

Global Tropics Hazards And Benefits Outlook

10/29/2019

Christina Maurin

Outline

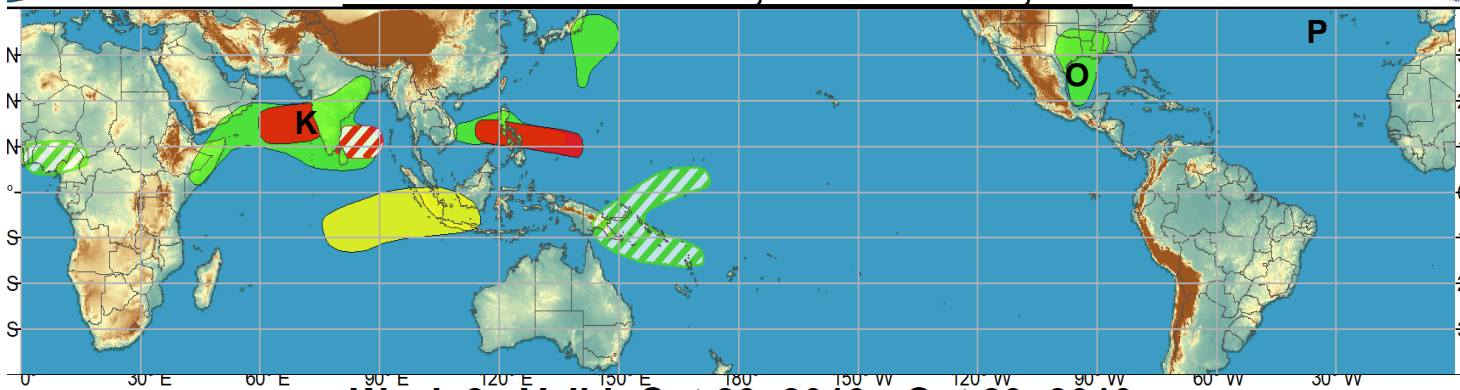
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

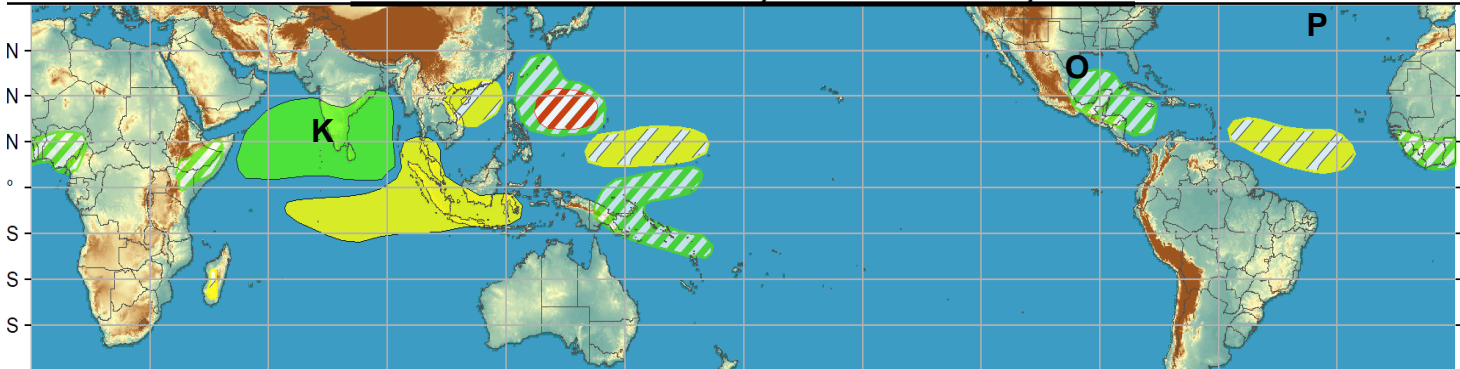
- Atlantic:
TS Olga
H Pablo

- Indian Ocean:
TC Kyarr (Cat 4)

Week 1 - Valid: Oct 23, 2019 - Oct 29, 2019

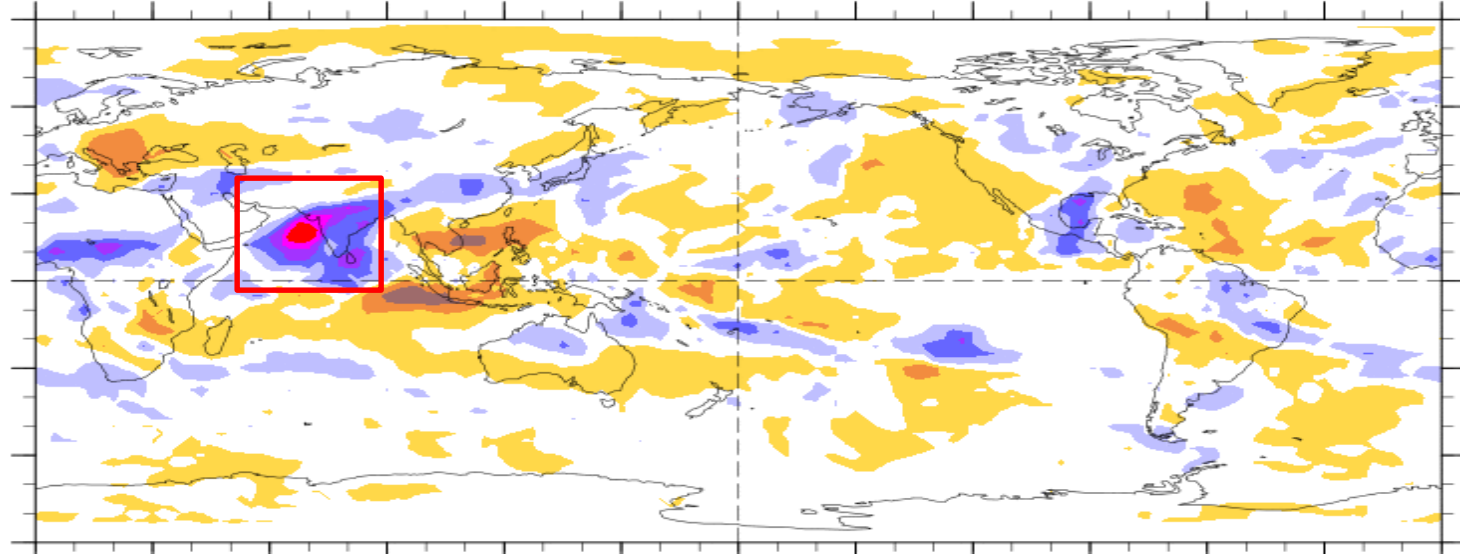


Week 2 - Valid: Oct 23, 2019 - Oct 29, 2019



7-Day Average OLR Anomaly

2019/10/21 - 2019/10/27



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:

- The MJO became more coherent during mid-October, but has seen a downturn in signal strength and a stall over the past week. This is likely due to the interactions with the strong IOD.
- Through week-1, the MJO is forecast to remain weak as it destructively interacts with the suppressed region of the positive IOD in the eastern Indian Ocean. As the convective envelope moves toward the western Pacific, the MJO is forecast to regain strength.

