

Global Tropics Hazards And Benefits Outlook

7/19/2022

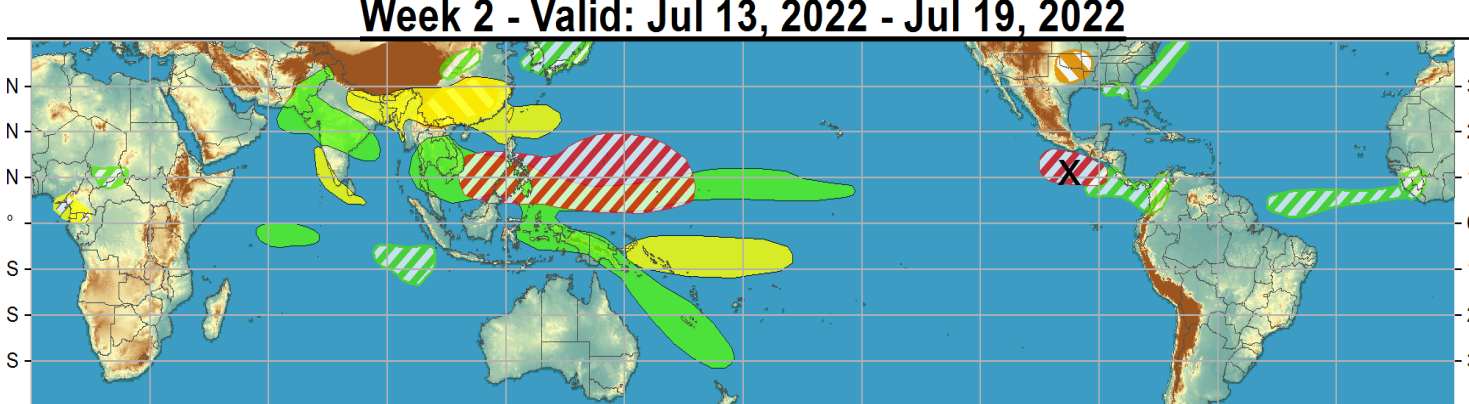
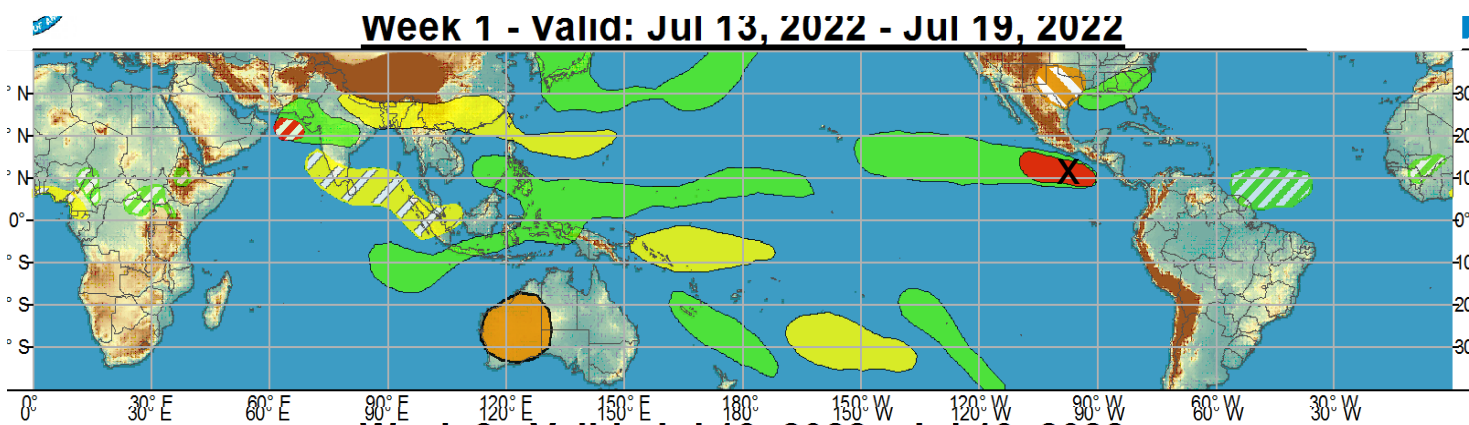
Nick Novella

Outline

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

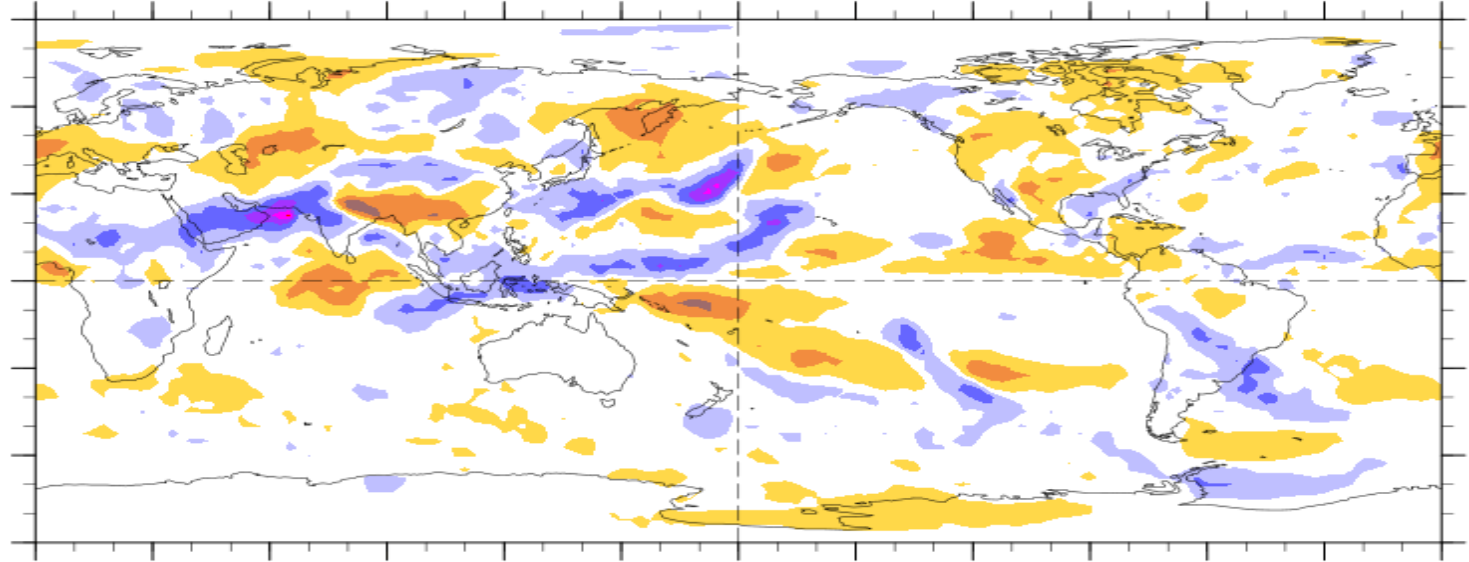
Outlook Review

x: Estelle (7/15)



7-Day Average OLR Anomaly

2022/07/11 - 2022/07/17



Cool shading
More clouds/rain

Warm shading
Less clouds/rain

Synopsis of Climate Modes

ENSO: (July 14, 2022 Update)

next update on Thursday, August 11th

- ENSO Alert System Status: [La Niña Advisory](#)
- La Niña is favored to continue through 2022 with the odds for La Niña decreasing into the Northern Hemisphere late summer (60% chance in JAS), before increasing through the Northern Hemisphere fall and early winter (62-66% chance)

MJO and other subseasonal tropical variability:

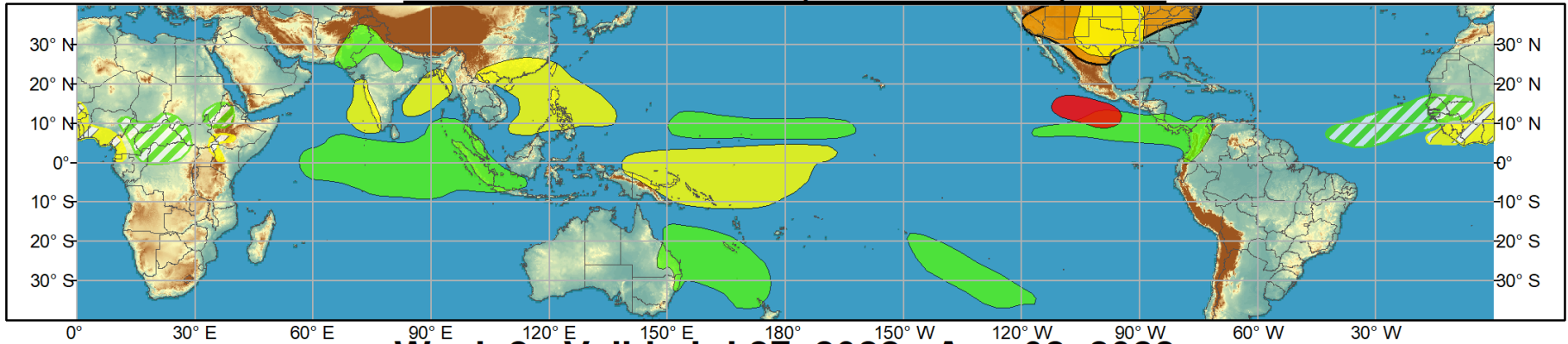
- The enhanced phase of the MJO stalled over the Maritime Continent, where constructive interference with the ongoing La Niña led to an enhanced trade wind regime over the equatorial Pacific during the last couple of weeks.
- Dynamical models have come into better agreement favoring renewed eastward propagation of the intraseasonal signal, with a more coherent MJO potentially emerging over the Western Hemisphere during the next two weeks.
- Combined with Kelvin and Rossby wave activity forecast, environmental conditions are expected to be favorable for tropical cyclone formation over the western and eastern Pacific through the end of July.



