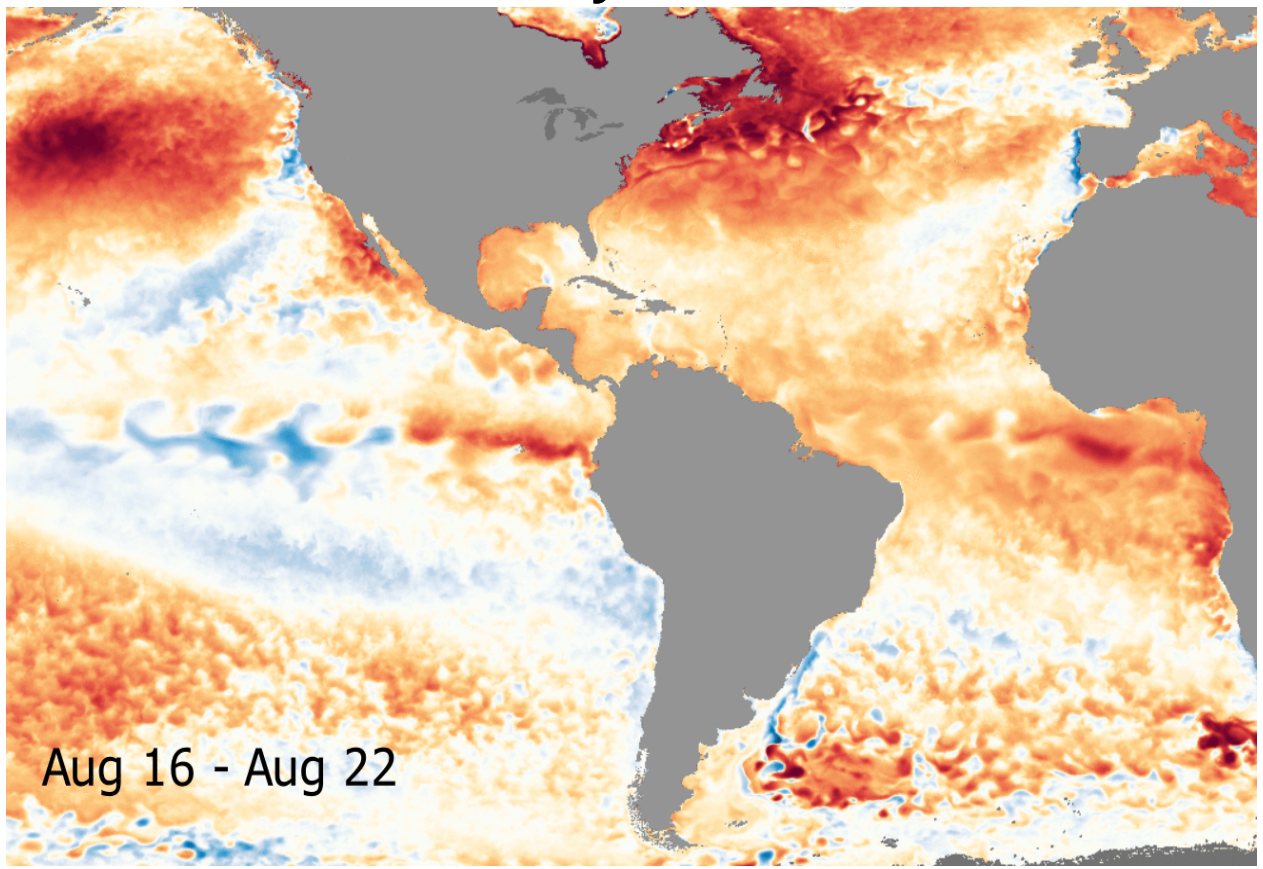
Monthly Regional Focus Group Session

Wednesday 22 September 2021

Sea Surface Temperatures

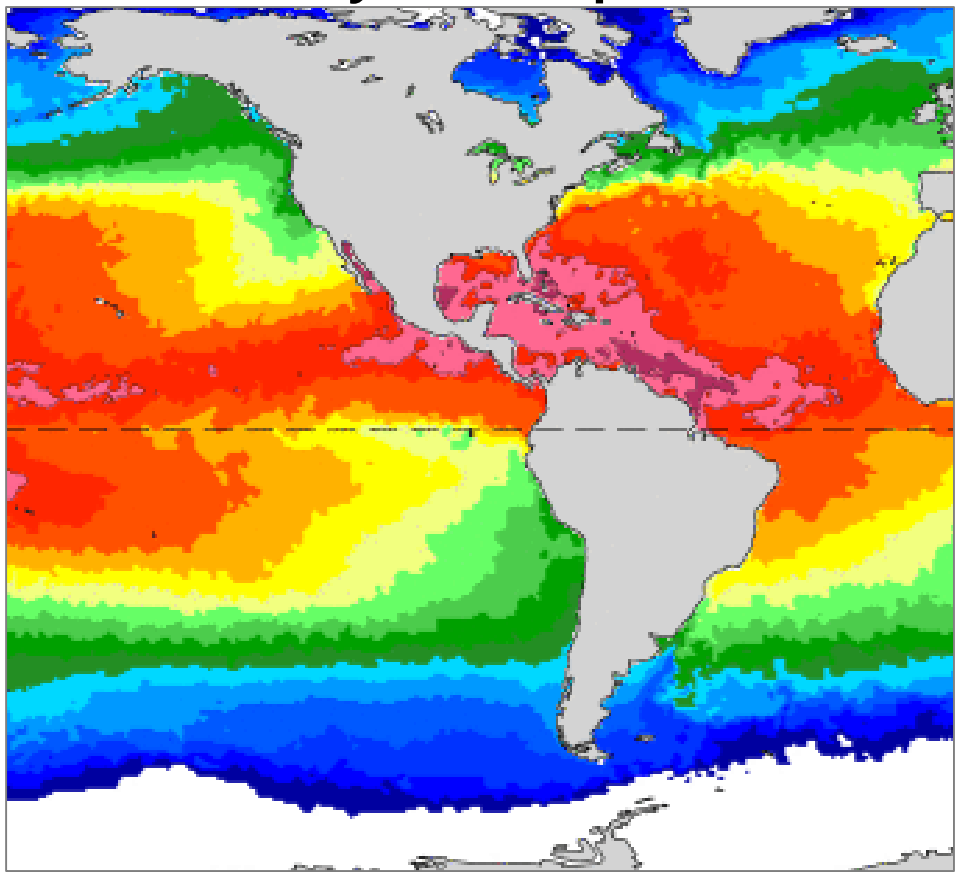
Anomaly Evolution



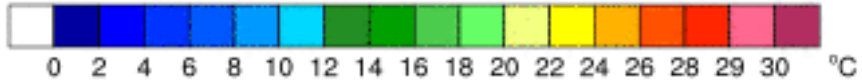
OISST, NOAA NNVL

https://www.nnvl.noaa.gov/view/globaldata.html#SSTA

Daily SST Sep 20



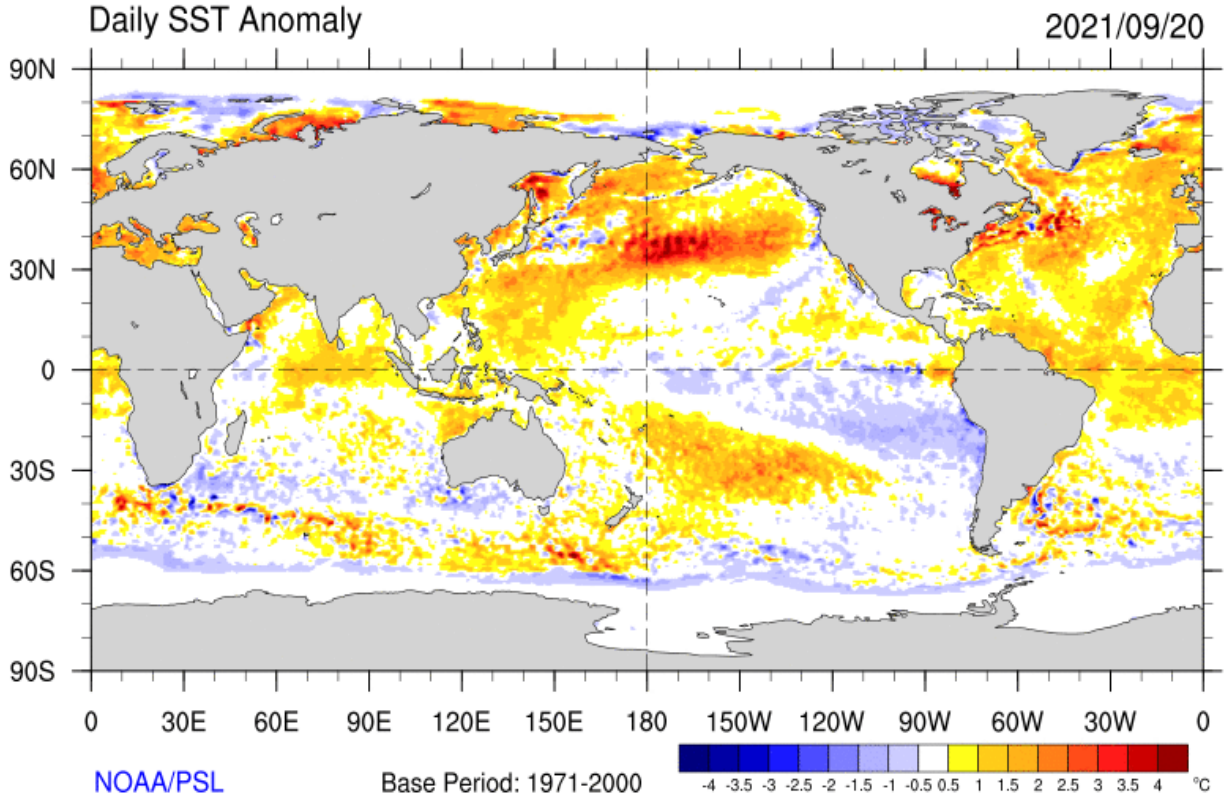
