

Global Tropics Hazards And Benefits Outlook

8/21/2018

Kyle MacRitchie

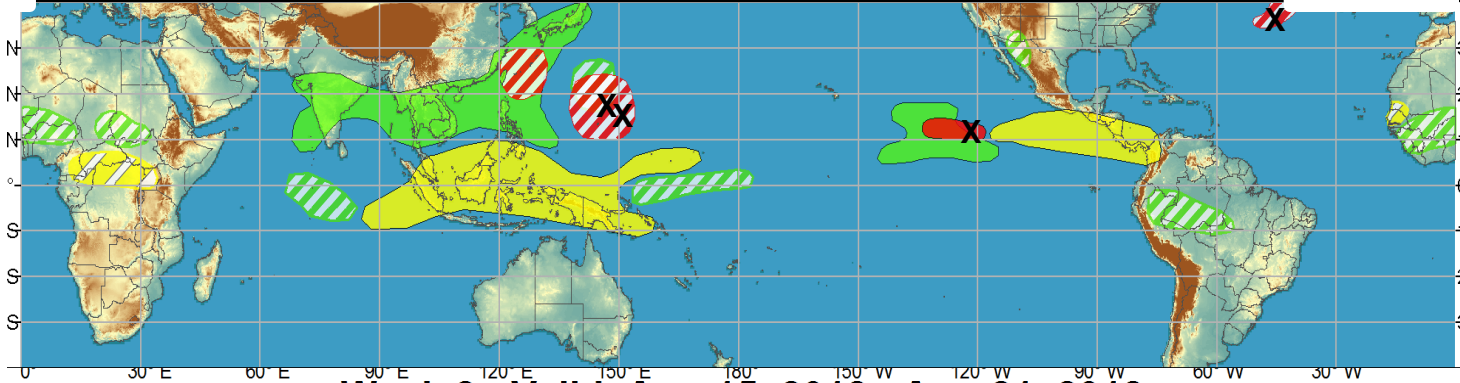
Outline

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

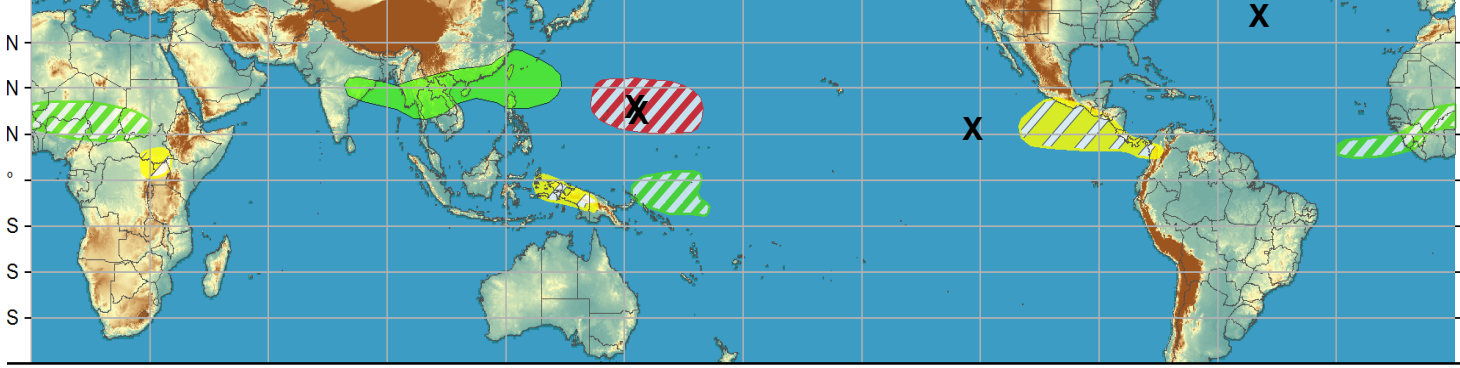
Outlook Review

Ernesto – ATL
Lane – EPAC/CPAC
Cimaron & Soulik - WPAC

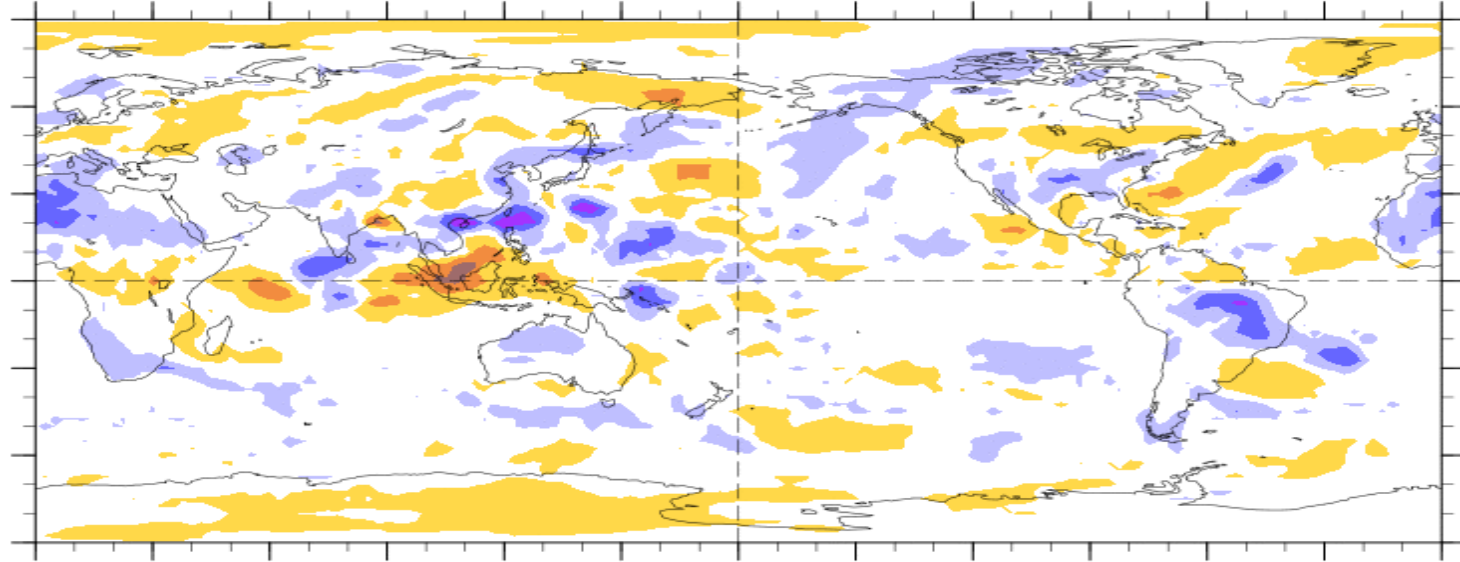
Week 1 - Valid: Aug 15, 2018 - Aug 21, 2018



Week 2 - Valid: Aug 15, 2018 - Aug 21, 2018



7-Day Average OLR Anomaly 2018/08/12 - 2018/08/18



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (August 9, 2018 Update)

- ENSO Alert System Status: [El Niño Watch](#)
- ENSO-neutral conditions are expected to give way to El Niño conditions, with the chance for El Niño increasing to about 60% during fall, and to about 70% during winter 2018-19.

MJO and other subseasonal tropical variability:

- MJO is weak with amplitude less than 1.
- Most models have ensemble members that hint at the MJO re-emerging over the eastern Indian Ocean/Maritime Continent during the end of Week-1 or Week-2, but there is enough spread that confidence is low.

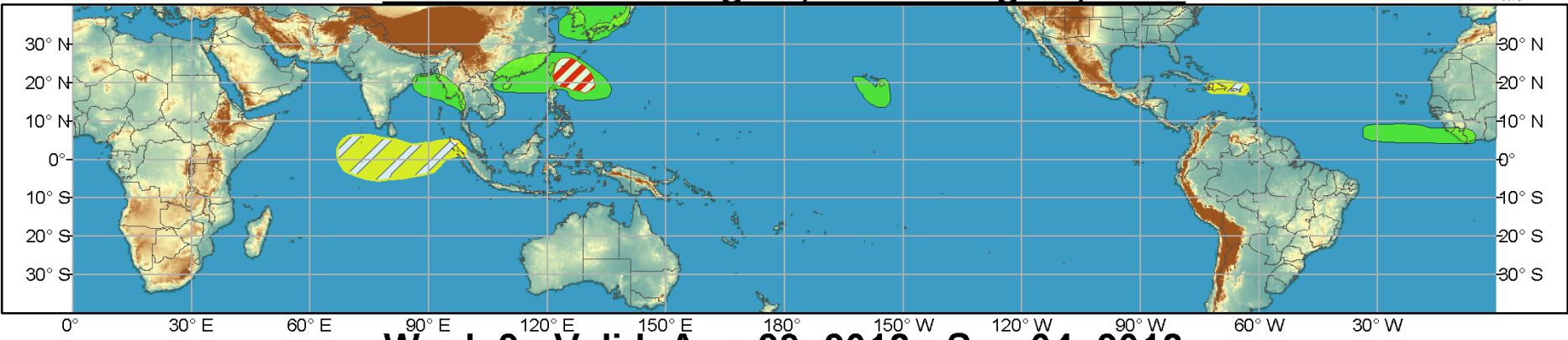
Extratropics:

- A prominent wave train over the North Pacific is likely influenced by recent TC activity over the West Pacific.
- MJO evolution does not support strong possibilities of TC formation.

