



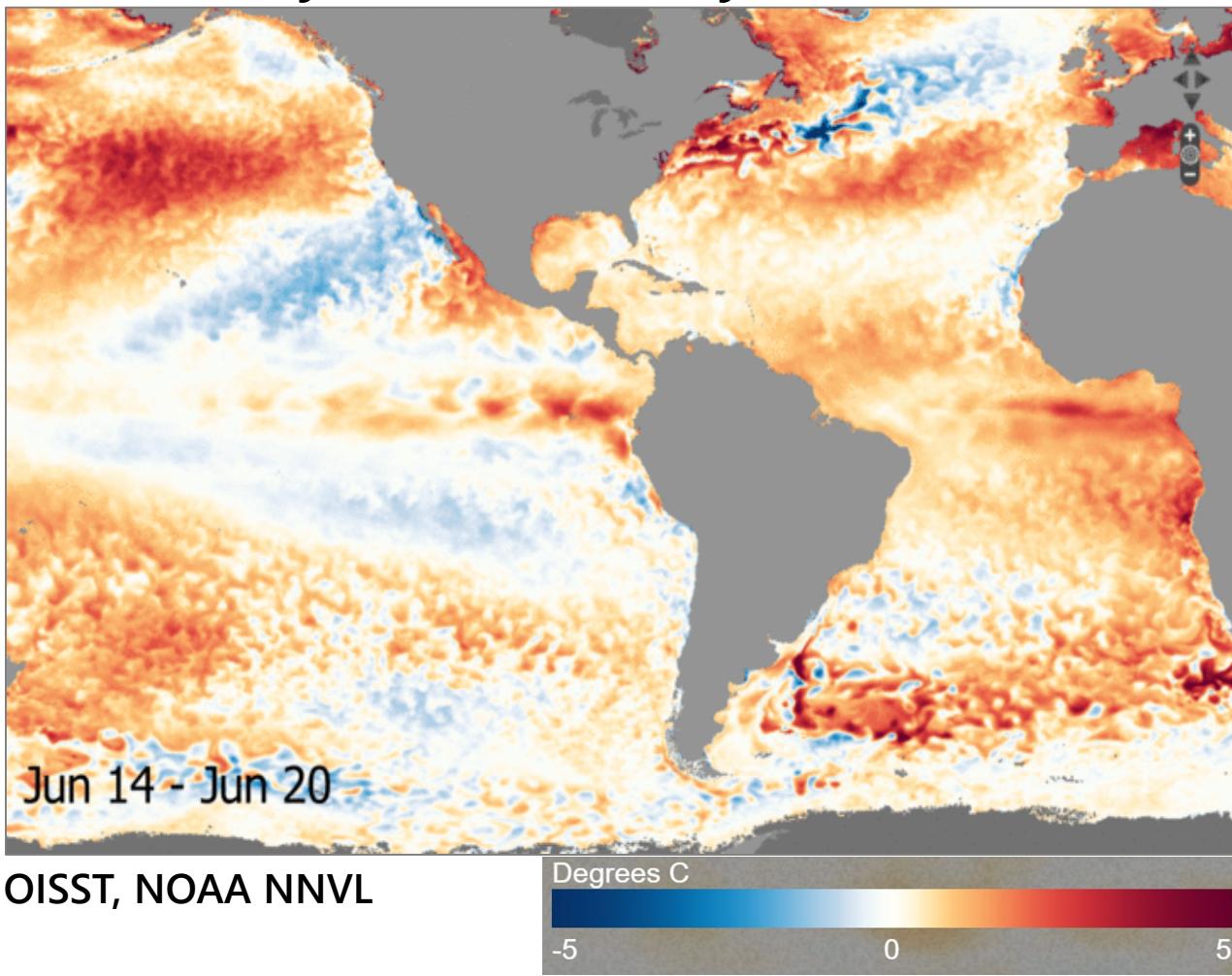
Monthly Regional Focus Group Session

Wednesday 21 July 2021

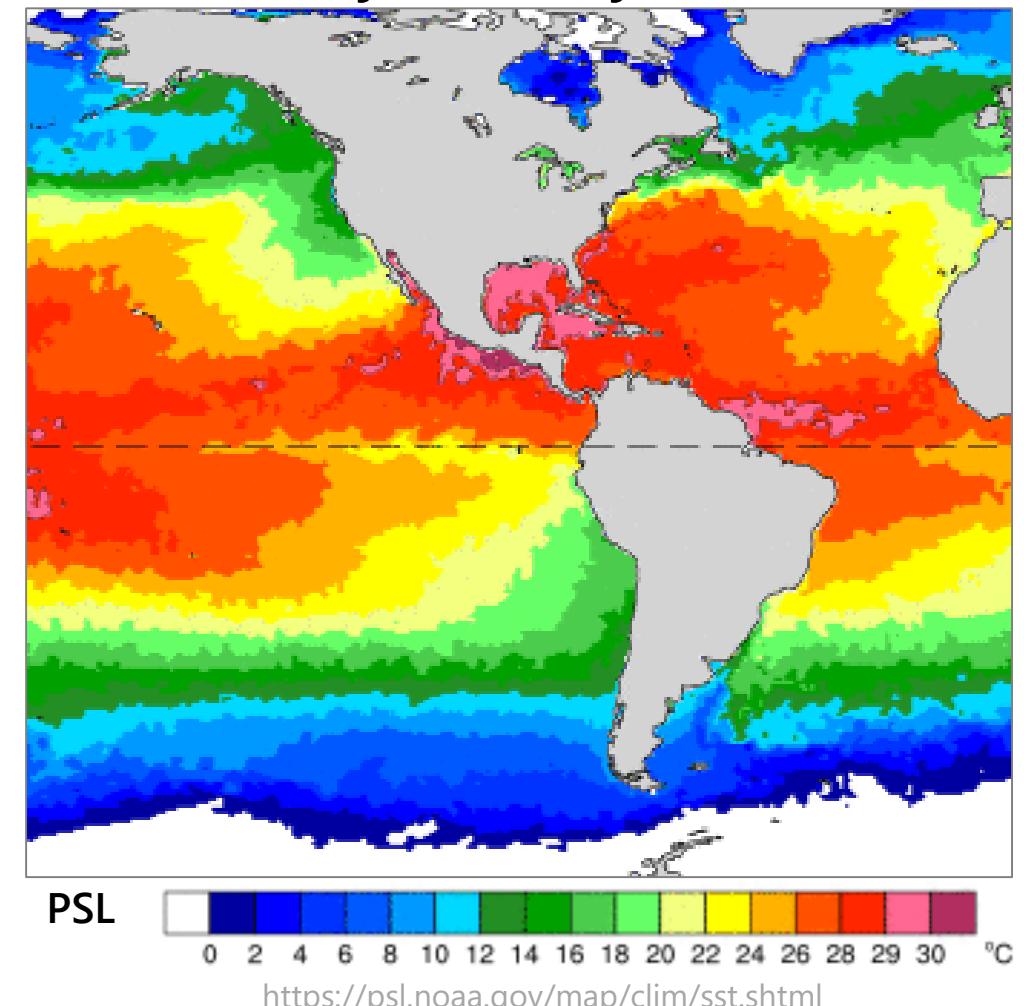


Sea Surface Temperatures

Anomaly Evolution May 16 – June 19

