

# Global Tropics Hazards And Benefits Outlook

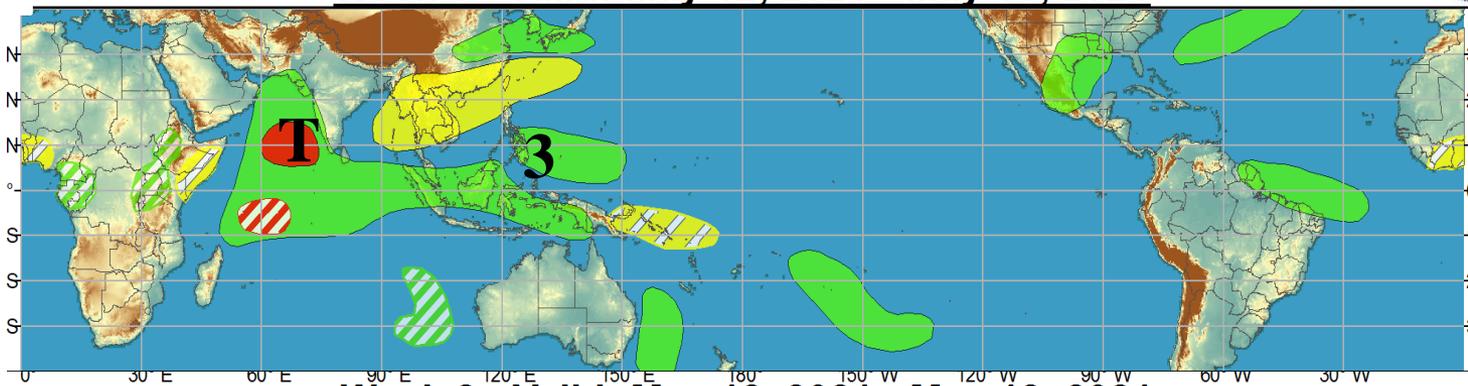
5/18/2021

Dan Harnos

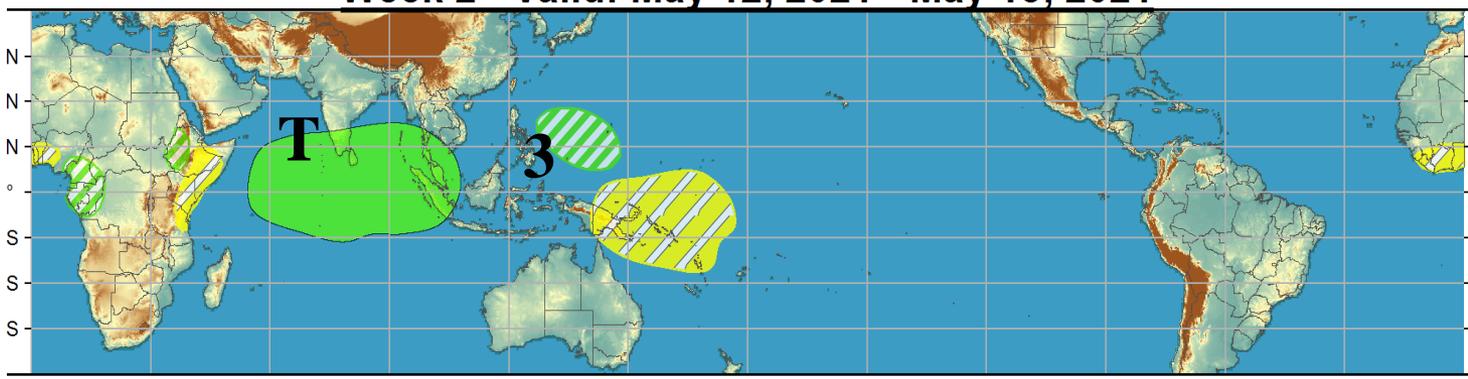
## Outline

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

**Week 1 - Valid: May 12, 2021 - May 18, 2021**

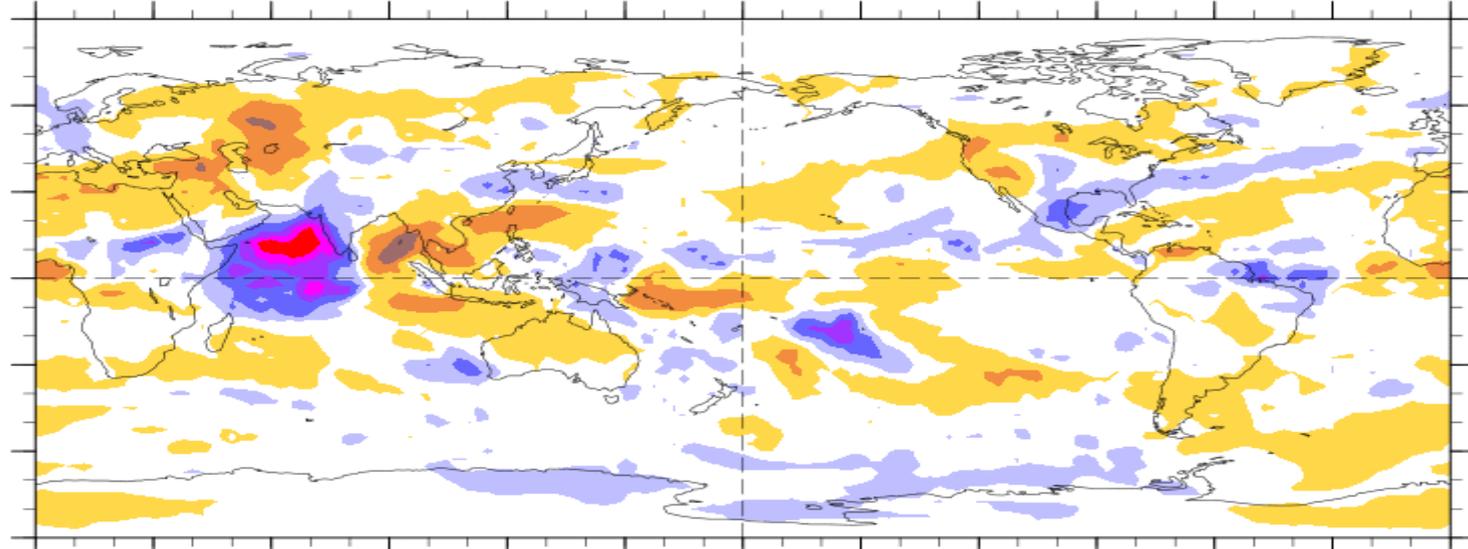


**Week 2 - Valid: May 12, 2021 - May 18, 2021**



7-Day Average OLR Anomaly

2021/05/10 - 2021/05/16



# Outlook Review

## Tropical Storm 3

May 12-15  
Peak: 35 knots

## TC Tauktae

May 14-18  
Peak: 120 knots  
(Category 4)

Cool shading  
More clouds/rain

Warm shading  
Less clouds/rain

# Synopsis of Climate Modes

## **ENSO: (April 8, 2021 Update)**

*next update on June 10, 2021*

- ENSO Alert System Status: [Final La Niña Advisory \(La Niña has ended\)](#)
- La Niña has ended, with ENSO-neutral conditions likely to continue through the Northern Hemisphere summer (67% chance in June-August 2021).