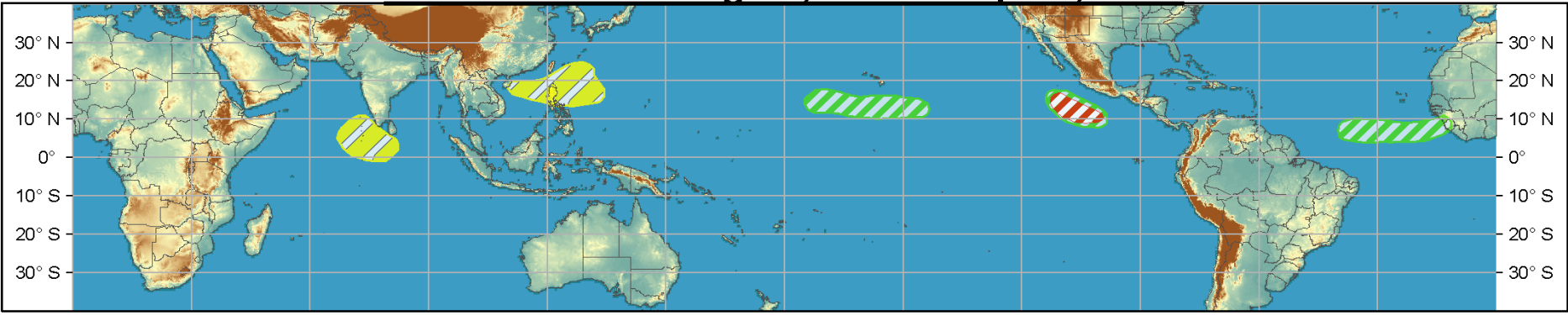


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

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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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Produced: 08/21/2018

Forecaster: MacRitchie

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IR Satellite & 200-hpa Velocity Potential Anomalies

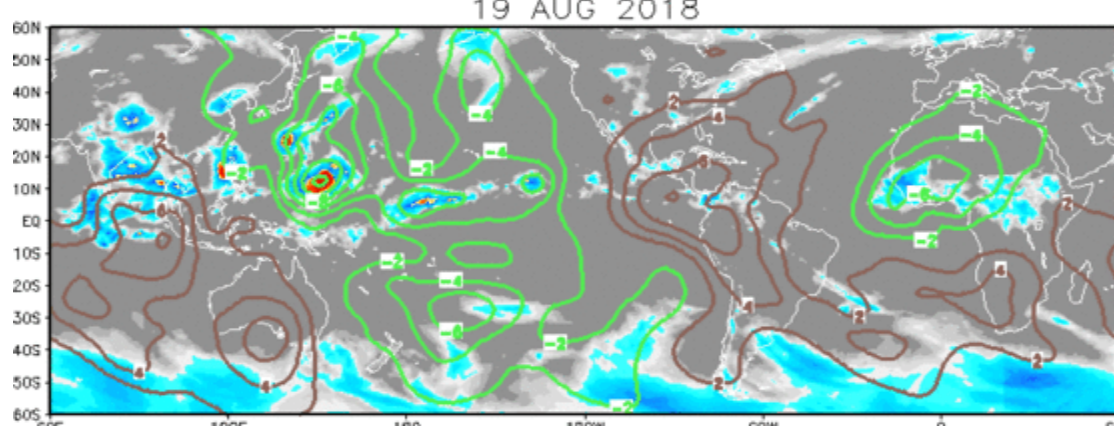
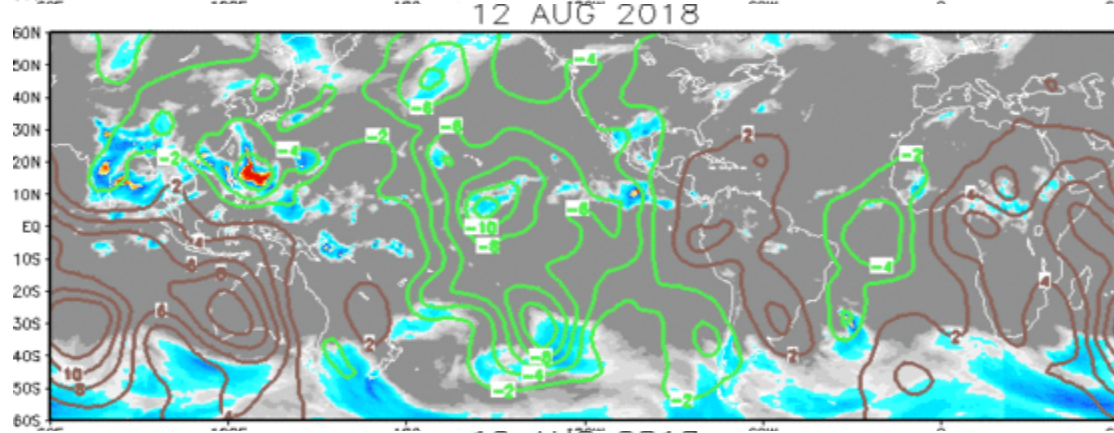
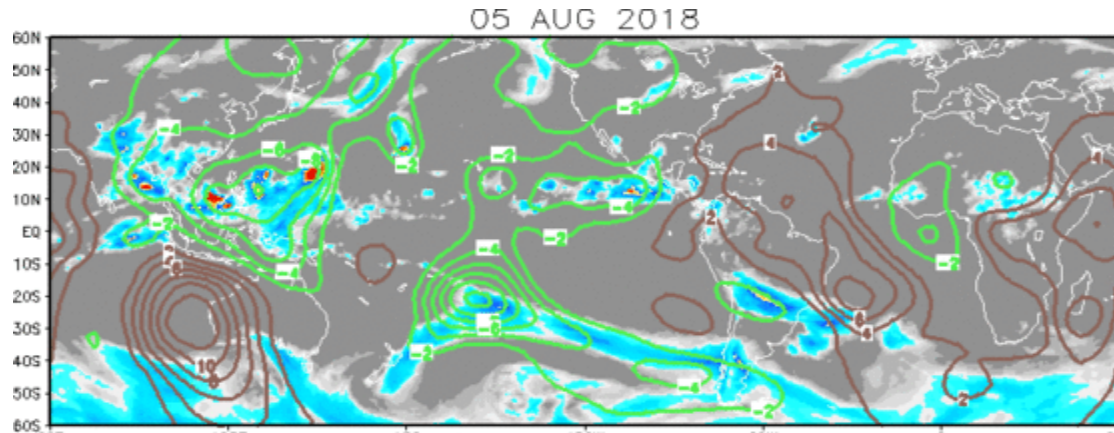
Green: Enhanced Divergence

Brown: Enhanced Convergence

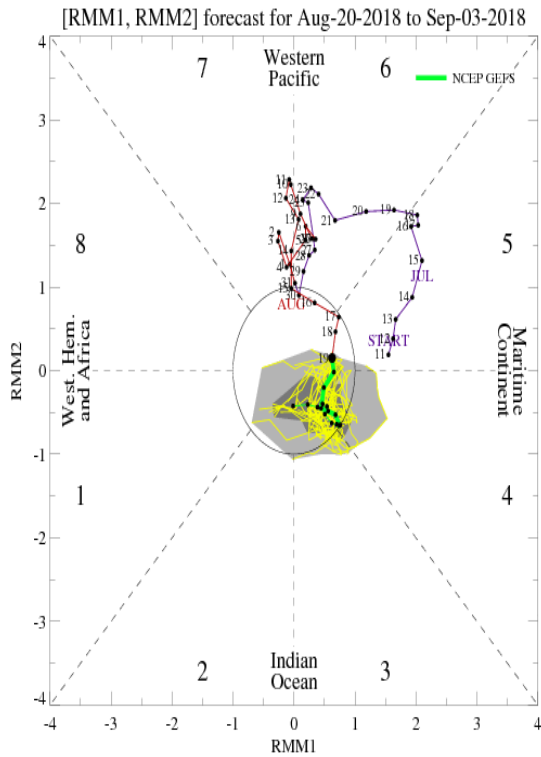
Strong convection over the Pacific and Maritime Continent.

