

Global Tropics Hazards And Benefits Outlook

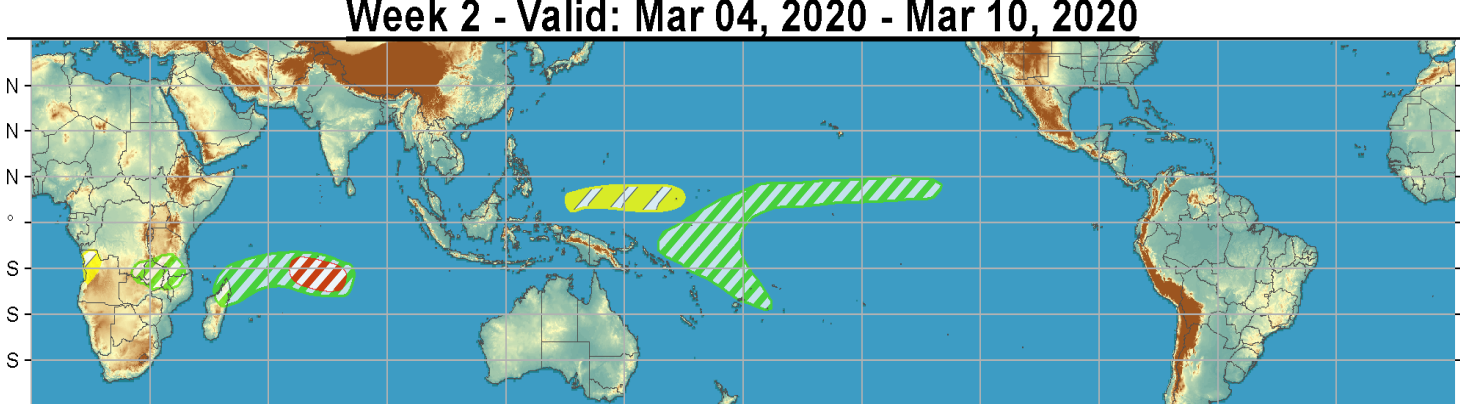
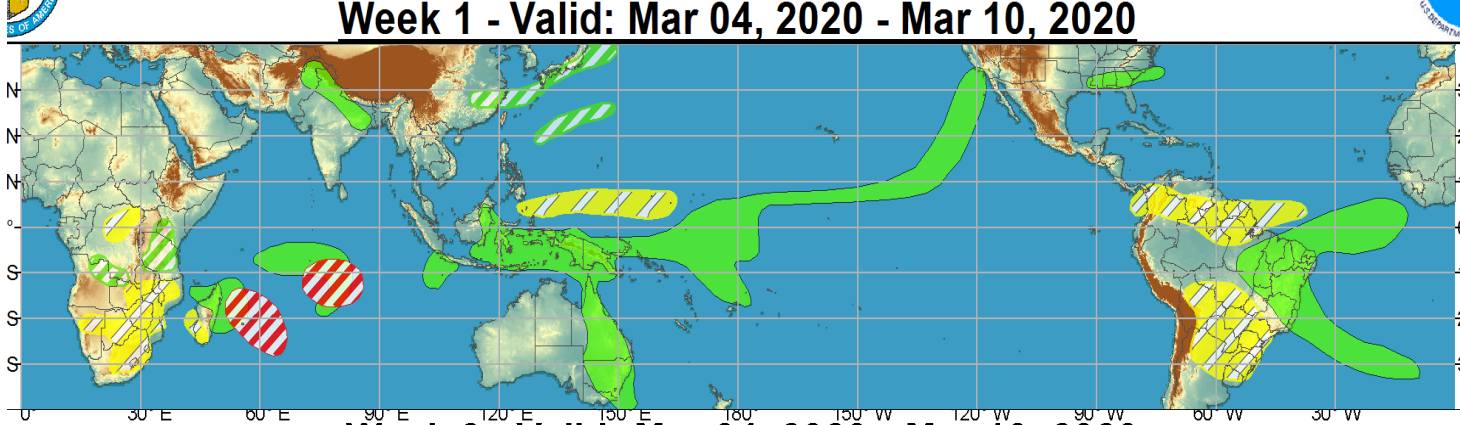
3/10/2020

Brad Pugh

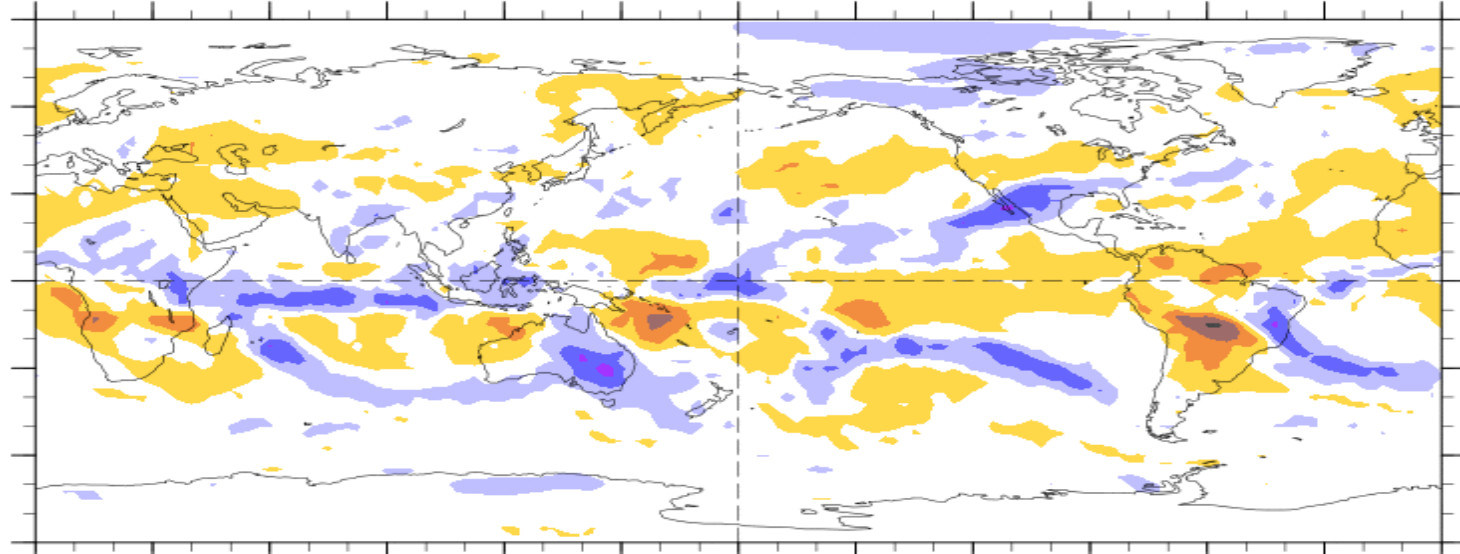
Outline

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

Outlook Review



7-Day Average OLR Anomaly 2020/03/02 - 2020/03/08



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (February 13, 2020 Update)

next update on 12th of March!

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored through Northern Hemisphere spring 2020 (~60% chance), continuing through summer 2020 (~50% chance).