PSL



https://psl.noaa.gov/map/clim/sst.shtml

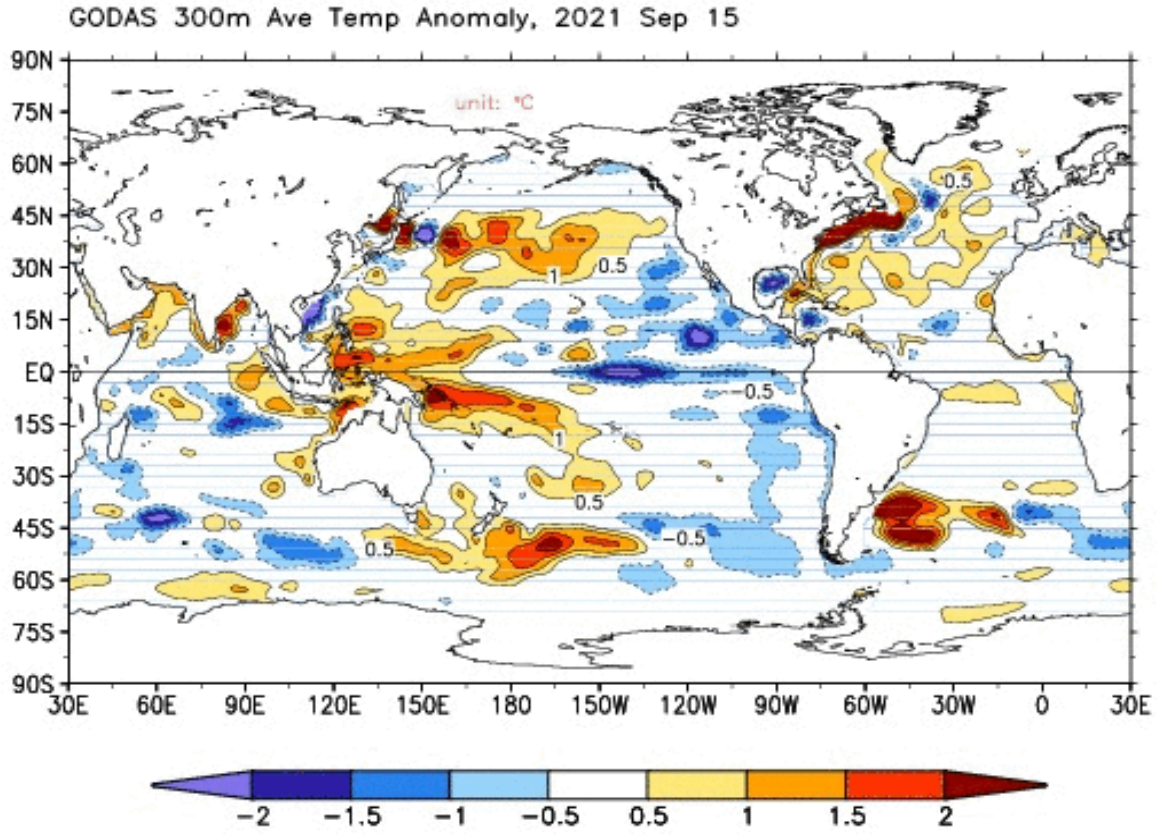
Are the anomalies deep?

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



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

Top 300m Layer Anomaly



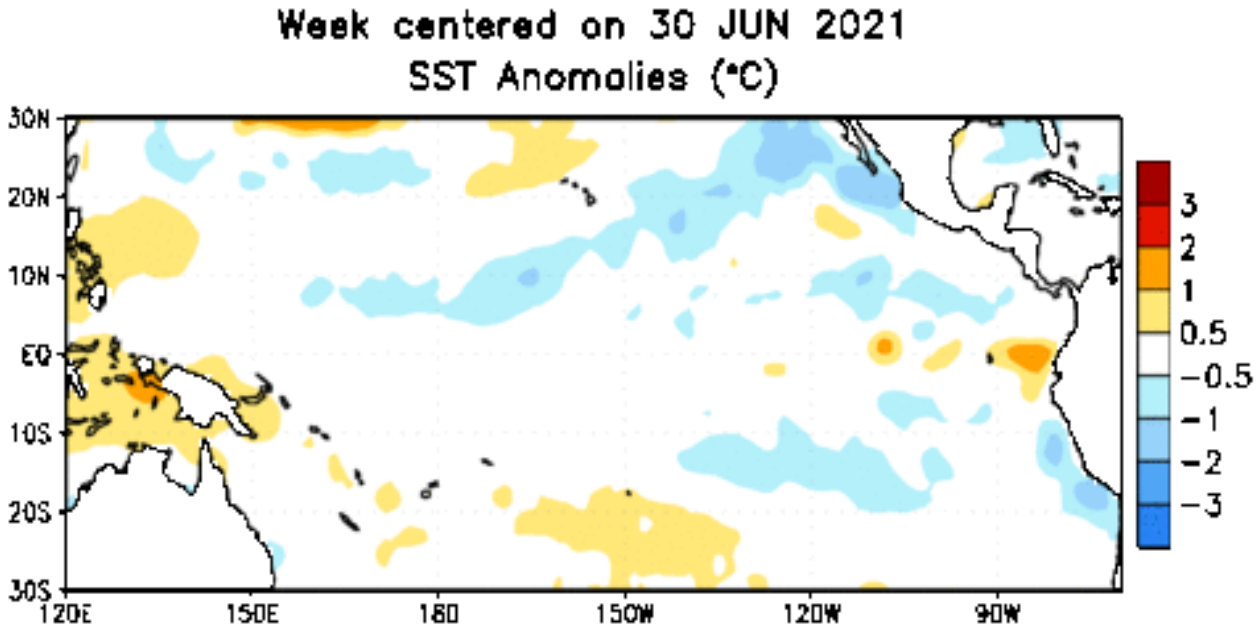
Source: CPC GODAS, https://www.cpc.ncep.noaa.gov/products/GODAS/