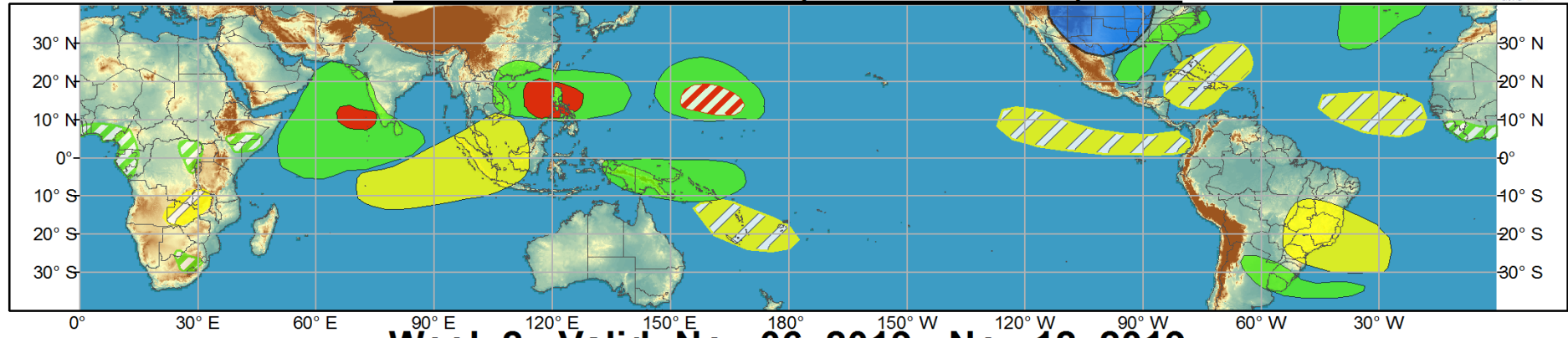
Extratropics:

- Tropical teleconnections to North America appear unlikely during the next two weeks.

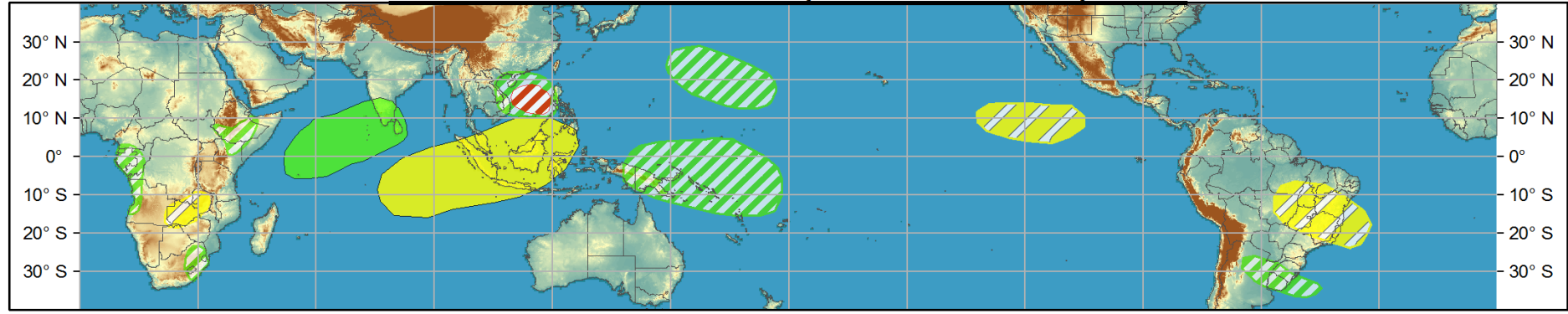


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Oct 30, 2019 - Nov 05, 2019



Week 2 - Valid: Nov 06, 2019 - Nov 12, 2019



Produced: 10/29/2019

Forecaster: Maurin

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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Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.

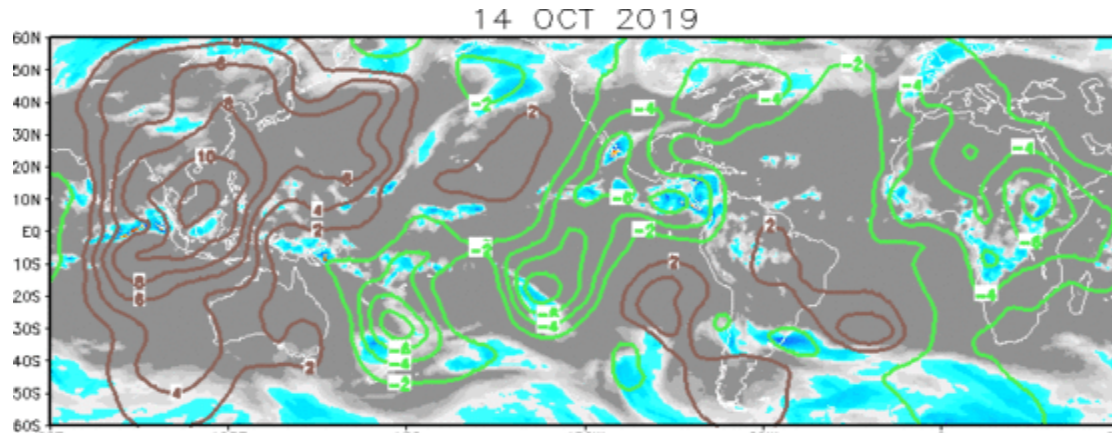


IR Satellite & 200-hpa Velocity Potential Anomalies

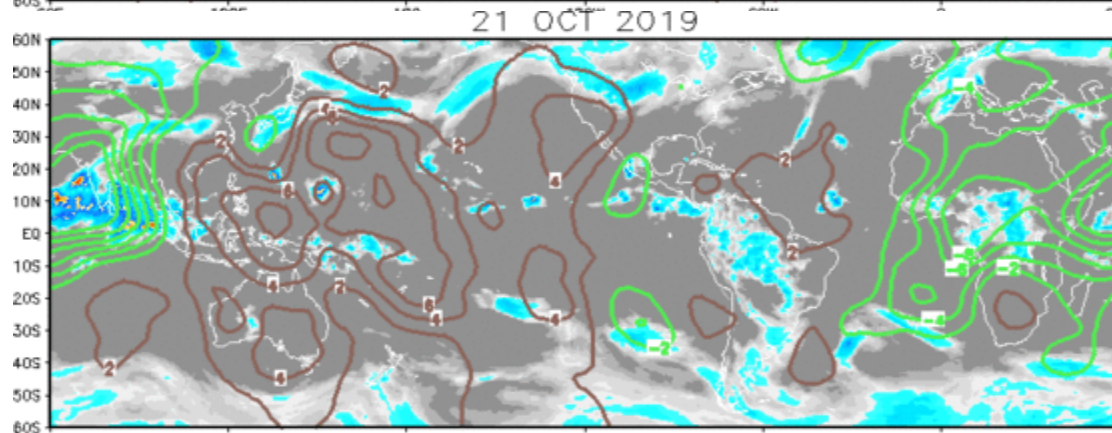
Green: Enhanced Divergence

Brown: Enhanced Convergence

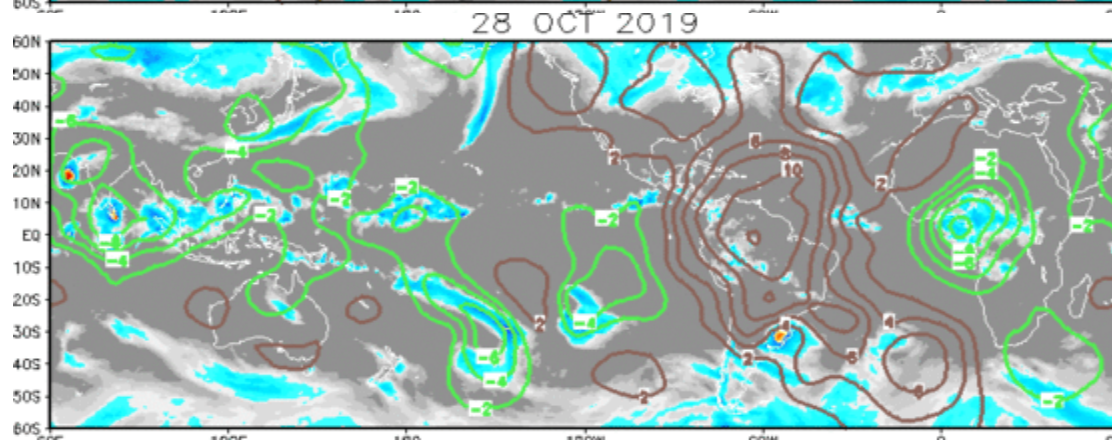
Suppressed convection over the eastern Indian Ocean and Maritime Continent