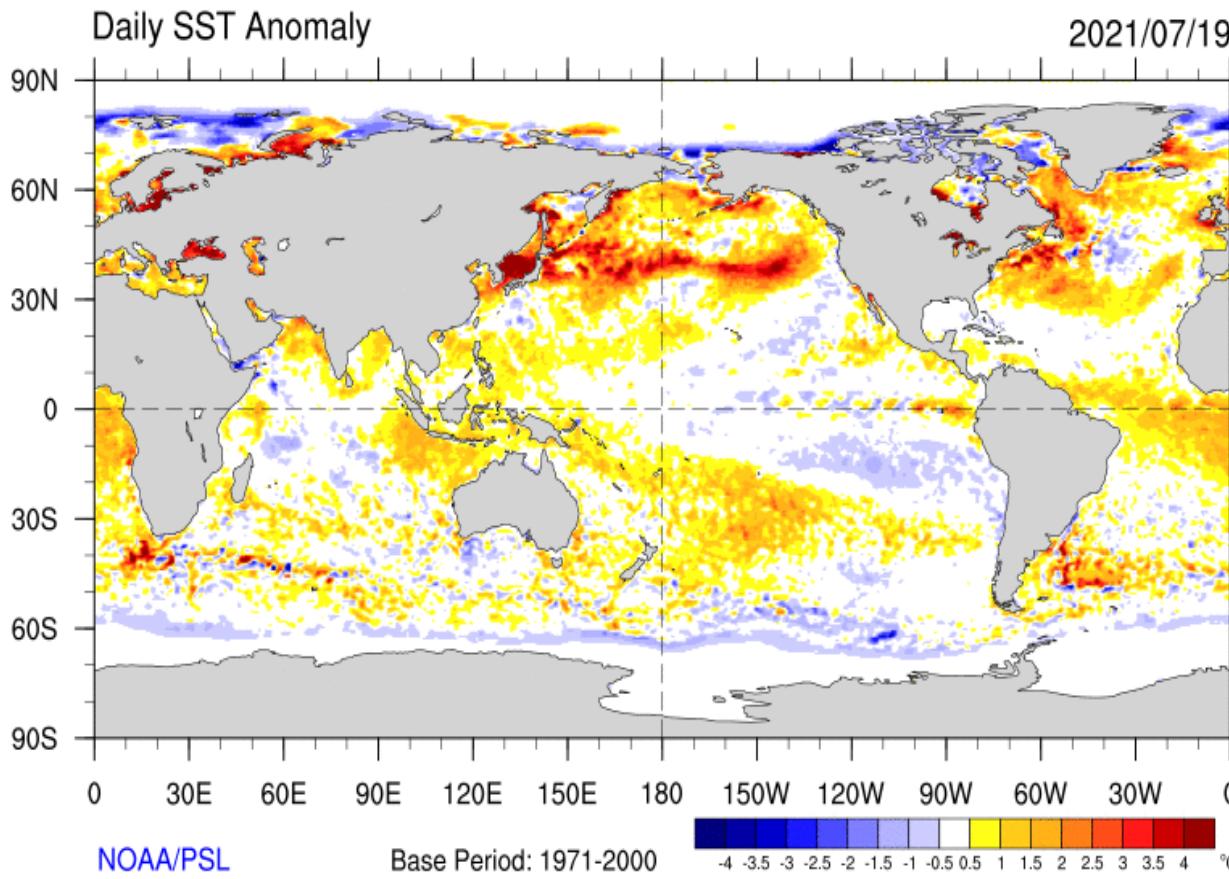


Daily SST July 21

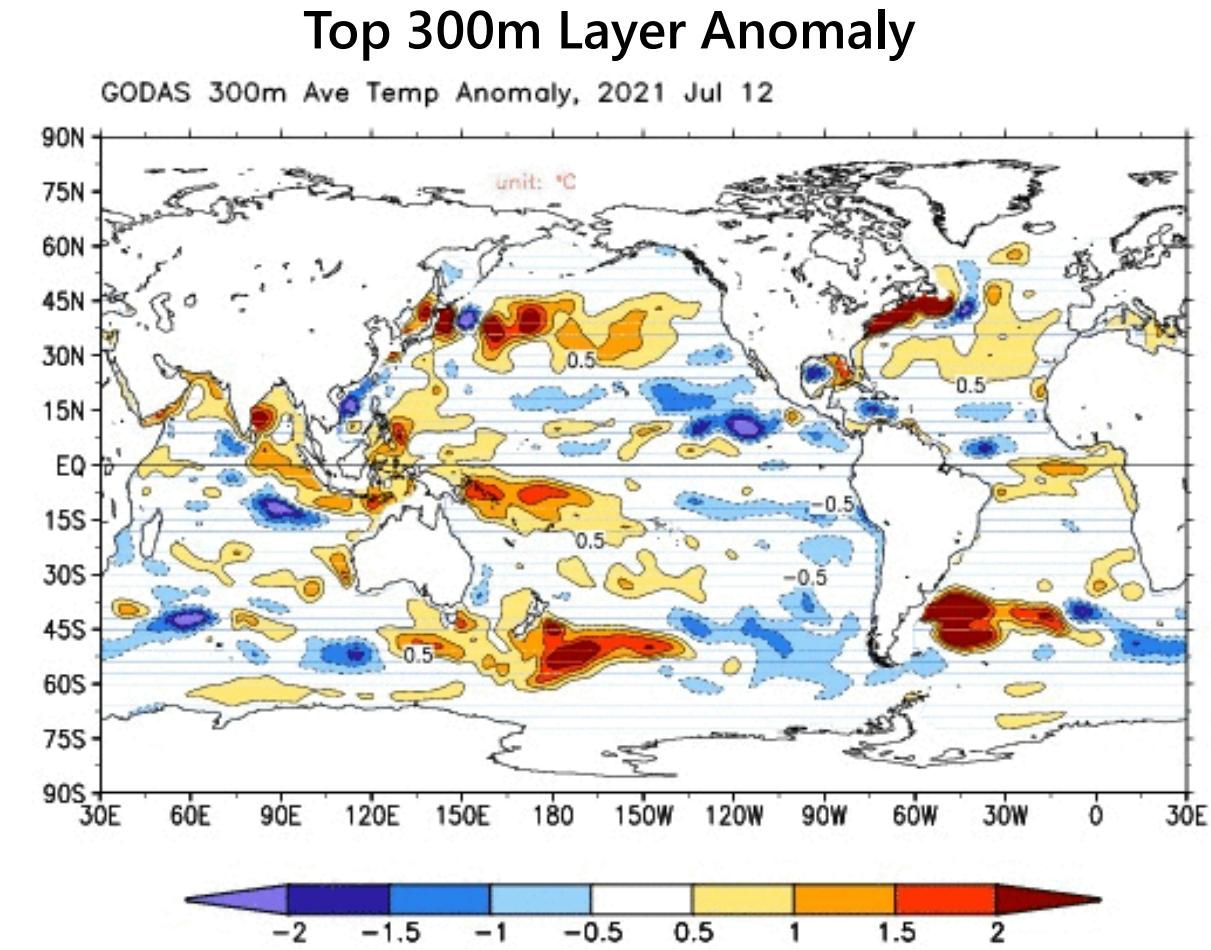


Are the anomalies deep?

Deep anomalies tend to last longer, becoming useful for subseasonal forecasting.



