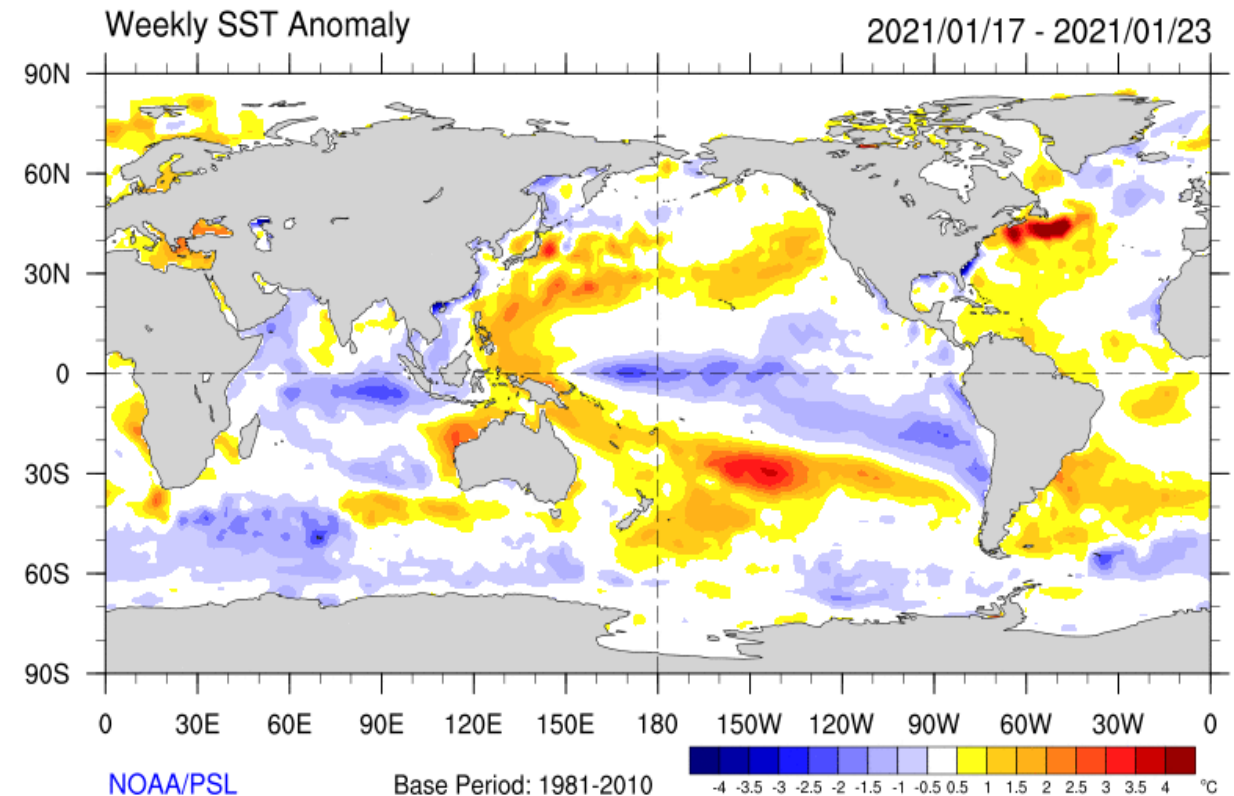