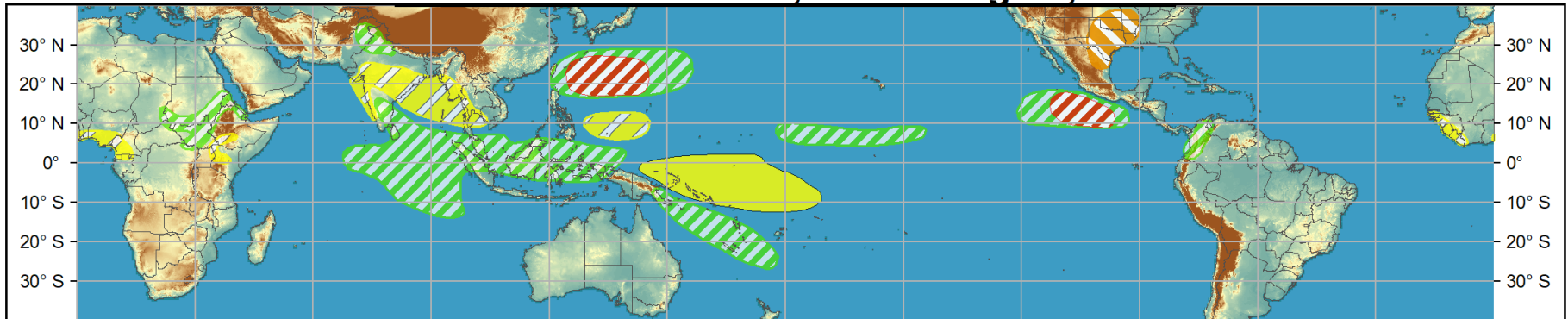
Global Tropics Hazards and Benefits Outlook - Climate Prediction Center



Week 1 - Valid: Jul 20, 2022 - Jul 26, 2022



Week 2 - Valid: Jul 27, 2022 - Aug 02, 2022



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.
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- Above-normal temperatures** 7-day mean temperatures in the upper third of the historical range.
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Produced: 07/19/2022

Forecaster: Novella

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IR Satellite & 200-hpa Velocity Potential Anomalies

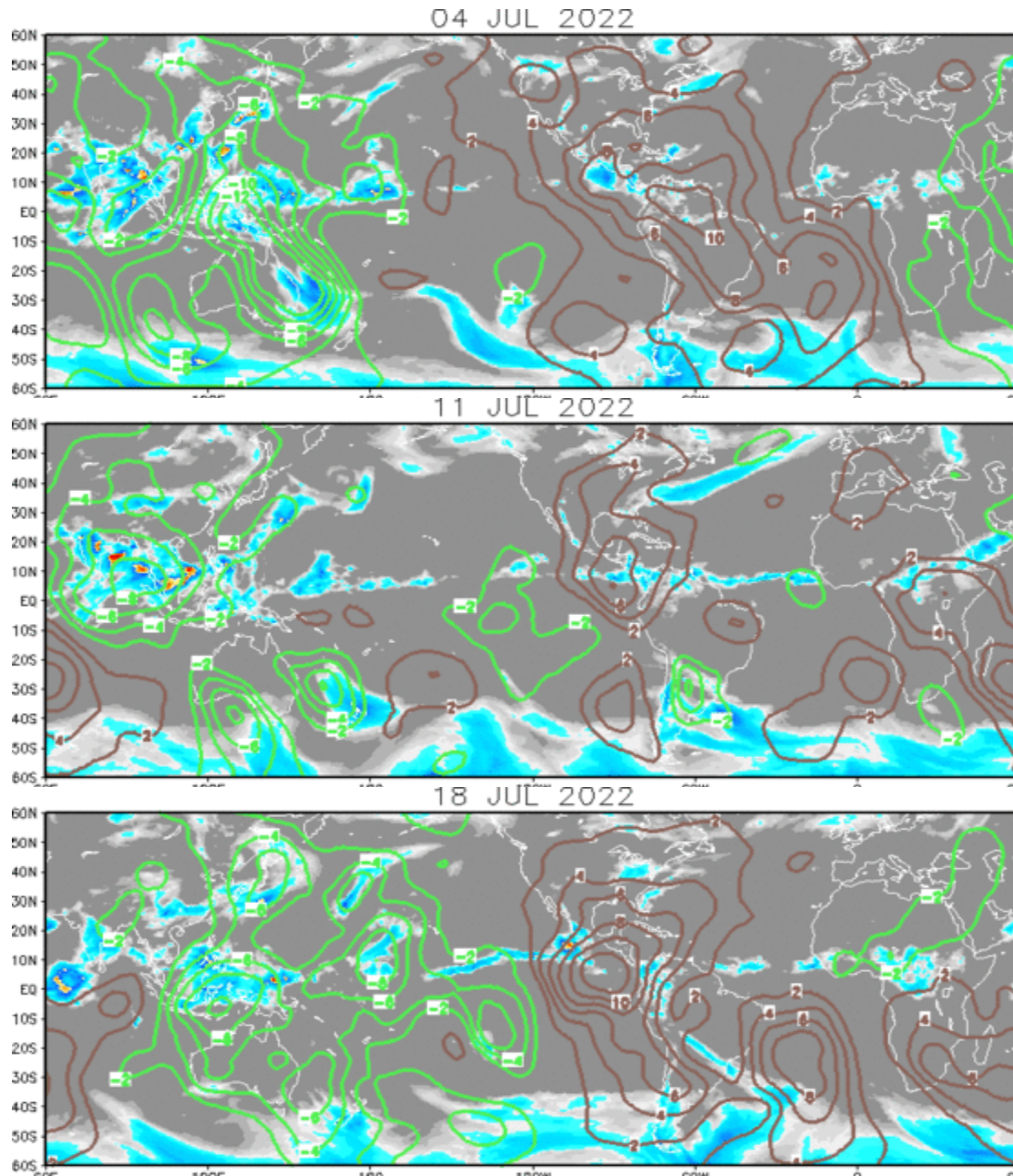
Green: Enhanced Divergence

Brown: Enhanced Convergence

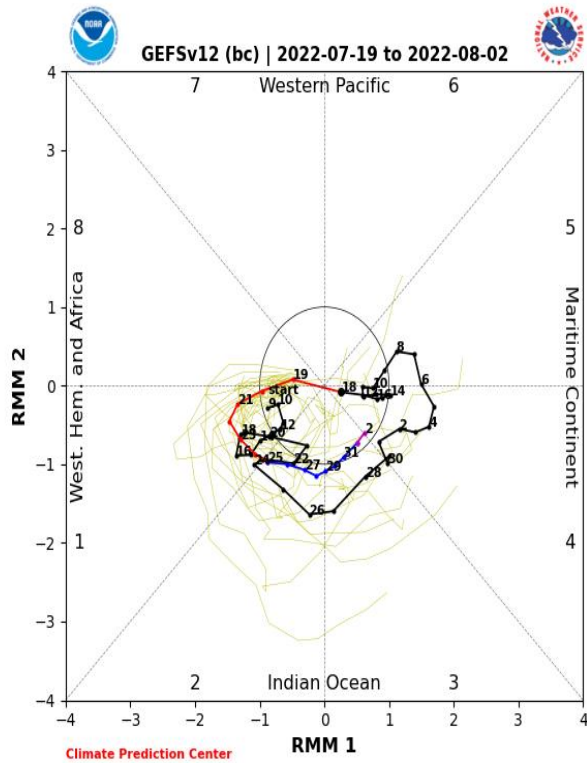
Eastward propagation of MJO was evident from late June into early July

Upper-level pattern become more incoherent as it enhanced convection stalled over the Maritime Continent.

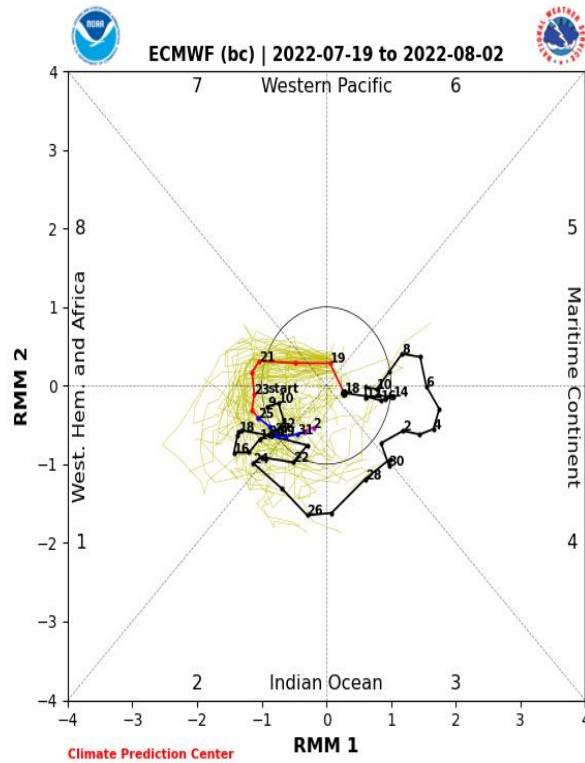
The leading edge of the enhanced envelope shifted eastward beyond the Date Line recently, suggestive of renewed eastward propagation of the MJO signal.



