

Global Tropics Hazards And Benefits Outlook

12/7/2021

Brad Pugh

Outline

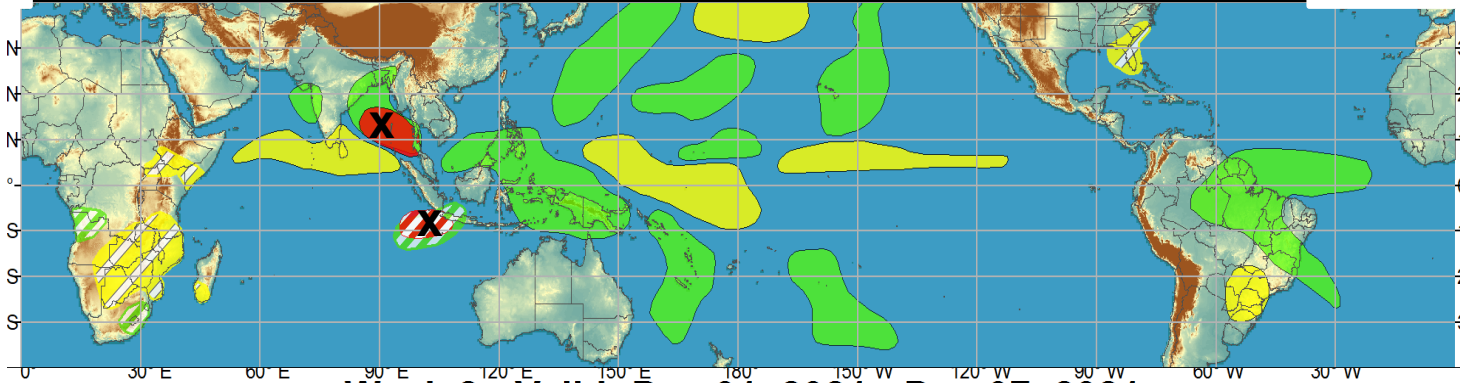
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

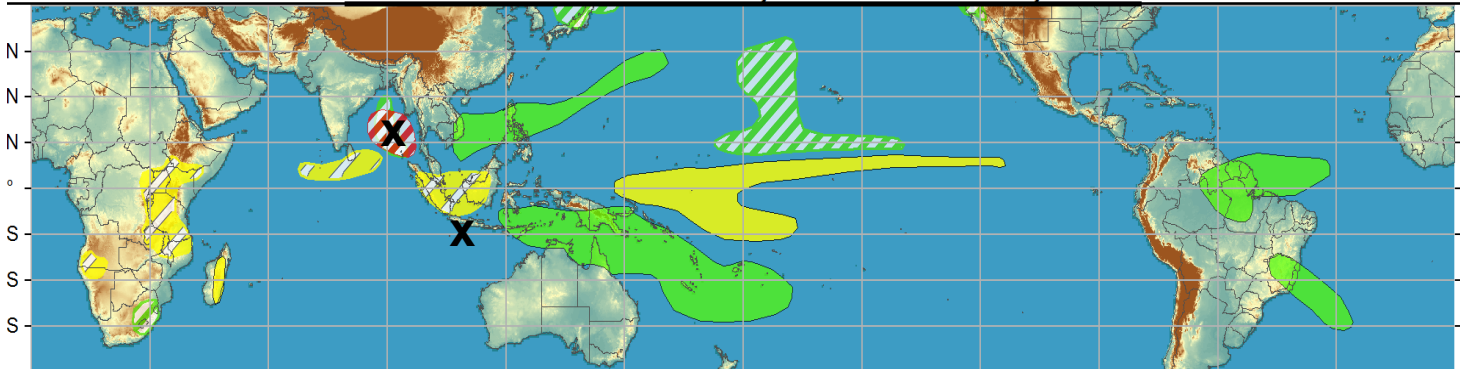
X= Tropical
Cyclone
Jawad
(Bay of Bengal)

X= TC 2S
(Southern Indian Ocean)

Week 1 - Valid: Dec 01, 2021 - Dec 07, 2021



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

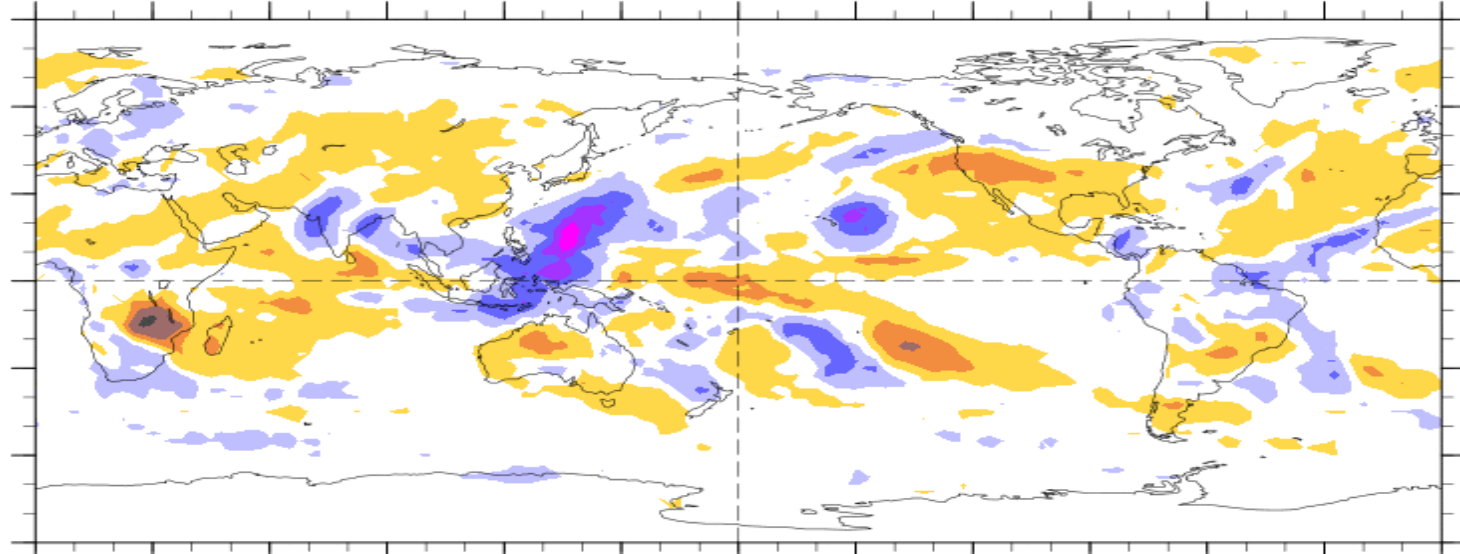


7-Day Average OLR Anomaly

2021/11/29 - 2021/12/05

Cool shading
More clouds/rain

Warm shading
Less clouds/rain



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:

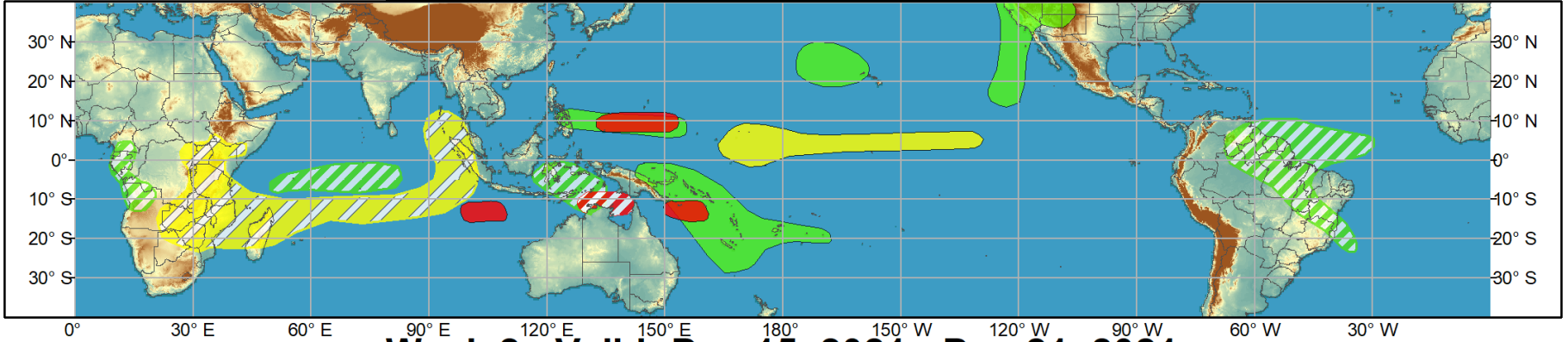
- The MJO strengthened since the end of November with enhanced convection shifting east to the West Pacific.
- Tropical cyclone formation is favored across the West Pacific and Southwest Pacific; less confidence near northern Australia.
- Although uncertainty continues on how much if any the MJO affects the mid-latitude circulation pattern over North America, week-2 model solutions are beginning to depict blocking at the highest latitudes of the Northern Hemisphere. This could lead to a colder pattern for the north-central CONUS by the end of December.



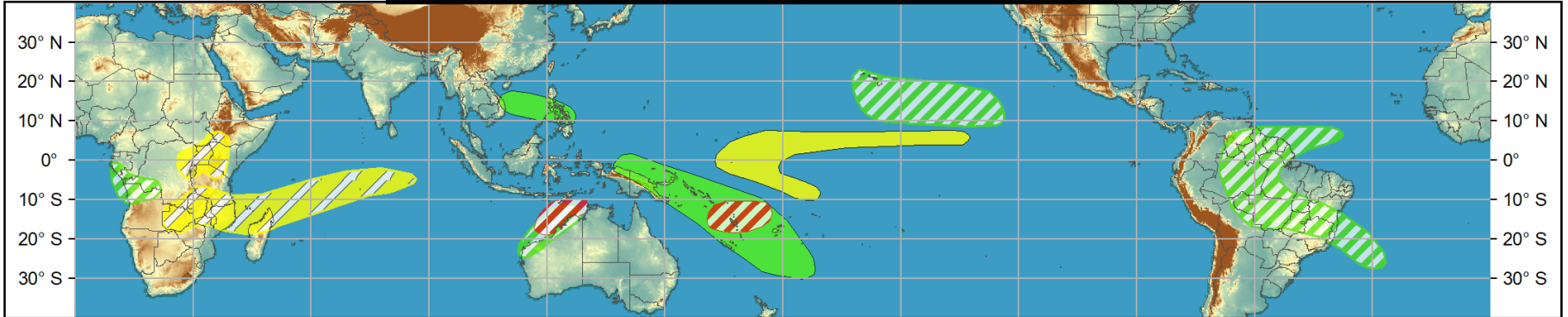
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Dec 08, 2021 - Dec 14, 2021



Week 2 - Valid: Dec 15, 2021 - Dec 21, 2021



Confidence
 High Moderate

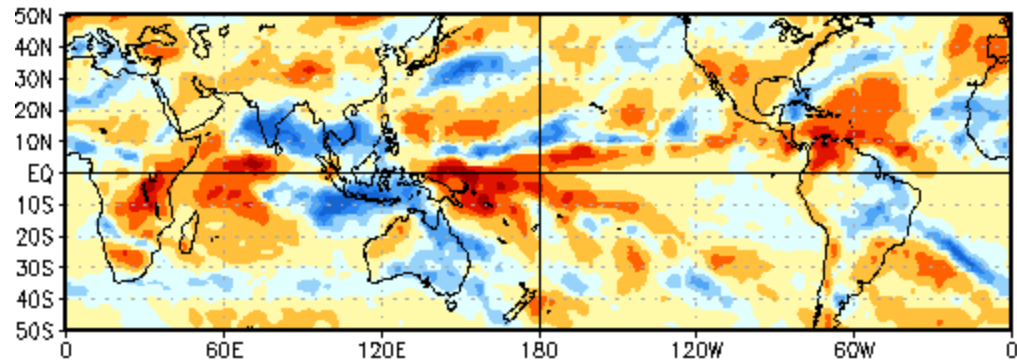
- Tropical Cyclone Formation** Development of a tropical cyclone (tropical depression - TD, or greater strength).
- Above-average rainfall** Weekly total rainfall in the upper third of the historical range.
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- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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Produced: 12/07/2021
Forecaster: Pugh

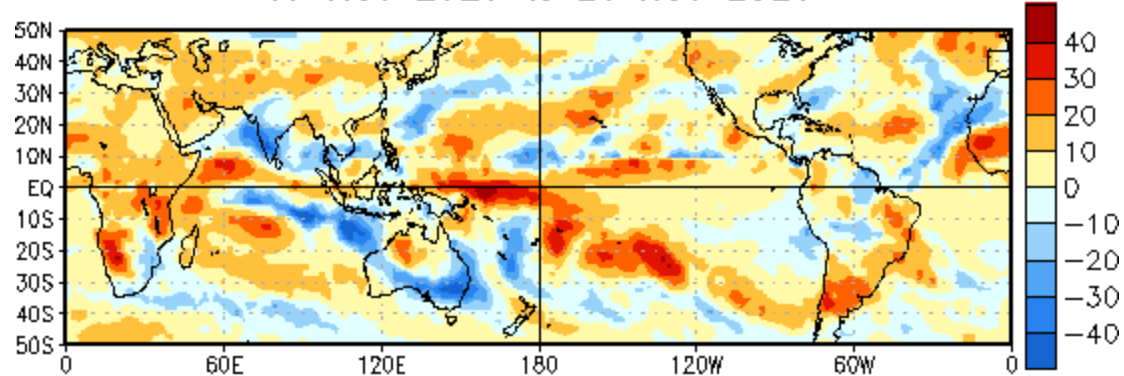
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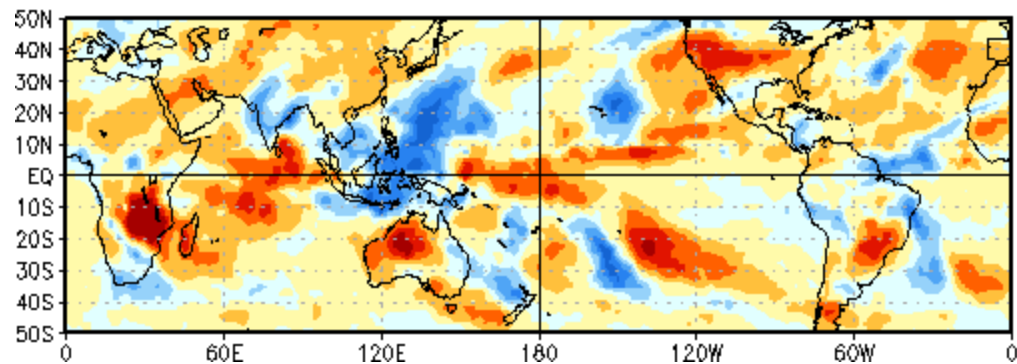
OLR Anomalies
7 NOV 2021 to 16 NOV 2021



