

Global Tropics Hazards And Benefits Outlook

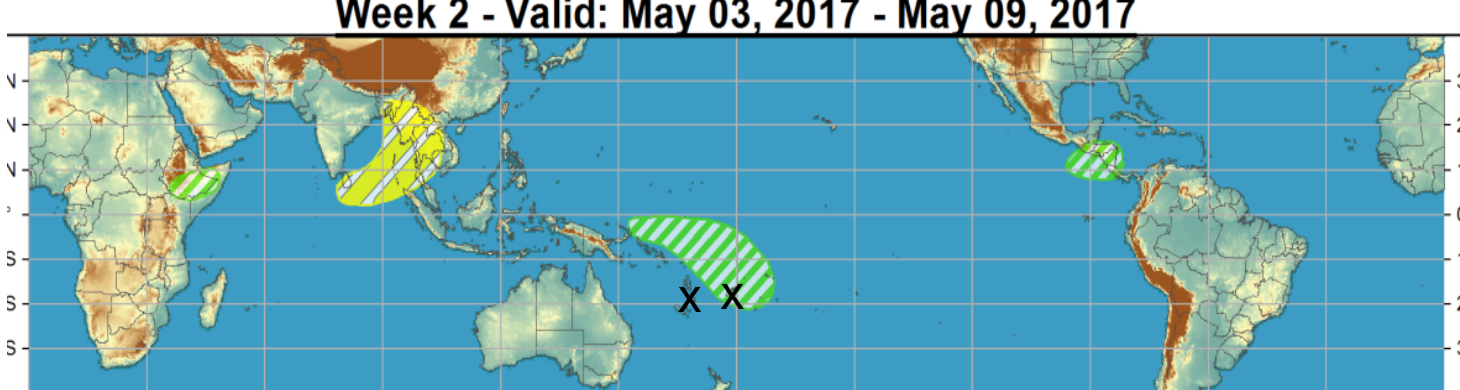
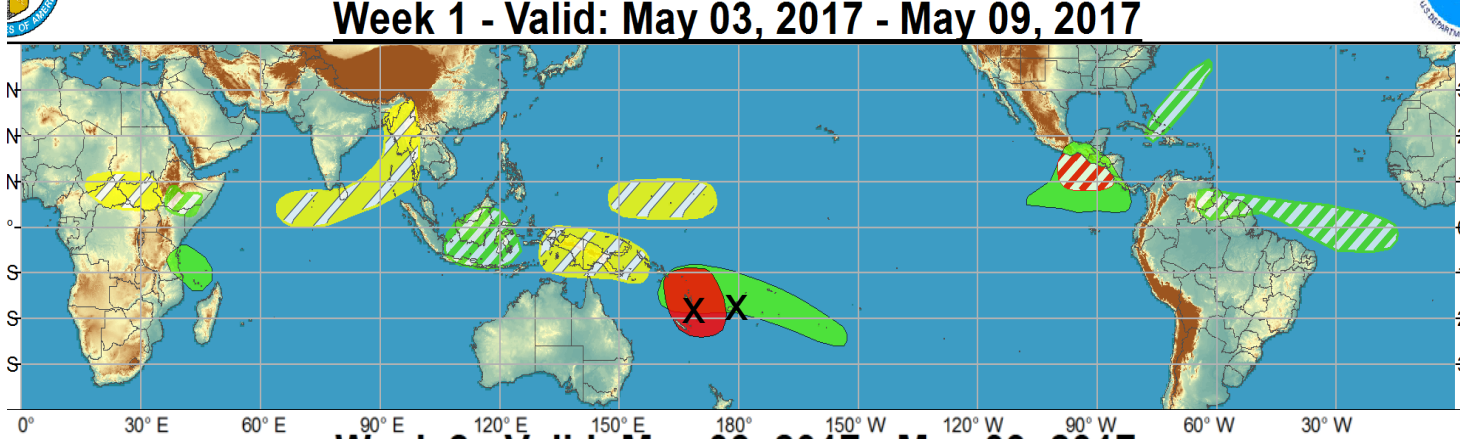
5/9/2017

Matthew Rosencrans

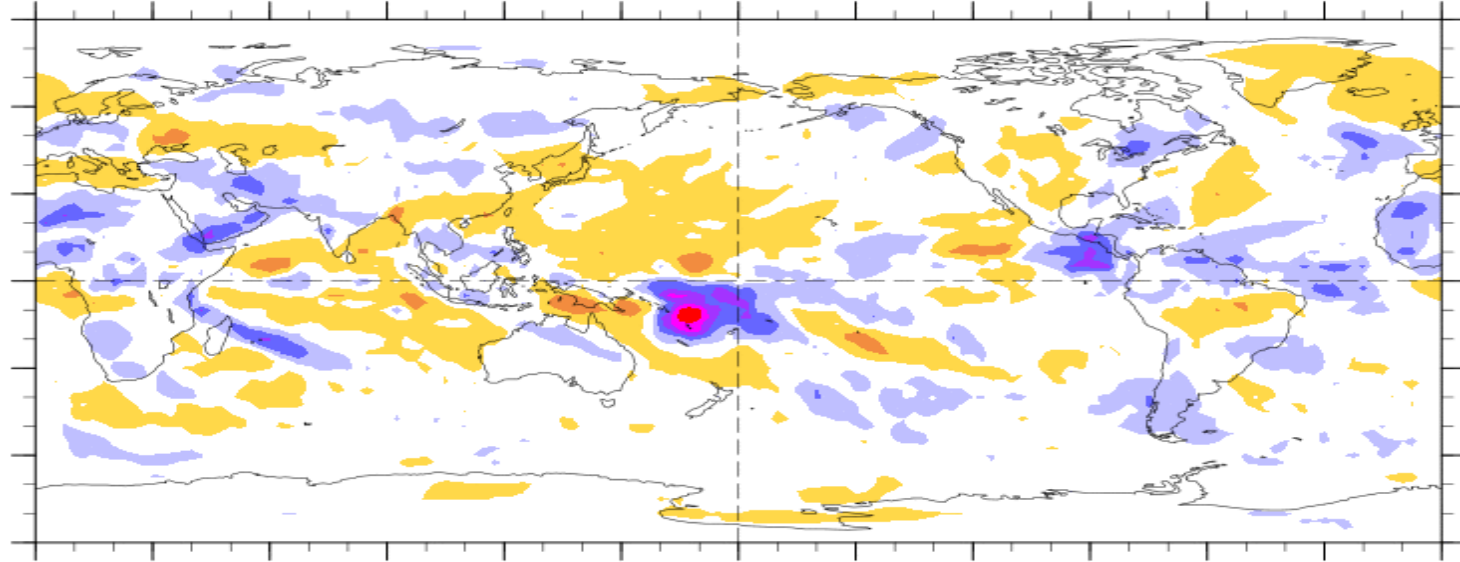
Outline

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

Outlook Review



7-Day Average OLR Anomaly 2017/05/01 - 2017/05/07



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

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

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

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Forecast Map Grid -- Week-1 From: 20170502

Forecast Map Grid -- Week-2 From: 20170425

Forecast Map Grid Verification -- Week-1 From: 20170502

Forecast Map Grid Verification -- Week-2 From: 20170425

Hit: Green, Miss: Red
Heidke Skill Score: 20170509

Hit: Green, Miss: Red
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Synopsis of Climate Modes

ENSO:

- ENSO-neutral conditions are favored to continue through at least the Northern Hemisphere spring 2017, with increasing chances for El Niño development by late summer and fall (April 13 assessment).
- The next ENSO diagnostic discussion will be released on May 11.

MJO and other subseasonal tropical variability:

- The MJO remained of moderate strength, and located over the Americas. Multiple variables align with this analysis. Some other modes of variability are also contributing to the patterns of tropical convection.
- Dynamical models indicate a continuation of a moderate signal, with some weakening, through week-2.