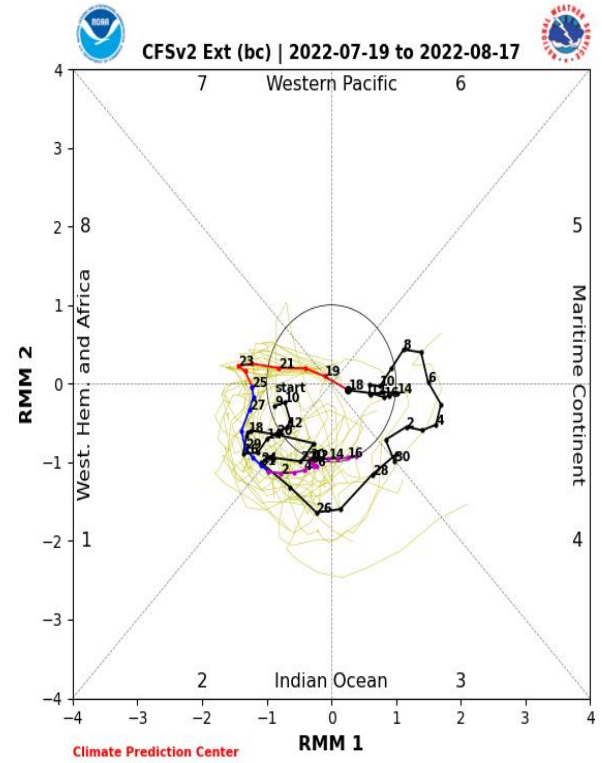
MJO Observation/Forecast



GEFS



ECMWF

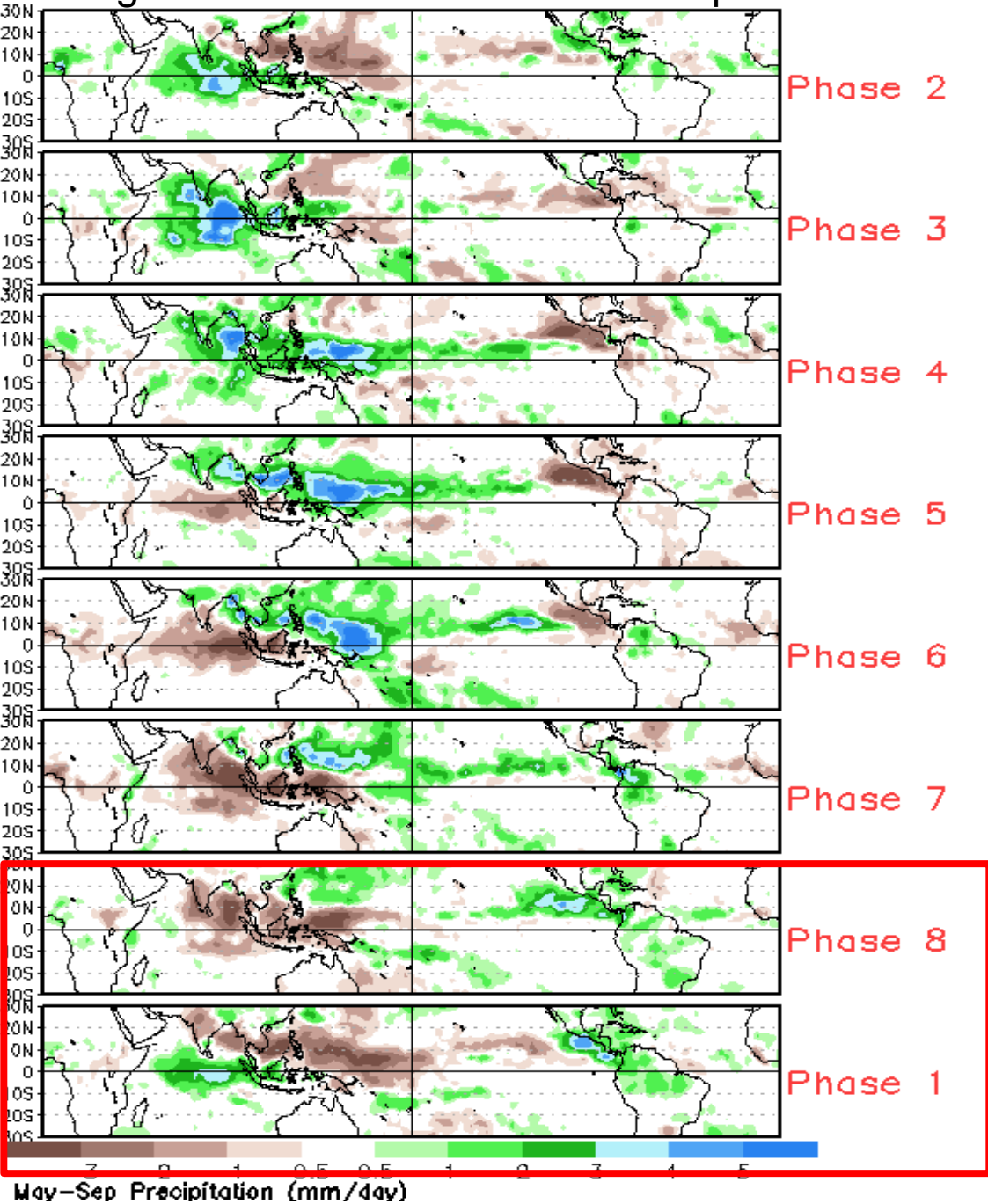


CFSv2

Dynamical models have come into better agreement depicting renewed eastward propagation of the signal over the western Pacific at a low amplitude, followed by a more coherent MJO potentially emerging over the Western Hemisphere and Africa during the next two weeks.

Compared to the ECMWF and BOM (not featured), the GEFS based RMM forecast has not shown good continuity during the past week, and is now more progressive with the signal.

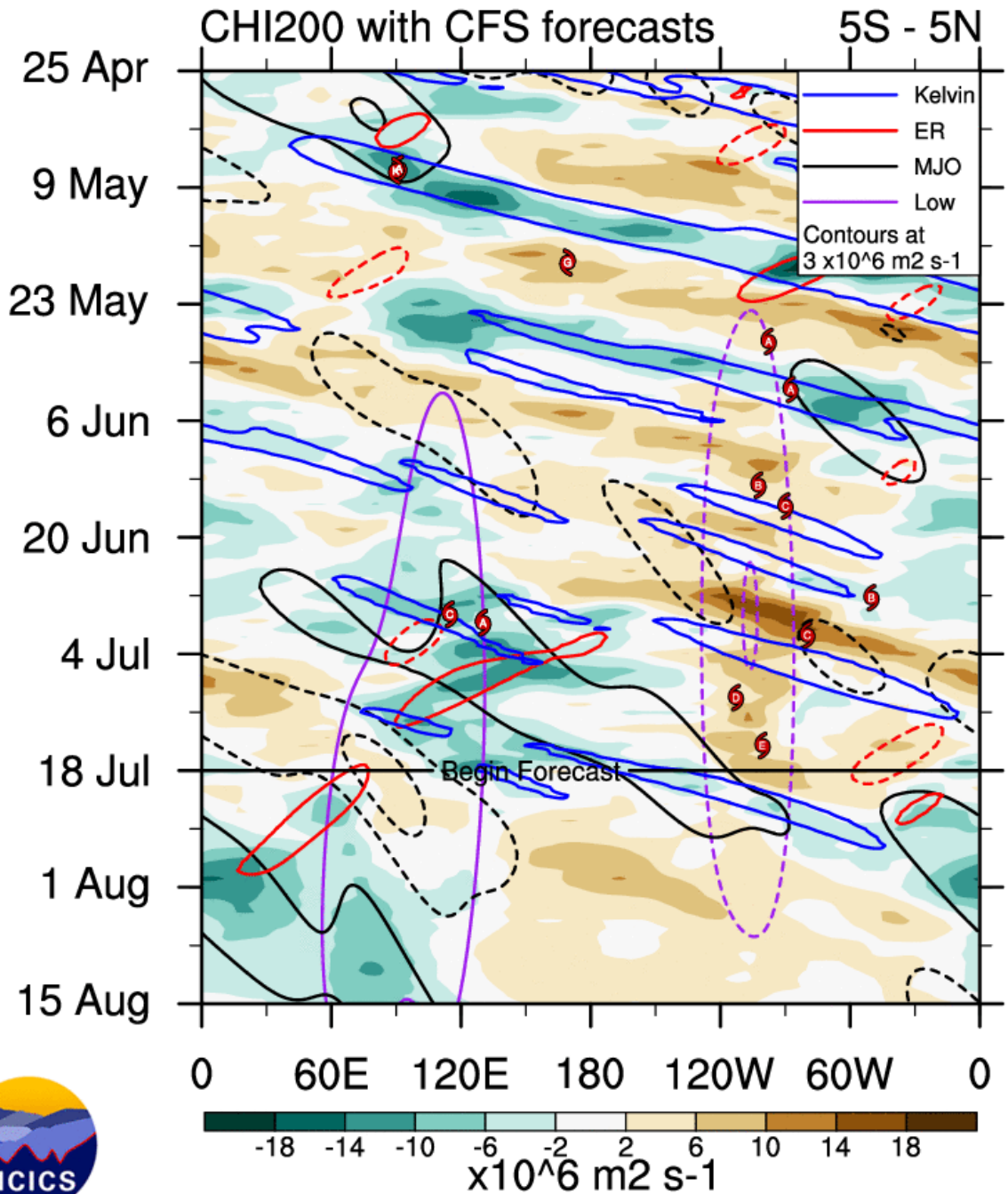
Average Conditions when the MJO is present



CAVEAT: These panels are representative of robust MJO events.

MJO and **Kelvin** wave activity is depicted in the filtering over the central Pacific recently.