Large increase in convection over the Indian Ocean

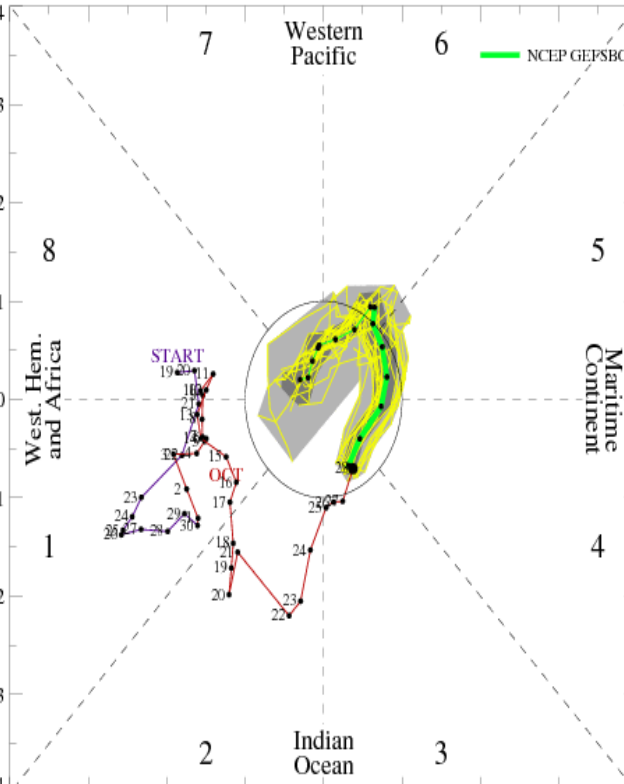


Continued convection over the Indian Ocean, suppressed convection has shifted over the Western Hemisphere

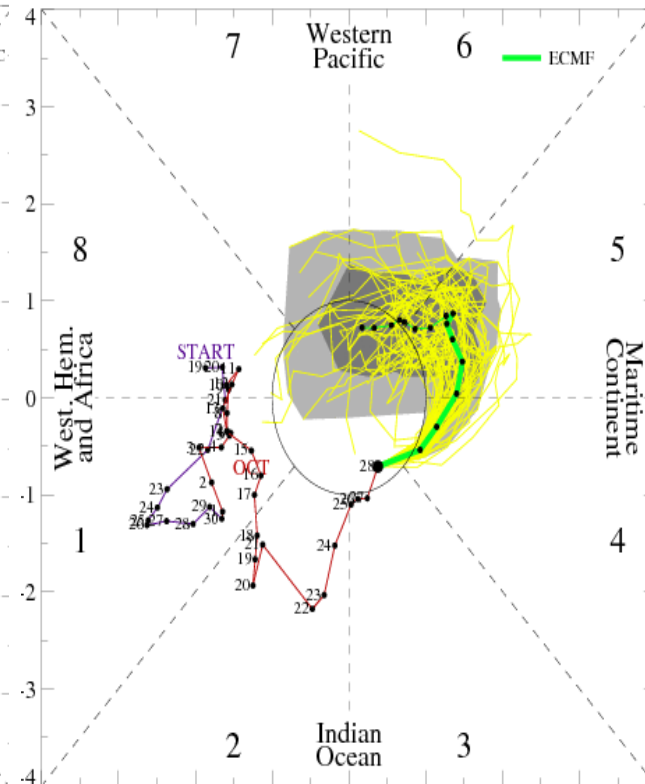


MJO Observation/Forecast

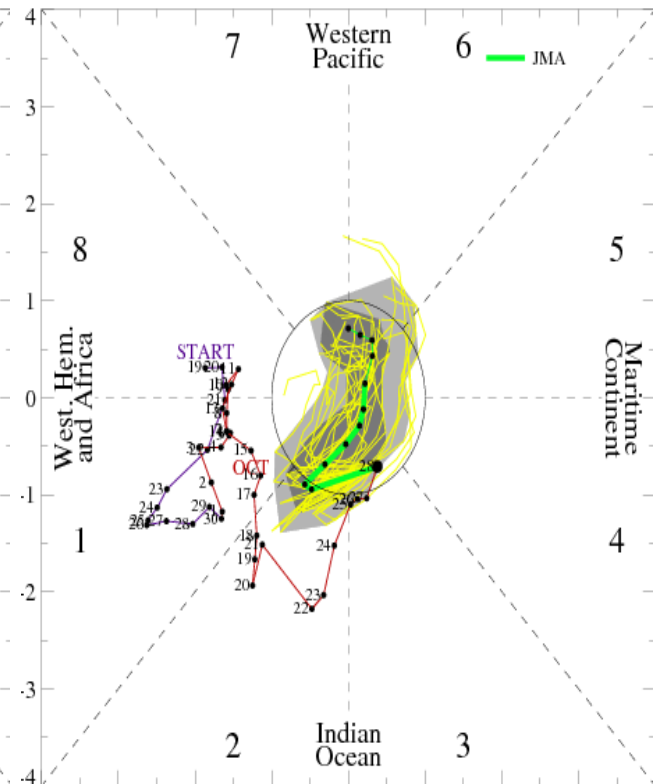
[RMM1, RMM2] forecast for Oct-29-2019 to Nov-12-2019