Wave-2 patterns begins to emerge.

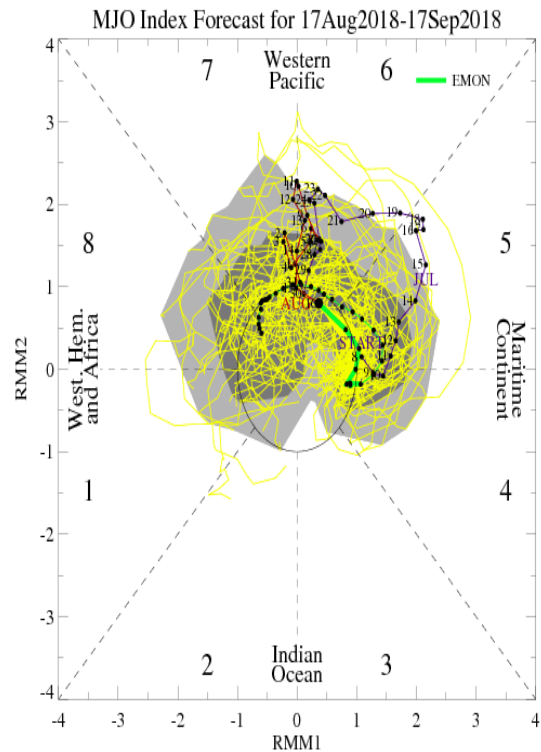
Wave-2 pattern sets in; strong convection over WPAC due mainly to TC activity.



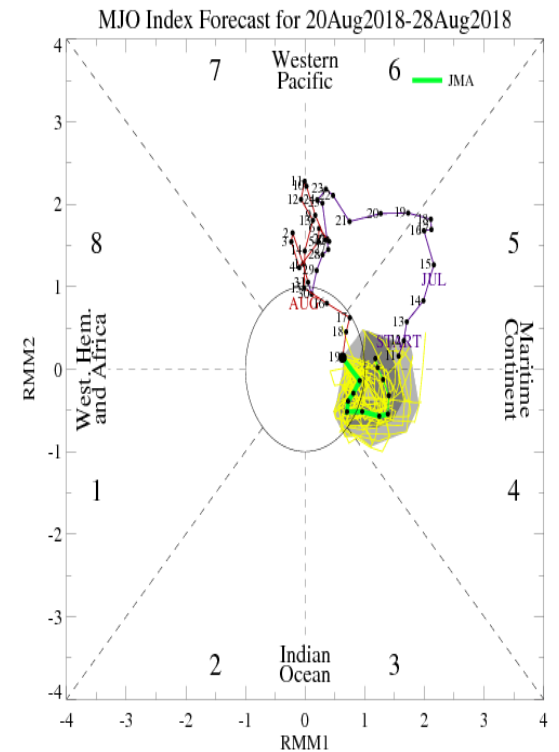
MJO Observation/Forecast



GEFS



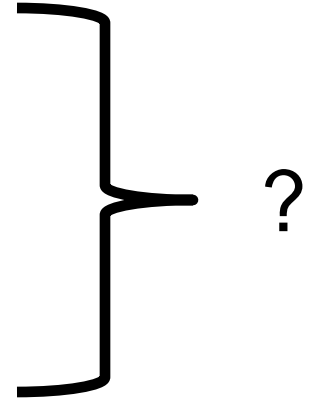
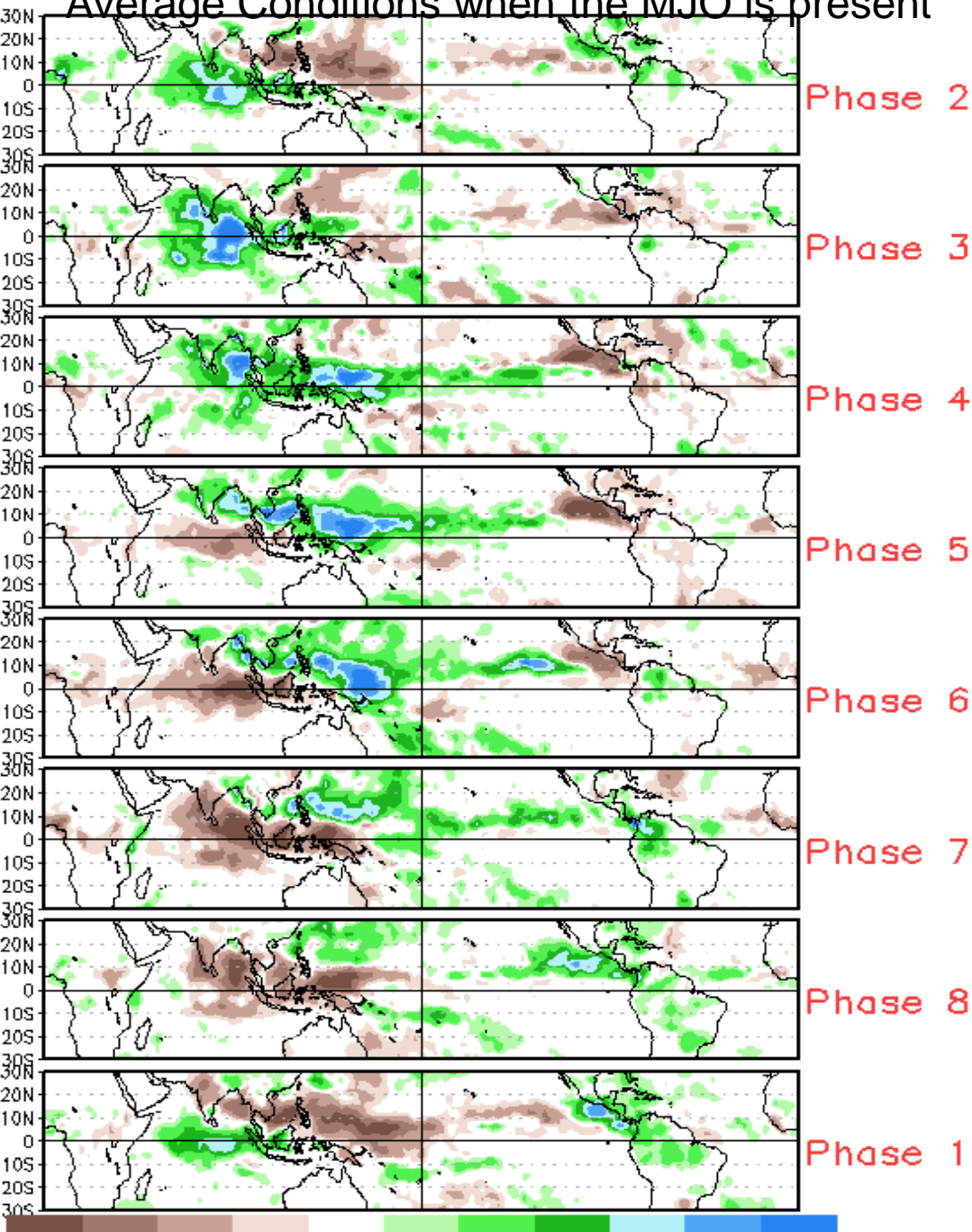
ECMWF