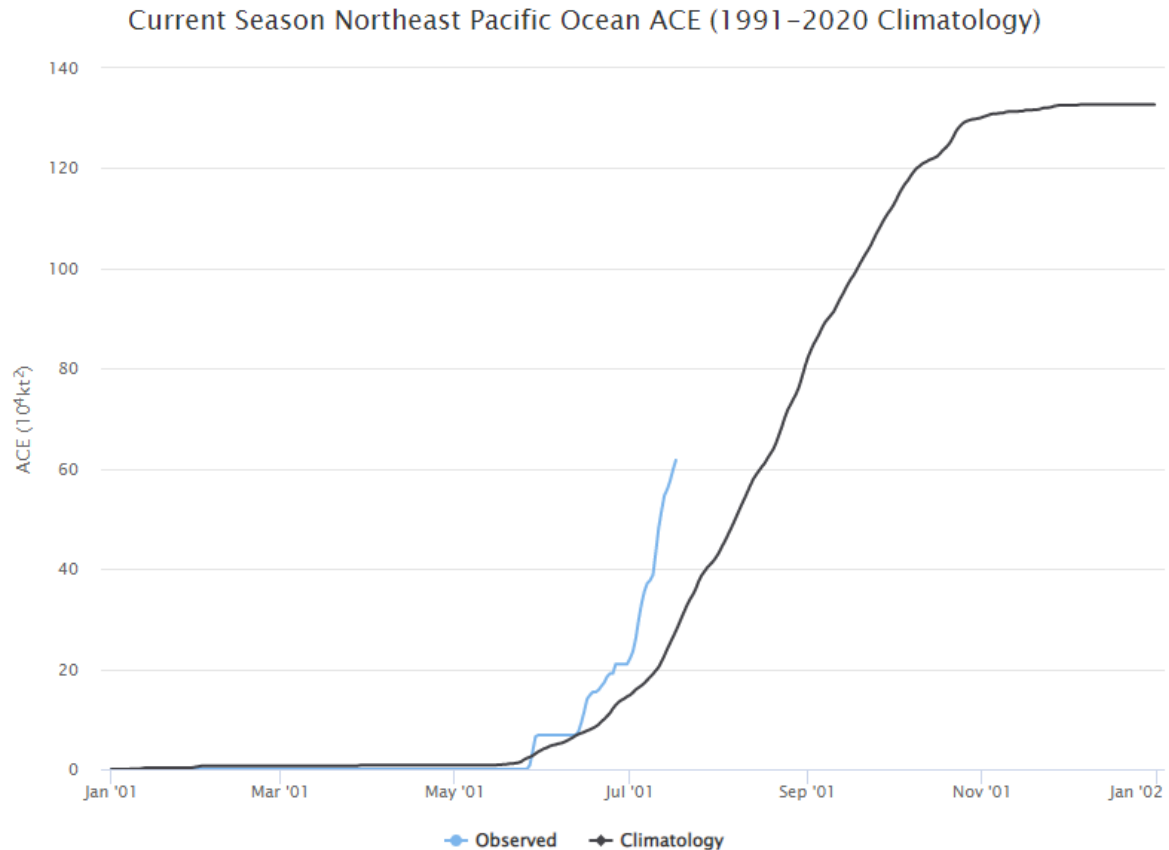
Low Frequency activity is apparent over the Maritime Continent. Despite the opposing signals over the eastern Pacific, a series of **Kelvin** waves contributed to tropical cyclone development in the basin.



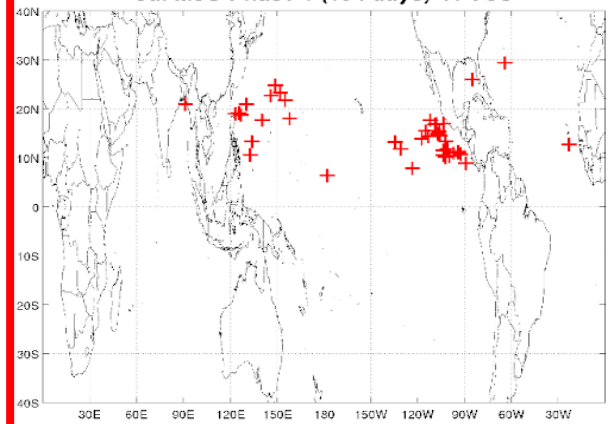
Year	<u>Storm#</u>	Name	<u>Dates TC Active</u>	<u>Max Wind (kts)</u>	<u>MSLP (mb)</u>	<u>Named Storm Days</u>	<u>Hurricane Days</u>	<u>Major Hurricane Days</u>	<u>Accumulated Cyclone Energy</u>
2022	1	AGATHA	5/28-5/31	95	964	3.25	2.00	0.00	6.8
2022	2	BLAS	6/14-6/20	75	980	6.00	2.75	0.00	8.4
2022	3	CELIA	6/17-6/28	55	993	7.25	0.00	0.00	5.9
2022	4	BONNIE	7/1-7/9	100	964	8.00	4.75	0.50	16.5
2022	5	DARBY	7/9-7/17	120	954	7.50	4.50	1.75	19.0
2022	6	ESTELLE	7/16-7/19	75	984	3.75	2.25	0.00	6.0

All columns that are underlined are sortable.

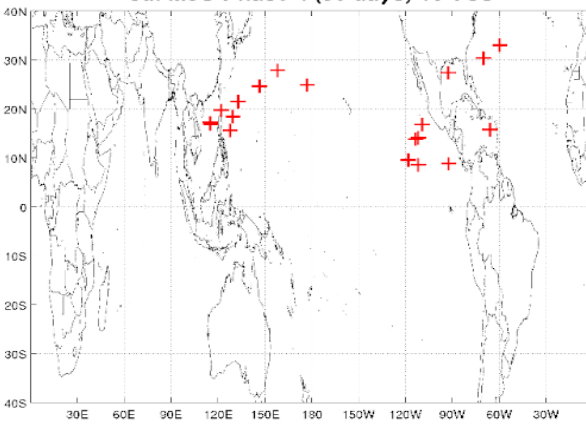
TCs Darby and Bonnie contributed ~27% of total clim ACE in EPAC. With Estelle now piling on, basin also looks to remain active in outlook.