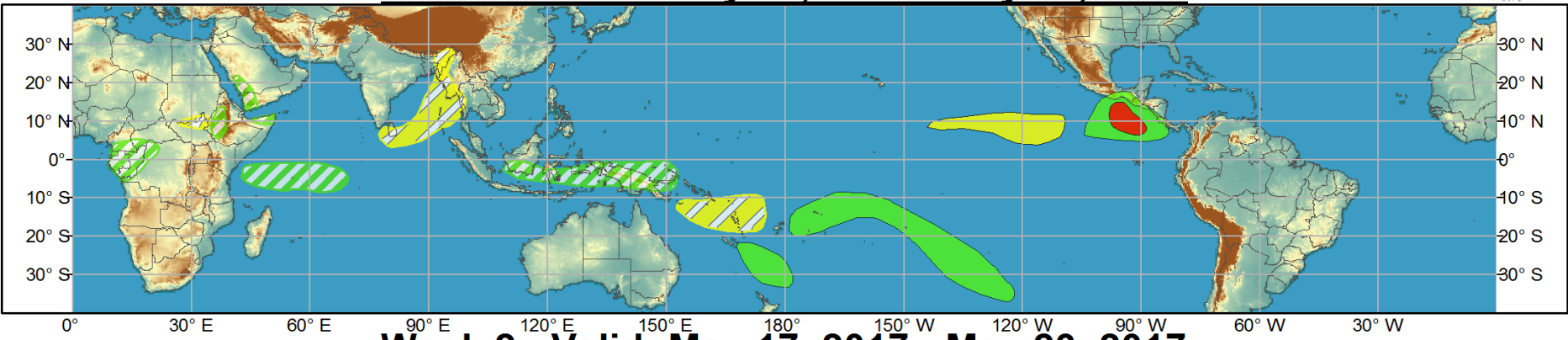
Extratropics:

- The extended range temperature and precipitation forecasts for the U.S. are likely to reflect influence from MJO.

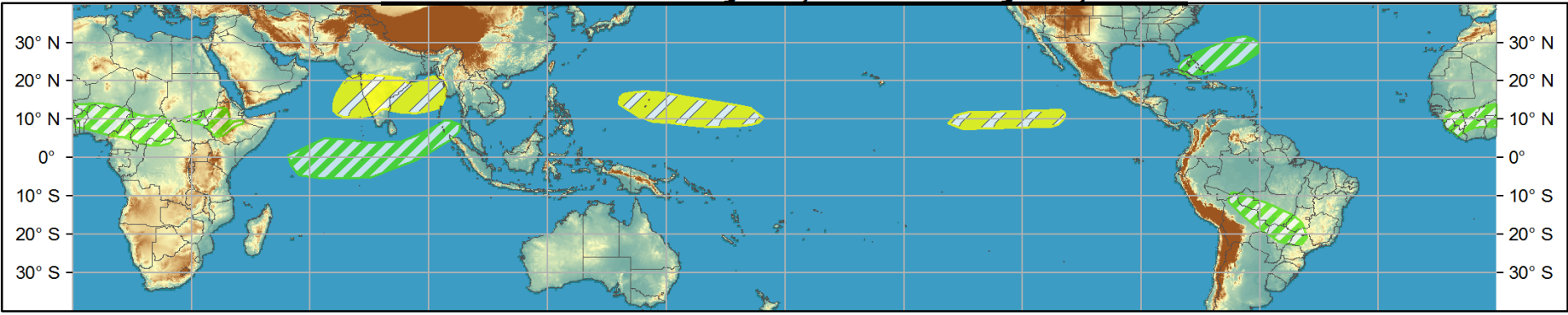


Global Tropics Hazards and Benefits Outlook - Climate Prediction Center

Week 1 - Valid: May 10, 2017 - May 16, 2017



Week 2 - Valid: May 17, 2017 - May 23, 2017



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: 05/09/2017

Forecaster: Rosencrans

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IR Satellite & 200-hpa Velocity Potential Anomalies

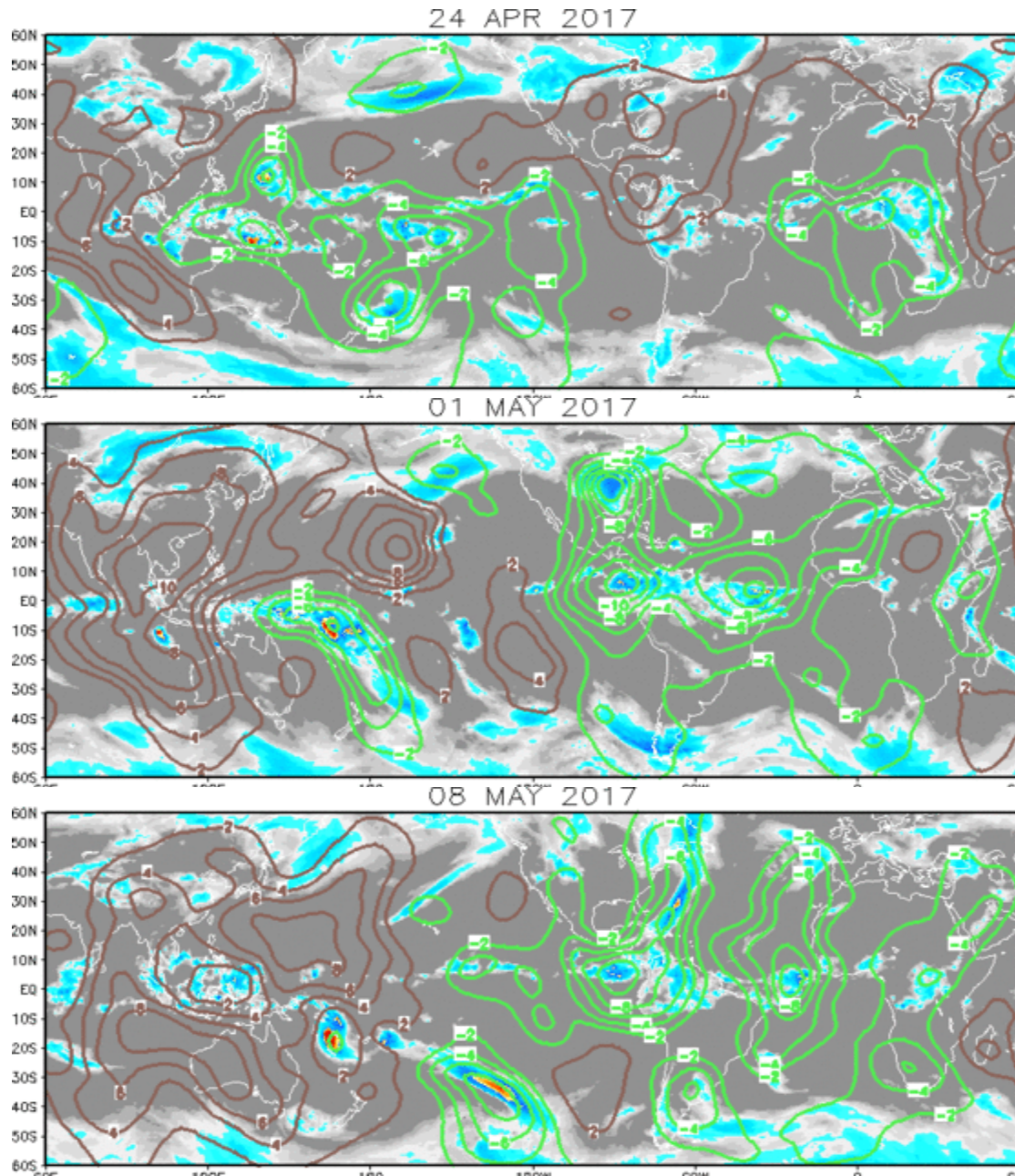
Green: Enhanced Divergence

Brown: Enhanced Convergence

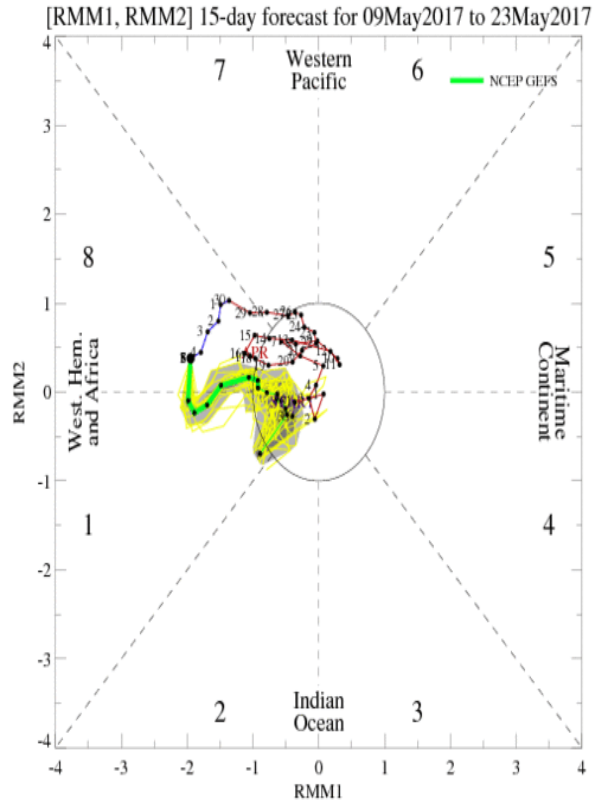
Wave-2 not projecting onto MJO.
Enhanced convection over
western Pacific and Southern
Africa.