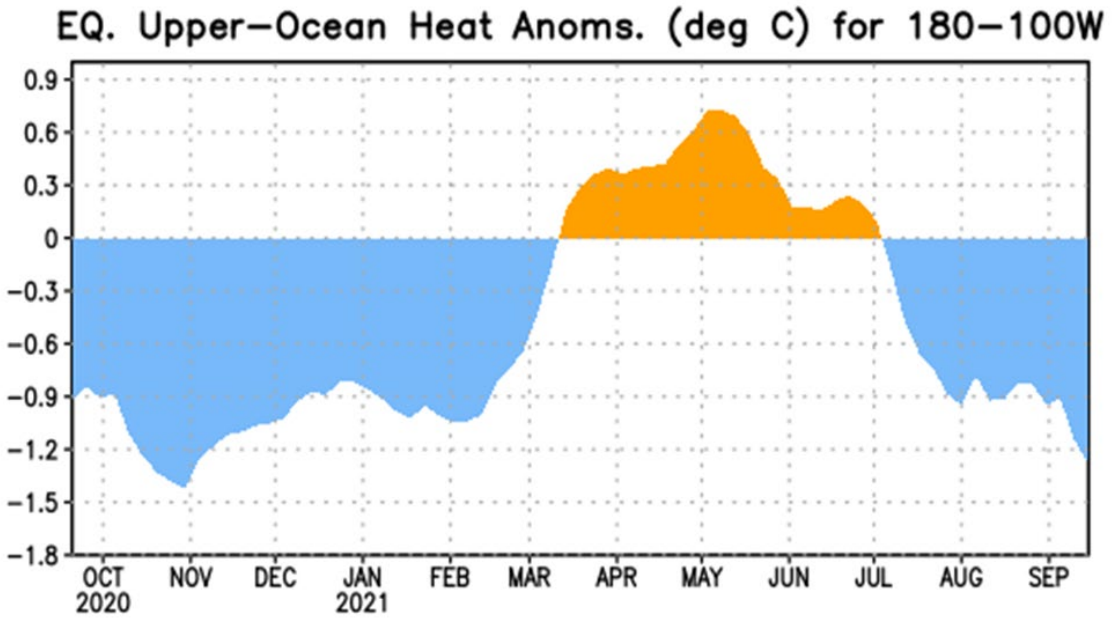
ENSO: Neutral

ENSO Alert System Status: La Niña Watch

ENSO-neutral conditions are present.*

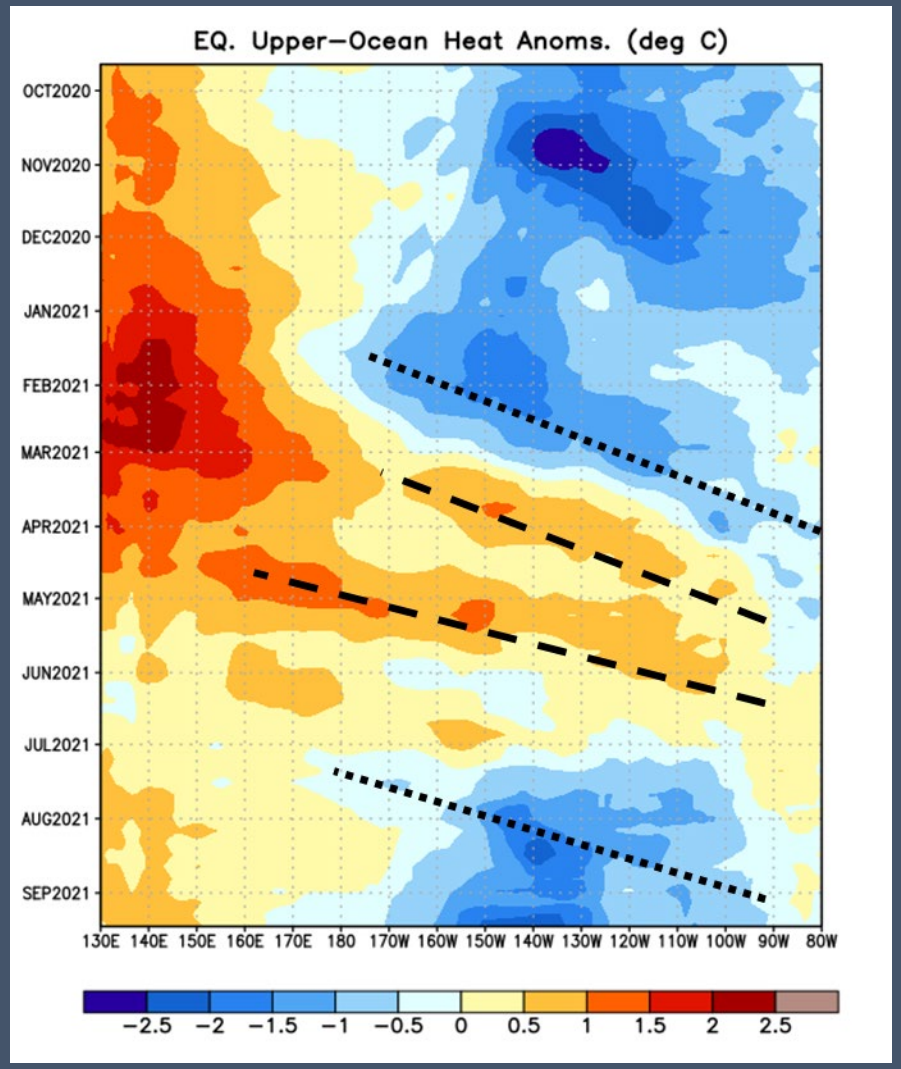
Equatorial sea surface temperatures (SSTs) are near-to-below average across most of the Pacific Ocean.