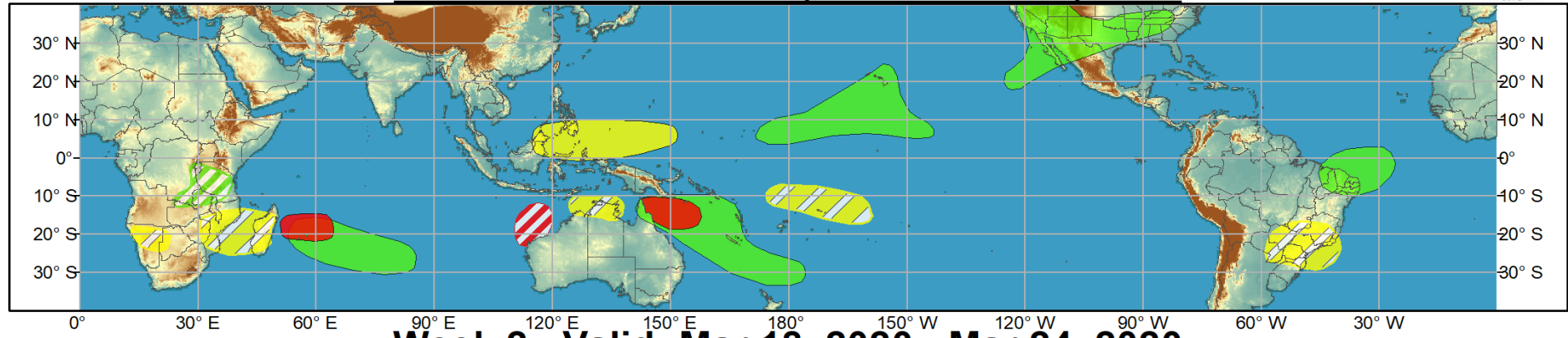
MJO and other subseasonal tropical variability:

- The MJO strengthened at the beginning of March with its enhanced phase shifting east to the Maritime Continent during the first week of March.
- Dynamical models favor eastward propagation but vary on how fast it crosses the Western Hemisphere.
- The low-frequency base state continues to favor enhanced convection near the Date Line.
- The MJO is likely to increase convection across the equatorial central Pacific which is likely to contribute to an enhanced subtropical jet and heavy rainfall across the south-central U.S. during mid to late March.

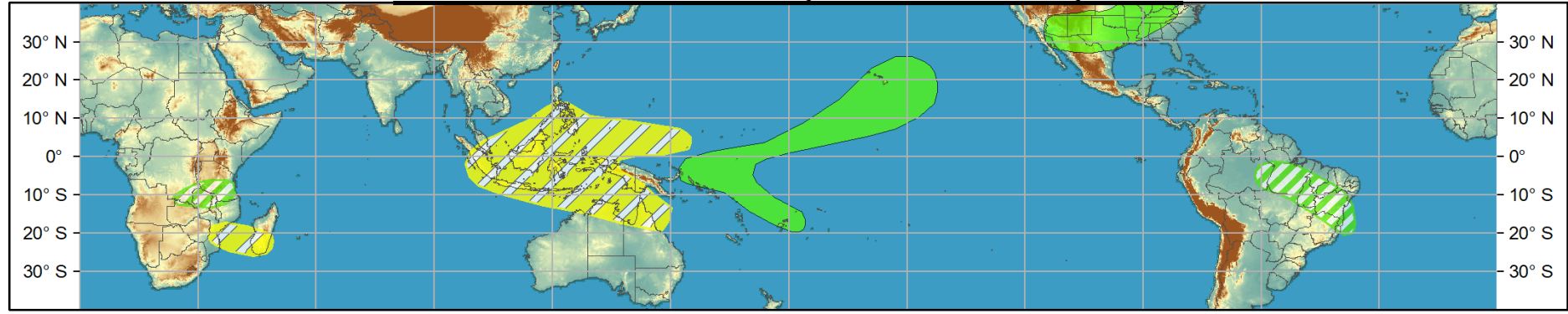


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Mar 11, 2020 - Mar 17, 2020



Week 2 - Valid: Mar 18, 2020 - Mar 24, 2020



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: 03/10/2020
Forecaster: Pugh

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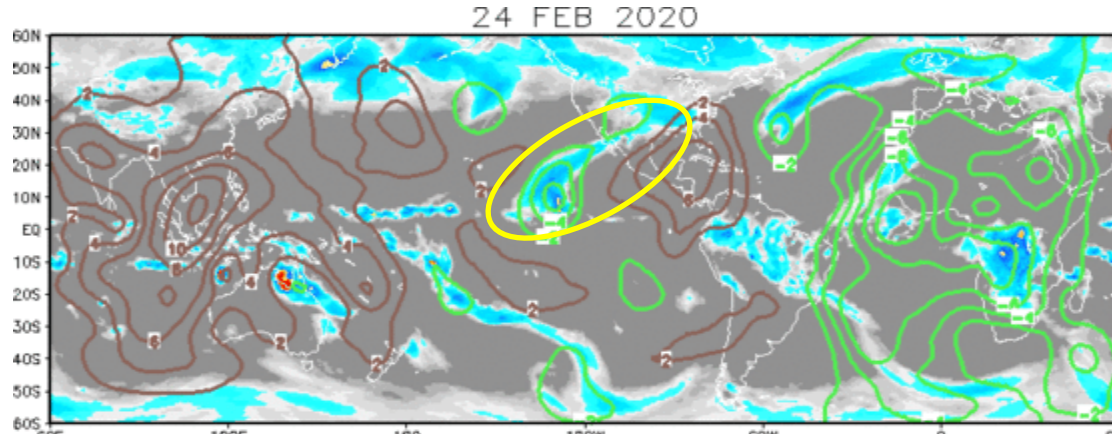