Wave-2 with an MJO projection.
Enhanced convection over
southwest Pacific and Americas
to Africa.

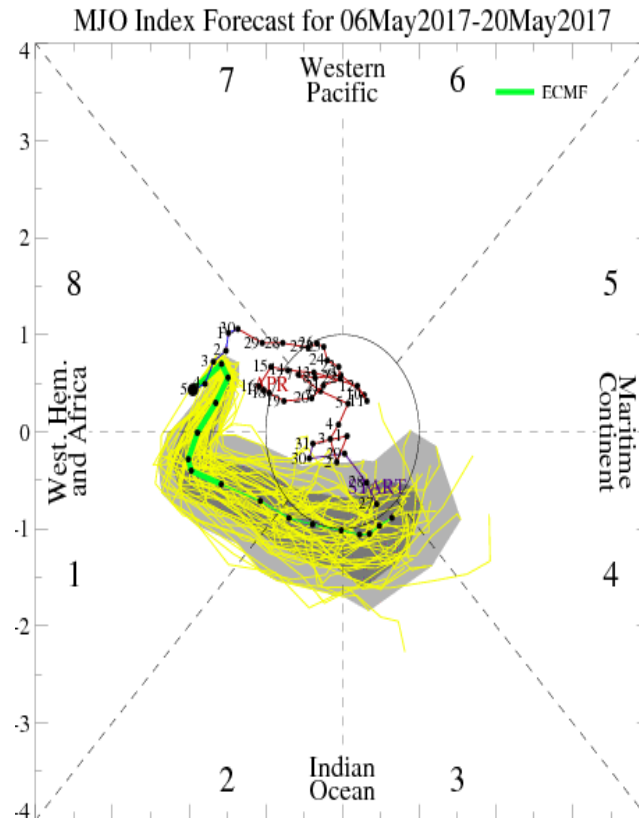
Wave-1 with a moderate MJO
projection.



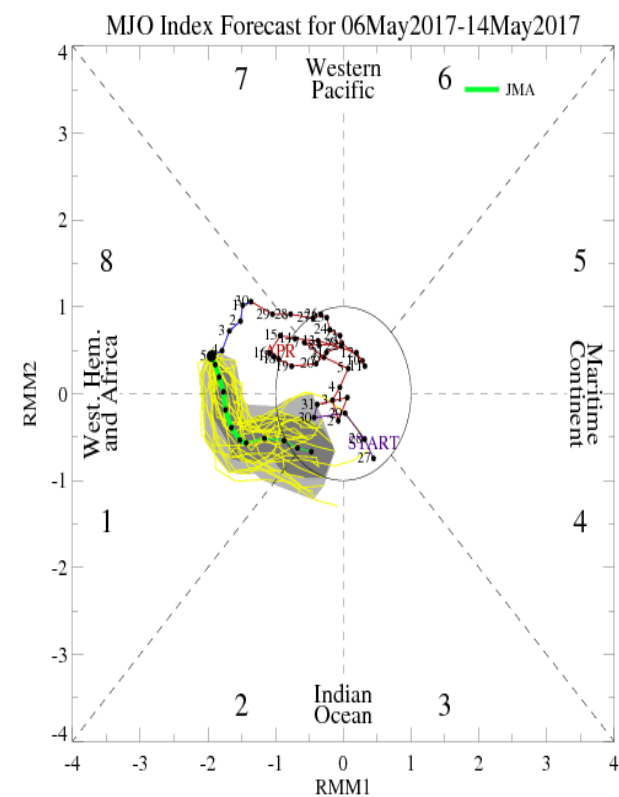
MJO Observation/Forecast



GEFS



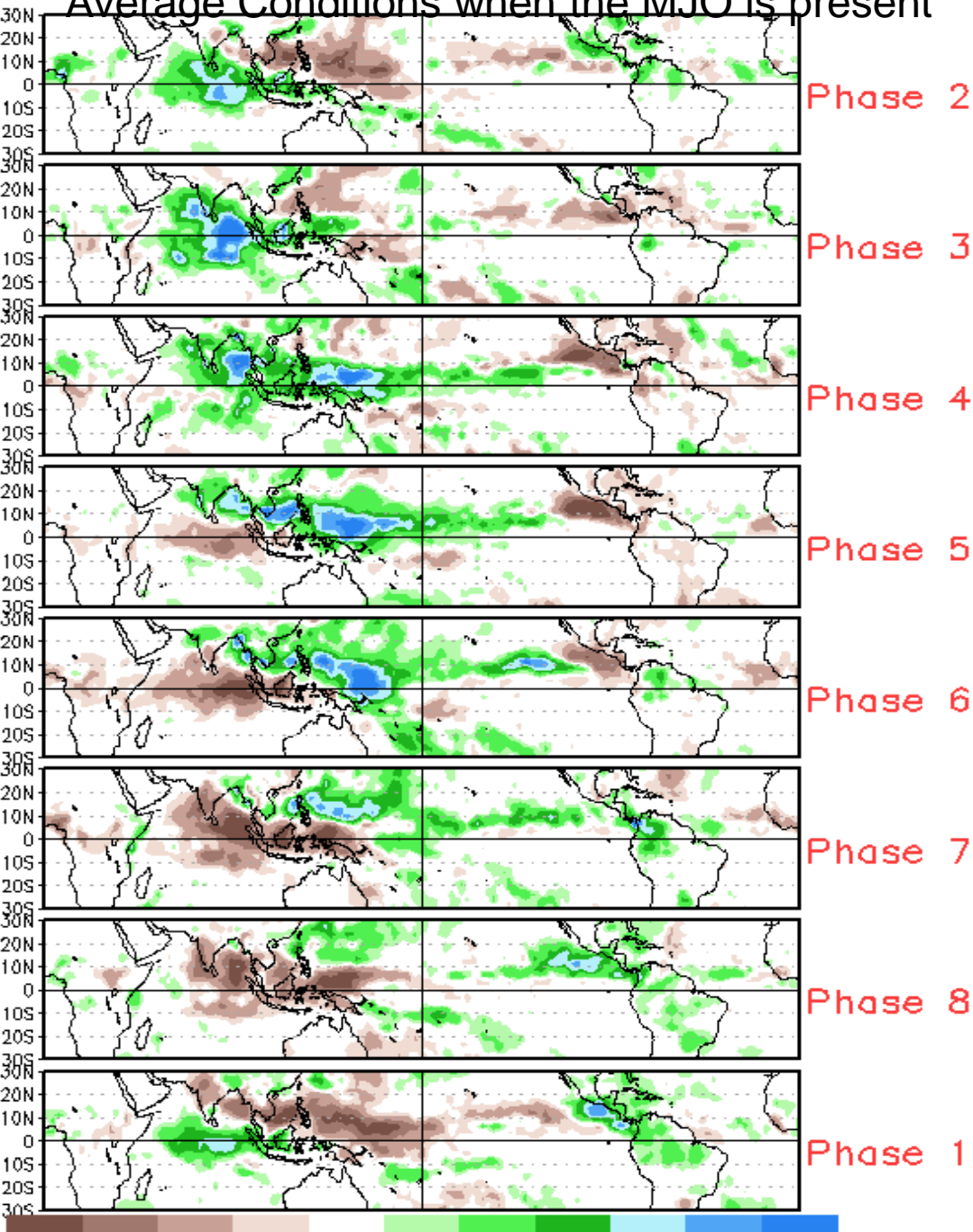
ECMWF



JMA

Wheeler-Hendon based analyses of model forecasts indicate propagation to the east. Some models are a little faster.