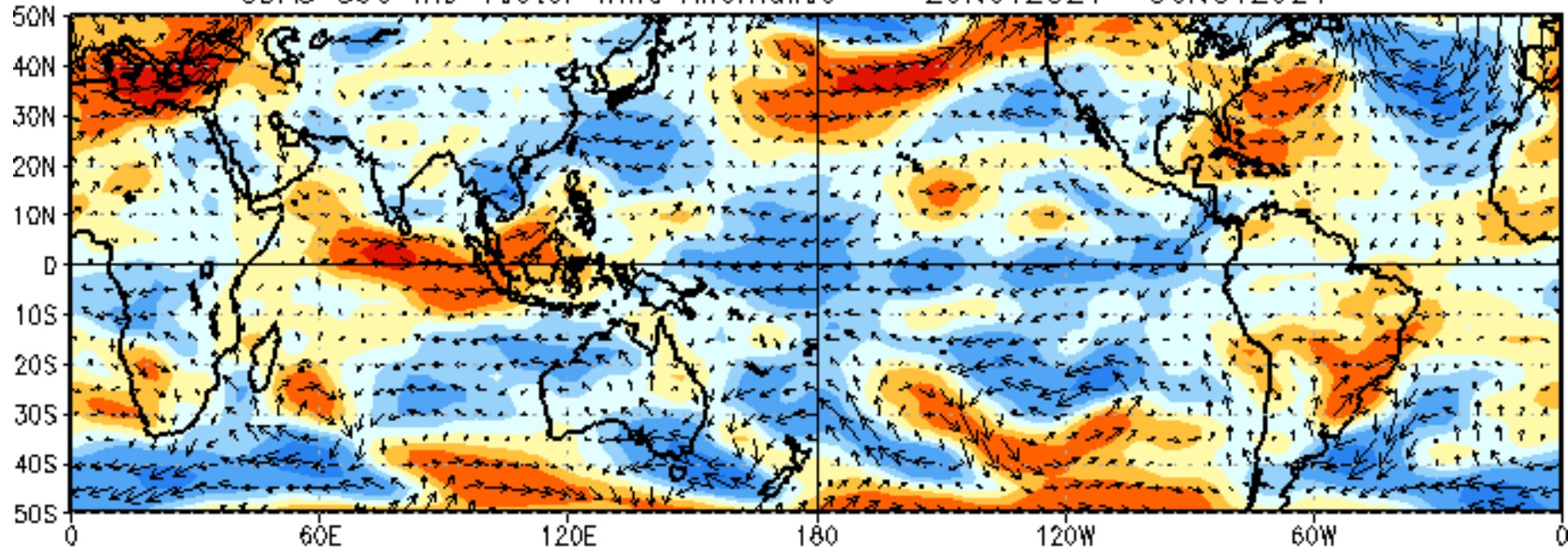
17 NOV 2021 to 26 NOV 2021



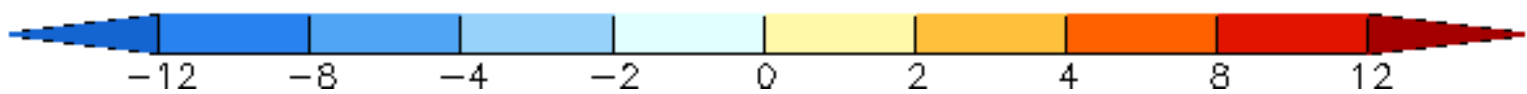
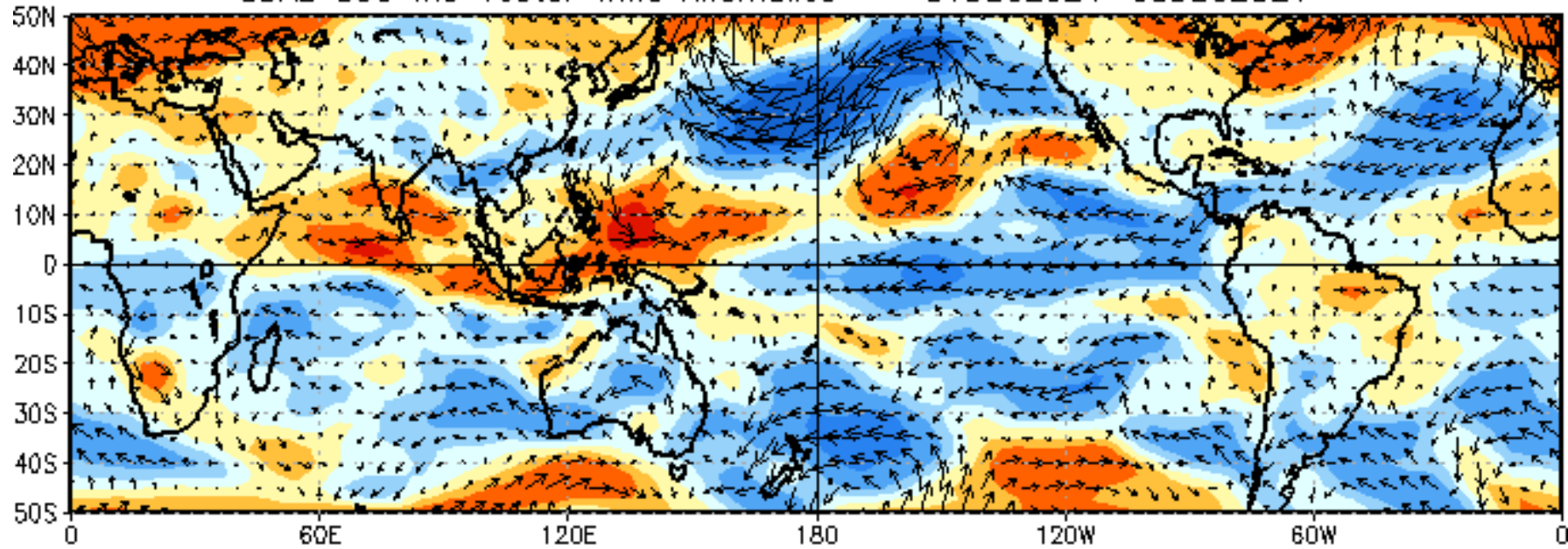
27 NOV 2021 to 6 DEC 2021



