

Global Tropics Hazards And Benefits Outlook

10/15/2019

Nick Novella

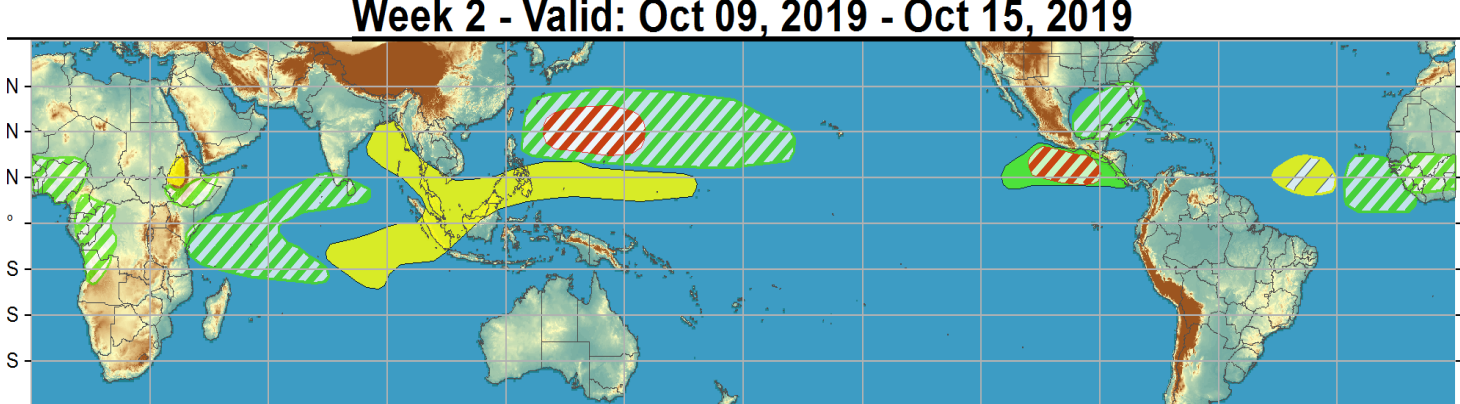
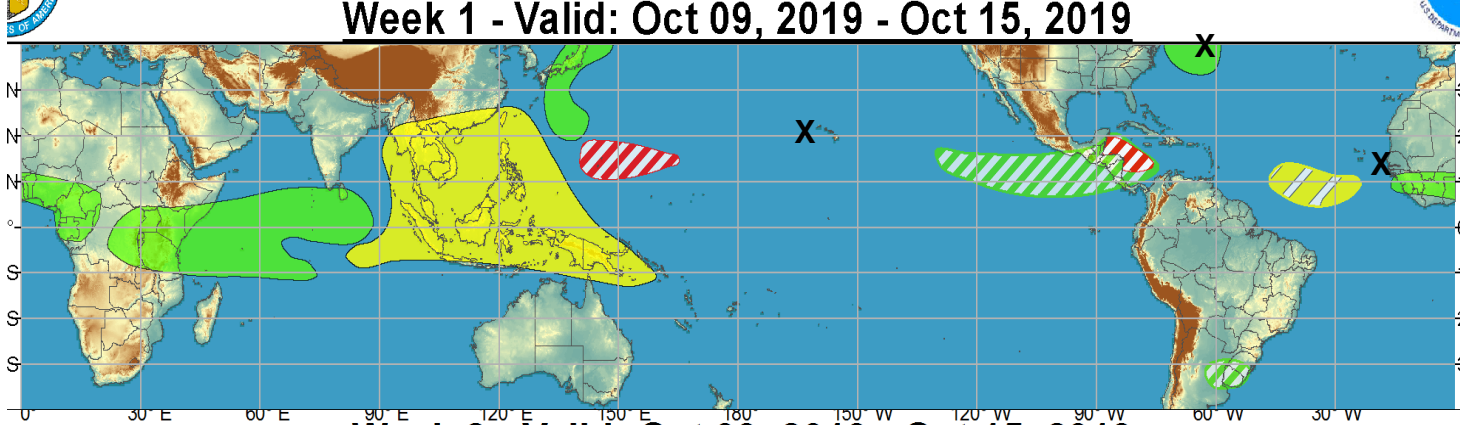
Outline

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

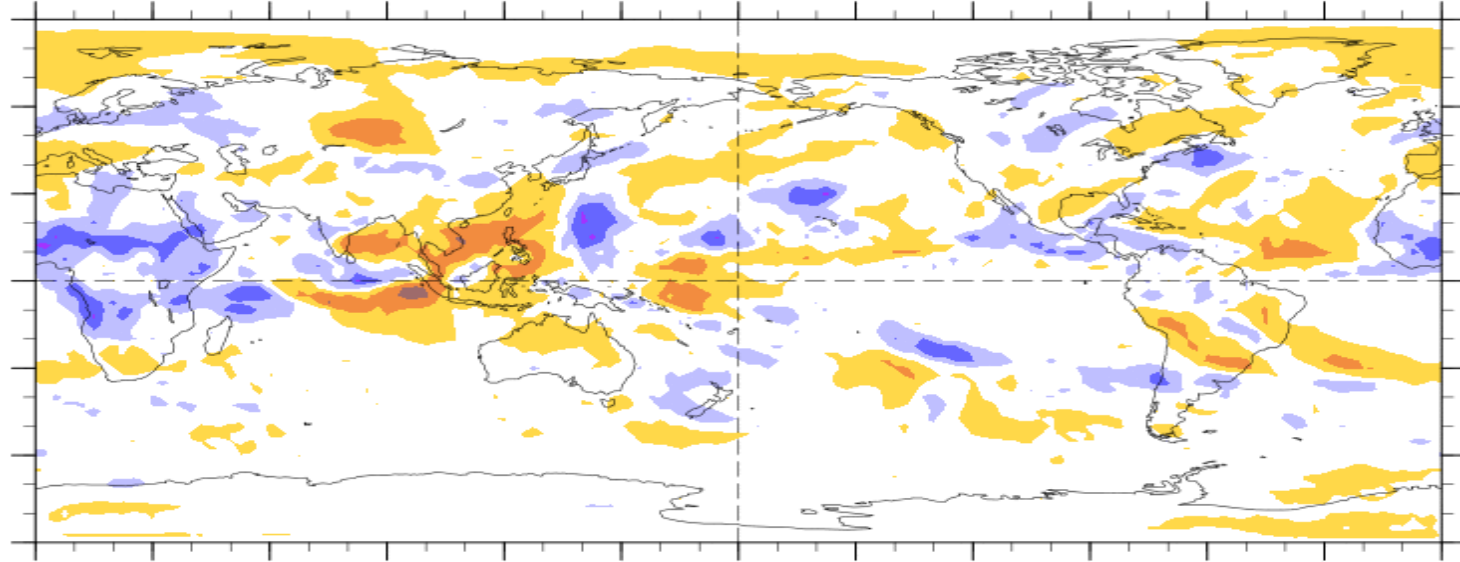
Outlook Review

- Ema (10/12)
- TD 15 (10/14)

- Subtropical Storm Melissa (10/11)



7-Day Average OLR Anomaly 2019/10/07 - 2019/10/13



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (October 10, 2019 Update)

- ENSO Alert System Status: Not Active
- ENSO-neutral is favored during the Northern Hemisphere fall 2019 (75→85% chance), continuing through spring 2020 (55-60% chance).

MJO and other subseasonal tropical variability:

- If an MJO exists, it remains a low amplitude event that continues to be superimposed on a significant positive phase Indian Ocean Dipole (IOD) event. This has manifested itself in RMM space as an stationary feature over the past 3 weeks with the low frequency mode of the IOD driving the signal (IOD weekly index = 2.15, highest value since 2001 according to BOM)
- RMM forecasts favor MJO to emerge over the Indian Ocean during Week-1, however model precipitation and circulation anomalies reflect IOD footprint through October, with convection anchored over Africa/W IO, and continued suppression over Maritime Continent.