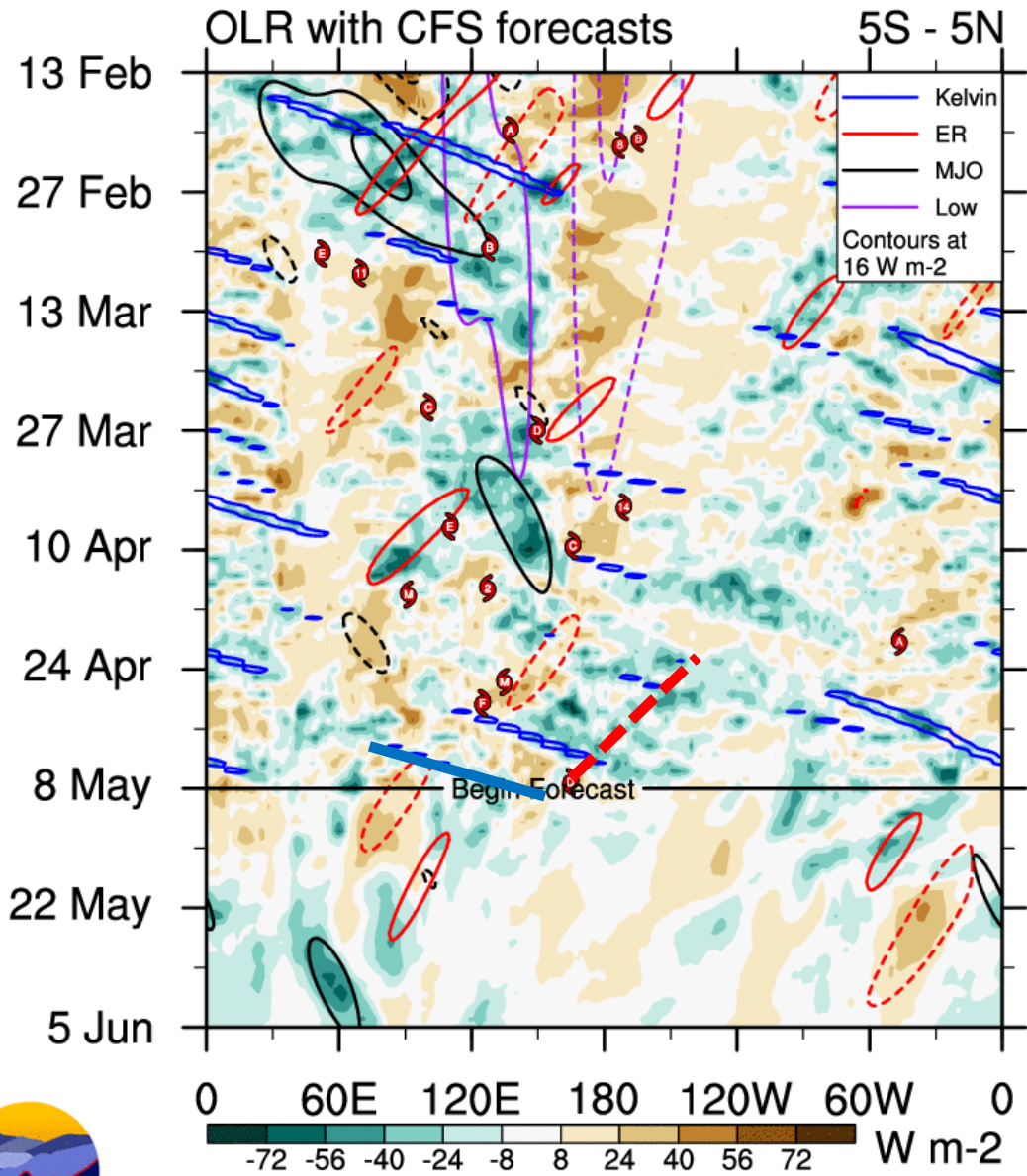
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

MJO, Rossby wave and **Kelvin wave** having an influence

Low-frequency pattern less of an influence





Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



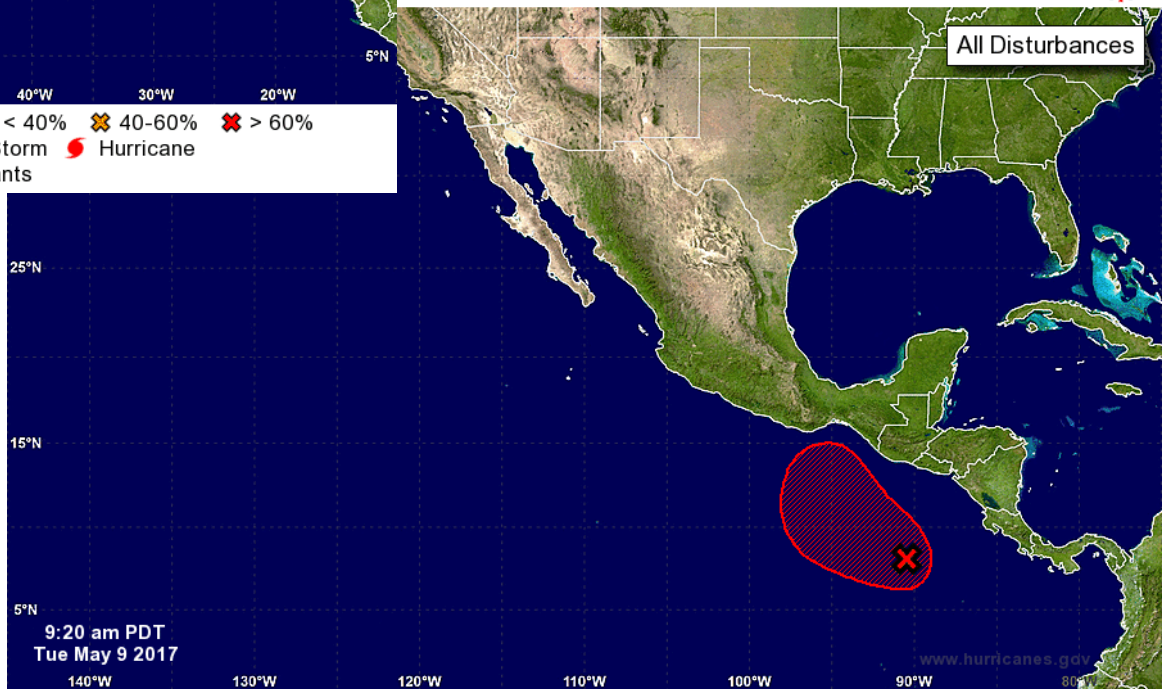
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone Remnants