## **MJO and other subseasonal tropical variability:**

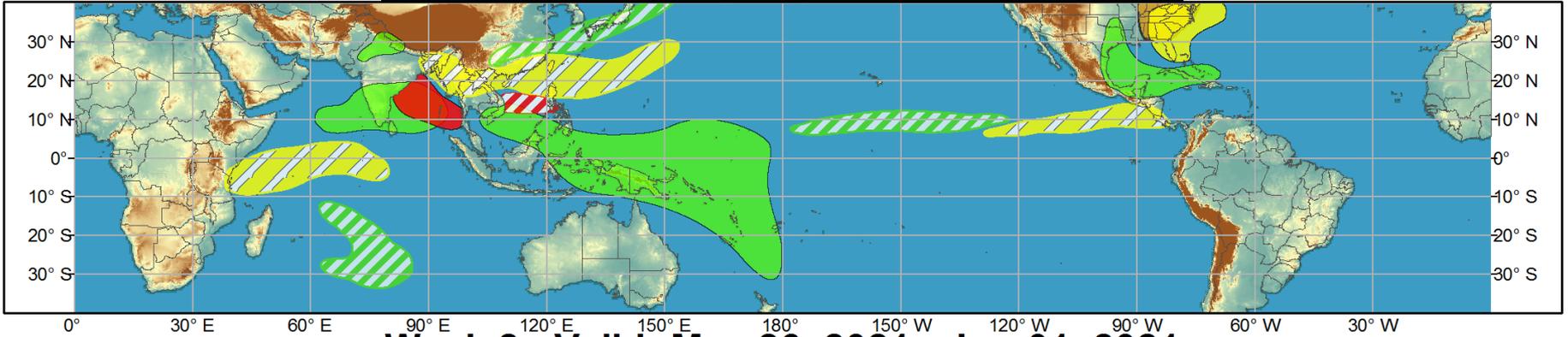
- The MJO remains active over the Indian Ocean.
- Model forecasts show the RMM index crossing the Maritime Continent and reaching the West Pacific during the next two weeks.
- This intraseasonal envelope, coupled with equatorial Rossby wave activity is likely to increase tropical cyclone risk over the Bay of Bengal and South China Sea during Week-1, and the South China Sea and West Pacific during Week-2. An increasingly favorable environment for tropical cyclone formation is also likely to exist for the East Pacific through the end of May.



# Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



## Week 1 - Valid: May 19, 2021 - May 25, 2021



## Week 2 - Valid: May 26, 2021 - Jun 01, 2021



**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: 05/18/2021

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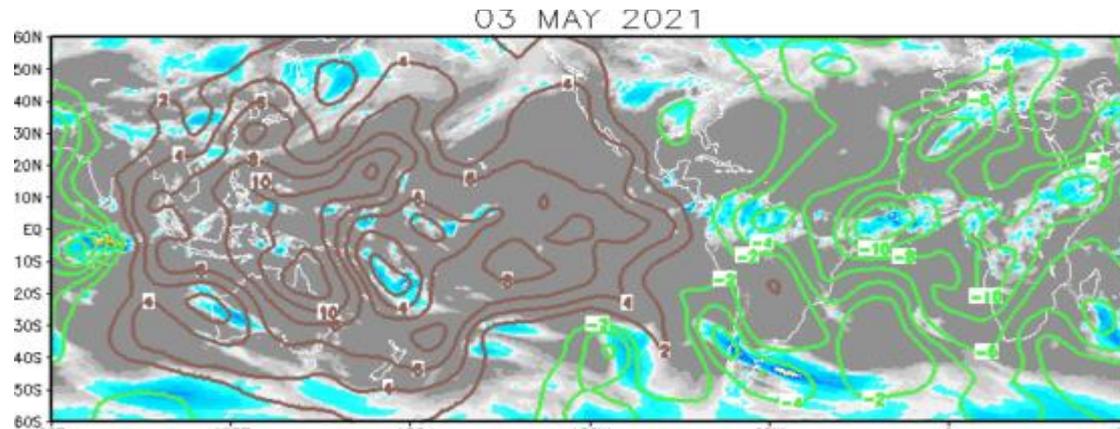


# IR Satellite & 200-hpa Velocity Potential Anomalies

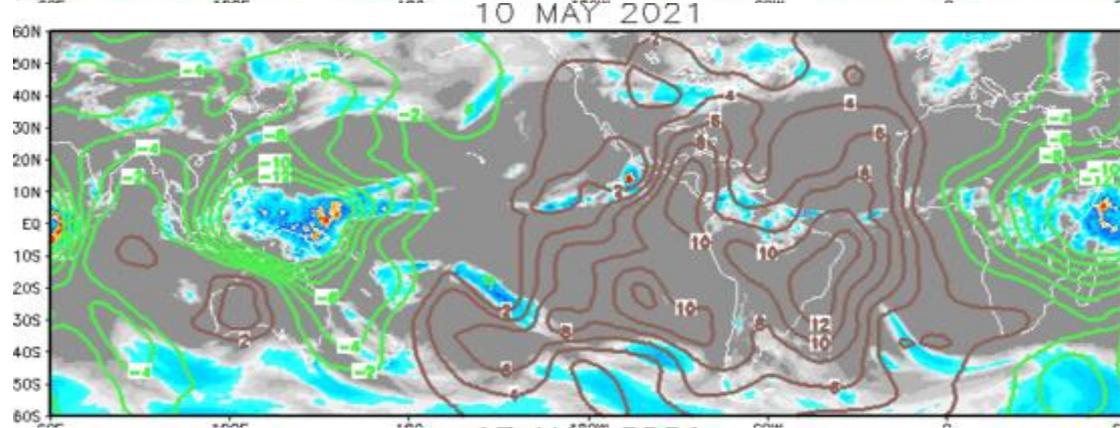
Green: Enhanced Divergence

Brown: Enhanced Convergence

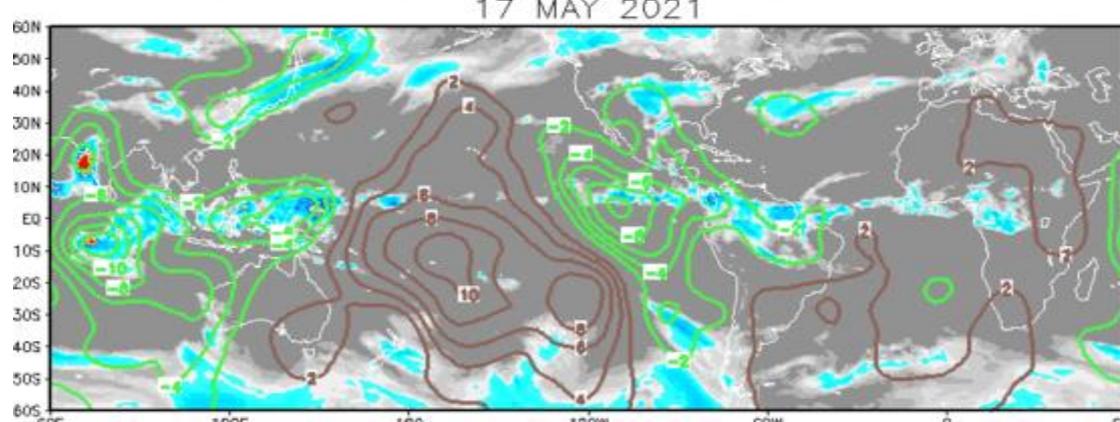
Wave-1 pattern indicative of robust MJO over Africa.



Eastward progression, with the MJO now located over the Indian Ocean. A Kelvin wave beginning to become apparent over the West Pacific.