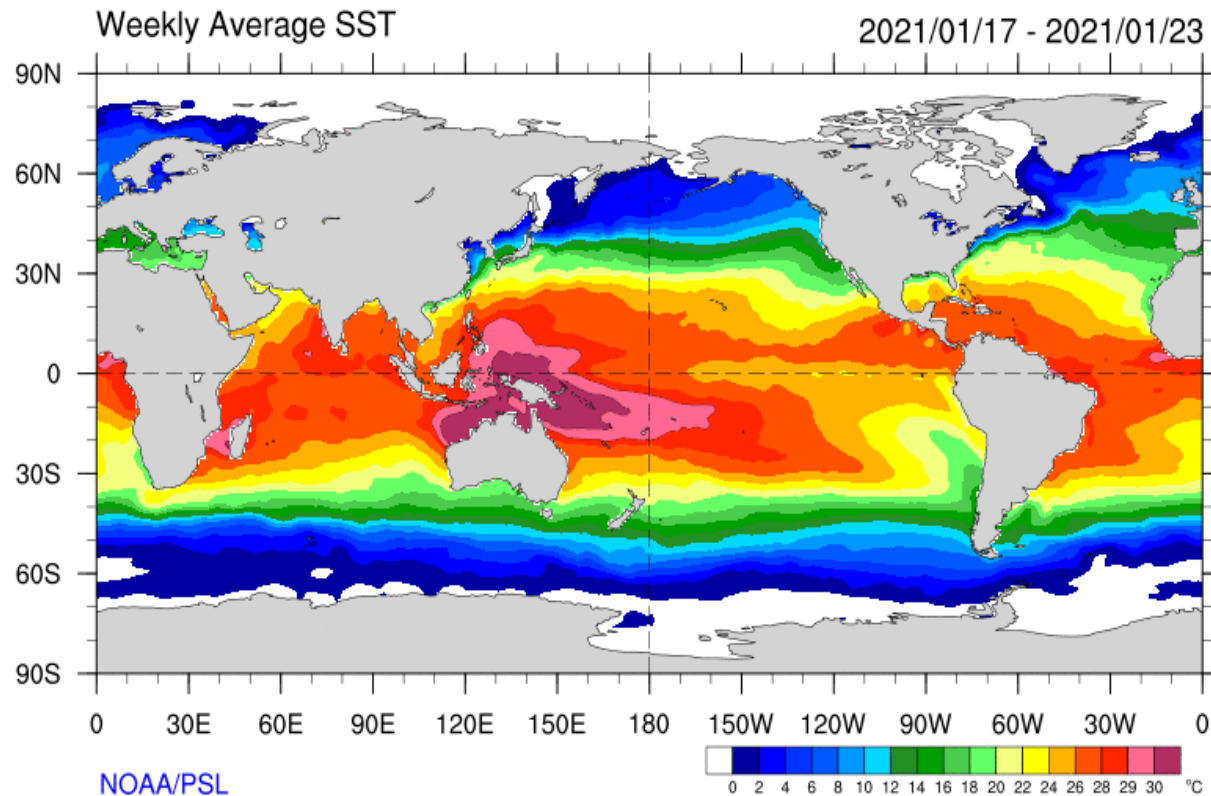