MJO Index Forecast for 29Oct2019-12Nov2019



MJO Index Forecast for 29Oct2019-06Nov2019



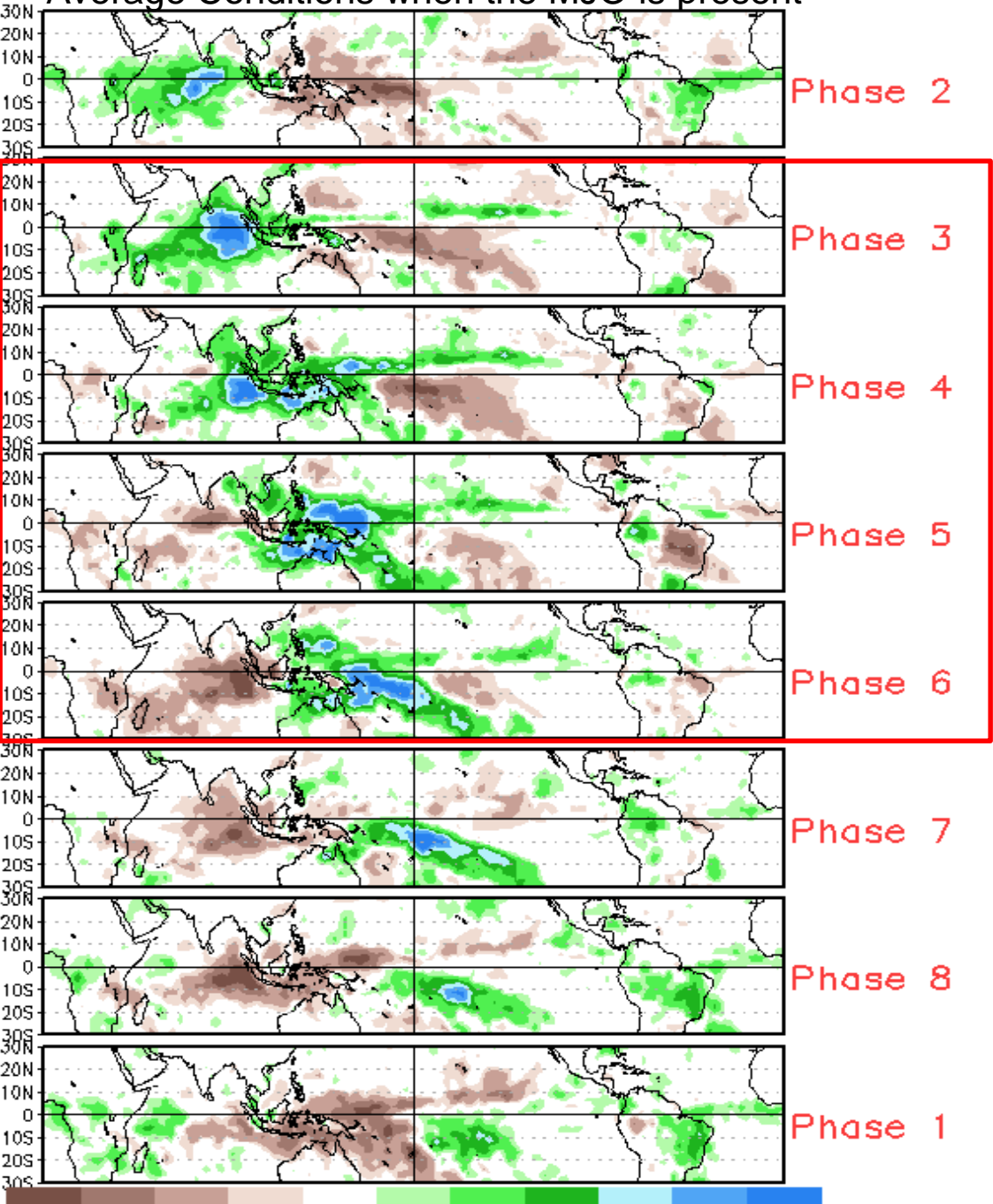
GEFS

ECMWF

JMA

- Dynamical models indicate continued weakened amplitude through Week-1, with a possible strengthening of the signal into Week-2 as it reaches the Western Pacific (Phases 6/7).
- Interactions with the IOD suppressed region likely keep the signal weak through Week-1.

Average Conditions when the MJO is present



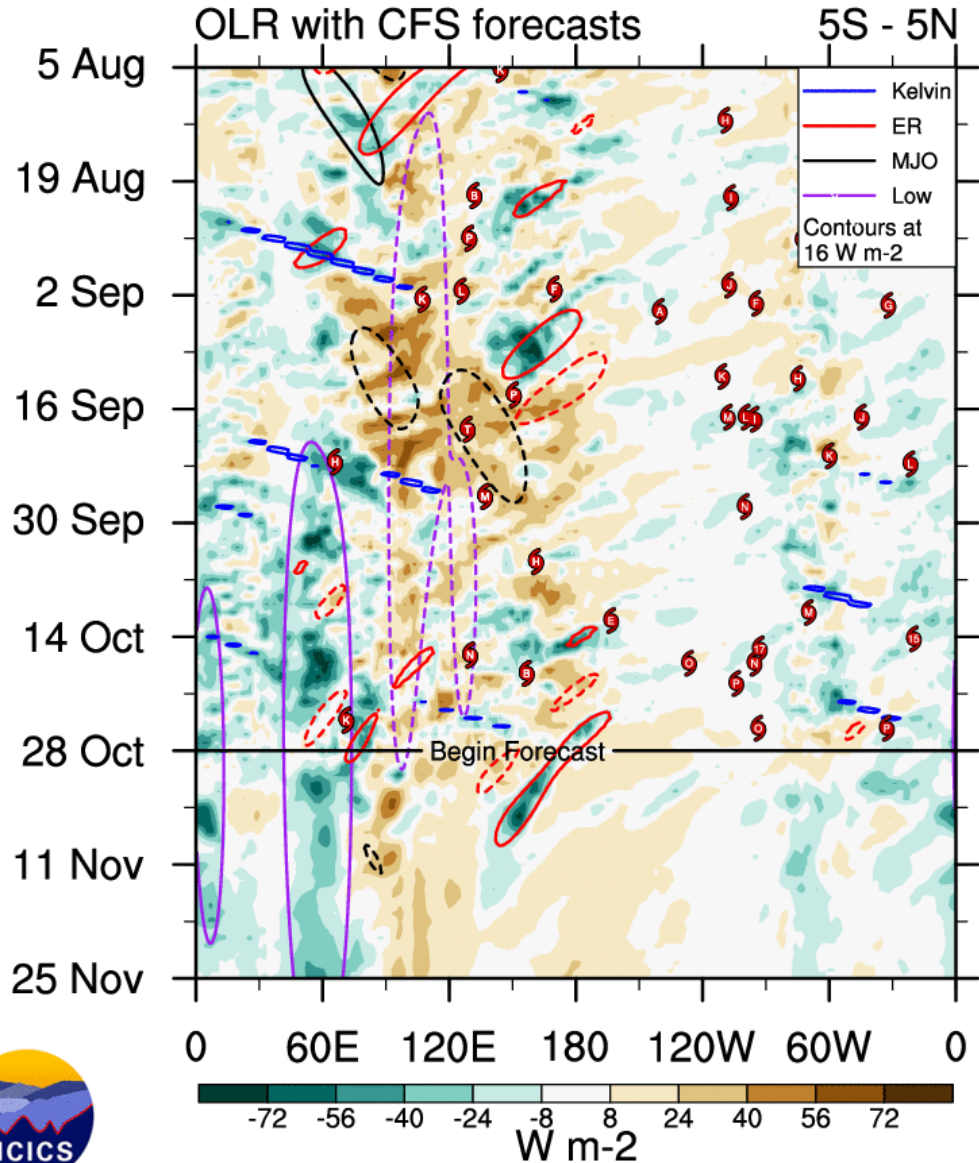
BUT, positive phase of IOD likely to offset enhanced rainfall over Maritime Continent

CAVEAT: These panels are representative of robust MJO events.

Low frequency (+IOD) dominates the Eastern Hemisphere, and is likely to do so through the next two weeks.

Rossby wave activity over the Maritime Continent is forecast to enhance rainfall.

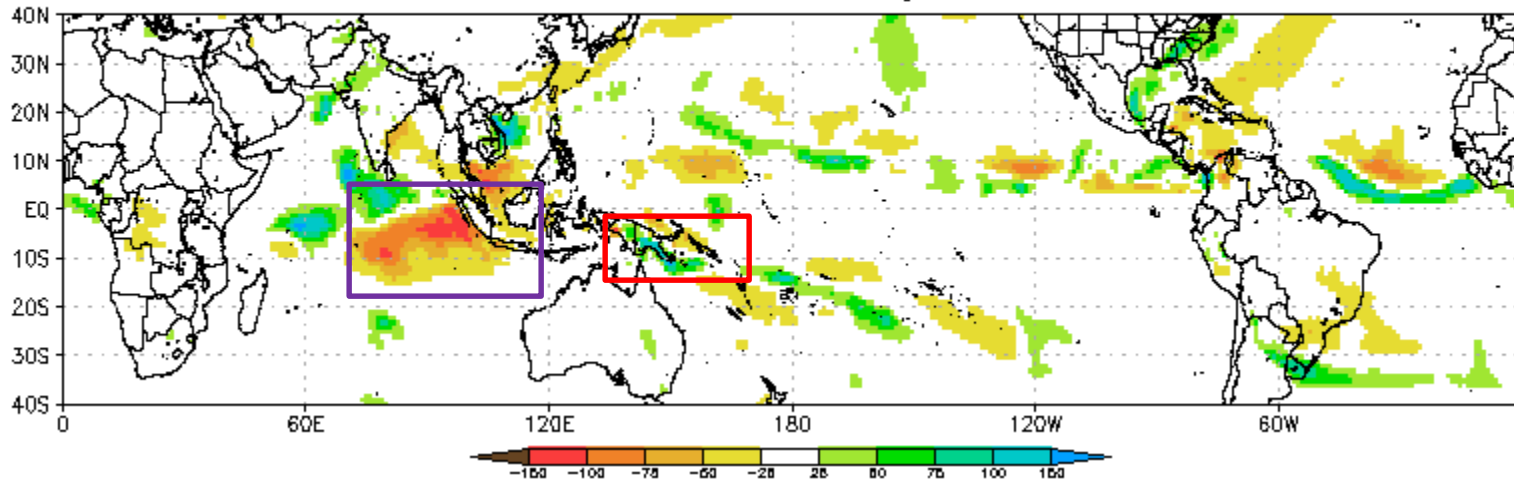
MJO activity (Phases 2/3) is not as apparent in the OLR field, as the IOD is dominating the Indian Ocean.



