Global Tropics Hazards And Benefits Outlook

11/3/2020

Kyle MacRitchie

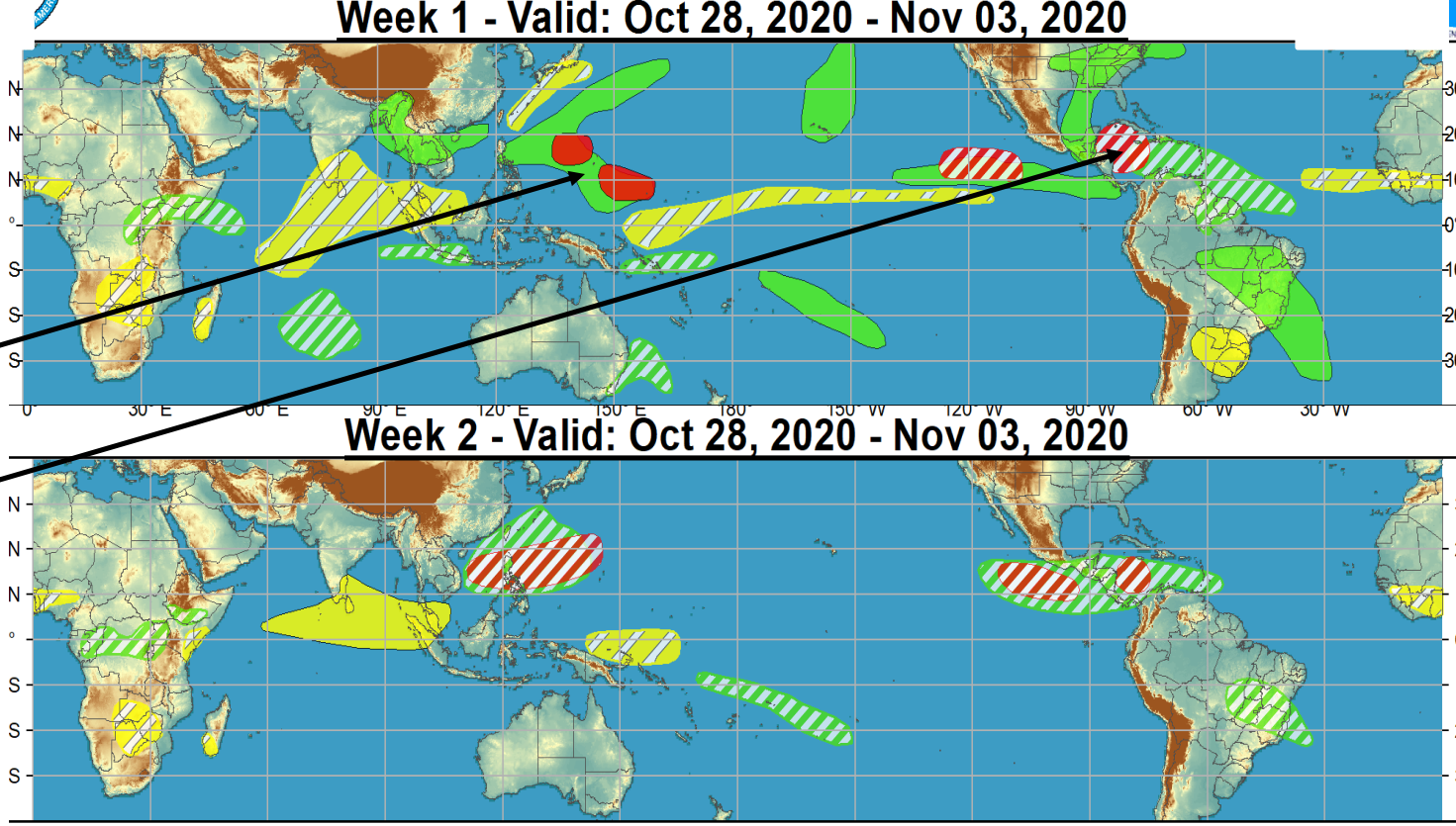
Outline

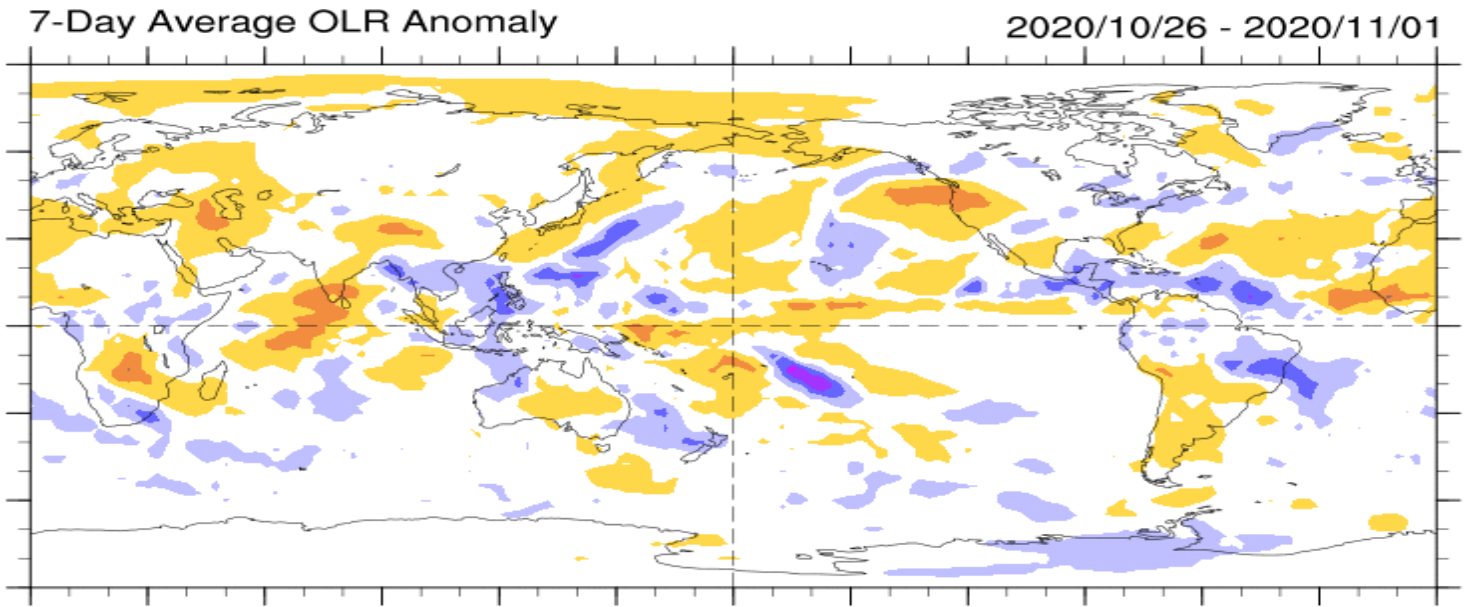
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

Goni – 10/28
Atsani – 11/2

Eta – 10/31





Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (8 October, 2020 Update) ***next update on 12th of Nov.!***

- ENSO Alert System Status: La Niña Advisory

- La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~85% chance) and into spring 2021 (~60% chance during February-April).

MJO and other subseasonal tropical variability:

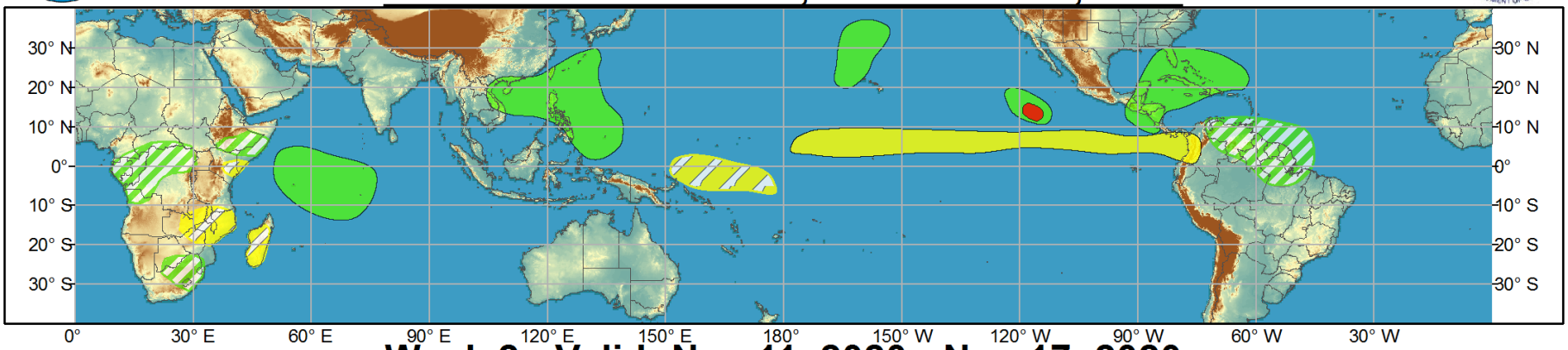
- The RMM index places the active phase of the MJO over the Pacific.

- Most models forecast the MJO to weaken as it propagates over the cold La Nina waters of the Central and East Pacific.