Source: <https://psl.noaa.gov/map/clim/sst.shtml>



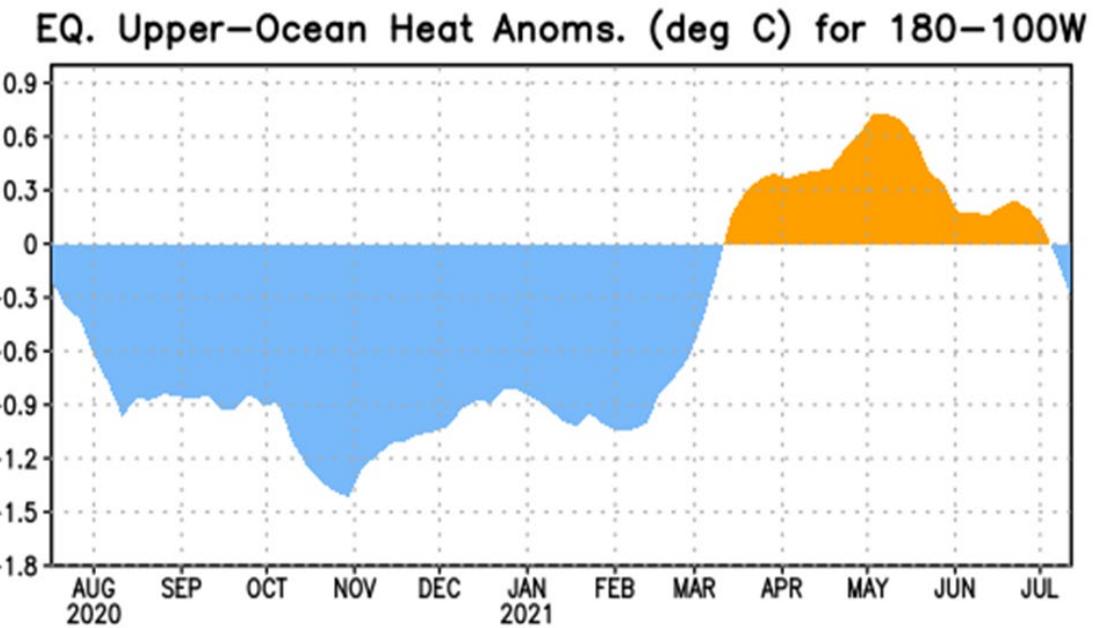
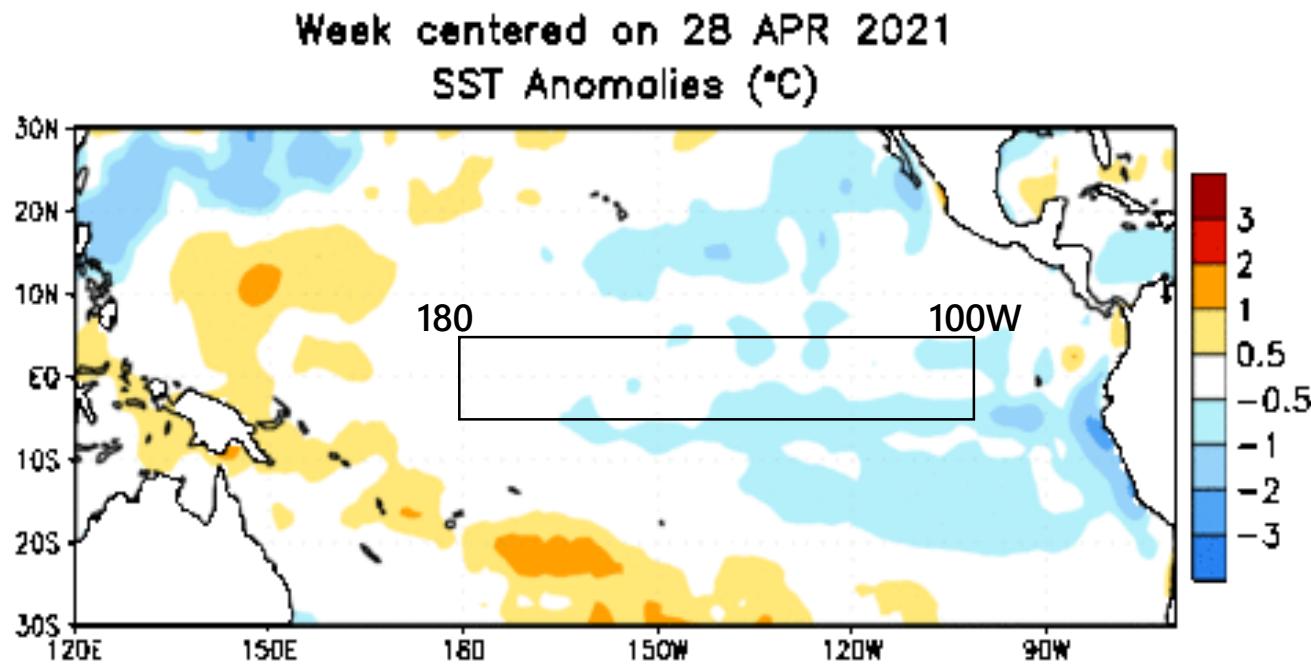
Source: CPC GODAS, <https://www.cpc.ncep.noaa.gov/products/GODAS/>

ENSO: Neutral

ENSO Alert System Status: La Niña Watch

ENSO-neutral conditions are present.*

Equatorial sea surface temperatures (SSTs) are near average across most of the Pacific Ocean.

