

Global Tropics Hazards And Benefits Outlook

10/24/2017

Adam Allgood

Outline

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

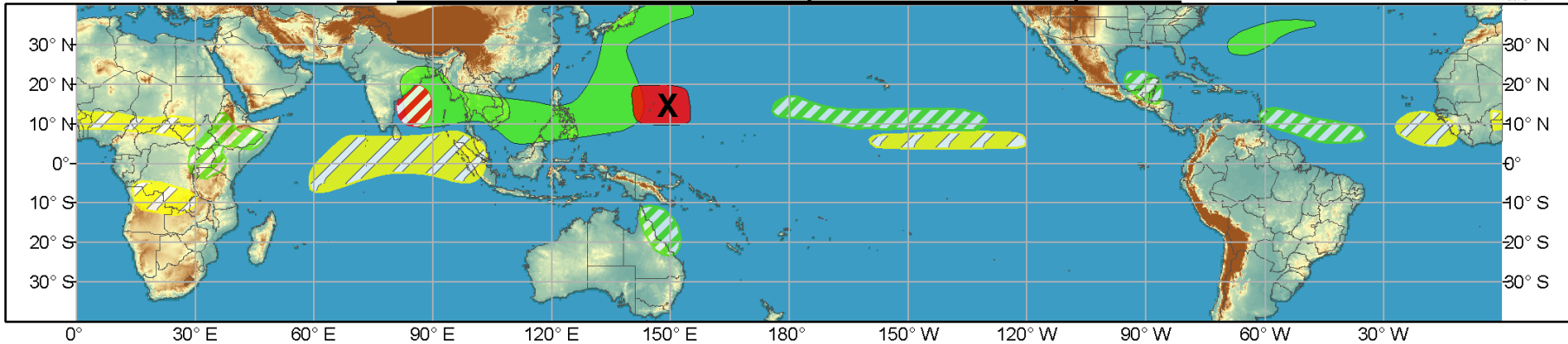
Outlook Review – Tropical Cyclones



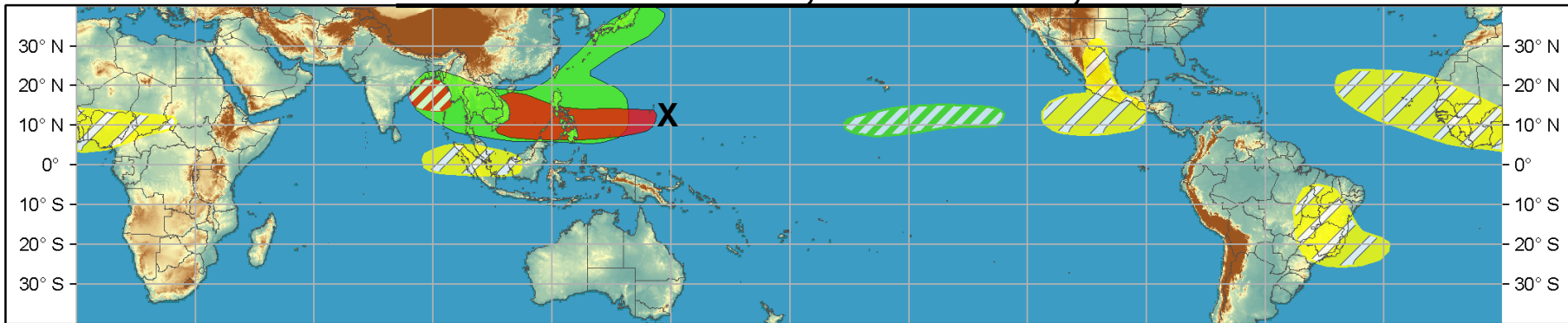
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Oct 18, 2017 - Oct 24, 2017



Week 2 - Valid: Oct 18, 2017 - Oct 24, 2017



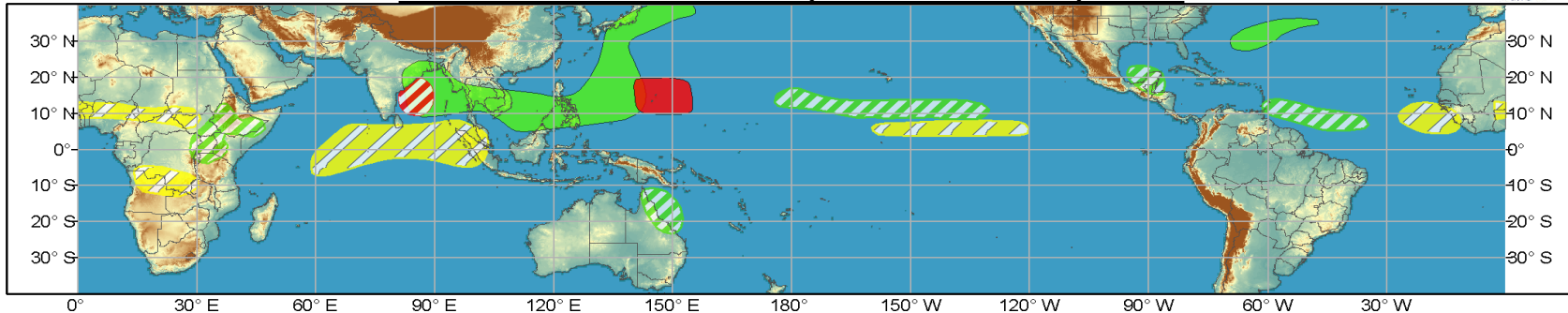
Tropical Storm Saola – formed south of Guam on 23 October



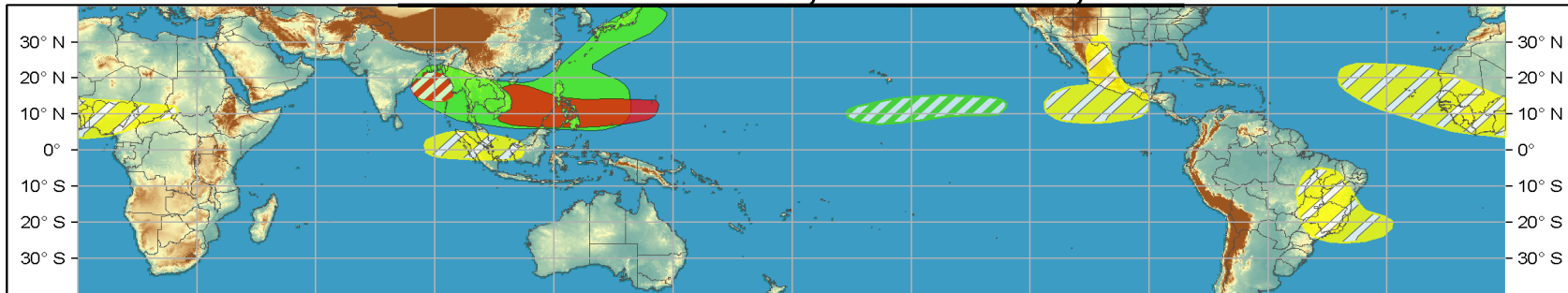
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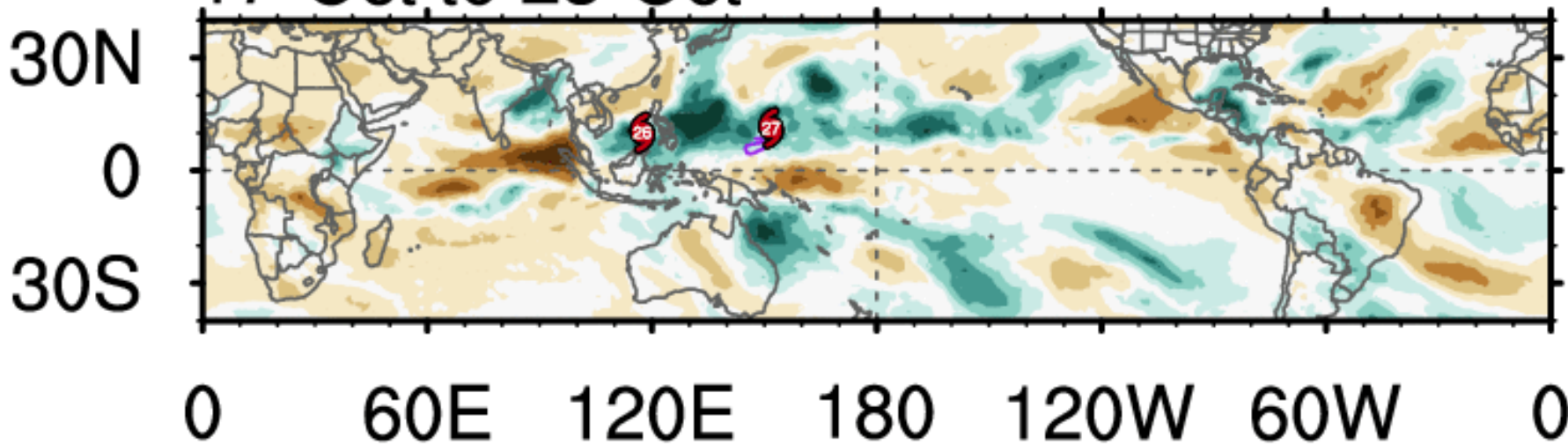
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17-Oct to 23-Oct



Synopsis of Climate Modes

ENSO:

- ENSO Alert System Status: La Niña Watch
- La Niña conditions are favored (~55-65%) during the Northern Hemisphere fall and winter 2017-18

MJO and other subseasonal tropical variability:

- An active and high amplitude MJO event is ongoing, with the enhanced phase now over the Pacific.
- Dynamical models indicate a continued eastward propagation of the MJO, with a fast phase speed (nearing the Indian Ocean by the end of Week-2). Bias-corrected model forecasts weaken the signal more rapidly, but this is unlikely given the incipient amplitude
- Recurving tropical cyclones over the West Pacific may influence the pattern as well

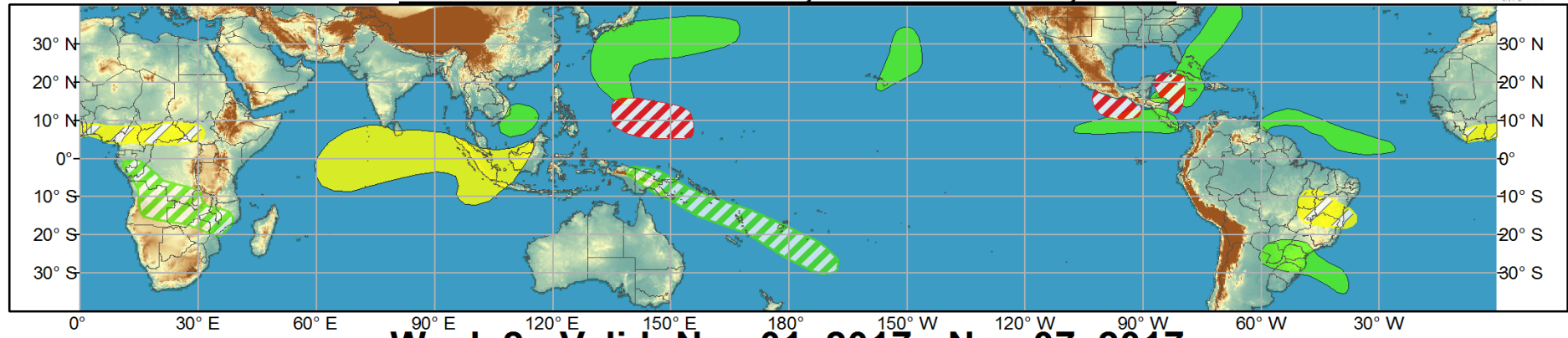
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are likely to be impacted by MJO activity, with Day 8-14 troughing over the central U.S. consistent with lagged MJO composites.

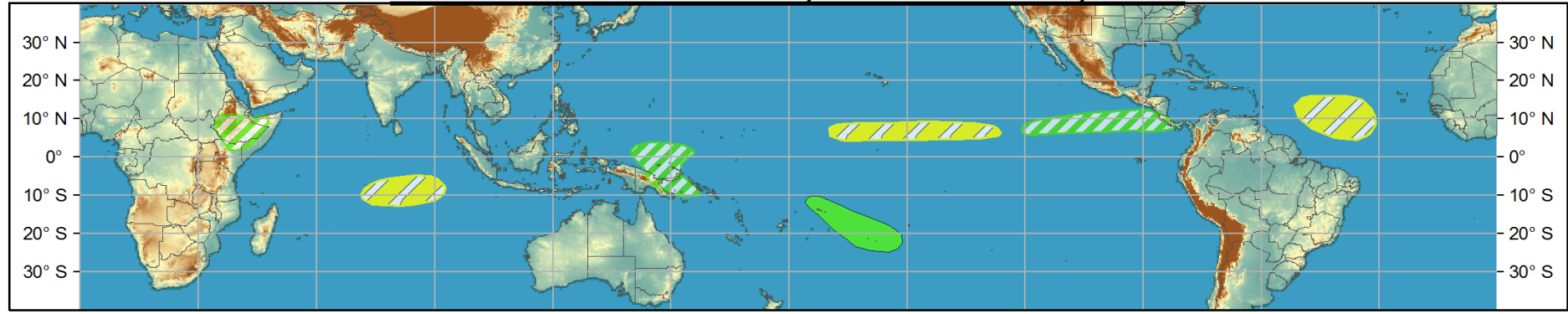


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: Oct 25, 2017 - Oct 31, 2017



Week 2 - Valid: Nov 01, 2017 - Nov 07, 2017



Produced: 10/24/2017
Forecaster: Allgood

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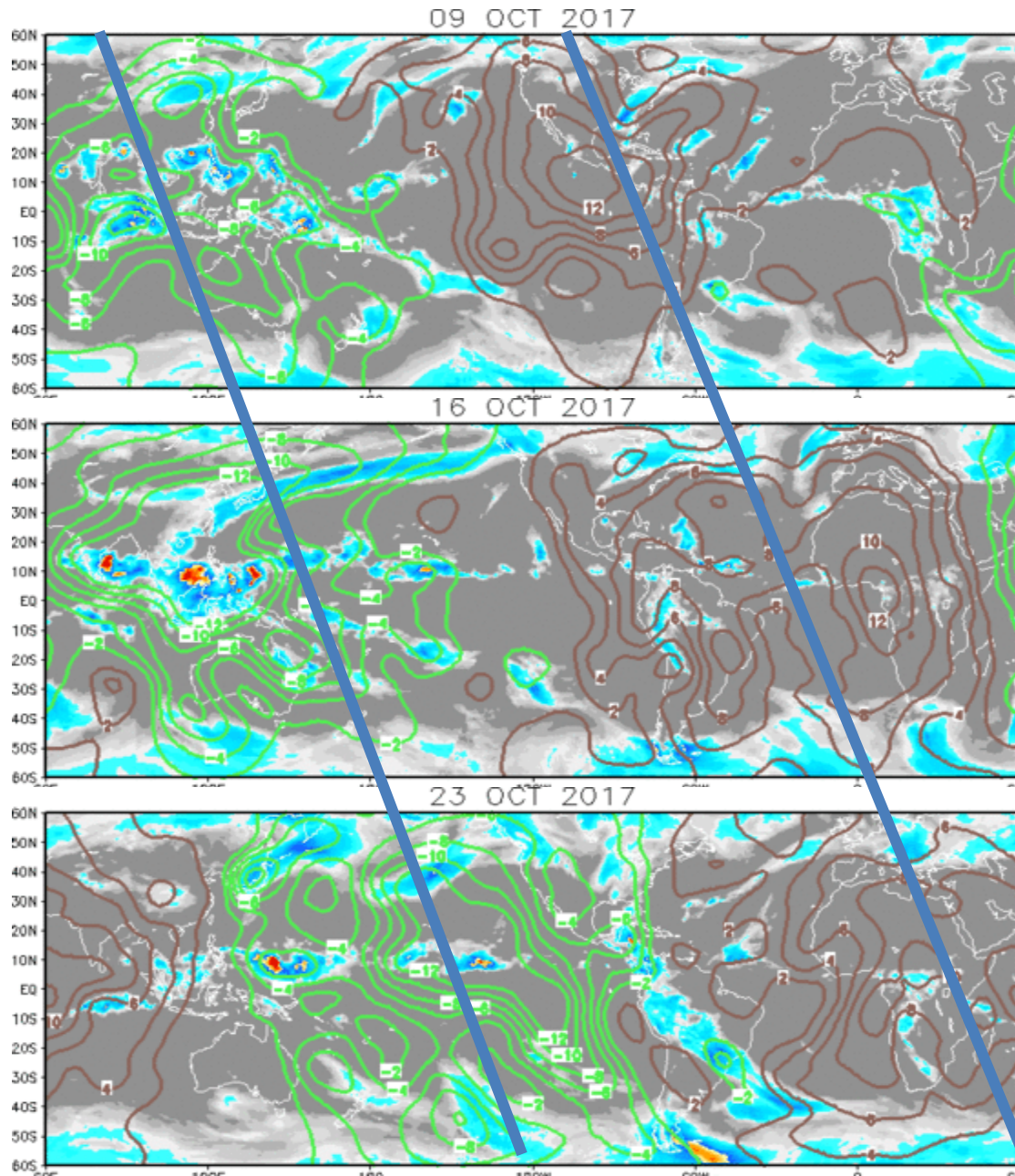
Product is updated once per week, except from 6/1 - 11/30 for the region from 120E to 0, 0 to 40N. The product targets broad scale conditions integrated over a 7-day period for US interests only. Consult your local responsible forecast agency.



