

Global Tropics Hazards And Benefits Outlook

5/29/2018

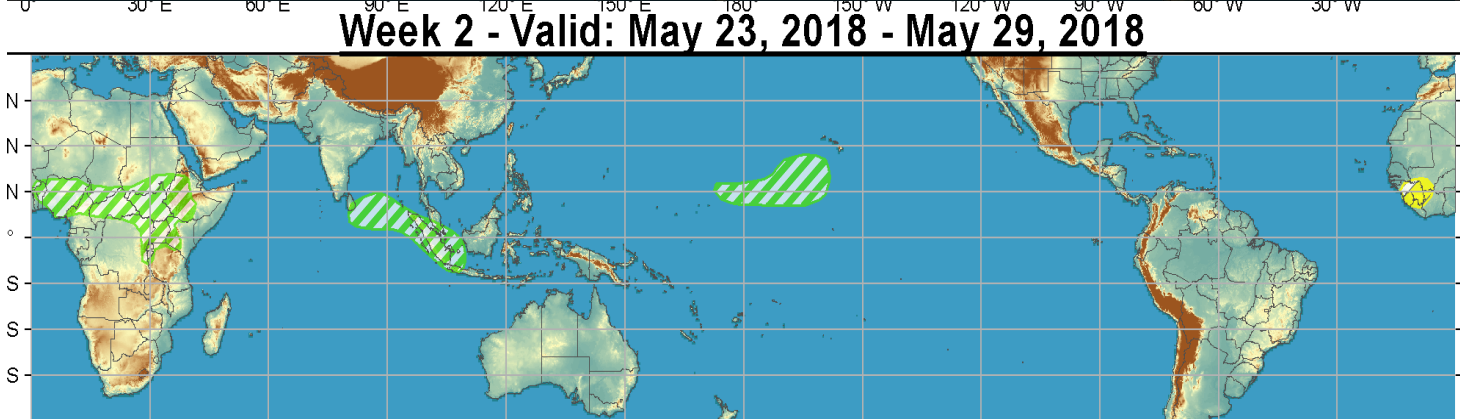
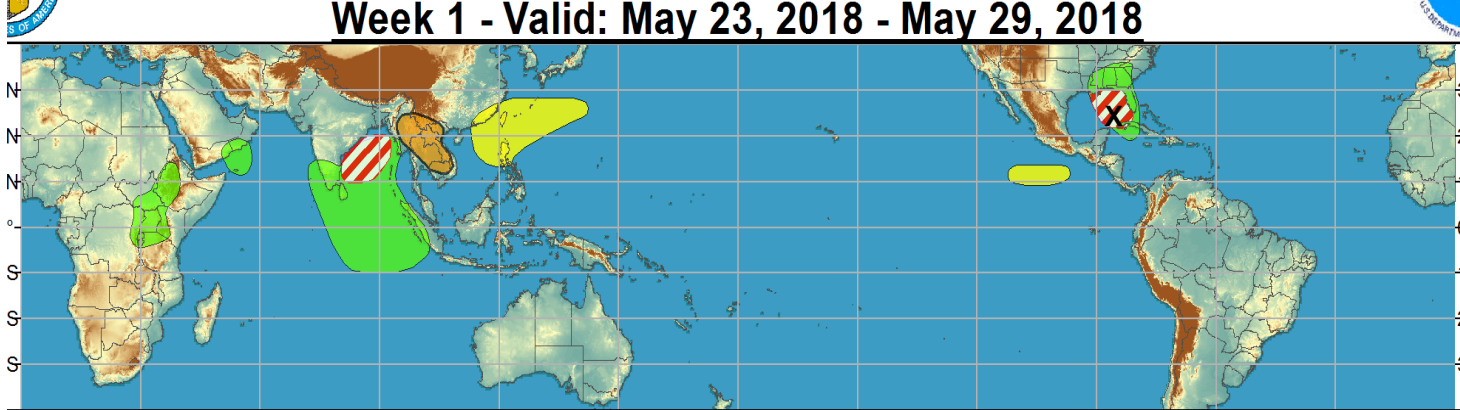
Kyle MacRitchie

Outline

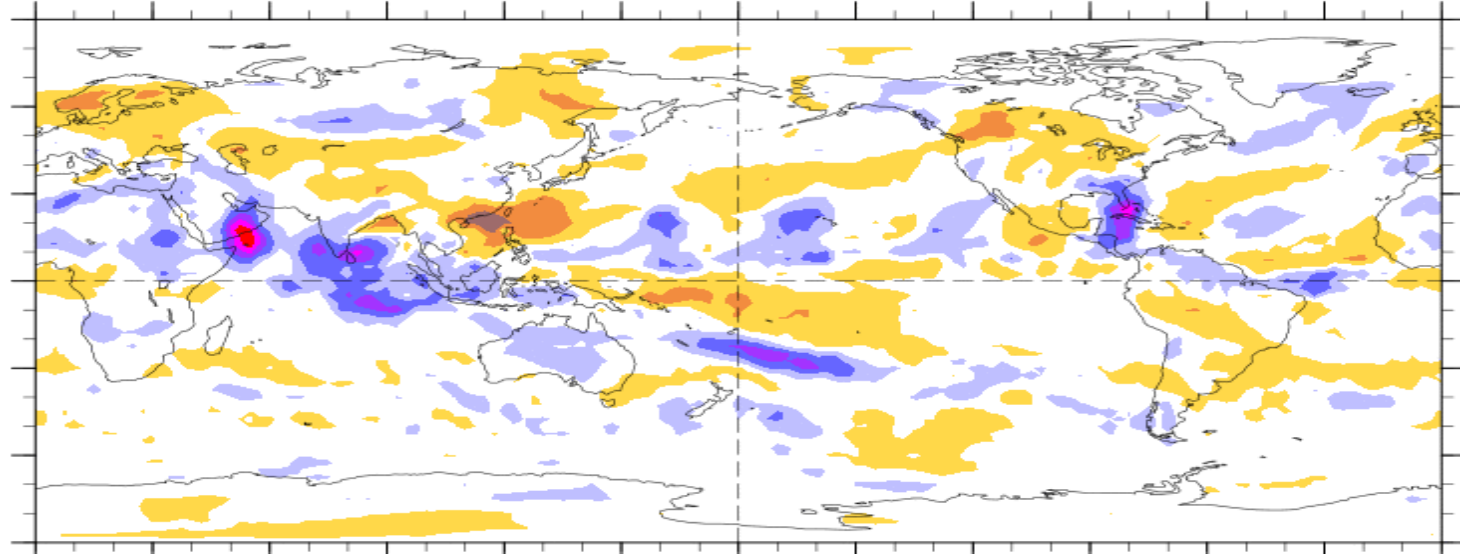
1. Review of Recent Conditions
2. Synopsis of Climate Modes
3. GTH Outlook and Forecast Discussion
4. Connections to U.S. Impacts

Outlook Review

Subtropical Storm
Alberto formed in Gulf
of Mexico



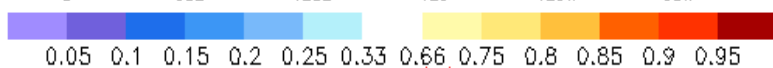
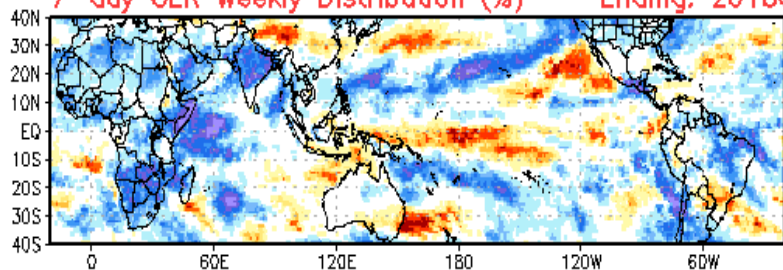
7-Day Average OLR Anomaly 2018/05/21 - 2018/05/27



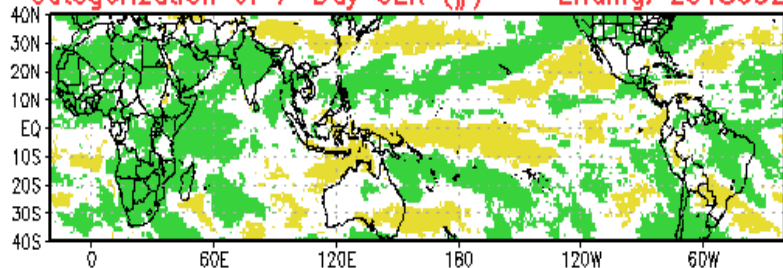
Cool shading
More clouds/rain

Warm shading
Less clouds/rain

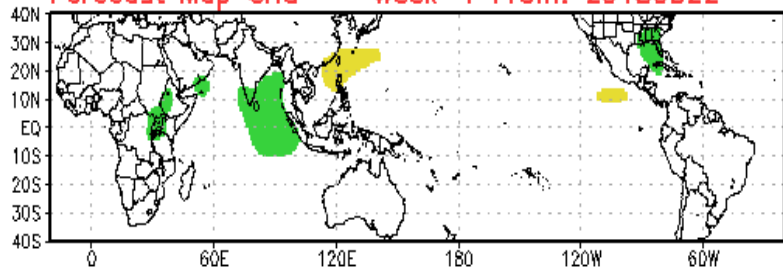
7-day OLR Weekly Distribution (%) -- Ending: 20180529