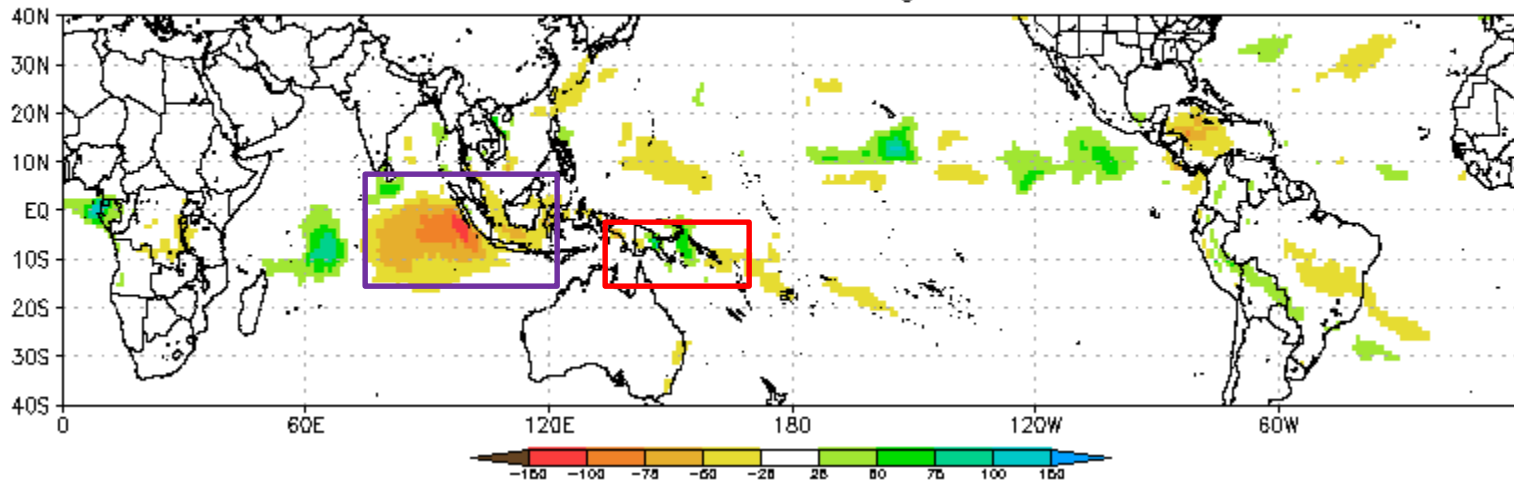
Tue 2019-10-29 15:25 UTC

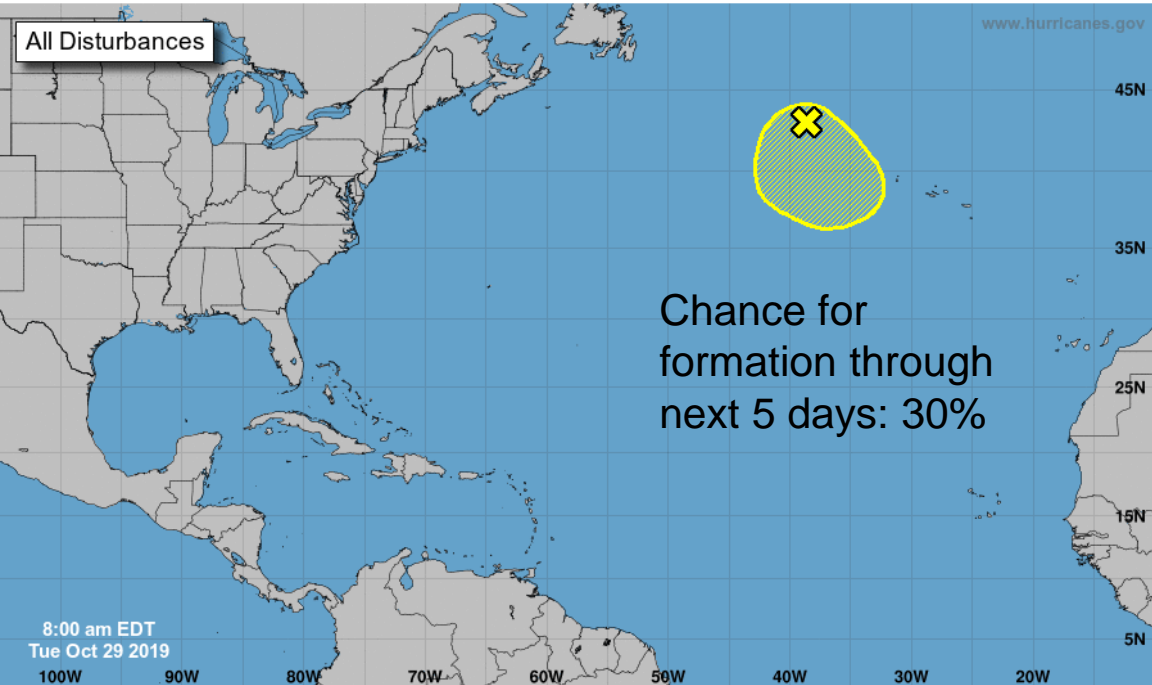
Carl Schreck
carl_schreck@ncsu.edu

CFS Precipitation Anomalies (mm) Issued 28Oct2019
Week-1 Forecast Ending 05Nov2019



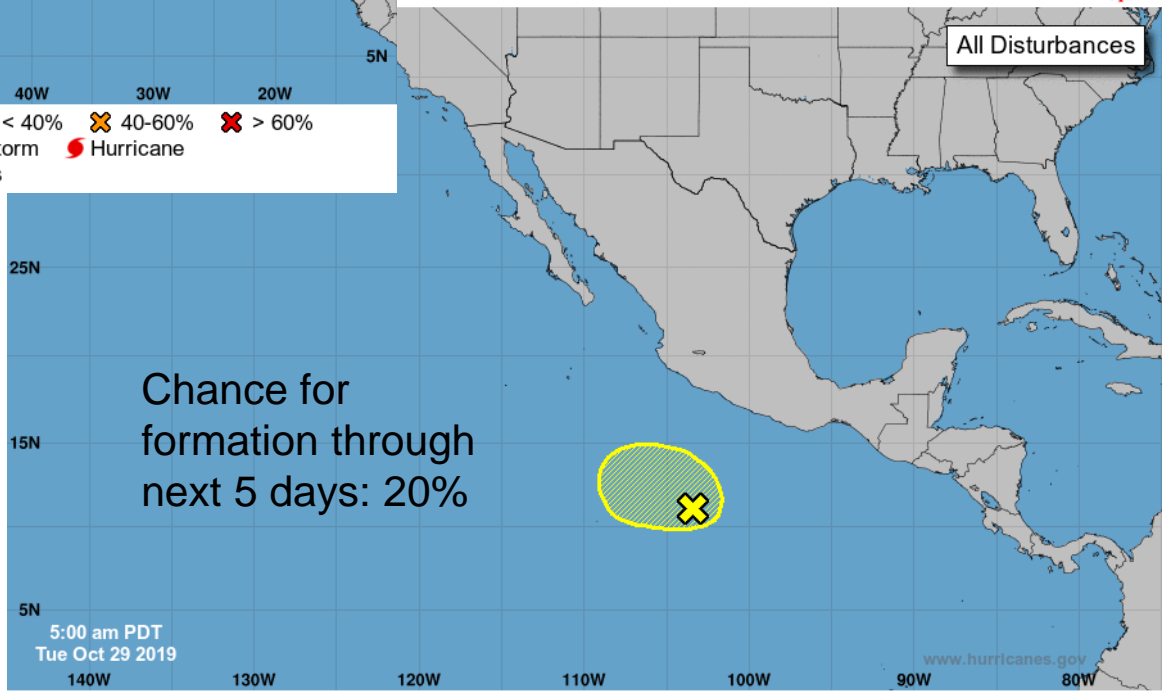
CFS Precipitation Anomalies (mm) Issued 28Oct2019
Week-2 Forecast Ending 12Nov2019