IR Satellite & 200-hpa Velocity Potential Anomalies

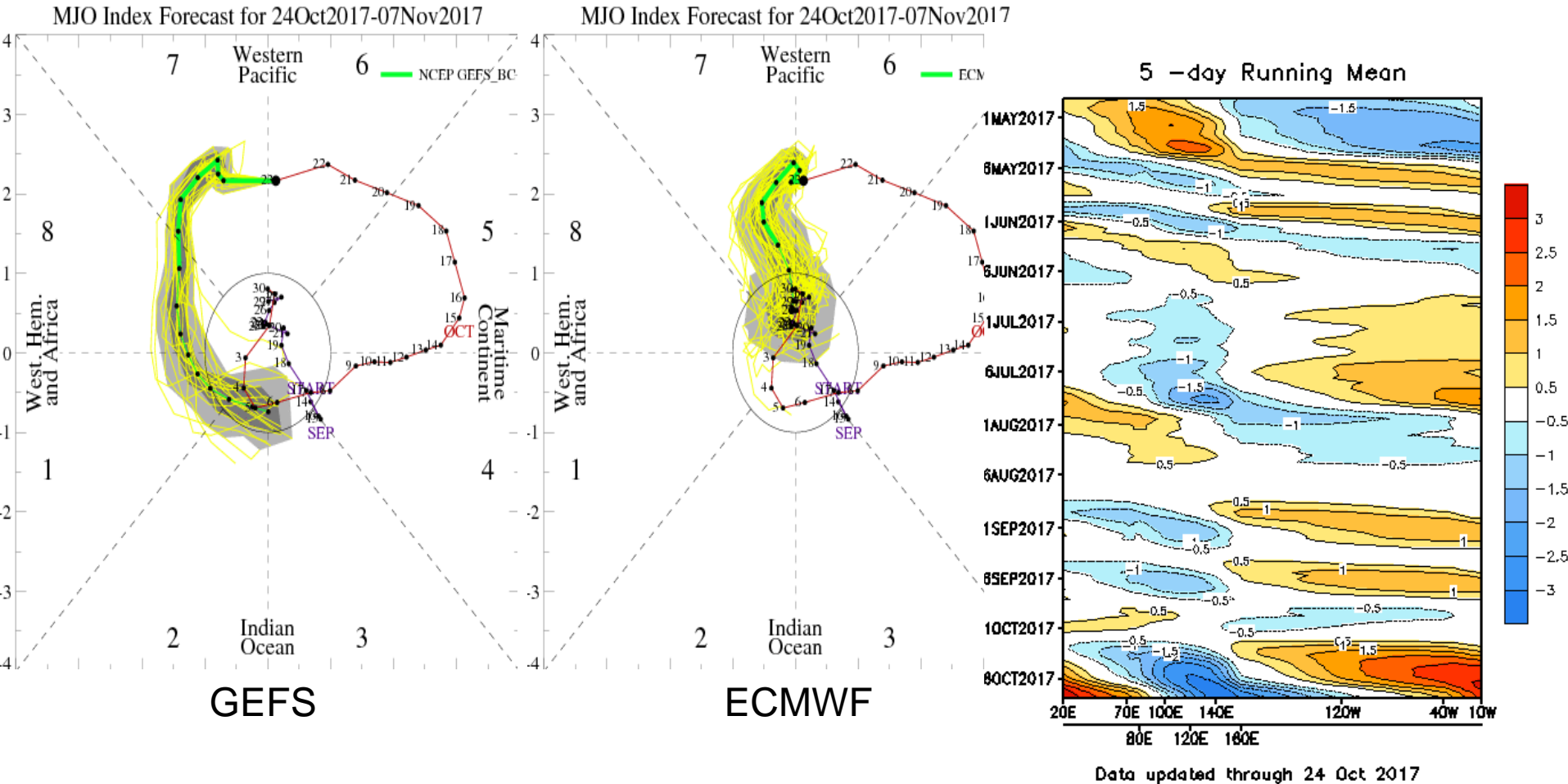
Green: Enhanced Divergence

Brown: Enhanced Convergence



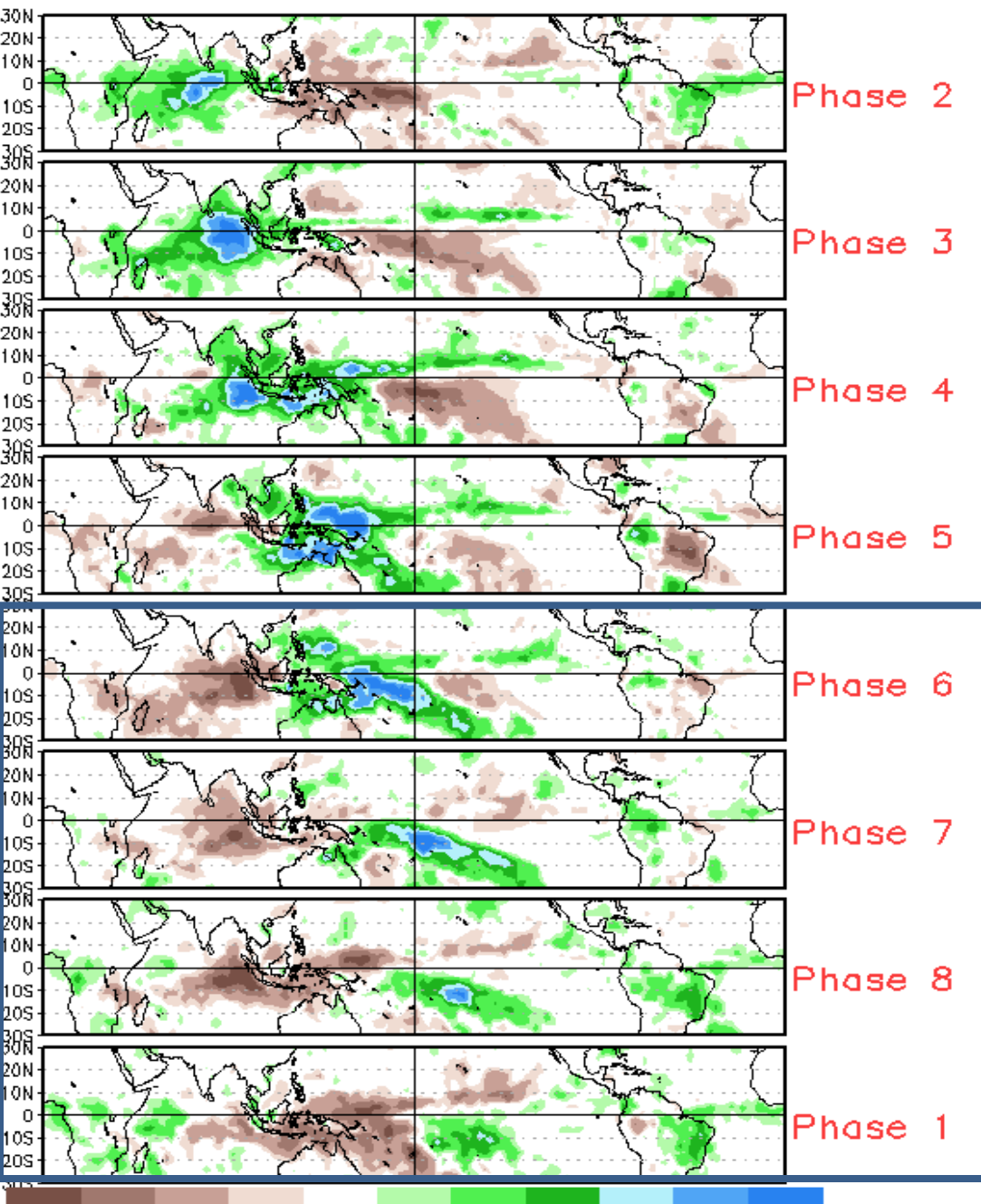
Very robust and organized Wavenumber-1 asymmetry in the upper-level VP field. Eastward propagation of the signal is quite evident.

MJO Observation/Forecast



- Note fast propagation speed over past few days
- GEFS shows signal reaching eastern Indian Ocean by the end of Week-2
- Bias-corrected ECMWF forecast rapidly weakens the signal (non-corrected ECMWF shows a bit more propagation)

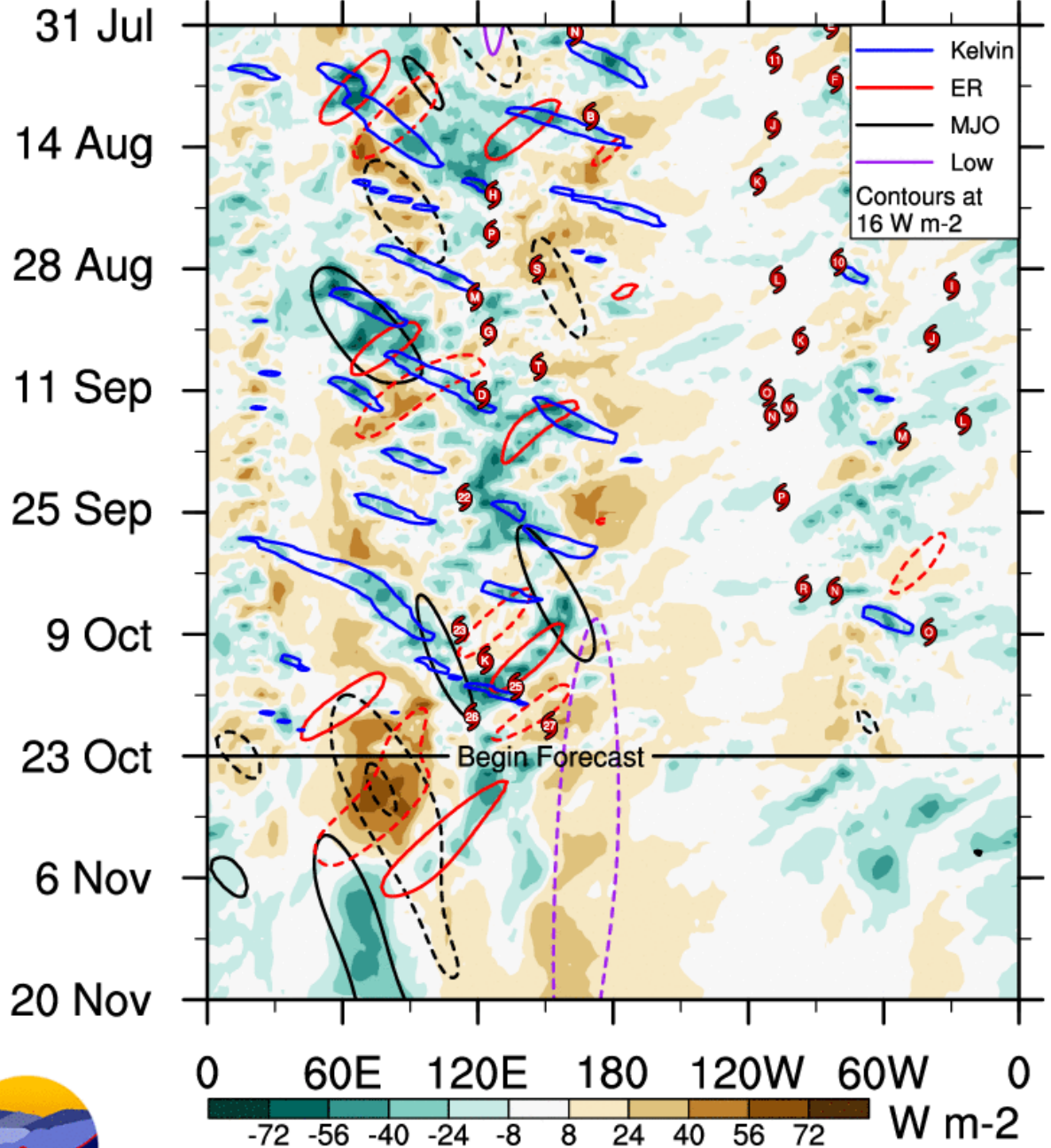
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