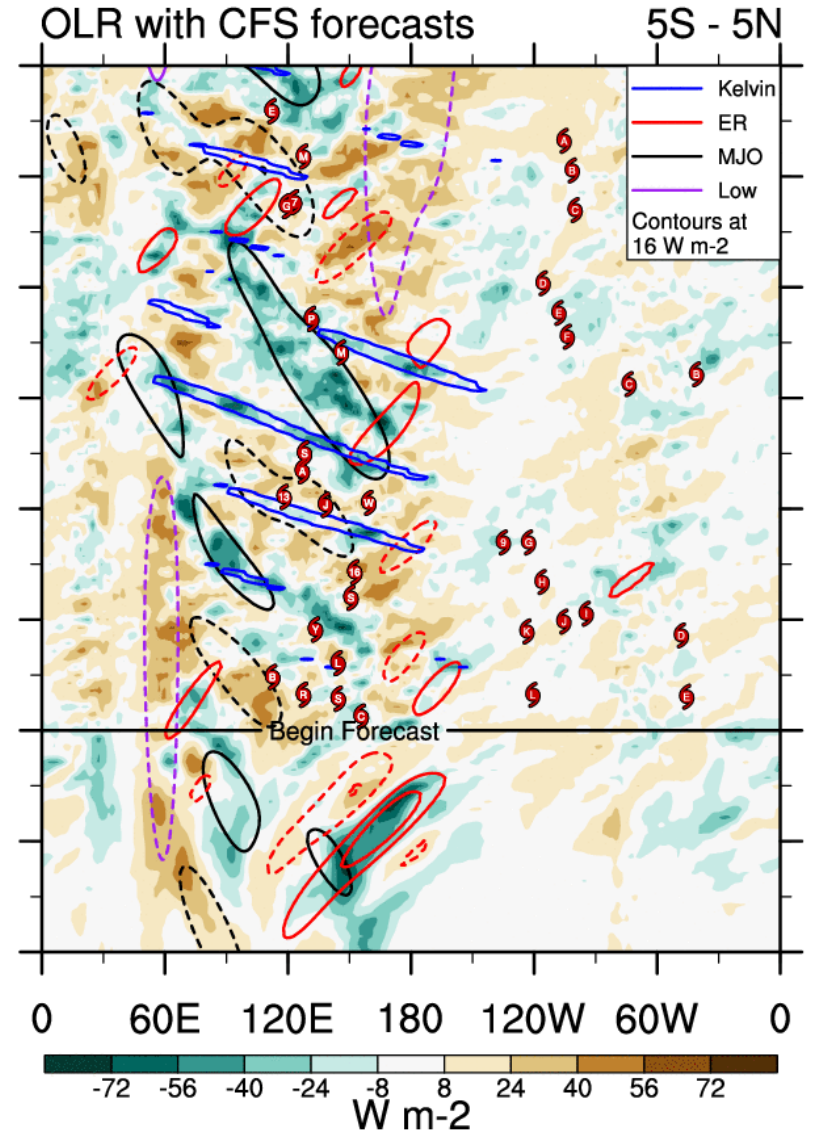
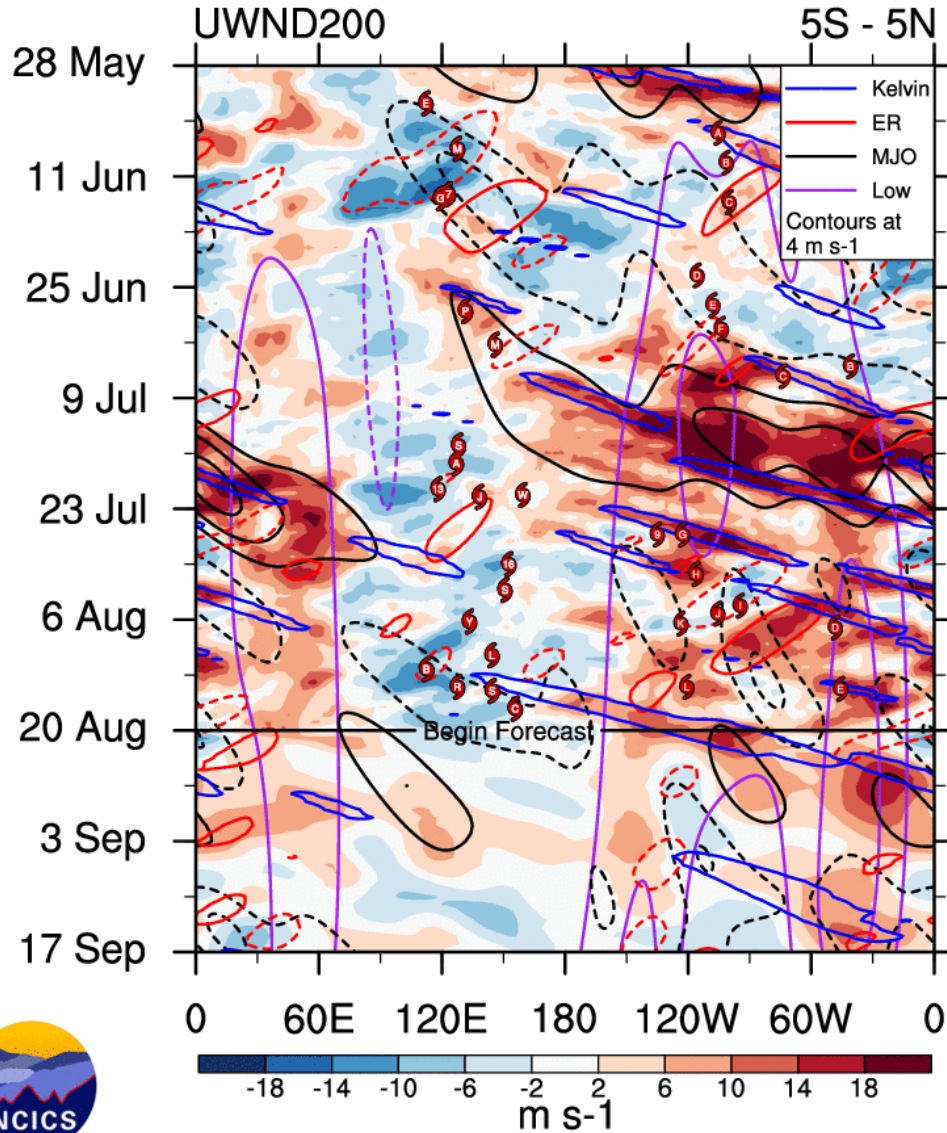
JMA

Models suggest possibility of MJO development but there is considerable spread and low confidence in this forecast.

Average Conditions when the MJO is present



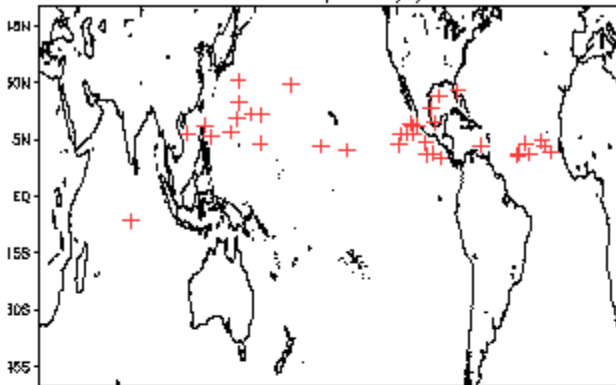
CAVEAT: These panels are representative of robust MJO events.



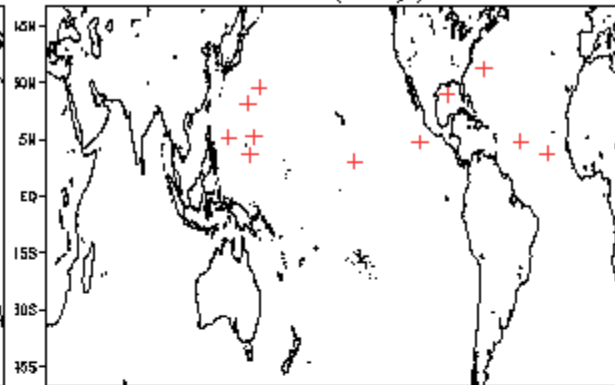
Kelvin wave activity during early August helped spawn TC activity; weak MJO and strong ER wave activity forecast for the central Pacific.