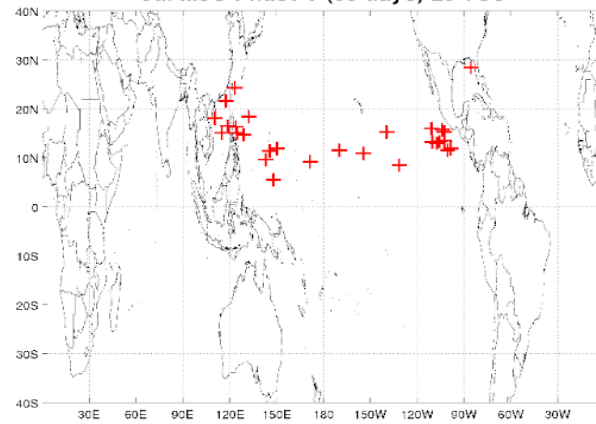
Jul MJO Phase 1 (154 days) 41 TCs



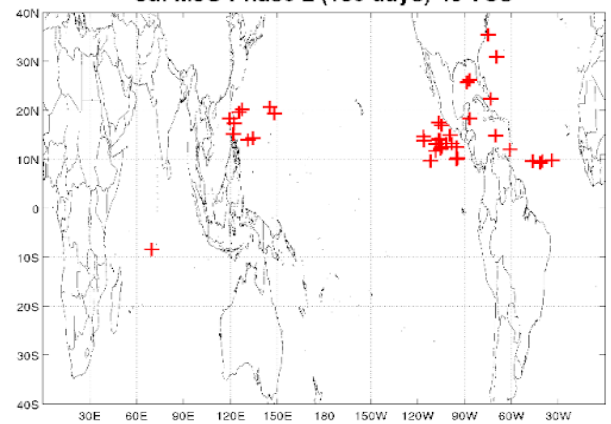
Jul MJO Phase 4 (56 days) 19 TCs



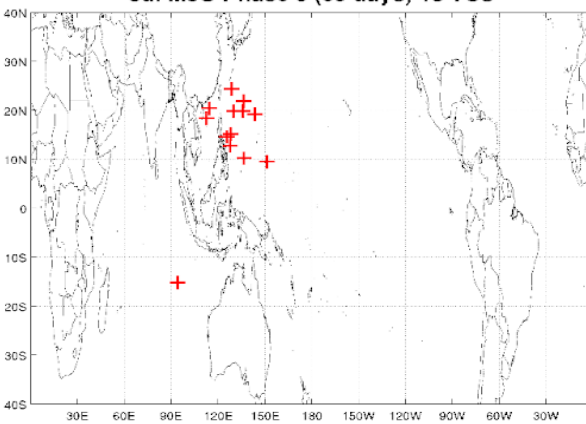
Jul MJO Phase 7 (83 days) 28 TCs



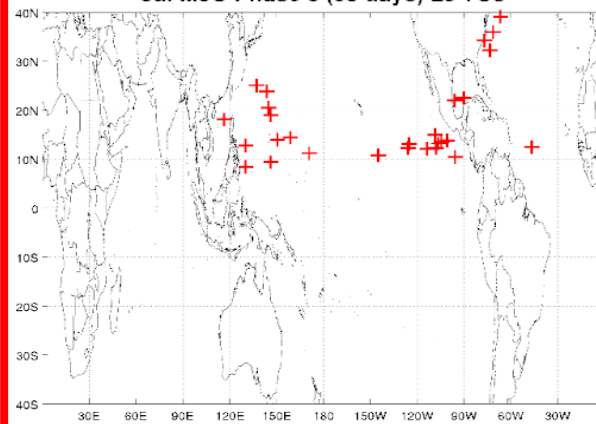
Jul MJO Phase 2 (136 days) 40 TCs



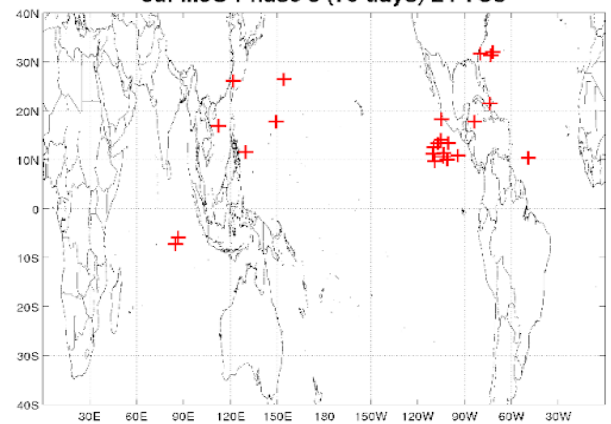
Jul MJO Phase 5 (65 days) 13 TCs



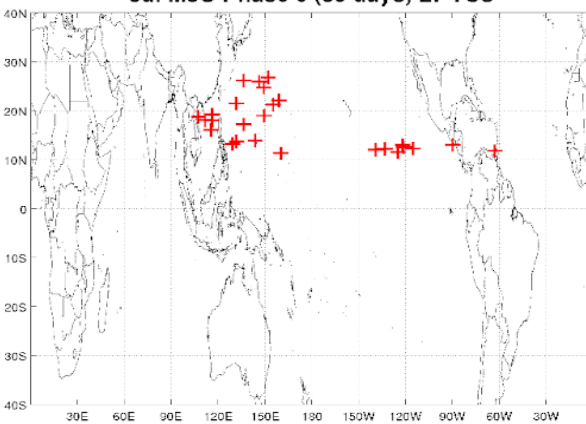
Jul MJO Phase 8 (58 days) 28 TCs



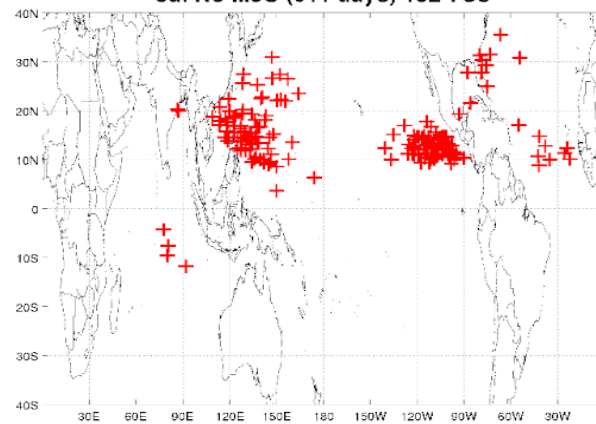
Jul MJO Phase 3 (79 days) 24 TCs



Jul MJO Phase 6 (85 days) 27 TCs



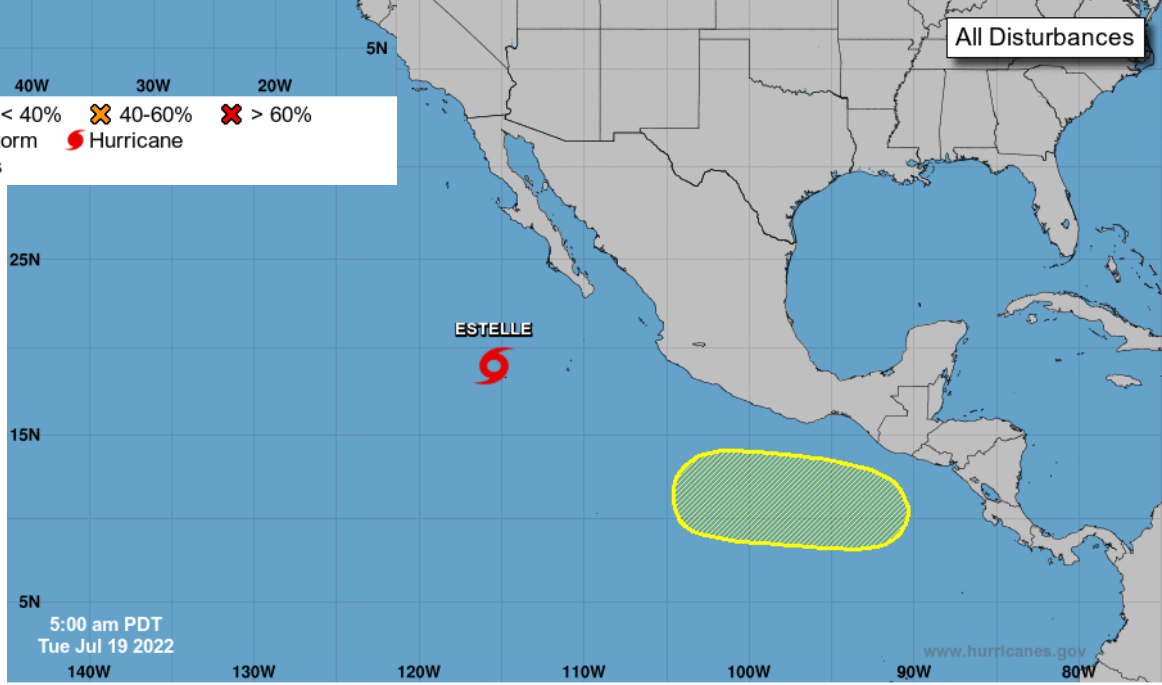
Jul No MJO (611 days) 182 TCs





8:00 am EDT
Tue Jul 19 2022

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

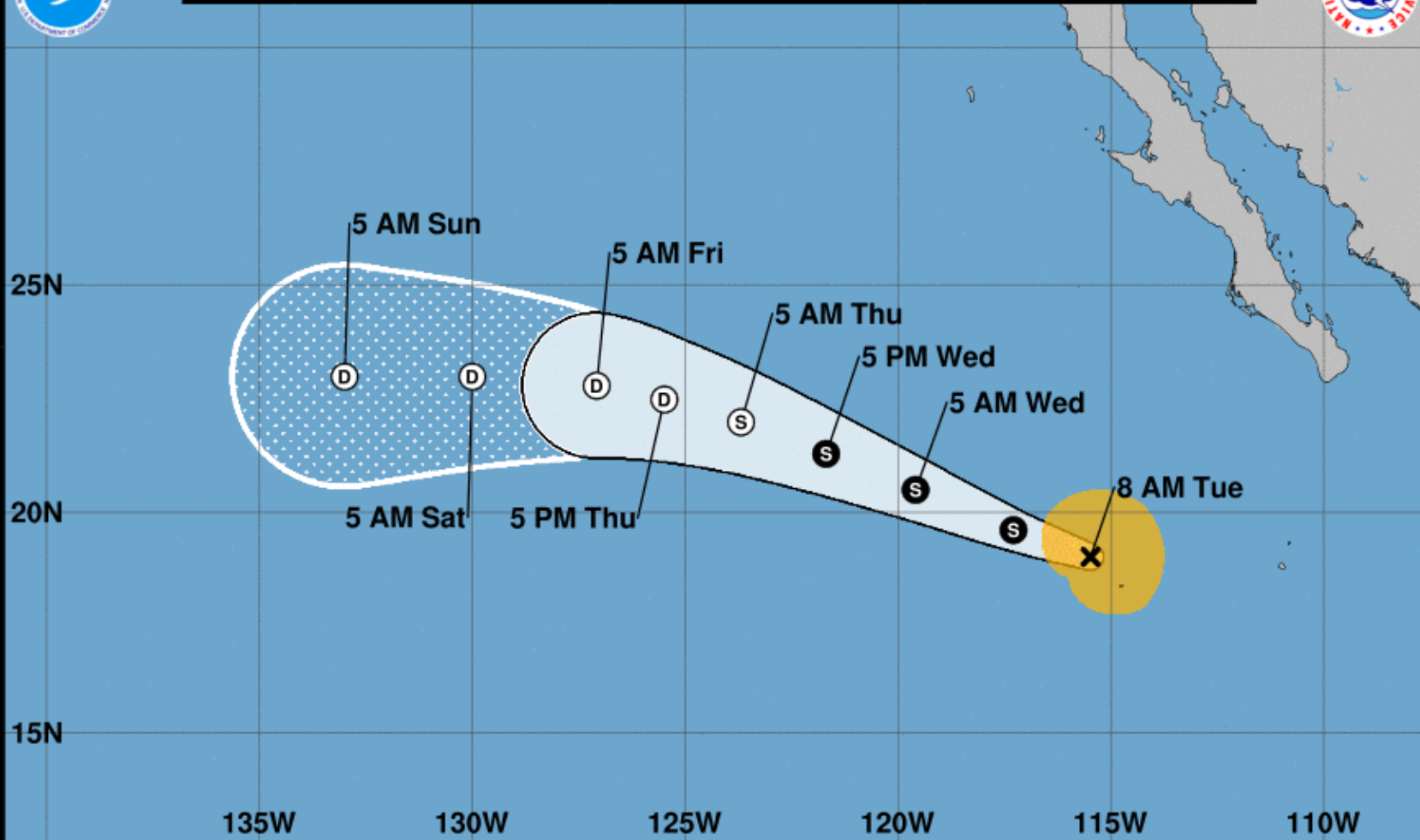
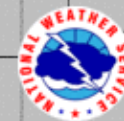


5:00 am PDT
Tue Jul 19 2022

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



Note: The cone contains the probable path of the storm center but does not show the size of the storm. Hazardous conditions can occur outside of the cone.



Tropical Storm Estelle

Tuesday July 19, 2022
 8 AM PDT Advisory 17
 NWS National Hurricane Center

Current information: x

Center location 19.0 N 115.5 W
 Maximum sustained wind 65 mph
 Movement WNW at 12 mph

Forecast positions:

● Tropical Cyclone ○ Post/Potential TC
 Sustained winds: D < 39 mph
 S 39-73 mph H 74-110 mph M > 110 mph

Potential track area:

Day 1-3 Day 4-5

Watches:

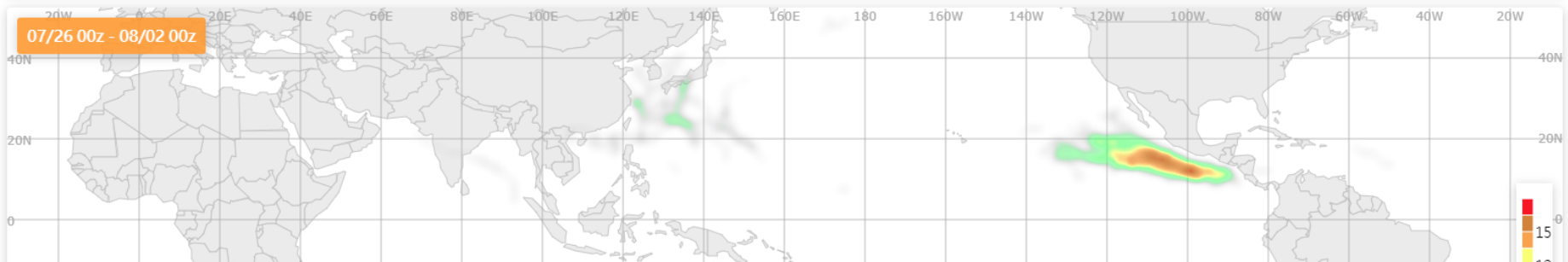
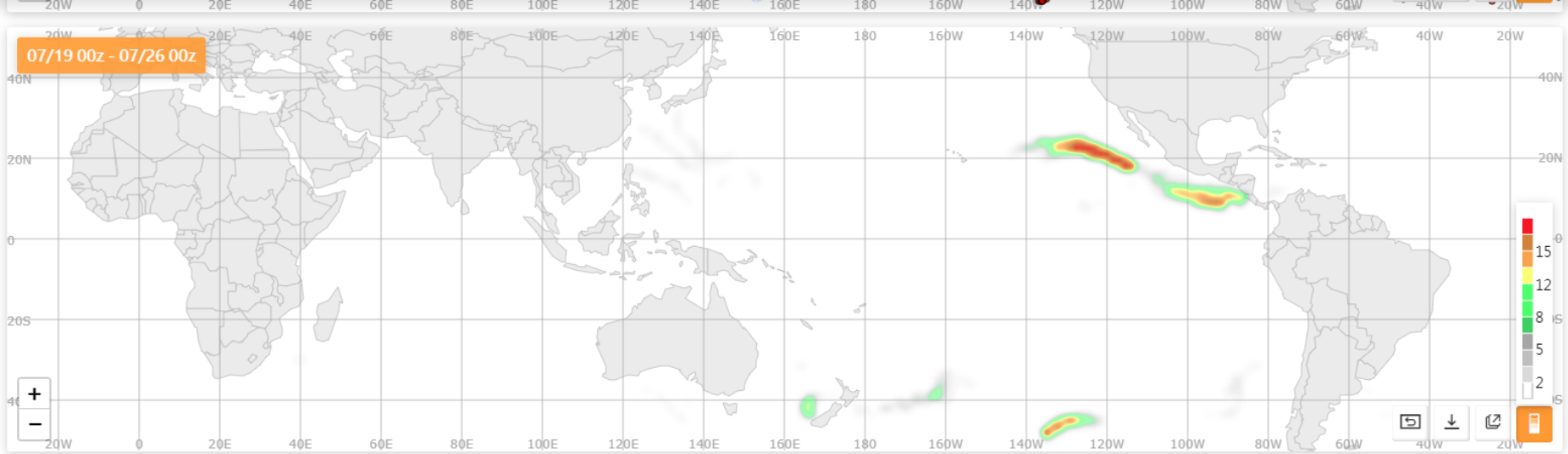
Hurricane Trop Stm