OLR with CFS forecasts

5S - 5N

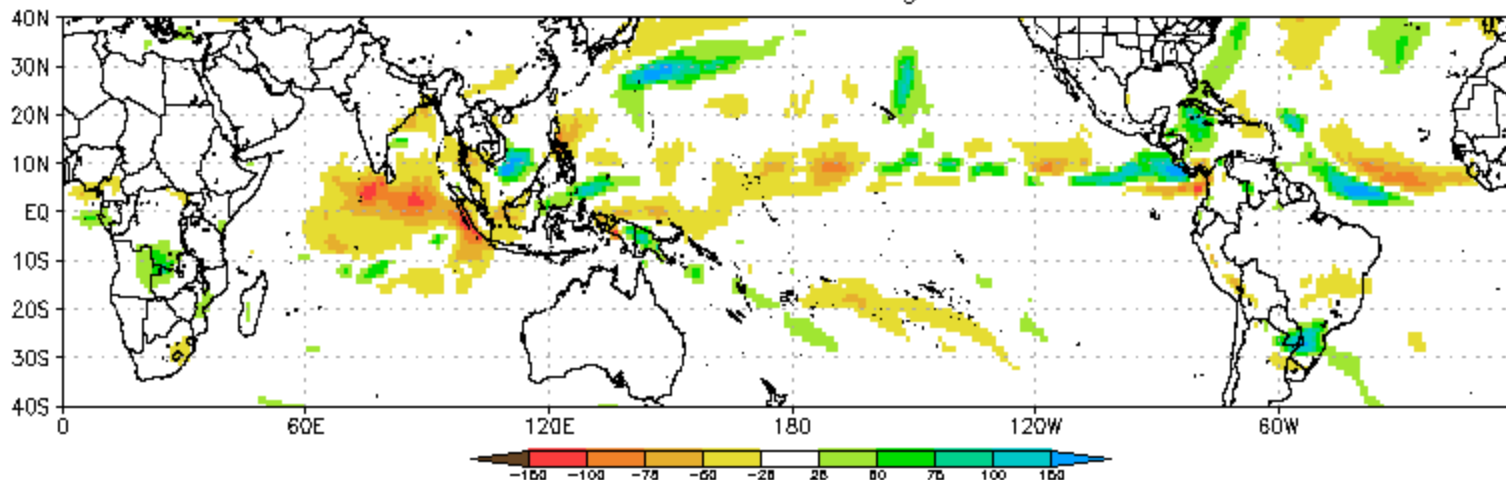


CFS depicts much slower evolution, with the intraseasonal signal slowing over the Wpac and becoming low-frequency.

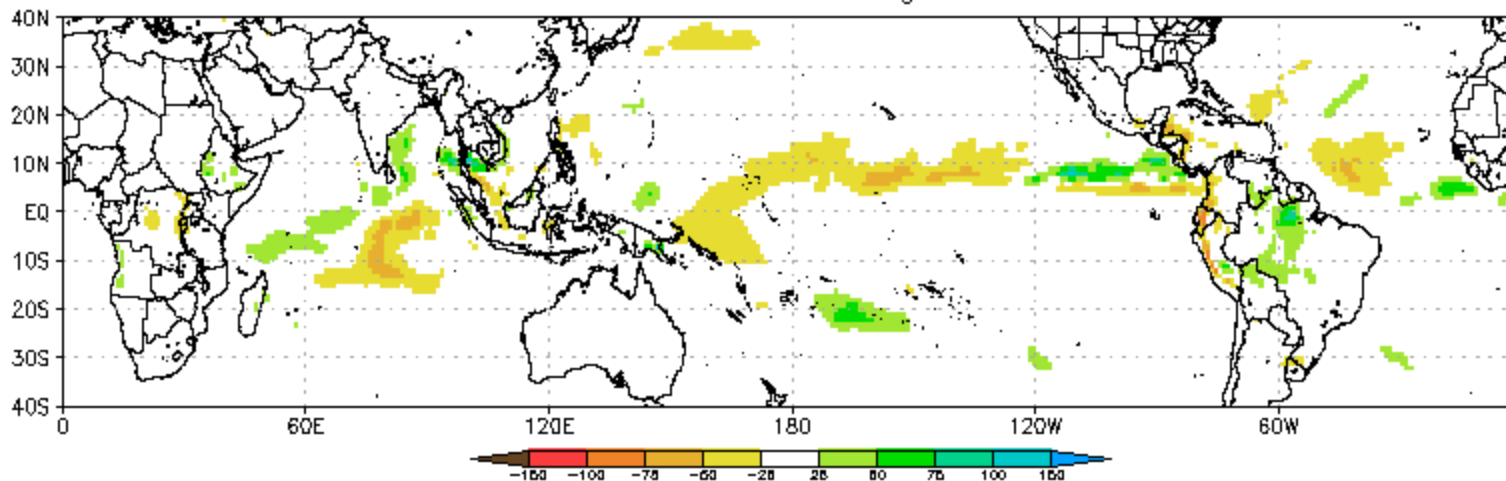
Eastward propagation is favored.



CFS Precipitation Anomalies (mm) Issued 23Oct2017
Week-1 Forecast Ending 31Oct2017

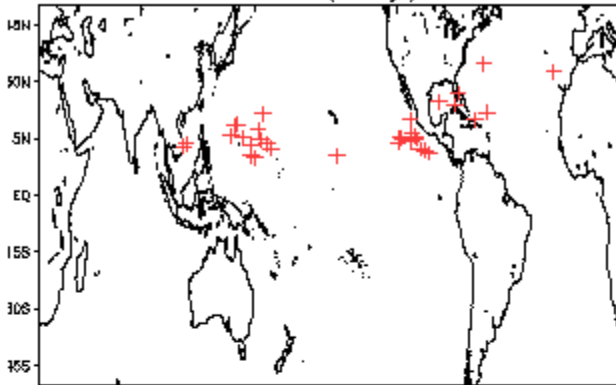


CFS Precipitation Anomalies (mm) Issued 23Oct2017
Week-2 Forecast Ending 07Nov2017