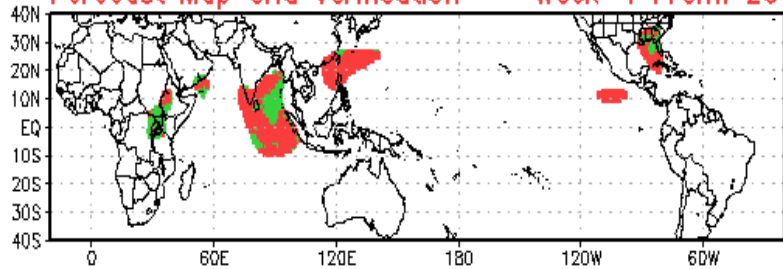
Categorization of 7-Day OLR (#) -- Ending: 20180529



Forecast Map Grid -- Week-1 From: 20180522

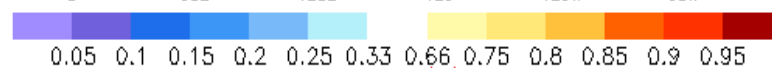
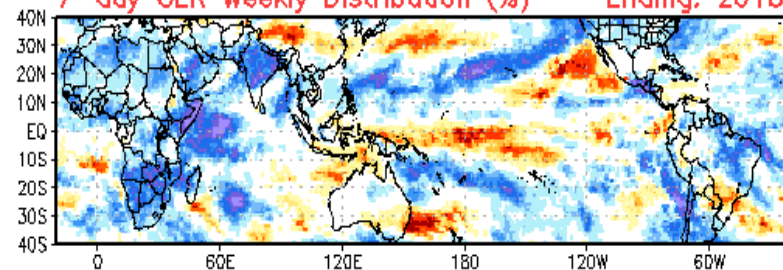


Forecast Map Grid Verification -- Week-1 From: 20180522

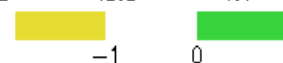
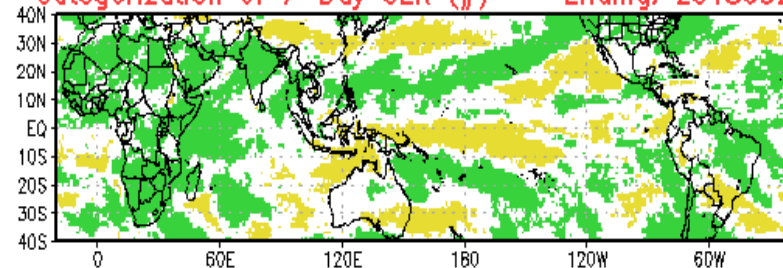


Hit: Green, Miss: Red
Heidke Skill Score: -7.0430

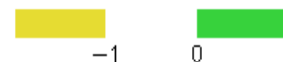
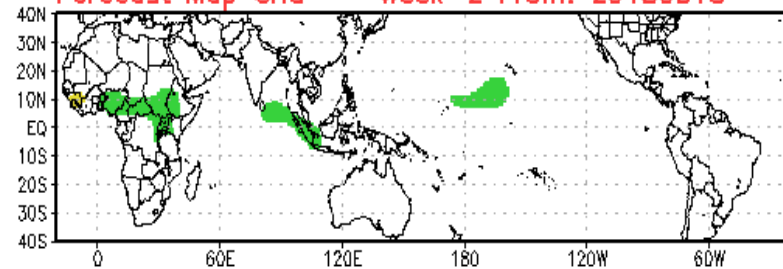
7-day OLR Weekly Distribution (%) -- Ending: 20180529



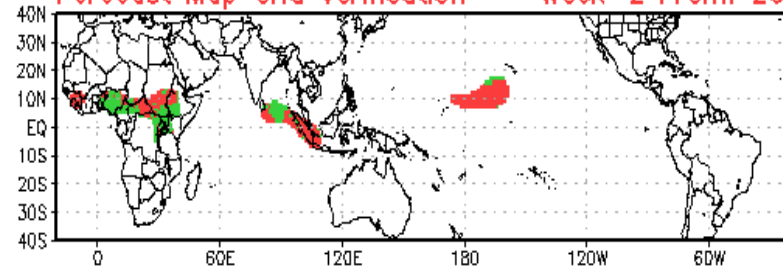
Categorization of 7-Day OLR (#) -- Ending: 20180529



Forecast Map Grid -- Week-2 From: 20180515



Forecast Map Grid Verification -- Week-2 From: 20180515



Hit: Green, Miss: Red
Heidke Skill Score: 7.0659

Synopsis of Climate Modes

ENSO:

- ENSO-neutral is favored through Sep-Nov 2018, with chances of El Nino increasing to near 50 percent by Northern Hemisphere winter 2018-19.

MJO and other subseasonal tropical variability:

- The enhanced (suppressed) phase of the MJO is centered over the Indian (Pacific) Ocean.
- The MJO is likely to continue propagation eastward over the Maritime Continent during Week-1.
 - About half the model guidance suggests that that the MJO will weaken as it moves over the Central Pacific during Week-2. The other half suggest that it will continue around the globe.
- Watching the Bay of Bengal, South China Sea, and eastern Pacific Ocean for tropical cyclone activity.

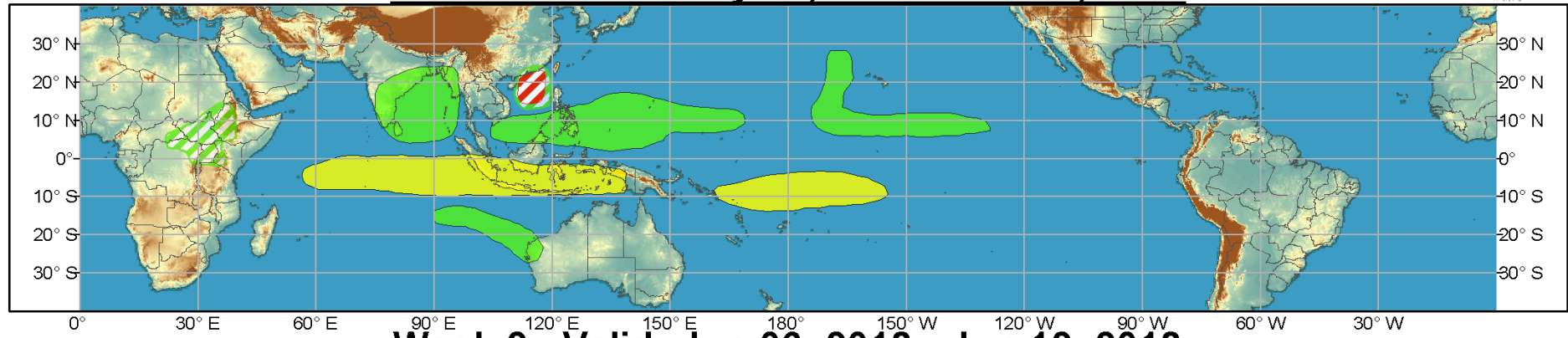
Extratropics:

- Teleconnection responses across North America are weak during this time of year.

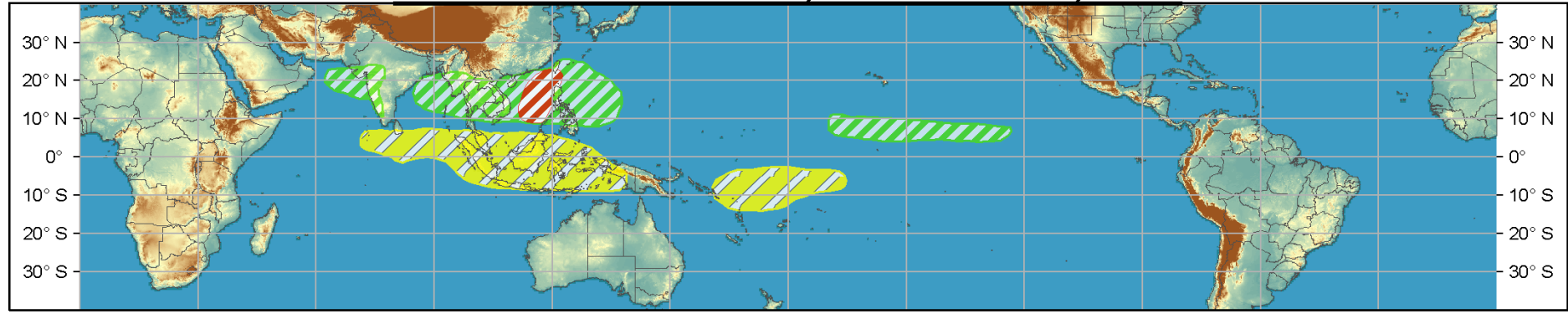


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 30, 2018 - Jun 05, 2018



Week 2 - Valid: Jun 06, 2018 - Jun 12, 2018



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.
- Below-normal temperatures** 7-day mean temperatures in the lower third of the historical range.