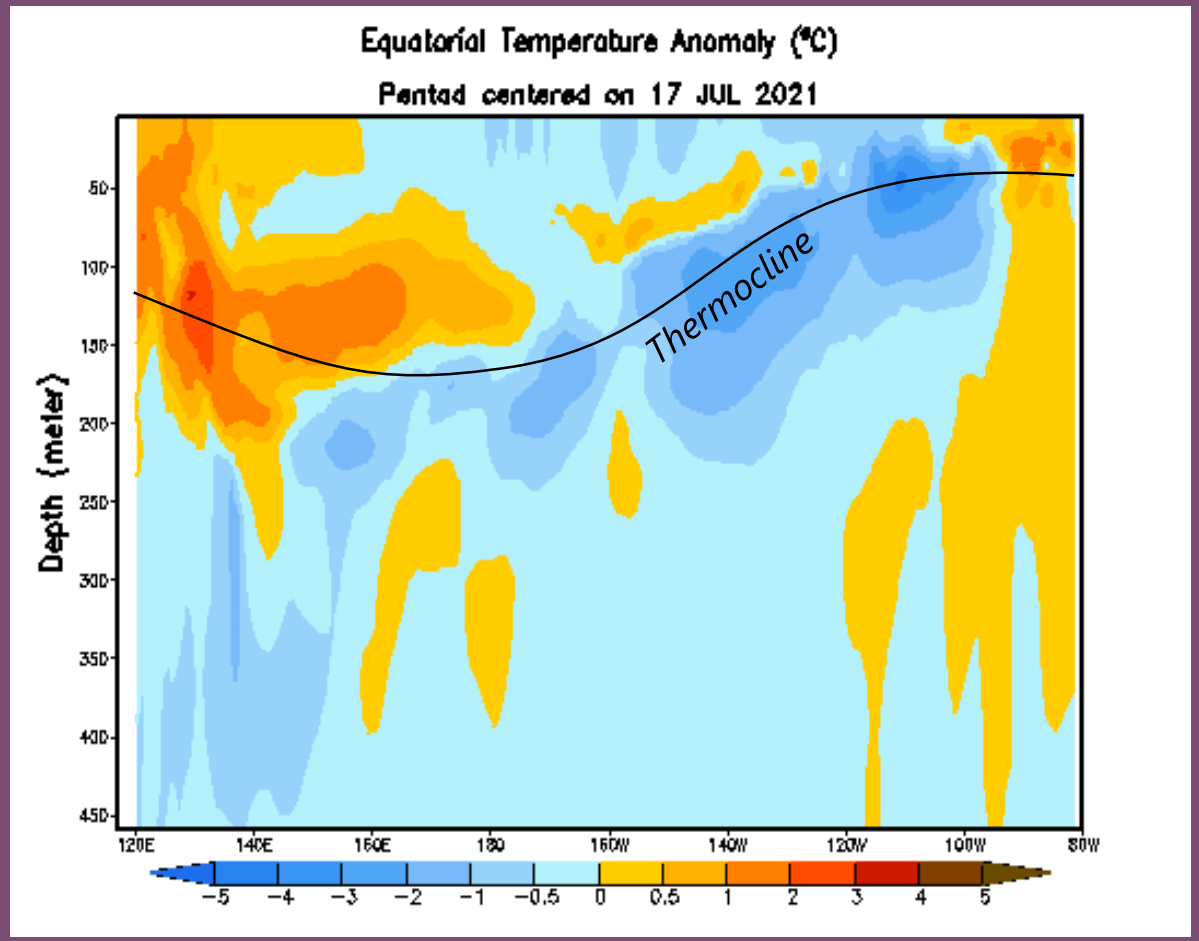
ENSO: Oceanic Kelvin Waves

Hovmöller: Heat Content



Source: CPC

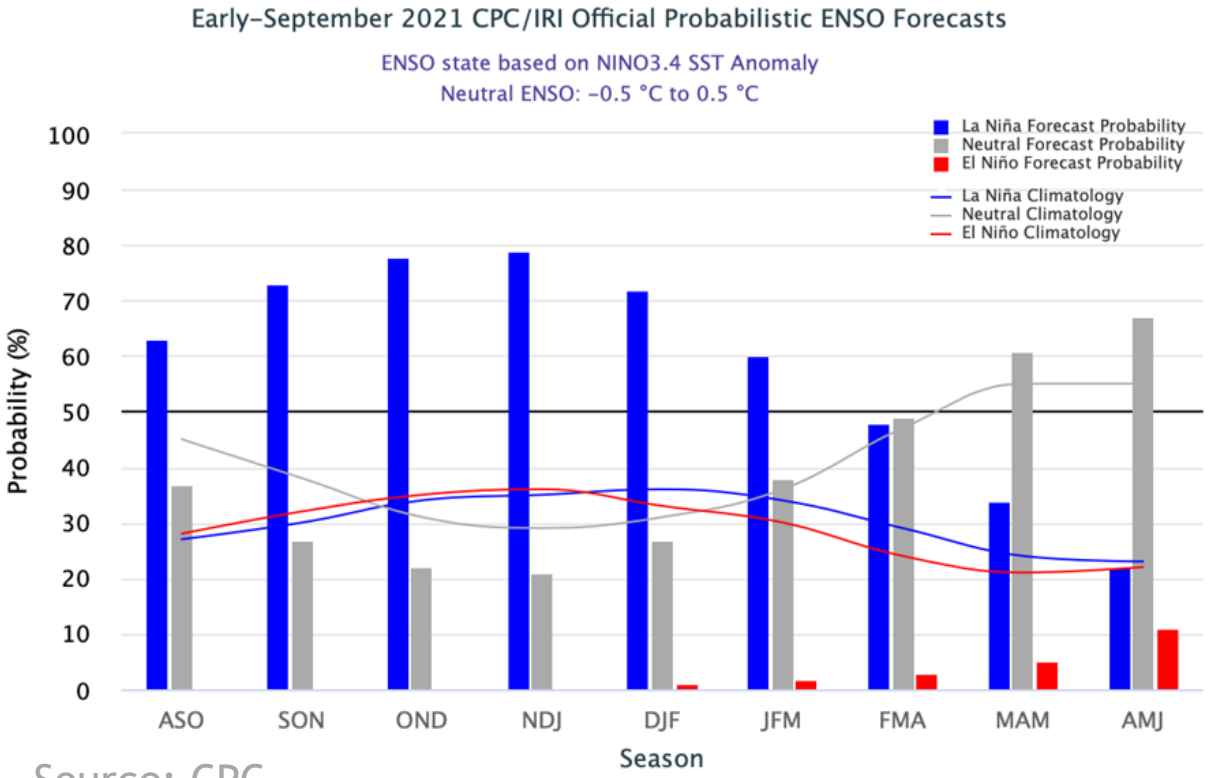
Equatorial Pacific Temp. Anomaly



ENSO Outlook

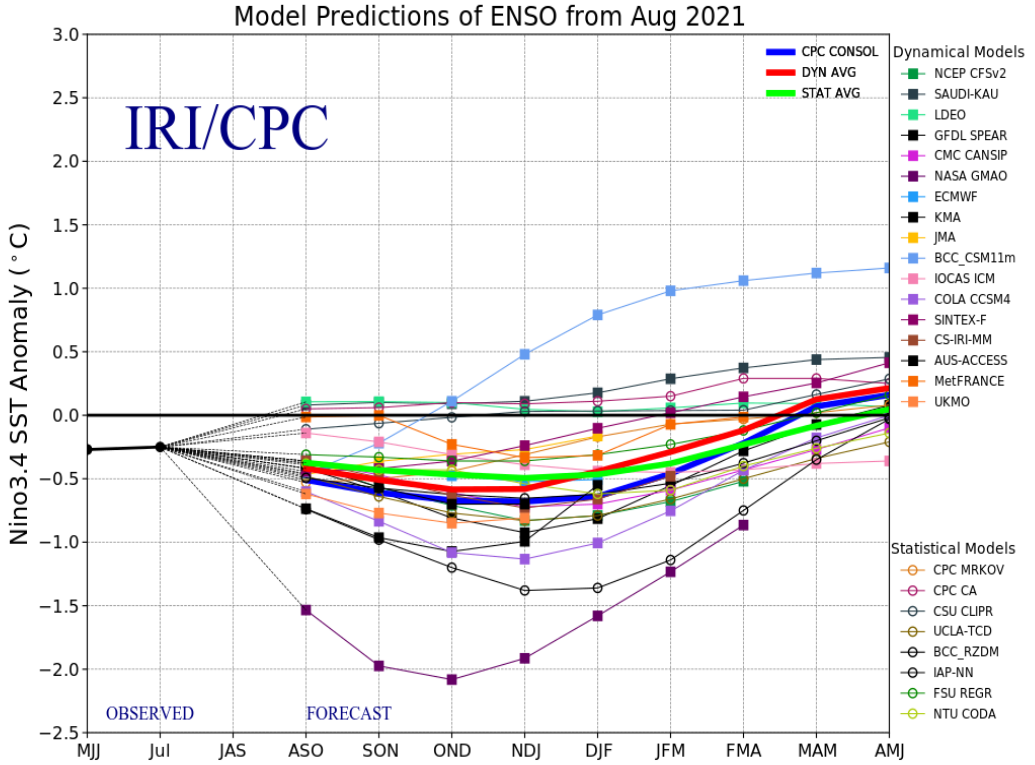
A transition from ENSO-neutral to La Niña is favored in the next couple of months, with a 70-80% chance of La Niña during the Northern Hemisphere winter 2021-22.*

CPC/IRI Probabilistic Forecast



Source: CPC

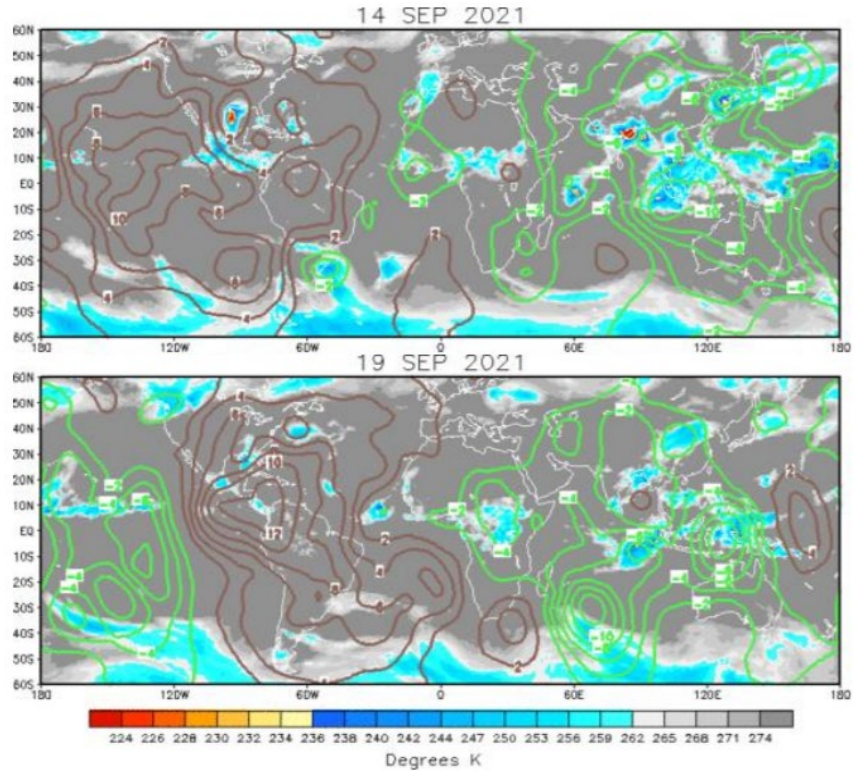
IRI/CPC Dynamic Models



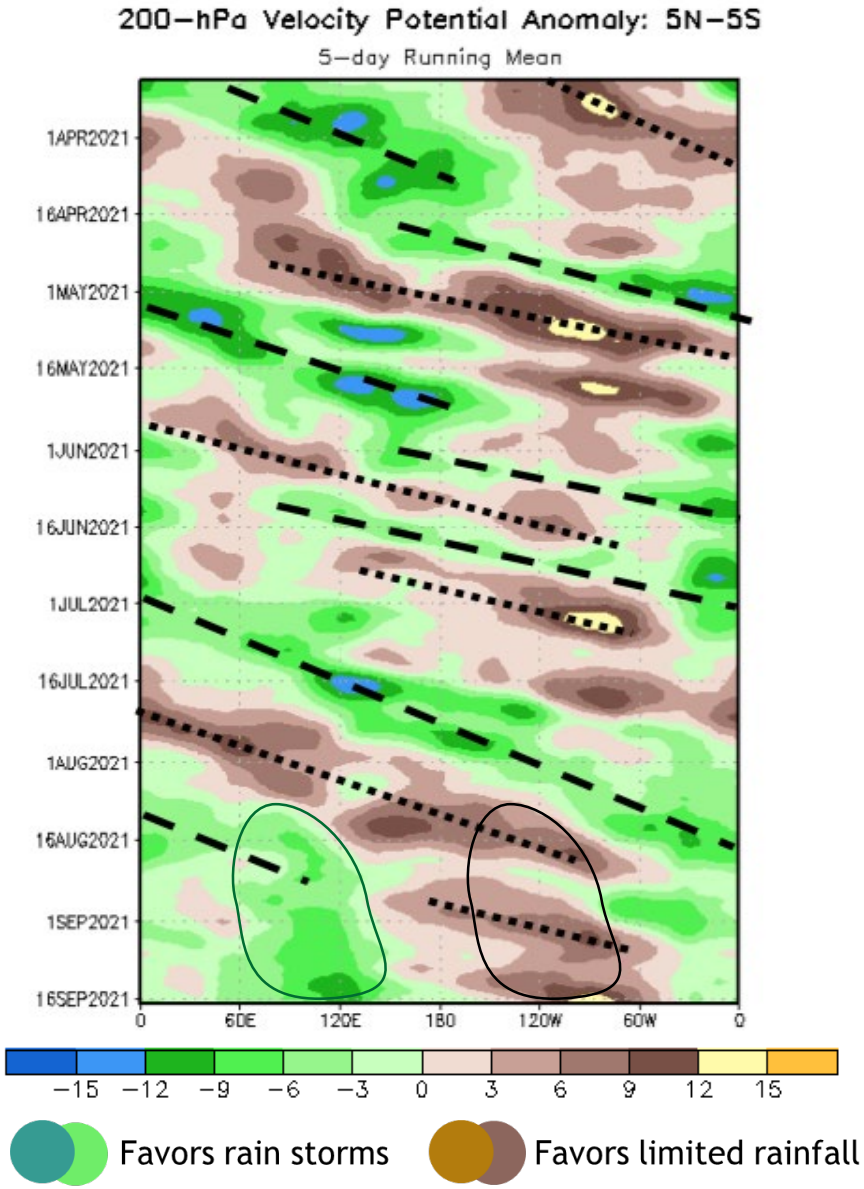
Madden-Julian Oscillation (MJO)

CPC Analysis:

- Wave-1 of the MJO continues
- Upper divergent (wet) in the Maritime Continent
- Upper convergent (dry) over the Americas
- Increasing evidence of limited propagation