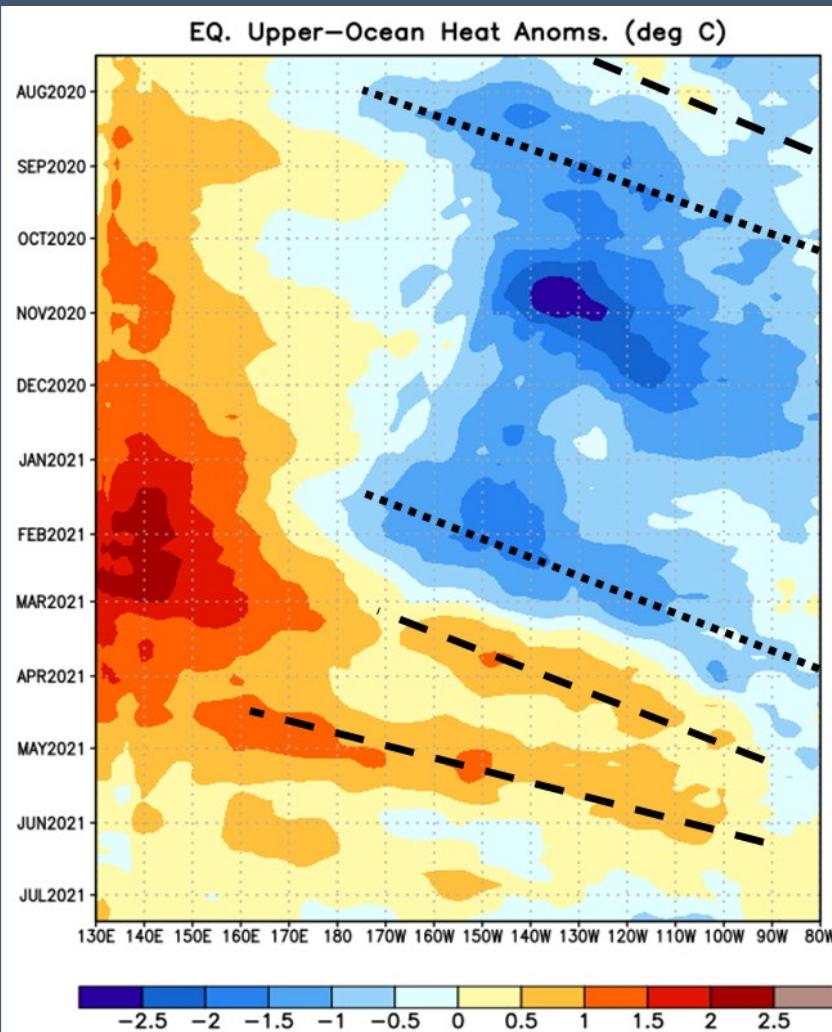


Source: CPC

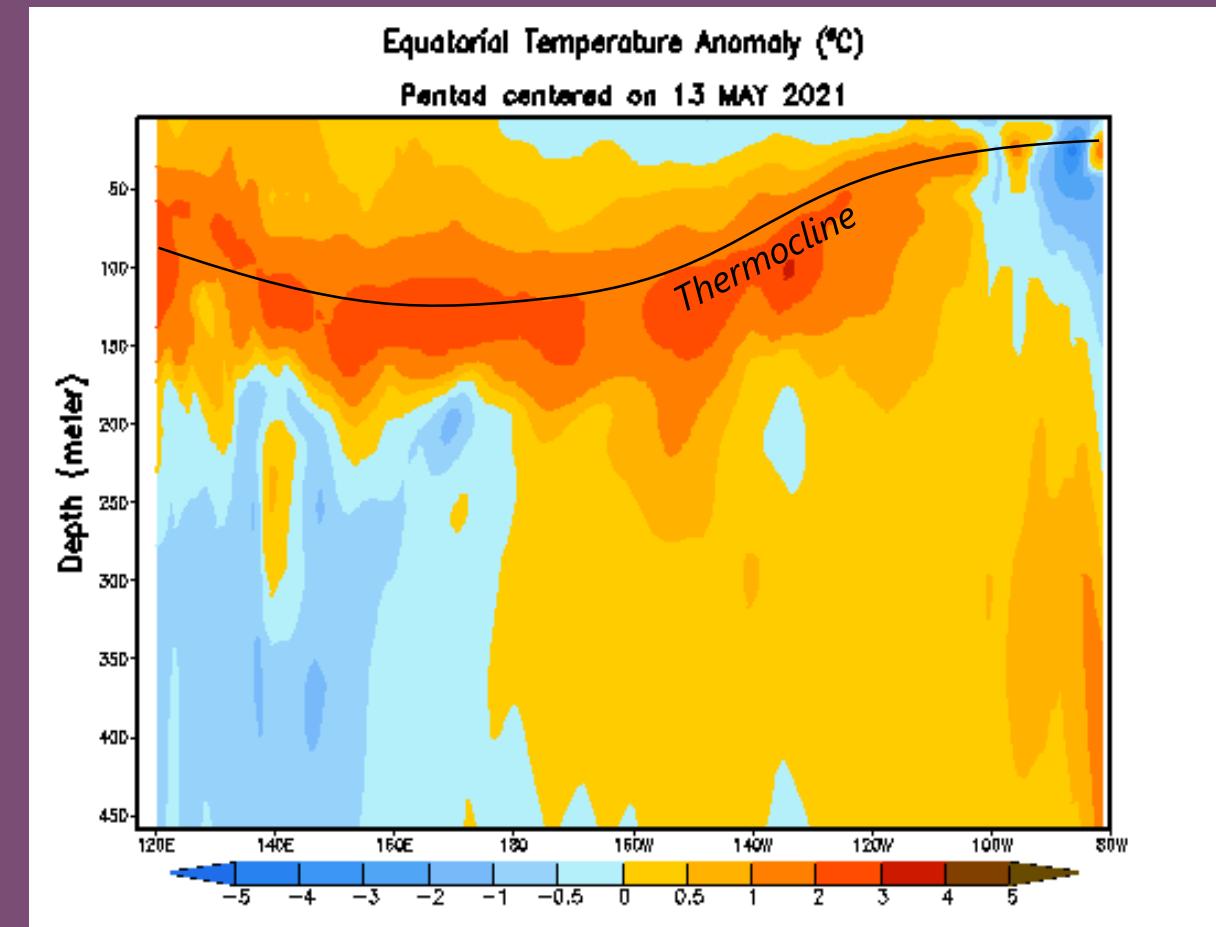


ENSO: Oceanic Kelvin Waves

Hovmöller: Heat Content



Equatorial Pacific Temp. Anomaly



Source:
CPC

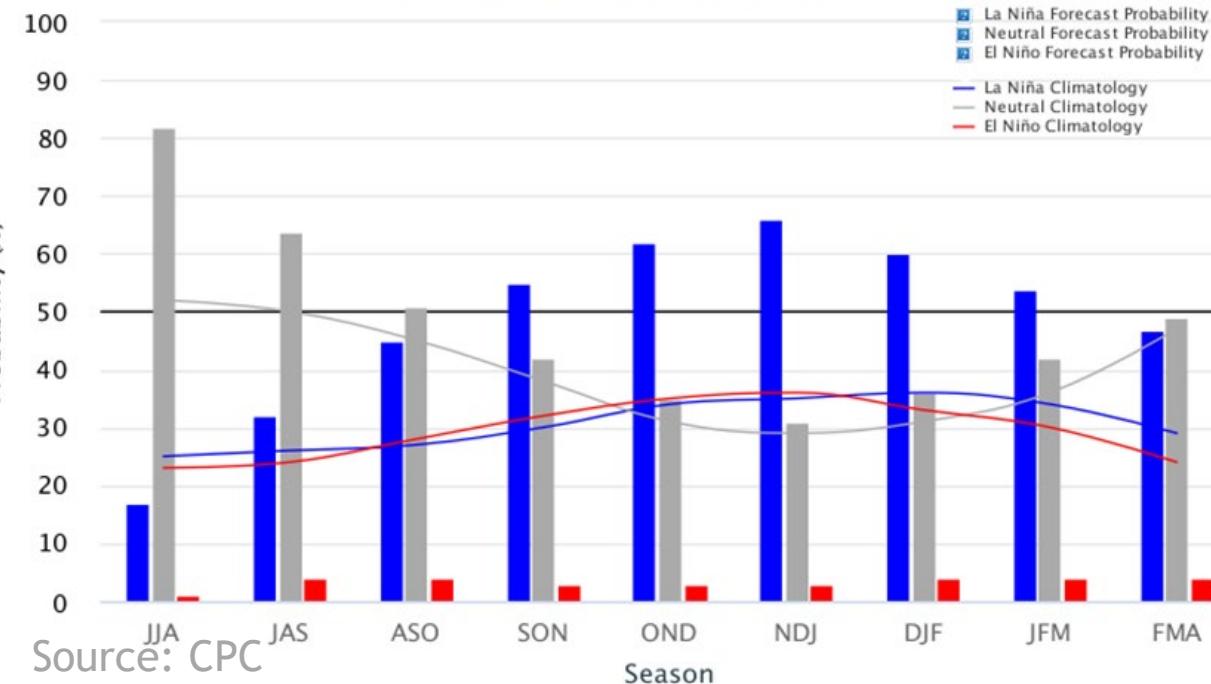
ENSO Outlook

ENSO-neutral is favored through the N. Hem. summer and into the fall (51% chance for Aug-Oct), with La Niña potentially emerging in Sept-Nov and lasting through the 2021-22 winter (66% chance during Nov-Jan).*