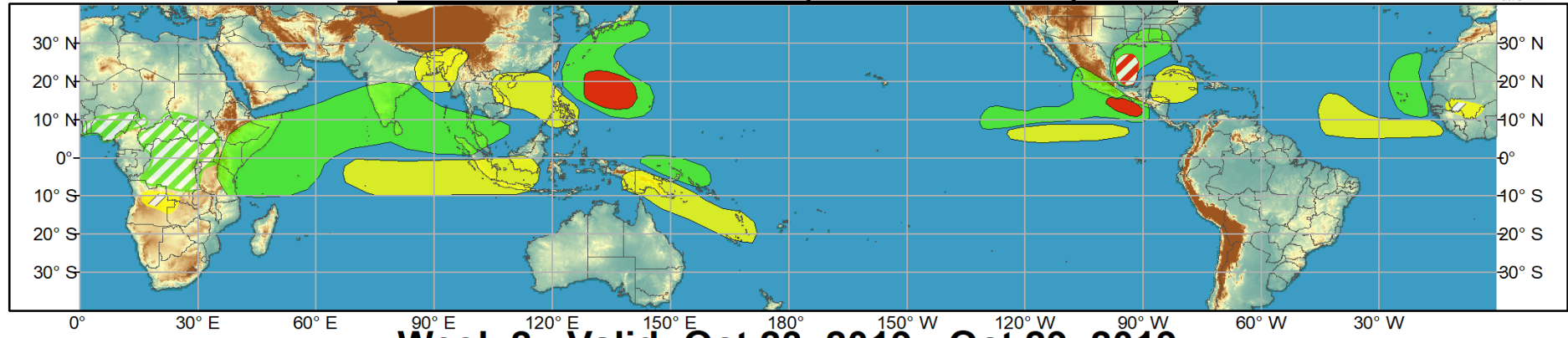
Extratropics:

- Tropical teleconnections to North America appear unlikely during the next two weeks. The remnants of Typhoon Hagibis expected to influence western North America during Week-1 in the form of storminess for Alaska and atmospheric river activity into the Pacific Northwest.

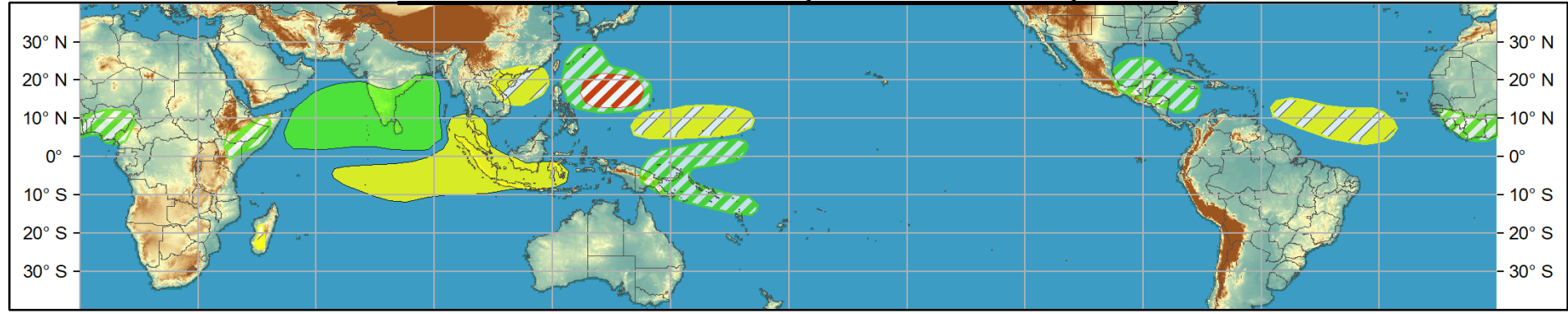


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Oct 16, 2019 - Oct 22, 2019



Week 2 - Valid: Oct 23, 2019 - Oct 29, 2019



Produced: 10/15/2019
Forecaster: Novella

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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IR Satellite & 200-hpa Velocity Potential Anomalies

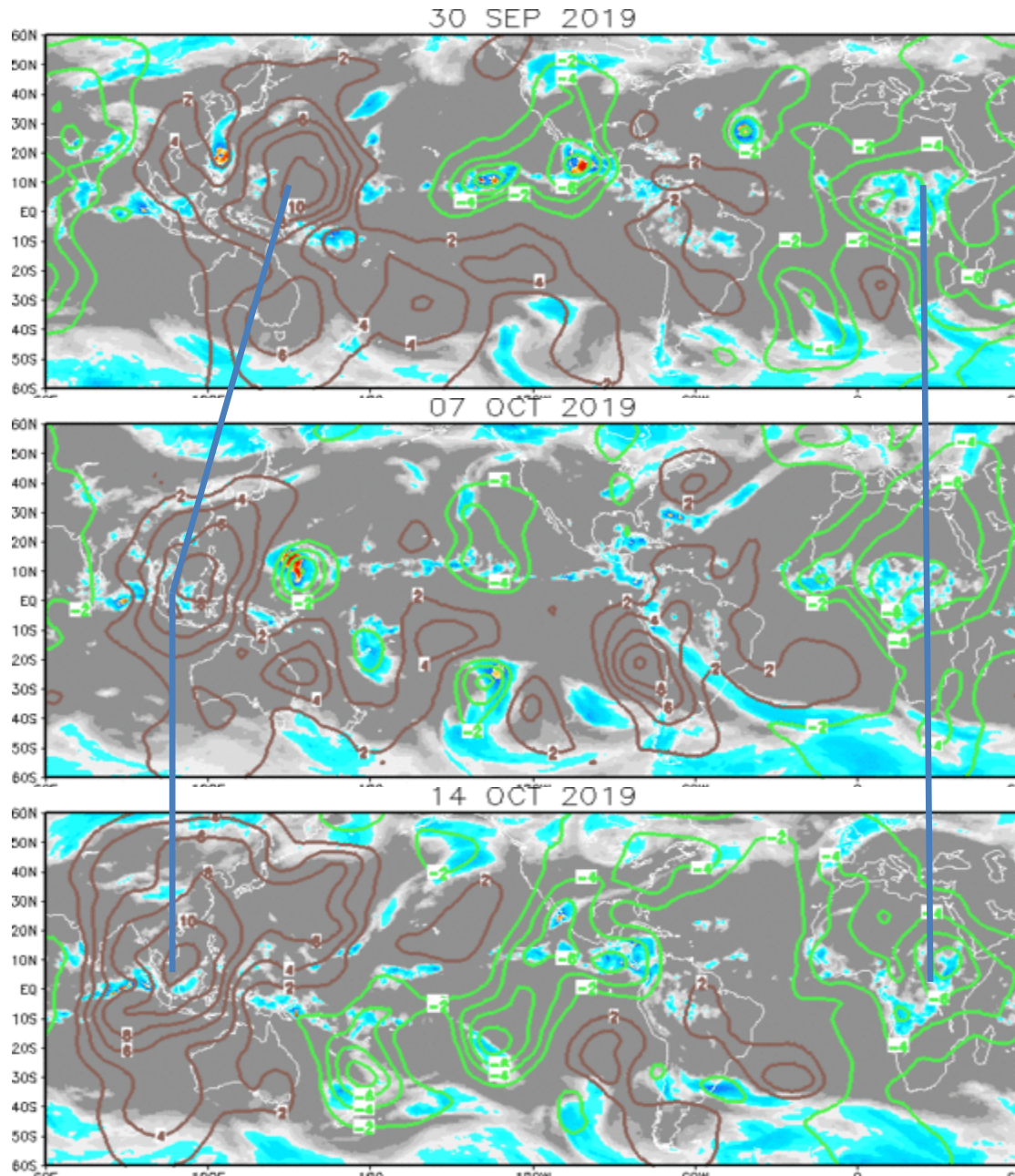
Green: Enhanced Divergence

Brown: Enhanced Convergence

Near wave-2 pattern with bulk of enhanced (suppressed) convection over the Africa (Maritime Continent)

Retrograding suppression signal with the development of Super Typhoon Hagibis. Enhanced convection anchored over Africa / W IO

Suppressed convection strengthens over Maritime Continent. Enhanced convection still anchored over Africa/ W IO