Monthly Regional Focus Group Session

Wednesday 27 January 2021

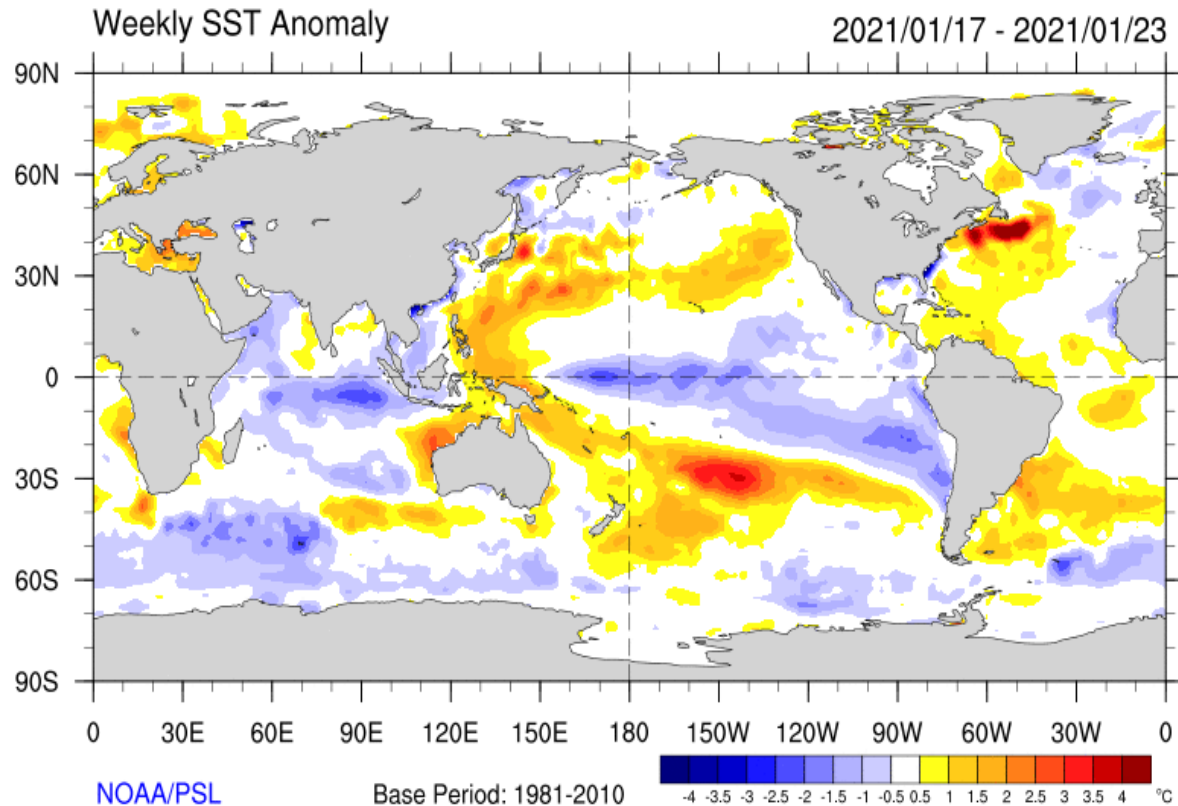
Sea Surface Temperatures (Last Week)



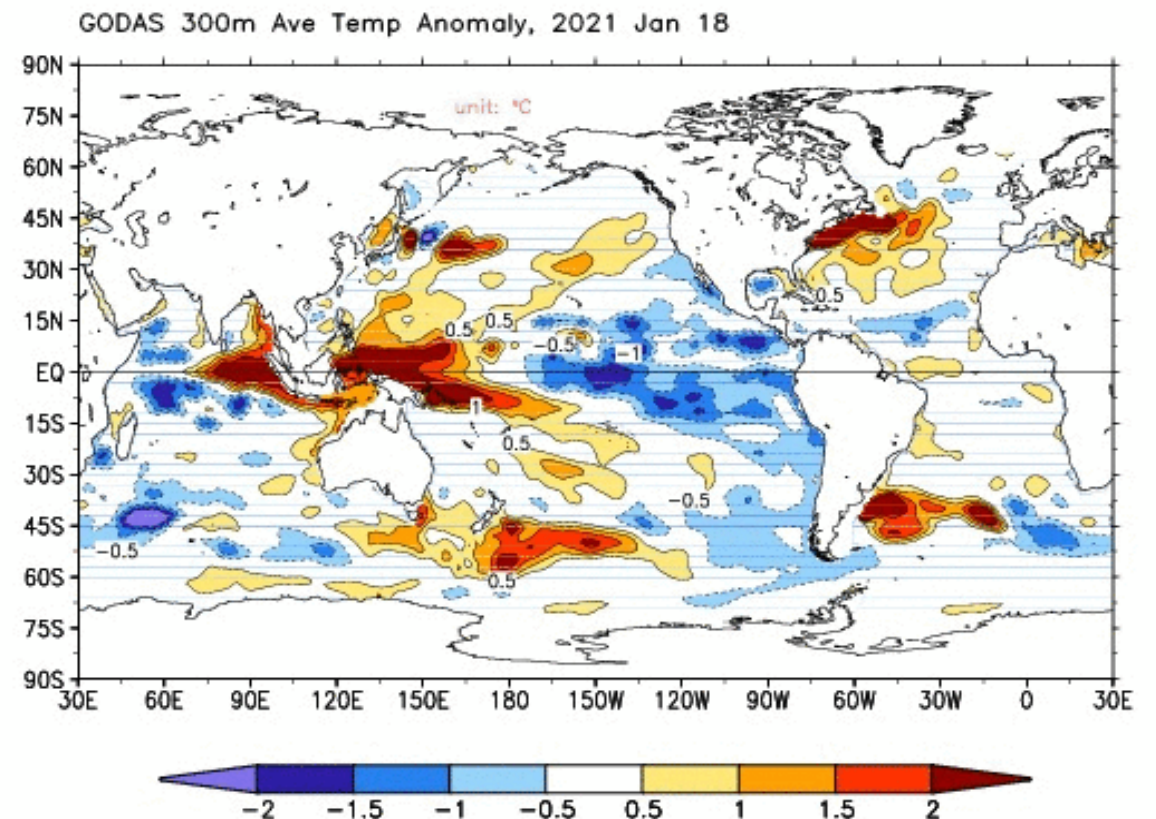
Are the anomalies deep?