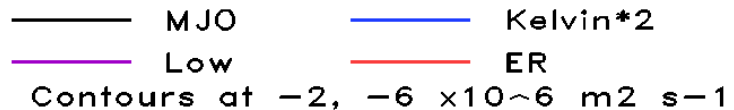
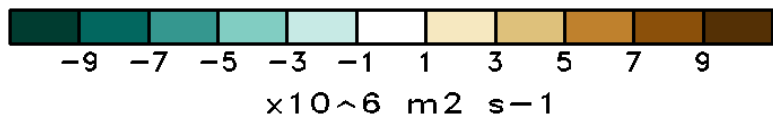
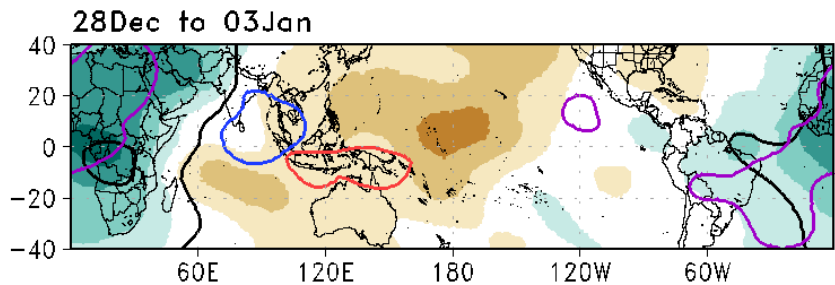
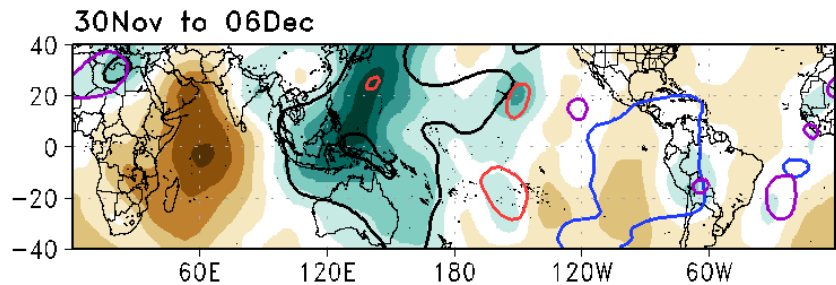
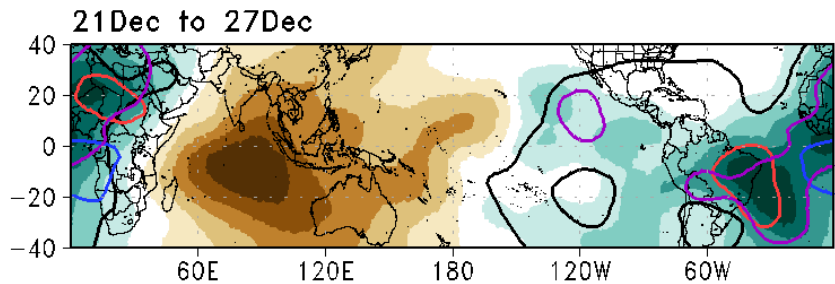
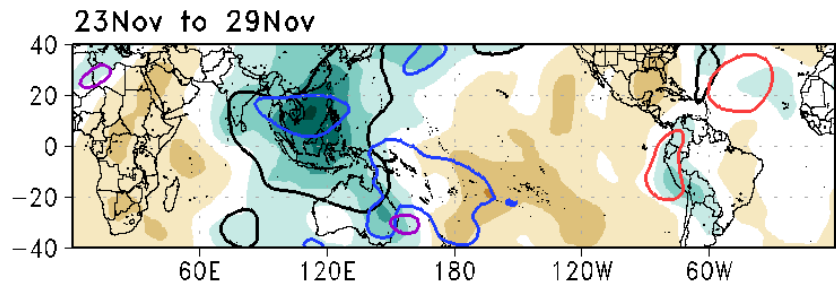
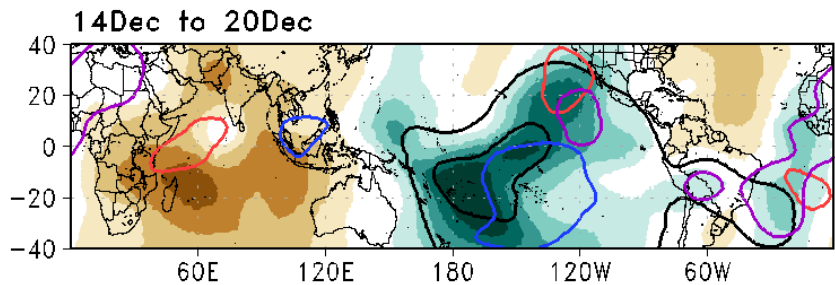
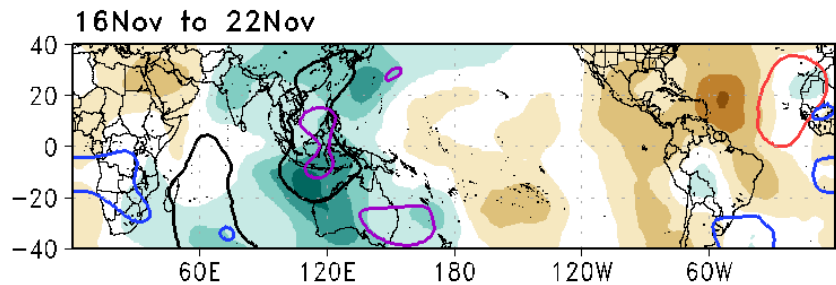
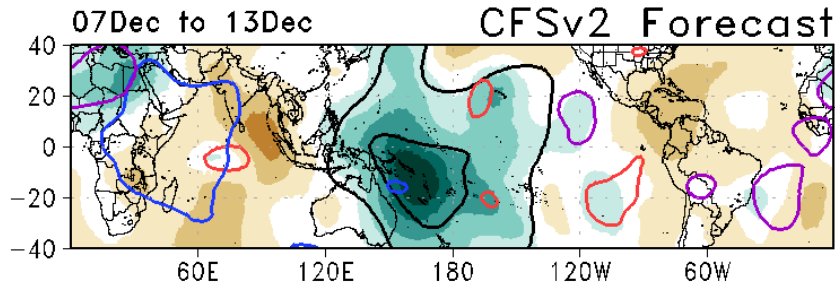
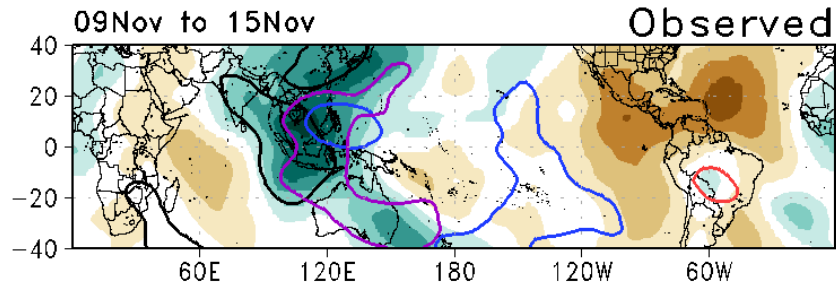
CDAS 850 mb Vector Wind Anomalies -- 26NOV2021- 30NOV2021



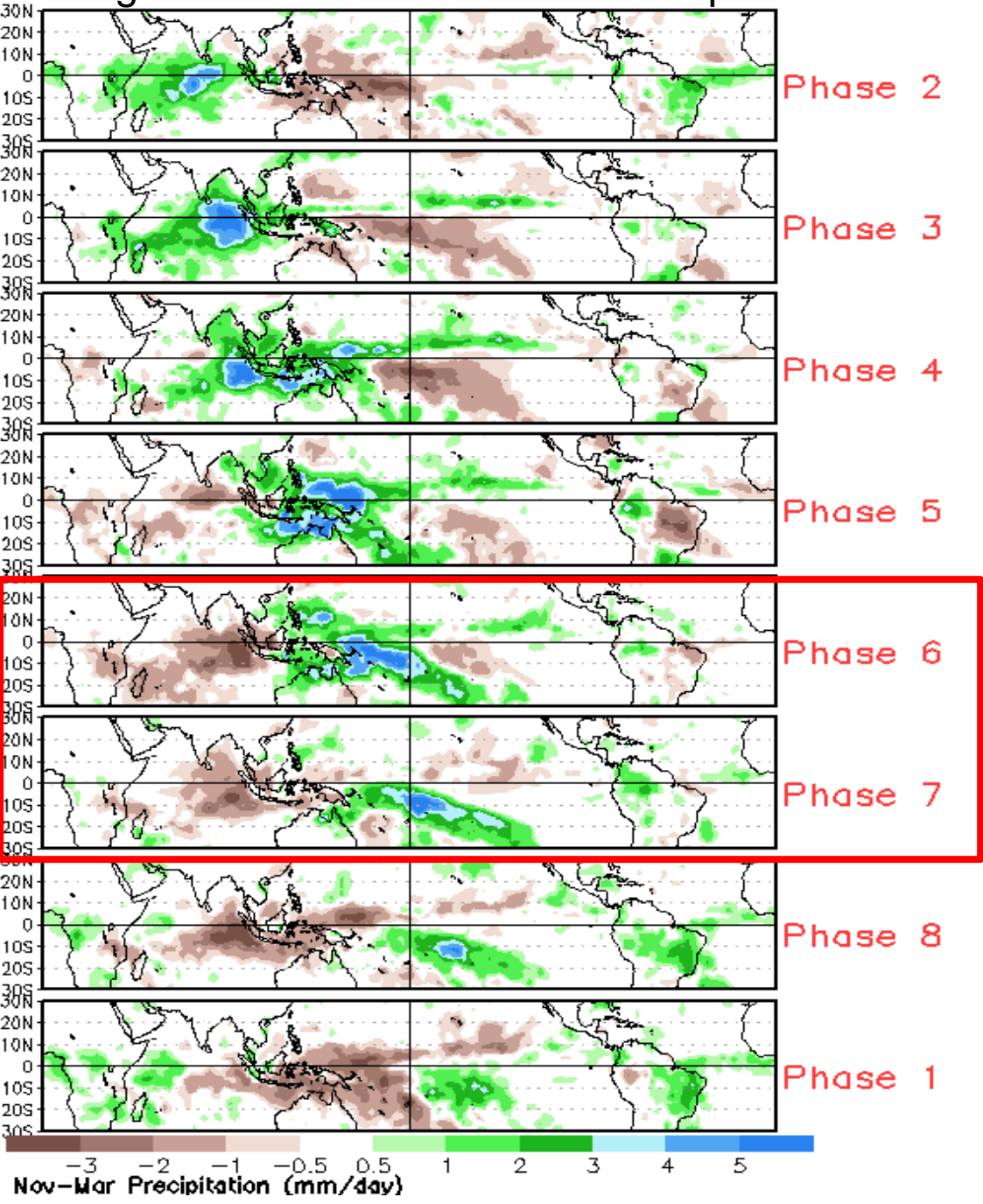
CDAS 850 mb Vector Wind Anomalies -- 01DEC2021-05DEC2021