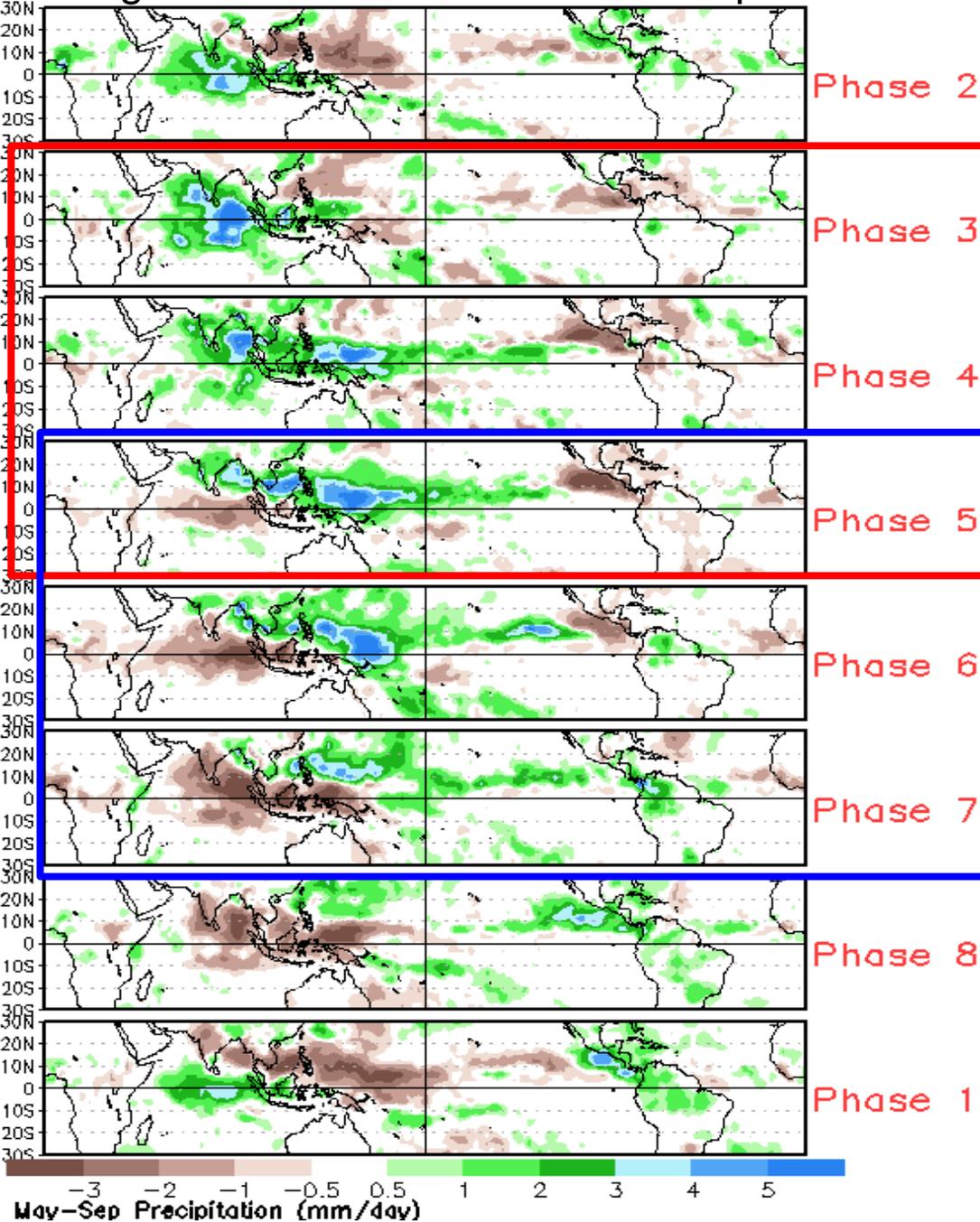


The MJO persists over the Indian Ocean, while the Kelvin wave has raced out ahead to the East Pacific.





# Average Conditions when the MJO is present



Week-1:  
Phases 3, 4, 5

Week-2:  
Phases: 5, 6, 7(?)

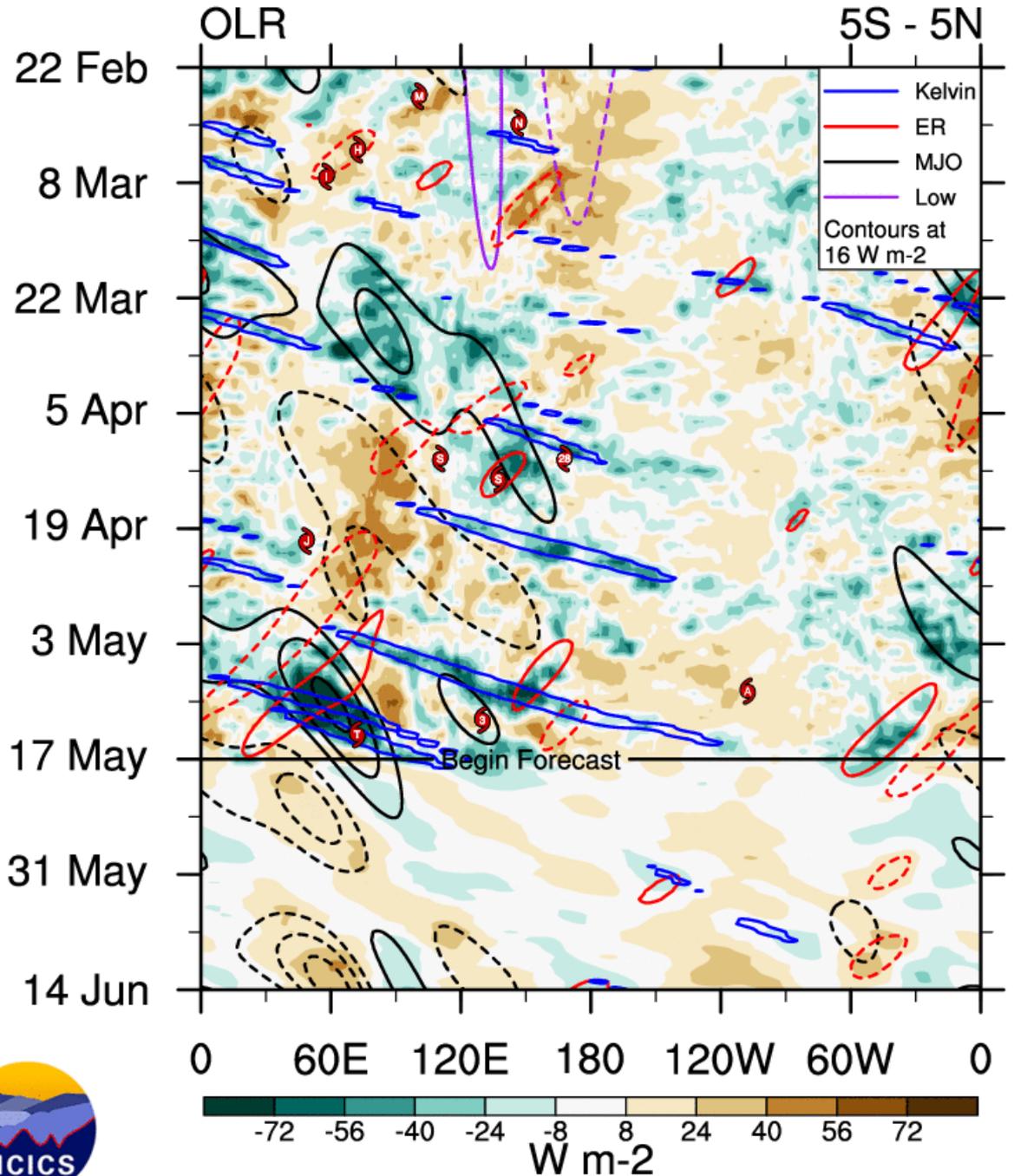
CAVEAT: These panels are representative of robust MJO events.

The event over the Indian Ocean is split up into a faster moving feature (**Kelvin wave**) and slower moving envelope (**MJO**).