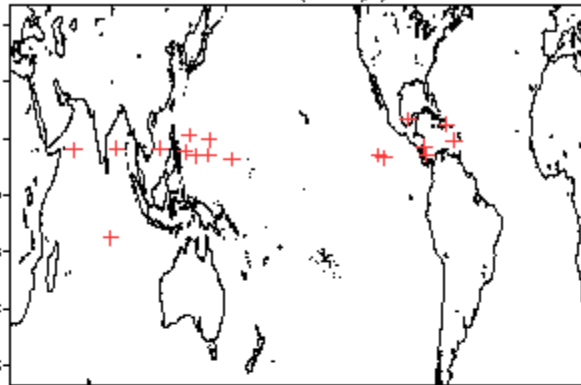


October Tropical Storm Formation by MJO phase

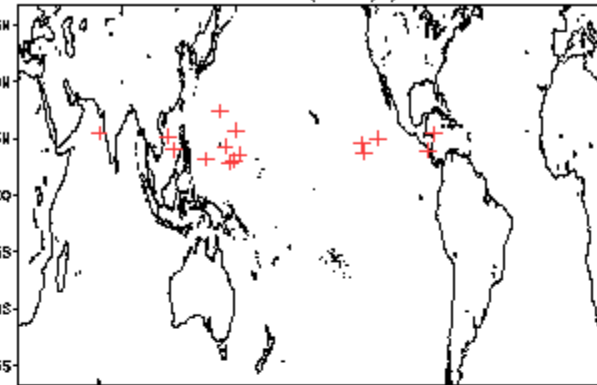
Phase 1 (94 days) 34 storms



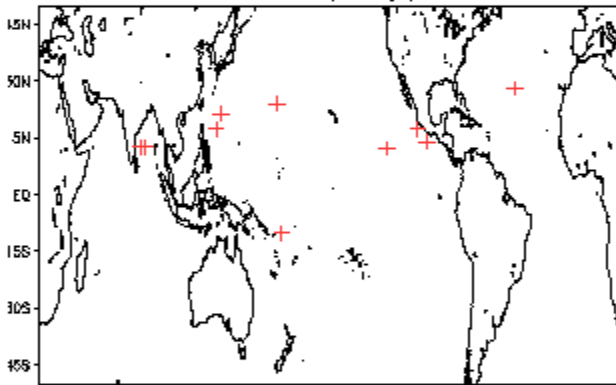
Phase 4 (85 days) 18 storms



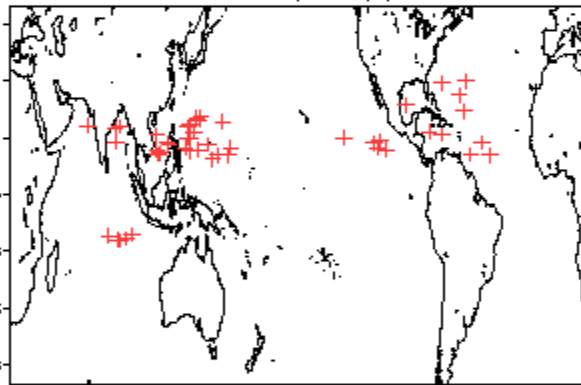
Phase 7 (48 days) 16 storms



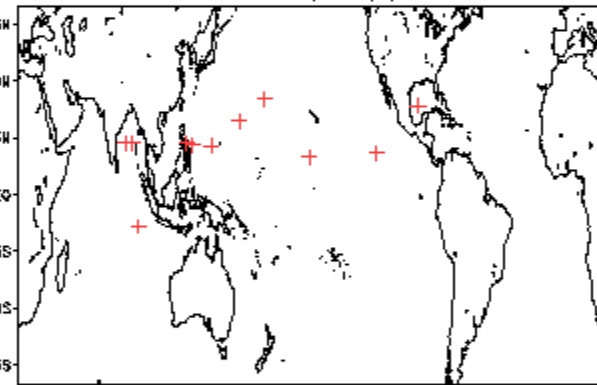
Phase 2 (75 days) 11 storms



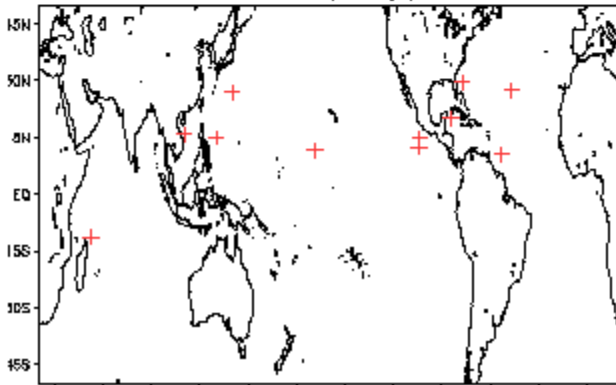
Phase 5 (133 days) 48 storms



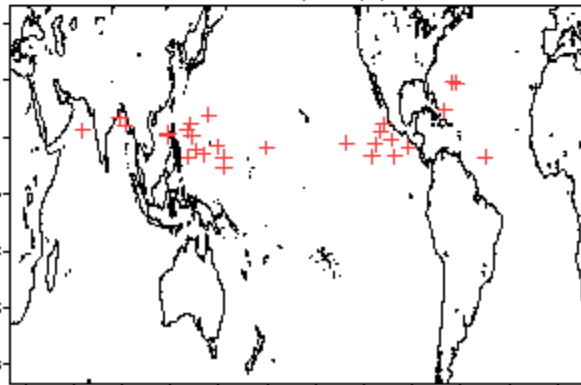
Phase 8 (66 days) 12 storms



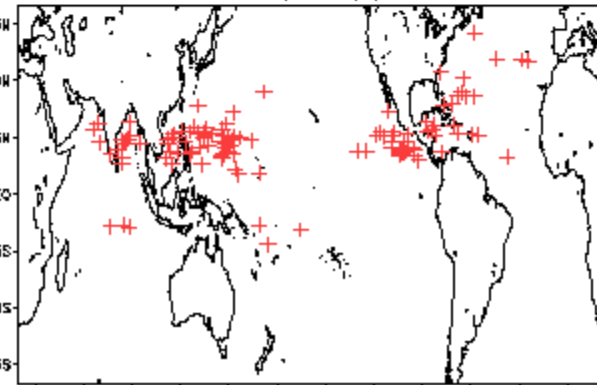
Phase 3 (41 days) 12 storms



Phase 6 (78 days) 30 storms



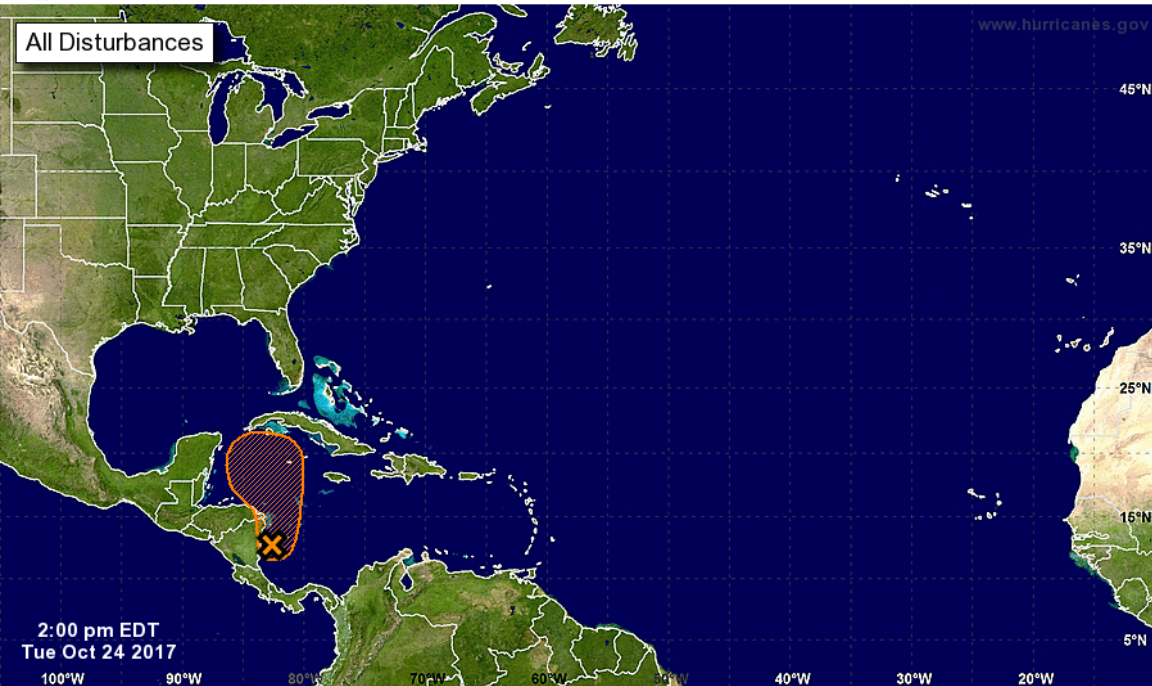
Null (422 days) 119 storms





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 Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

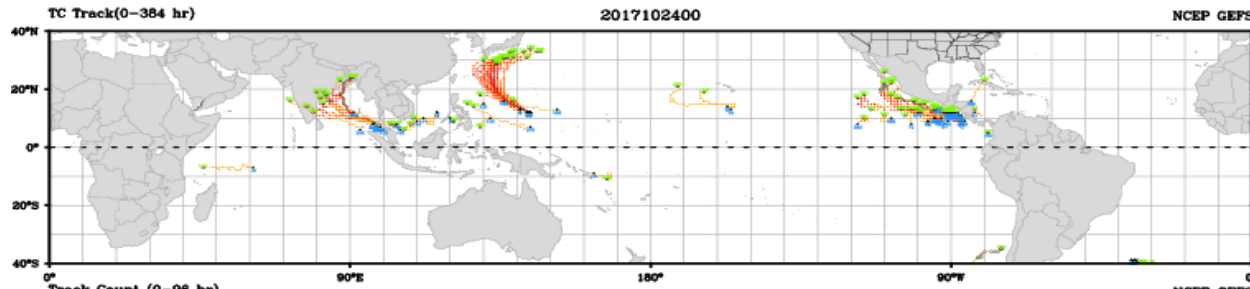


No new tropical cyclones are expected during the next five days.