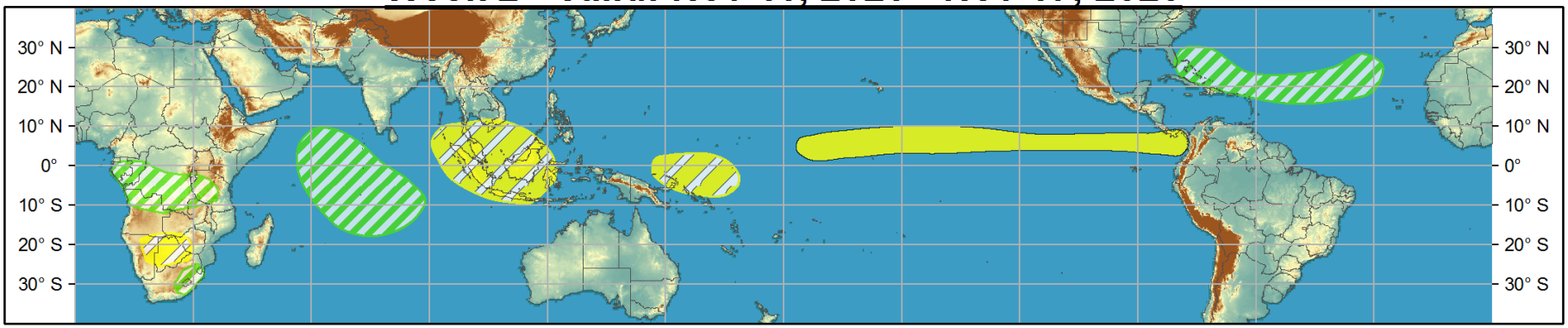
- A Kelvin wave will likely aid (re)development of the MJO over the Indian Ocean during Week-2. The CFS is especially bullish about this event, but the ECMWF is not.

Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Nov 04, 2020 - Nov 10, 2020



Week 2 - Valid: Nov 11, 2020 - Nov 17, 2020



Produced: 11/03/2020

Forecaster: MacRitchie

	Confidence: High	Confidence: 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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中央氣象局 Central Weather Bureau

UNIVERSITY AT ALBANY State University of New York

EARTH SYSTEM SCIENCE INTERDISCIPLINARY CENTER ESSIC UNIVERSITY OF MARYLAND

Australian Government Bureau of Meteorology

cics.nc

NPS PRAESTANTIA PER SCIENTIAM

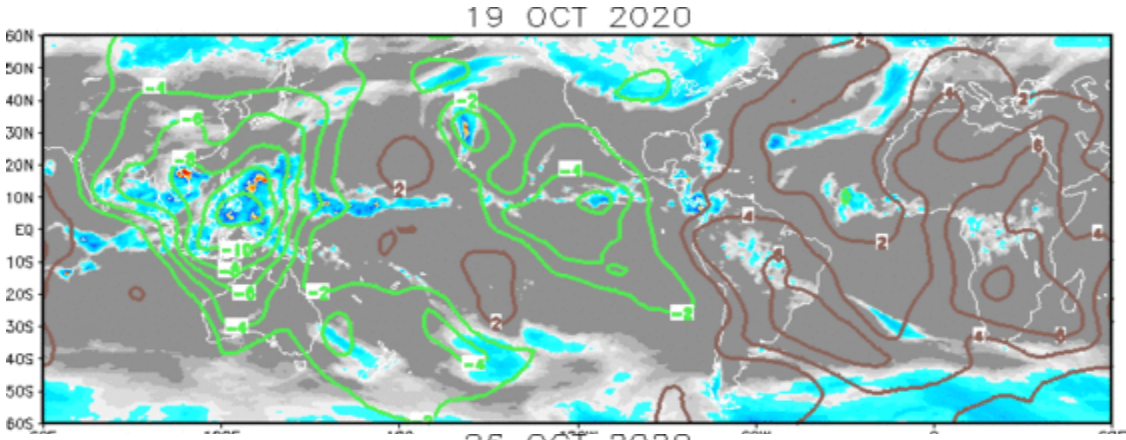
IR Satellite & 200-hpa Velocity Potential Anomalies

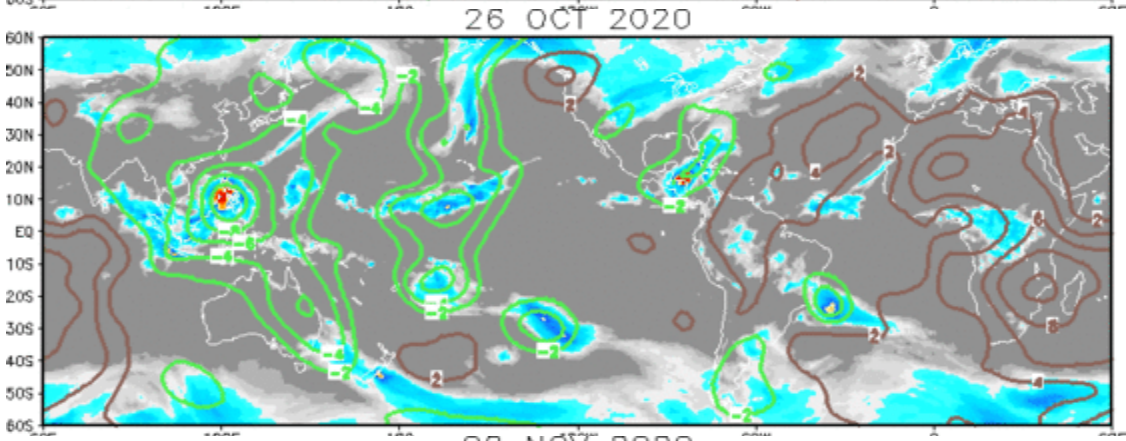
Green: Enhanced Divergence Brown: Enhanced Convergence

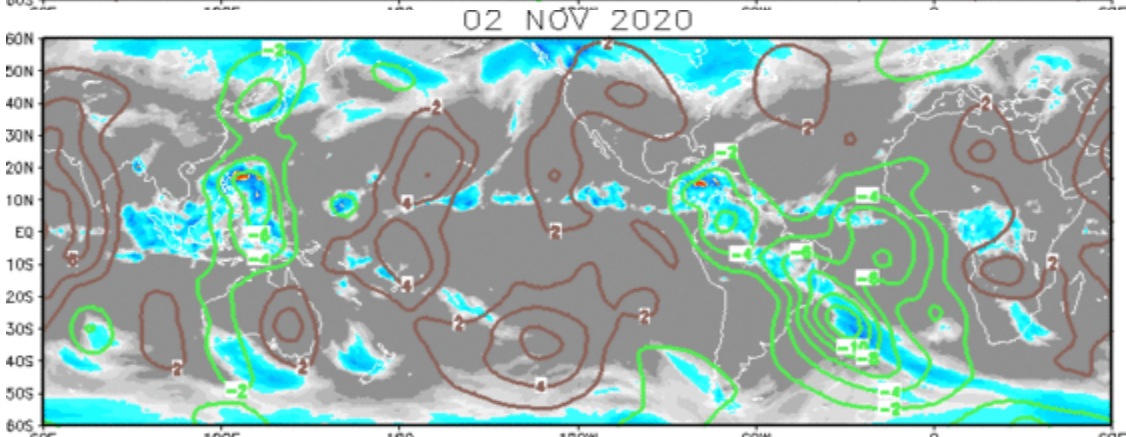
Enhanced convection over the Maritime Continent is related to both the active MJO and La Nina patterns.

Typhoon activity has ramped up within the broad area of enhanced convection in the WPAC.

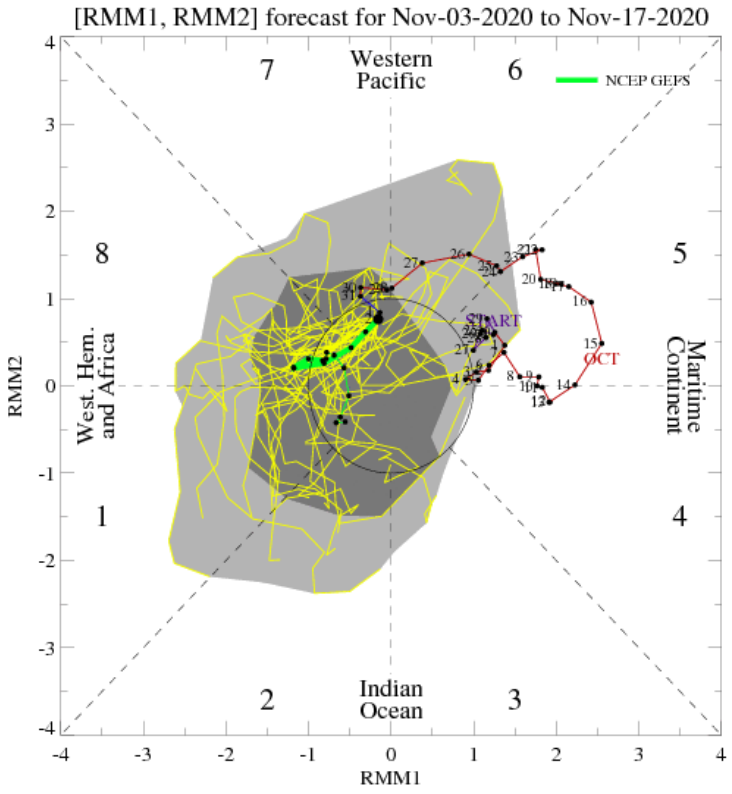
Convection over the WPAC is slightly weaker as the MJO moves eastward.