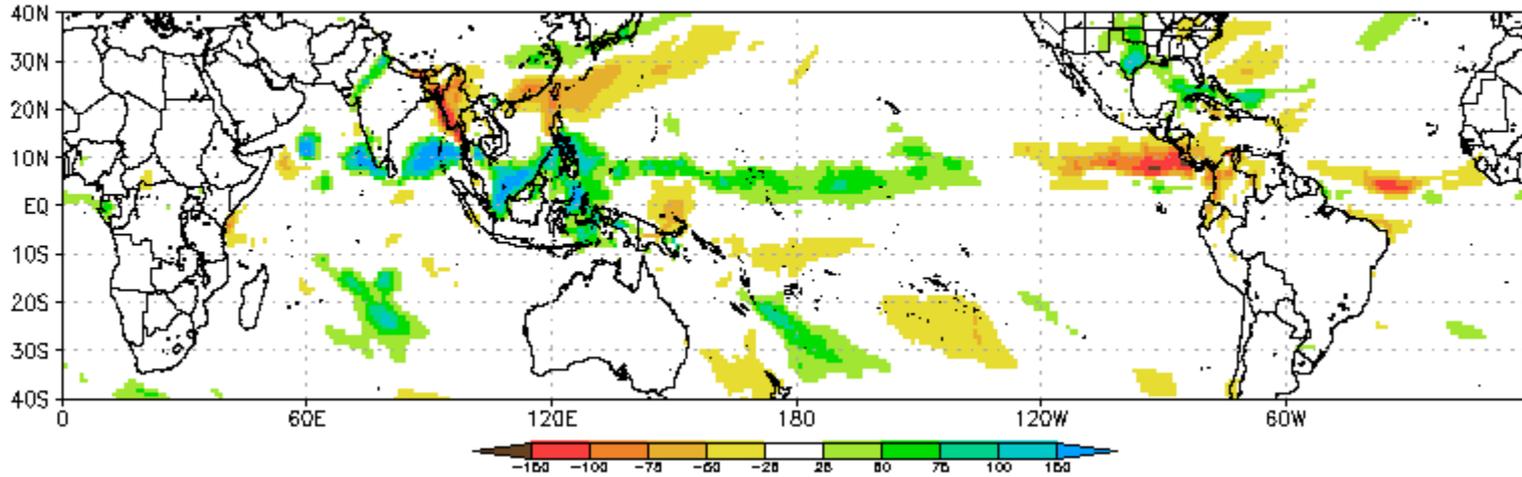
Another **Kelvin wave** is over the Western Hemisphere.

Multiple westward moving features over the Eastern Hemisphere and tropical Atlantic project onto the **Rossby wave** band.

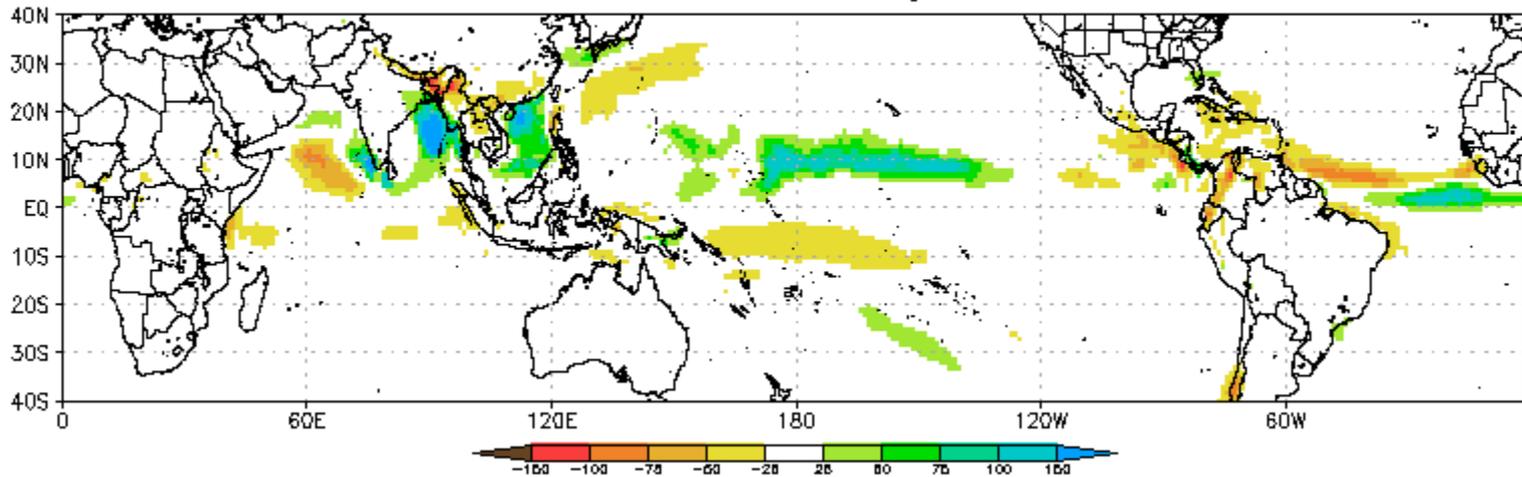
No sign of **low frequency** signals since March with the dissipation of La Niña.



CFS Precipitation Anomalies (mm) Issued 17May2021  
Week-1 Forecast Ending 25May2021

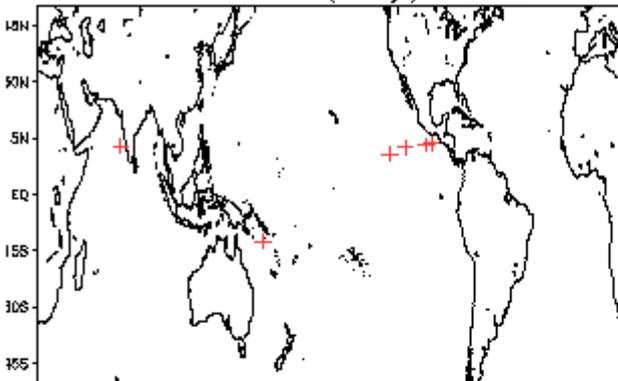


CFS Precipitation Anomalies (mm) Issued 17May2021  
Week-2 Forecast Ending 01Jun2021