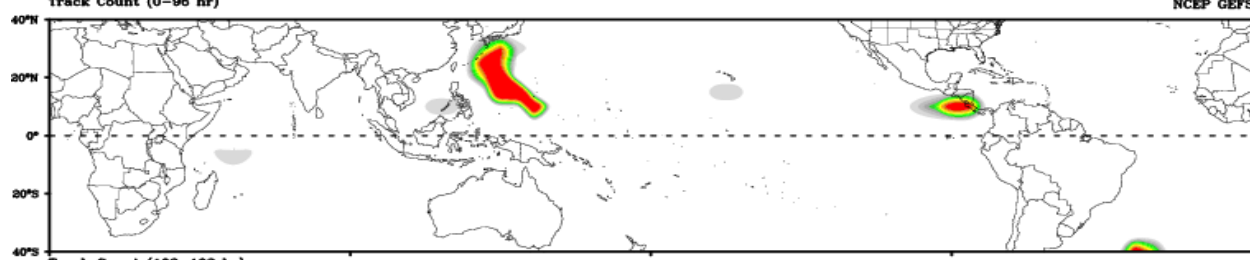
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

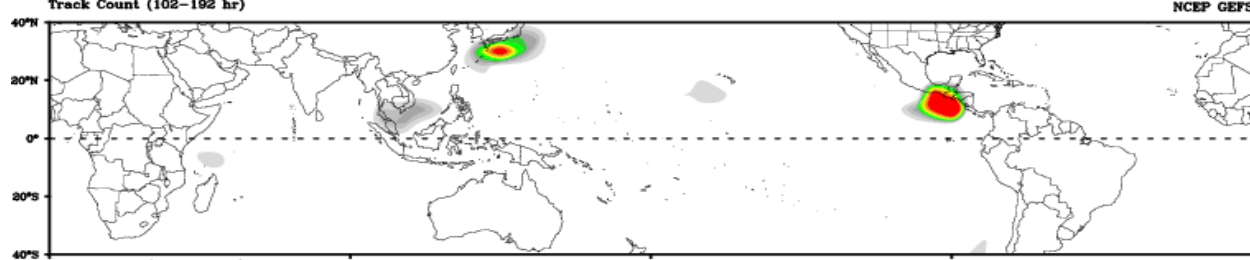
Post-Tropical Cyclone Remnants



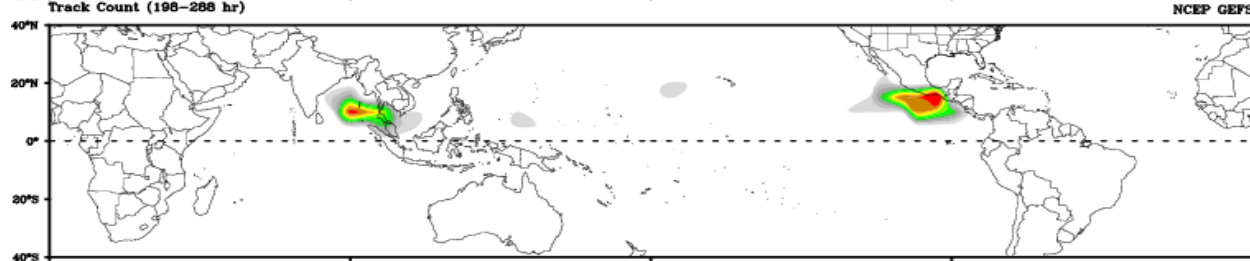
Days 1-4



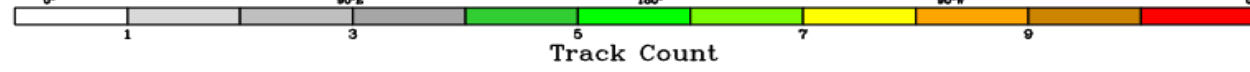
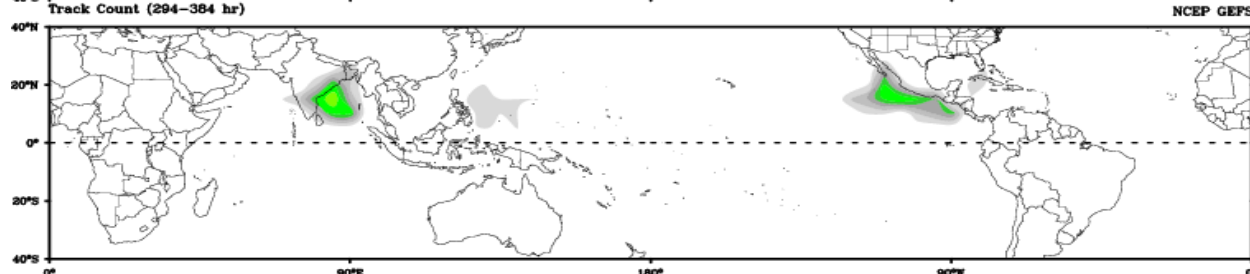
Day 5-8



Day 9-12



Day 13-15

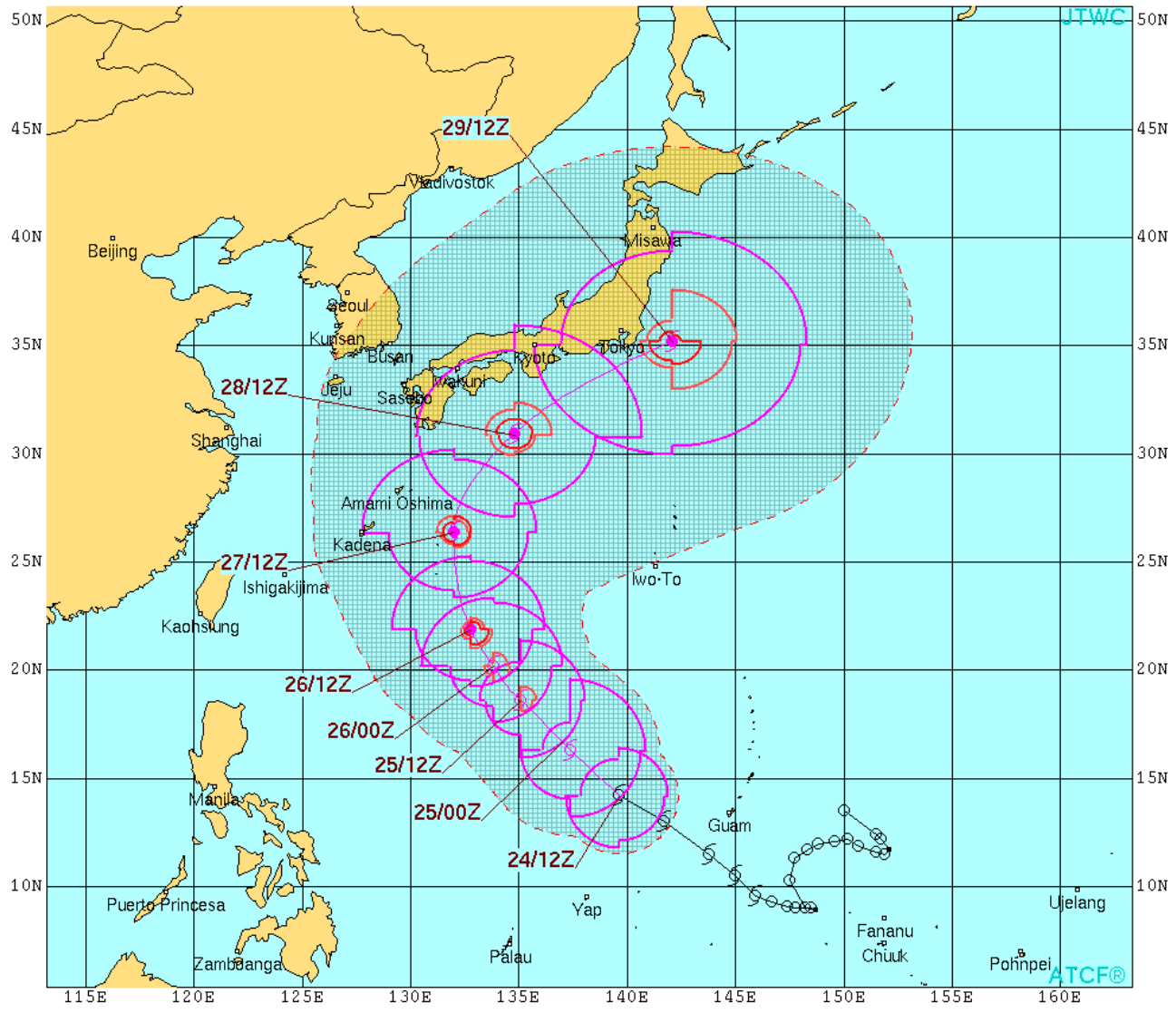


TROPICAL STORM 27W (SAOLA) WARNING #20
 WTPN33 PGTW 241500
 241200Z POSIT: NEAR 14.2N 139.6E
 MOVING 300 DEGREES TRUE AT 24 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 20 FEET
 24/12Z, WINDS 040 KTS, GUSTS TO 050 KTS
 25/00Z, WINDS 045 KTS, GUSTS TO 055 KTS
 25/12Z, WINDS 050 KTS, GUSTS TO 065 KTS
 26/00Z, WINDS 055 KTS, GUSTS TO 070 KTS
 26/12Z, WINDS 065 KTS, GUSTS TO 080 KTS
 27/12Z, WINDS 065 KTS, GUSTS TO 080 KTS
 28/12Z, WINDS 080 KTS, GUSTS TO 100 KTS
 29/12Z, WINDS 080 KTS, GUSTS TO 100 KTS

CPA TO:	NM	DTG
KADENA_AB	226	27/12Z
SASEBO	283	28/08Z
PUSAN	382	28/12Z
IWAKUNI	232	28/15Z
R2RS	210	28/23Z
CAMP FUJI	83	29/06Z
ATSUGI	81	29/07Z
CAMP ZAMA	81	29/07Z
YOKOSUKA	64	29/07Z
YOKOTA_AB	92	29/07Z
NARITA_AIRPORT	67	29/09Z
MISAWA	332	29/12Z
SHARIKI	351	29/12Z