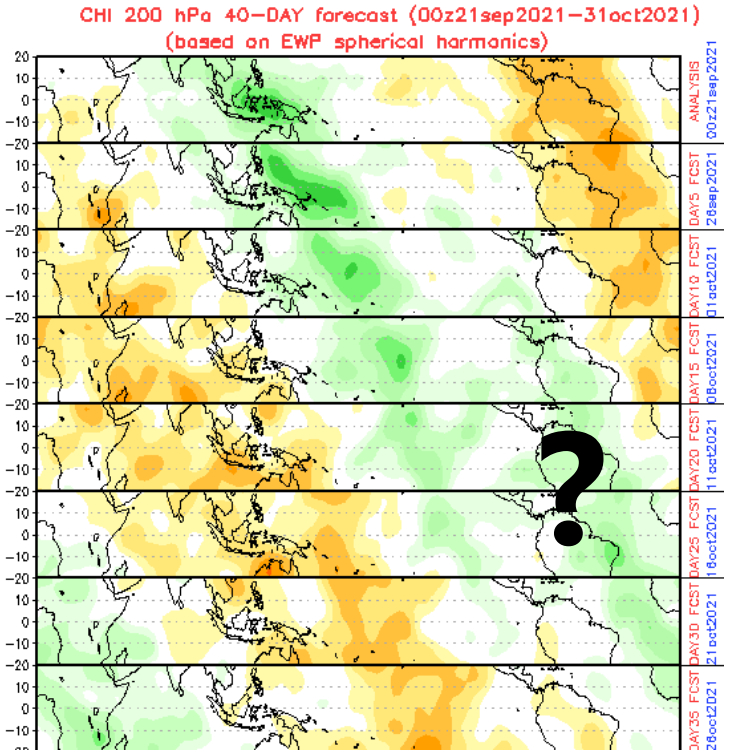


Source: CPC

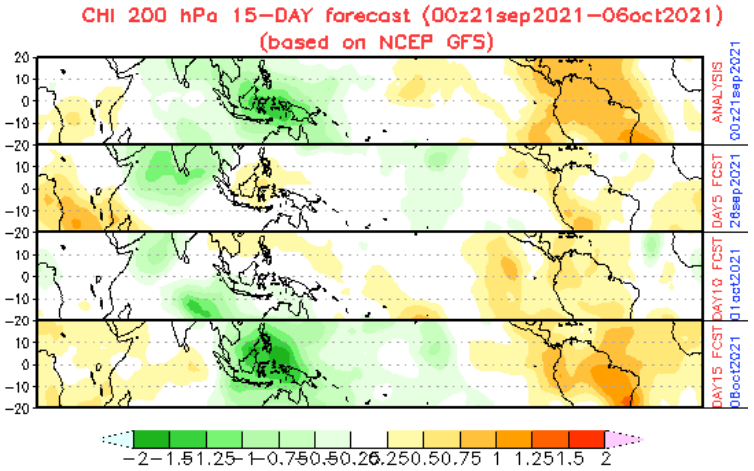


MJO Forecasts

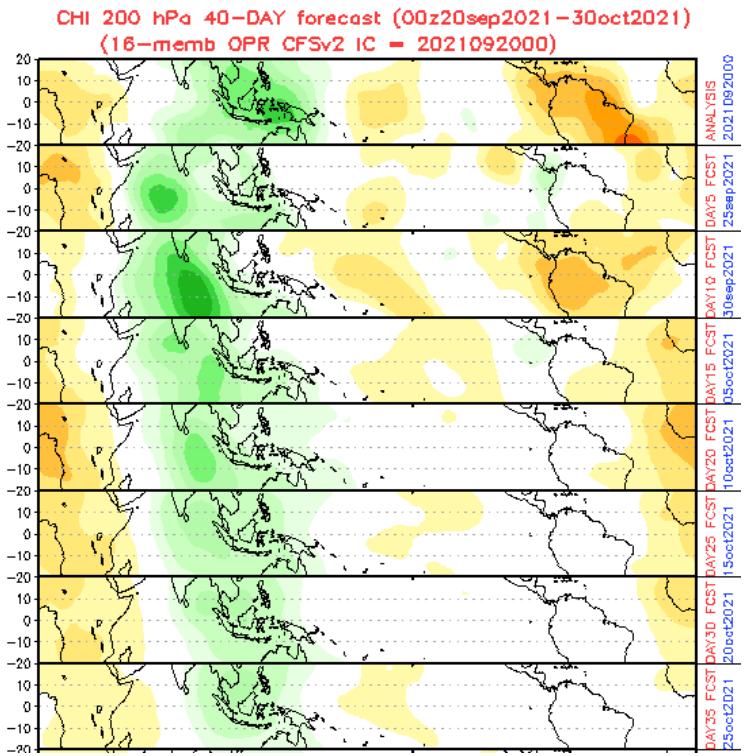
EWP



GFS

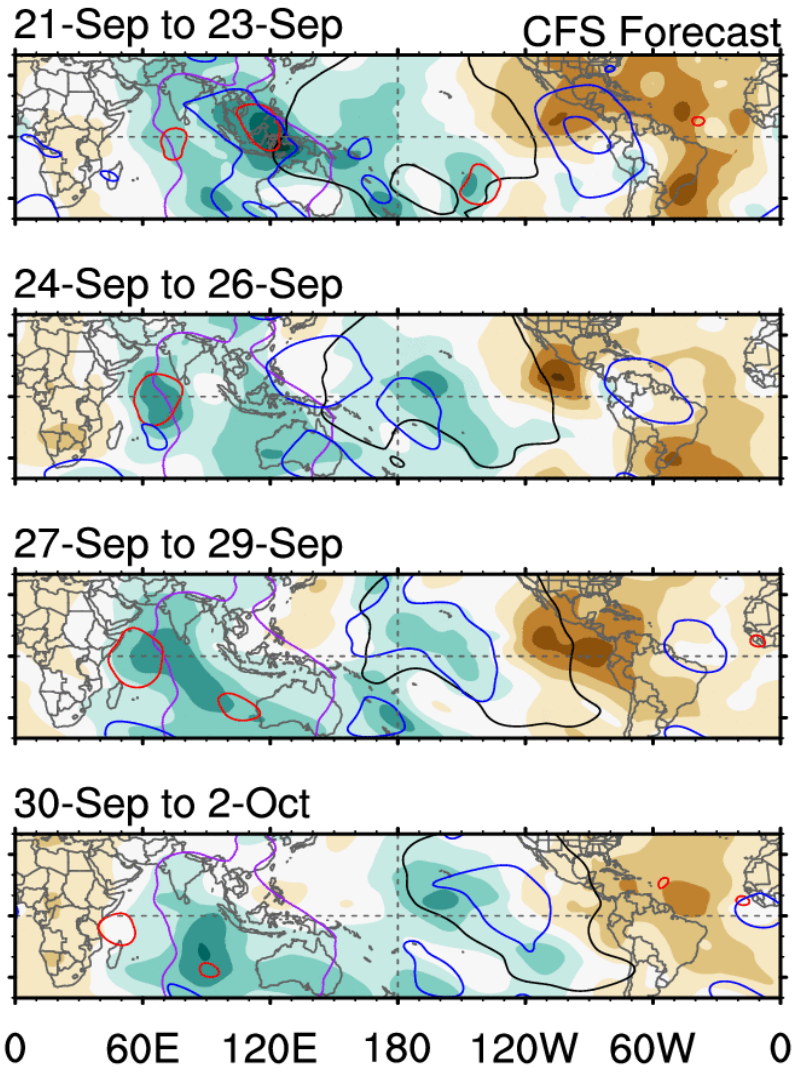


CFS



- Upper convergent pattern to continue dominating the Americas through Oct 5-10 (GFS, CFS, ECMWF), with weak Kelvin wave activity over the Americas.
- Less upper convergence by mid-October? Unclear…

Tropospheric Equatorial Waves



- Upper convergent (drier) pattern continues dominant
- Kelvin Wave Sep 22-25
- Second Kelvin Wave/weak MJO for early October (3-5).

NCICS

ncics.org/mjo

-9 -7 -5 -3 -1 1 3 5 7 9 x10^6 m2 s-1

7-day CHI200 with CFS forecasts

Wed 2020-09-16 1018 UTC

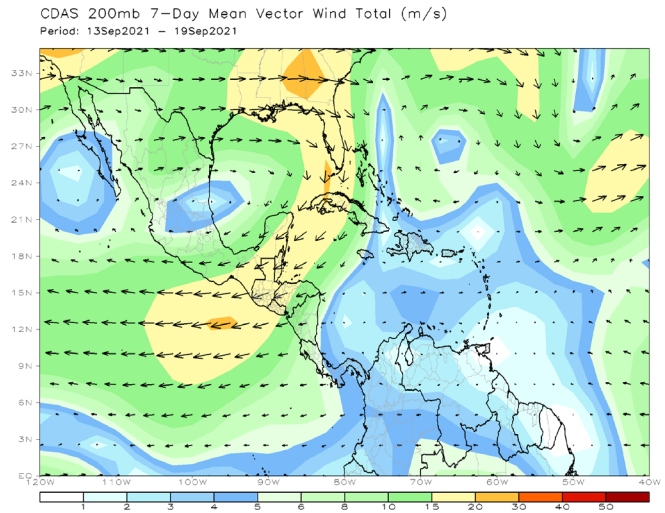
MJO
Low
Kelvin x2
ER

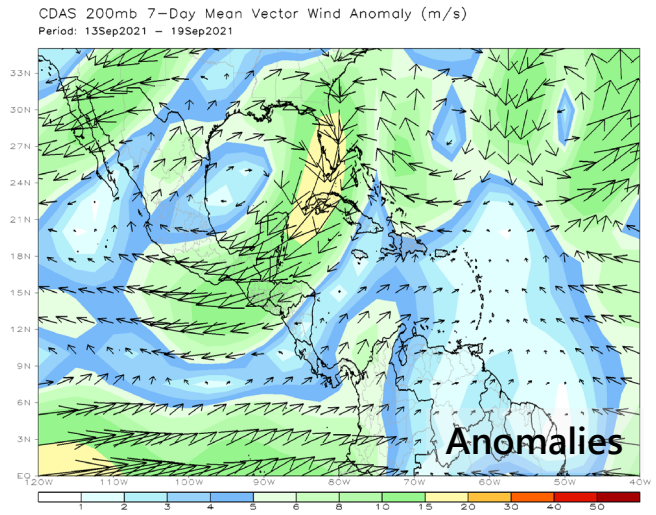
Contours at -2, -6 x10^6 m2 s-1

Carl Schreck
carl_schreck@ncsu.edu

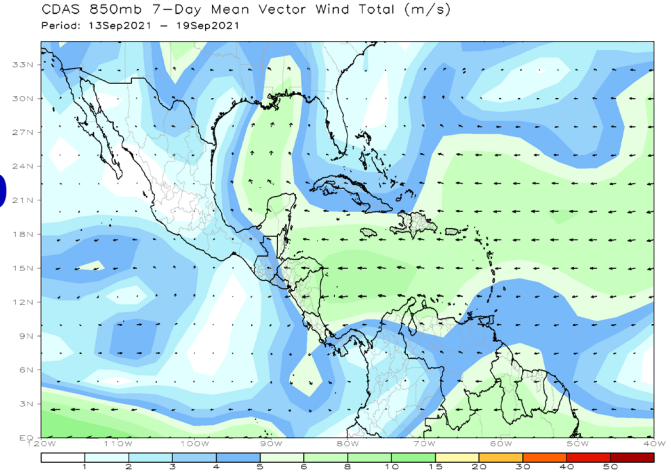
Last Week's Circulation and Rainfall – Tropical Americas