August Tropical Storm Formation by MJO phase

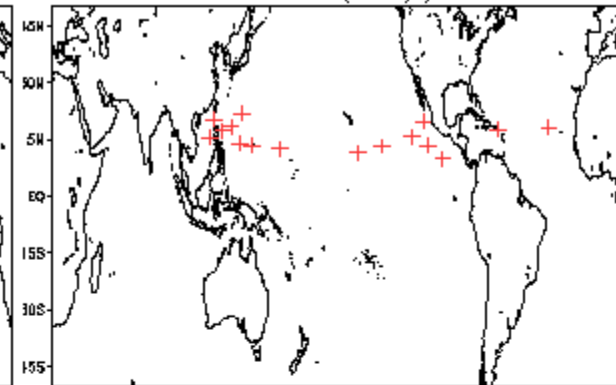
Phase 1 (101 days) 38 storms



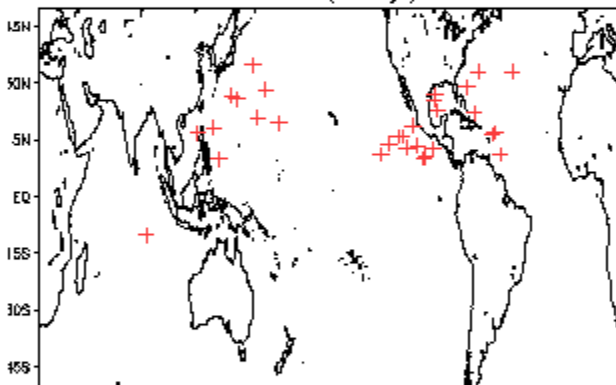
Phase 4 (40 days) 12 storms



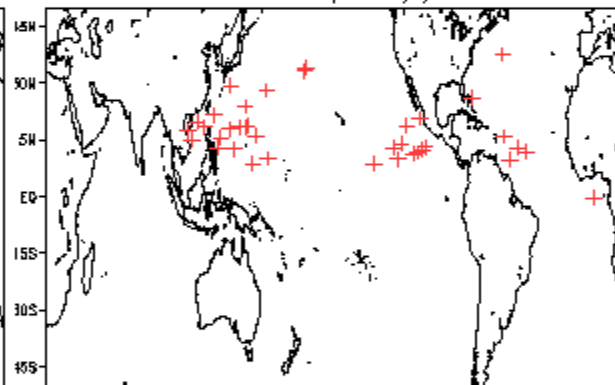
Phase 7 (43 days) 17 storms



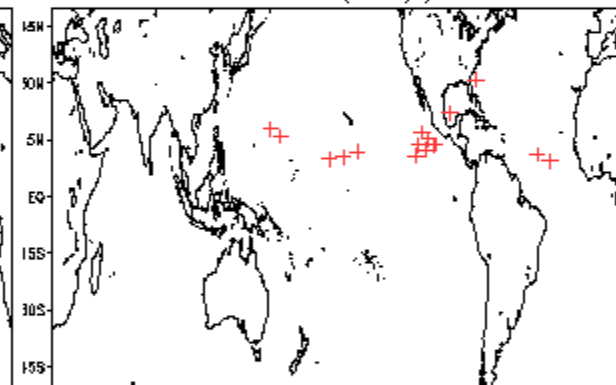
Phase 2 (79 days) 31 storms



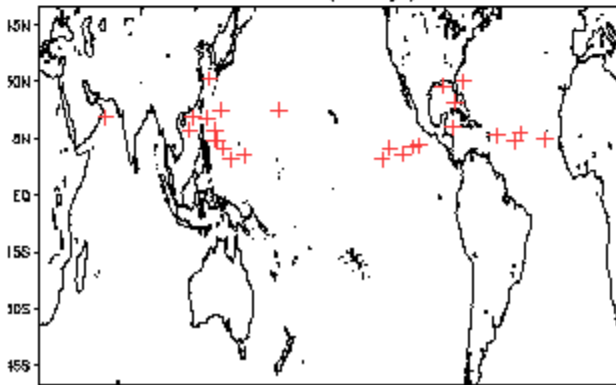
Phase 5 (117 days) 40 storms



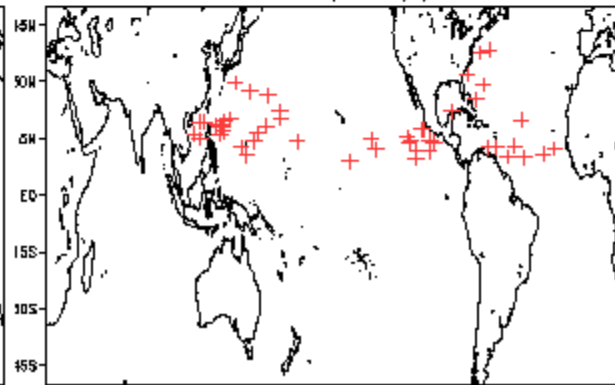
Phase 8 (25 days) 17 storms



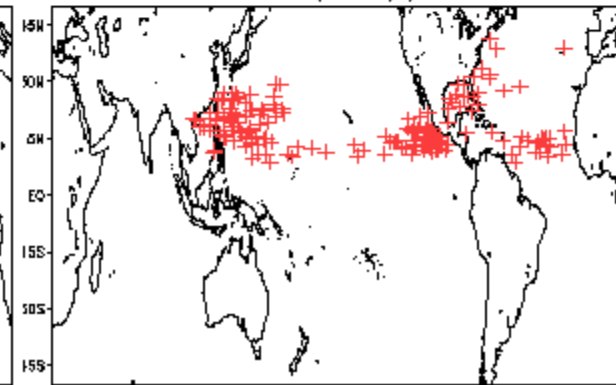
Phase 3 (51 days) 27 storms



Phase 6 (101 days) 50 storms



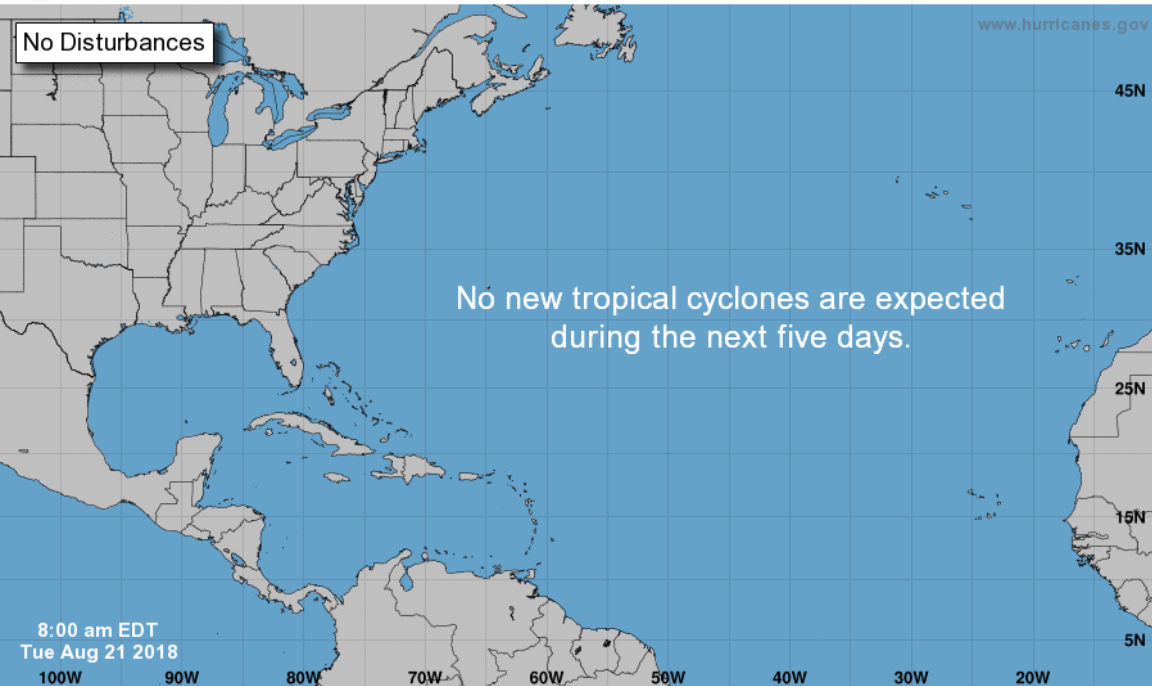
Null (466 days) 189 storms





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



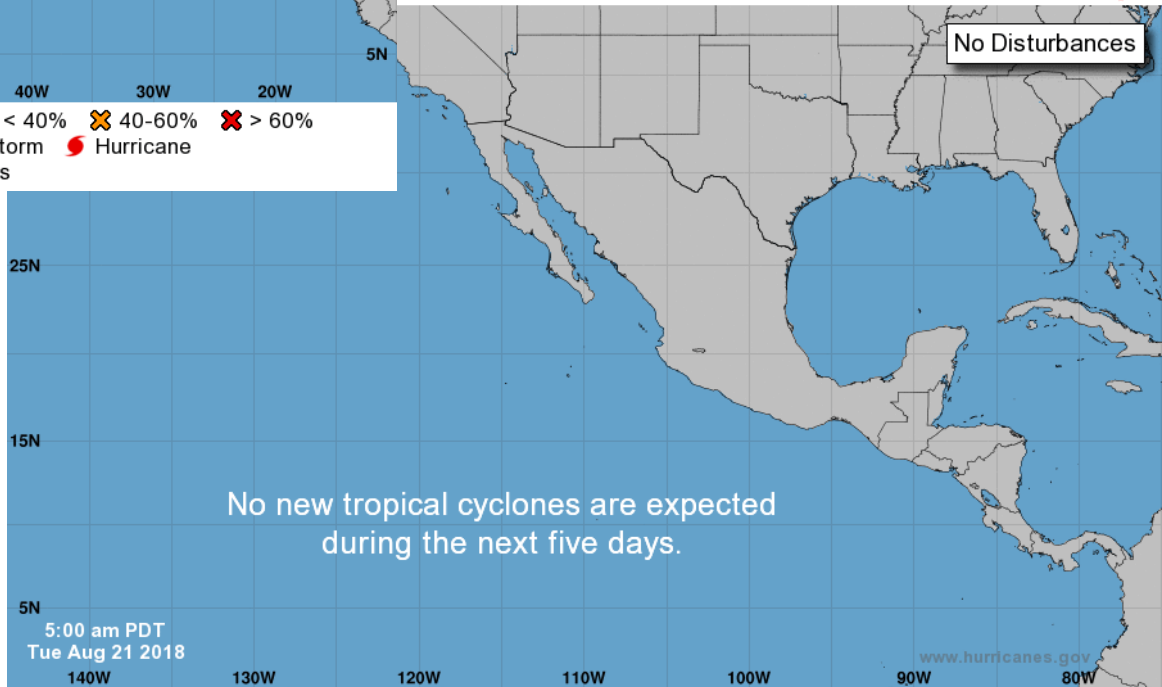
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