CHI200 7-Day Means



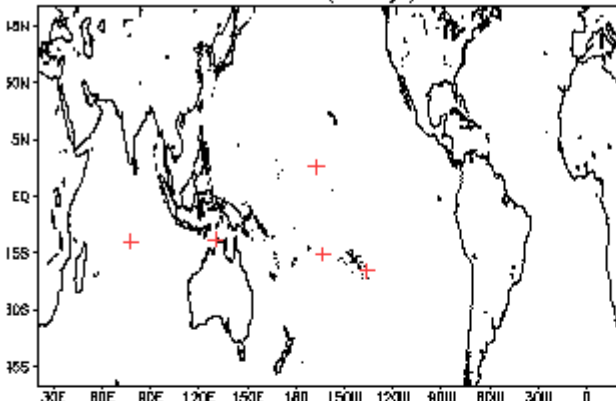
Average Conditions when the MJO is present



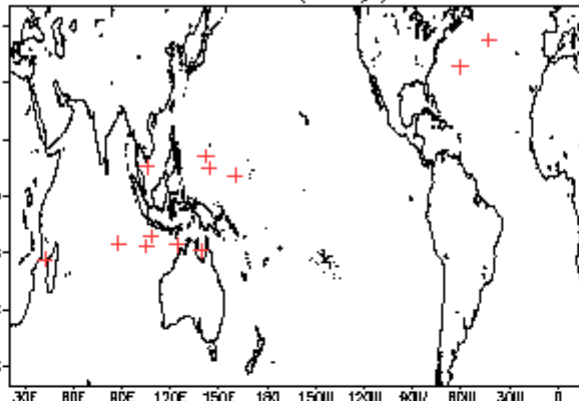
CAVEAT: These panels are representative of robust MJO events.