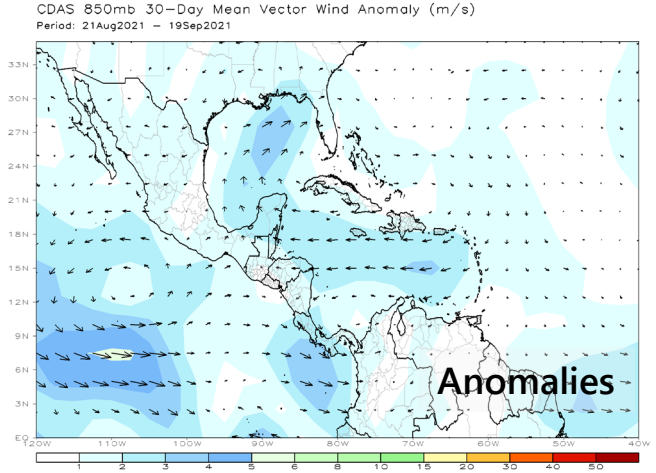
200 hPa



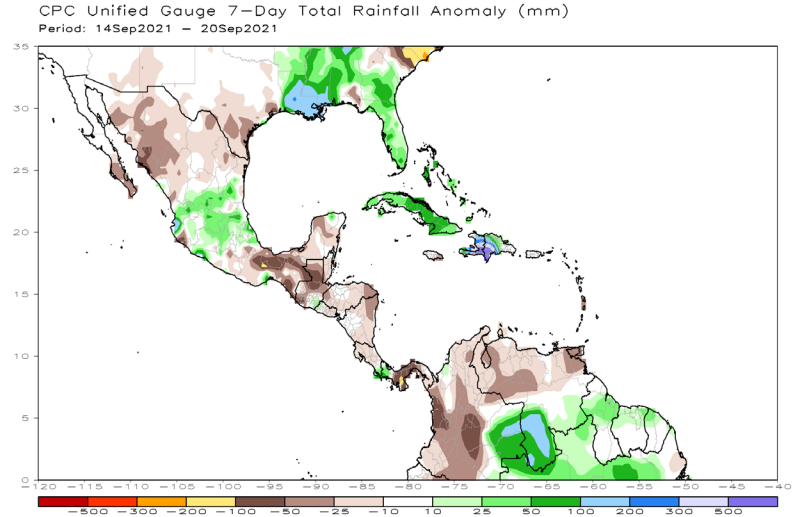


850 hPa

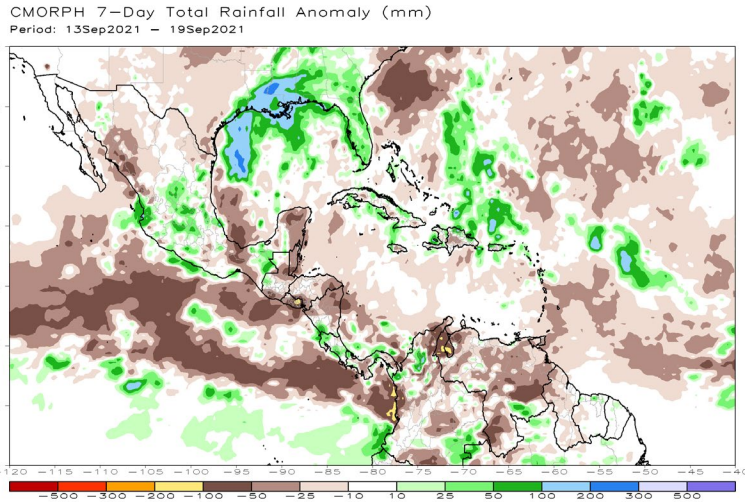




Rainfall

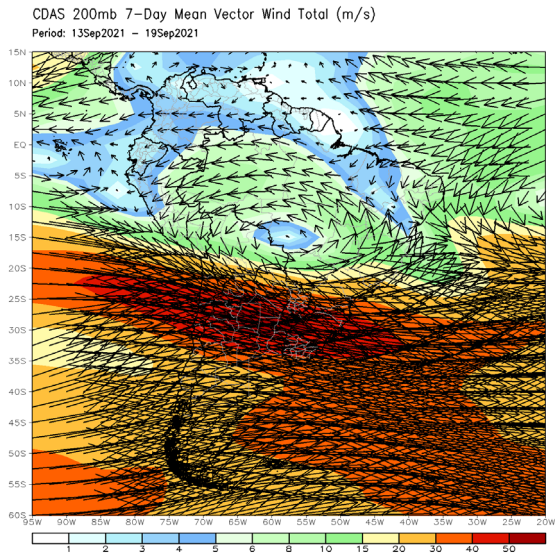


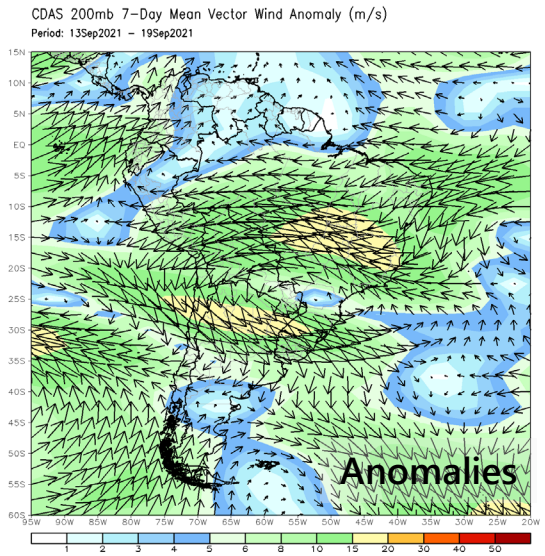
CMORPH: CPC Morphing Technique https://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html



Last Week's Circulation and Rainfall – South America

200 hPa





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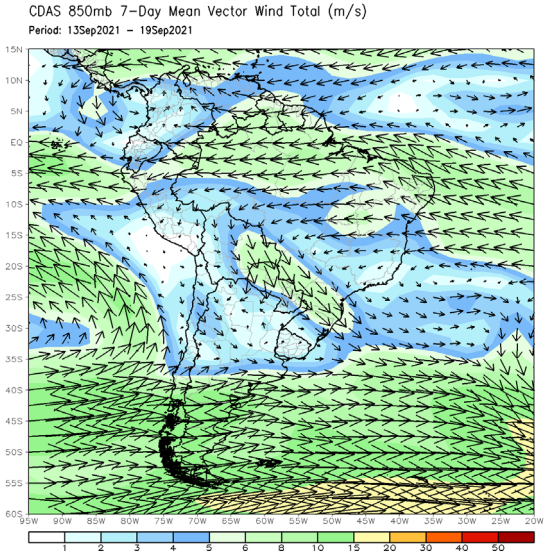
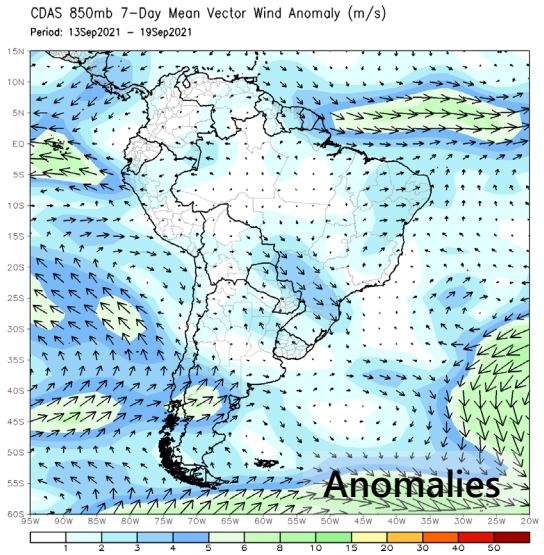
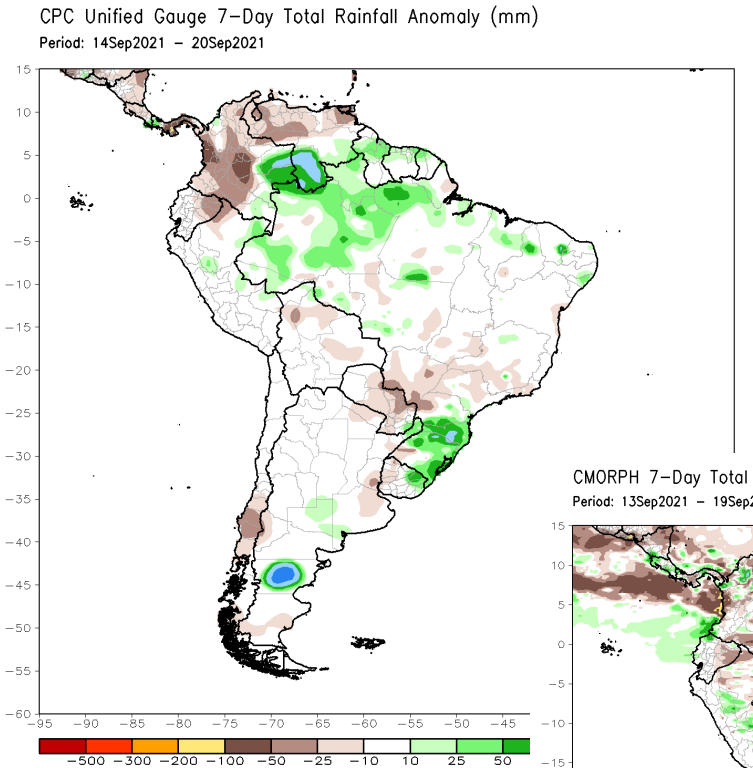
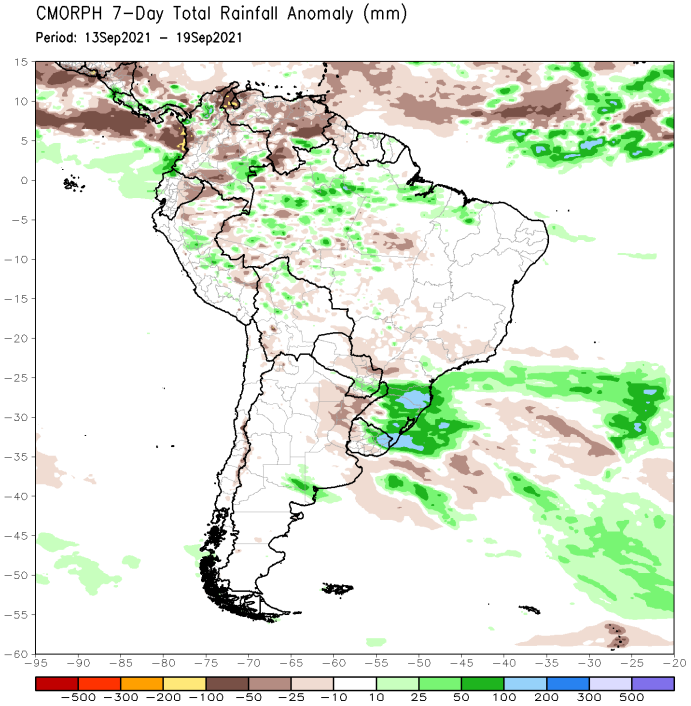




Rainfall





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

¡Gracias!