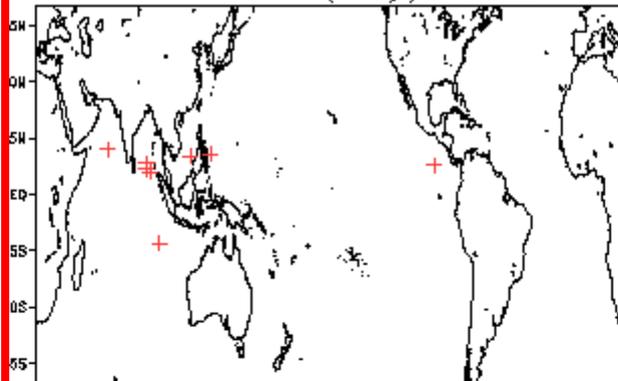


# May Tropical Storm Formation by MJO phase

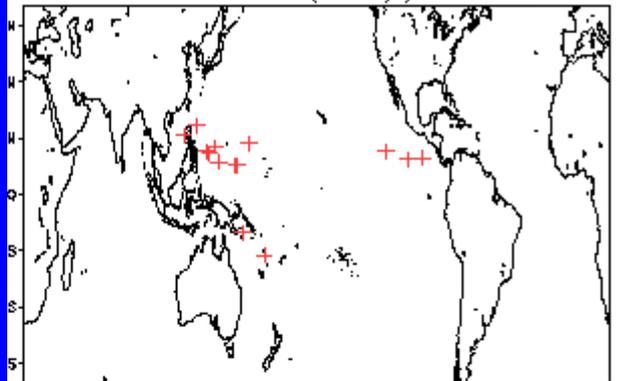
Phase 1 (85 days) 7 storms



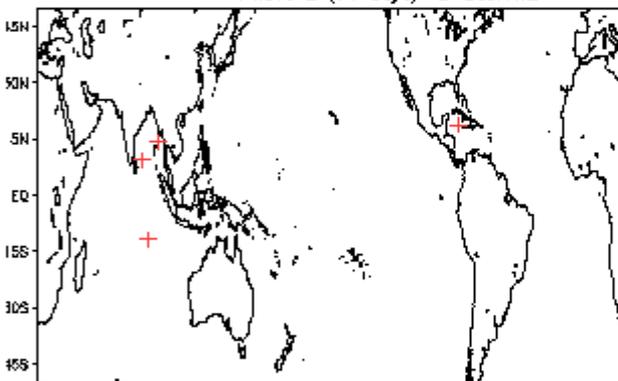
Phase 4 (85 days) 9 storms



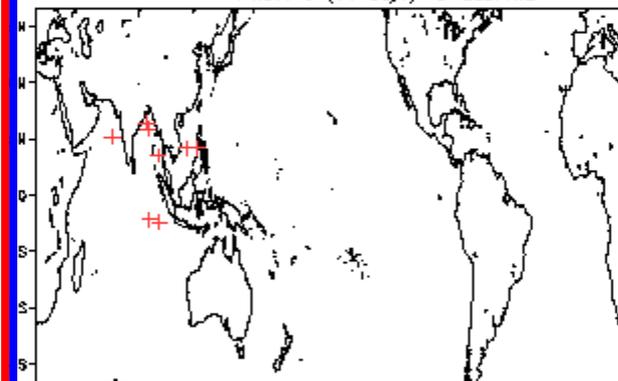
Phase 7 (111 days) 15 storms



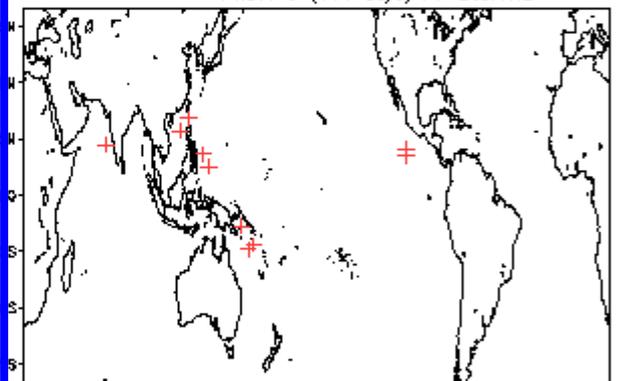
Phase 2 (76 days) 5 storms



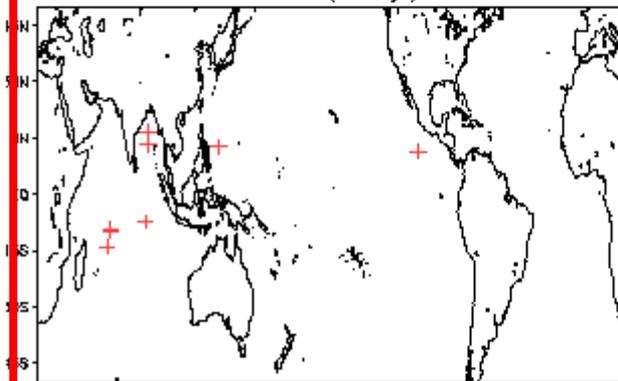
Phase 5 (86 days) 9 storms



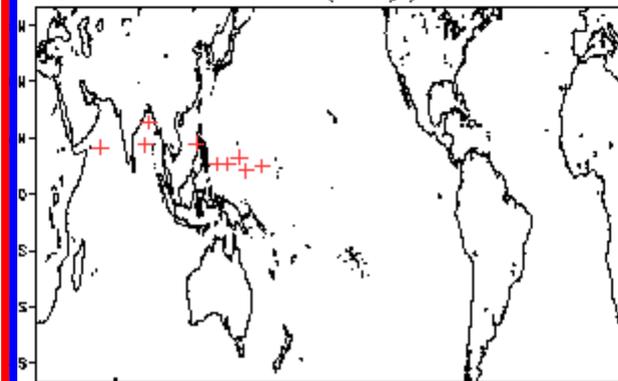
Phase 8 (111 days) 11 storms



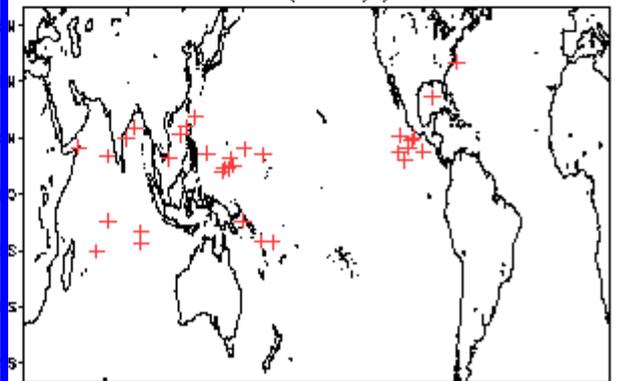
Phase 3 (73 days) 9 storms



Phase 6 (87 days) 10 storms



Null (349 days) 33 storms





# Five-Day Graphical Tropical Weather Outlook

National Hurricane Center Miami, Florida



8:00 am EDT  
Tue May 18 2021

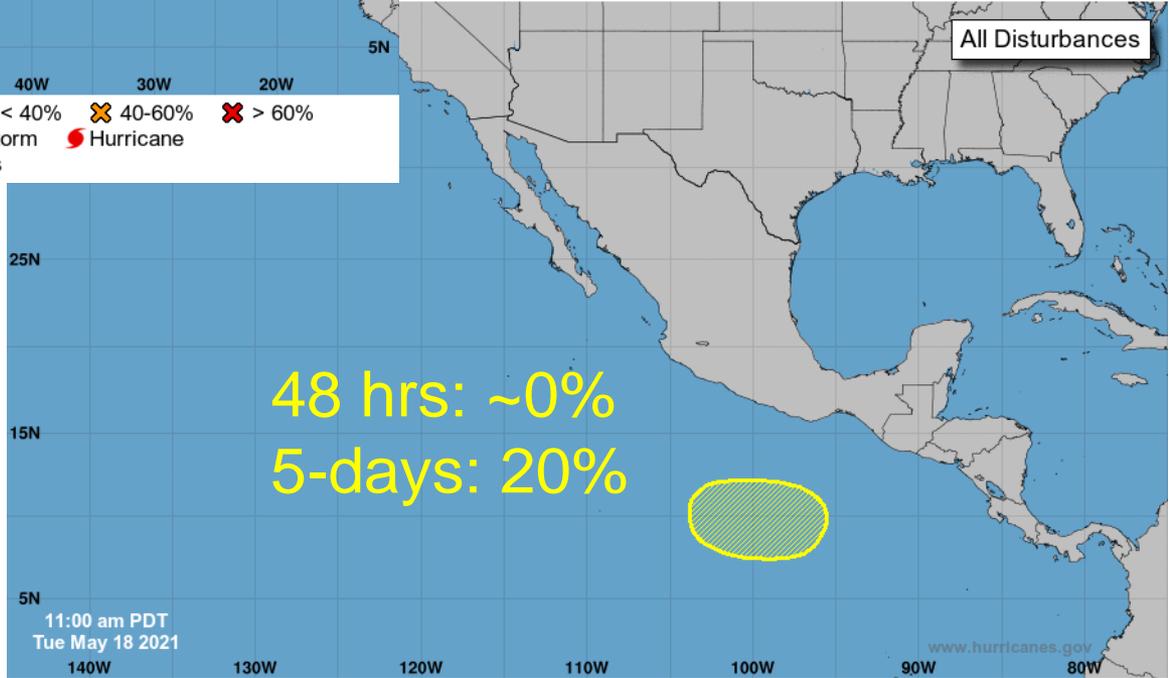
Current Disturbances and Five-Day Cyclone Formation Chance: < 40% 40-60% > 60%

