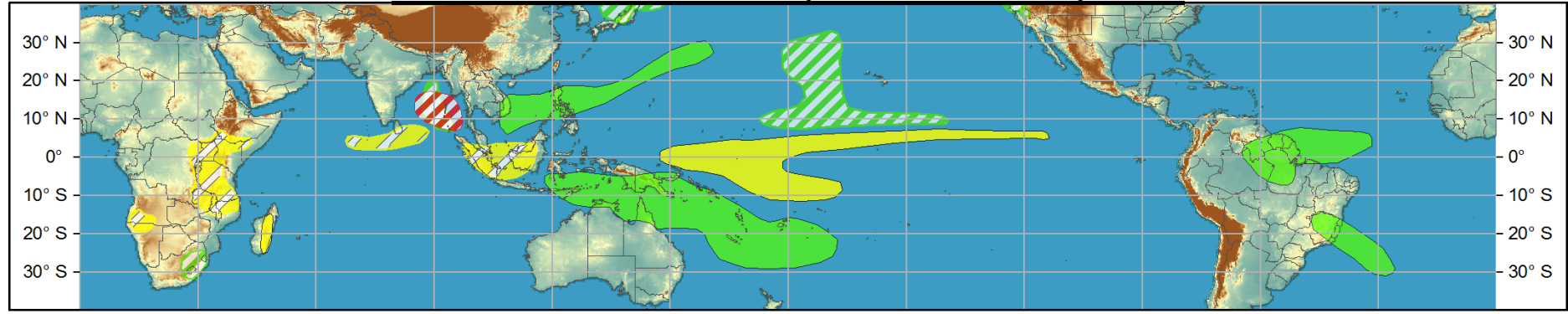


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