Produced: 05/29/2018

Forecaster: MacRitchie

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

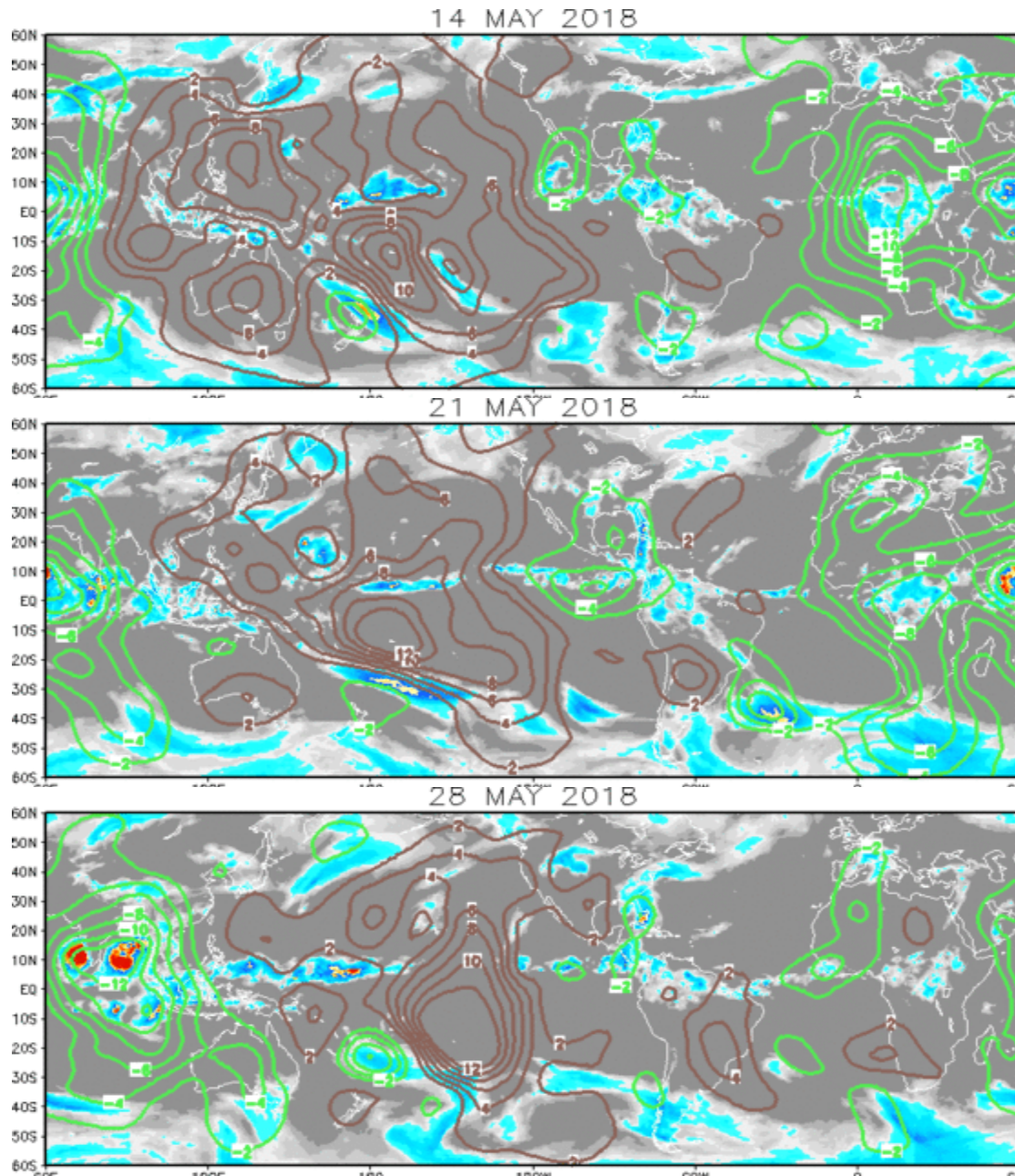
Green: Enhanced Divergence

Brown: Enhanced Convergence

Enhanced convection over Africa and suppressed convection over the Indian Ocean and Maritime Continent, both consistent with the early stages of an MJO.

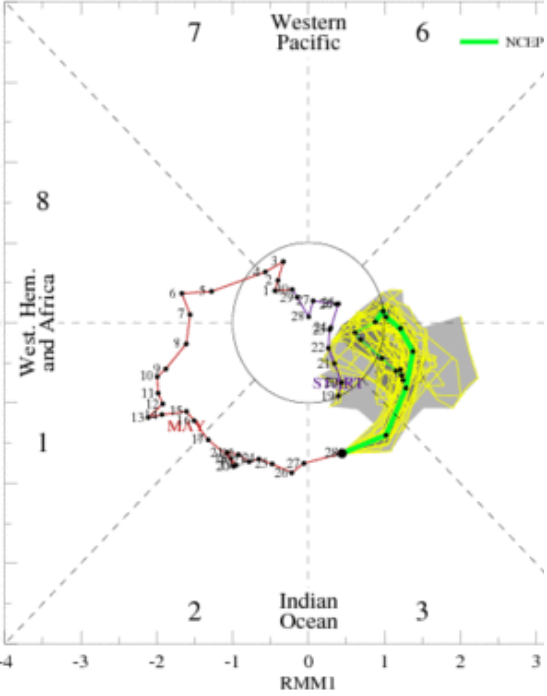
Mostly Wave-1 with a moderate MJO projection

Eastward propagation slowed recently due to interference from westward-moving Rossby Waves. Convection over the Indian Ocean enhanced by Kelvin waves.



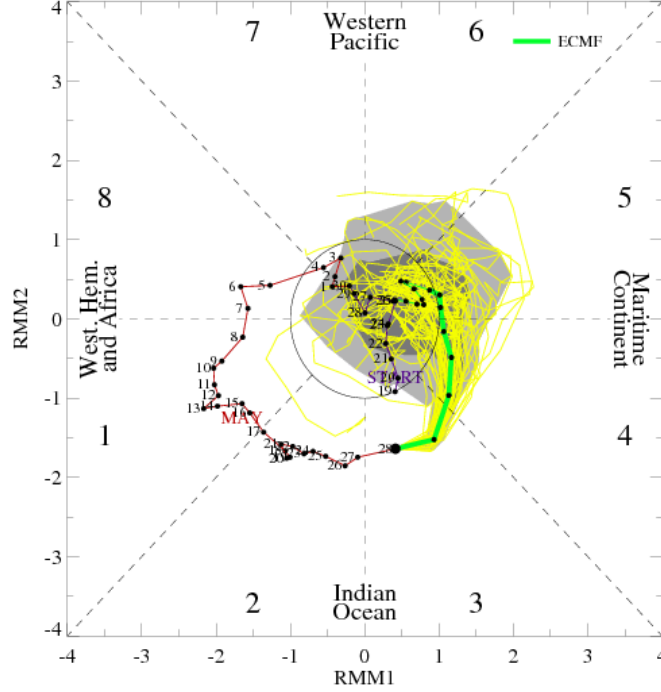
MJO Observation/Forecast

[RMM1, RMM2] forecast for May-29-2018 to Jun-12.