CPC/IRI Probabilistic Forecast

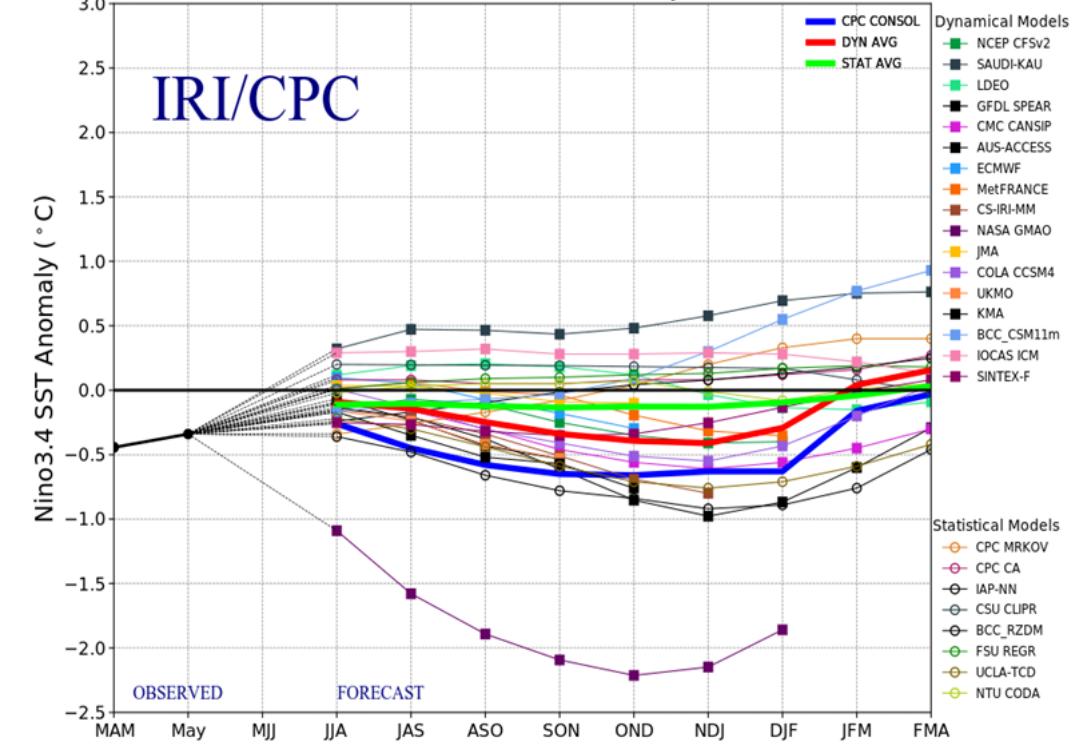
Early-July 2021 CPC/IRI Official Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5°C to 0.5°C



IRI/CPC Dynamic Models

Model Predictions of ENSO from Jun 2021

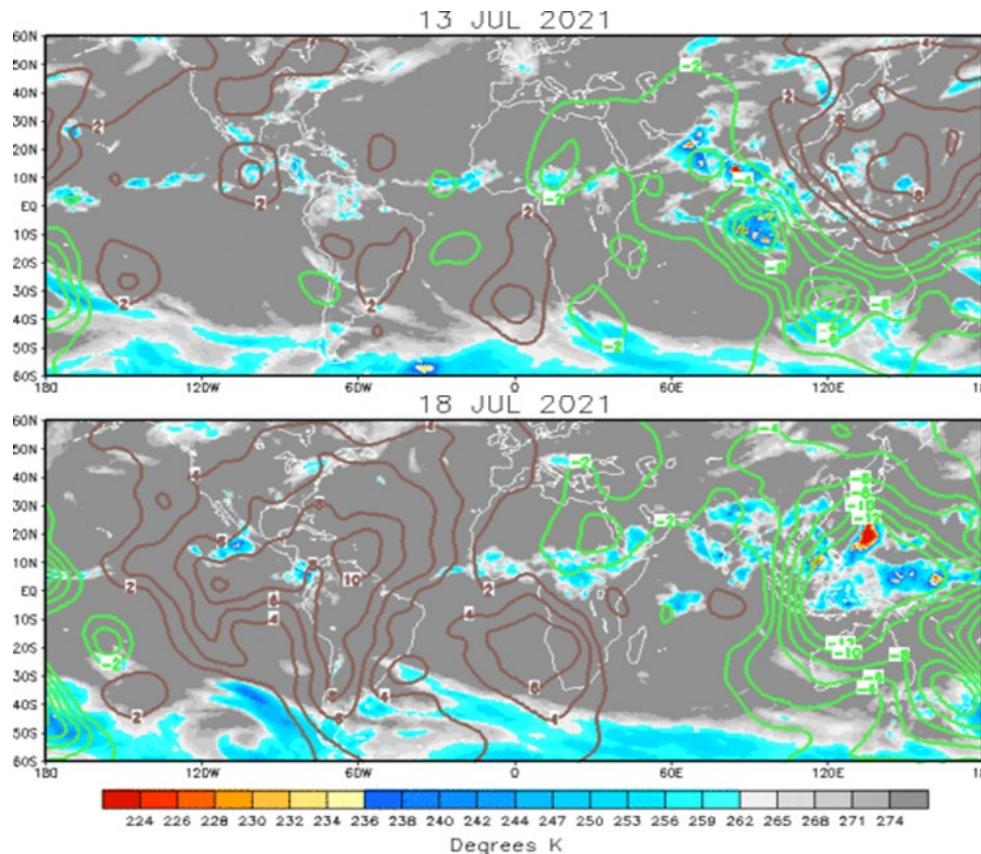




Madden-Julian Oscillation (MJO)

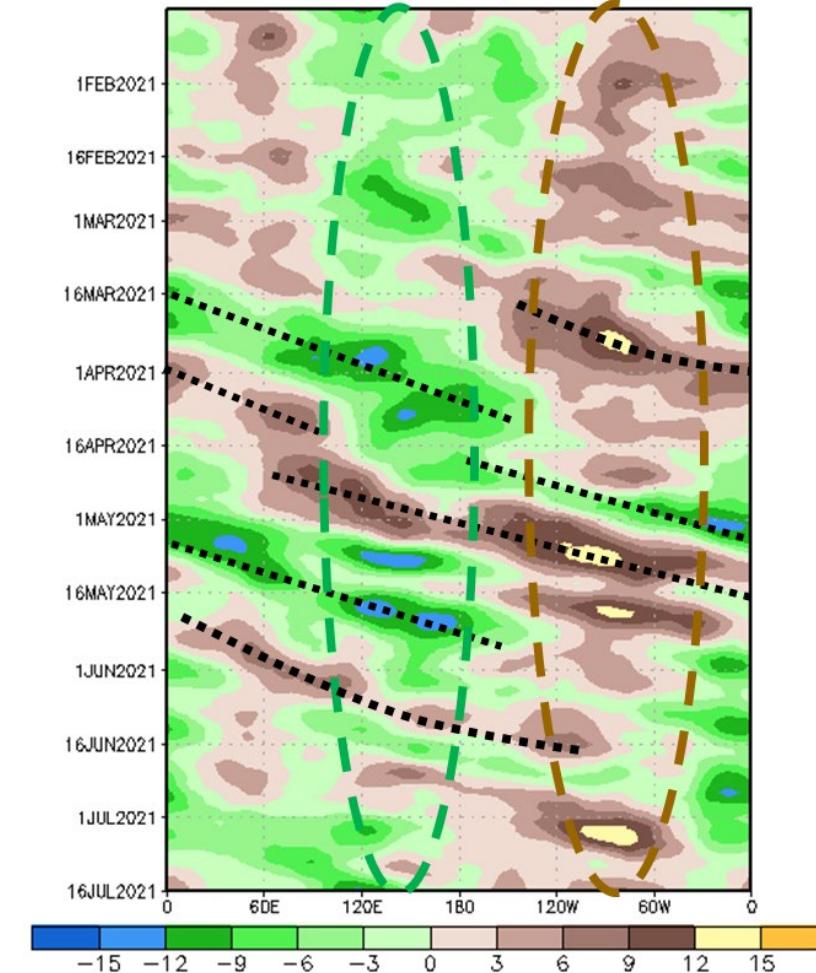
Now: Wave-1 of the MJO is organizing:

- **Upper divergent (wet)** over the Western Pacific
- **Upper convergent (dry)** over the Americas