Graphical Tropical Weather Outlook

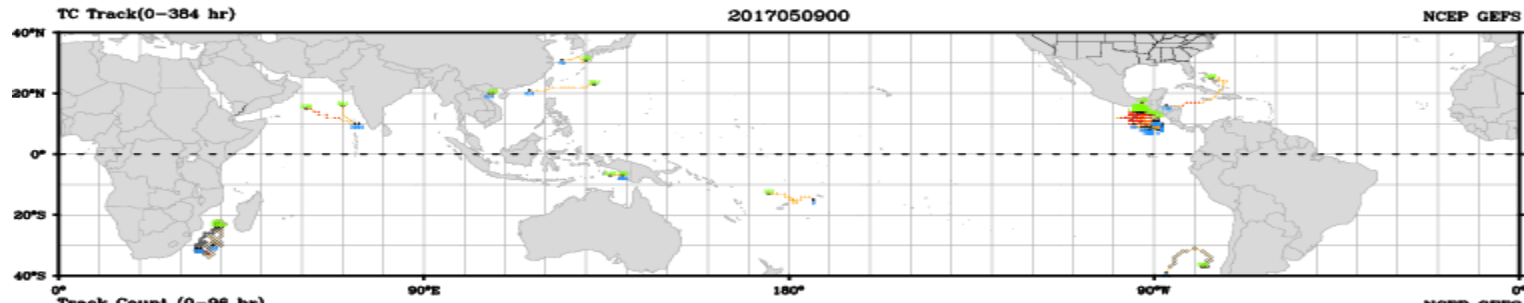
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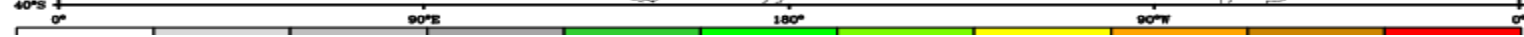
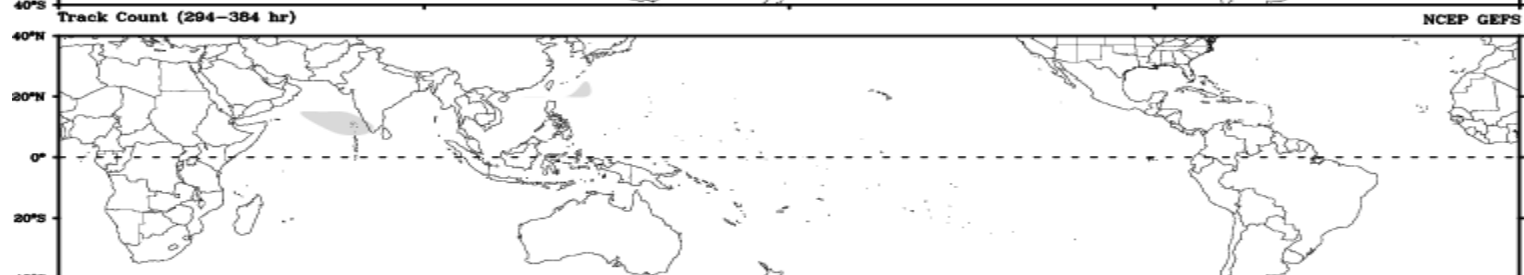
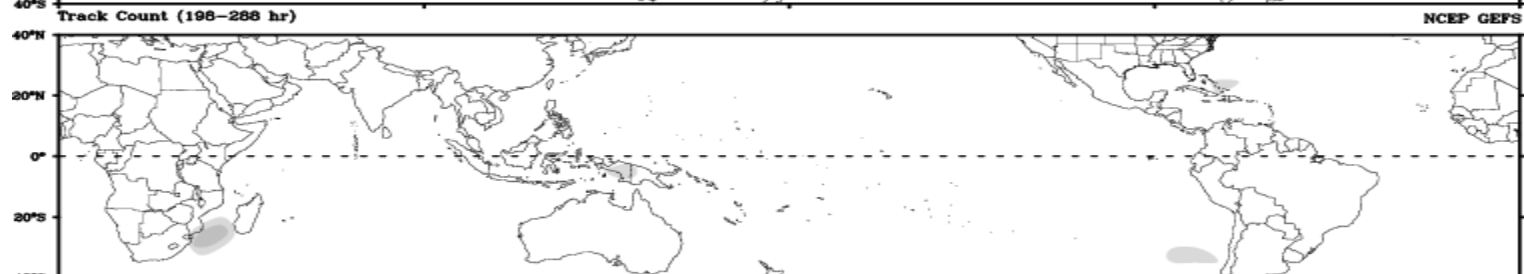
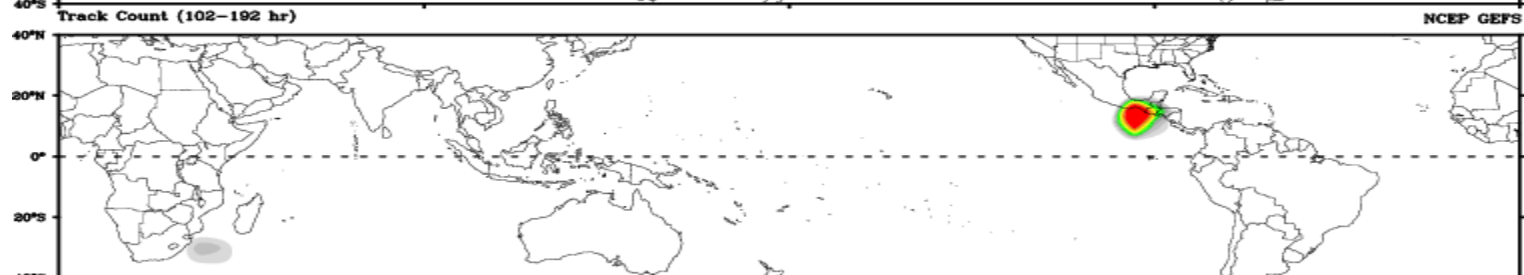
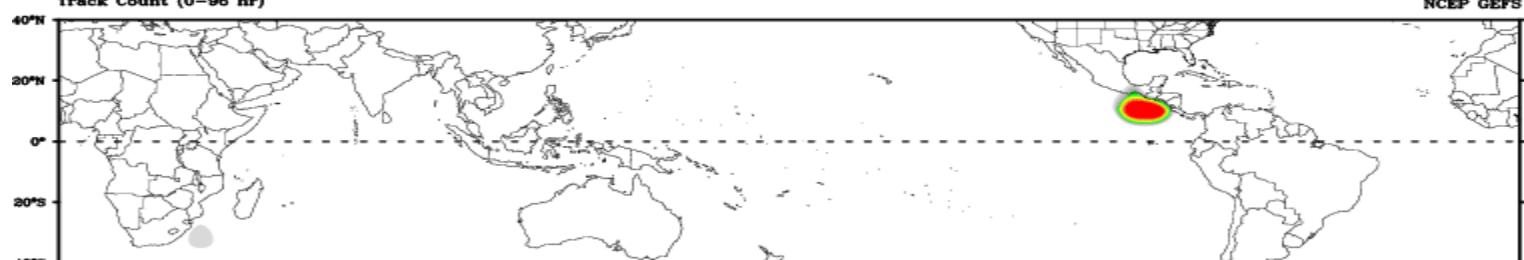