Deep anomalies tend to last longer and are useful for subseasonal forecasting.

Superficial Anomaly



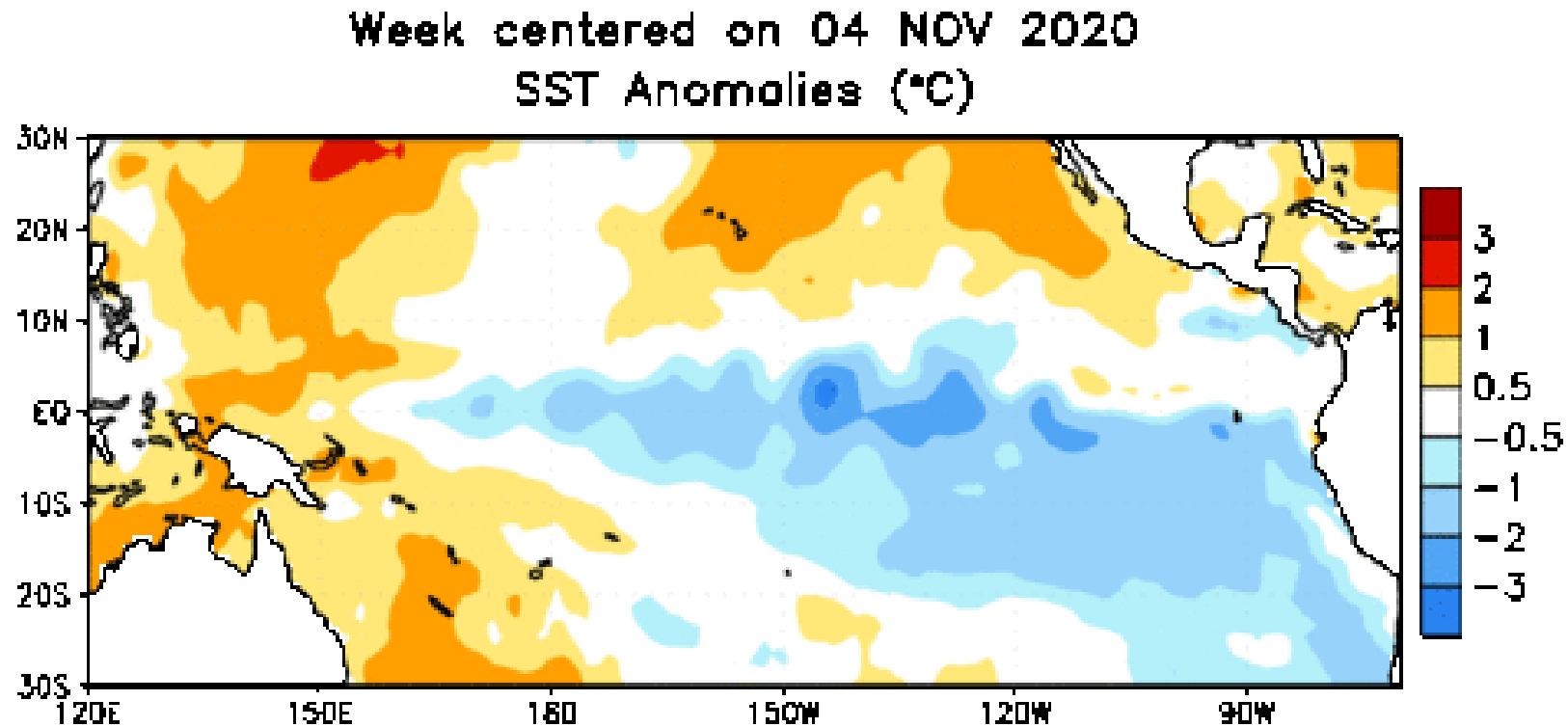
Top 300m Layer Anomaly



ENSO:

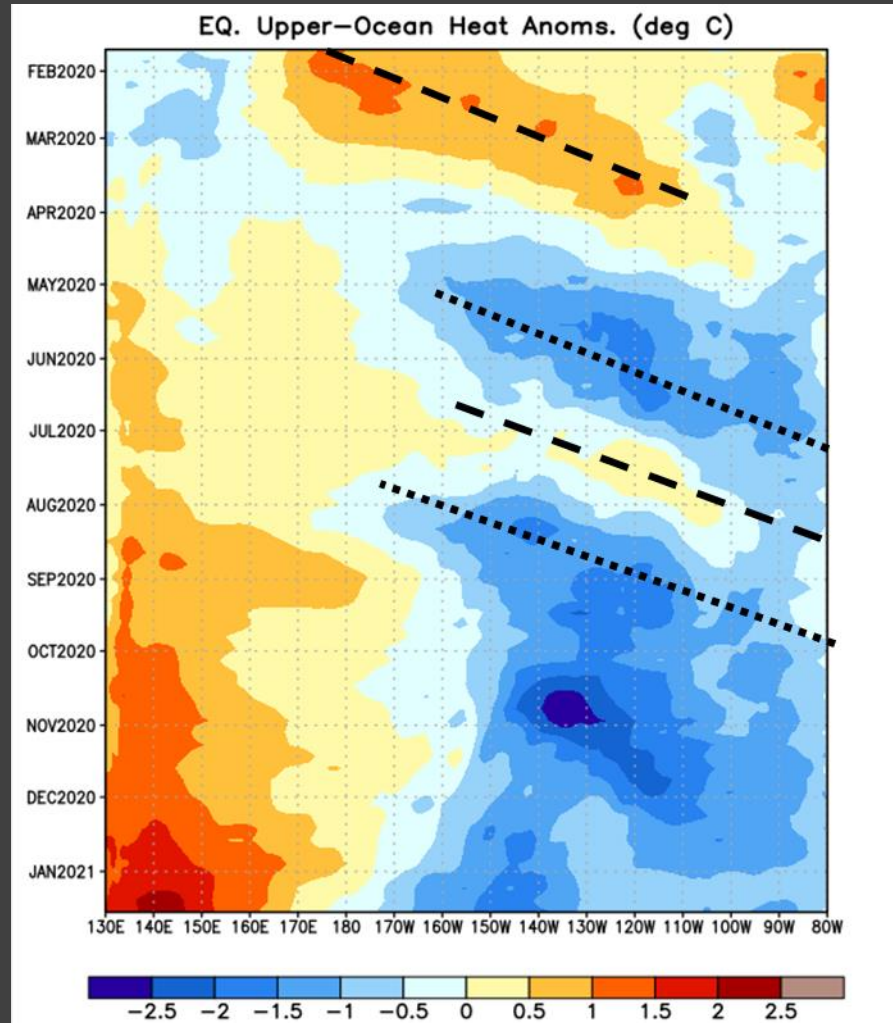
La Niña

- La Niña Advisory: La Niña conditions are present.
- Equatorial sea surface temperatures (SSTs) are below average from the west-central to eastern Pacific Ocean.
- The tropical atmospheric circulation is consistent with La Niña.