December Tropical Storm Formation by MJO phase

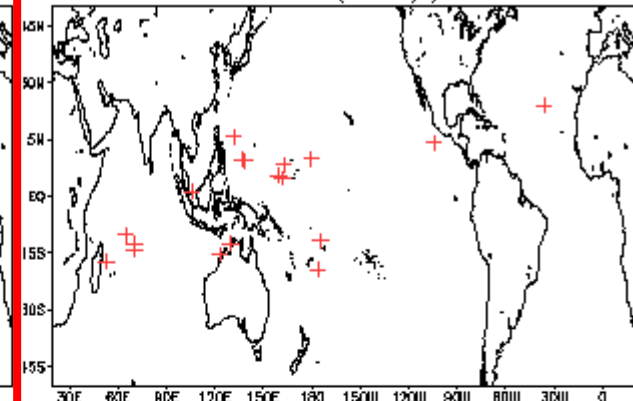
Phase 1 (48 days) 7 storms



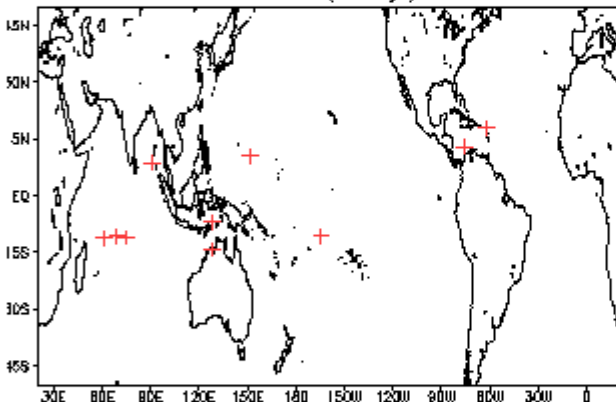
Phase 4 (72 days) 13 storms



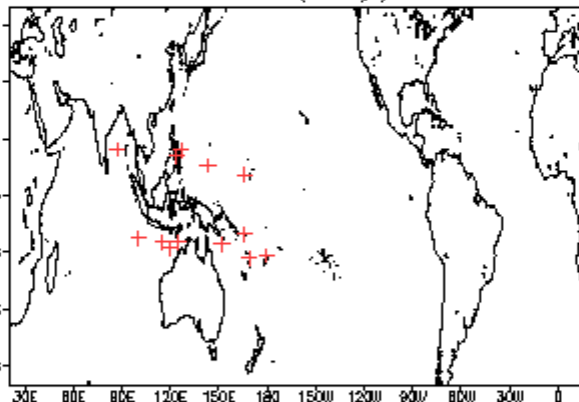
Phase 7 (103 days) 19 storms



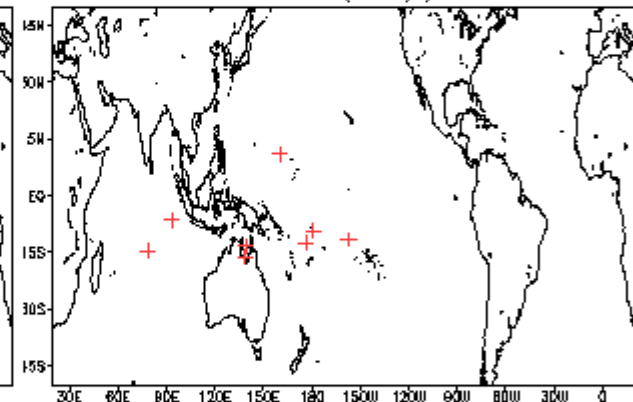
Phase 2 (67 days) 11 storms



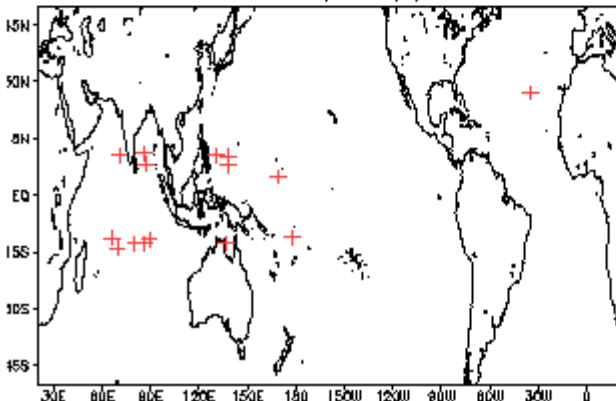
Phase 5 (73 days) 14 storms



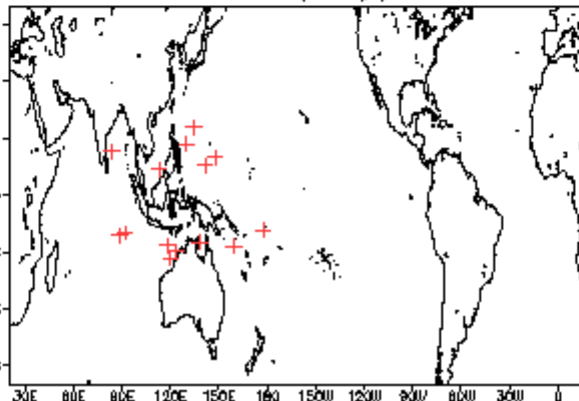
Phase 8 (76 days) 9 storms



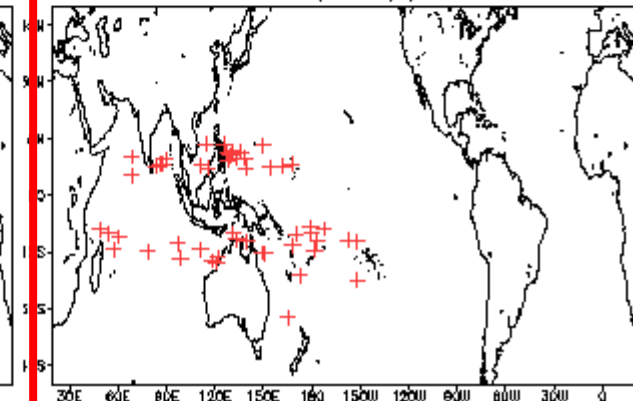
Phase 3 (101 days) 16 storms



Phase 6 (69 days) 15 storms



Null (416 days) 52 storms





JOINT TYPHOON WARNING CENTER



Naval Research Laboratory
Marine Meteorology Division
Cloud Layer Product
Valid: 2021-12-07 15:00:00

FABIO

ABPW

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

L

NO SUSPECT AREAS (ABPW)

RMNTS TC 02S

ISSUE TIME: 07/1800Z
(PRODUCT OF JTWC/SATOPS)

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

 **Invest** label color denotes
Tropical Cyclone
(Reference Warning)

Connections to U.S. Impacts

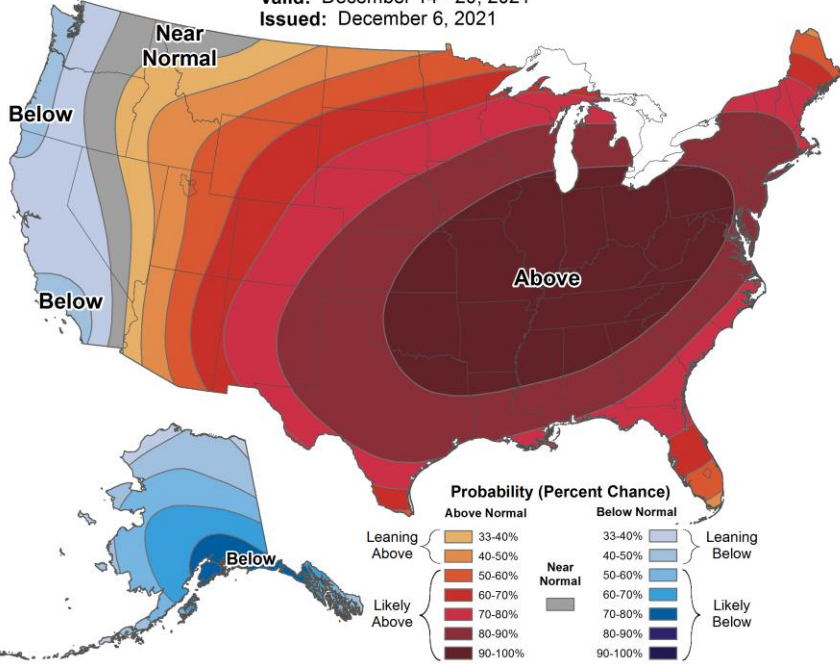
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



Valid: December 14 - 20, 2021
 Issued: December 6, 2021



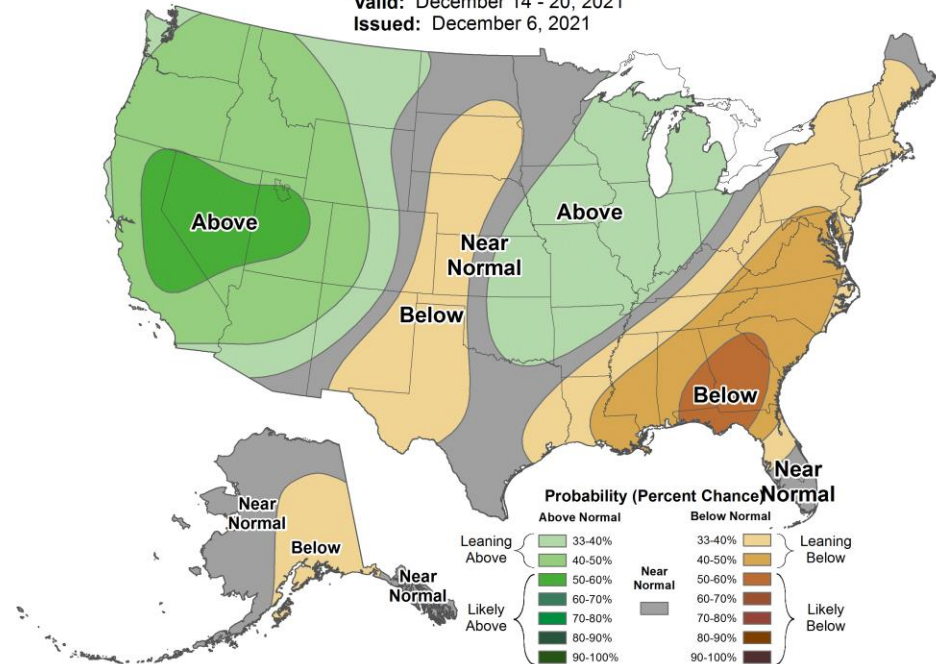
Today: drier for southern CA and Southwest as enhanced precip times off