Days 1-4

Day 5-8

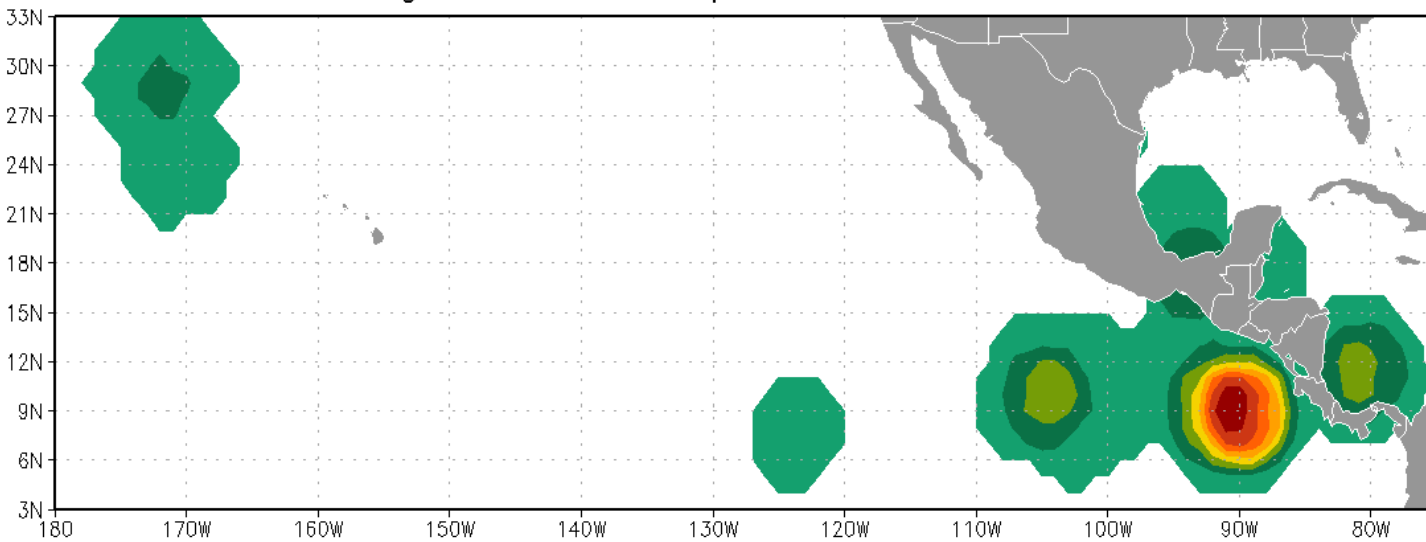
Day 9-12

Day 13-15

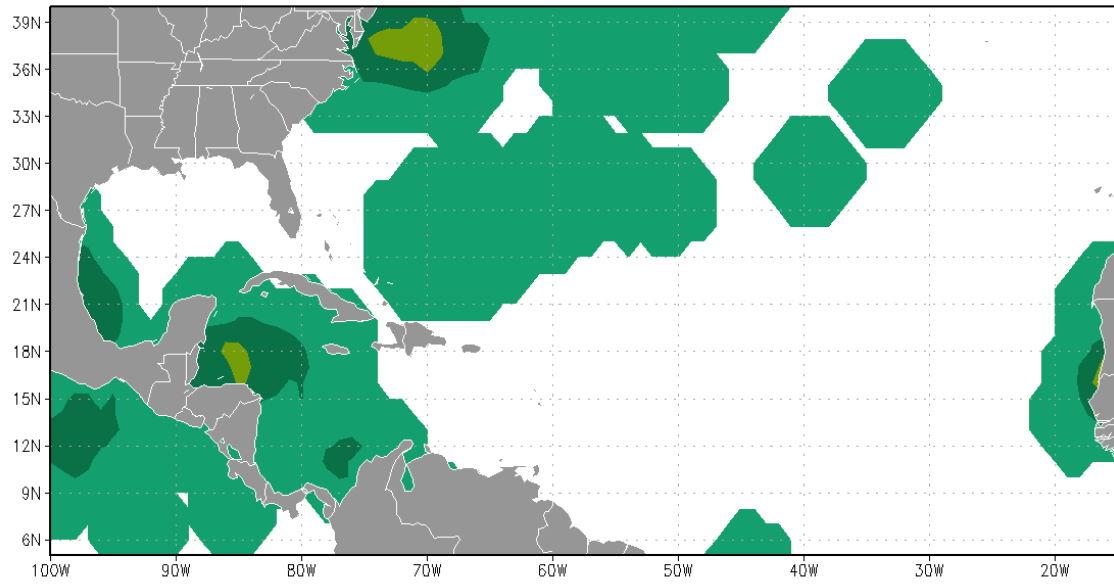


Ensemble-based Probability (%) of TC genesis using these global ensembles: NCEP CMC ECMWF

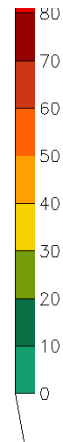
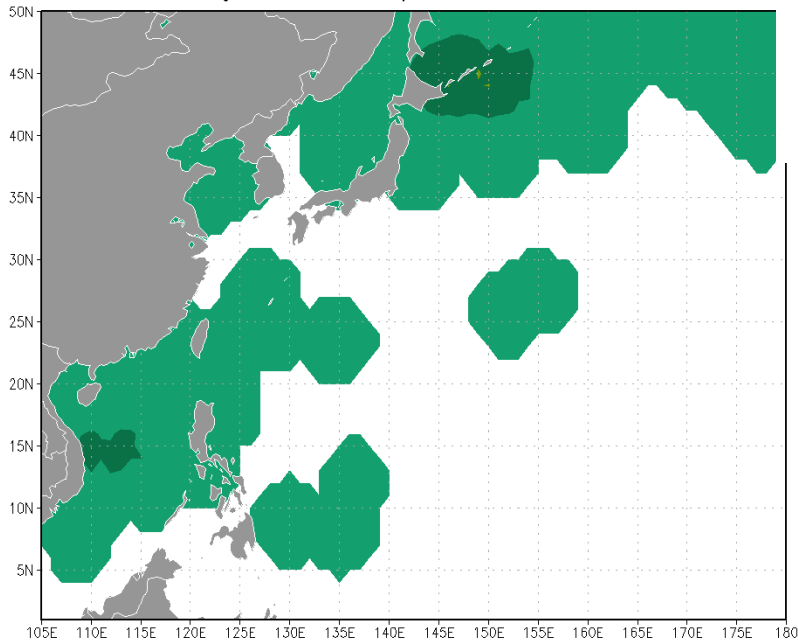
For forecasts during the 00–120h period from initial time = 2017050900



Ensemble-based Probability (%) of TC genesis
using these global ensembles: NCEP CMC ECMWF
For forecasts during the 120–240h period from initial time = 2017050900