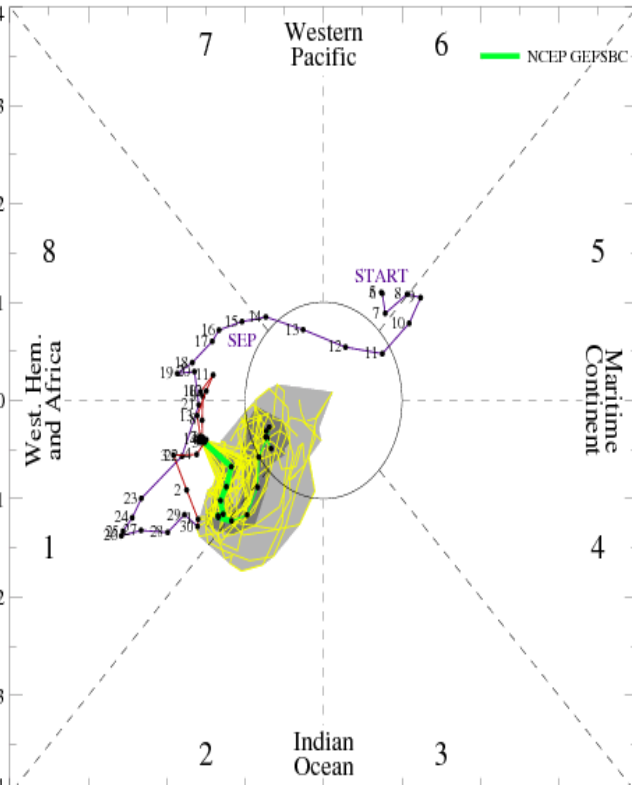


MJO Observation/Forecast

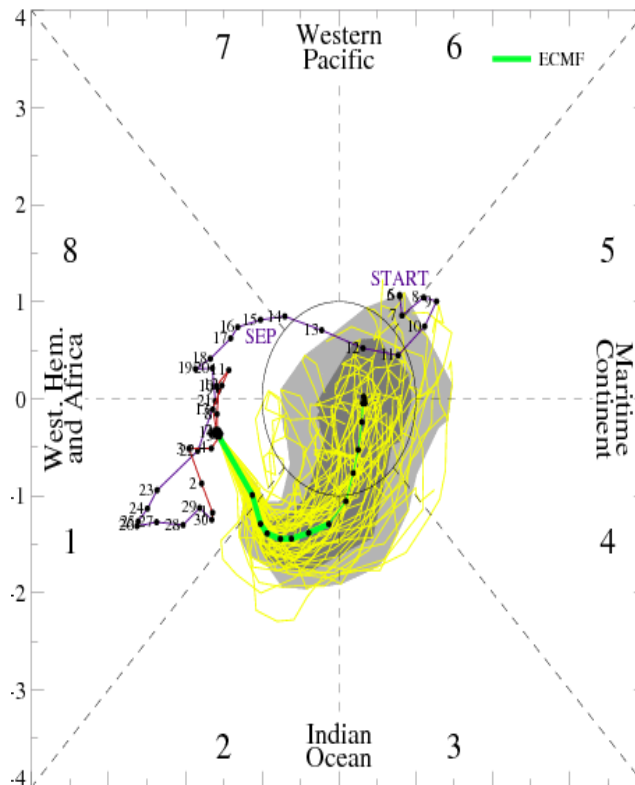
[RMM1, RMM2] forecast for Oct-15-2019 to Oct-29-2019

MJO Index Forecast for 15Oct2019-29Oct2019

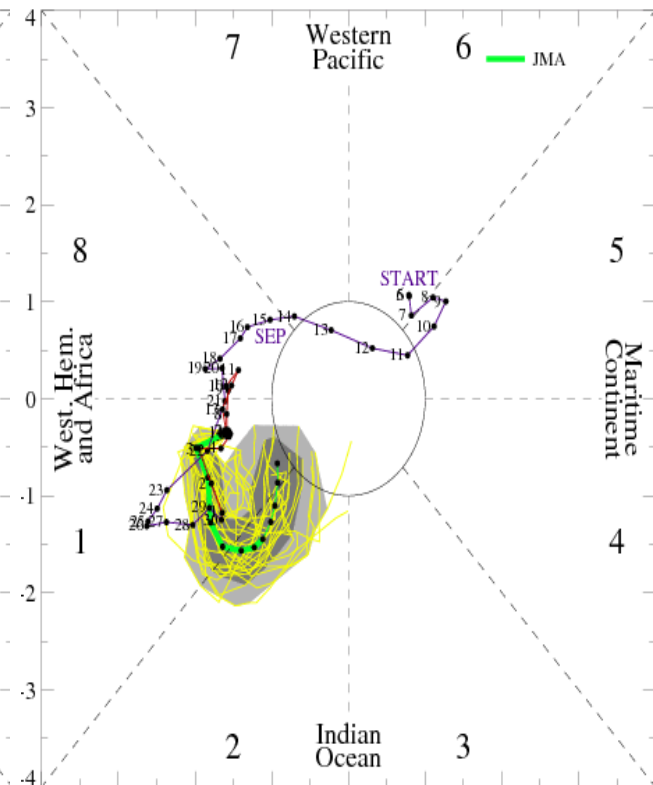
MJO Index Forecast for 15Oct2019-23Oct2019