Source: CPC

200-hPa Velocity Potential Anomaly: 5N-5S
5-day Running Mean



Favors rain storms

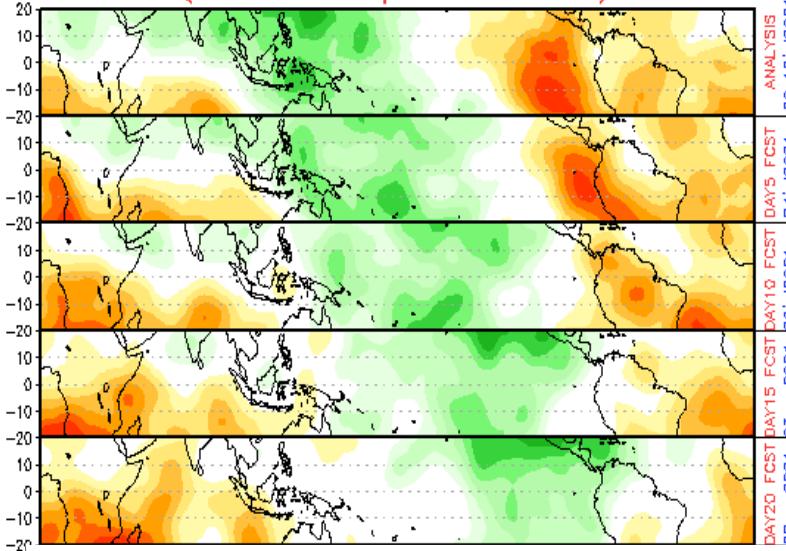


Favors limited rainfall

MJO Forecasts

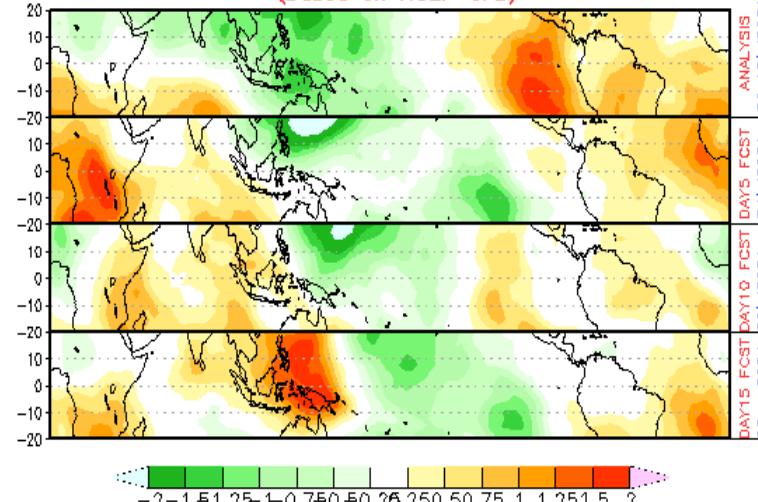
EWP

CHI 200 hPa 40-DAY forecast (00z19jul2021–28aug2021)
(based on EWP spherical harmonics)



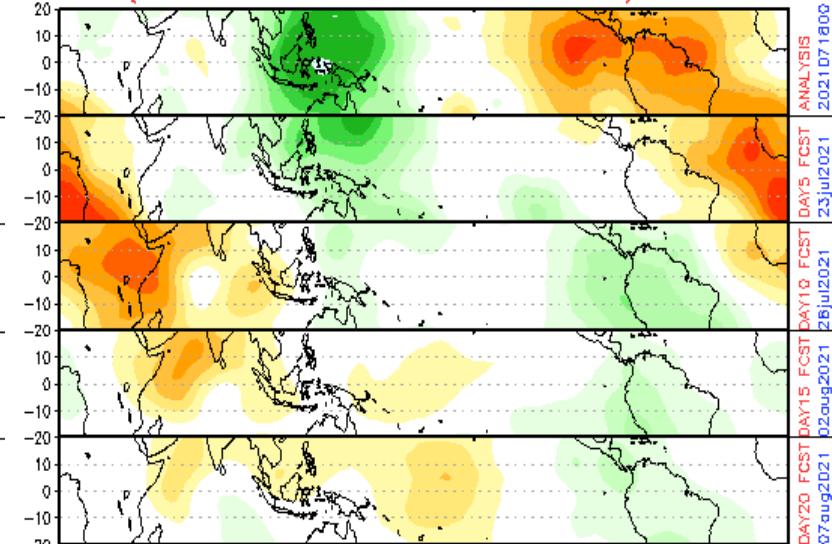
GFS

CHI 200 hPa 15-DAY forecast (00z19jul2021–03aug2021)
(based on NCEP GFS)



CFS

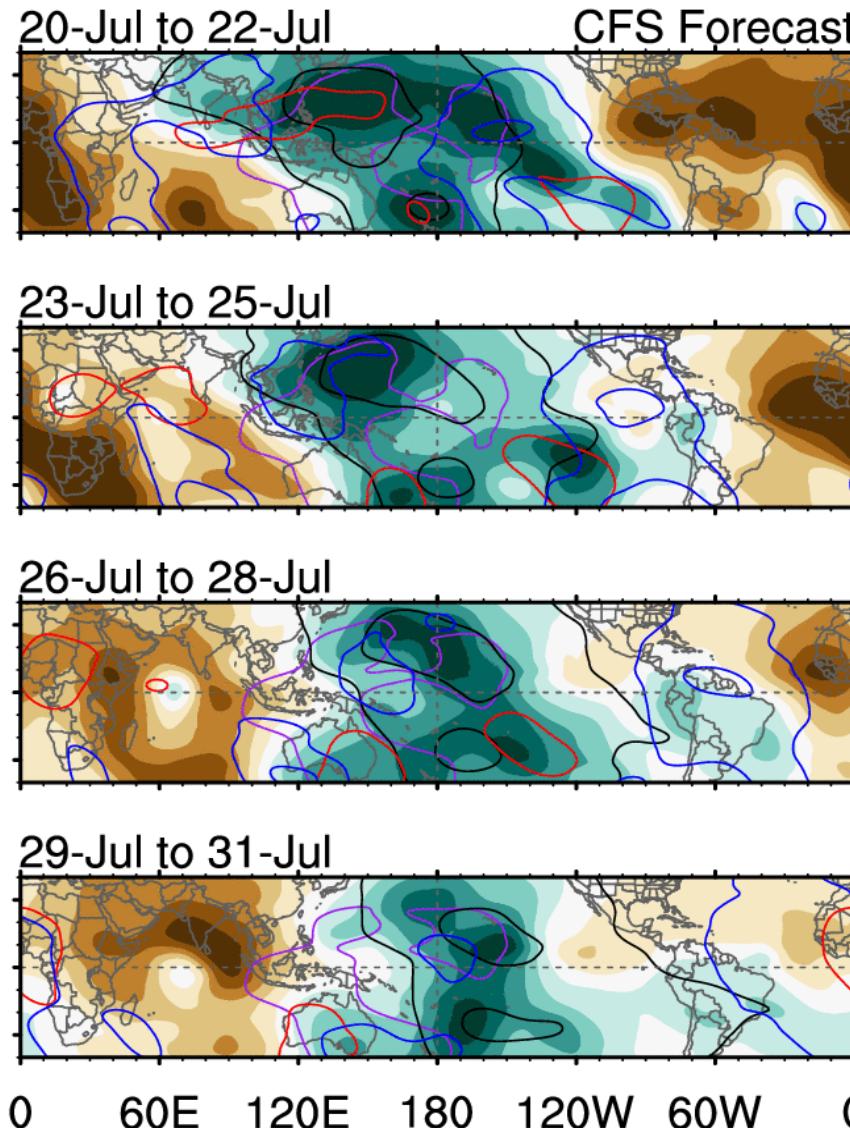
CHI 200 hPa 40-DAY forecast (00z18Jul2021-27Aug2021)
(16-memb OPR CFSv2 IC - 2021071800)



Upper convergent (dry): Peaking now since Mid-July, ending next week

Upper divergent (wet): ~ end of the month through first half of August

Tropospheric Equatorial Waves



- MJO Pulse in the Western Pacific is triggering Kelvin Waves
- A Kelvin wave crossing the Americas between July 23-28
- Enhancement of convection in Costa Rica and Nicaragua Thursday-Saturday.