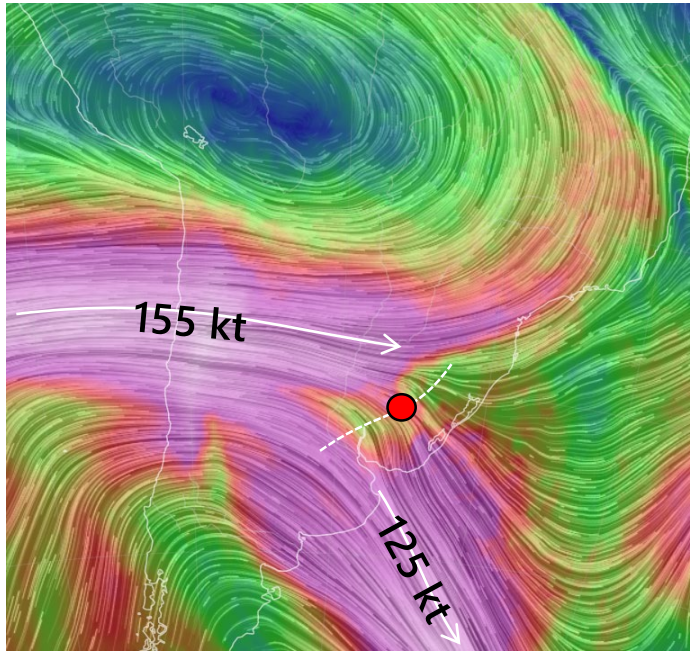
Thank you!

Hail / Severe Weather Event in Uruguay (Sep 12-13)

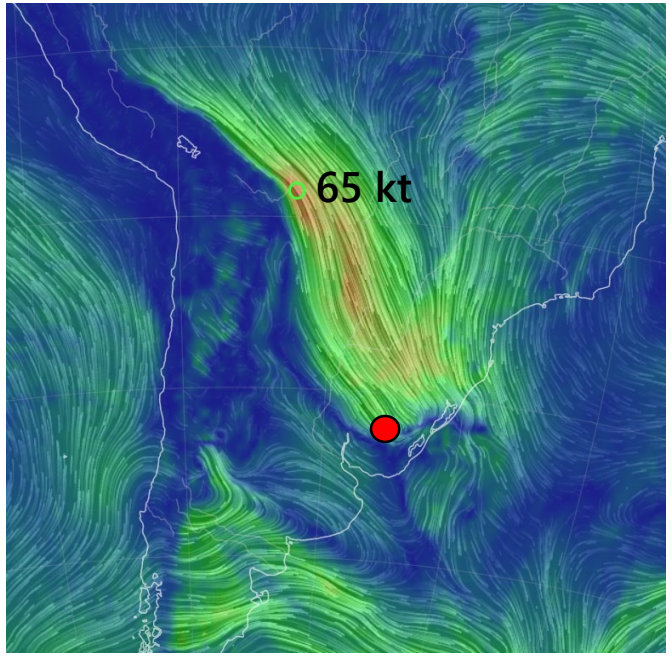
BRIEF ANALYSIS OF MODEL GRIDS: 12 UTC Sep 13

- 60-70kt LLJ in Bolivia
- Upper jets coupled in divergent side
- Short Wave Upper Trough
- PWAT Percent of Normal > 200%