GEFS

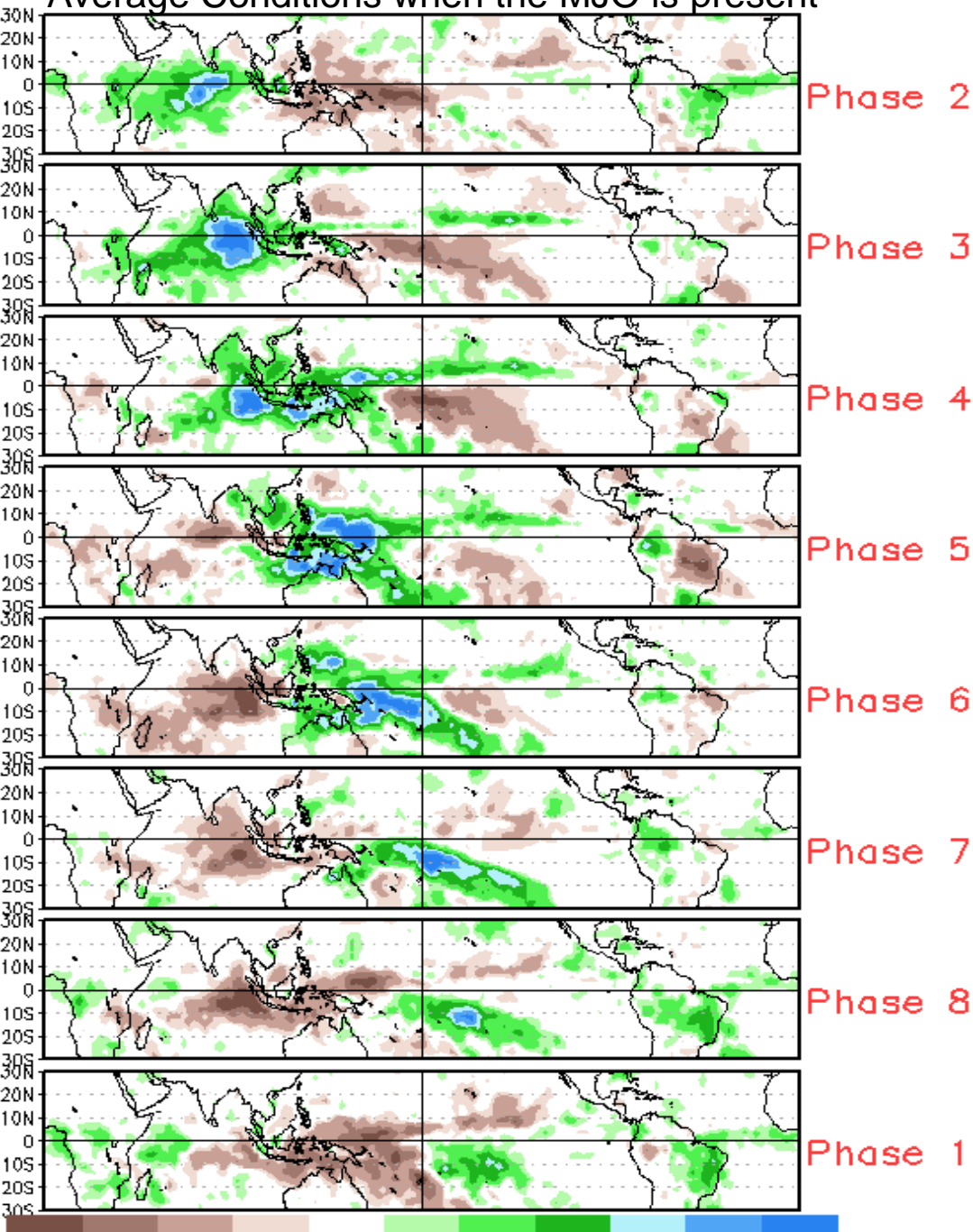


ECMWF



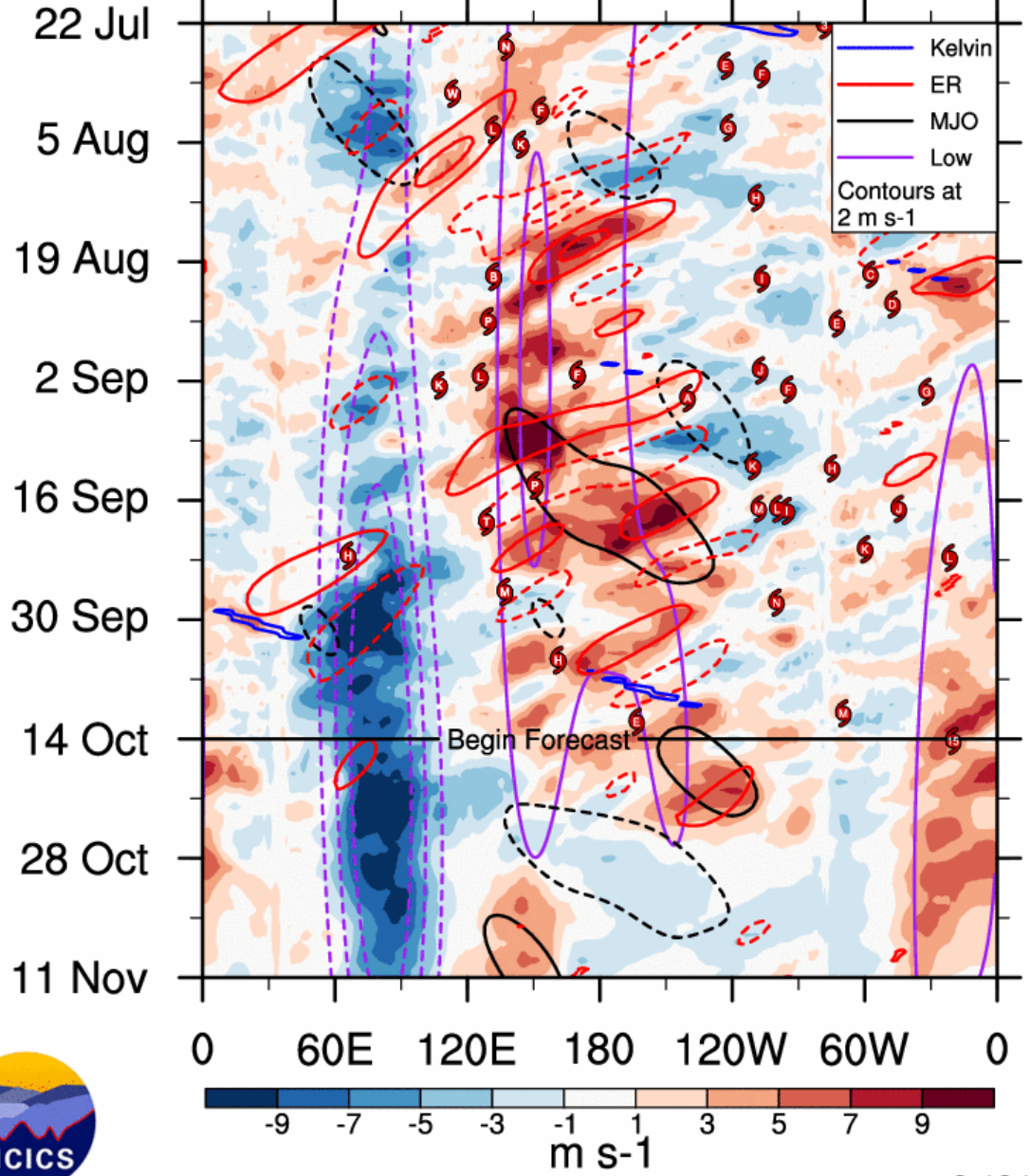
JMA

Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

UWND850 with CFS forecasts 5S - 5N



Low frequency (+IOD) continues to dominate the Eastern Hemisphere.

Significant LL easterlies expected to strengthen and remain in place for much of Oct.

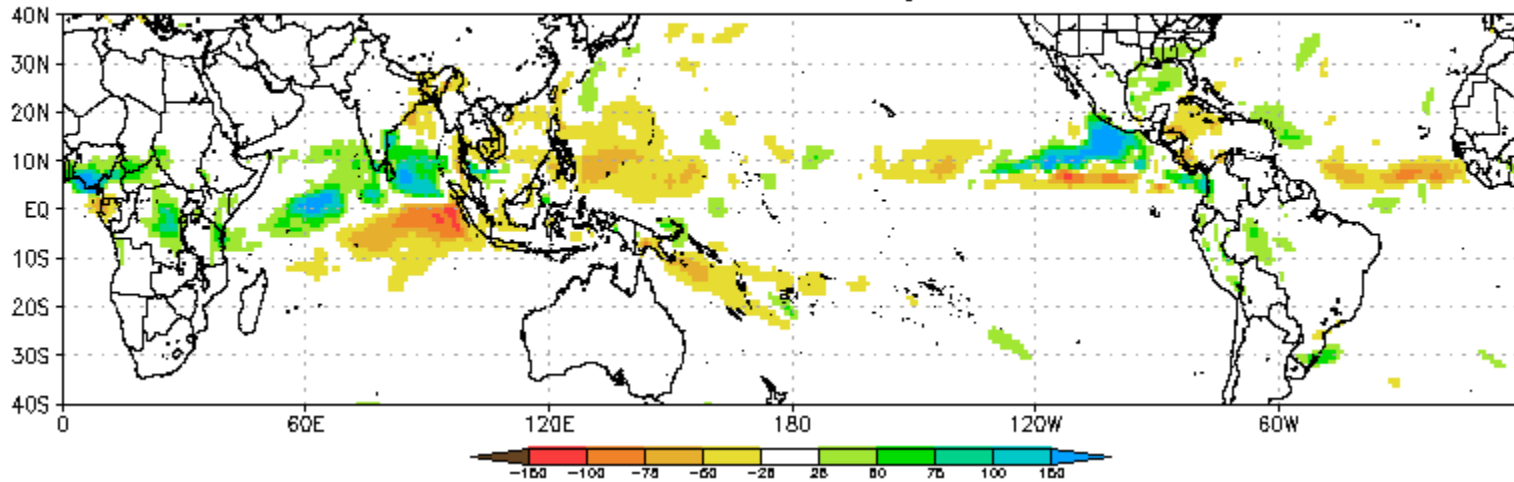


ncics.org/mjo

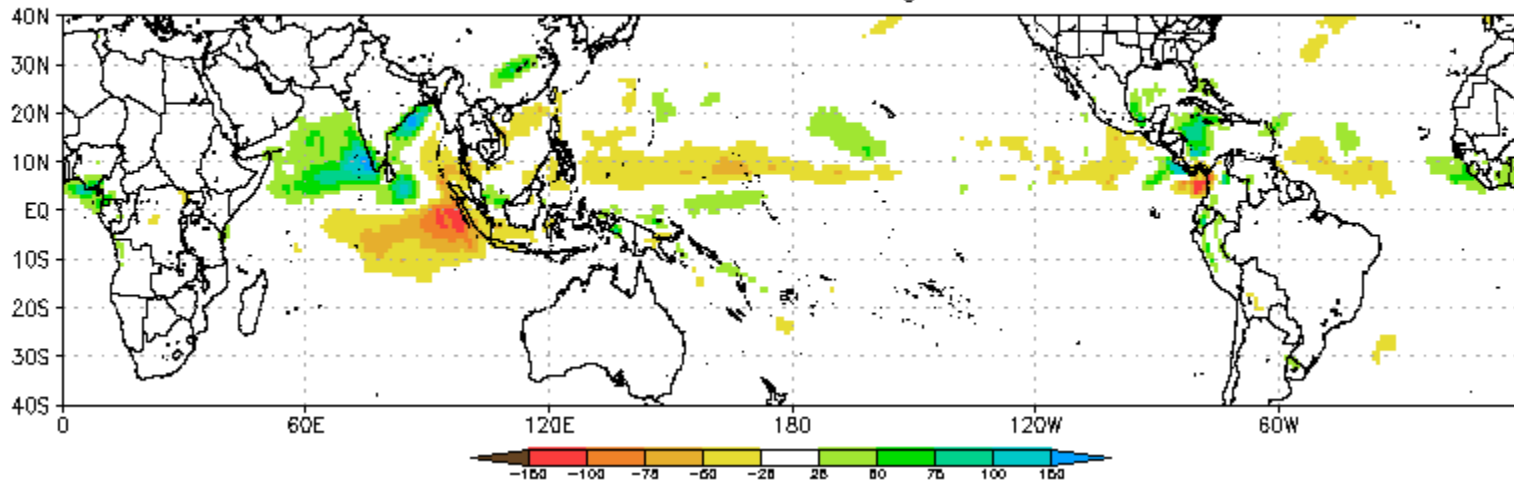
Tue 2019-10-15 1022 UTC

Carl Schreck
carl_schreck@ncsu.edu

CFS Precipitation Anomalies (mm) Issued 14Oct2019
Week-1 Forecast Ending 22Oct2019