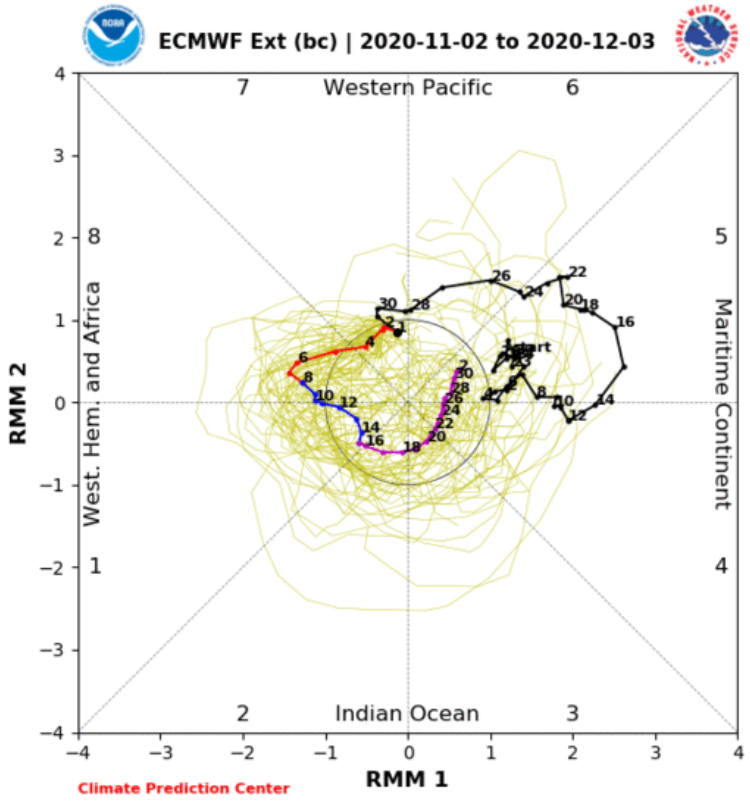




MJO Observation/Forecast



GEFS

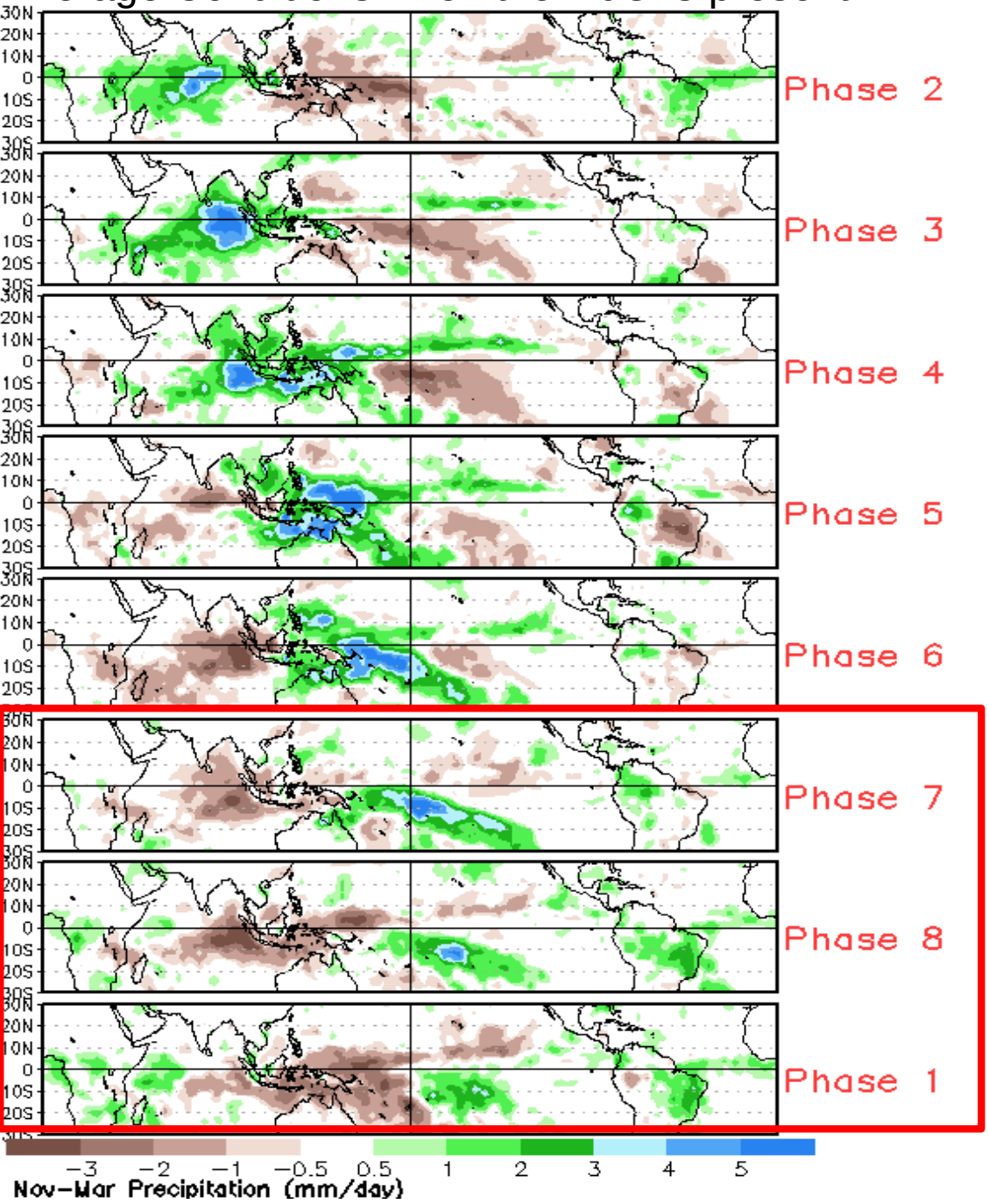


ECMWF ext

Both models predict the MJO to weaken as it moves eastward.

Though neither model's ensemble mean suggests a strong MJO in Week-2, several ensemble members do.

Average Conditions when the MJO is present

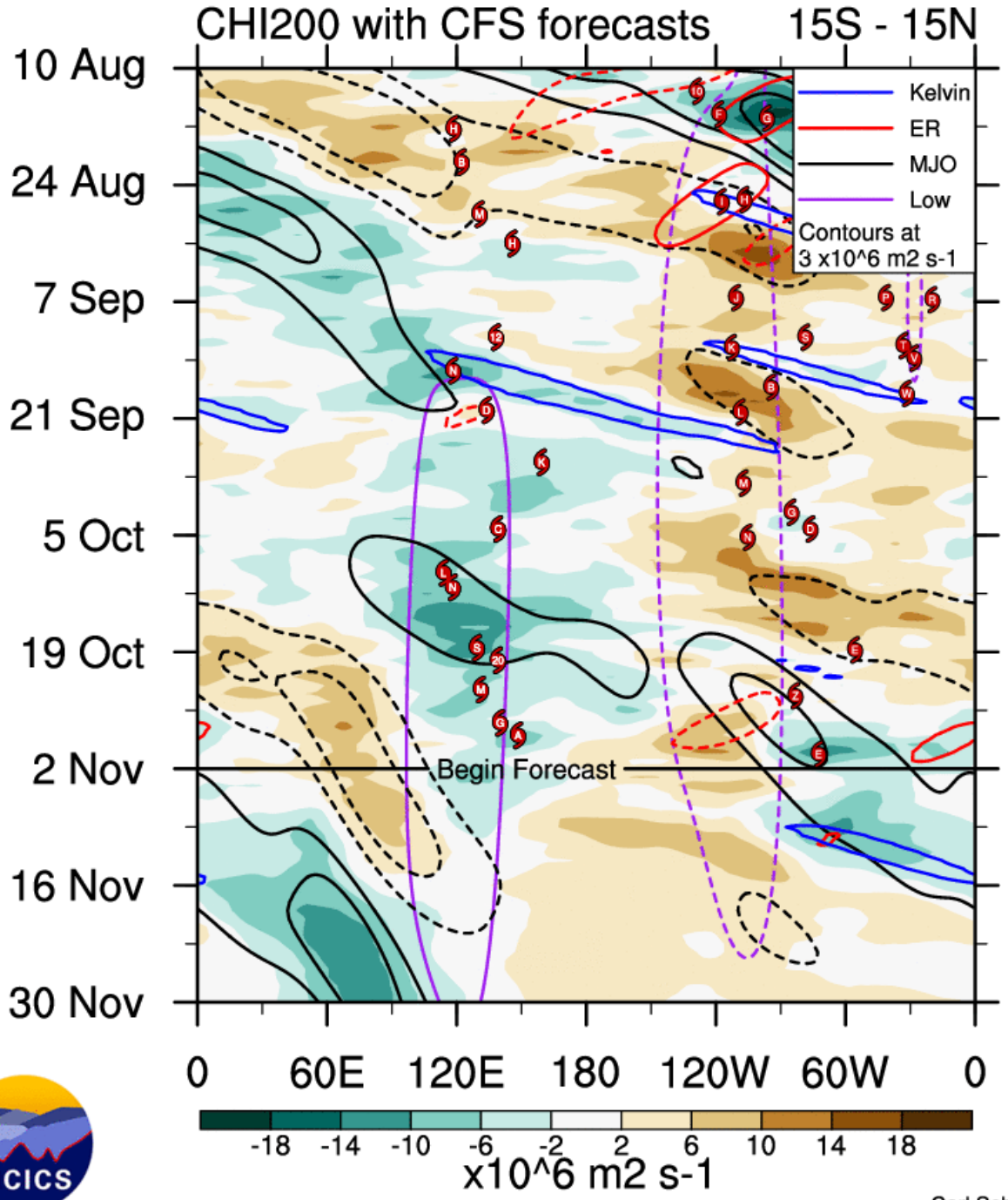


CAVEAT: These panels are representative of robust MJO events.

MJO is forecast to weaken as it moves eastward.

Kelvin wave is forecast to assist with MJO development in Week-2.