IR Satellite & 200-hpa Velocity Potential Anomalies

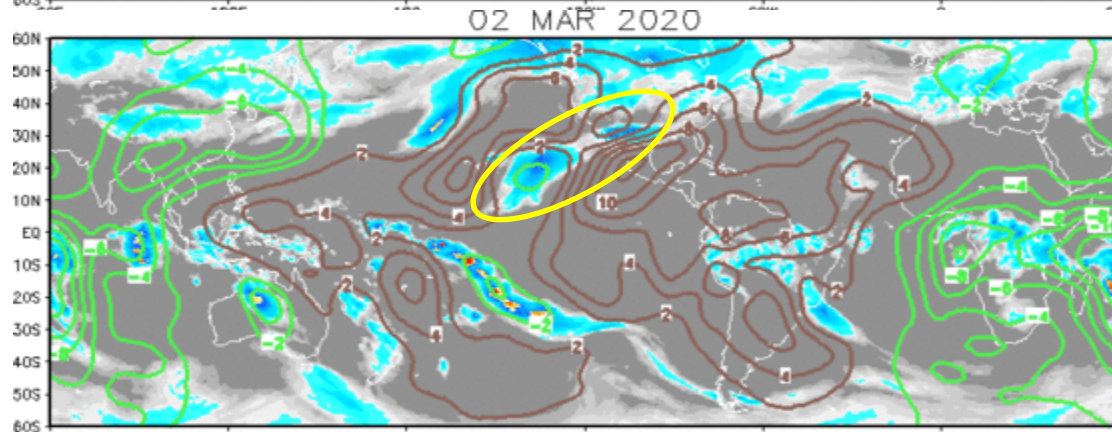
Green: Enhanced Divergence

Brown: Enhanced Convergence

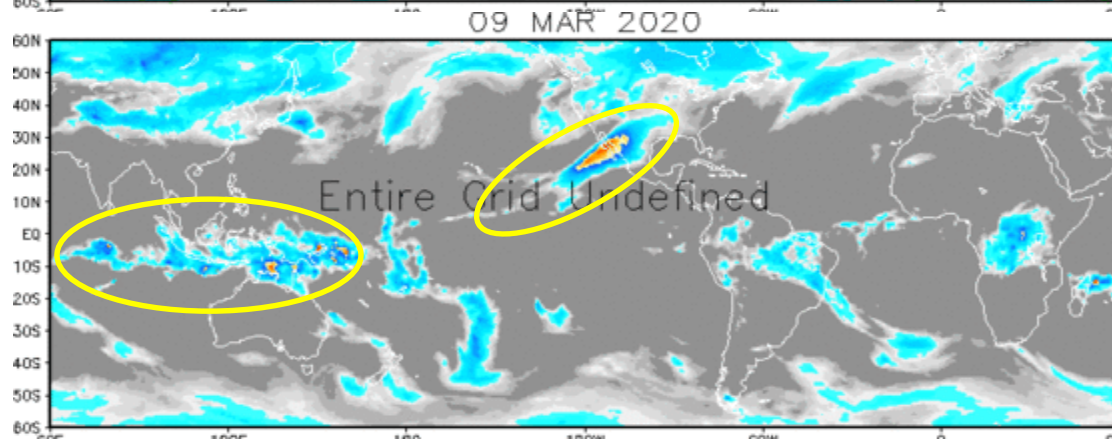
Suppressed convection
overspread the Maritime
Continent



Strengthening MJO with a
Wave-1 pattern



Recent increase in
convection across the
Maritime Continent and
northern Australia



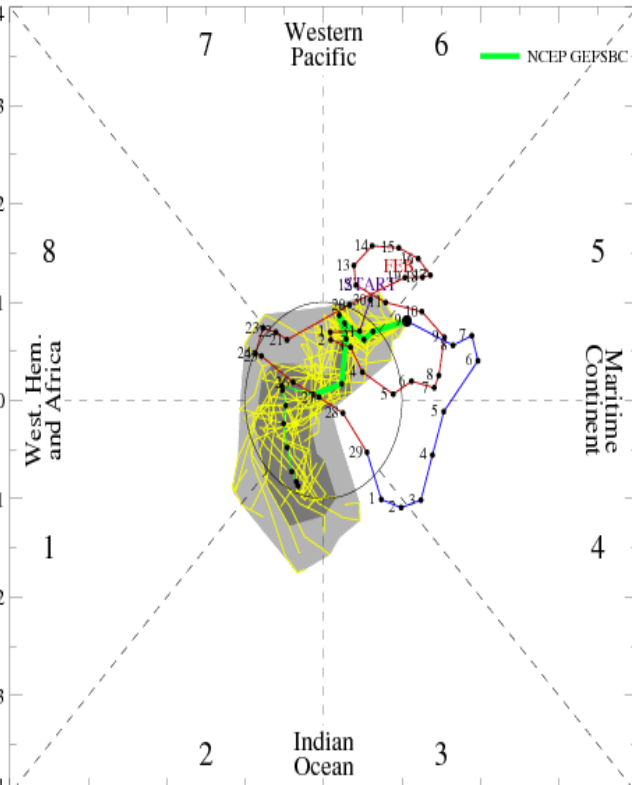
Enhanced subtropical jet
since late February

MJO Observation/Forecast

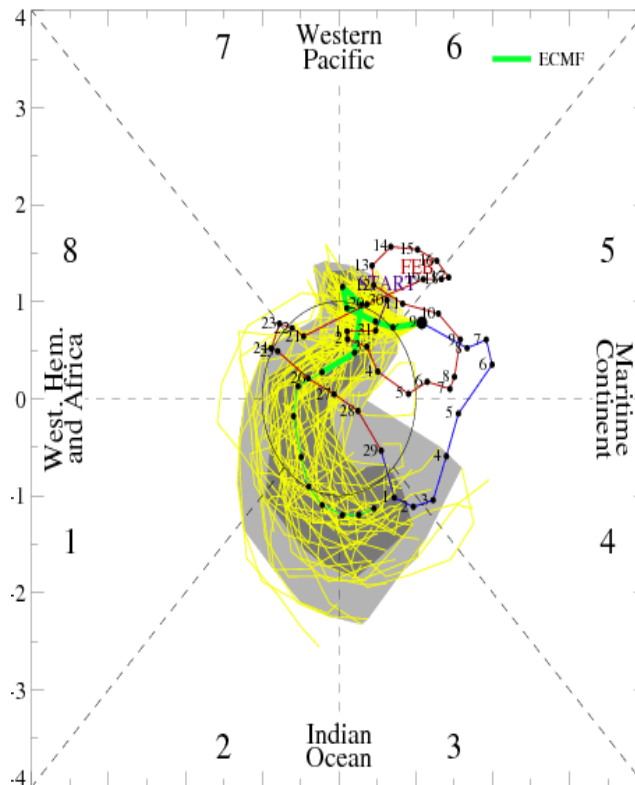
[RMM1, RMM2] forecast for Mar-10-2020 to Mar-24-2020

MJO Index Forecast for 10Mar2020-24Mar2020

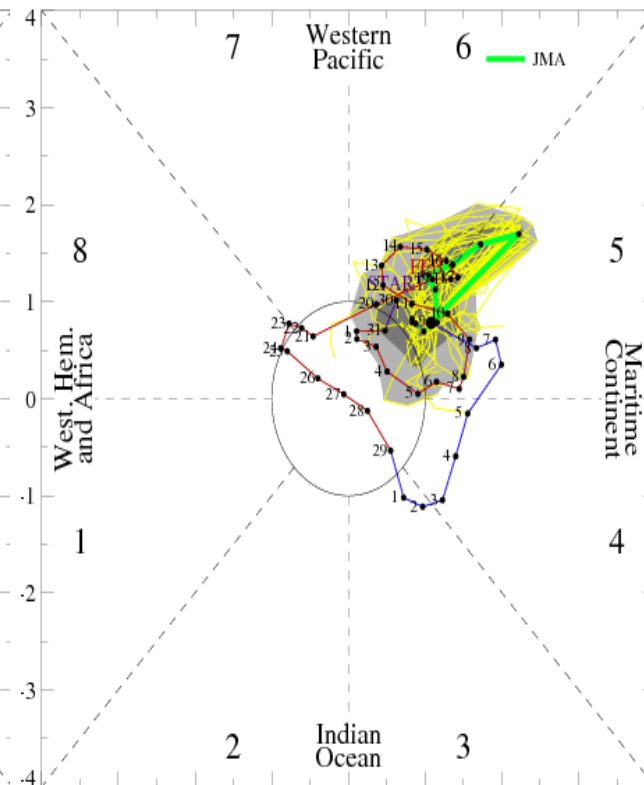
MJO Index Forecast for 10Mar2020-18Mar2020