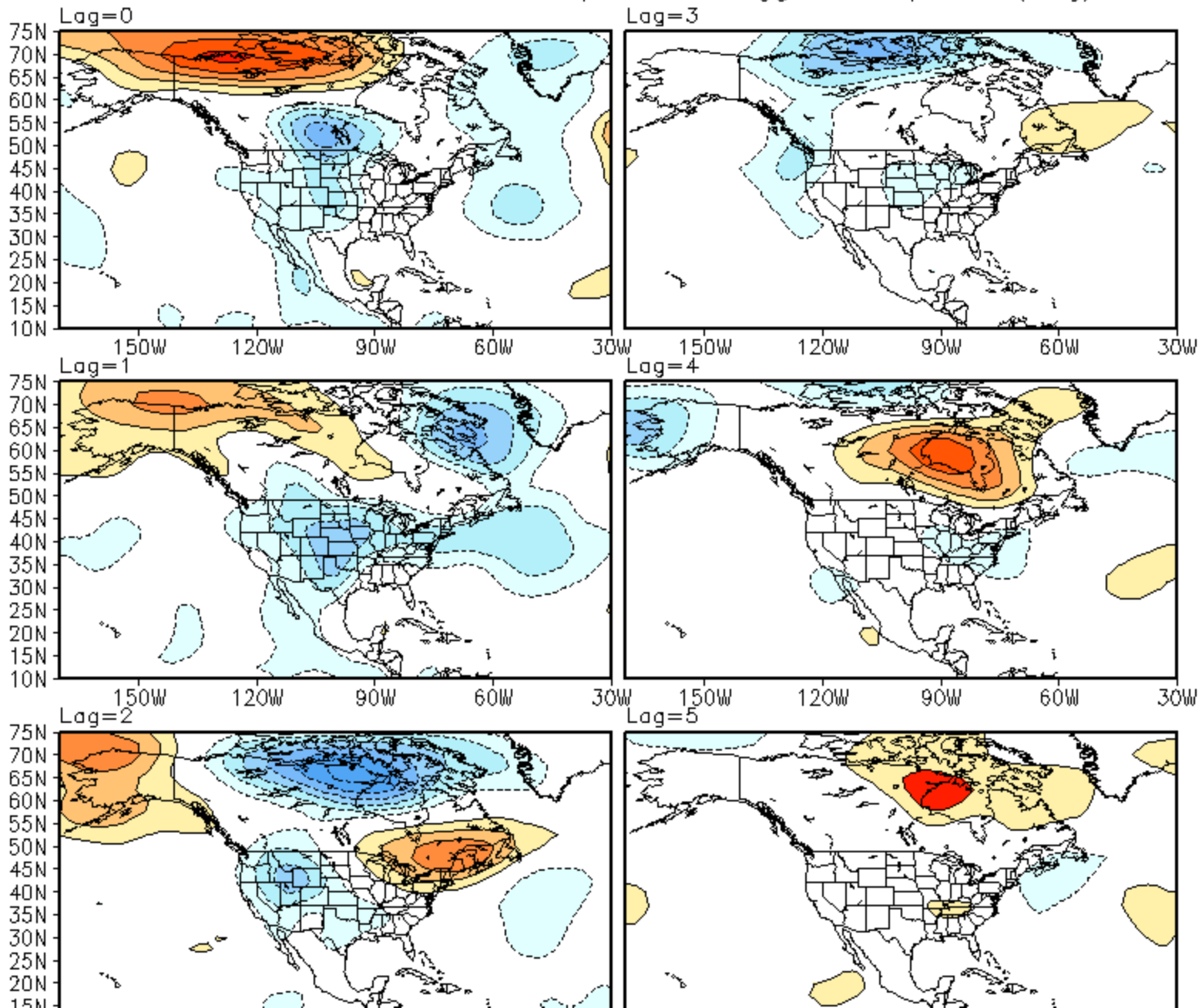


Ensemble-based Probability (%) of TC genesis
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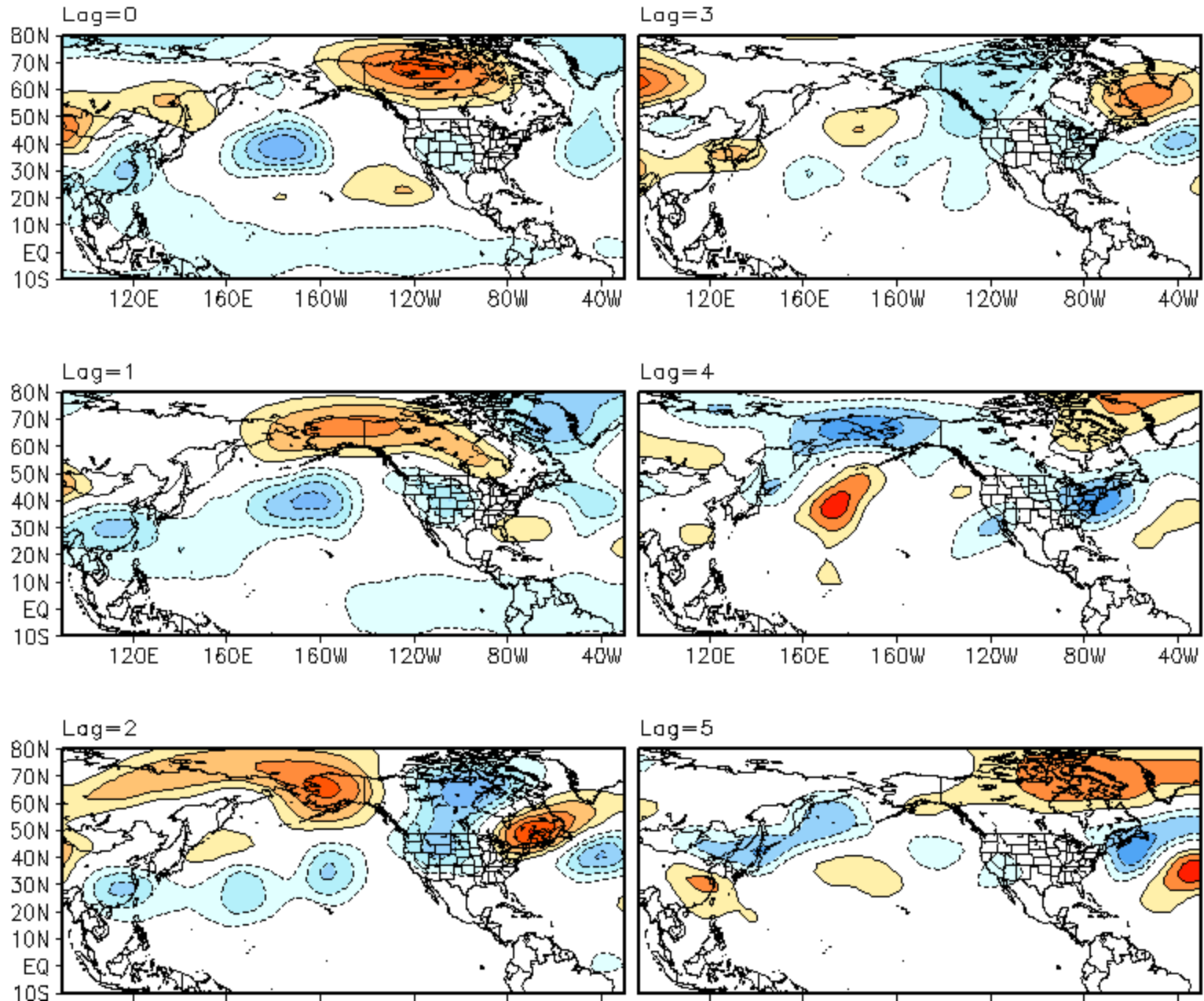


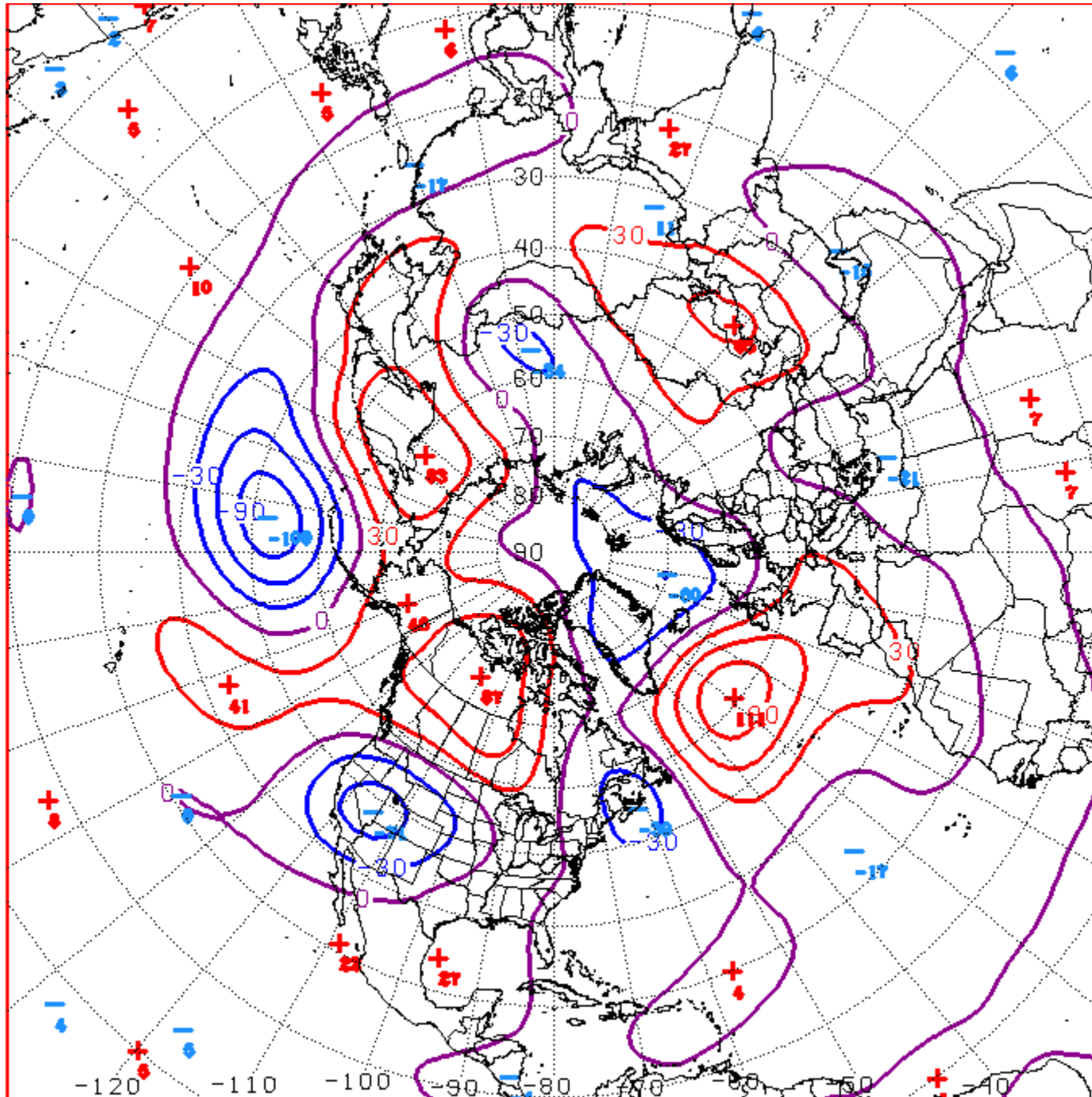
Connections to U.S. Impacts

RMM Phase 1 850-hPa Temperature Lagged Composite (amj)



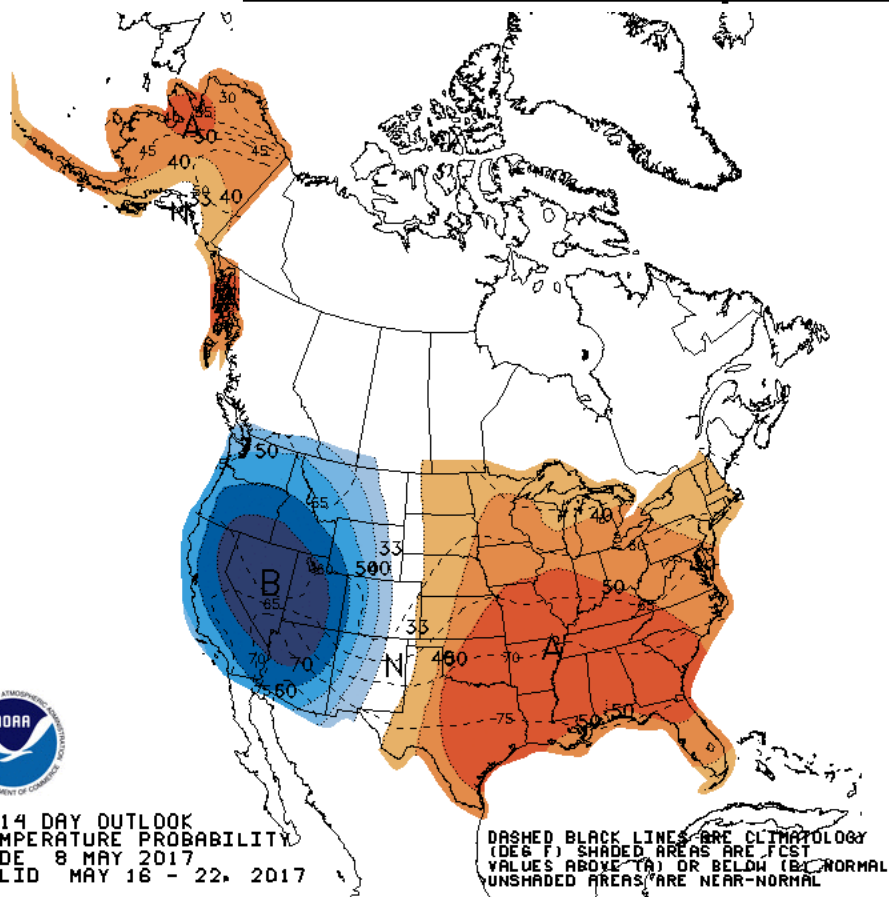
RMM Phase 1 200-hPa Height Lagged Composite (amj)