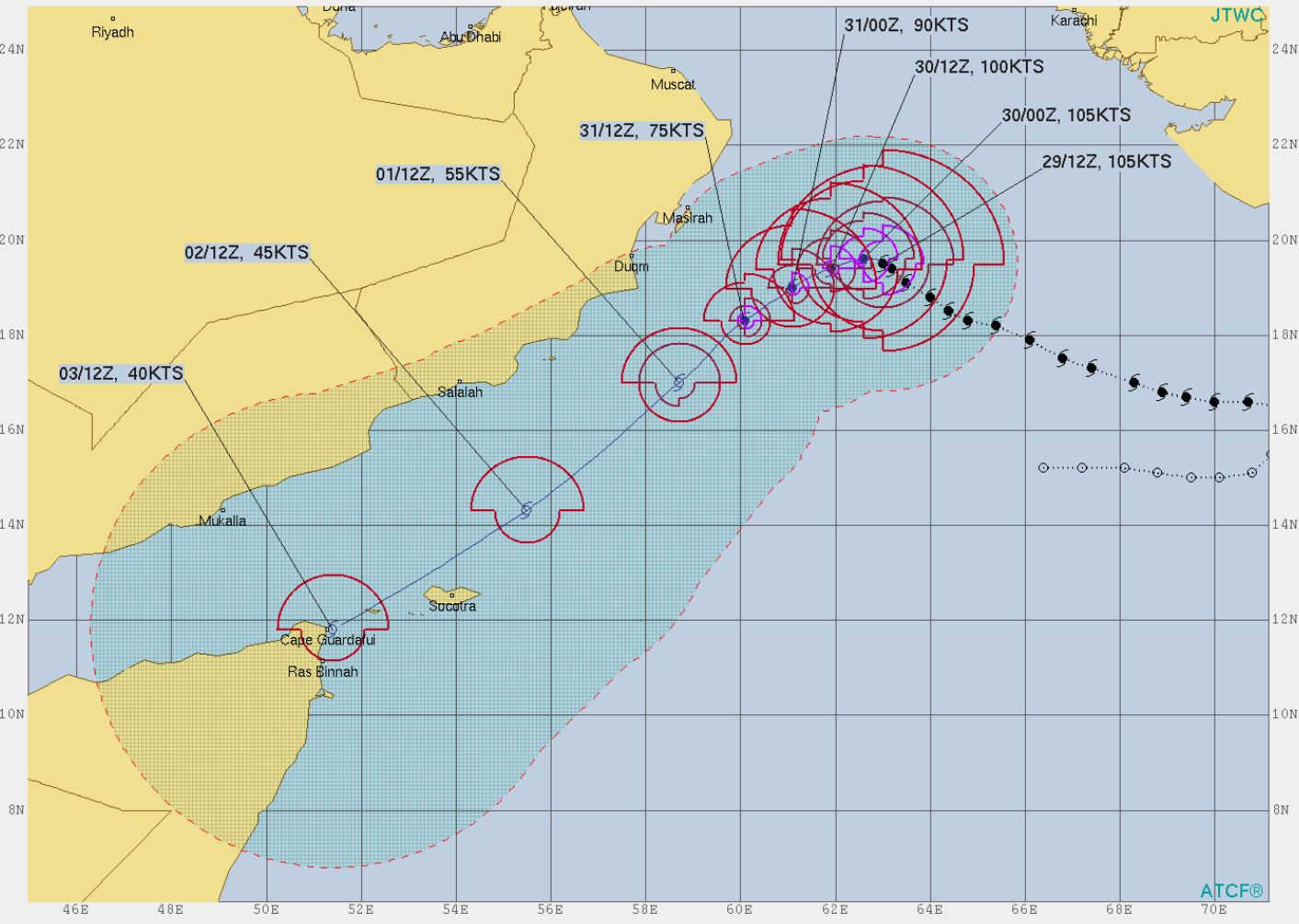
Chance for formation through next 5 days: 30%

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



Chance for formation through next 5 days: 20%

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




TROPICAL CYCLONE 04A (KYARR) WARNING #20
 WTIO31 PGTW 291500
 291200Z POSIT: NEAR 19.5N 63.0E
 MOVING 300 DEGREES TRUE AT 02 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 45 FEET
 29/12Z, WINDS 105 KTS, GUSTS TO 130 KTS
 30/00Z, WINDS 105 KTS, GUSTS TO 130 KTS
 30/12Z, WINDS 100 KTS, GUSTS TO 125 KTS
 31/00Z, WINDS 090 KTS, GUSTS TO 110 KTS
 31/12Z, WINDS 075 KTS, GUSTS TO 090 KTS
 01/12Z, WINDS 055 KTS, GUSTS TO 070 KTS
 02/12Z, WINDS 045 KTS, GUSTS TO 055 KTS
 03/12Z, WINDS 040 KTS, GUSTS TO 050 KTS

CPA TO:	NM	DTG
SALALAH	178	02/09Z
SOCOTRA	38	03/00Z
ADEN	380	03/12Z
MUKALLA	201	03/12Z
MUSCAT	303	30/21Z
MASIRAH_ISLAND	144	31/09Z
DUQM	154	31/20Z

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
KARACHI	216	388	0
MASIRAH_ISLAND	102	243	0
DUQM	091	300	0
MUSCAT	134	343	0

- LESS THAN 34 KNOTS
- 34-63 KNOTS
- MORE THAN 63 KNOTS
- FORECAST CYCLONE TRACK
- PAST CYCLONE TRACK
- DENOTES 34 KNOT WIND DANGER AREA/USN SHIP AVOIDANCE AREA
- FORECAST 34/50/64 KNOT WIND RADII (WINDS VALID OVER OPEN OCEAN ONLY)