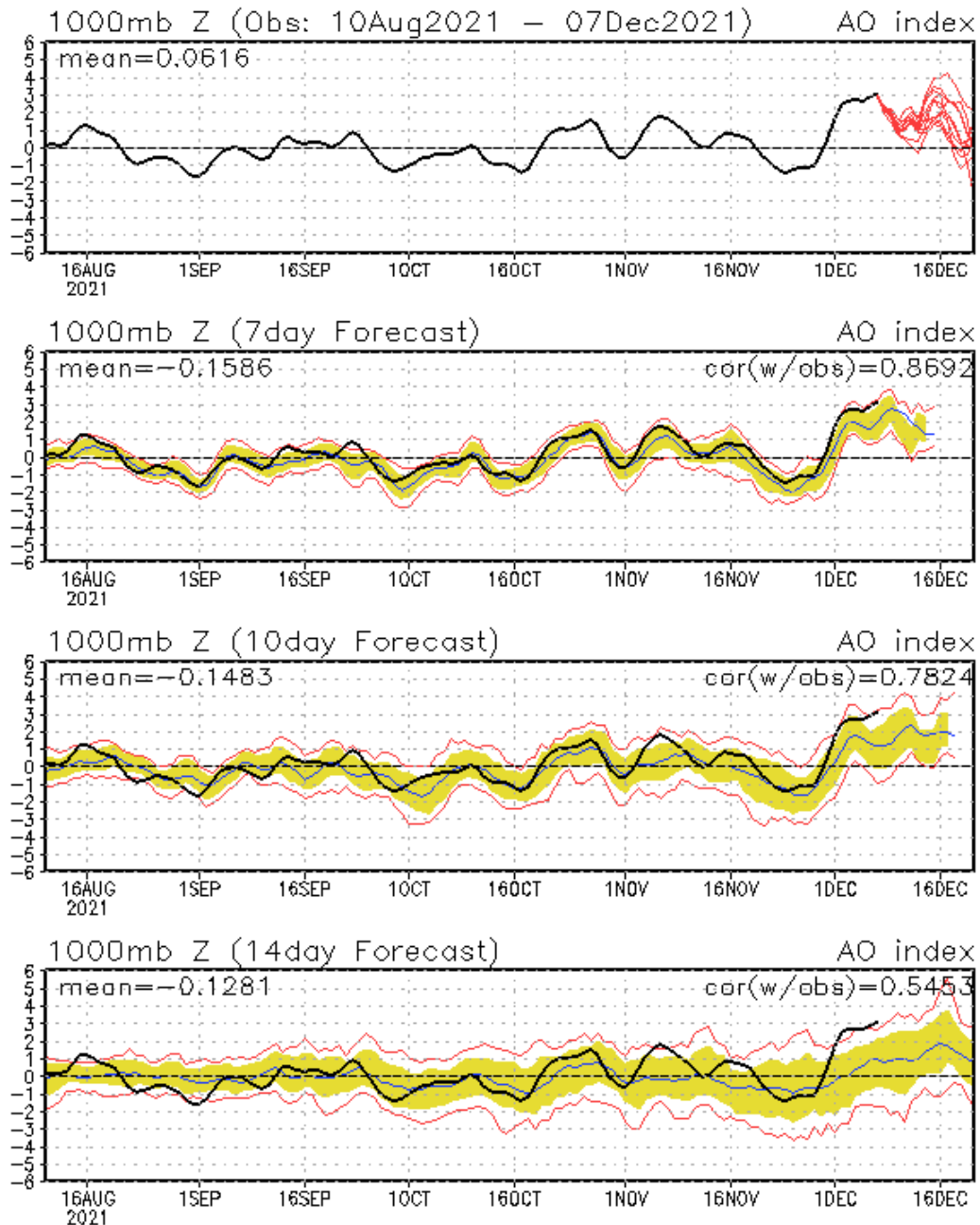
8-14 Day Precipitation Outlook



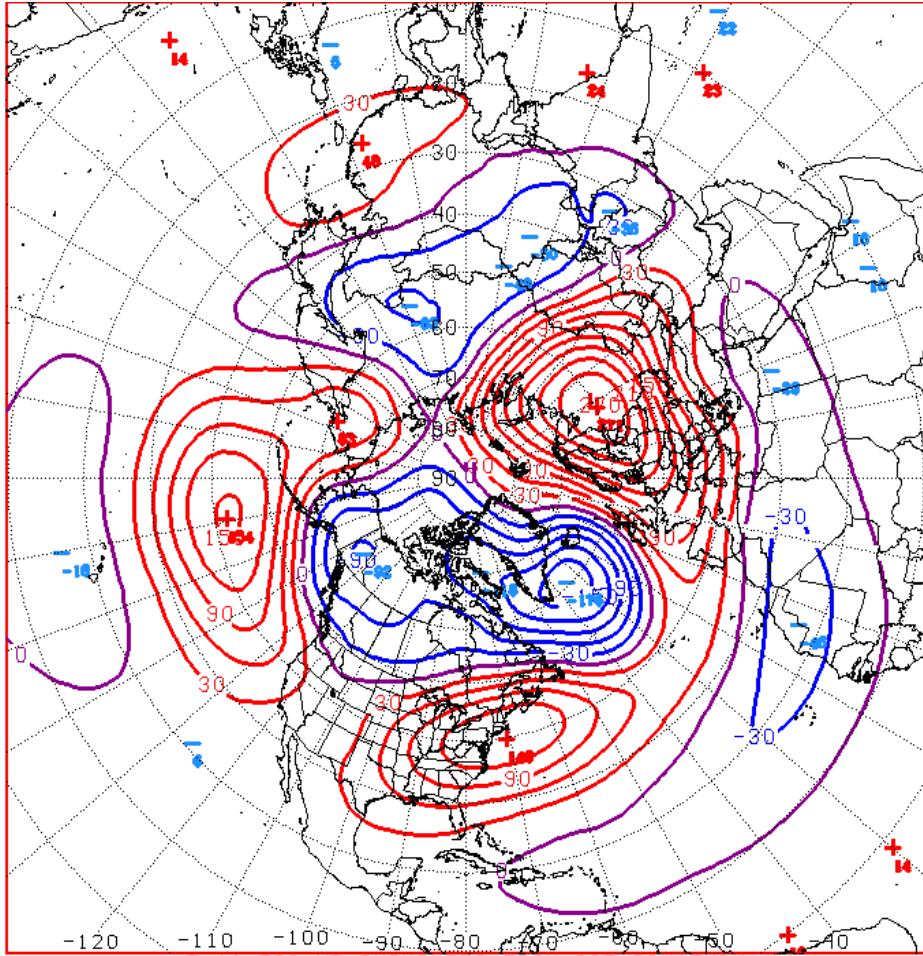
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AO: Observed & ENSM forecasts