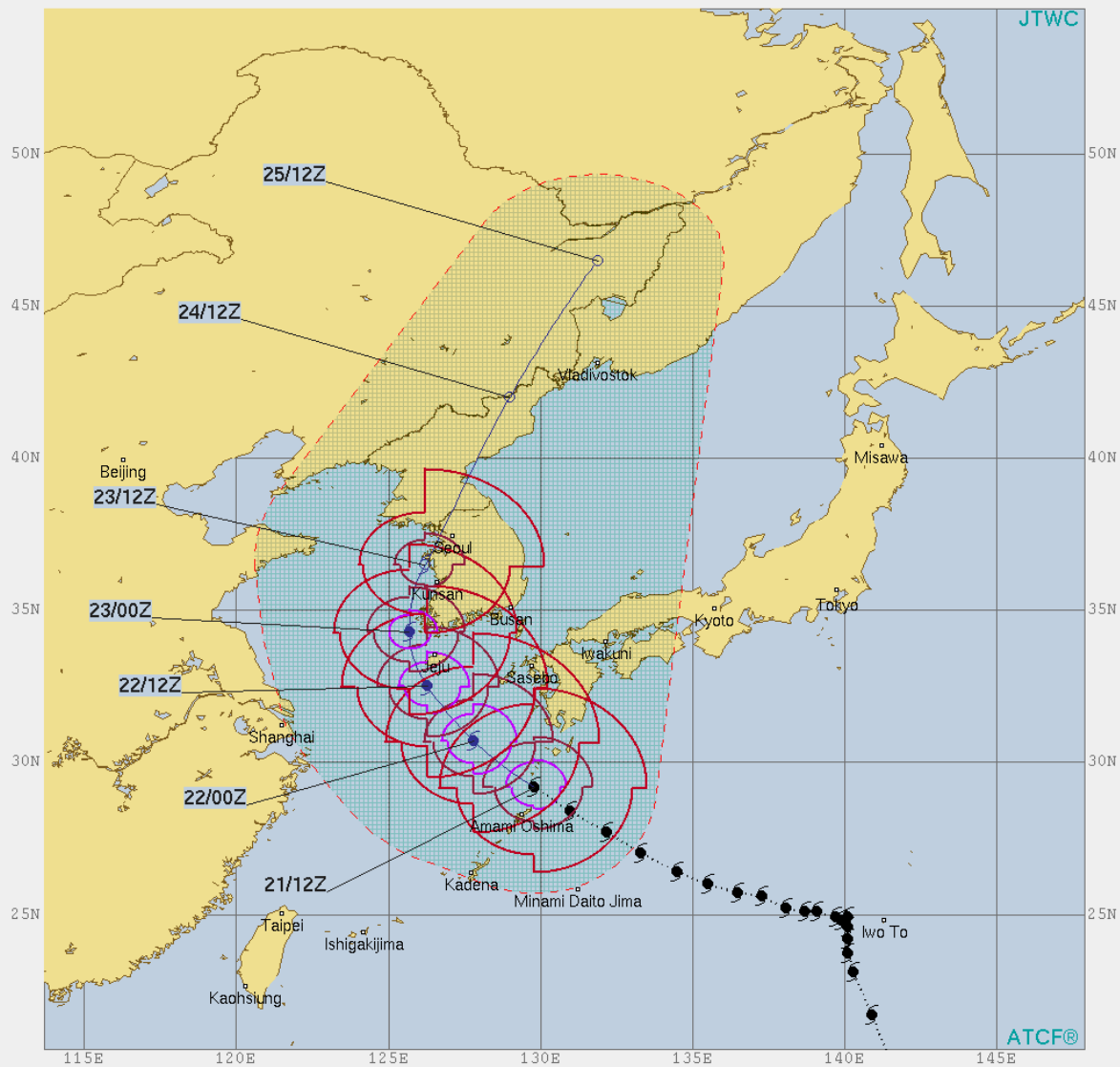
National Hurricane Center Miami, Florida



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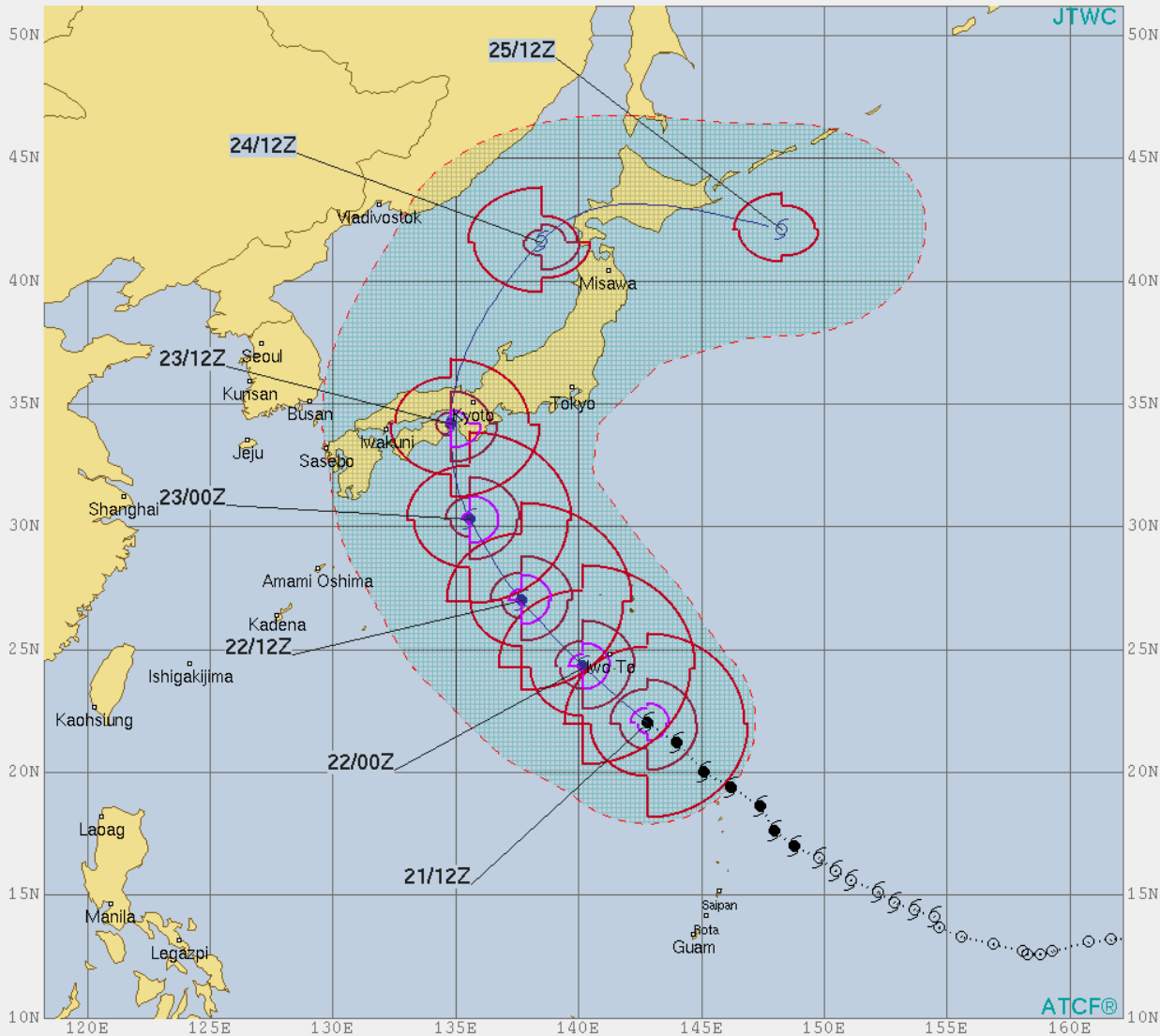
TYPHOON 22W (SOULIK) WARNING #25
 WTPN35 PGTW 211500
 211200Z POSIT: NEAR 29.2N 129.8E
 MOVING 310 DEGREES TRUE AT 13 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 35 FEET
 21/12Z, WINDS 095 KTS, GUSTS TO 115 KTS
 22/00Z, WINDS 095 KTS, GUSTS TO 115 KTS
 22/12Z, WINDS 085 KTS, GUSTS TO 105 KTS
 23/00Z, WINDS 070 KTS, GUSTS TO 085 KTS
 23/12Z, WINDS 055 KTS, GUSTS TO 070 KTS
 24/12Z, WINDS 030 KTS, GUSTS TO 040 KTS
 25/12Z, WINDS 020 KTS, GUSTS TO 030 KTS