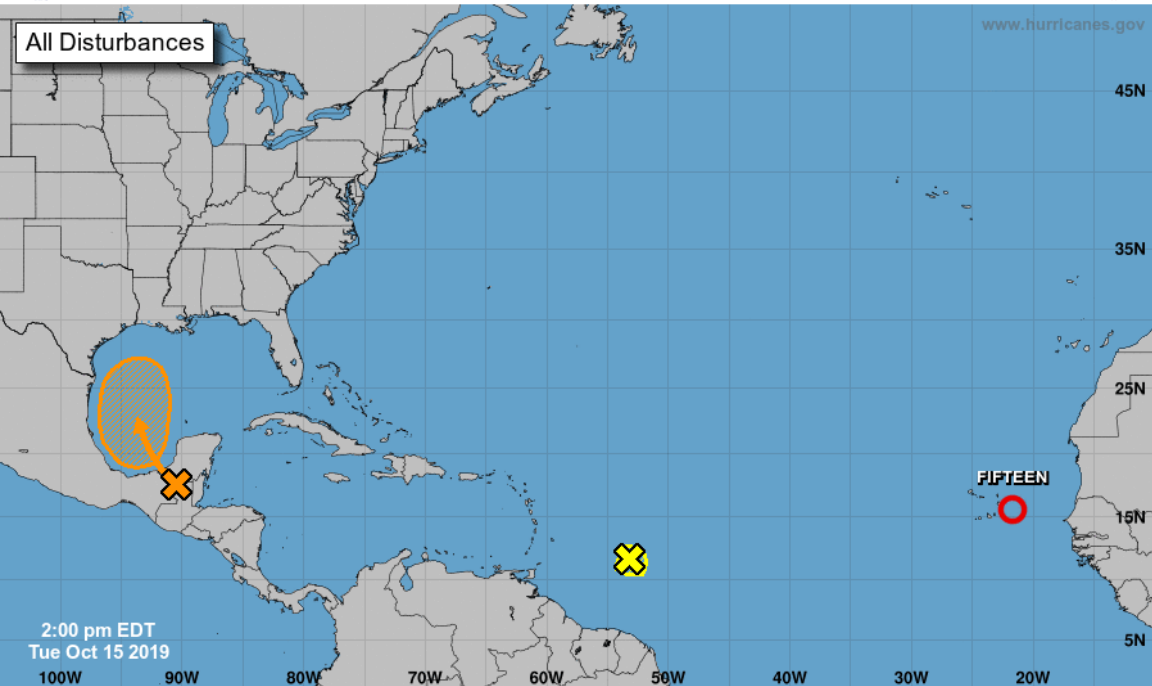
CFS Precipitation Anomalies (mm) Issued 14Oct2019
Week-2 Forecast Ending 29Oct2019





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



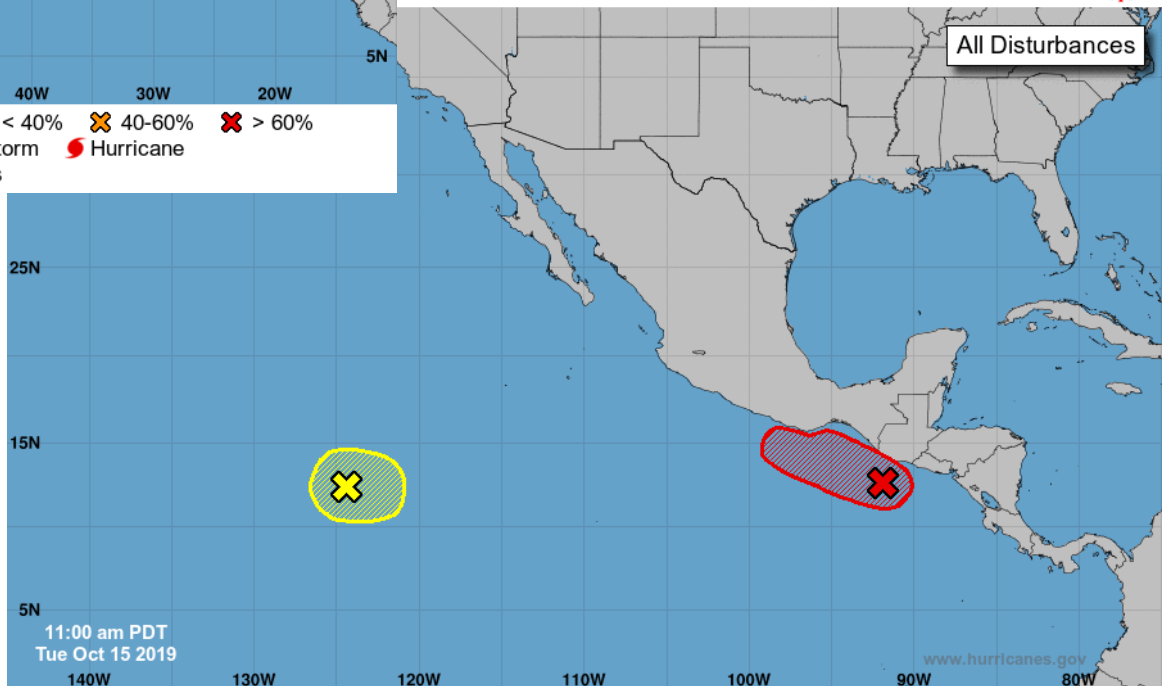
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

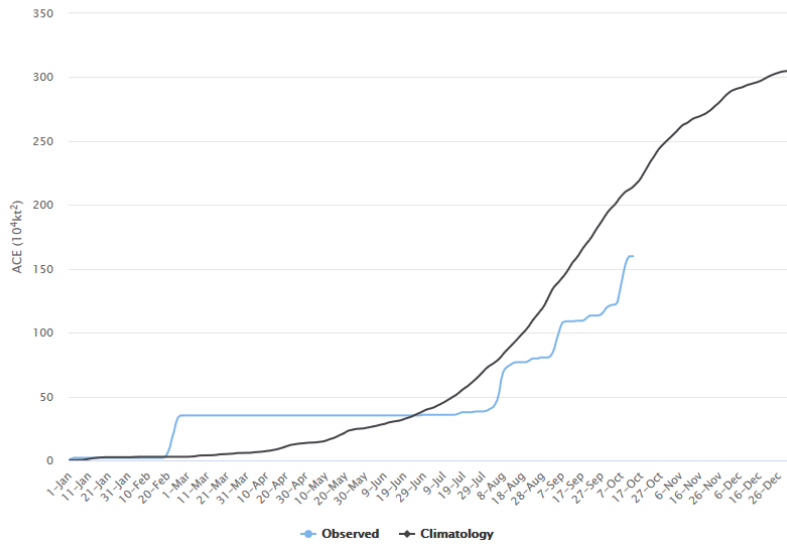


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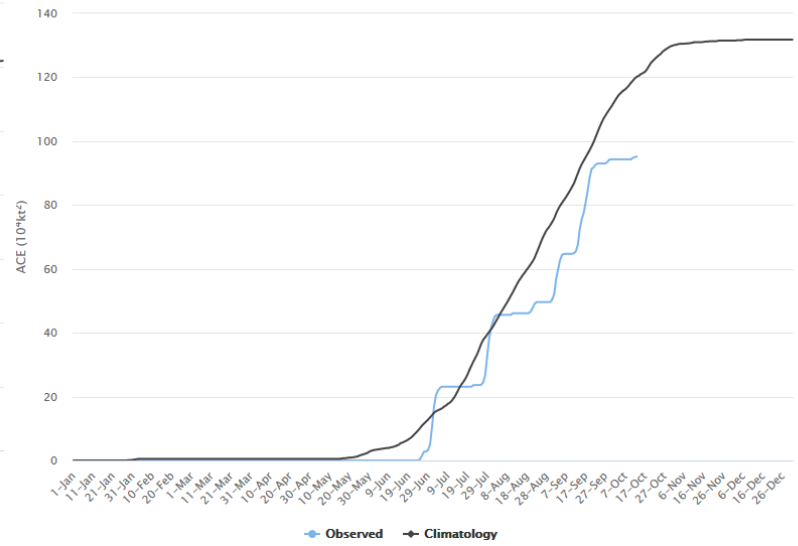
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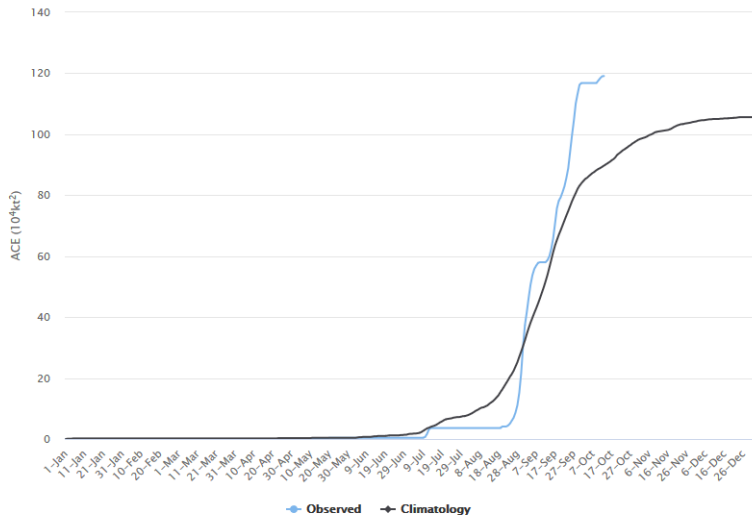
Current Season Northwest Pacific Ocean ACE (1981–2010 Climo)