7-day CHI200 with CFS forecasts

Wed 2020-09-16 1018 UTC

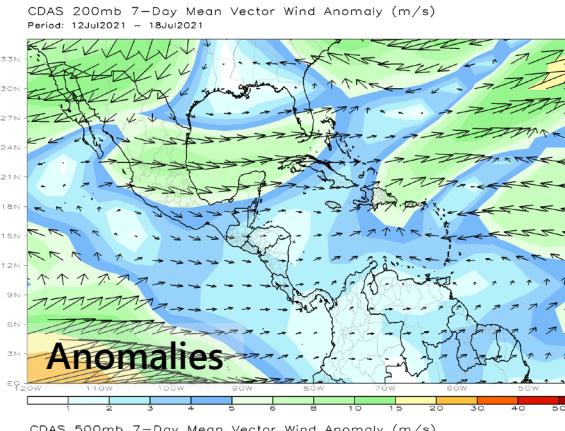
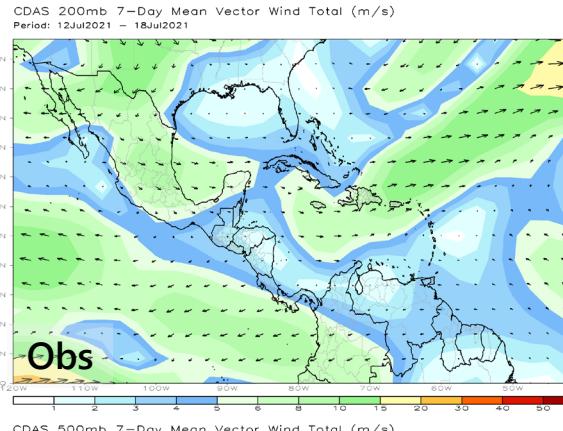
A color scale bar with labels from -9 to 9. The scale is labeled $\times 10^6 \text{ m}^2 \text{ s}^{-1}$.

Legend for the contour plot:

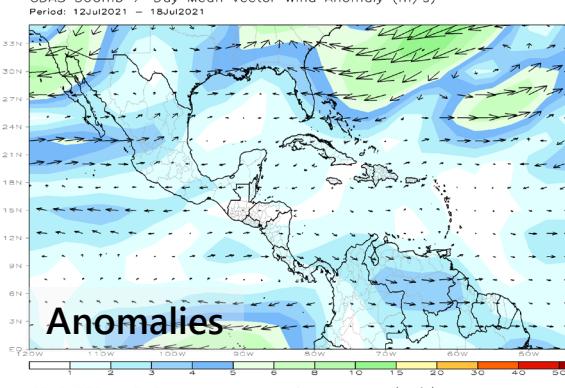
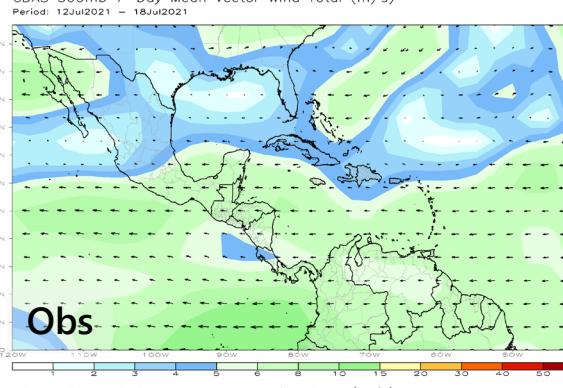
- MJO (Black line)
- Kelvin x2 (Blue line)
- Low (Purple line)
- ER (Red line)

Last Week's Circulation and Rainfall – Tropical Americas

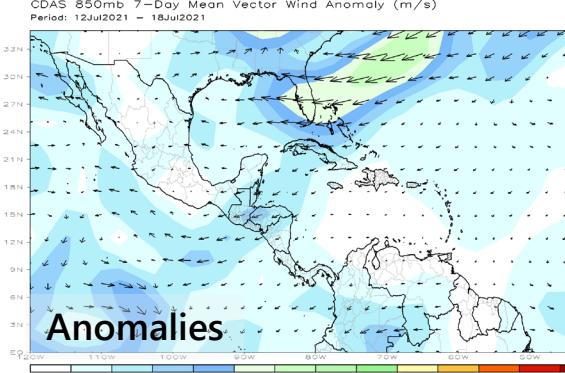
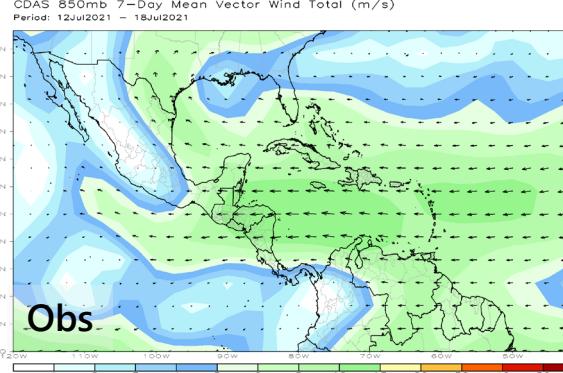
200
hPa