CPA TO:	NM	DTG
IWAKUNI	305	22/03Z
SASEBO	165	22/06Z
SHANGHAI	253	22/15Z
CHINHAIE	136	23/08Z
PUSAN	159	23/08Z
KUNSAN_AB	29	23/10Z
TABGU	122	23/12Z
POHANG	156	23/14Z
CAMP HUMPHREYS	27	23/15Z
OSAN_AB	26	23/15Z
INCHON	6	23/17Z
SEOUL_AB	24	23/17Z
YONGSAN_AIN	17	23/17Z
CAMP_RED_CLOUD	16	23/18Z

BEARING AND DISTANCE	DIR (NM)	DIST (HRS)	TAU
CHINHAIE	170	359	0
IWAKUNI	203	324	0
KADENA_AB	033	194	0
PUSAN	174	356	0
SASEBO	179	234	0
OKI_DAITO_JIMA	345	292	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






TYPHOON 23W (CIMARON) WARNING #16
 WTPN31 PGTW 211500
 211200Z POSIT: NEAR 22.0N 142.8E
 MOVING 305 DEGREES TRUE AT 14 KNOTS
 MAXIMUM SIGNIFICANT WAVE HEIGHT: 29 FEET
 21/12Z, WINDS 080 KTS, GUSTS TO 100 KTS
 22/00Z, WINDS 085 KTS, GUSTS TO 105 KTS
 22/12Z, WINDS 090 KTS, GUSTS TO 110 KTS
 23/00Z, WINDS 085 KTS, GUSTS TO 105 KTS
 23/12Z, WINDS 075 KTS, GUSTS TO 090 KTS
 24/12Z, WINDS 050 KTS, GUSTS TO 065 KTS
 25/12Z, WINDS 035 KTS, GUSTS TO 045 KTS

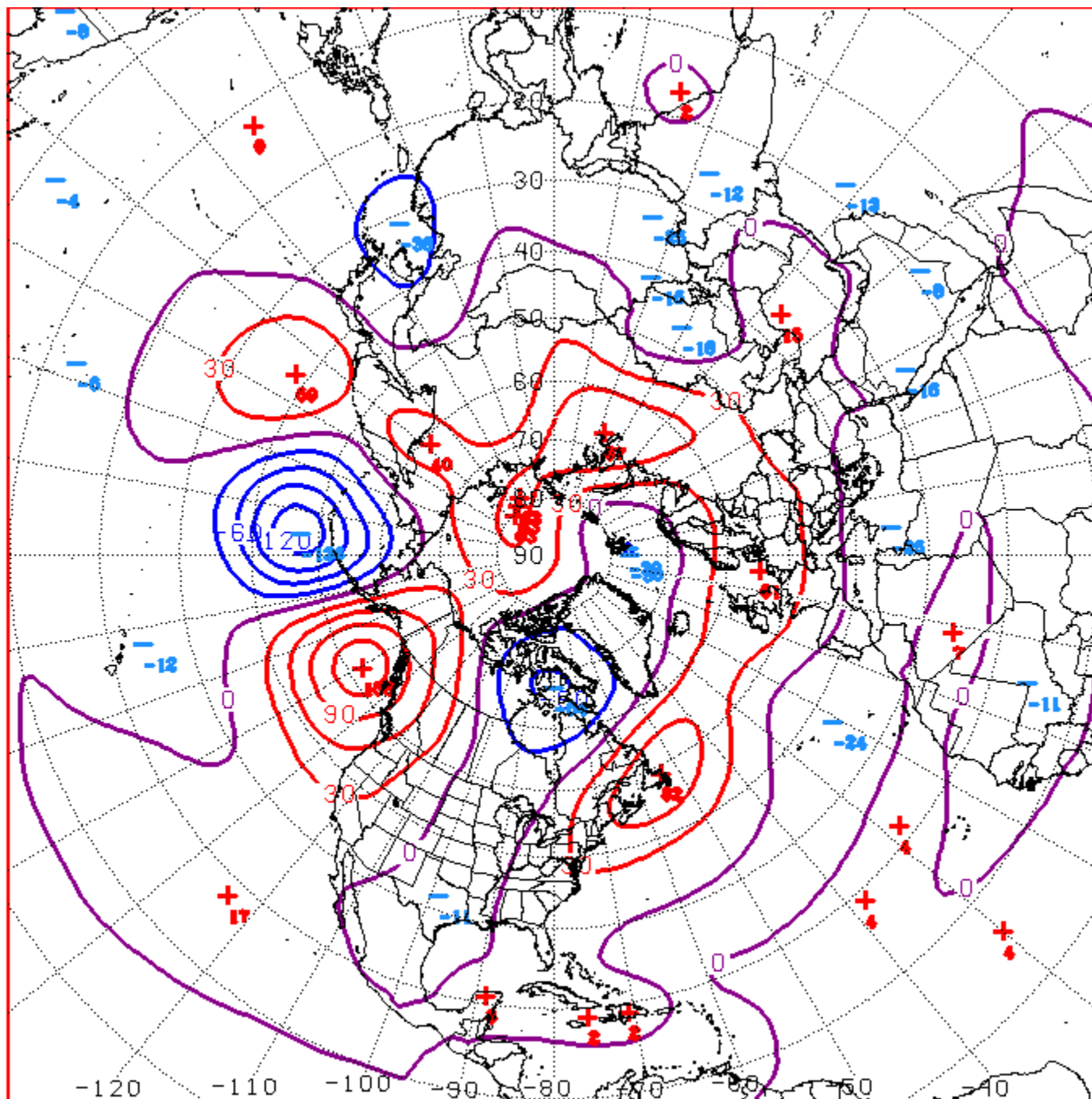
CPA TO:	NM	DTG
IWO_TO	64	21/23Z
CHICHI_JIMA	192	22/03Z
OKI_DA'ITO_JIMA	374	22/15Z
SASEBO	258	23/10Z
IWAKUNI	129	23/12Z
CHINHAE	307	23/14Z
PUSAN	282	23/14Z
POHANG	271	23/16Z
TAEGU	309	23/16Z
CAMP_HUMPHREYS	392	23/17Z
RZRS	10	23/17Z
CAMP_FUJI	193	23/18Z
OSAN_AB	393	23/18Z
SEOUL_AB	391	23/18Z
YONGSAN_AIN	396	23/18Z
ATSUGI	213	23/19Z
CAMP_RED_CLOUD	394	23/19Z
CAMP_ZAMA	213	23/19Z
YOKOSUKA	231	23/19Z
YOKOTA_AB	209	23/20Z
NARITA_AIRPORT	255	23/21Z
SHARIKI	94	24/13Z
MISAWA	133	24/16Z

BEARING AND DISTANCE	DIR	DIST (NM)	TAU (HRS)
AGRIHAN	320	252	0
ALAMAGAN	328	314	0
ANATAHAN	334	374	0
CHICHI_JIMA	174	308	0
IWO_TO	154	187	0
PAGAN	325	289	0