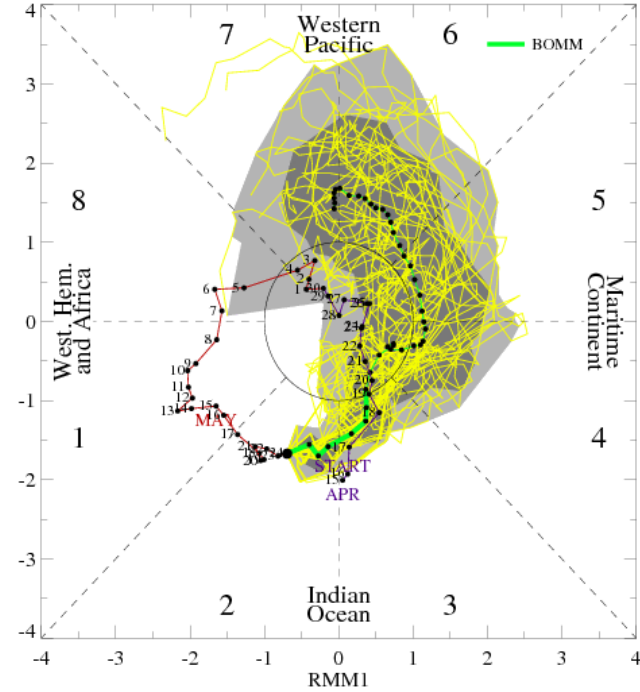
GEFS

MJO Index Forecast for 29May2018-12Jun2018



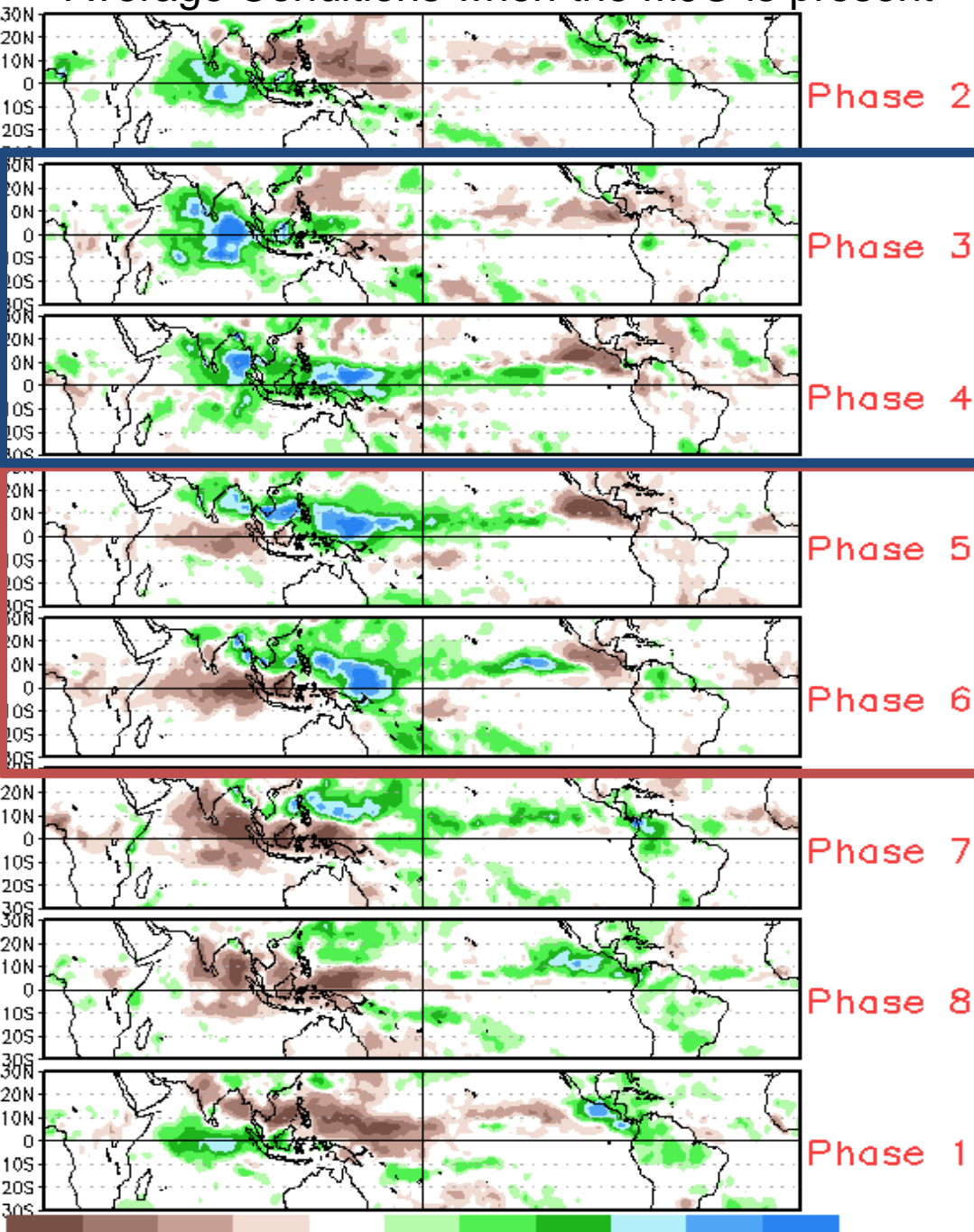
ECMWF

MJO Index Forecast for 24May2018-05Jul2018



BOMM

Average Conditions when the MJO is present



Expectations

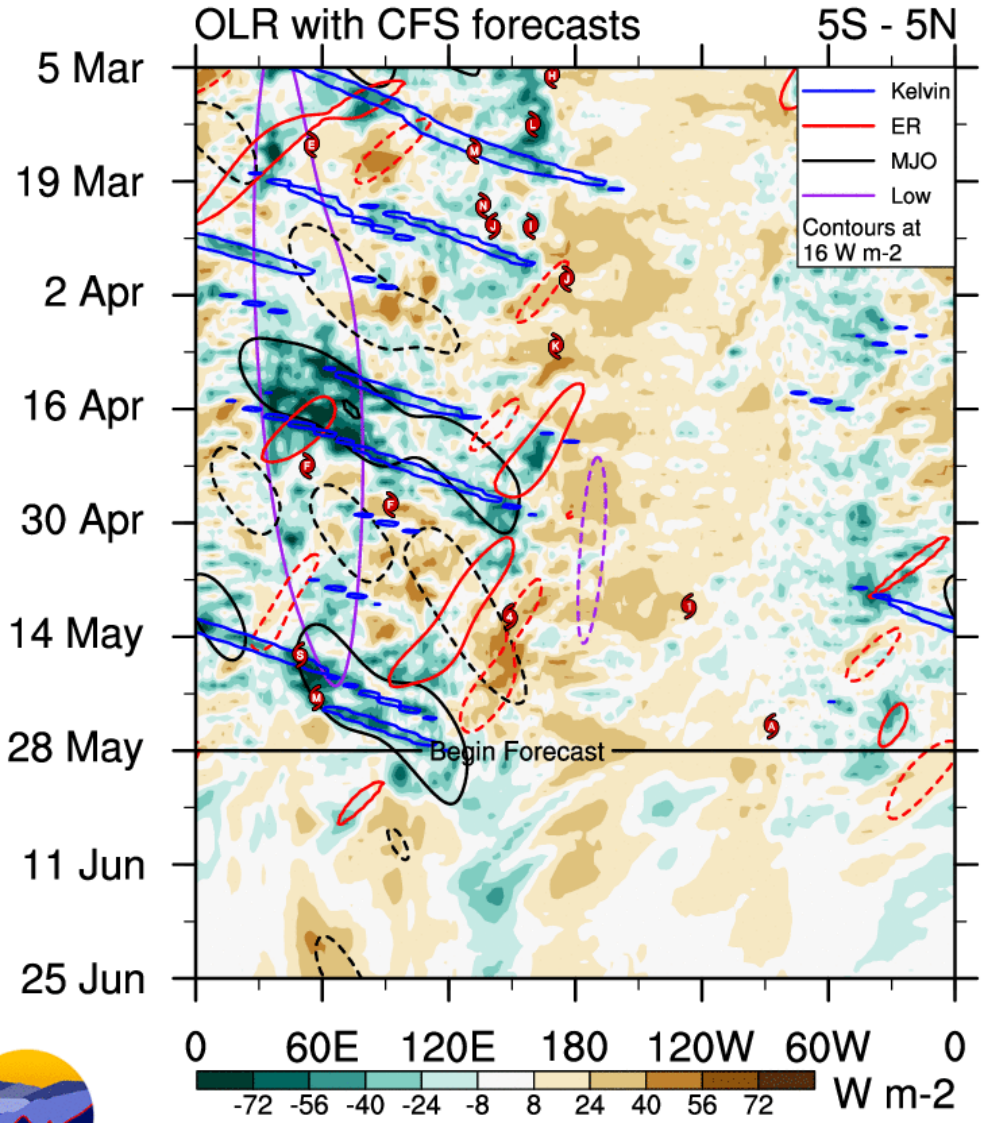
Week-1: Phases 3/4

Week-2: Phase 5/6?

CAVEAT: These panels are representative of robust MJO events.