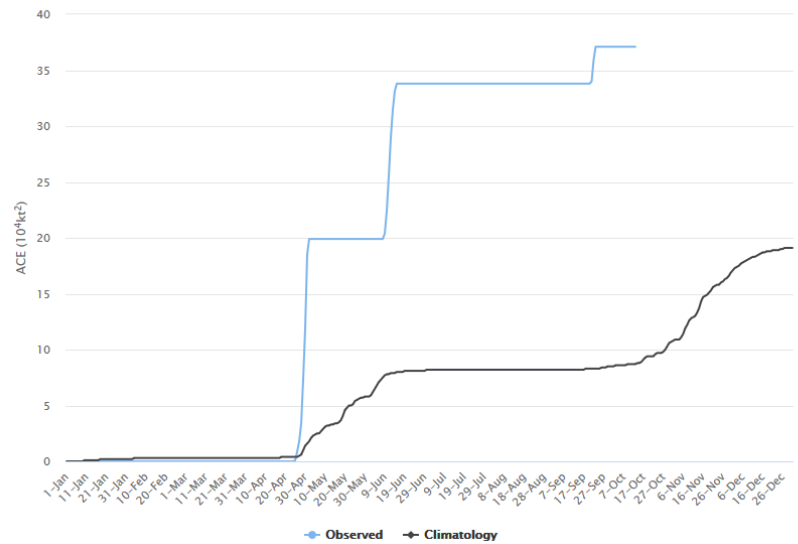
Current Season Northeast Pacific Ocean ACE (1981–2010 Climo)

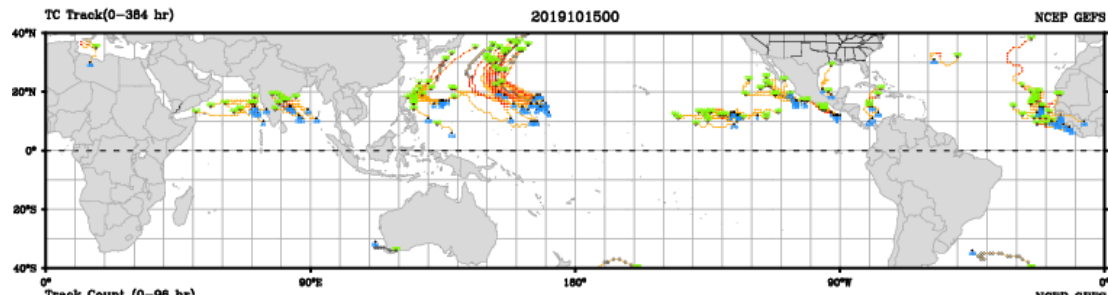


Current Season North Atlantic Ocean ACE (1981–2010 Climo)

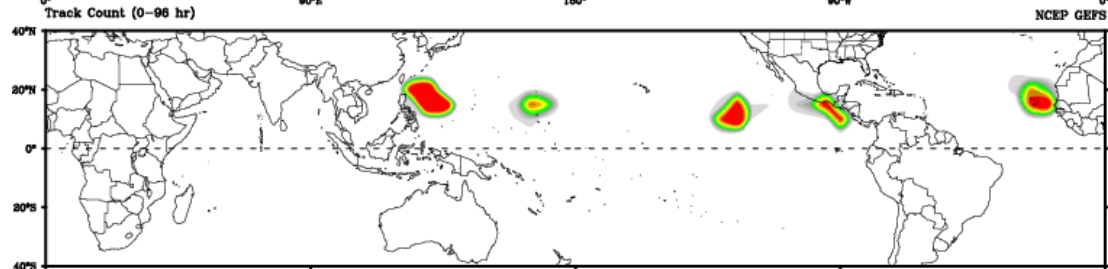


Current Season North Indian Ocean ACE (1981–2010 Climo)

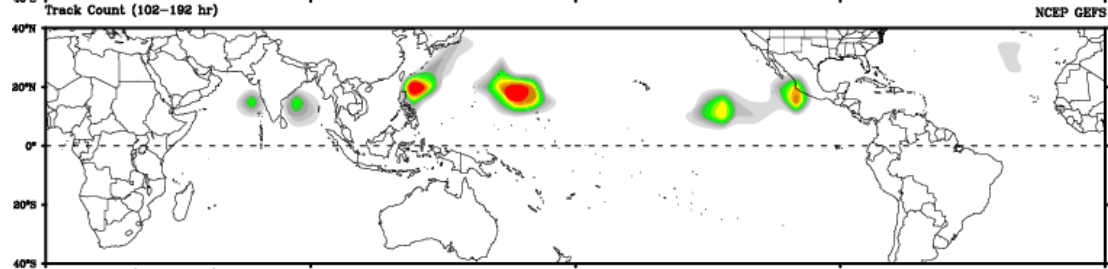




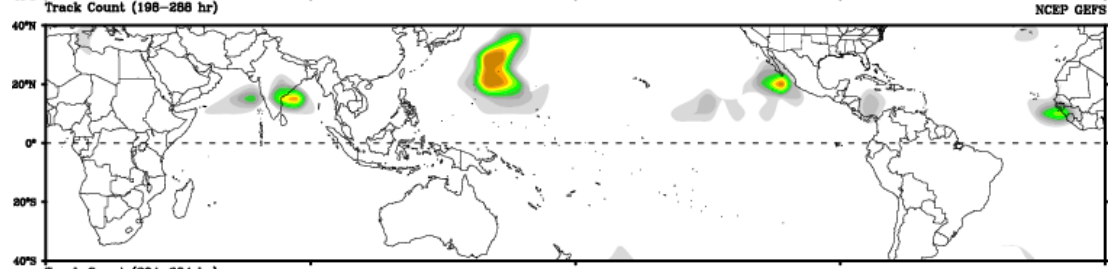
Days 1-4



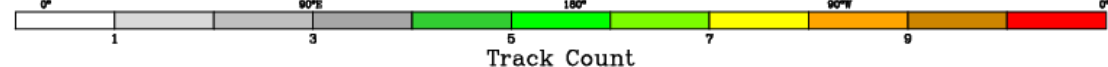
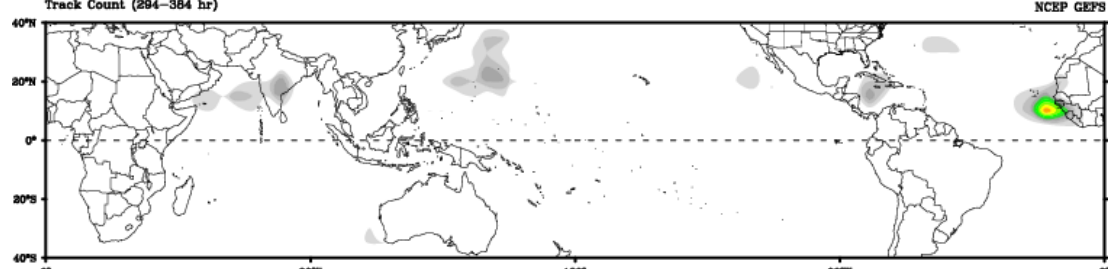
Day 5-8