GEFS



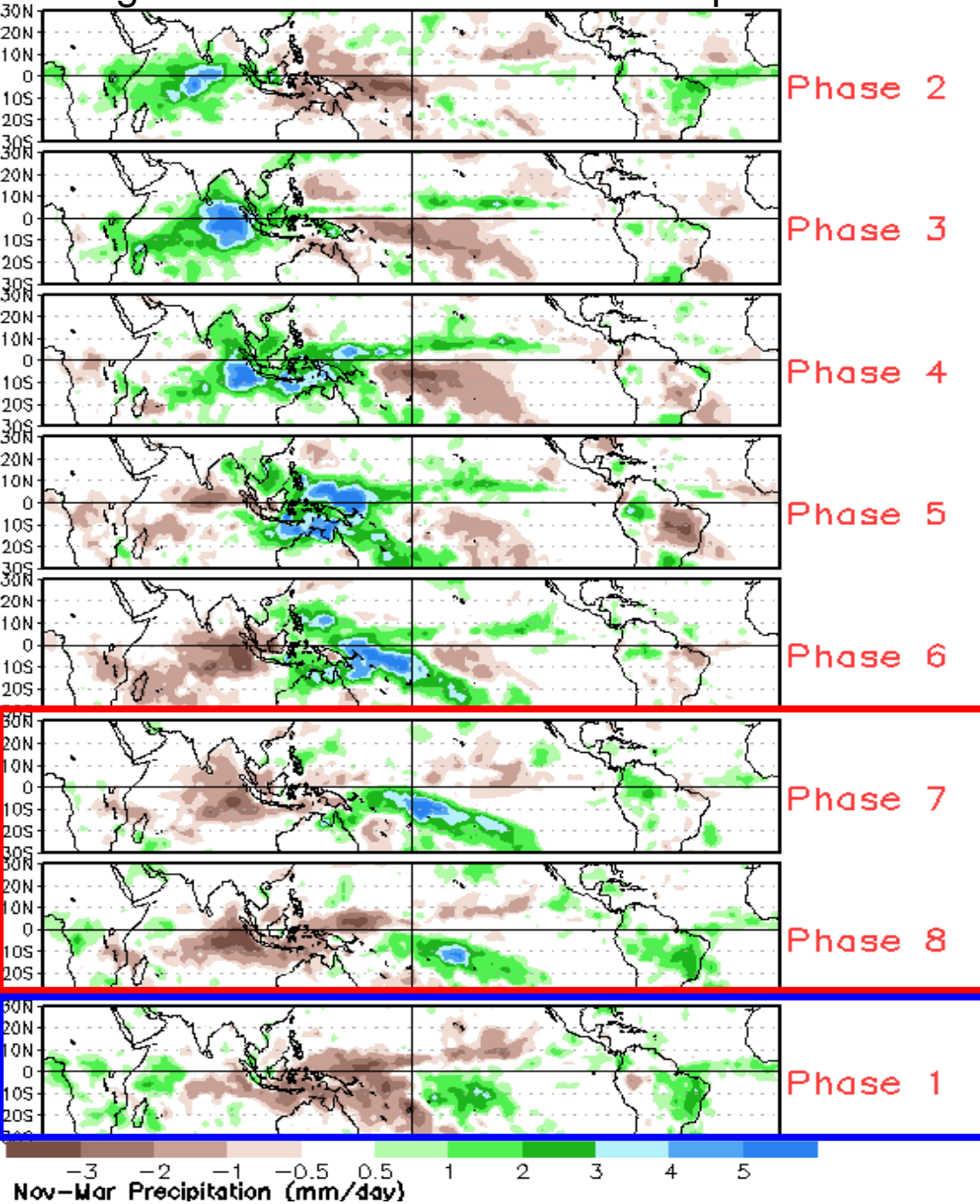
ECMWF



JMA

GFS and ECMWF ensemble means indicate a fast-moving MJO (weak amplitude) during the next two weeks

Average Conditions when the MJO is present



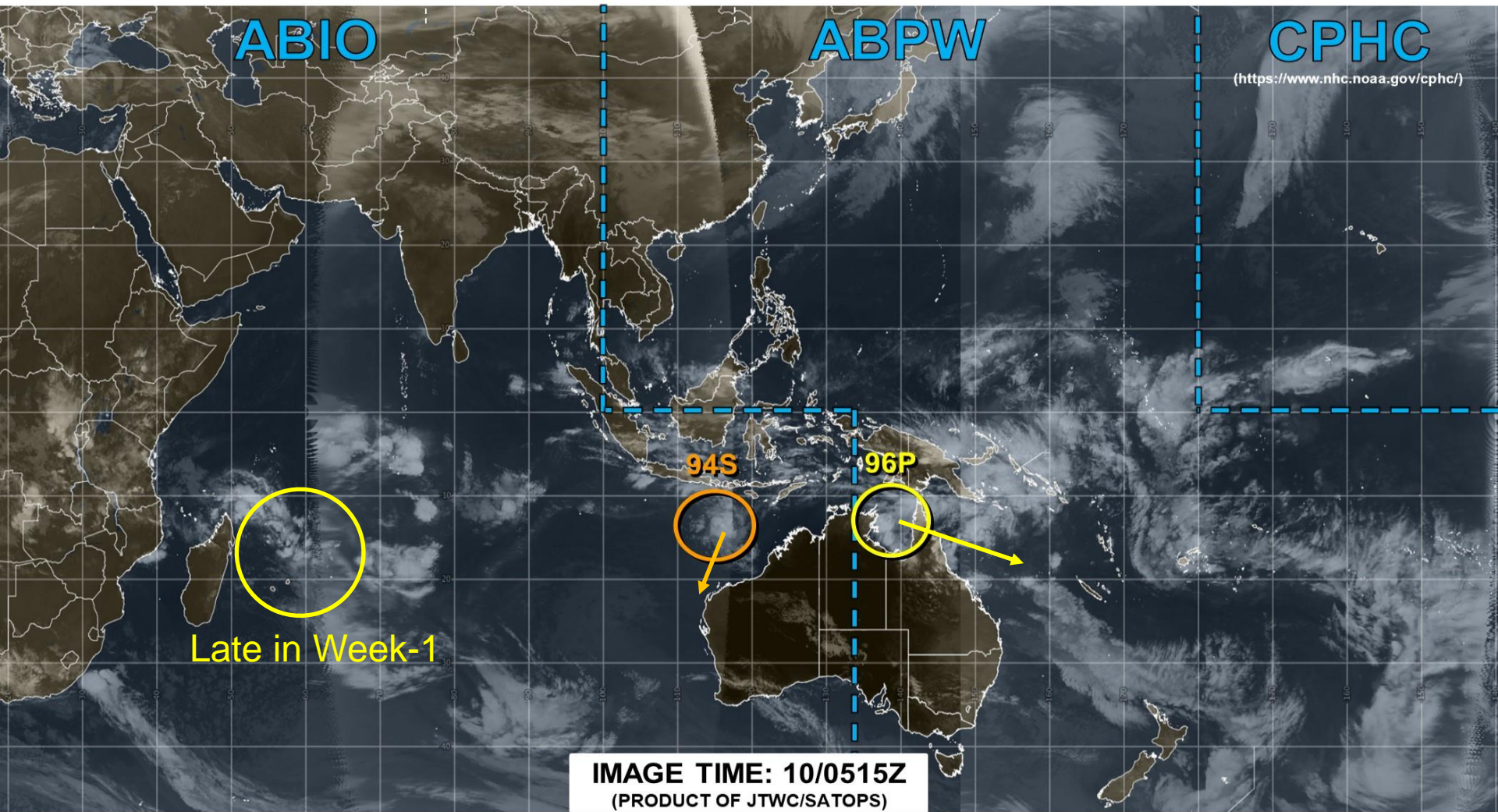
CAVEAT: These panels are representative of robust MJO events.