Tropical or Sub-Tropical Cyclone: Depression Storm Hurricane

Post-Tropical Cyclone or Remnants

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National Hurricane Center Miami, Florida



11:00 am PDT  
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Storm Track Density Distribution, IC=20210517  
 Week 1 Forecast: 0519-0525

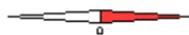
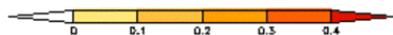
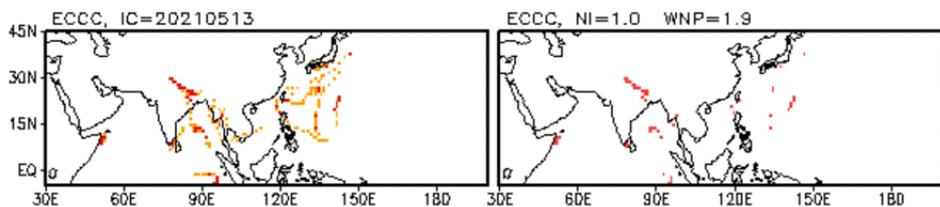
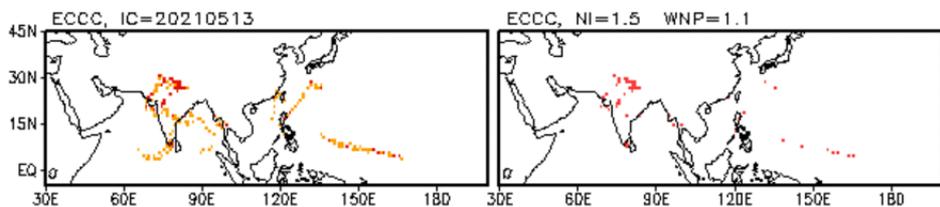
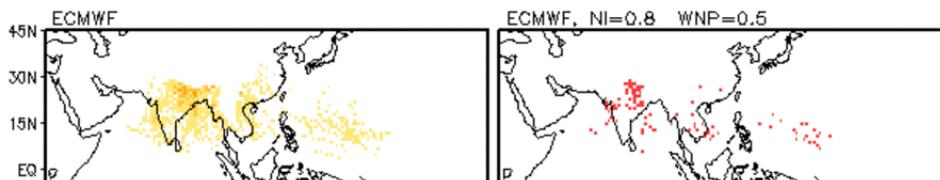
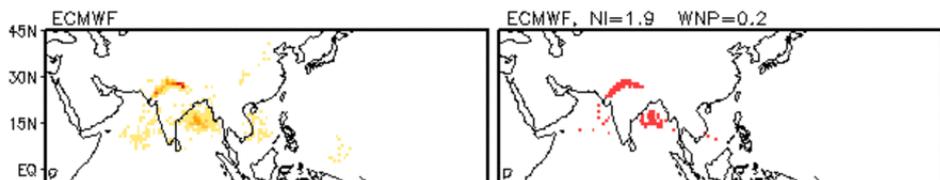
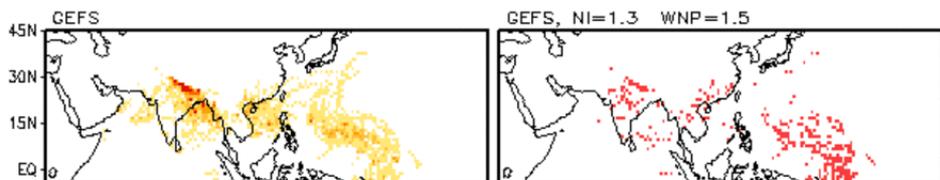
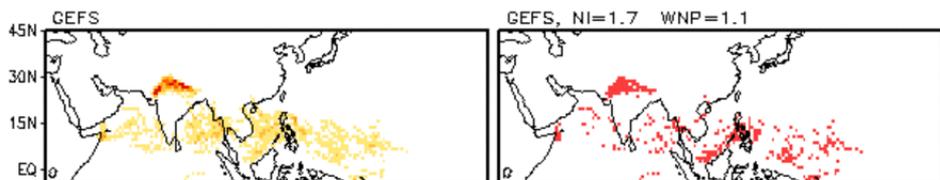
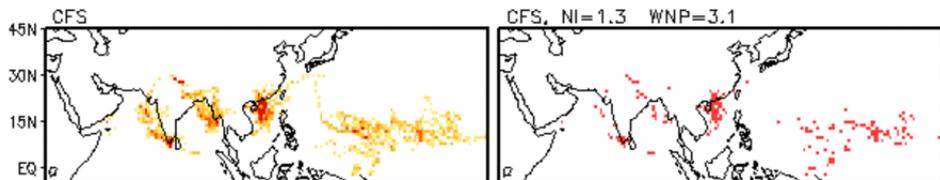
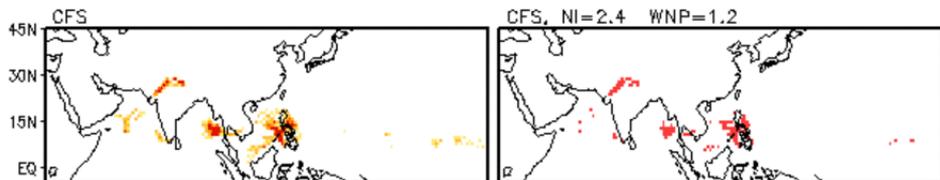
Storm Track Density Distribution, IC=20210517  
 Week 2 Forecast: 0526-0601