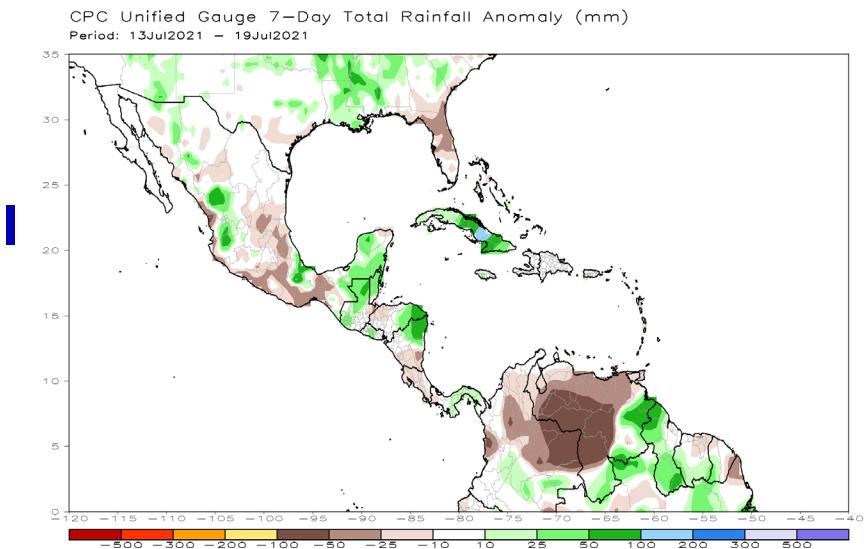
500
hPa



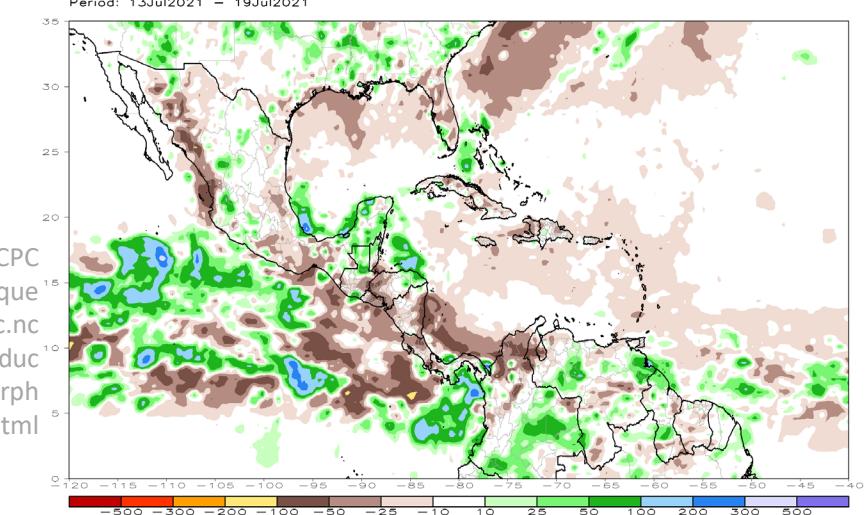
850
hPa



Rainfall

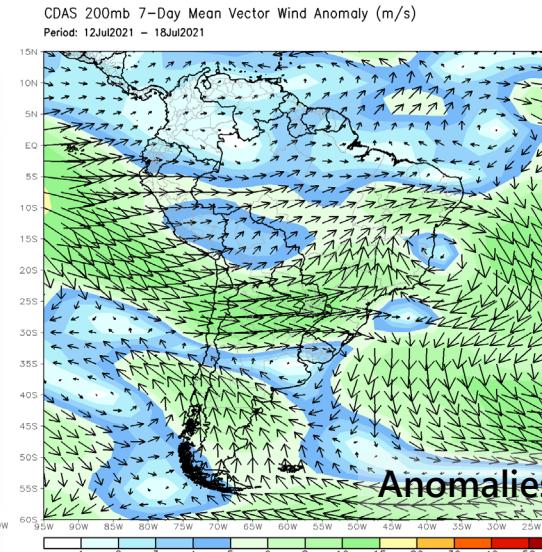
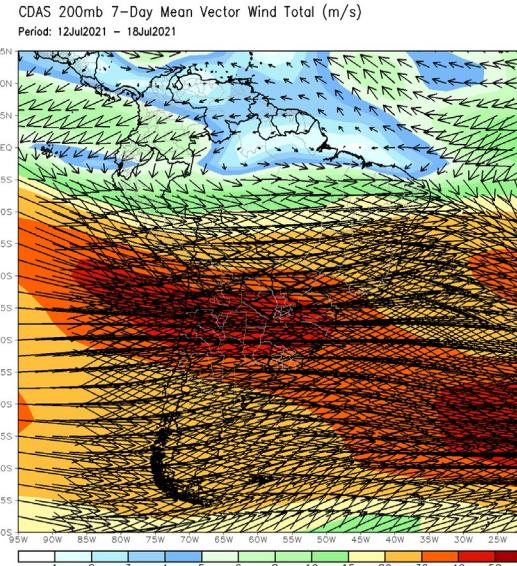


CMORPH: CPC
Morphing Technique
https://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html



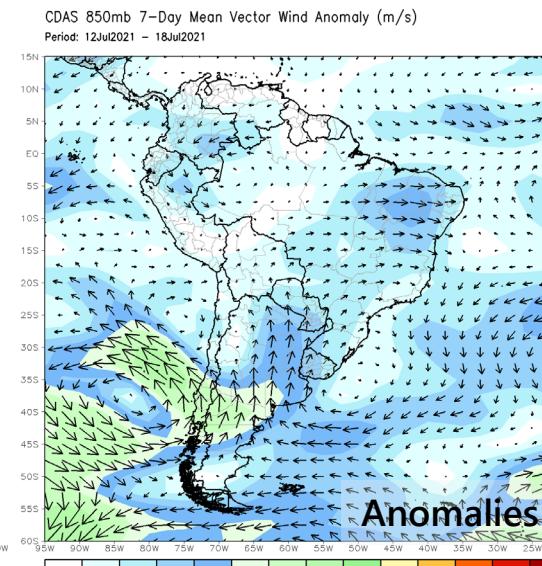
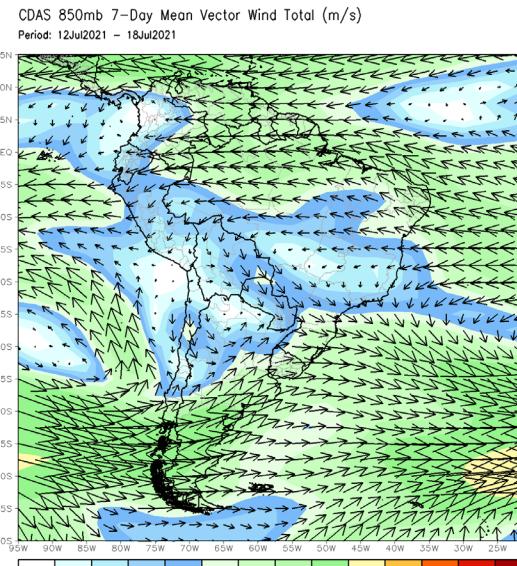
Last Week's Circulation and Rainfall – South America

200
hPa



Anomalies

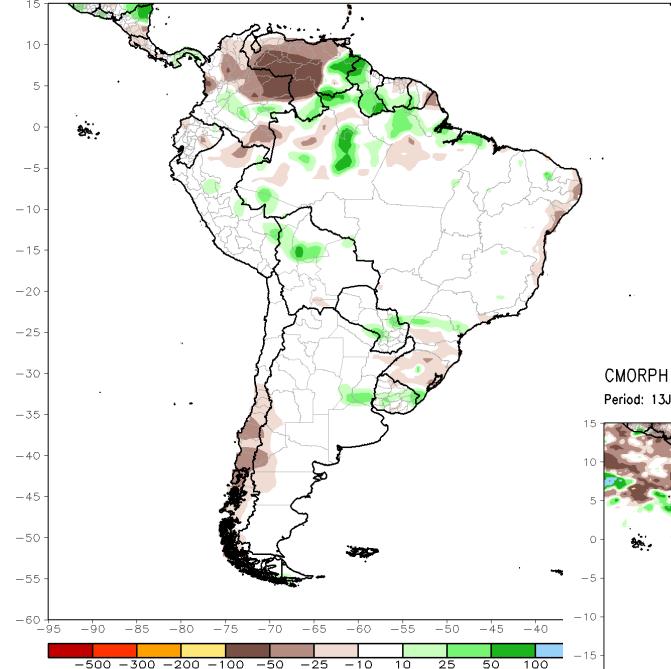
850
hPa



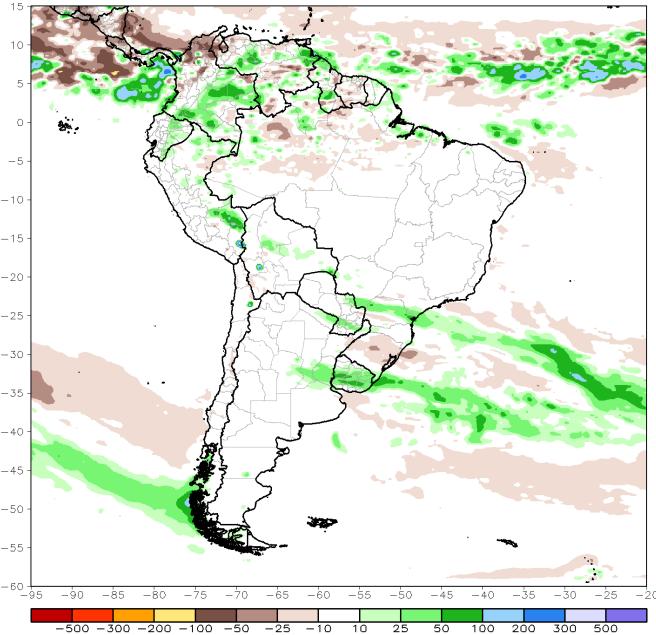
Anomalies

Rainfall

CPC Unified Gauge 7-Day Total Rainfall Anomaly (mm)
Period: 13Jul2021 – 19Jul2021



CMORPH 7-Day Total Rainfall Anomaly (mm)
Period: 13Jul2021 – 19Jul2021



CMORPH: CPC Morphing Technique
https://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html

¡Gracias!

Thank you!