Warnings:

Hurricane Trop Stm

Current wind extent:

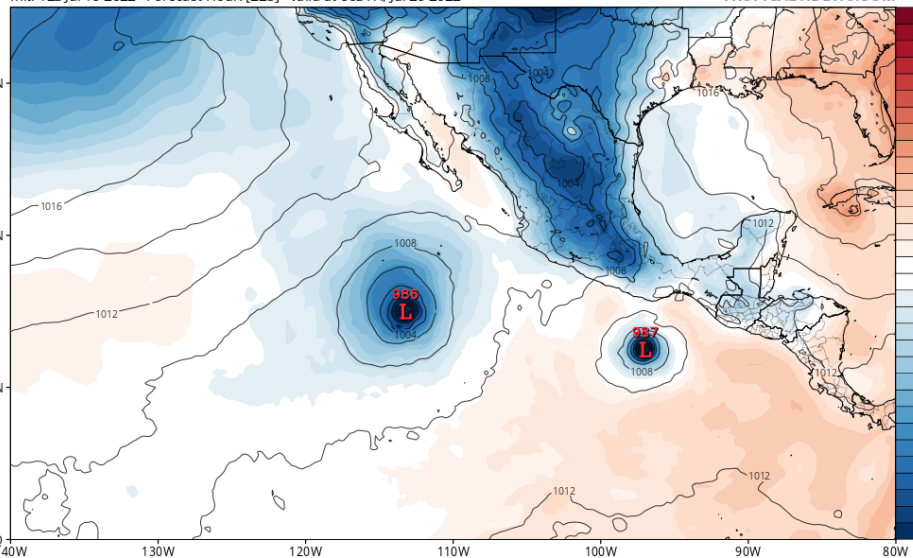
Hurricane Trop Stm



GFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 12z Jul 19 2022 Forecast Hour: [228] valid at 00z Fri, Jul 29 2022

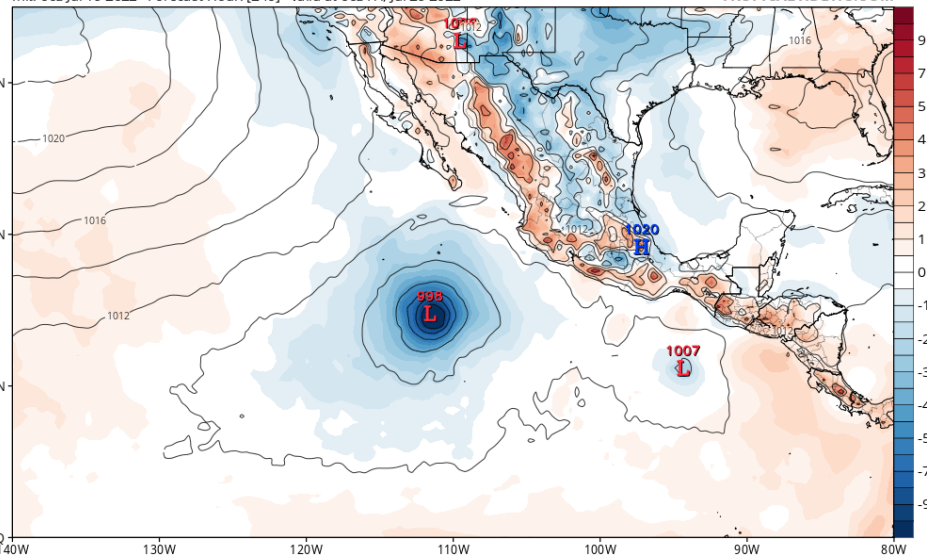
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ECMWF MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 00z Jul 19 2022 Forecast Hour: [240] valid at 00z Fri, Jul 29 2022

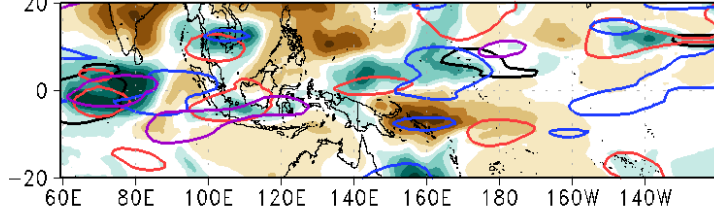
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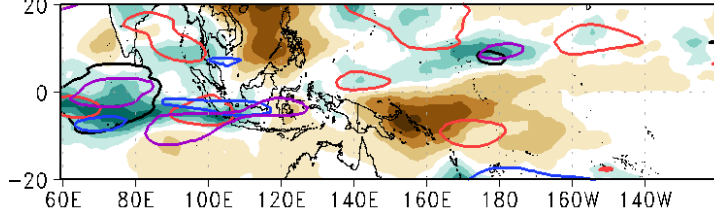
OLR 3-Day Means

19Jul to 21Jul

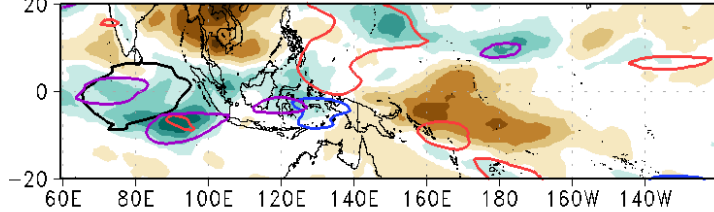
ECMWF Forecast



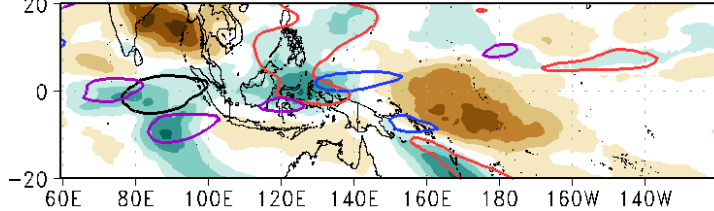
22Jul to 24Jul



25Jul to 27Jul



28Jul to 30Jul

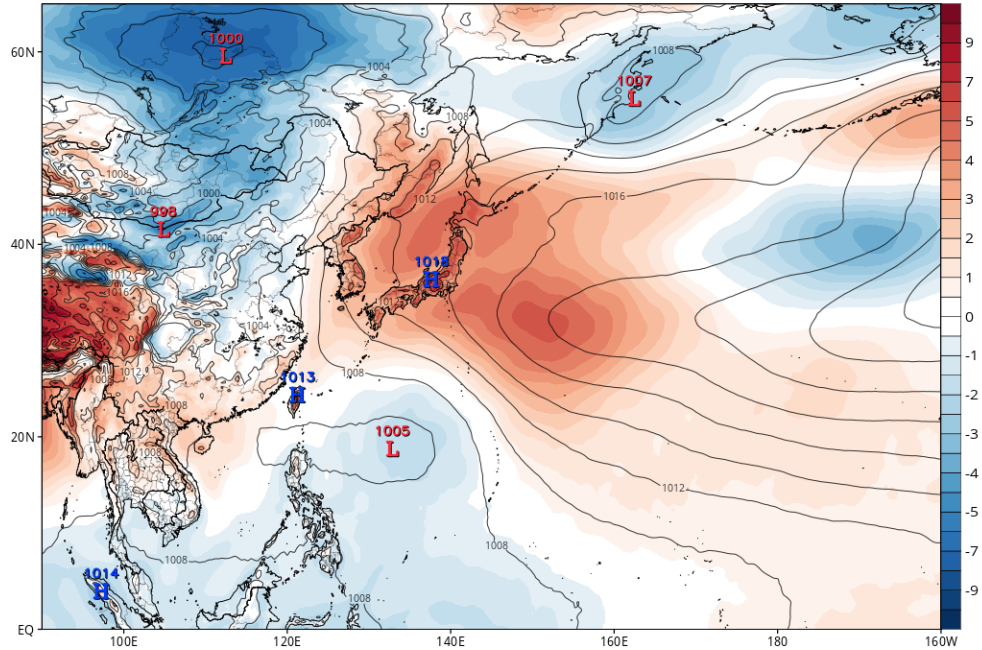


— MJO — Kelvin*2
 — Low — ER
 Contours at -12, -36 W m⁻²

EPS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 00z Jul 19 2022 Forecast Hour: [210] valid at 18z Wed, Jul 27 2022