Enhanced phase of the **MJO** crossed the Prime Meridian two weeks ago

Kelvin Waves have enhanced convection within the MJO envelope

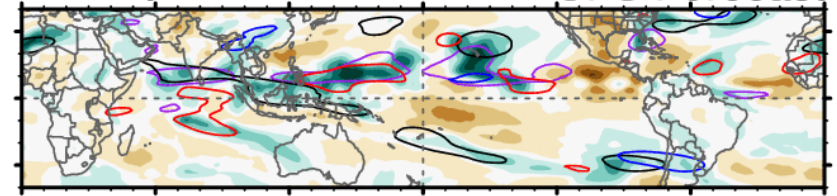
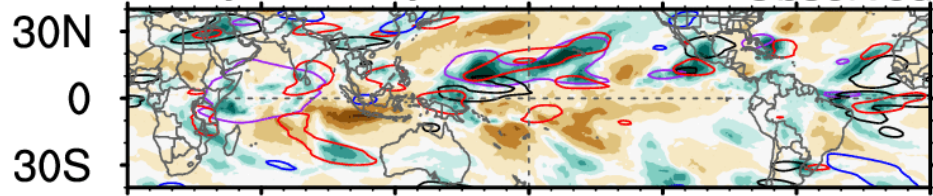


1-May to 7-May

Observed

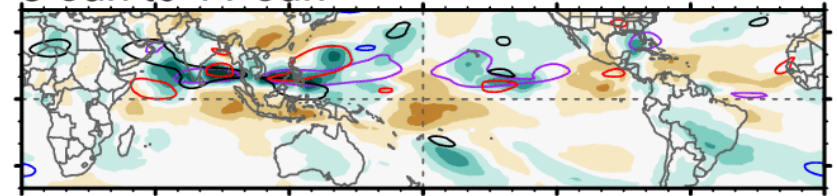
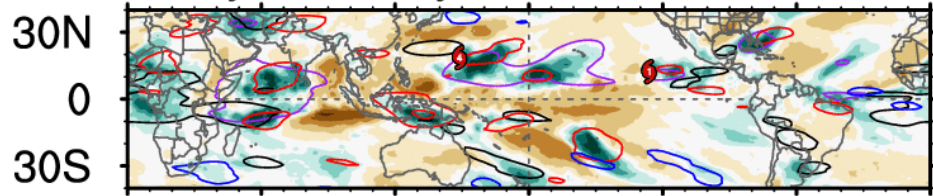
29-May to 4-Jun

CFS Forecast



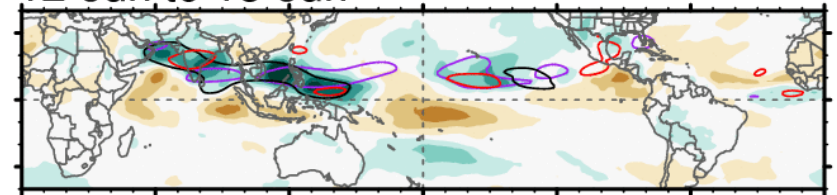
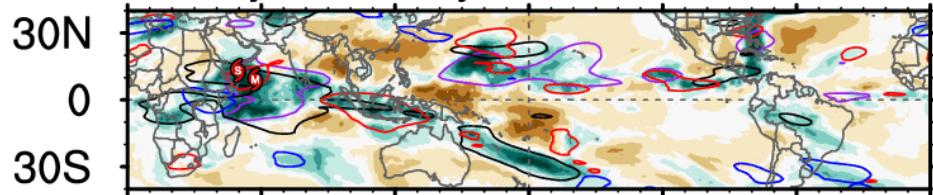
8-May to 14-May

5-Jun to 11-Jun



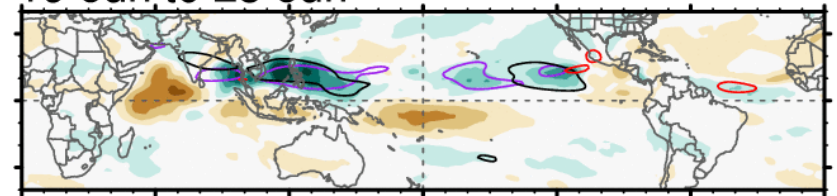
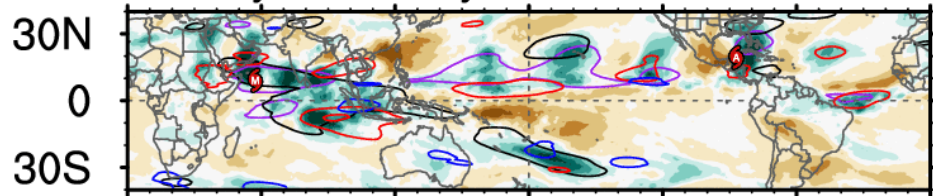
15-May to 21-May

12-Jun to 18-Jun



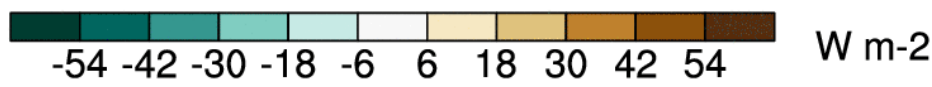
22-May to 28-May

19-Jun to 25-Jun



0 60E 120E 180 120W 60W 0

0 60E 120E 180 120W 60W 0



— MJO — Kelvin x2
 — Low — ER

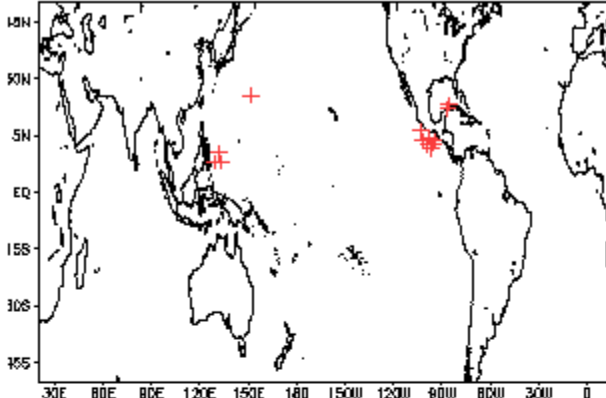
Contours at -12, -36 W m⁻²

7-day OLR with CFS forecasts



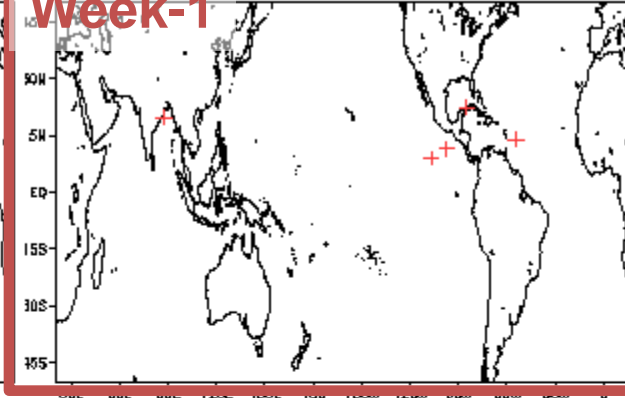
June Tropical Storm Formation by MJO phase