Week-1: Phases 7/8

Week-2: Phase 1



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

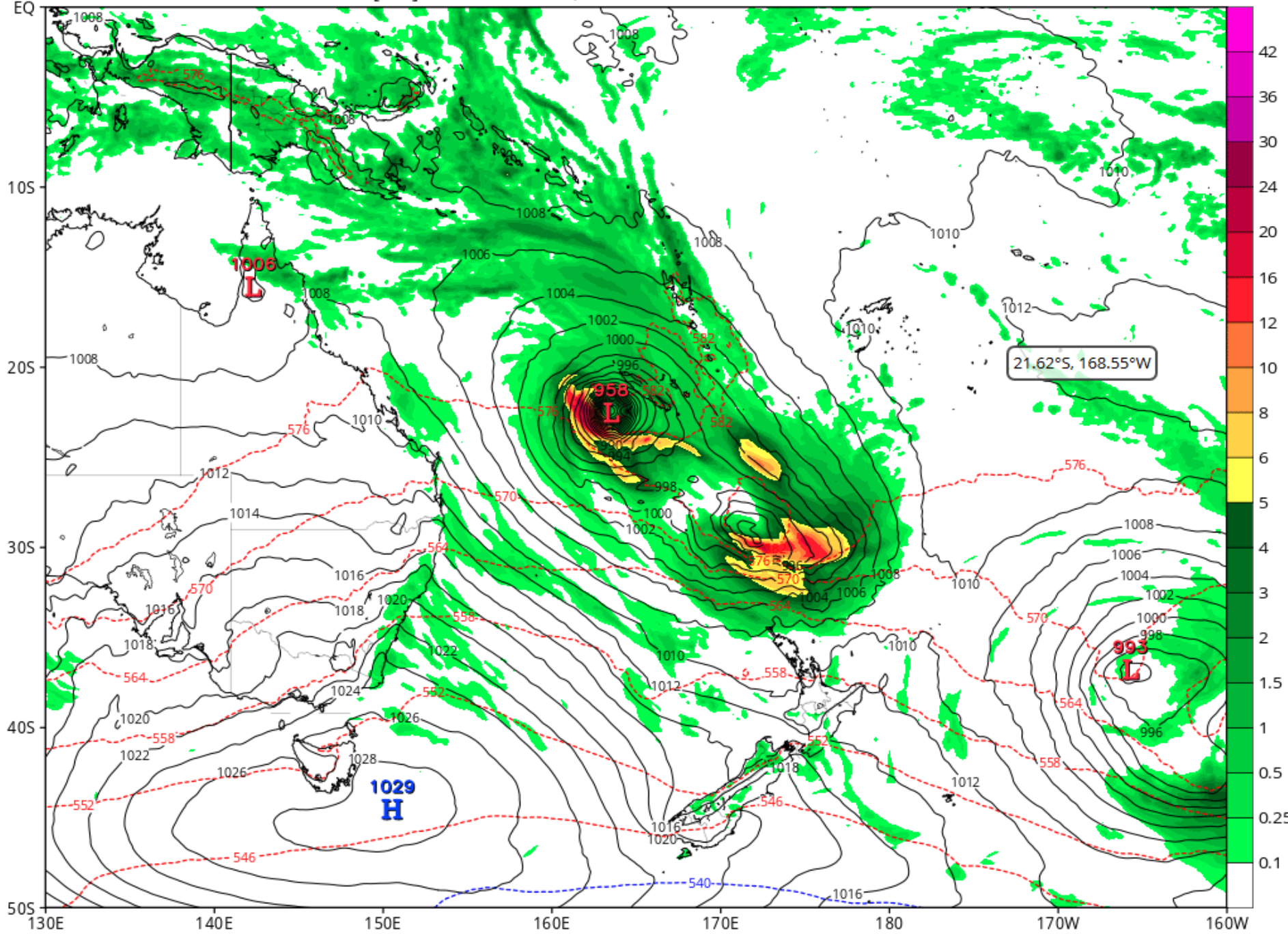
Monitoring for potential transition to TC. Invest label color denotes tropical transition probability

 Tropical Cyclone (Reference Warning)

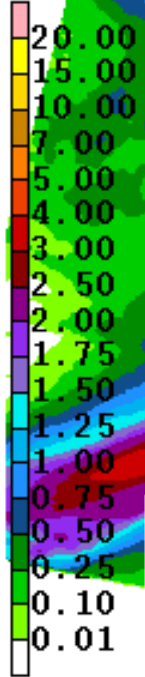
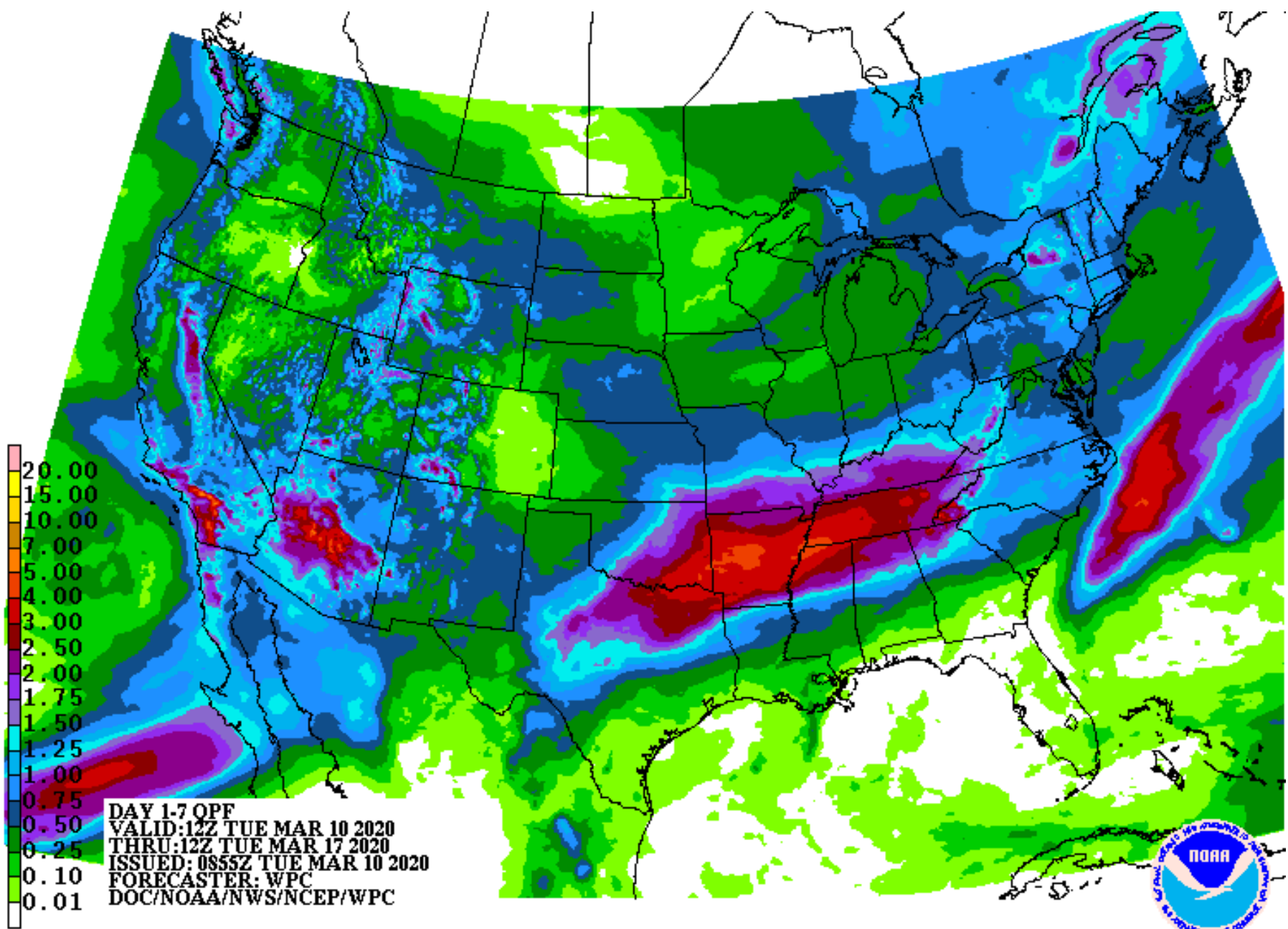
GFS 6-hour Averaged Precip Rate (mm/hr), MSLP (hPa) & 1000-500mb Thickness (dam)