Day 9-12

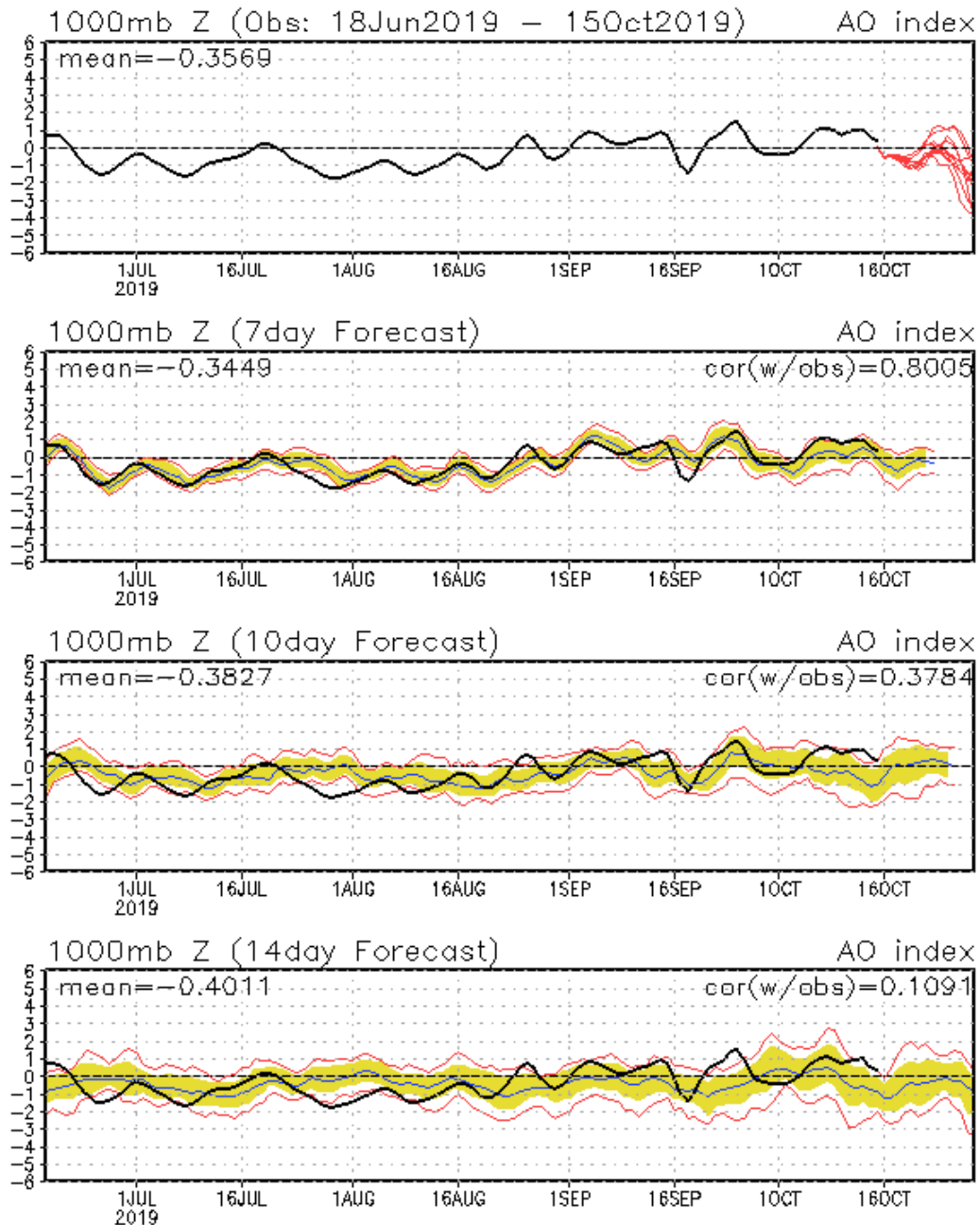


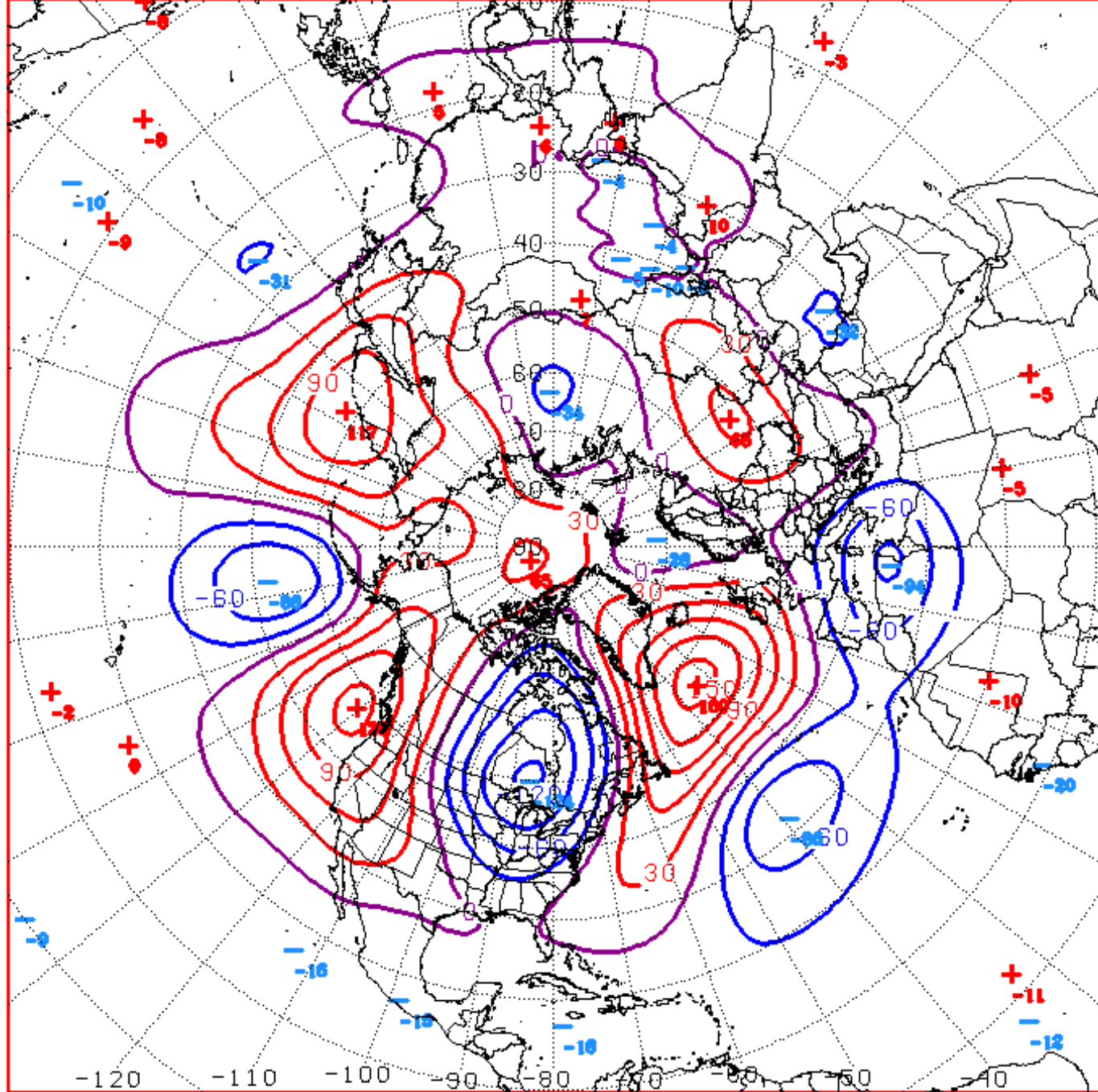
Day 13-15



Connections to U.S. Impacts

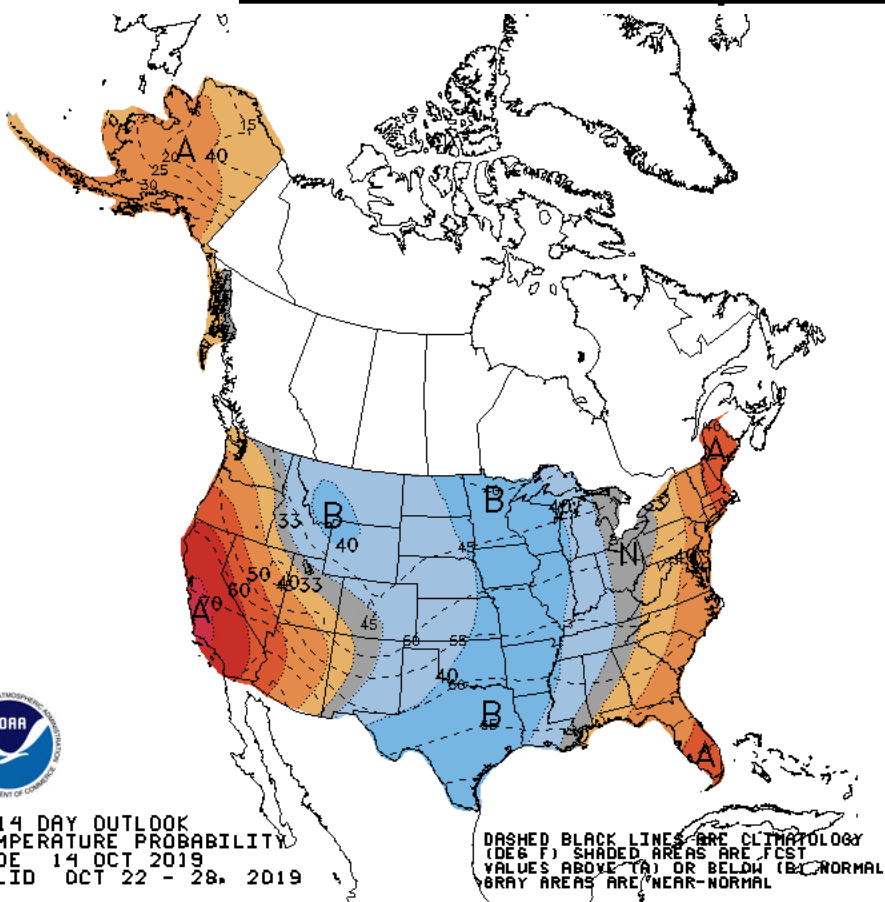
AO: Observed & ENSM forecasts



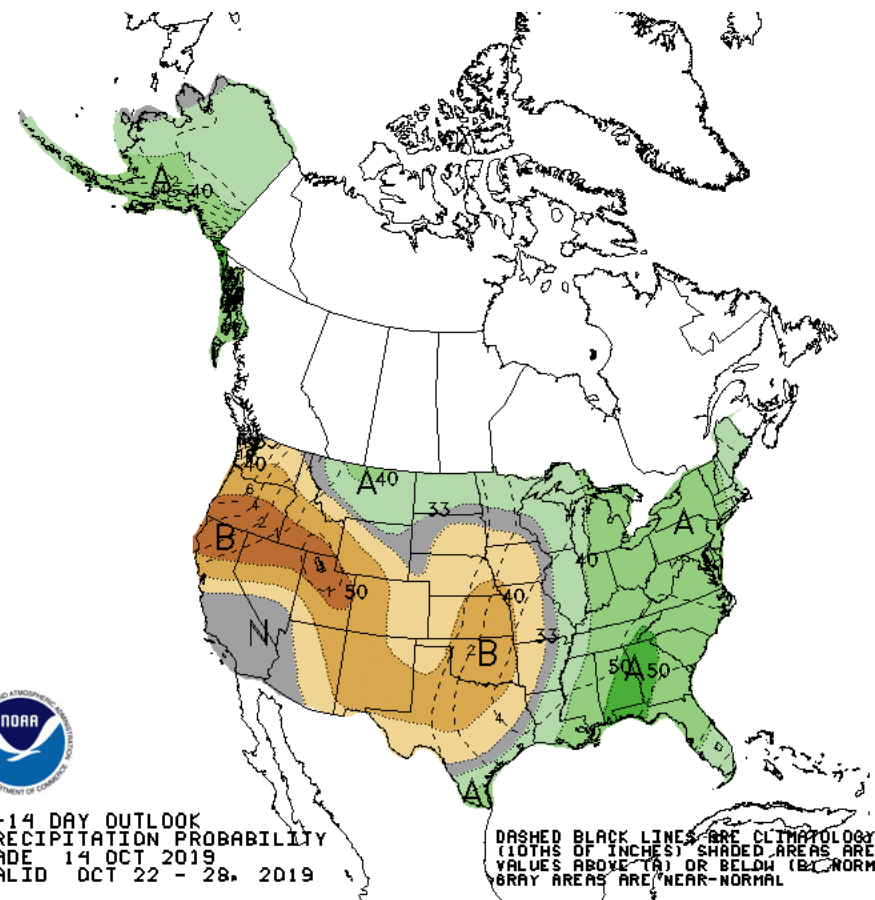
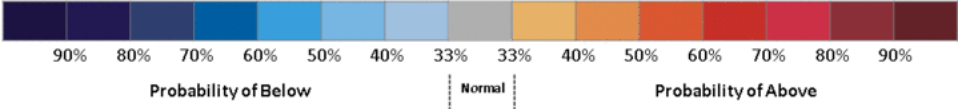


D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE OCT 15 2019 1316 UTC CNTD OCT 26 2019