250 hPa Winds



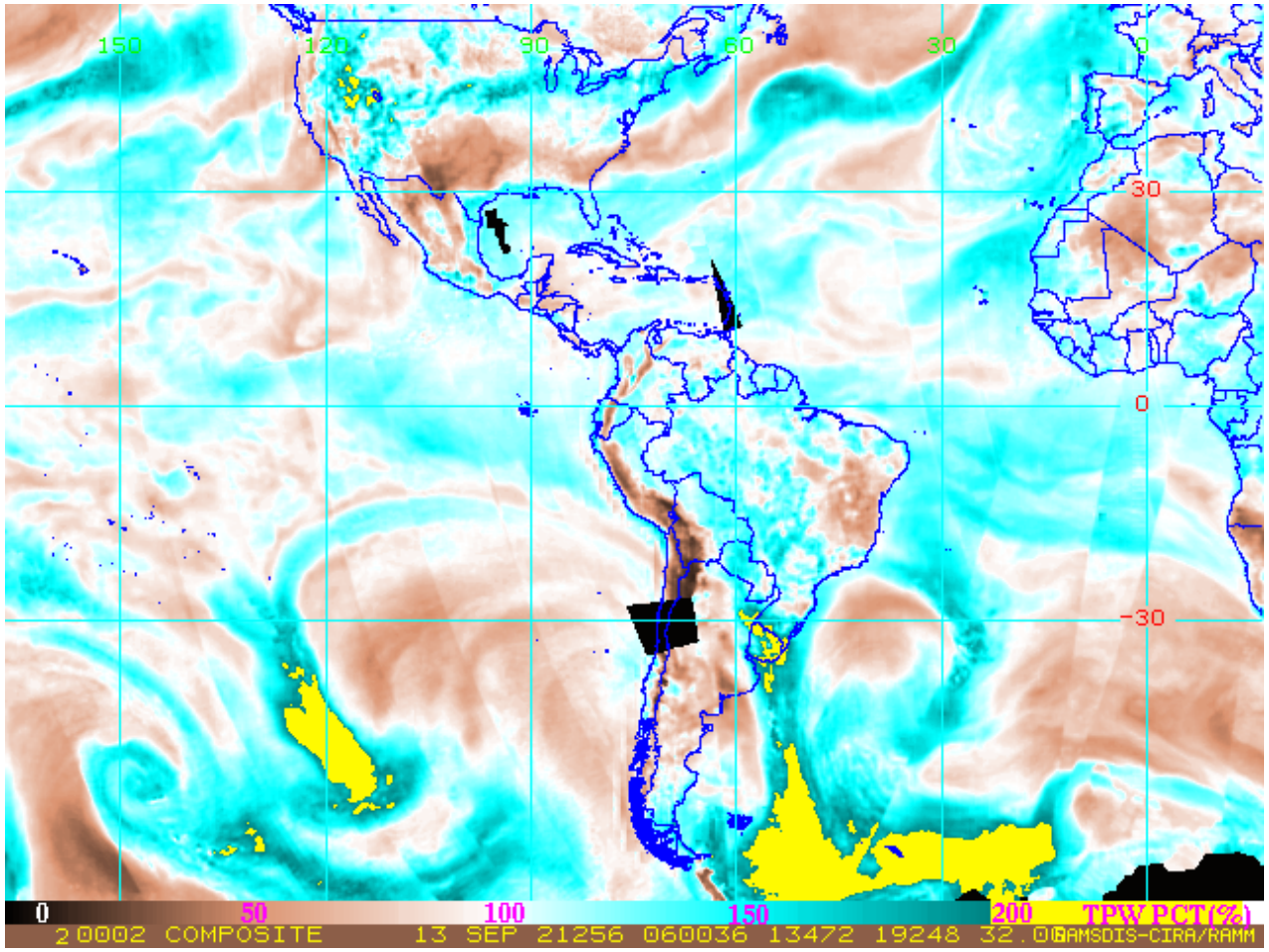
850 hPa Winds



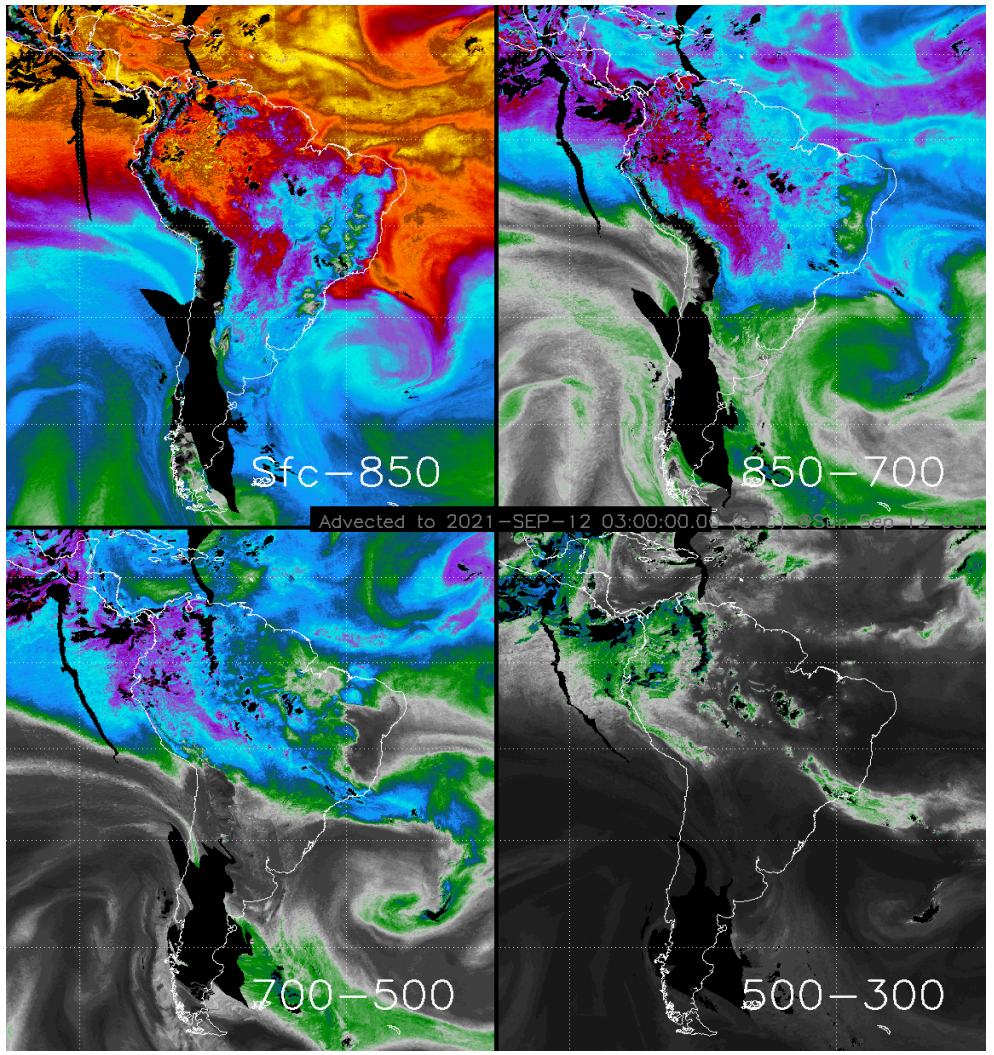
Courtesy: Nestor Santayana (INUMET)

Hail / Severe Weather Event in Uruguay

- PWAT Percent of Normal > 200%

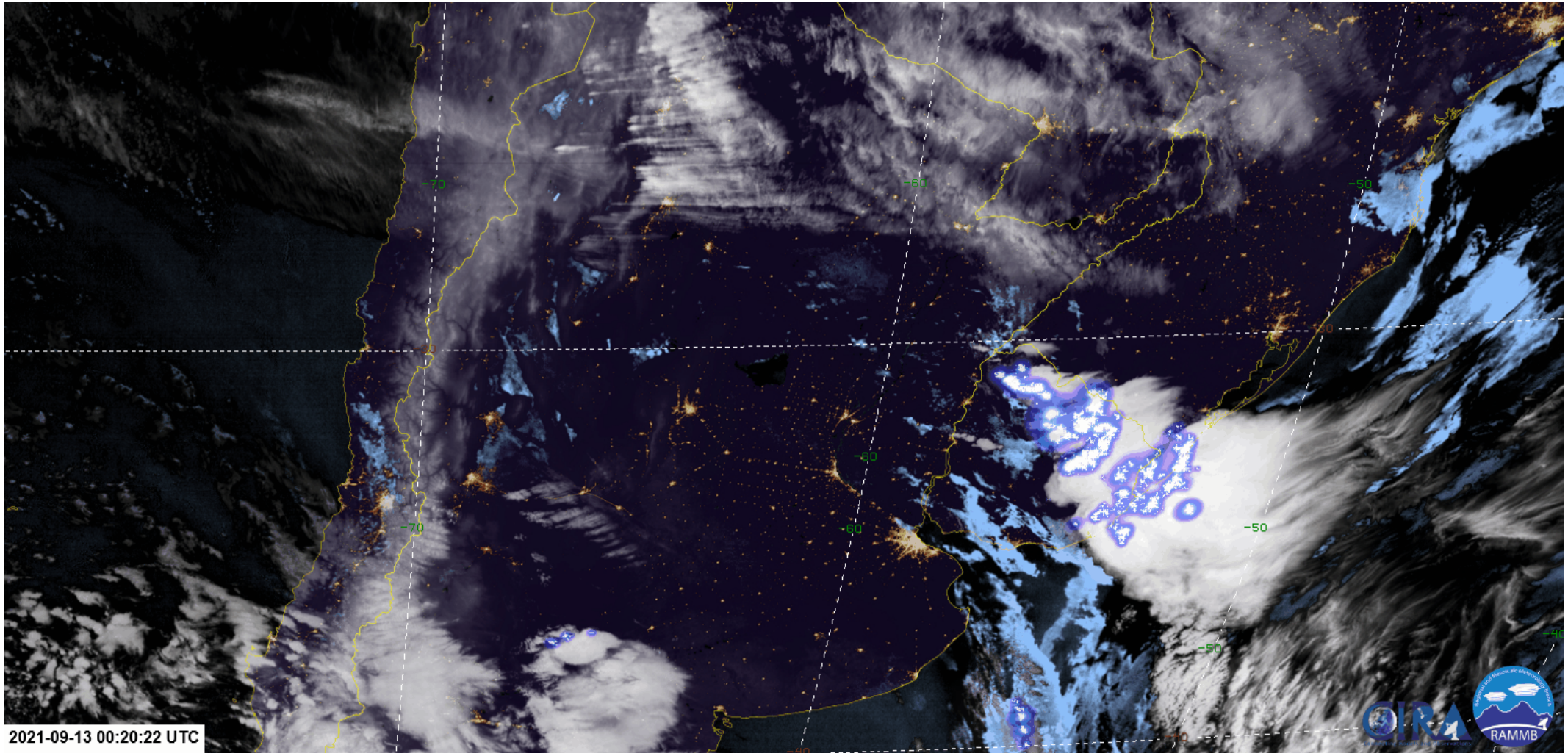


- ALPW: Moist plumes at different levels



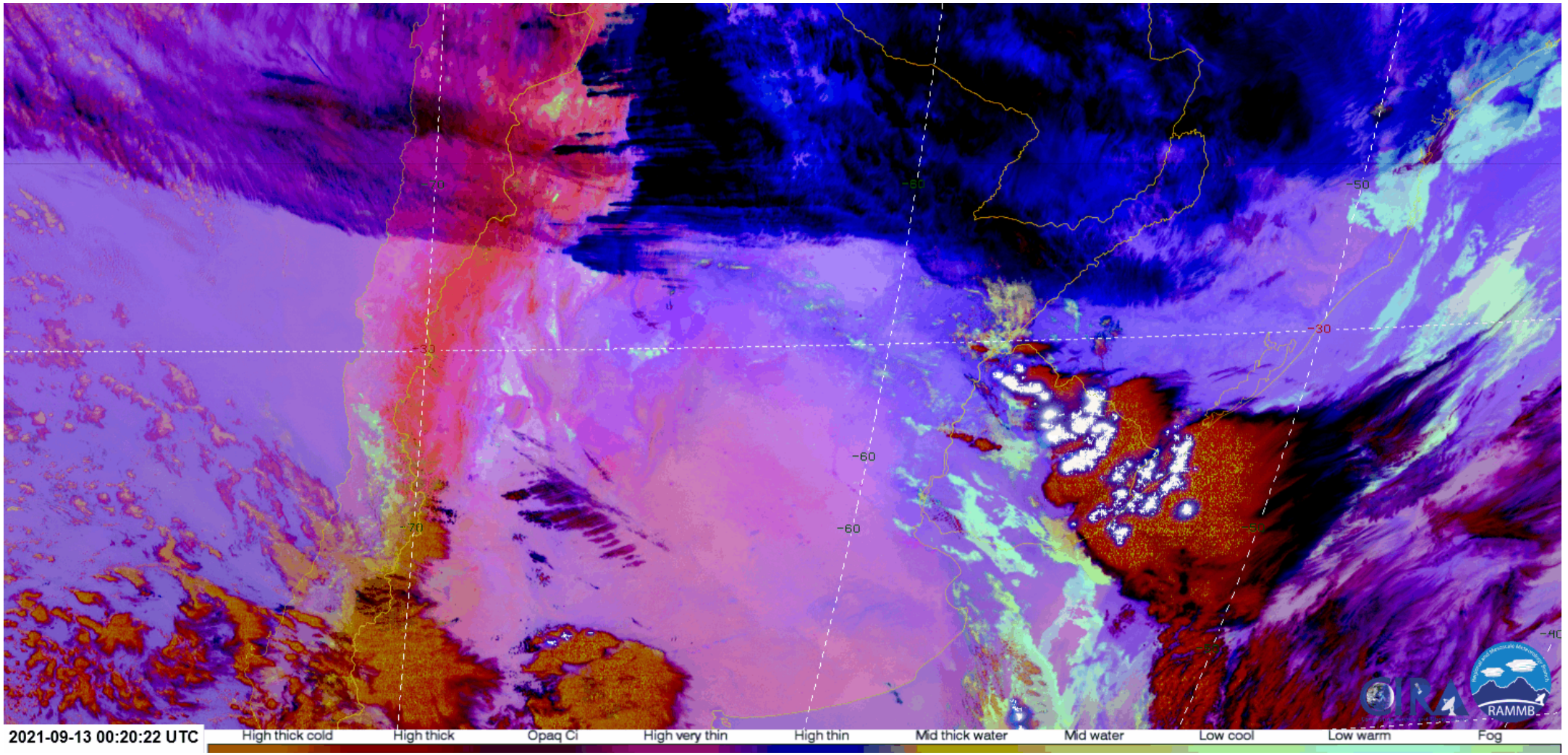
Hail / Severe Weather Event in Uruguay

Geocolor (Night) and GLM Total Optical Energy



Hail / Severe Weather Event in Uruguay

Nocturnal Microphysics RGB and GLM Total Optical Energy



Hail / Severe Weather Event in Uruguay

Band 10.3 um (Band 13)