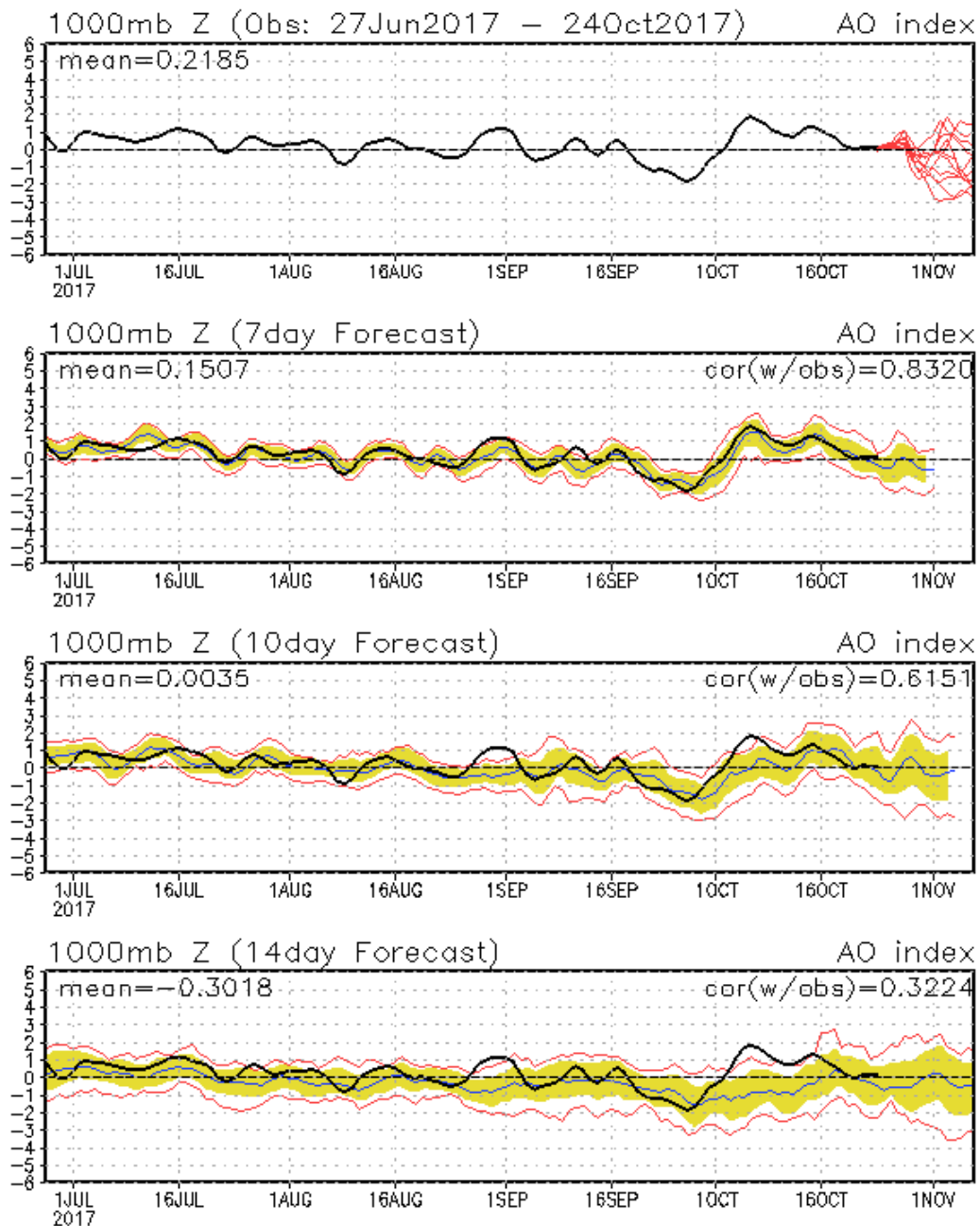
BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
HAGATNA	281	308	0
ANATAHAN	250	377	0
ANDERSEN_AFB	277	311	0
FAIS	349	269	0
NAVSTA_GUAM	280	295	0
NGULU	019	375	0
ROTA	272	326	0
SAIPAN	261	365	0
SOROL	353	363	0
TINIAN	263	352	0
ULITHI	360	258	0
WFO GUAM	279	306	0
YAP	017	295	0

○ LESS THAN 34 KNOTS
 ⊙ 34-63 KNOTS
 ● MORE THAN 63 KNOTS
 PAST 6 HOURLY CYCLONE POSITS IN BLACK
 FORECAST CYCLONE POSITS IN COLOR