Init: 12z Mar 10 2020 Forecast Hour: [138] valid at 06z Mon, Mar 16 2020

TROPICALTIDBITS.COM

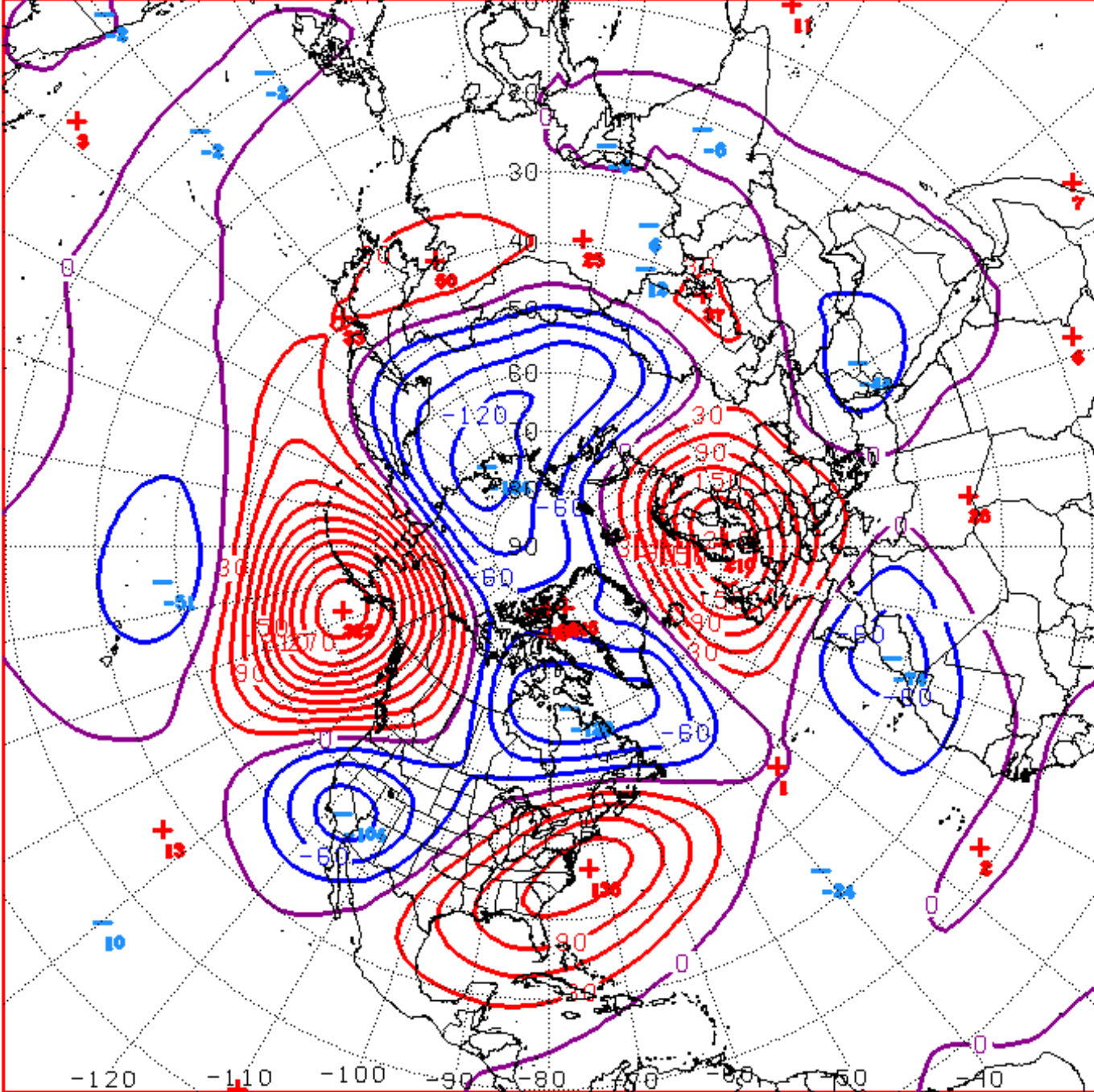


Connections to U.S. Impacts



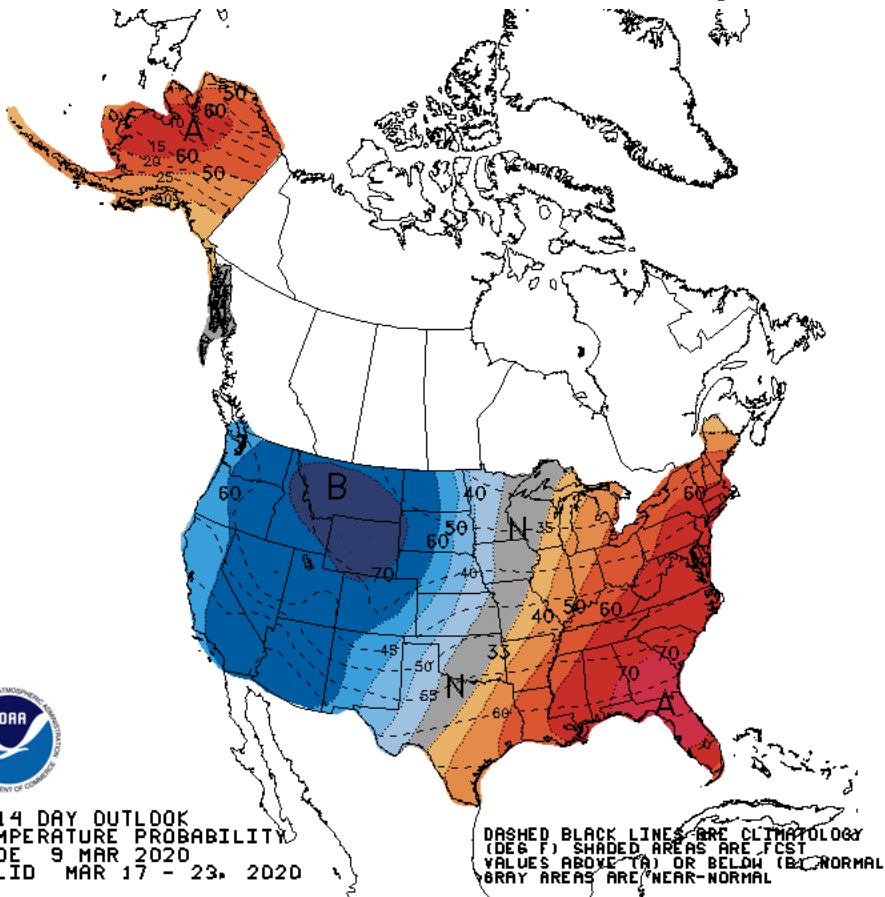
DAY 1-7 OPF
VALID:12Z TUE MAR 10 2020
THRU:12Z TUE MAR 17 2020
ISSUED: 0855Z TUE MAR 10 2020
FORECASTER: WPC
DOC/NOAA/NWS/NCEP/WPC