2nd strongest tropical cyclone in 12 years for Arabian Sea

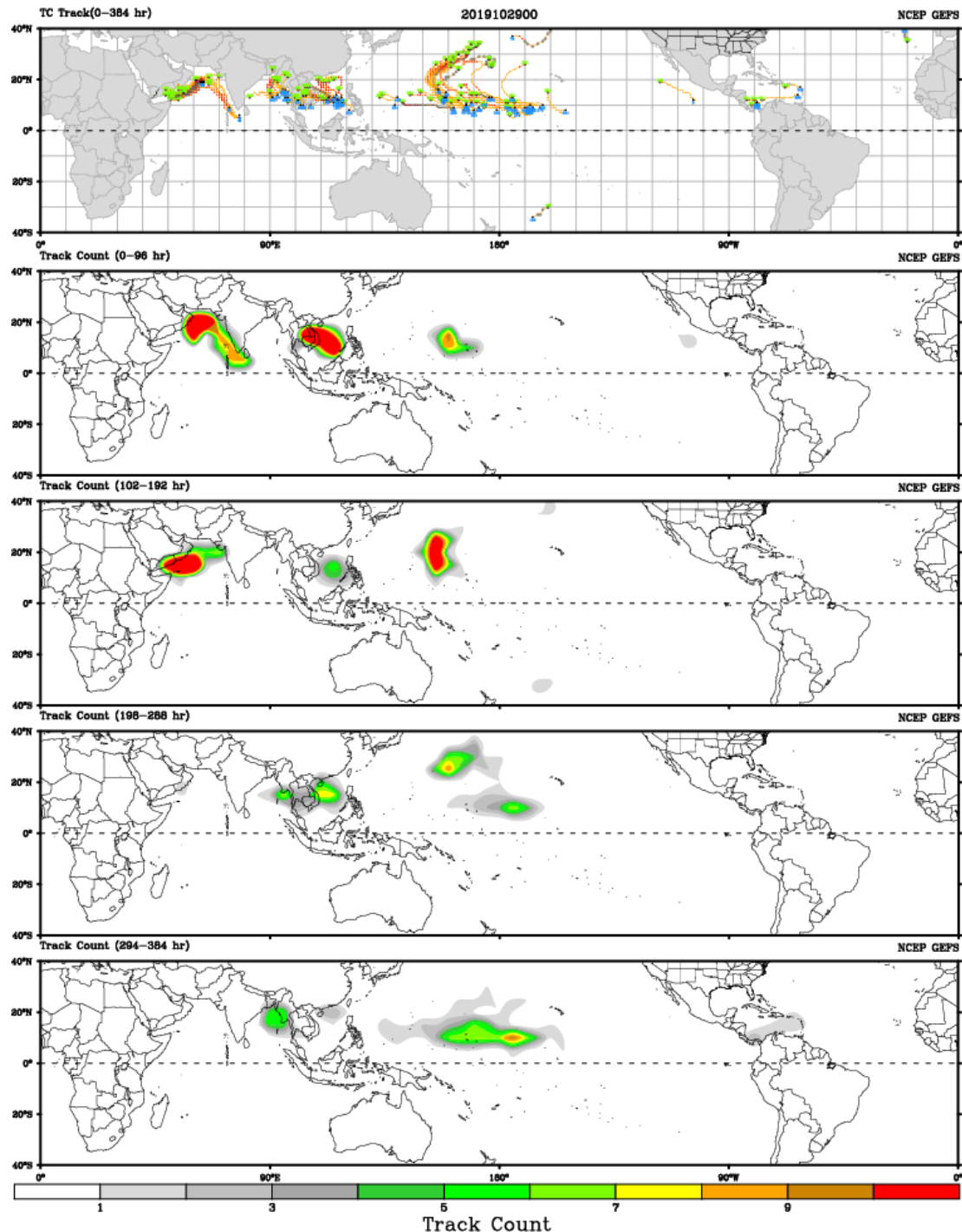
Hot spots:
Arabian Sea &
South China
Sea