Low frequency contours depict ENSO cold conditions.

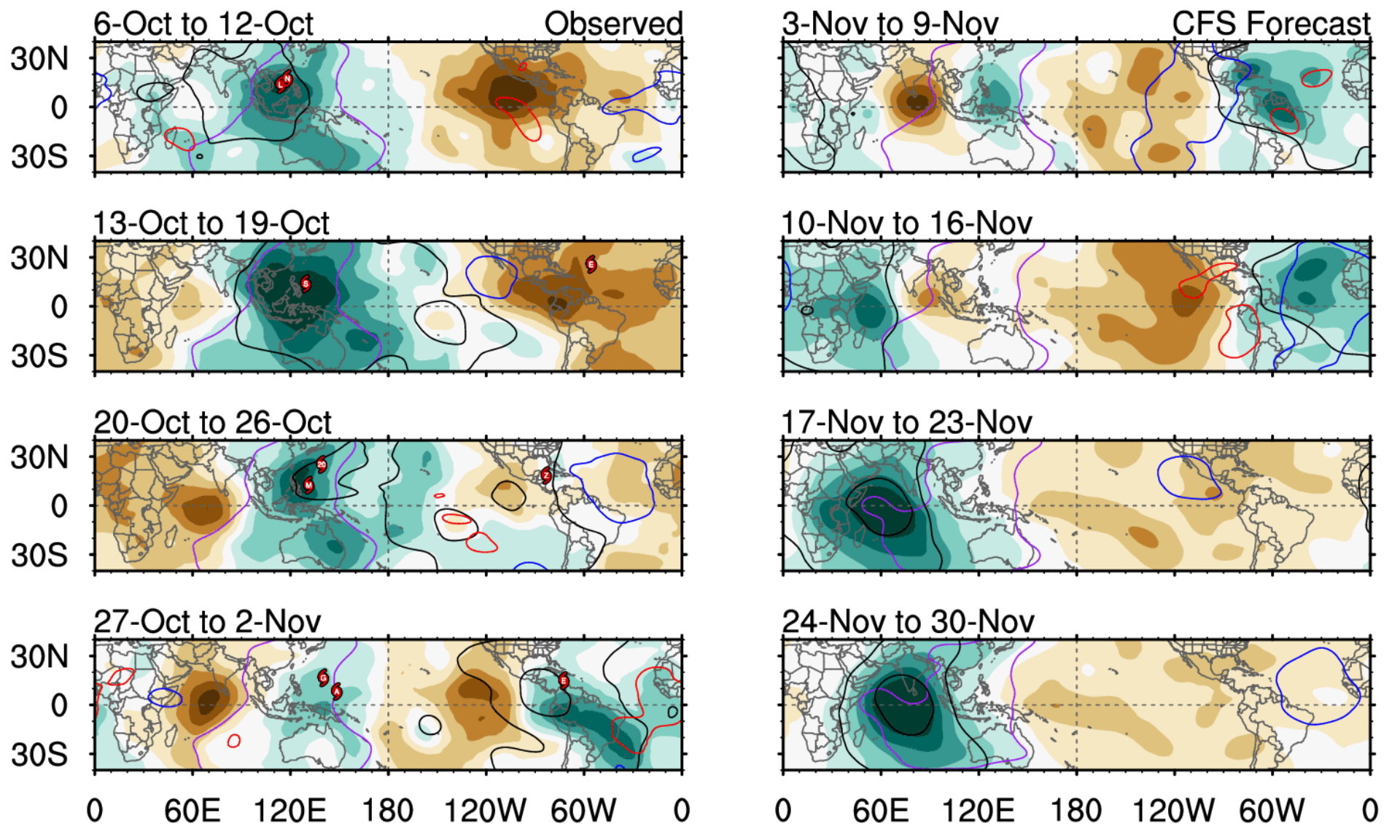


NCICS

ncics.org/mjo

Tue 2020-11-03 1113 UTC

Carl Schreck
carl_schreck@ncsu.edu



7-day CHI200 with CFS forecasts

Contours at -2, -6 x10^6 m2 s-1

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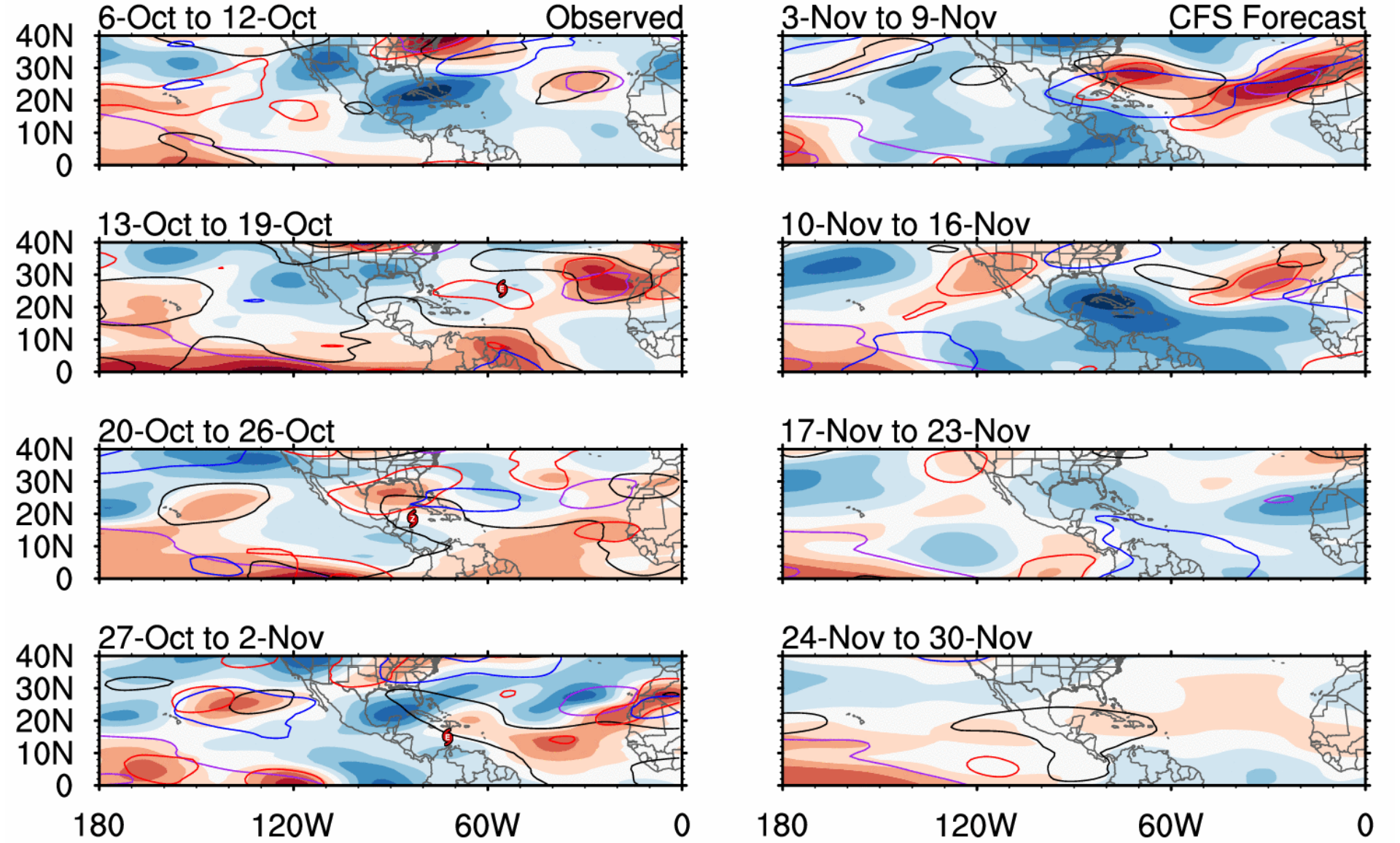
Tue 2020-11-03 1118 UTC