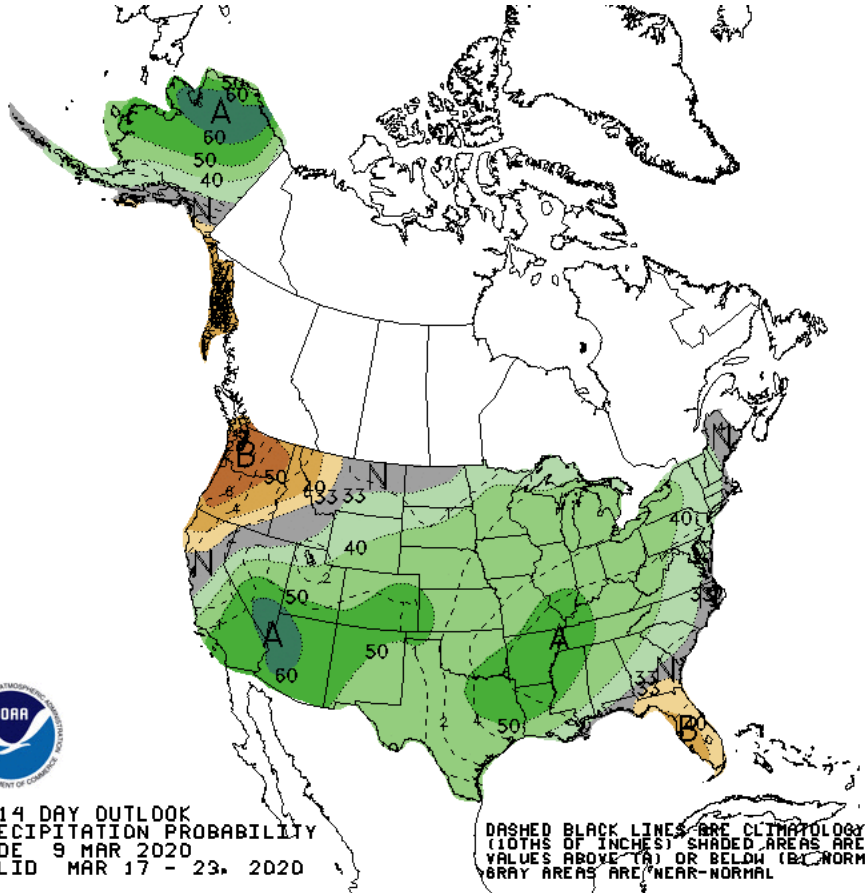
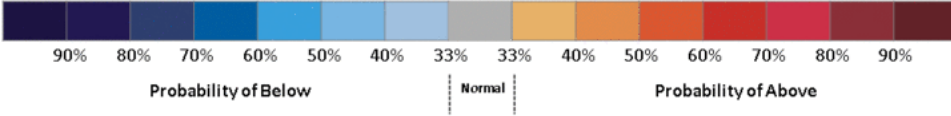


D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE MAR 10 2020 1325 UTC CNTD MAR 21 2020

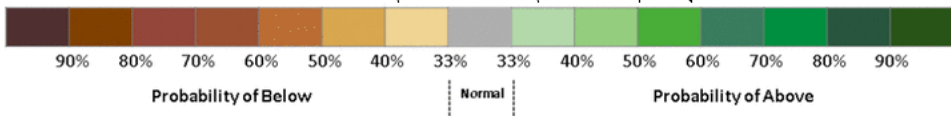
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 9 MAR 2020
VALID MAR 17 - 23, 2020

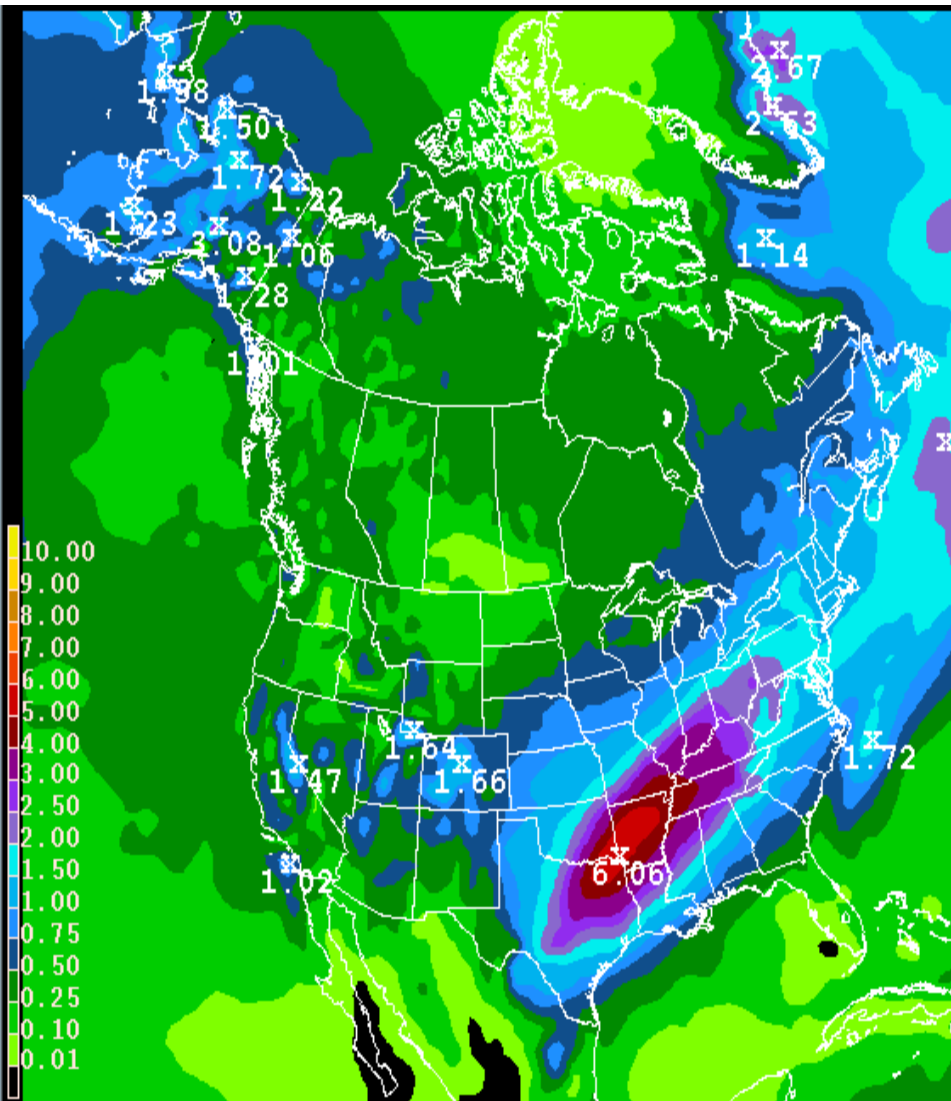


8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 9 MAR 2020
VALID MAR 17 - 23, 2020