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Storm Track Density Distribution, IC=20210517  
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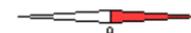
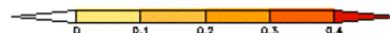
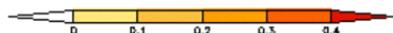
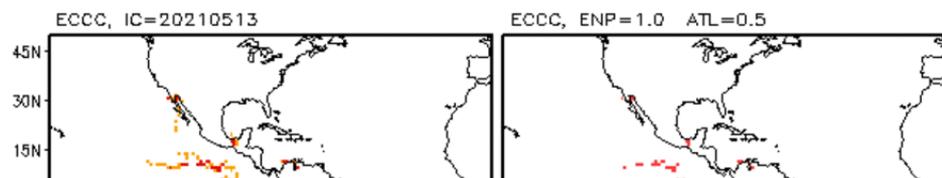
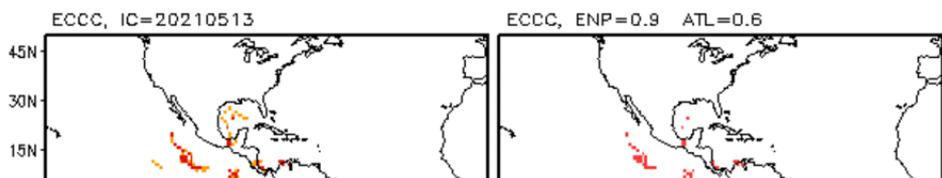
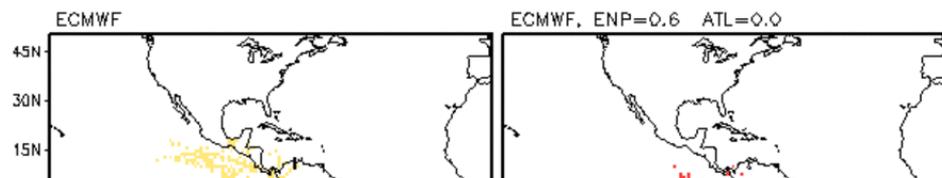
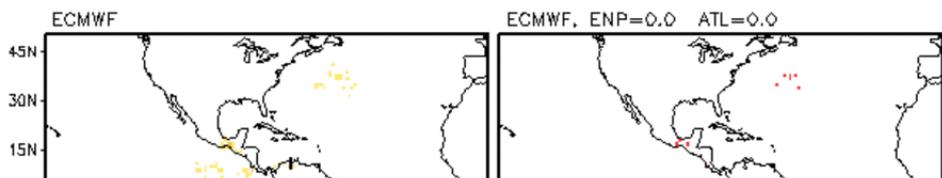
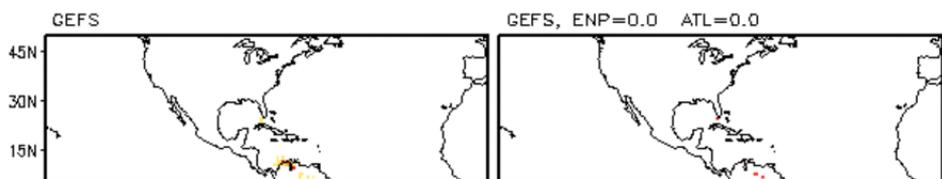
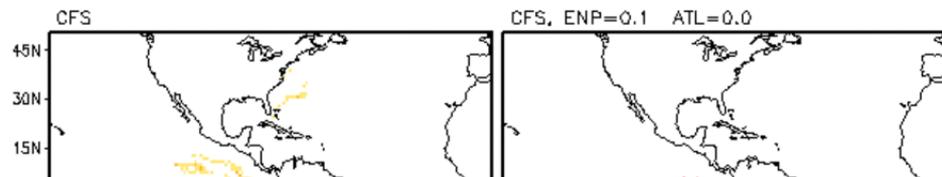
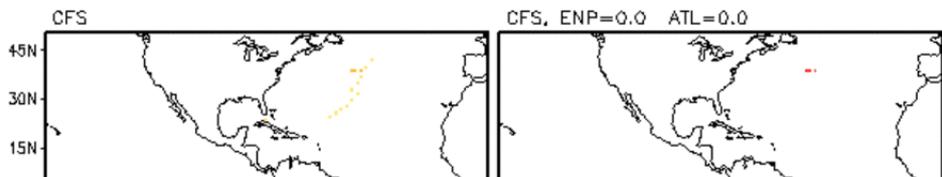
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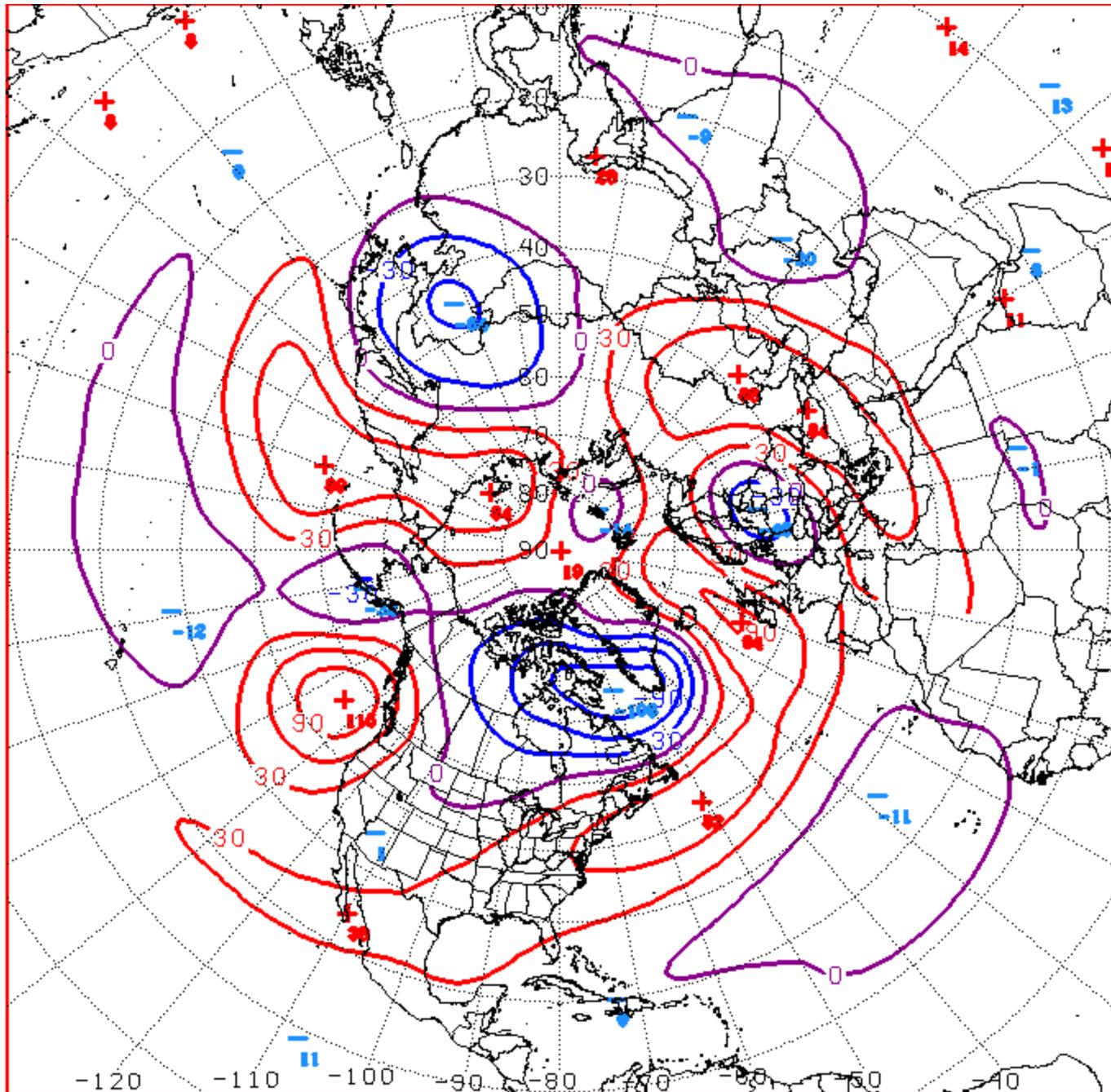
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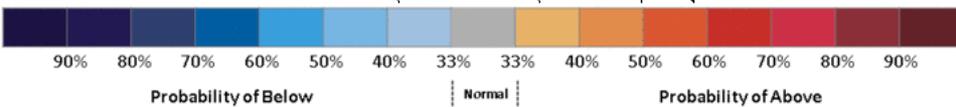
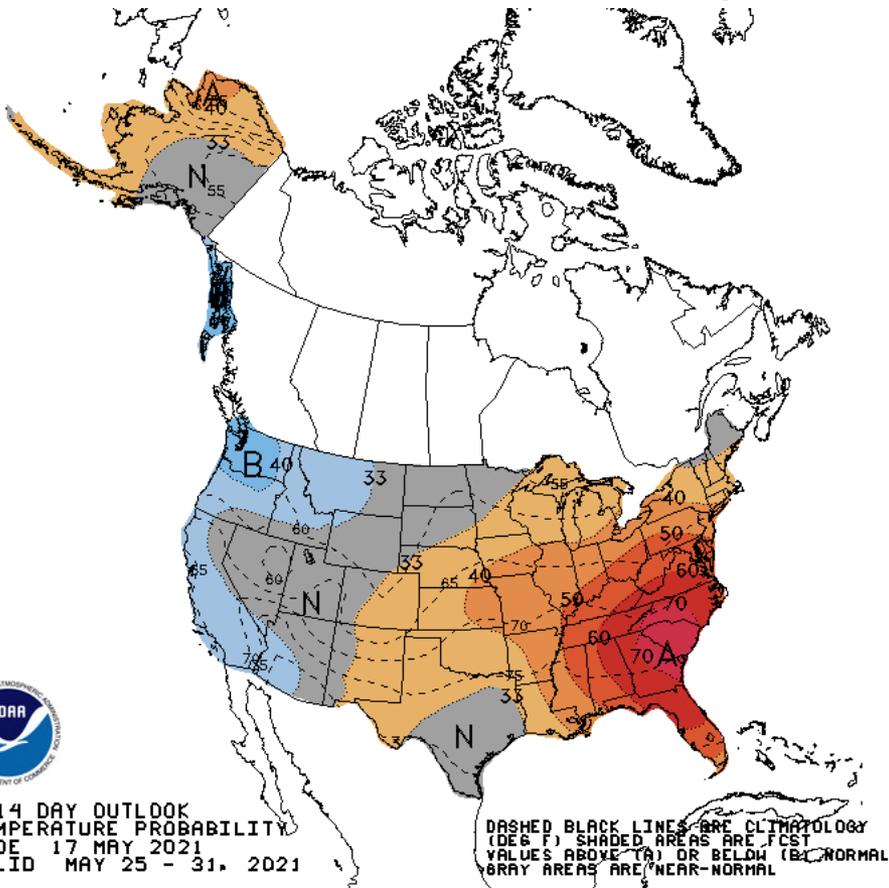