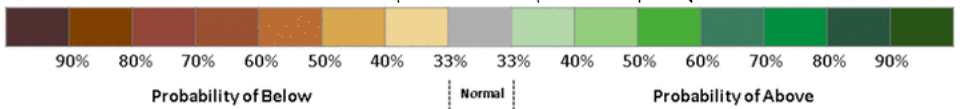
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 14 OCT 2019
VALID OCT 22 - 28, 2019



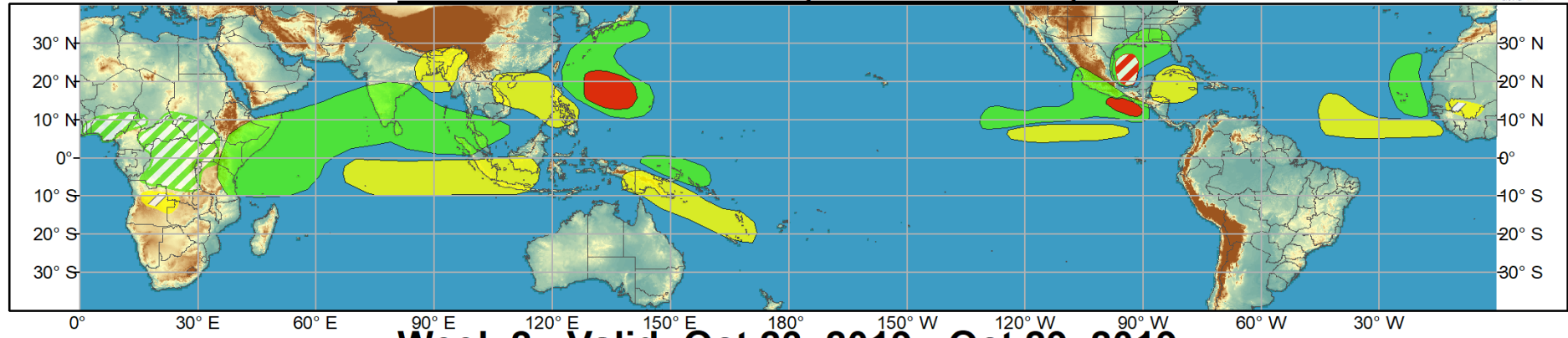
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 14 OCT 2019
VALID OCT 22 - 28, 2019



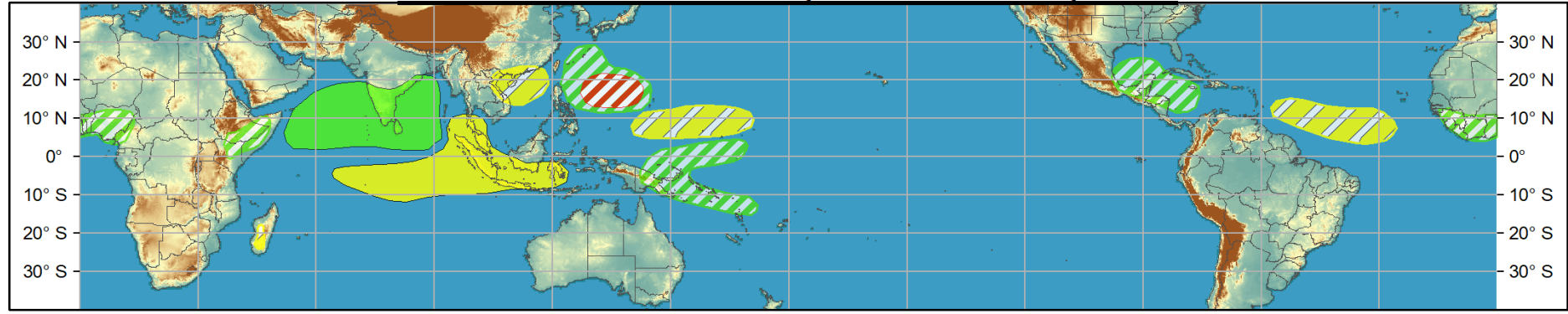


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