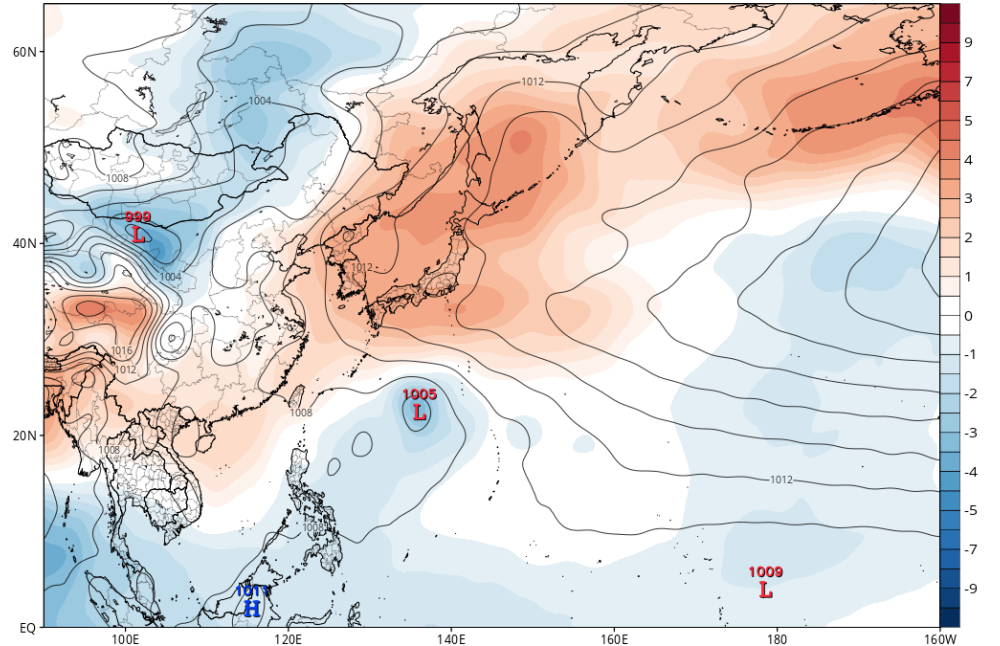
TROPICALTIDBITS.COM



GEFS MSLP and Anomaly (hPa) (based on CFSR 1981-2010 Climatology)

Init: 00z Jul 19 2022 Forecast Hour: [240] valid at 00z Fri, Jul 29 2022

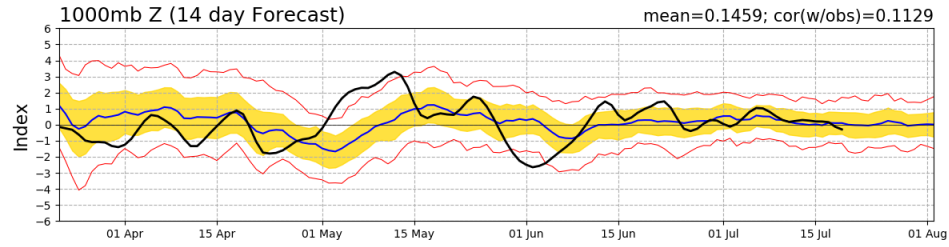
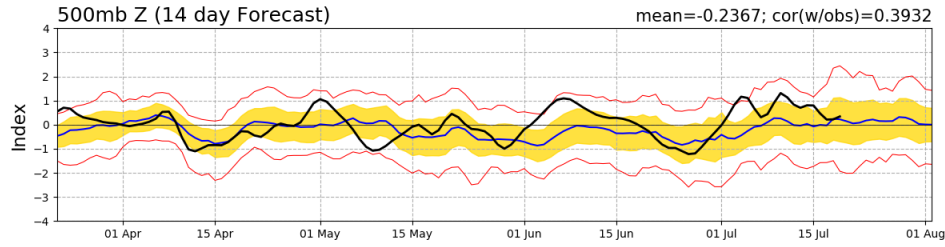
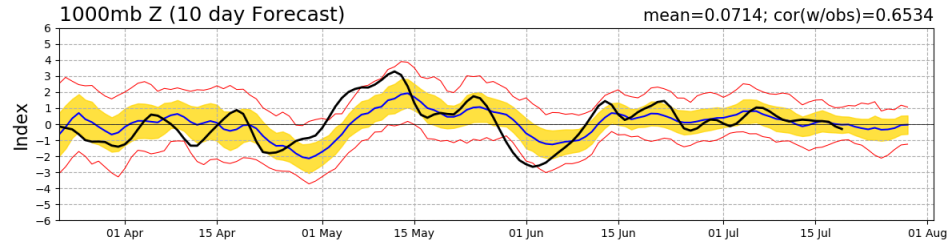
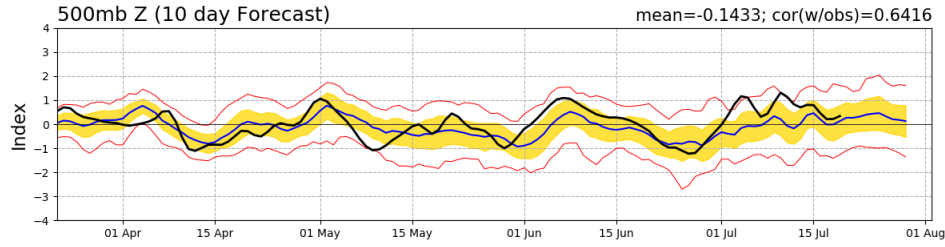
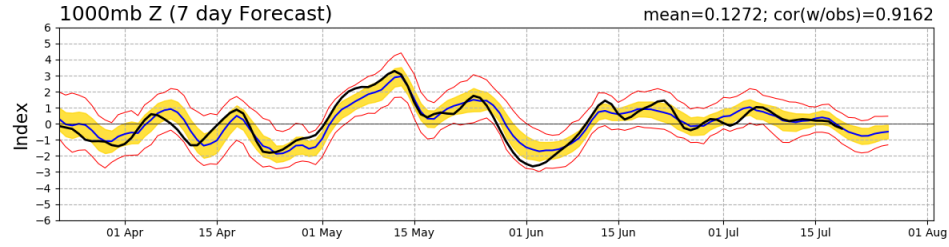
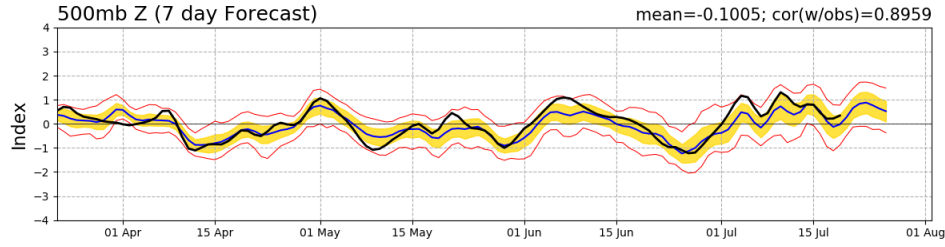
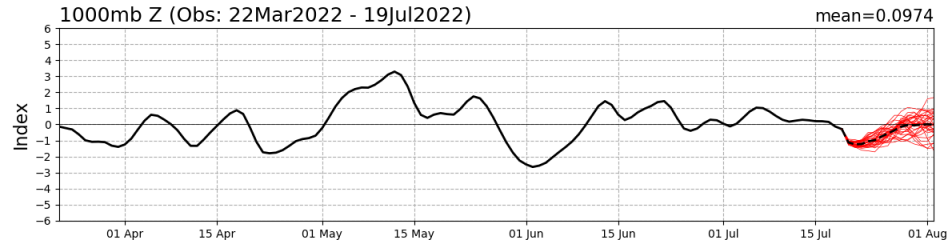
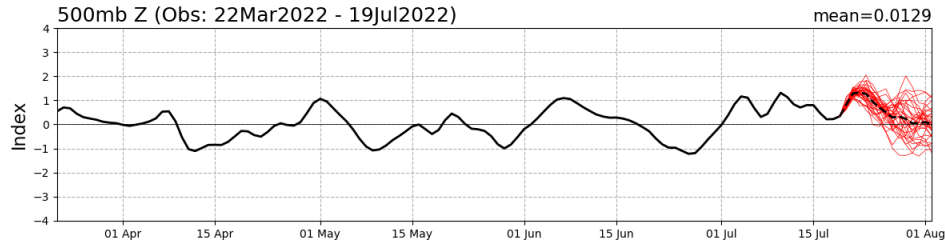
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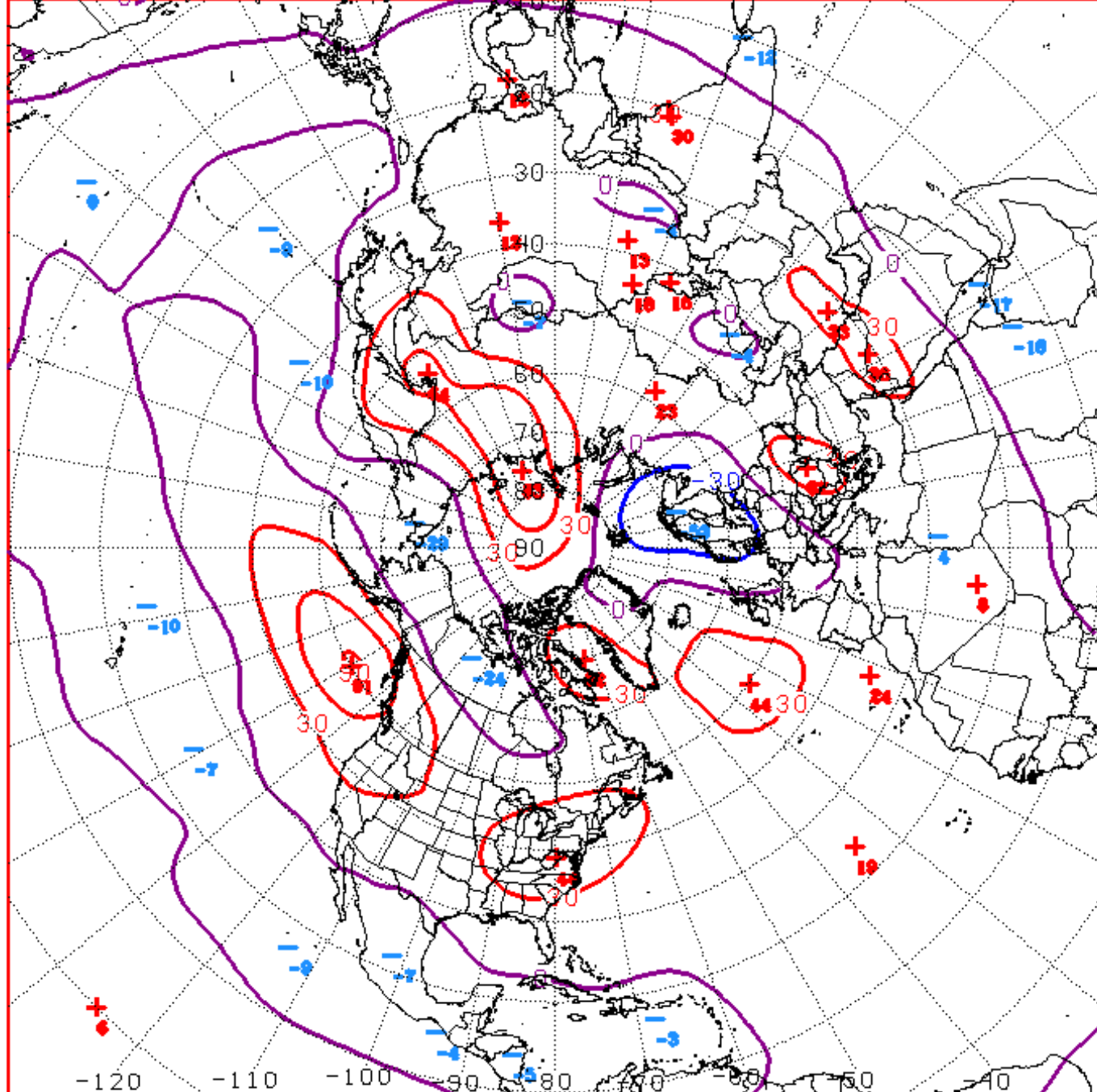