# Connections to U.S. Impacts



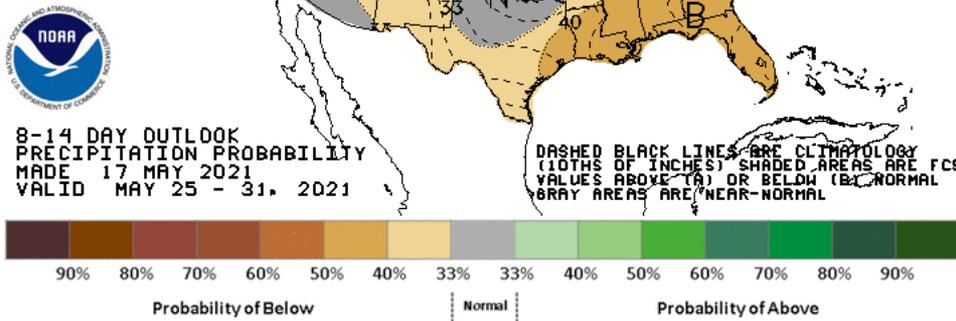
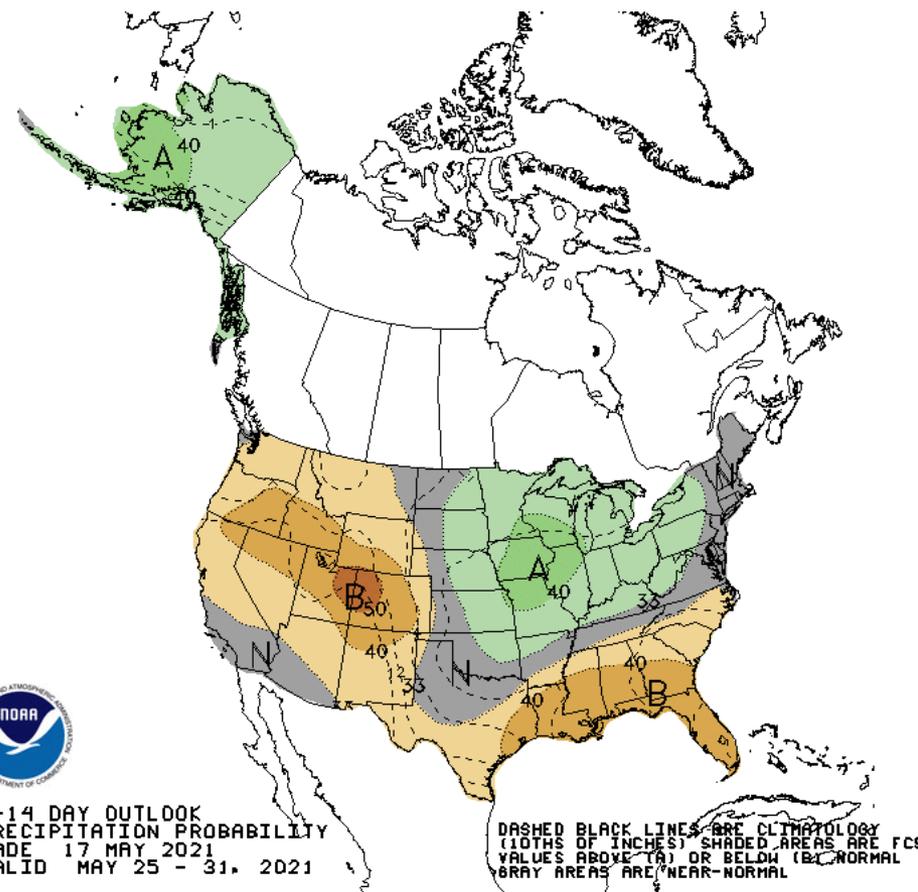
D+11 500 MB ANOMALIES FROM 00Z ECMM  
CPC MAP MADE MAY 18 2021 0922 UTC CNTD MAY 29 2021

# Week 2 – Temperature and Precipitation



Below-normal temperatures are likely to shift inland, with above-normal temperatures favored for West Coast.

Precipitation should look similar today.

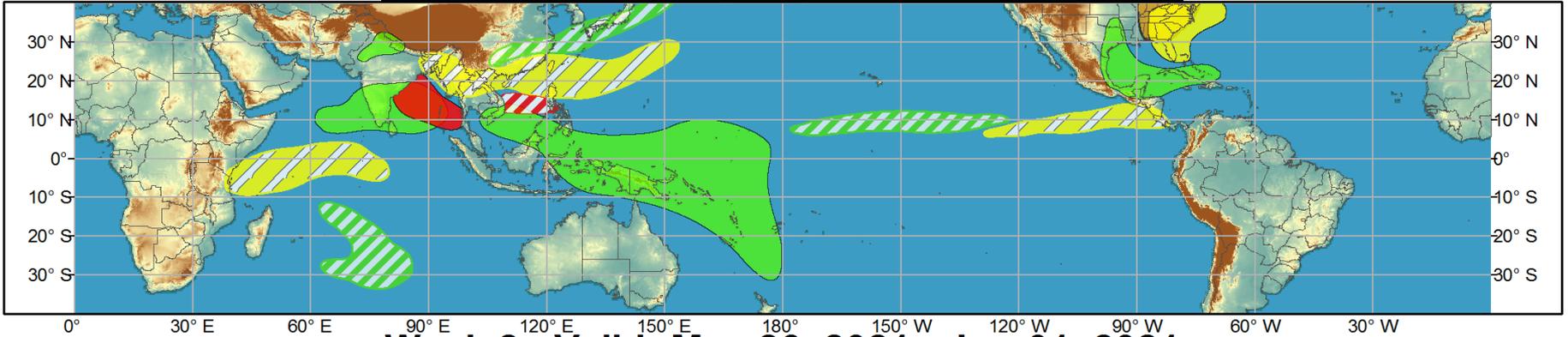




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