7-day USHEAR with CFS forecasts

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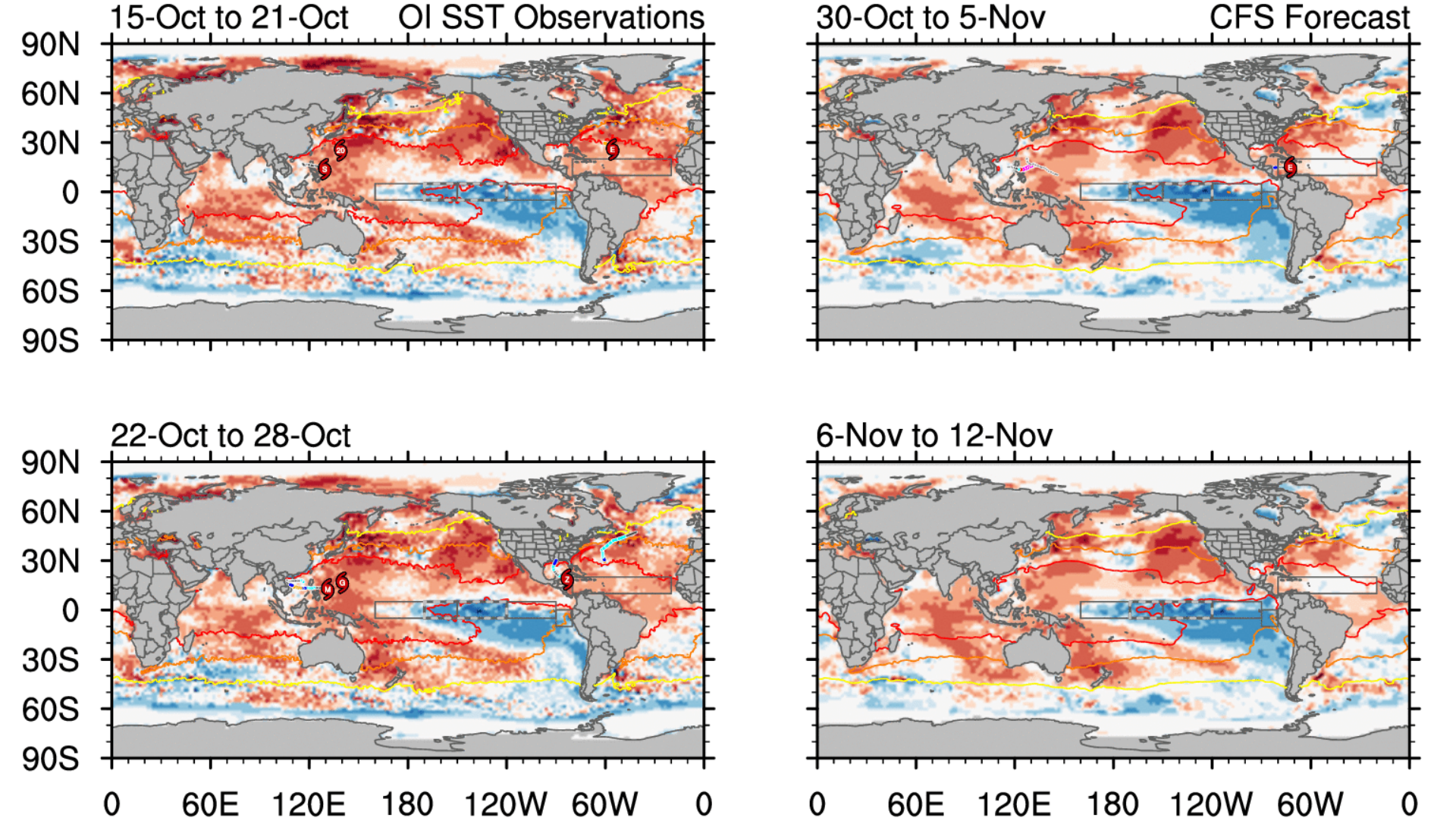

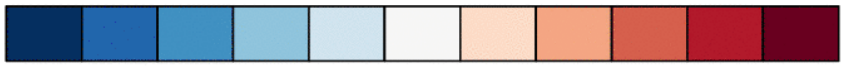

7-day ANOM

°C

26.5°C
20°C
10°C

Cat-5
Cat-4
Cat-3

Cat-2
Cat-1
TS
TD

NCICS

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Tue 2020-11-03 1301 UTC

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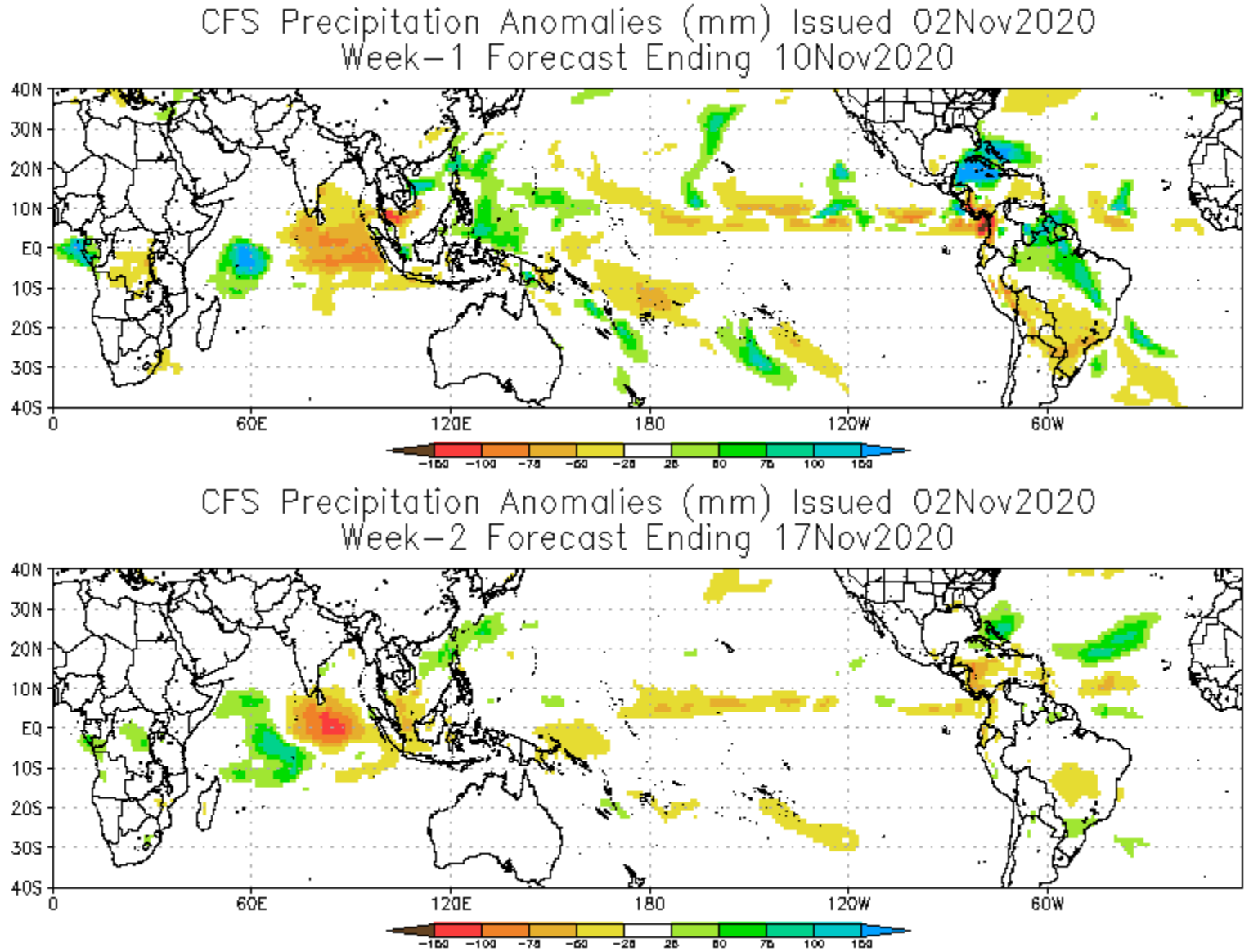
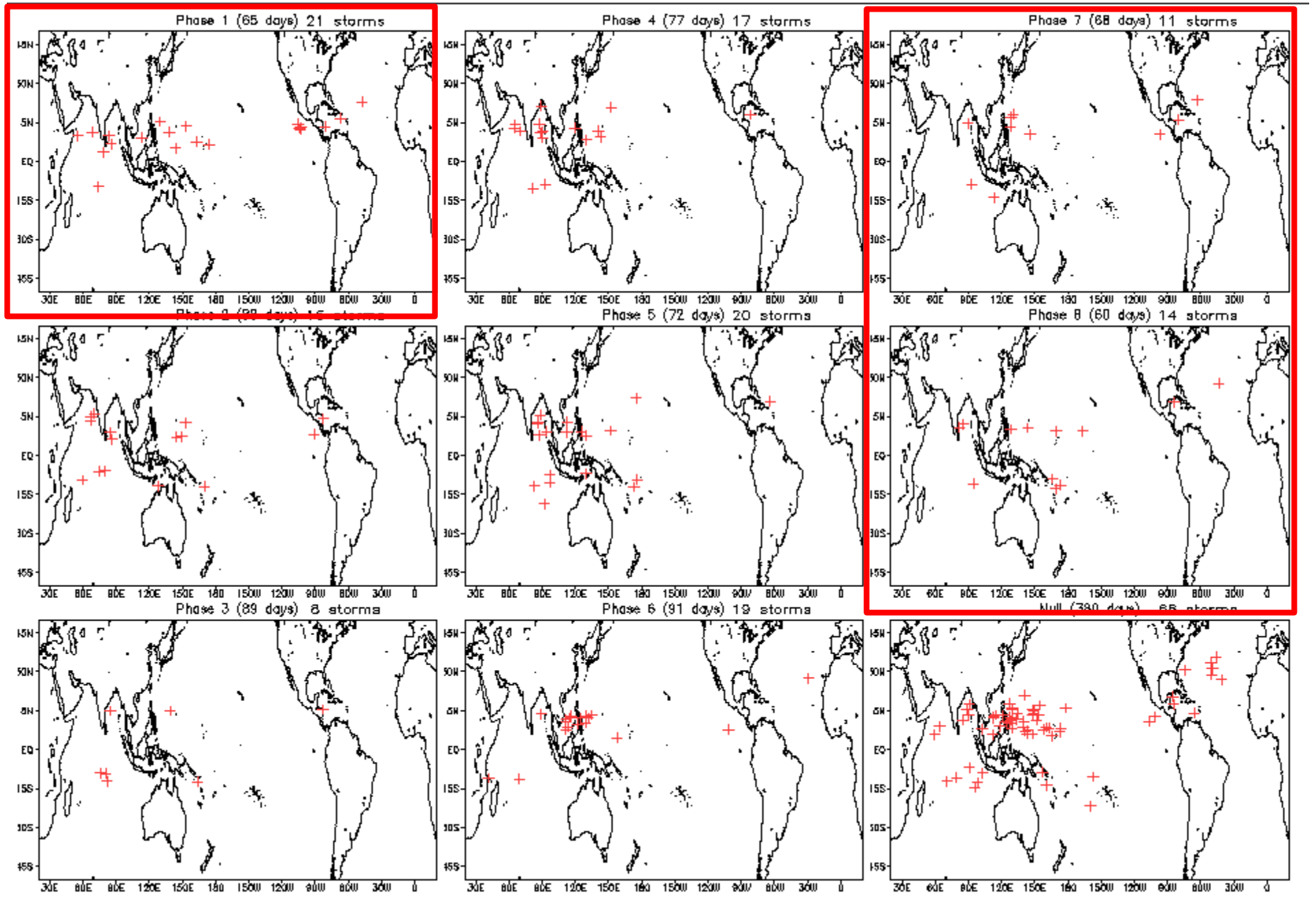
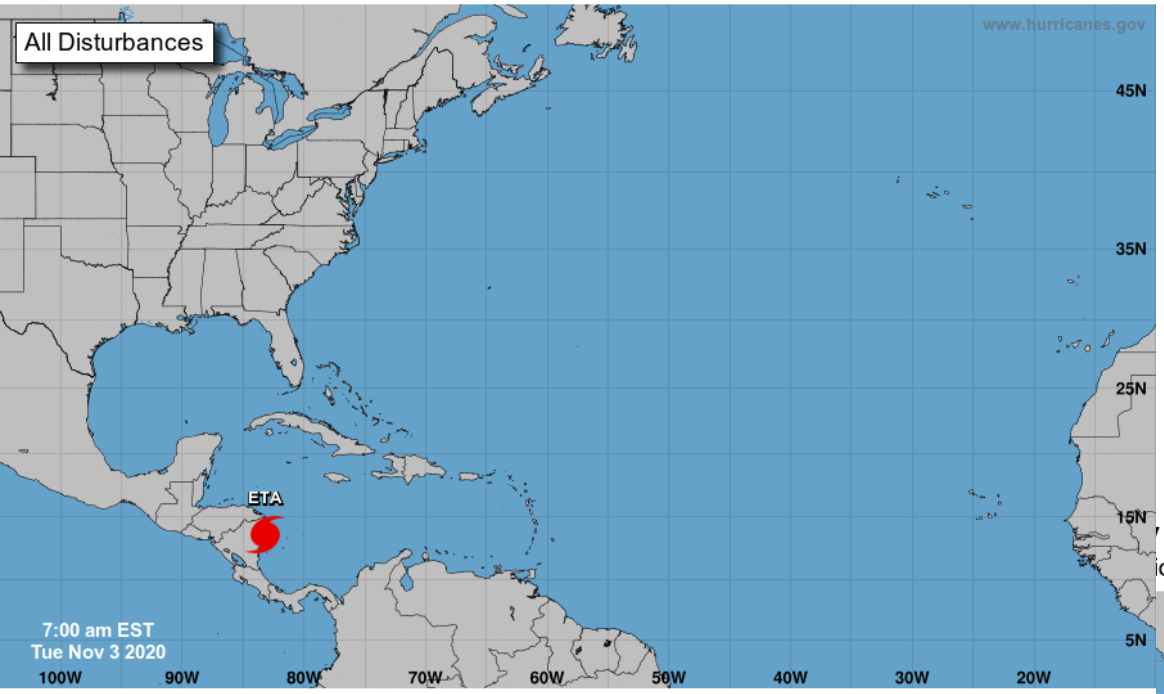