Connections to U.S. Impacts

PNA Index: Observed & GEFS Forecasts

AO Index: Observed & GEFS Forecasts





D+11 500 MB ANOMALIES FROM ALZ ENSM
CPC MAP MADE JUL 19 2022 1348 UTC CNTD JUL 30 2022

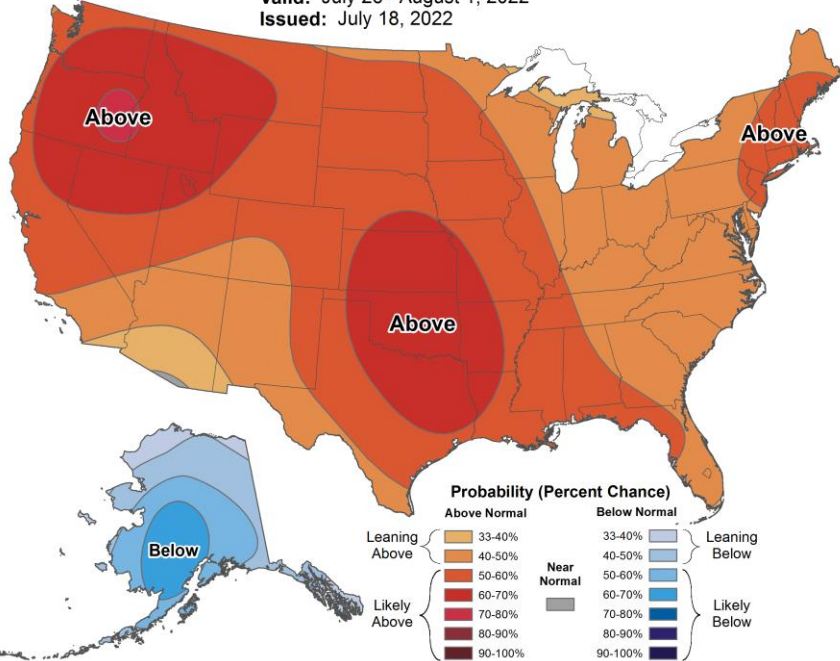
Week 2 – Temperature and Precipitation



8-14 Day Temperature Outlook



Valid: July 26 - August 1, 2022
Issued: July 18, 2022



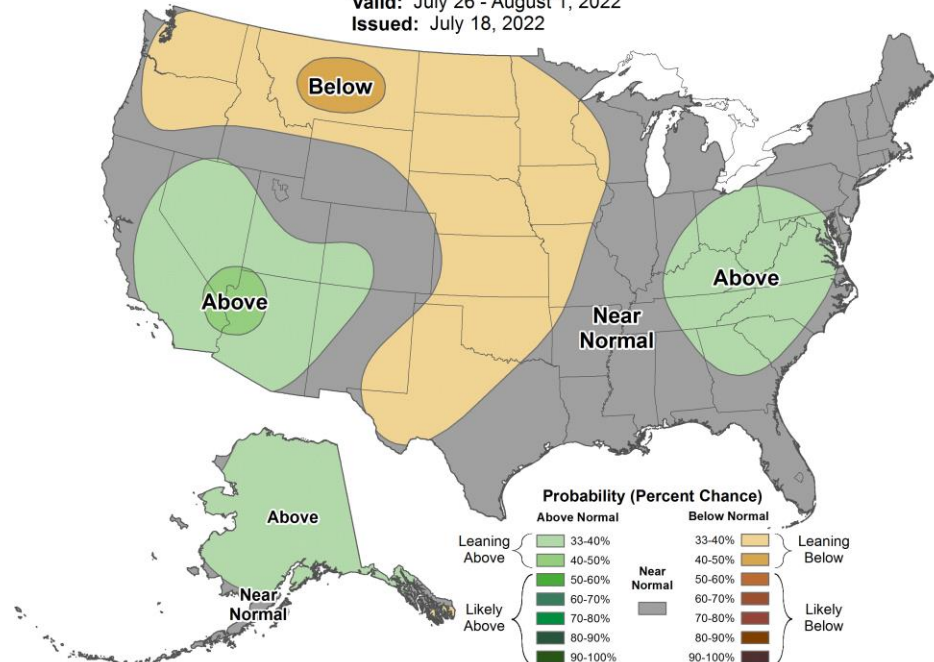
With weaker ridging now favored over the central CONUS, today's outlooks likely to be cooler/wetter over Plains and MS Valley to provide some relief to heat.



8-14 Day Precipitation Outlook



Valid: July 26 - August 1, 2022
Issued: July 18, 2022

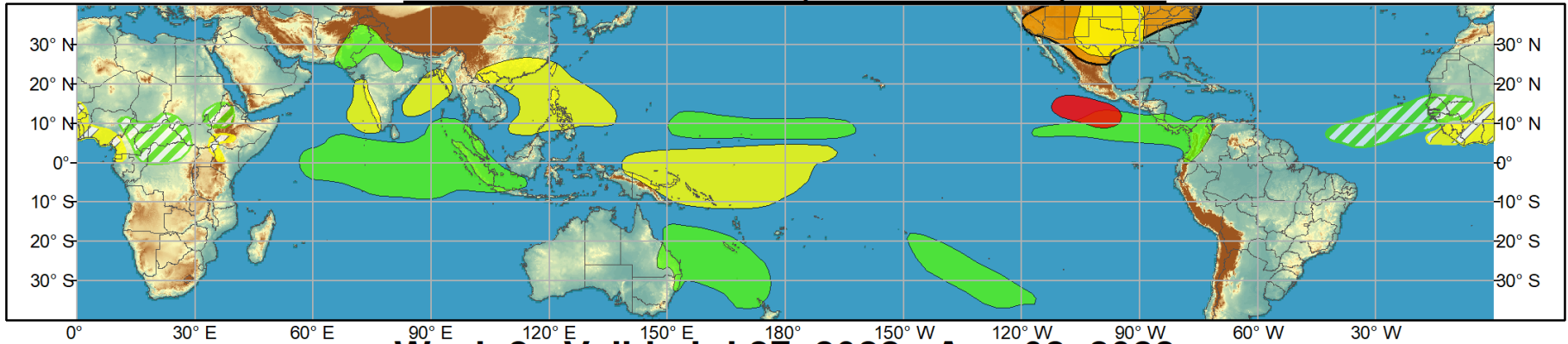




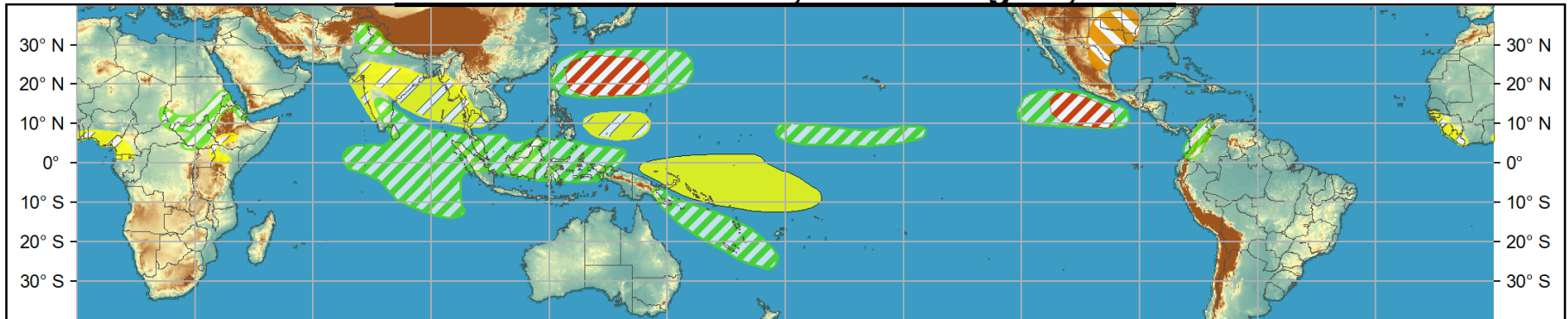
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