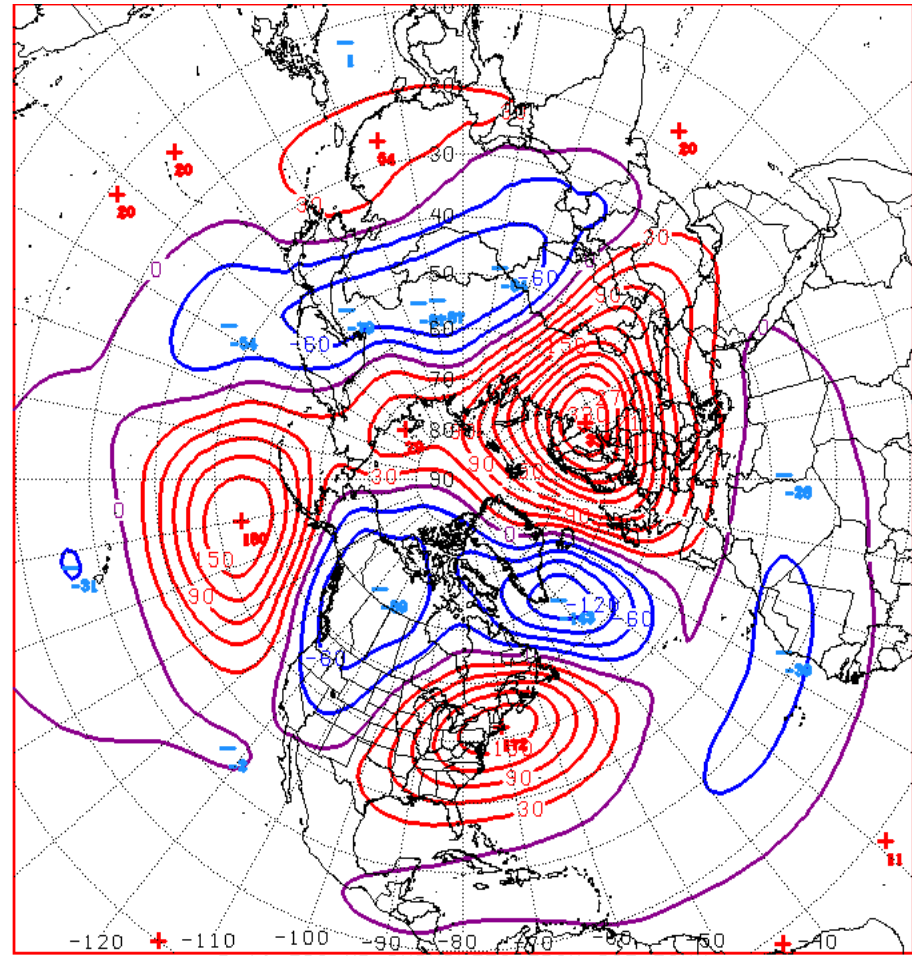


Canadian Ensemble Mean



D+11 500 MB ANOMALIES FROM 00Z CAN ENSM
CPC MAP MADE DEC 07 2021 0653 UTC CNTD DEC 18 2021

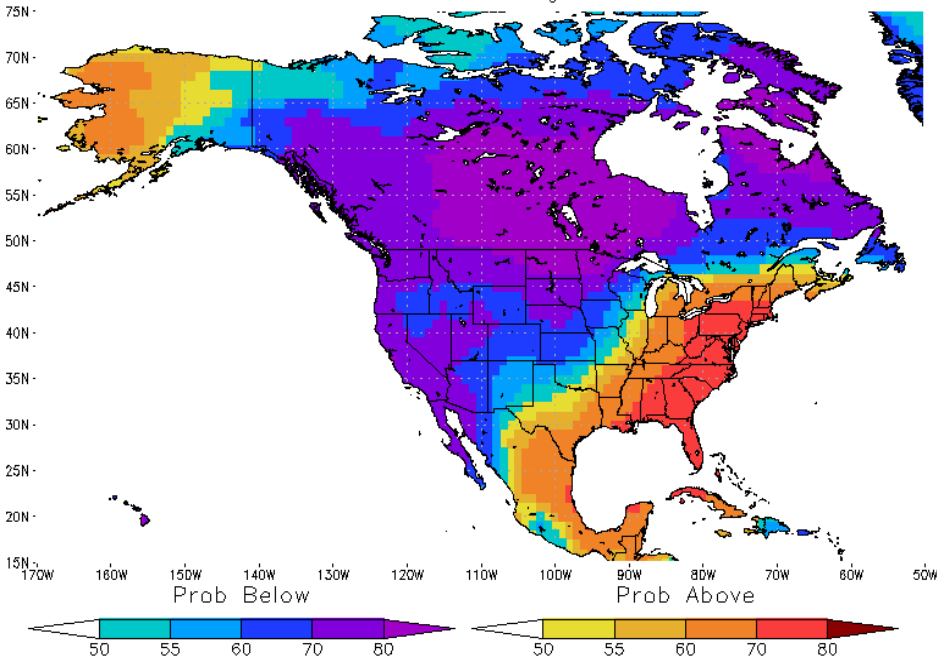
ECMWF Ensemble Mean



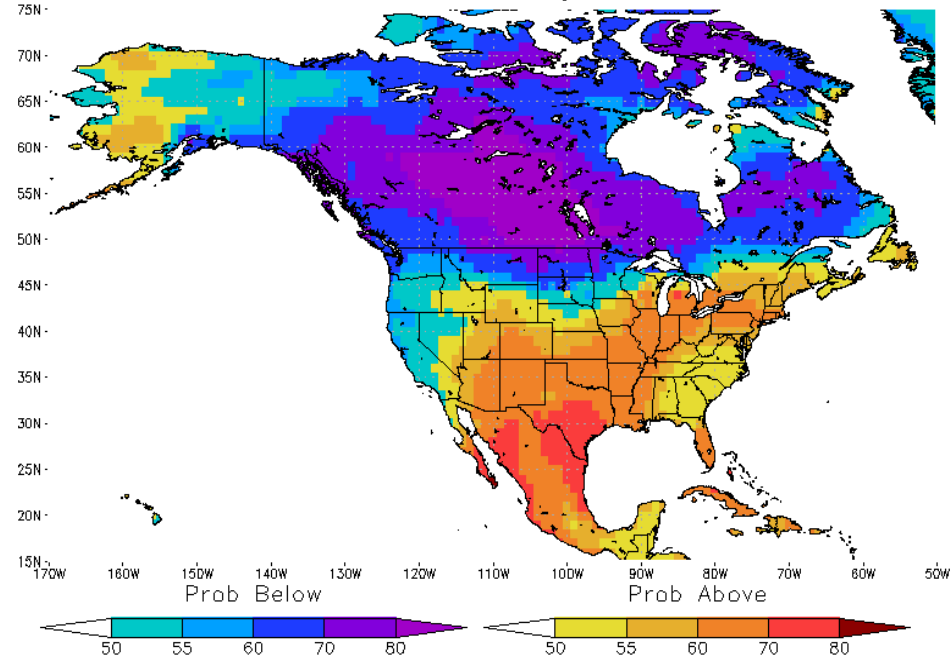
D+11 500 MB ANOMALIES FROM 00Z ECMM
CPC MAP MADE DEC 07 2021 1047 UTC CNTD DEC 18 2021

Week-3 Pattern Change?

Calibrated-ECMWF Temperature Probabilities Issued 06Dec2021
Week-3 Forecast Ending 28Dec2021



Calibrated-GEFS Temperature Probabilities Issued 06Dec2021
Week-3 Forecast Ending 28Dec2021

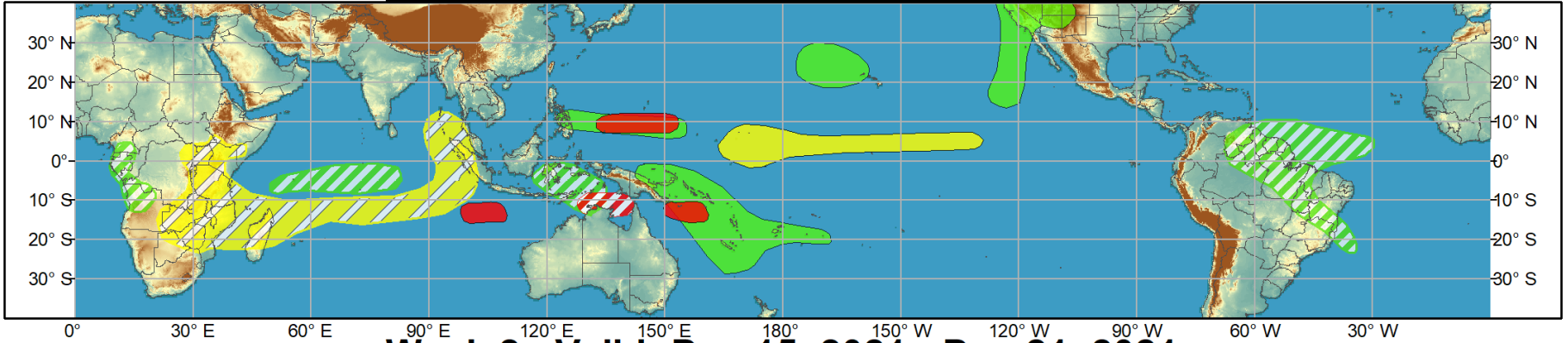




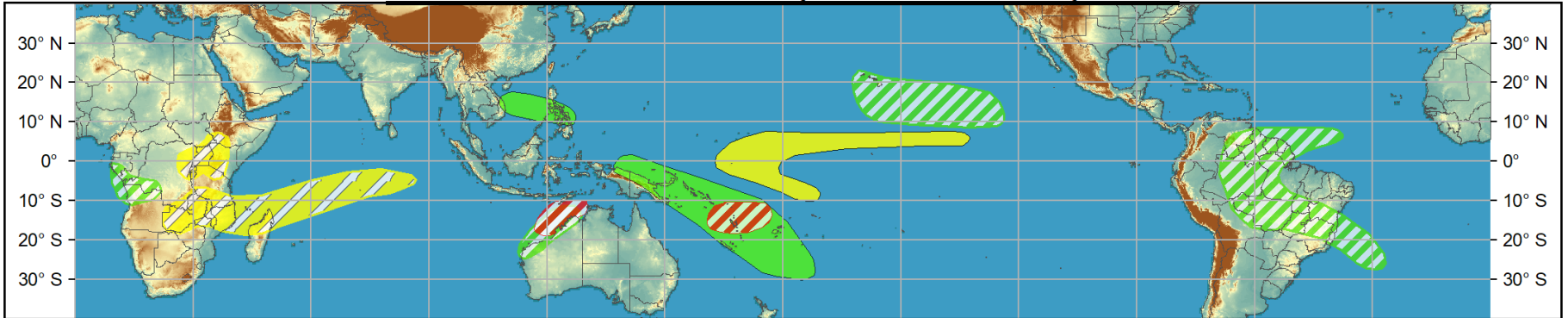
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