CFS Precipitation Anomalies (mm) Issued 02Nov2020
Week-1 Forecast Ending 10Nov2020
40N
30N
20N
10N
EQ
10S
20S
30S
40S
0
60E
120E
180
120W
60W
-150 -100 -75 -50 -25 25 50 75 100 150
CFS Precipitation Anomalies (mm) Issued 02Nov2020
Week-2 Forecast Ending 17Nov2020
40N
30N
20N
10N
EQ
10S
20S
30S
40S
0
60E
120E
180
120W
60W
-150 -100 -75 -50 -25 25 50 75 100 150

November Tropical Storm Formation by MJO phase



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

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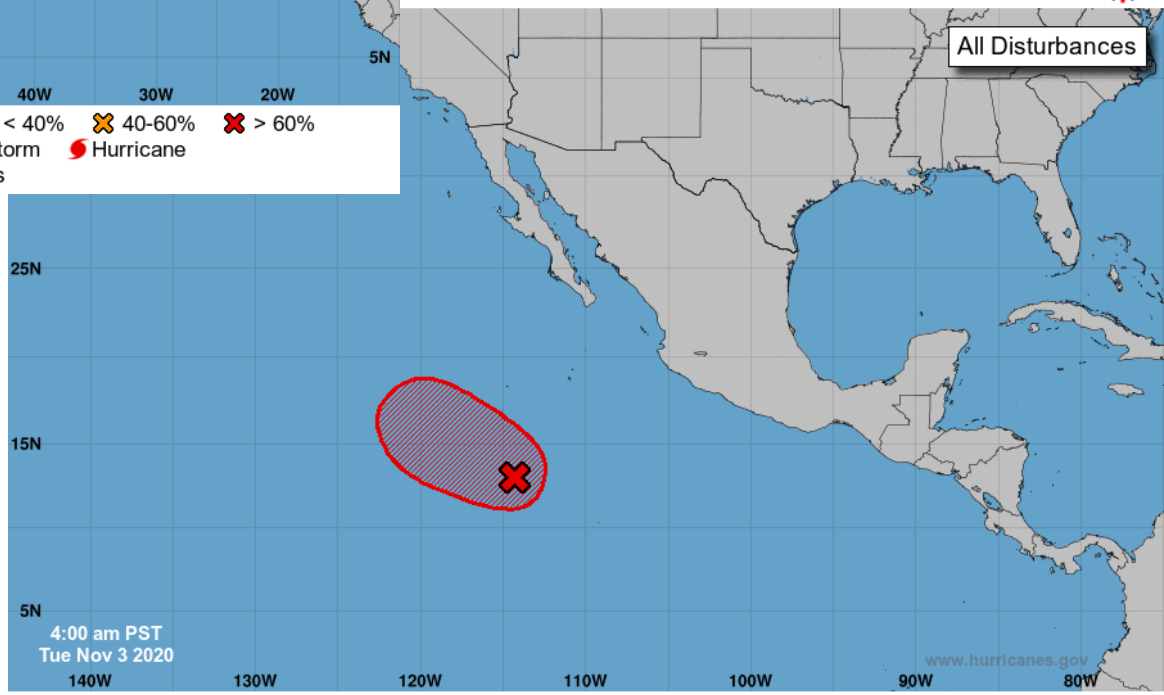