Days 1-4

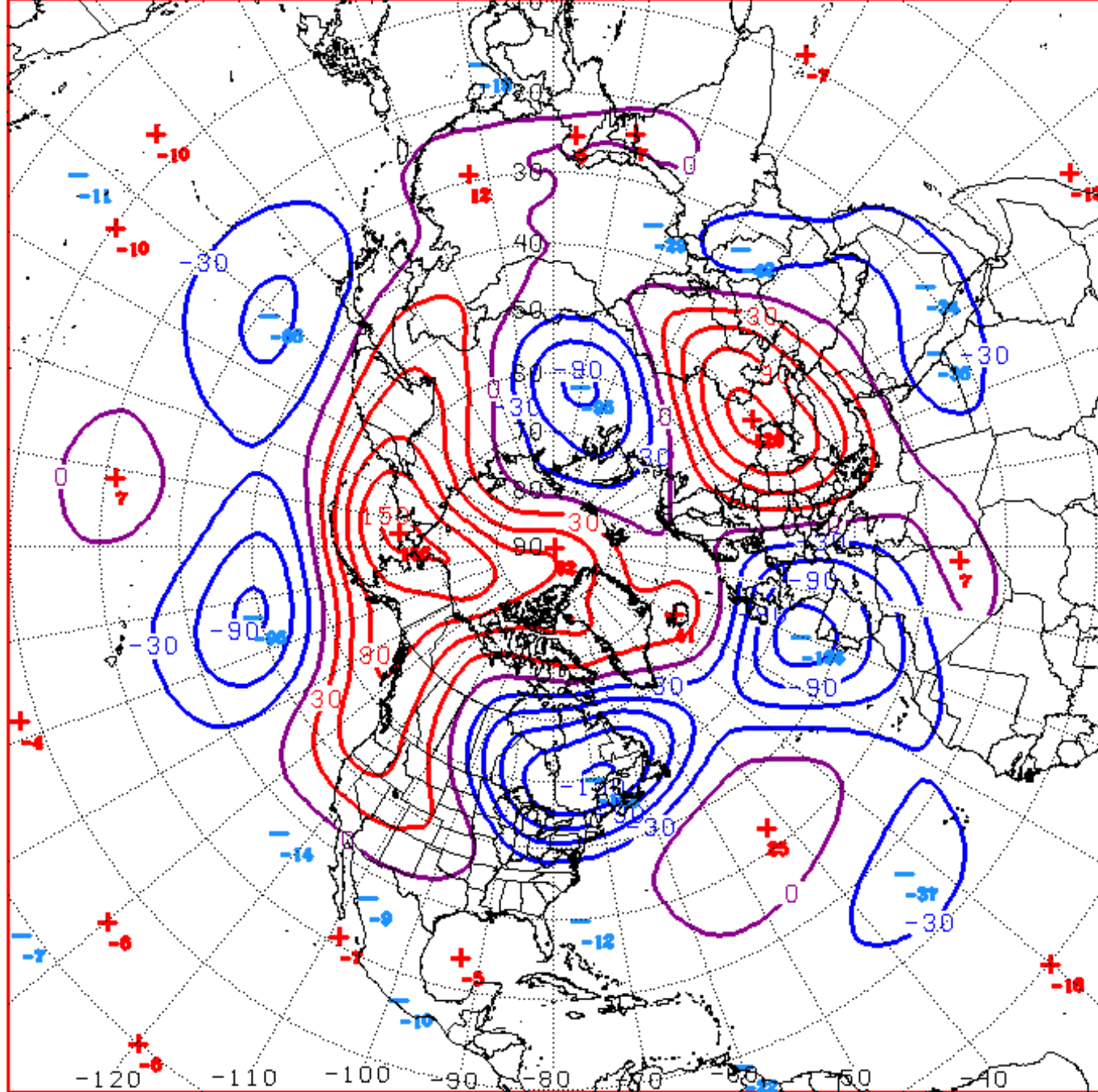
Day 5-8

Day 9-12

Day 13-15

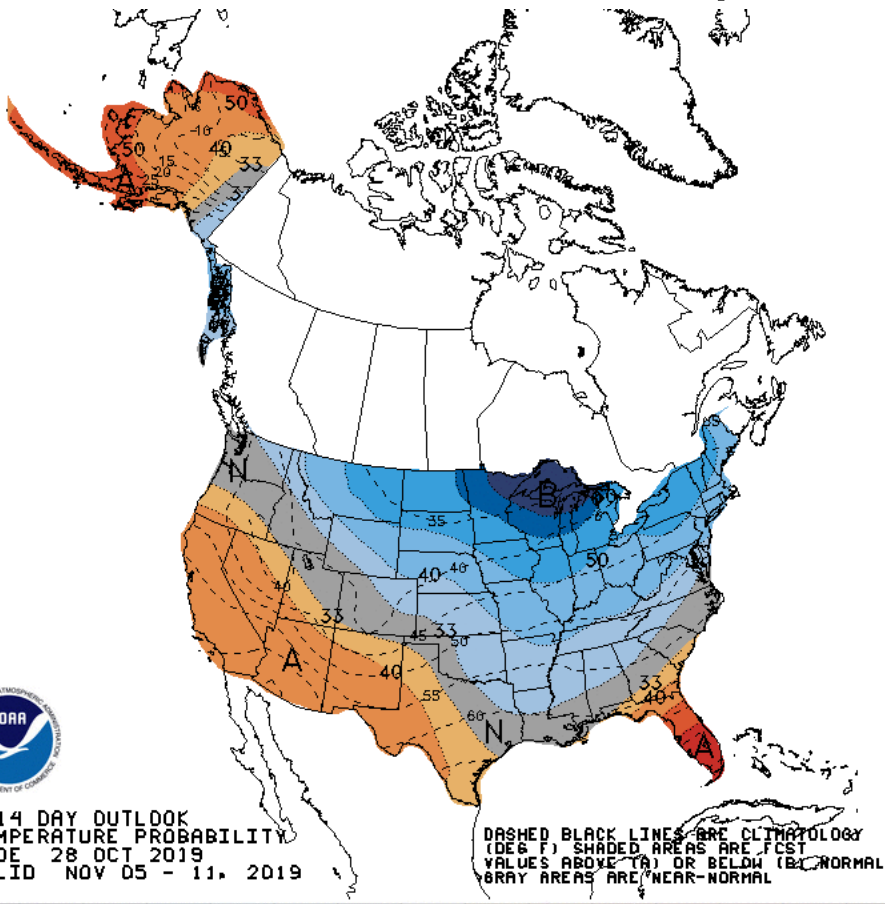


Connections to U.S. Impacts

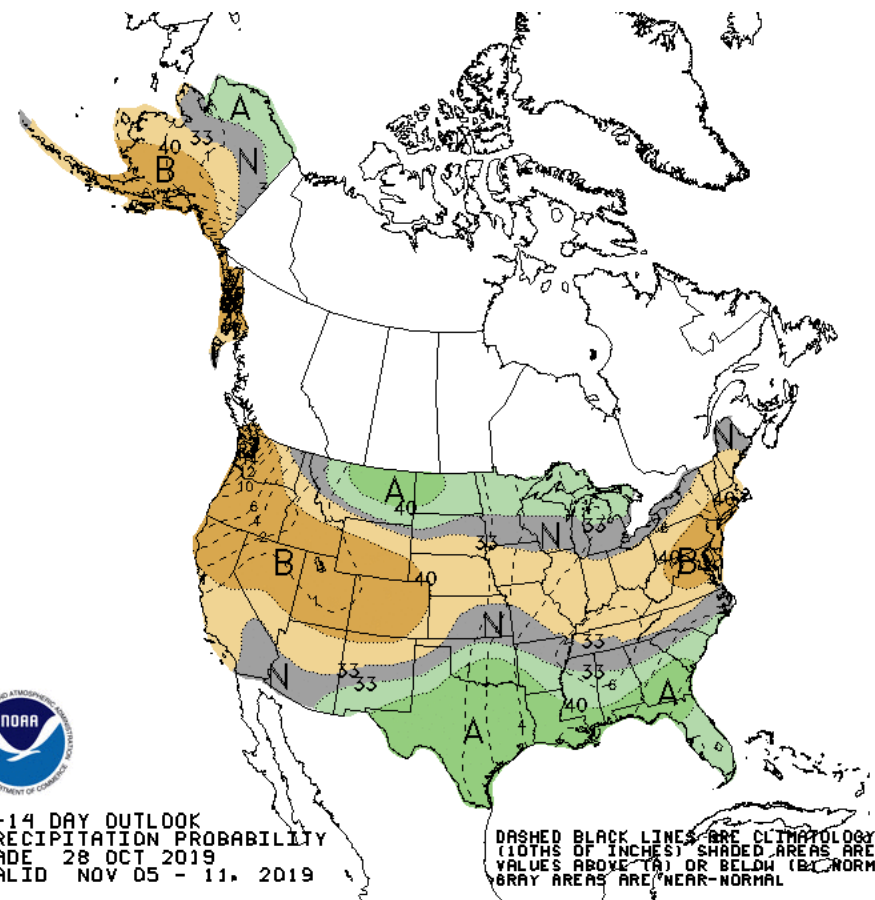
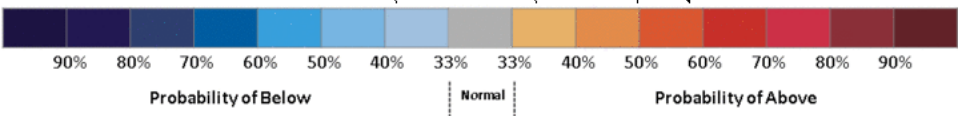


D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE OCT 29 2019 1312 UTC CNTD NOV 09 2019

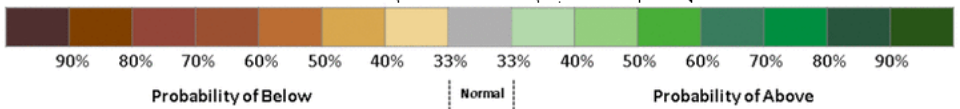
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 28 OCT 2019
VALID NOV 05 - 11, 2019



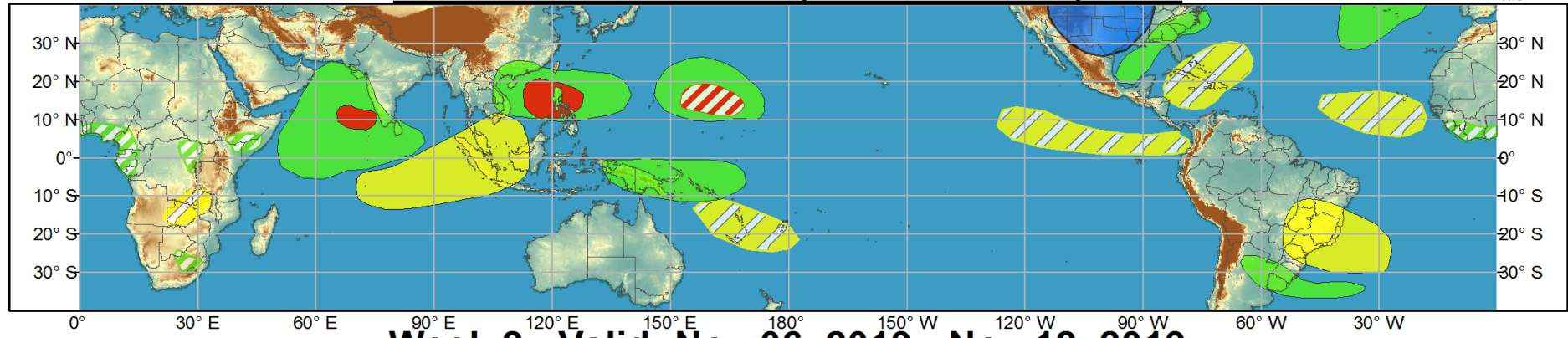
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 28 OCT 2019
VALID NOV 05 - 11, 2019



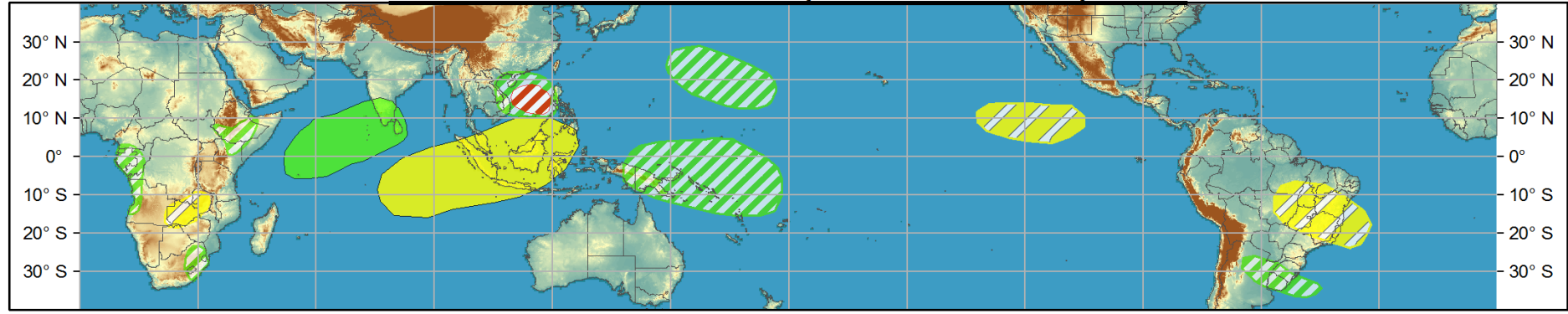


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