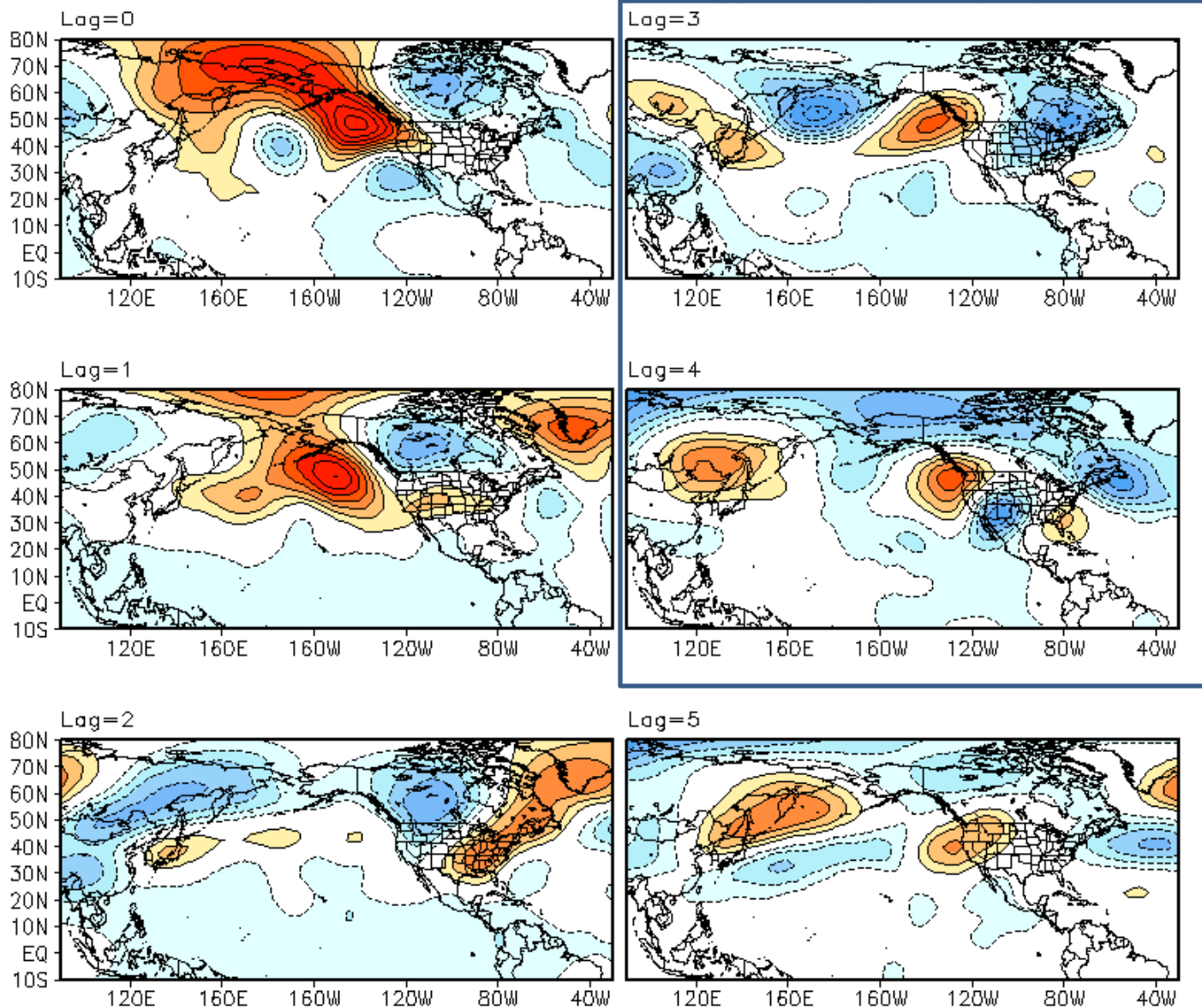


Connections to U.S. Impacts

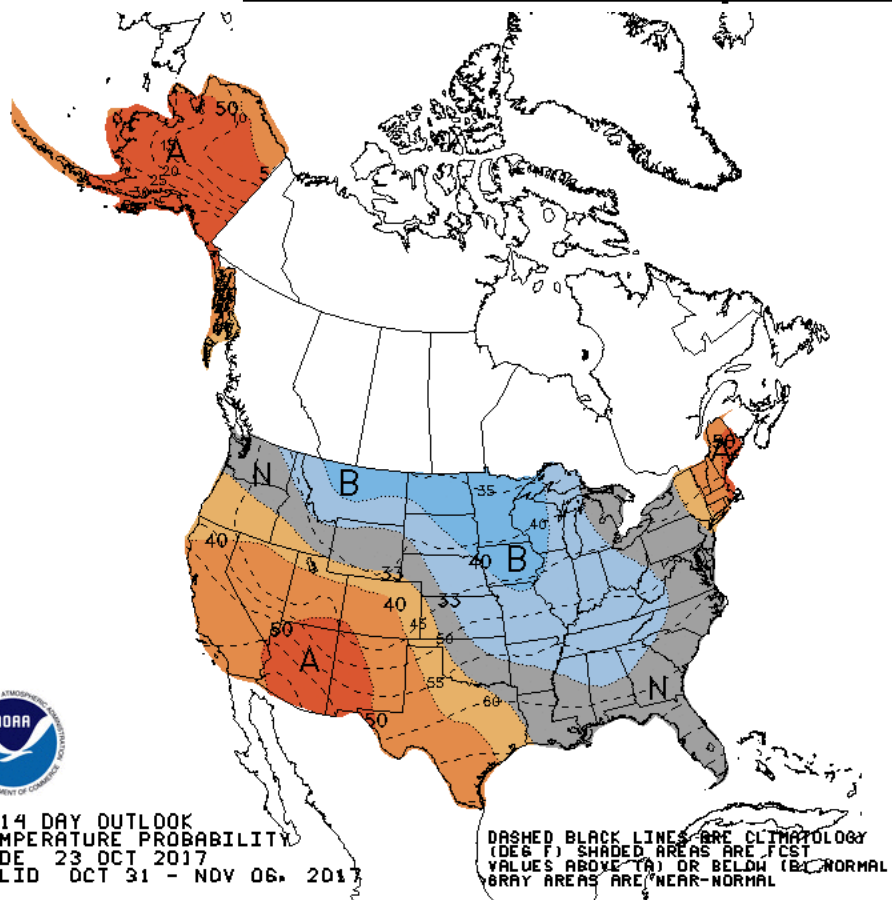
AO: Observed & ENSM forecasts



RMM Phase 7 200-hPa Height Lagged Composite (son)

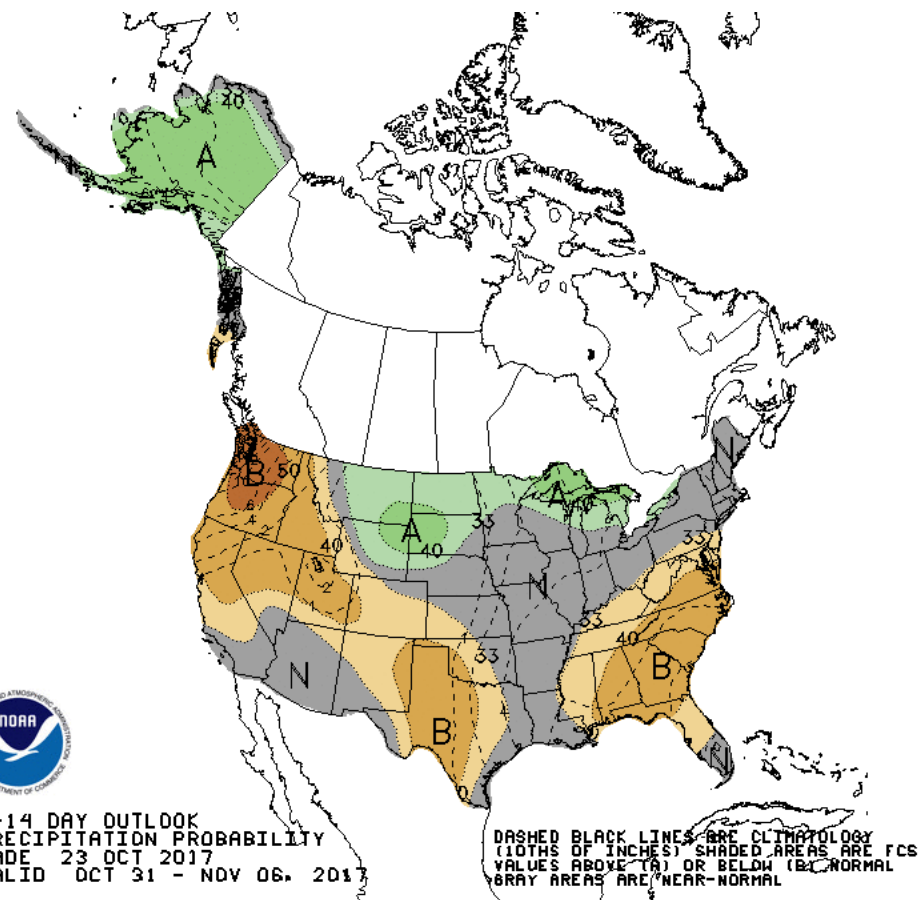
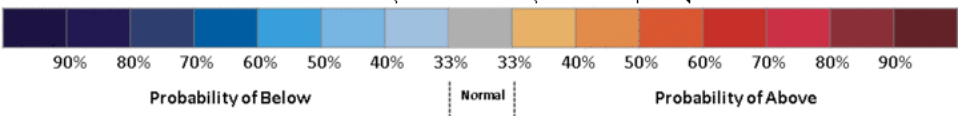


Week 2 – Temperature and Precipitation



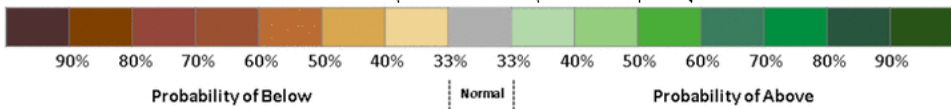
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 23 OCT 2017
VALID OCT 31 - NOV 06, 2017

DASHED BLACK LINES ARE CLIMATOLOGY (DEG F). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 23 OCT 2017
VALID OCT 31 - NOV 06, 2017

DASHED BLACK LINES ARE CLIMATOLOGY (10THS OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. GRAY AREAS ARE NEAR-NORMAL.

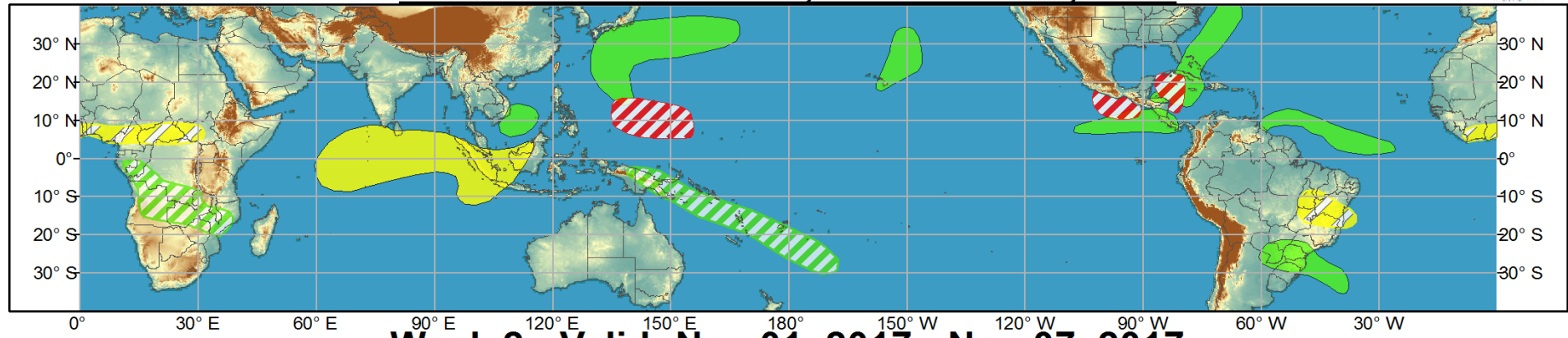




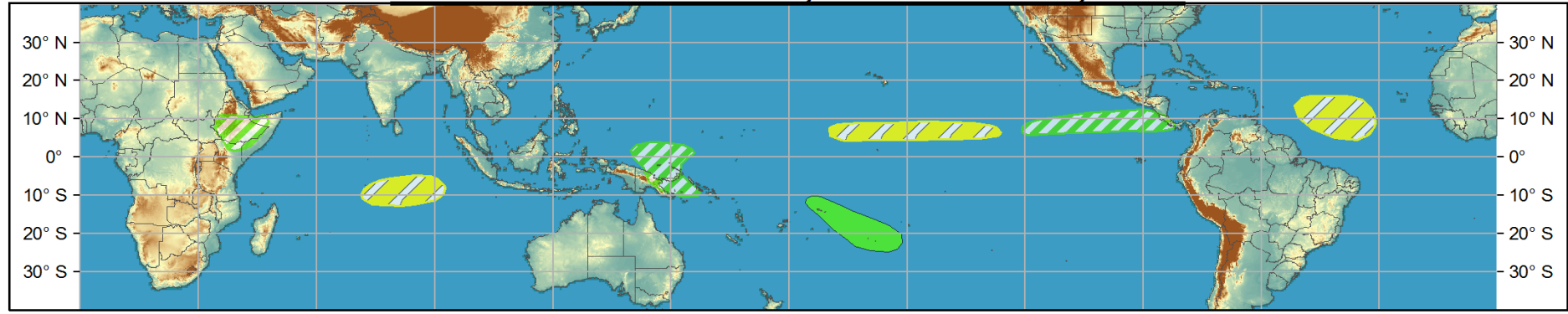
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