Phase 1 (104 days) 14 storms

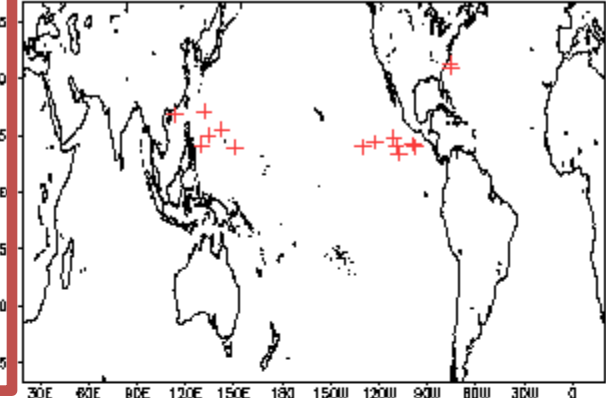


Week-1

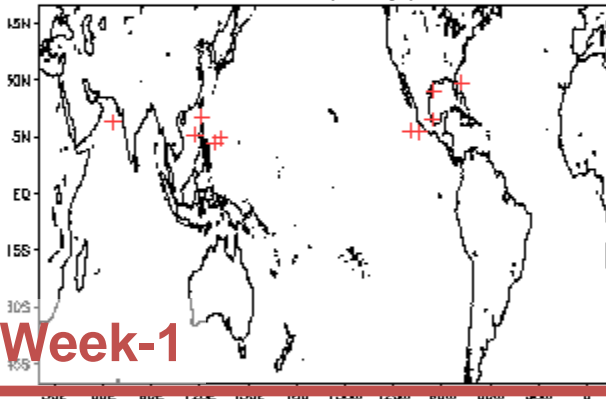
Phase 4 (80 days) 6 storms



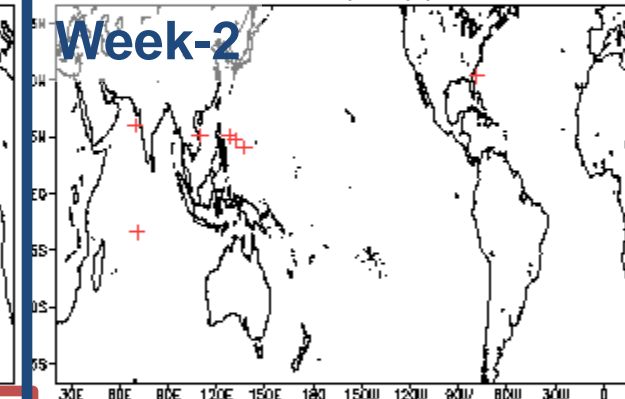
Phase 7 (45 days) 16 storms



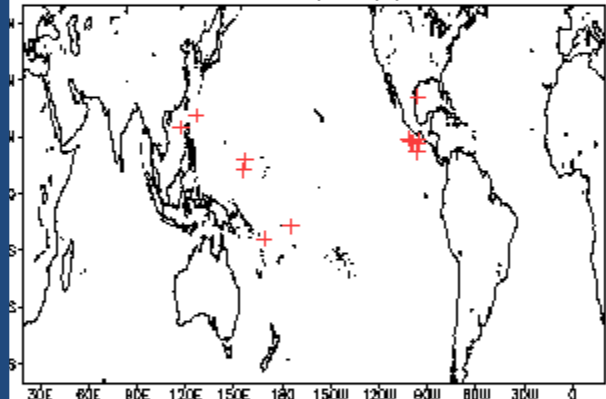
Phase 2 (82 days) 11 storms



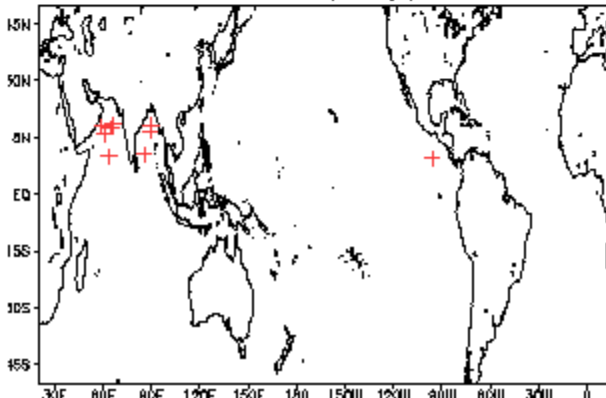
Phase 5 (77 days) 8 storms



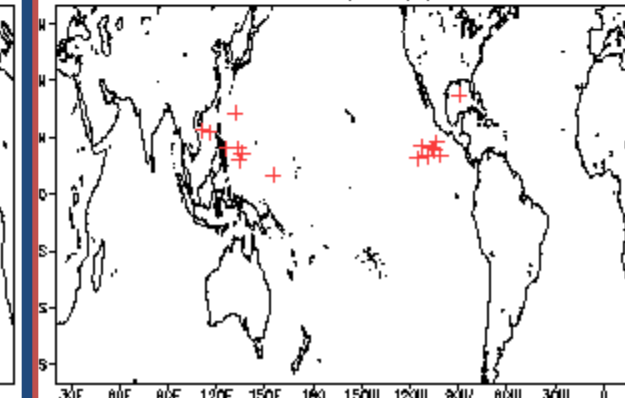
Phase 8 (70 days) 15 storms



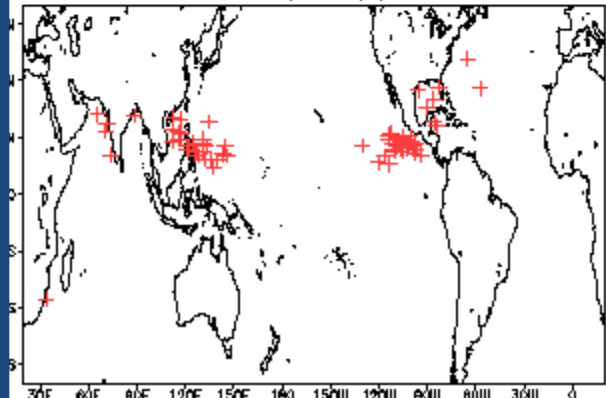
Phase 3 (57 days) 10 storms



Phase 6 (82 days) 17 storms



Null (423 days) 71 storms



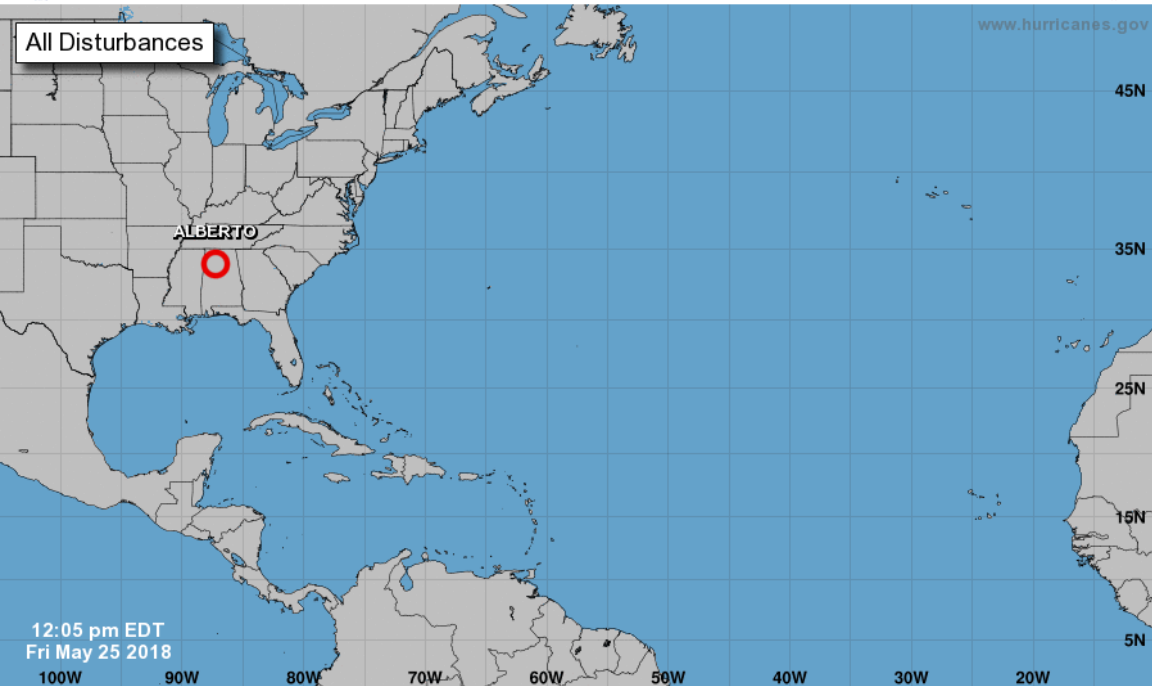
Week-1

Week-2



Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



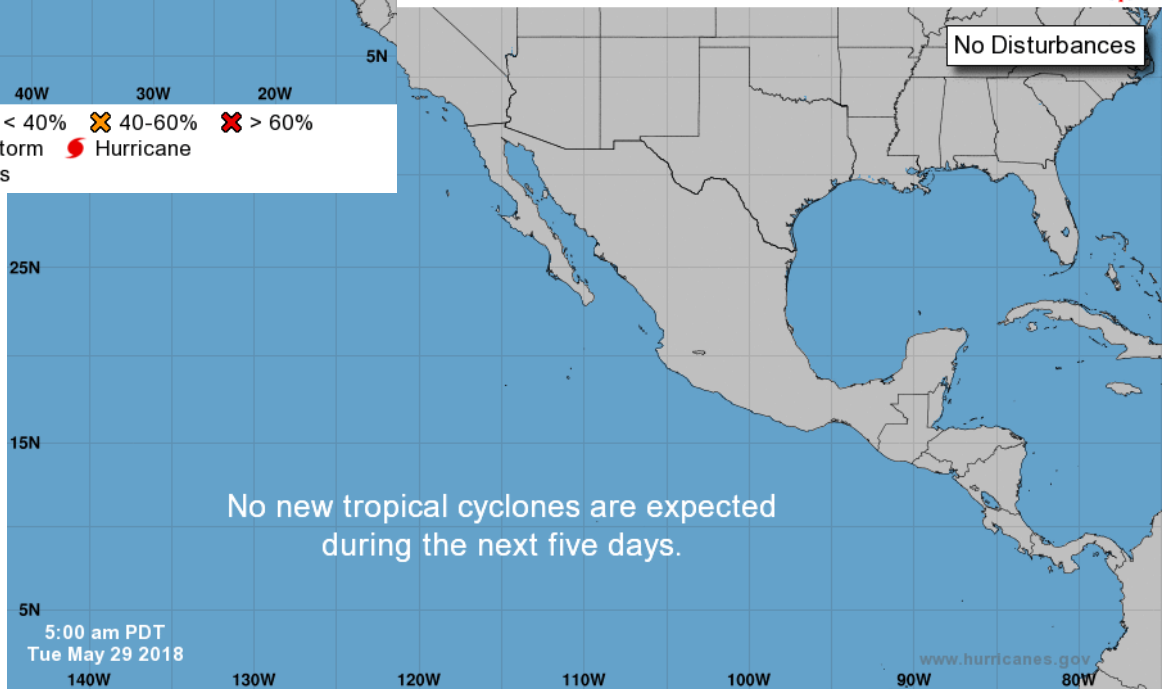
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida

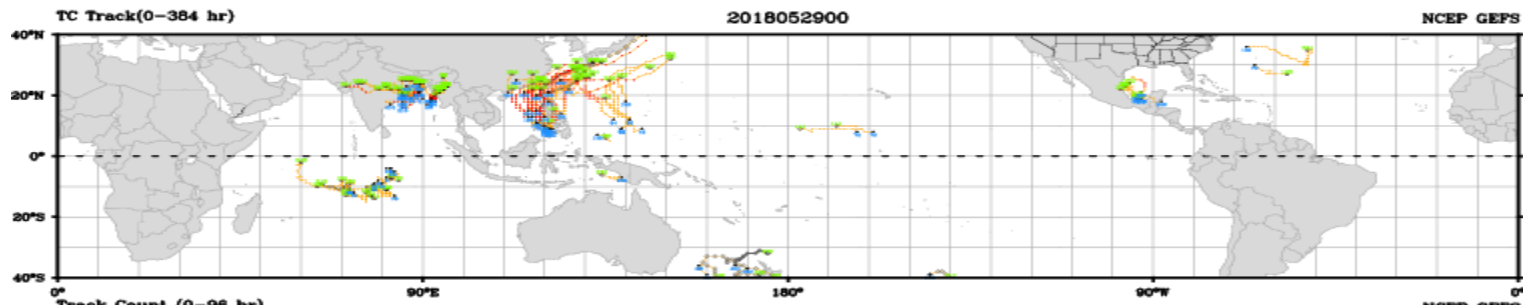


Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

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

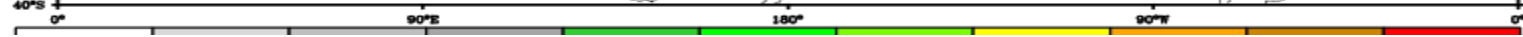
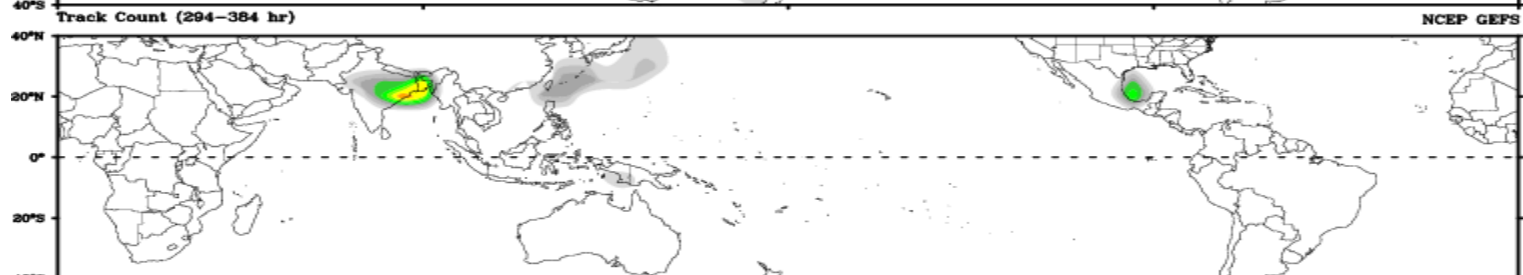
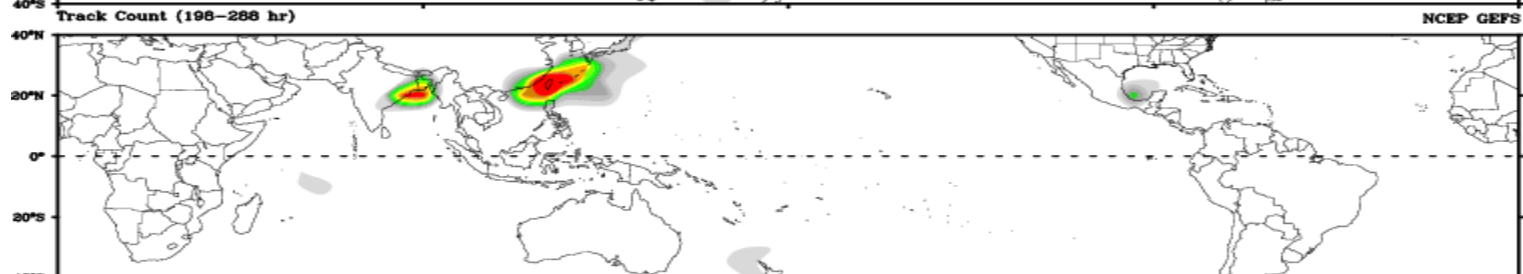
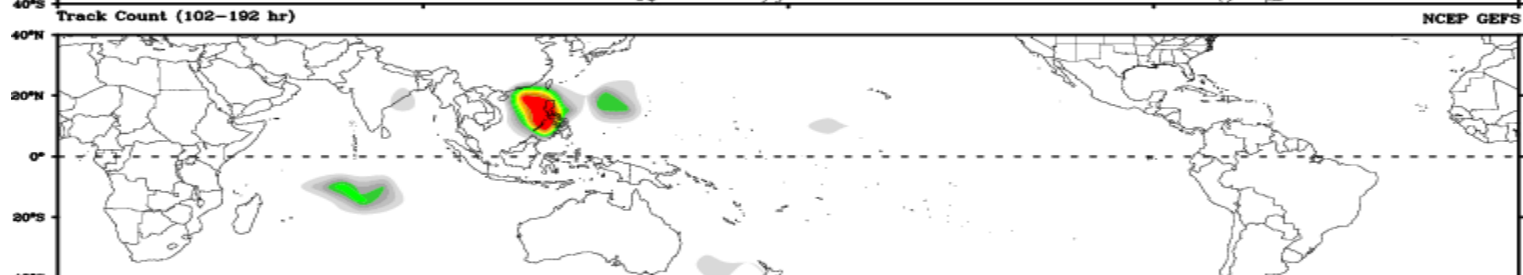
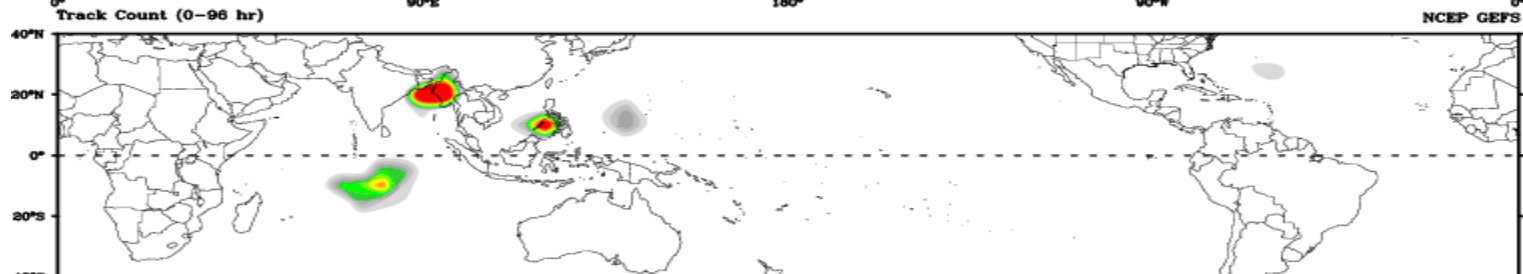