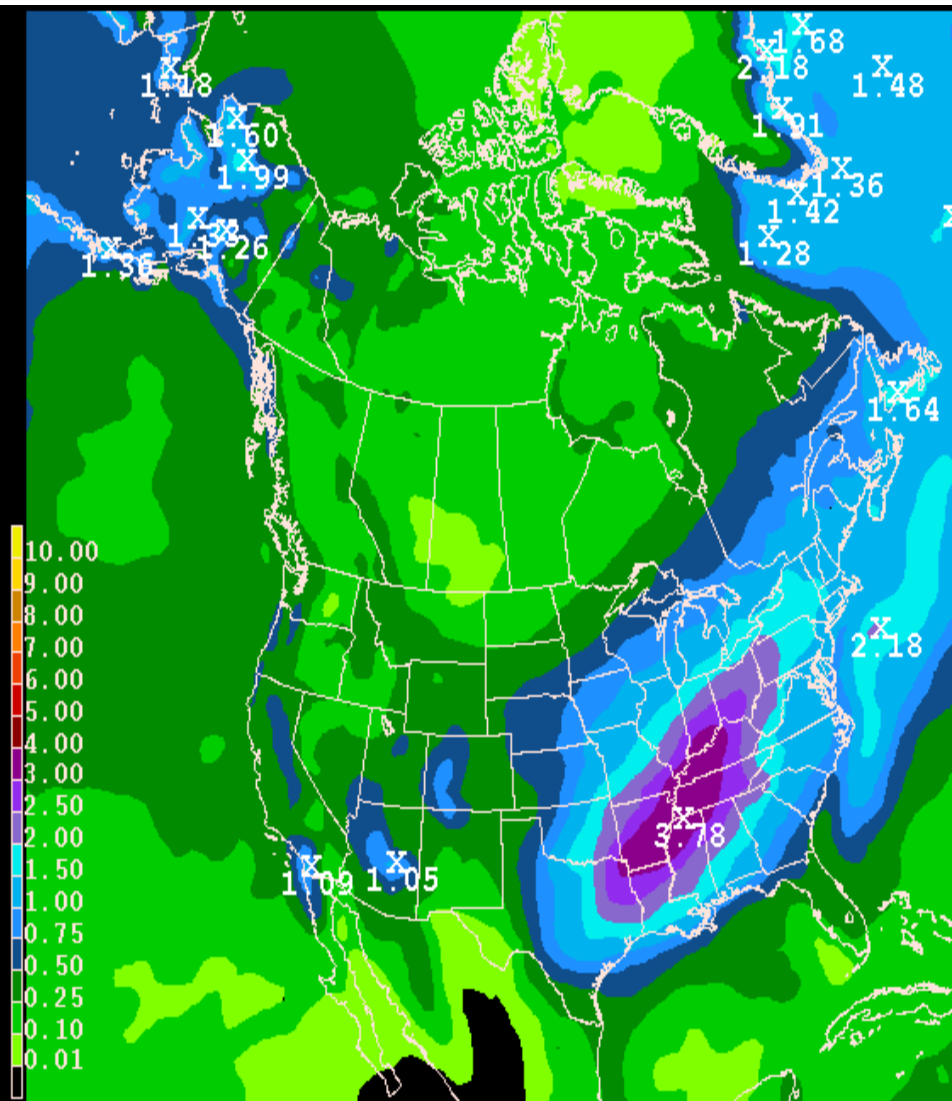
Week-2 Precipitation (in)

6Z GFS Ensemble Mean



WED 200325/0000V354 GFS MEAN 8-14 DAY PCPN

0Z ECMWF Ensemble Mean

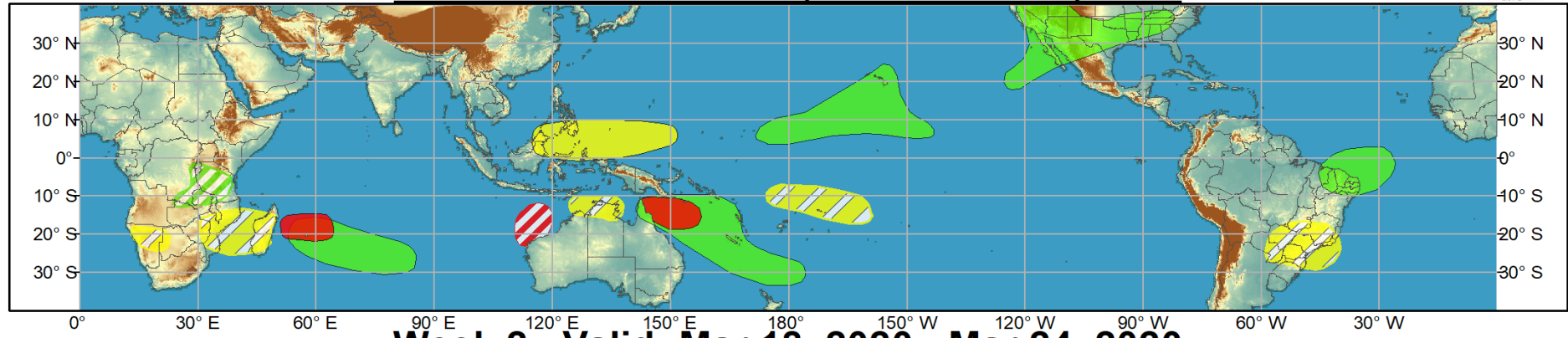


WED 200325/0000V360 ECMWF ENSEMBLE MEAN 8-14 DAY PCPN

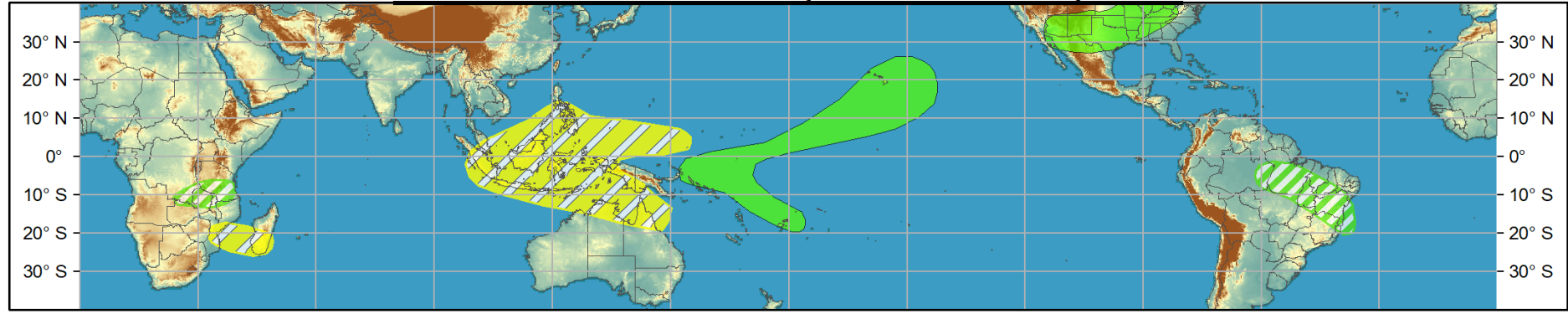


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