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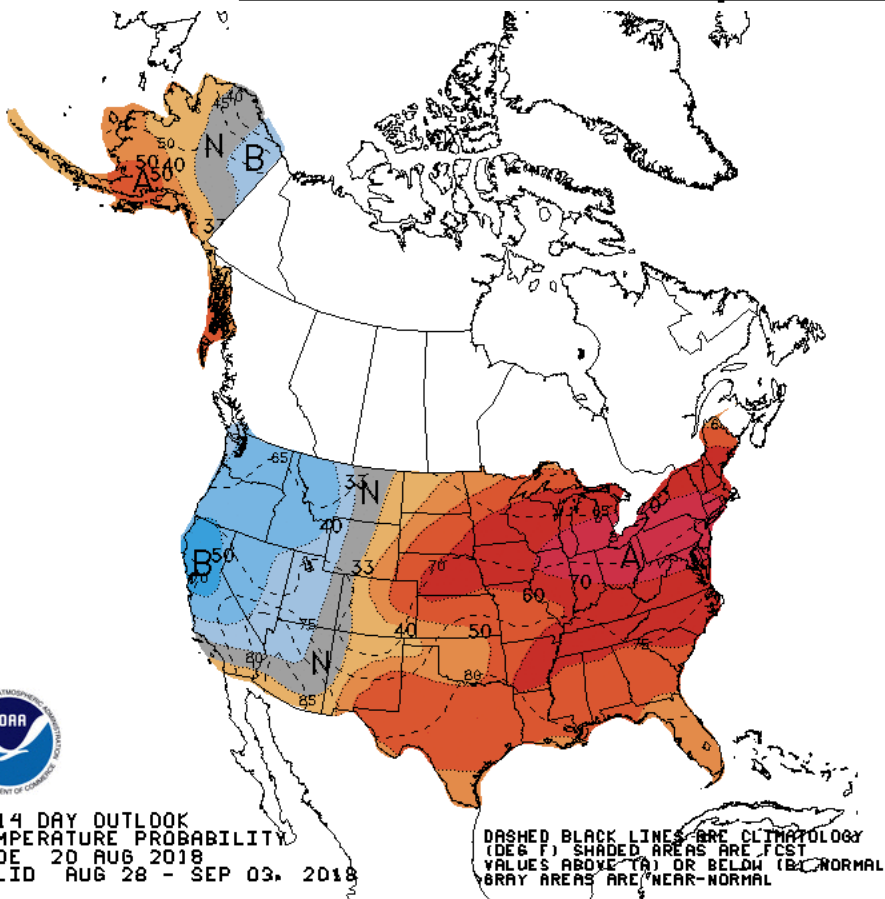


Connections to U.S. Impacts

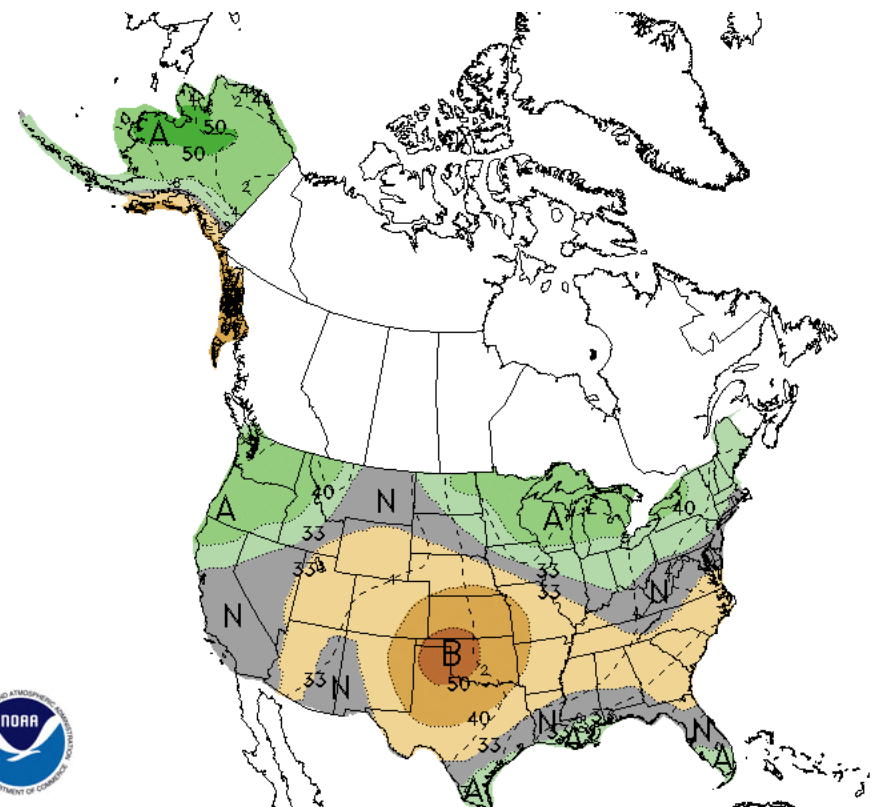
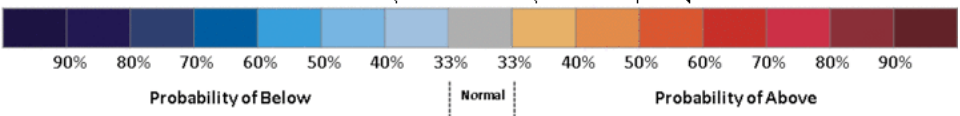


D+11 500 MB ANOMALIES FROM ALZ ENSM
 CPC MAP MADE AUG 14 2018 1316 UTC CNTD AUG 25 2018

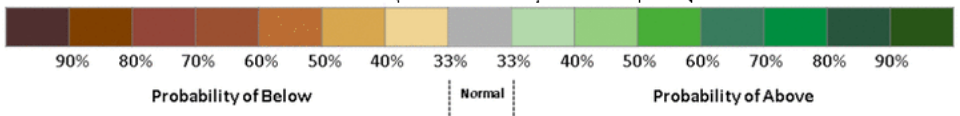
Week 2 – Temperature and Precipitation



8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 20 AUG 2018
VALID AUG 28 - SEP 03, 2018



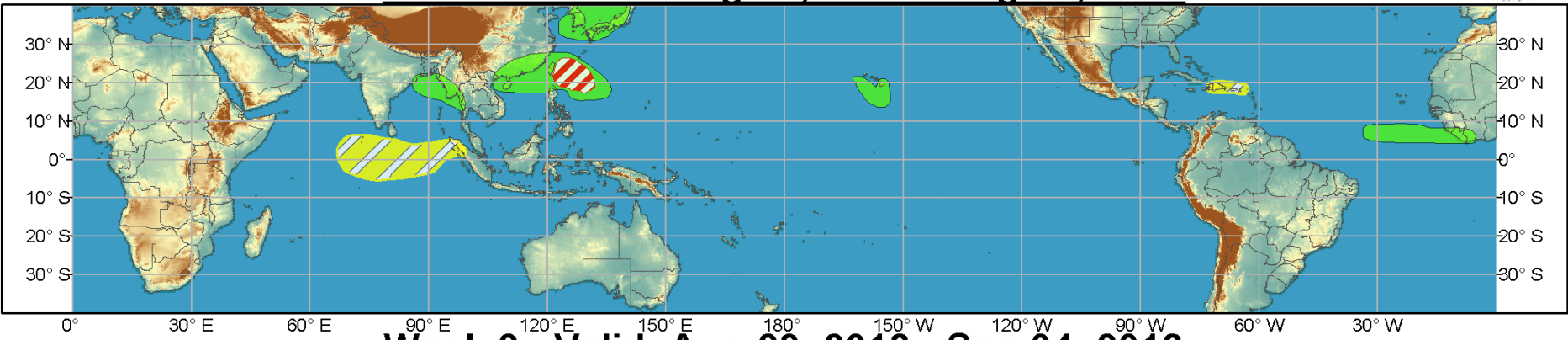
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 20 AUG 2018
VALID AUG 28 - SEP 03, 2018



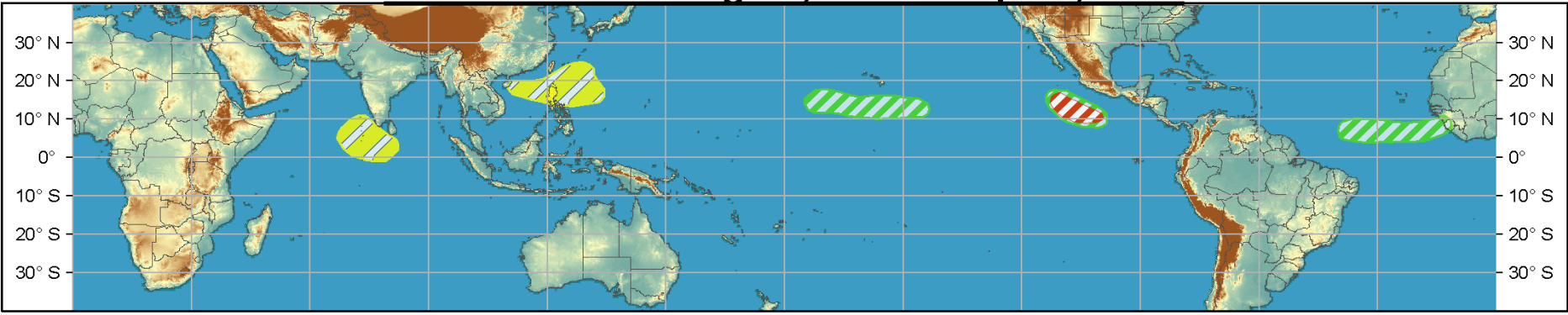


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