Days 1-4

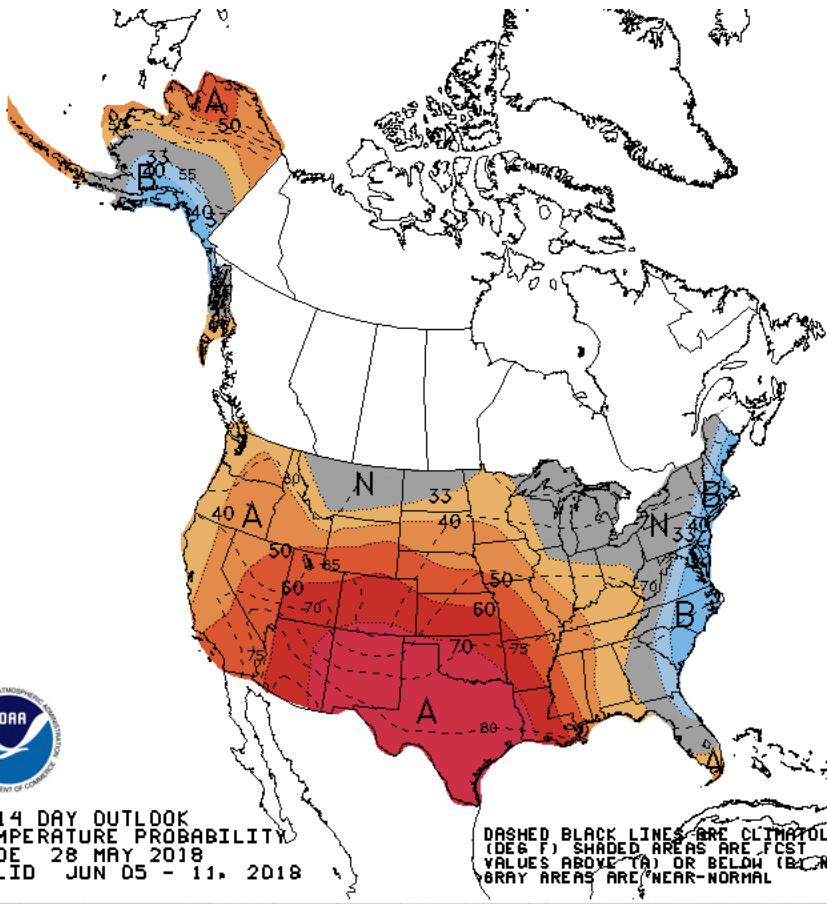
Day 5-8

Day 9-12

Day 13-15

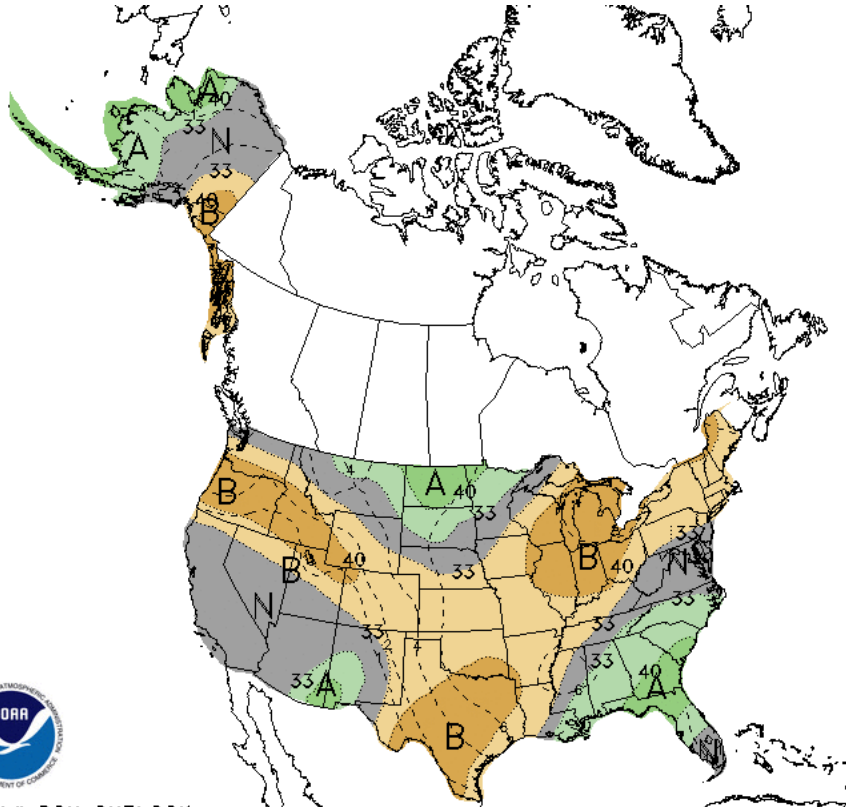
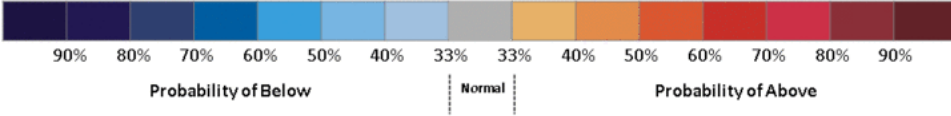


Connections to U.S. Impacts



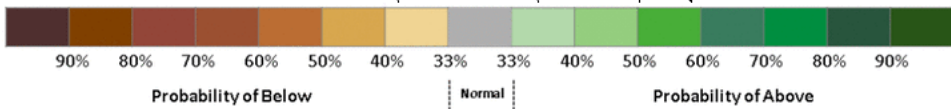
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 28 MAY 2018
VALID JUN 05 - 11, 2018

DASHED BLACK LINES ARE CLIMATE
(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 28 MAY 2018
VALID JUN 05 - 11, 2018

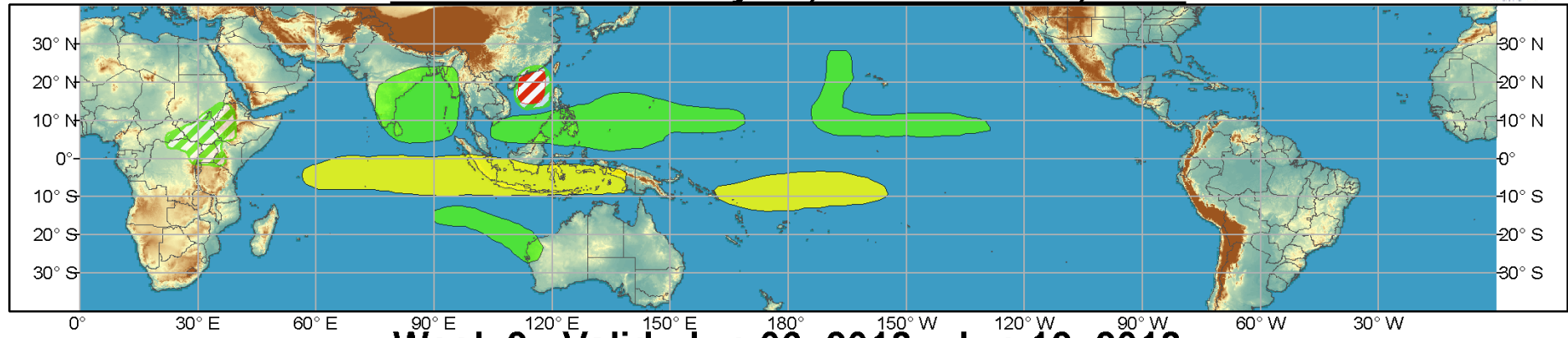
DASHED BLACK LINES ARE CLIMATE
(TENTHS OF INCHES). SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL



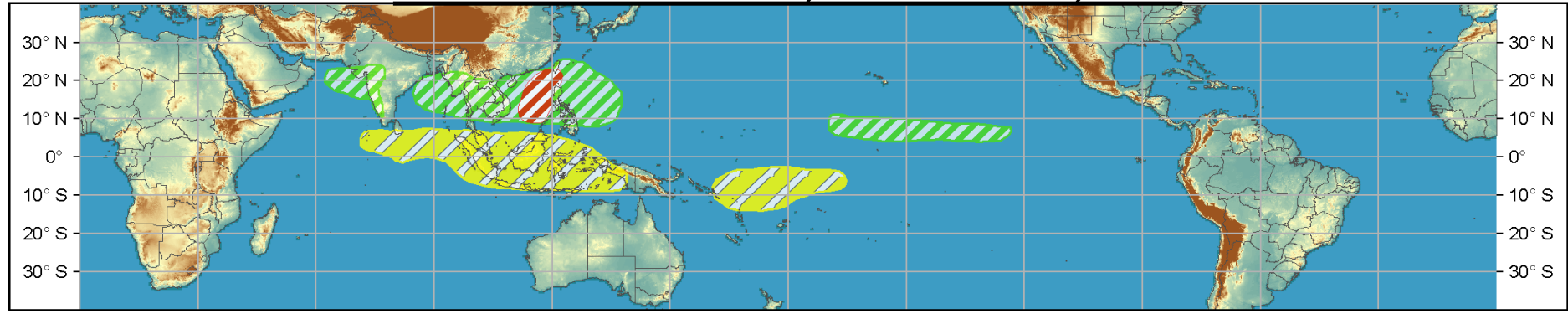


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Below-normal temperatures		

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Weekly total rainfall in the upper third of the historical range.

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