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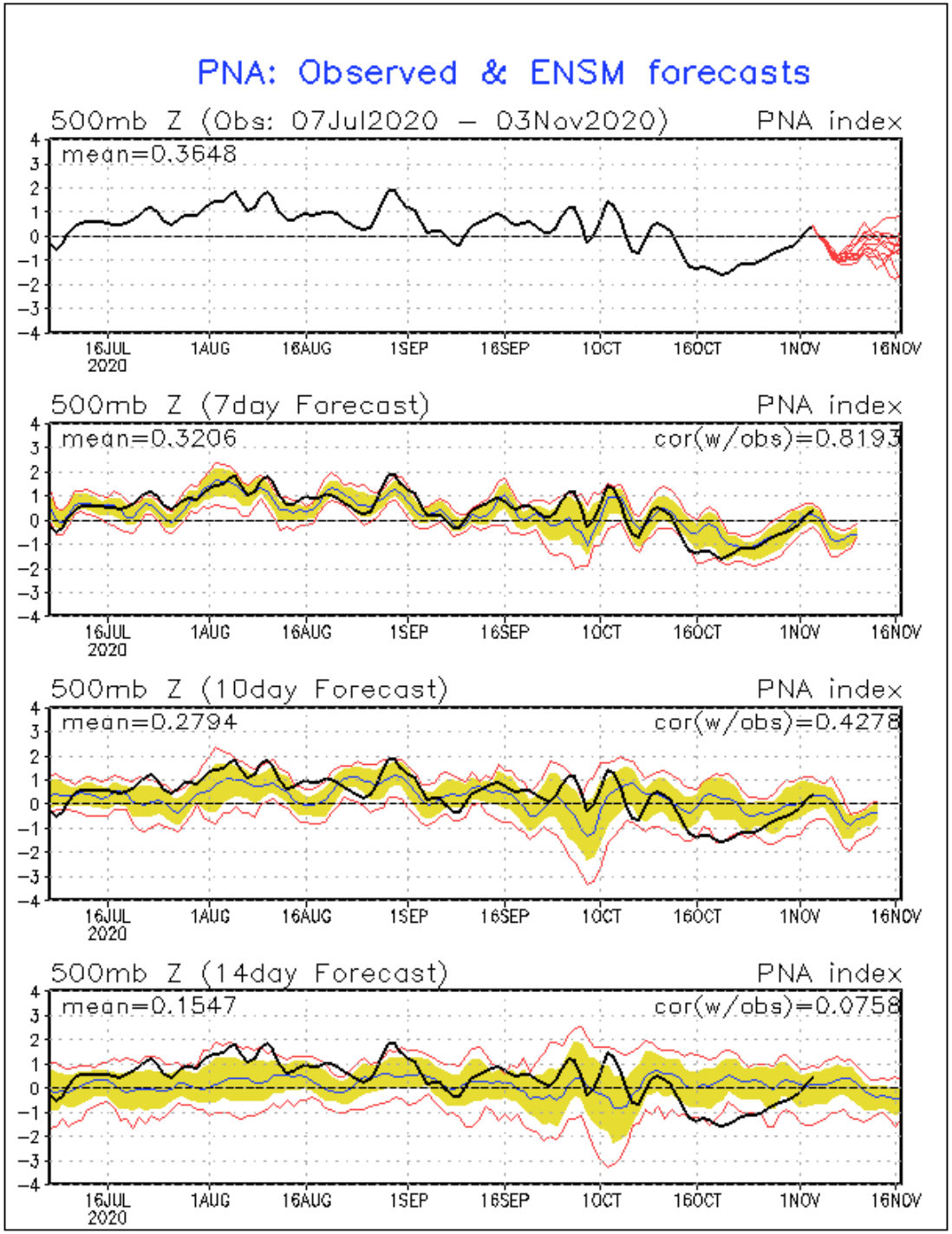
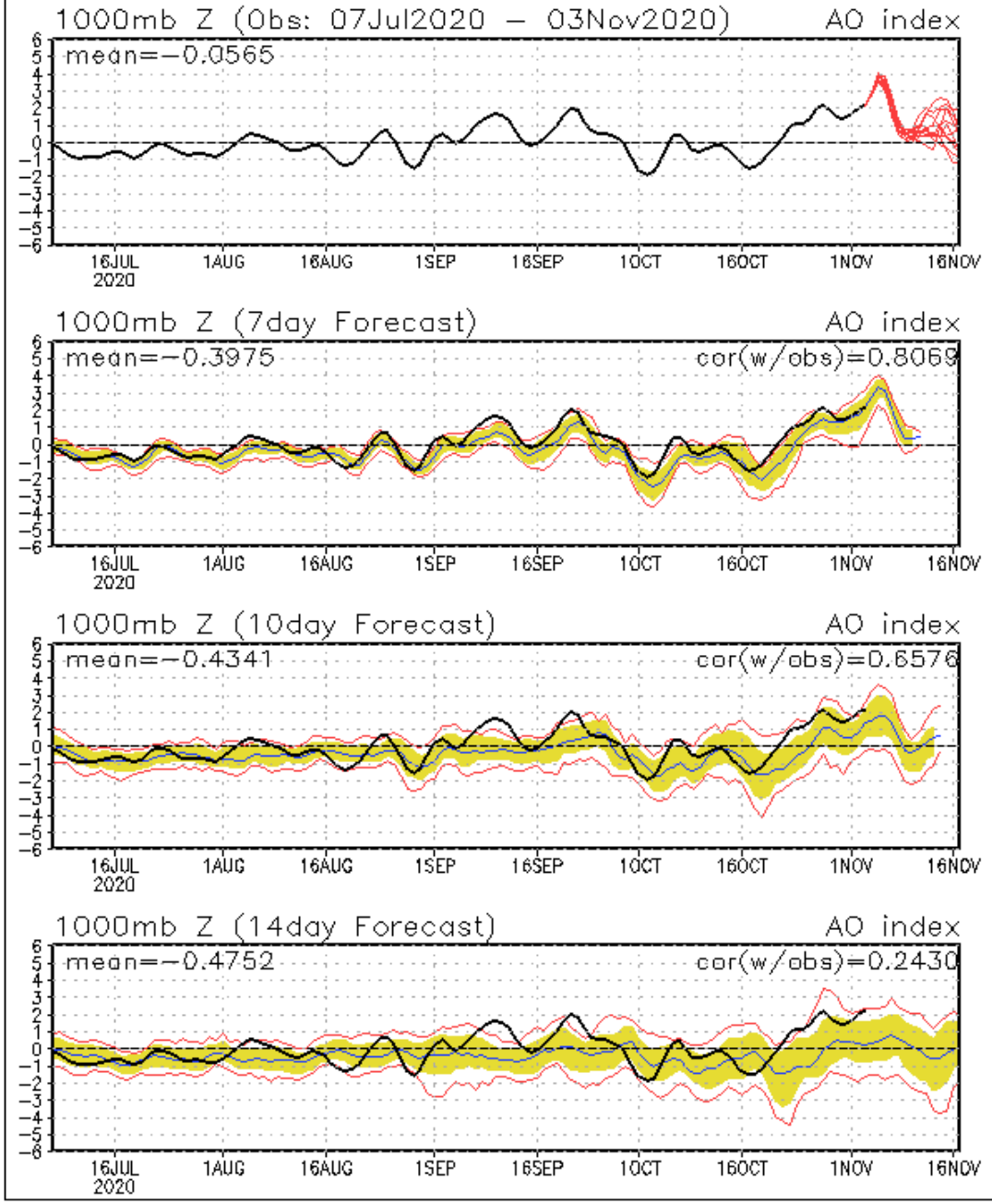
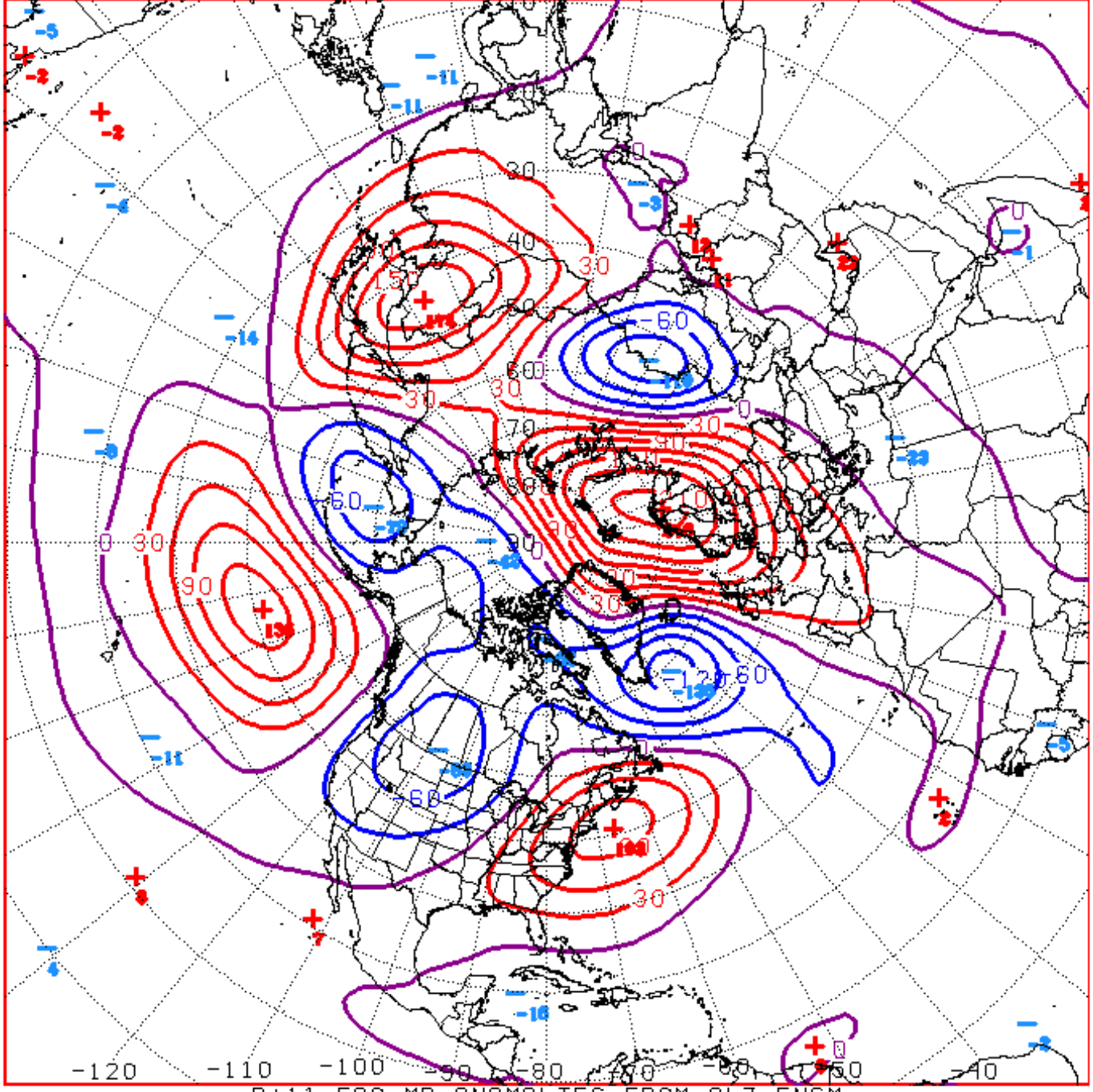

PNA: Observed & ENSM forecasts
500mb Z (Obs: 07Jul2020 – 03Nov2020)
PNA index
mean=0.3648
500mb Z (7day Forecast)
PNA index
mean=0.3206
cor(w/obs)=0.8193
500mb Z (10day Forecast)
PNA index
mean=0.2794
cor(w/obs)=0.4278
500mb Z (14day Forecast)
PNA index
mean=0.1547
cor(w/obs)=0.0758
4
3
2
1
0
−1
−2
−3
−4
16JUL 2020
1AUG
16AUG
1SEP
16SEP
1OCT
16OCT
1NOV
16NOV