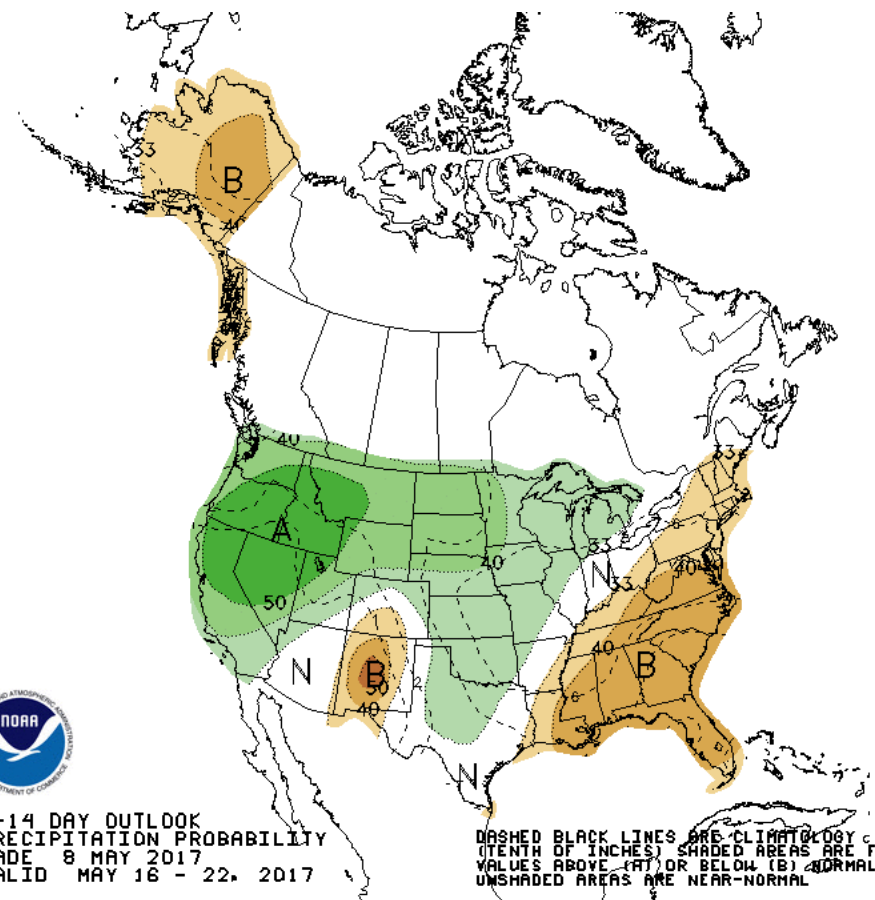
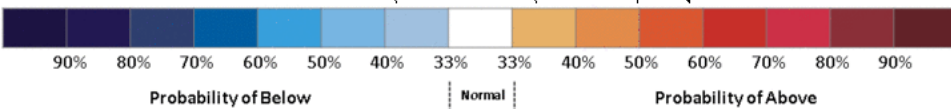
D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE MAY 09 2017 1333 UTC CNTD MAY 20 2017

Week 2 – Temperature and Precipitation



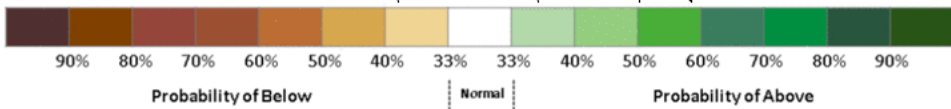
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 8 MAY 2017
VALID MAY 16 - 22, 2017

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



8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 8 MAY 2017
VALID MAY 16 - 22, 2017

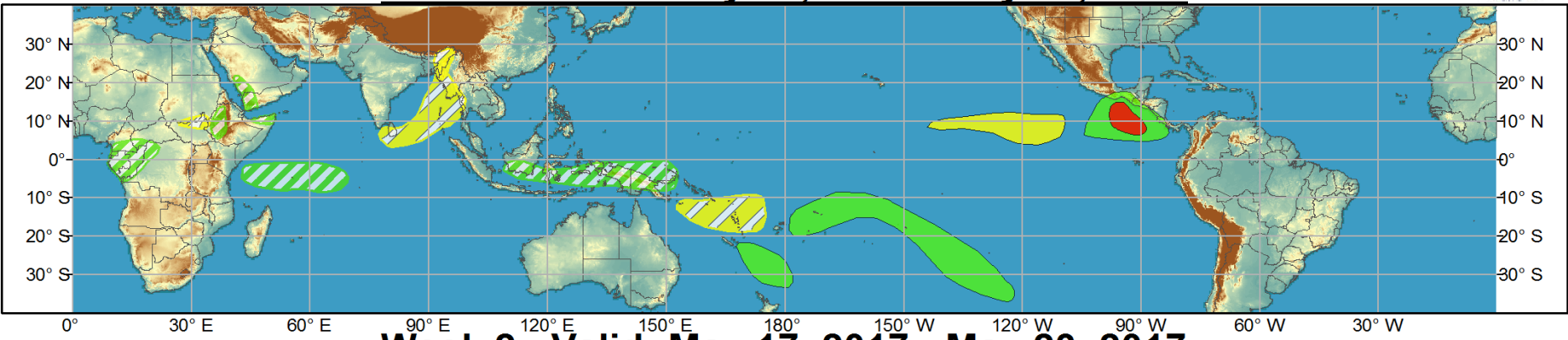
DASHED BLACK LINES ARE CLIMATOLOGY (TENTH OF INCHES). SHADED AREAS ARE FCST VALUES ABOVE (A) OR BELOW (B) NORMAL. UNSHADED AREAS ARE NEAR-NORMAL.



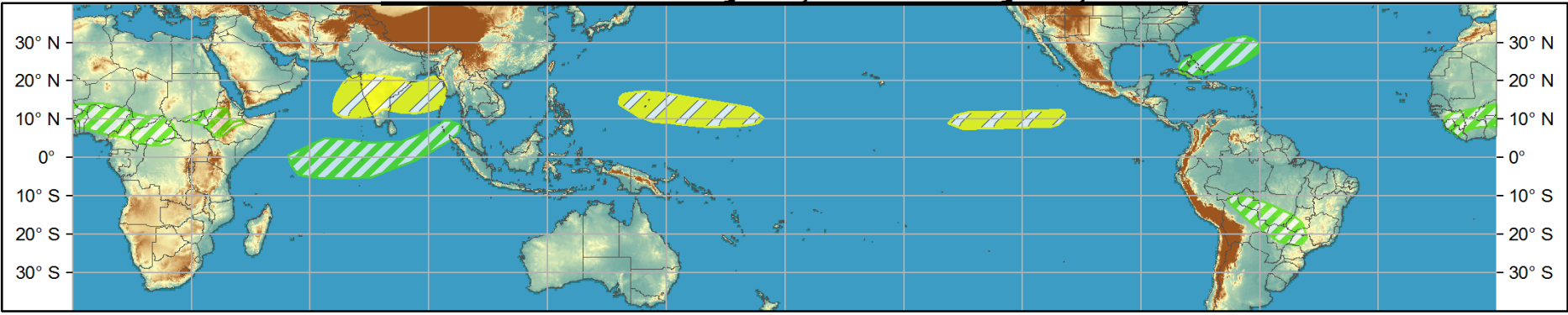


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