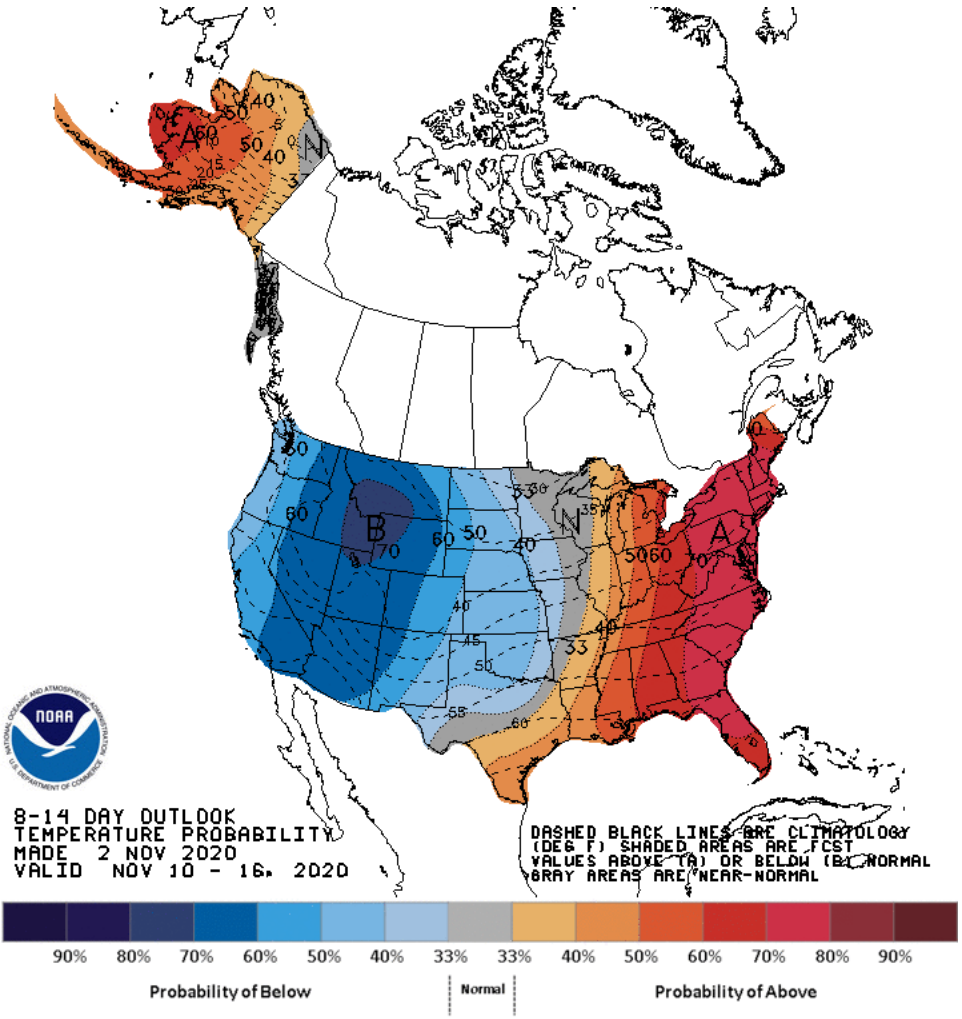
AO: Observed & ENSM forecasts

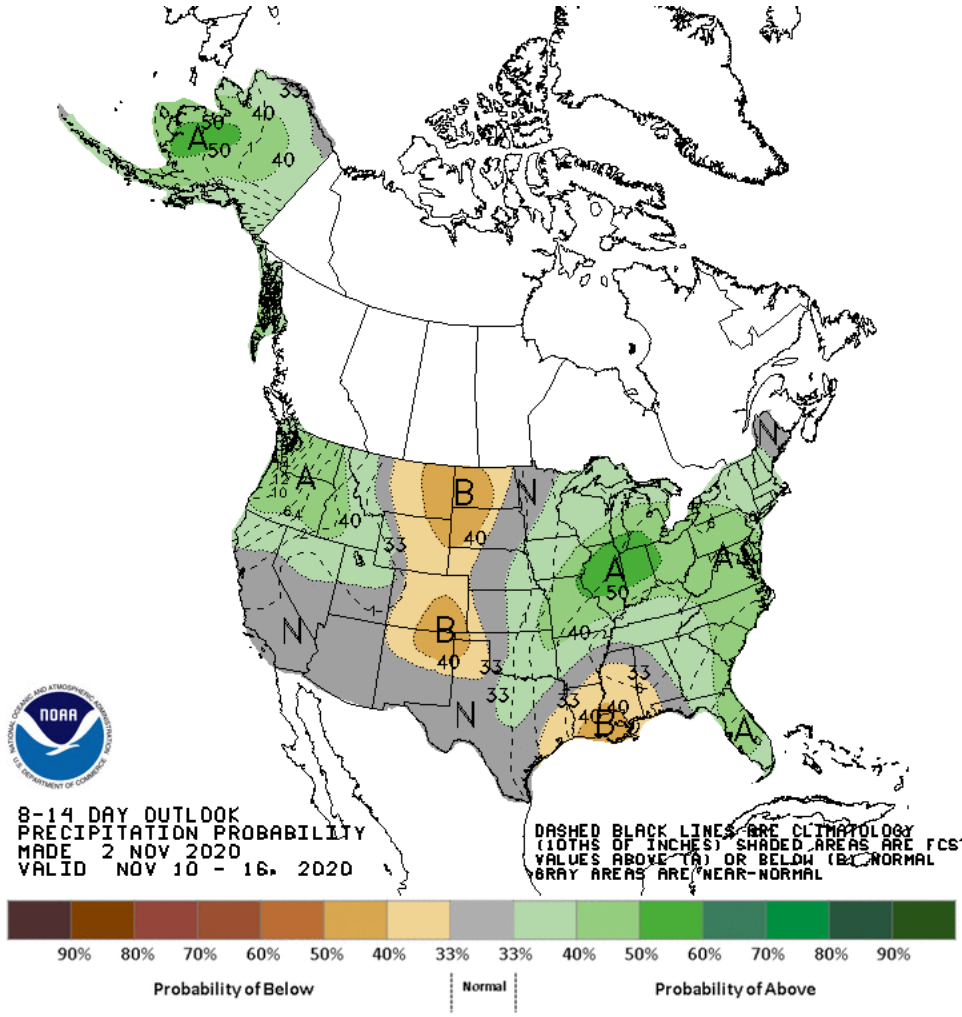




D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE NOV 03 2020 1420 UTC CNTD NOV 14 2020

Week 2 – Temperature and Precipitation





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

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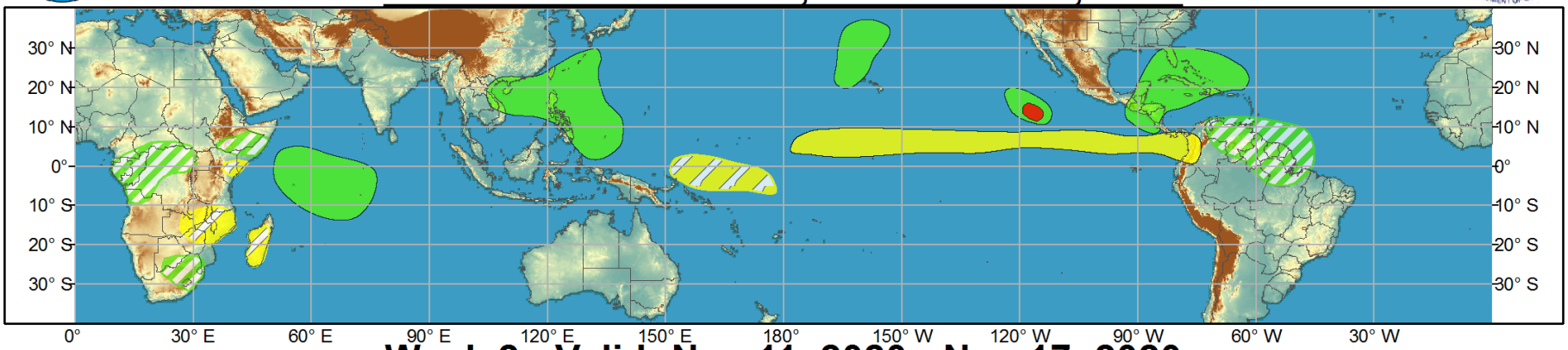

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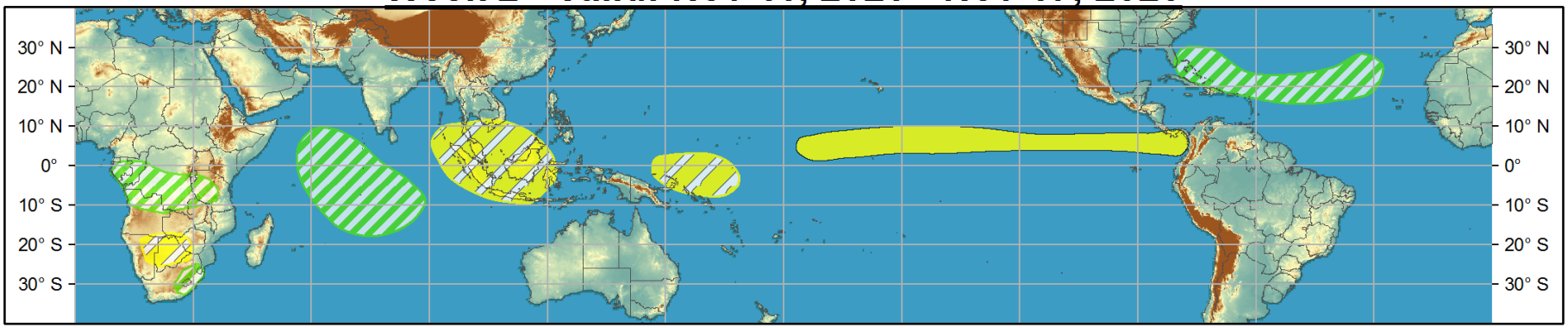

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