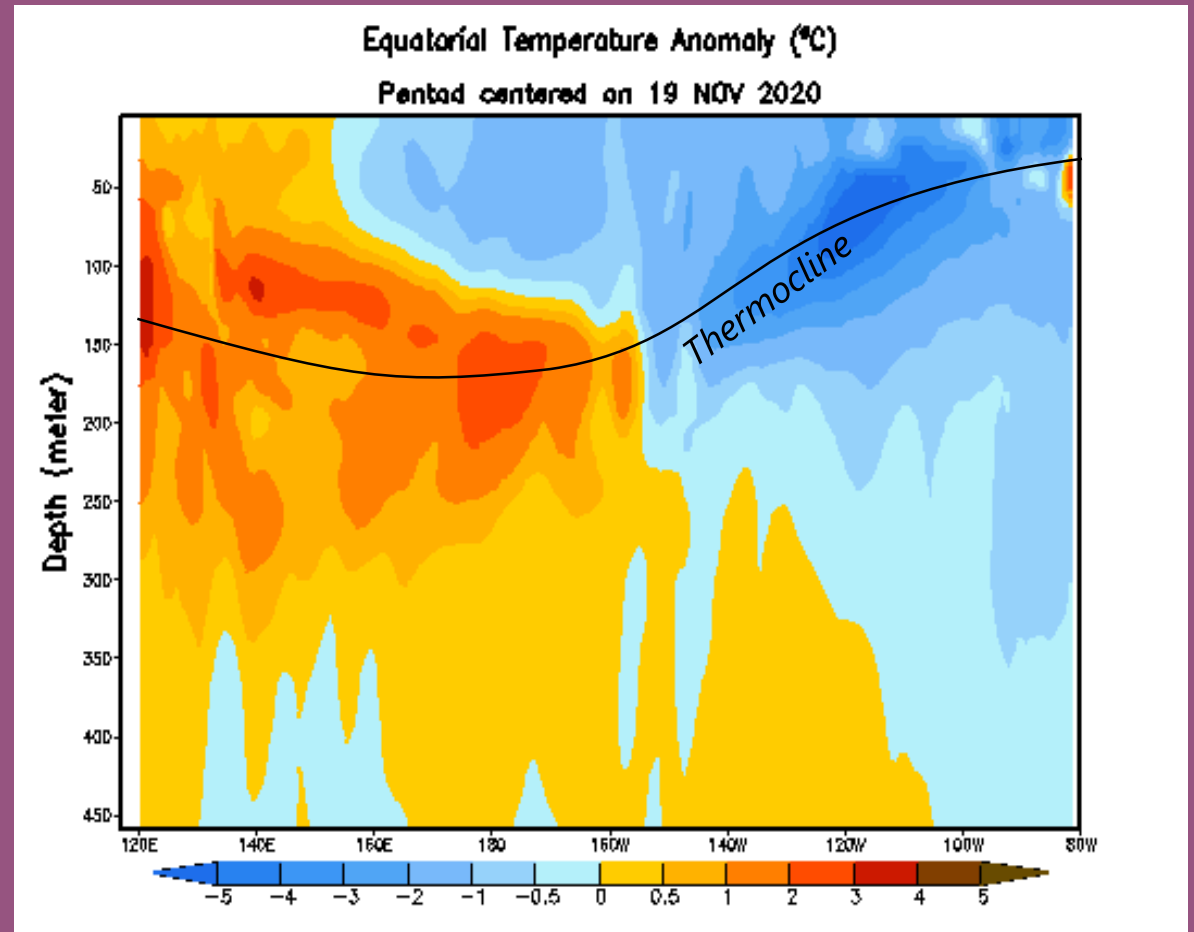


ENSO

Hovmöller: Heat Content



Equatorial Pacific Temp. Anomaly



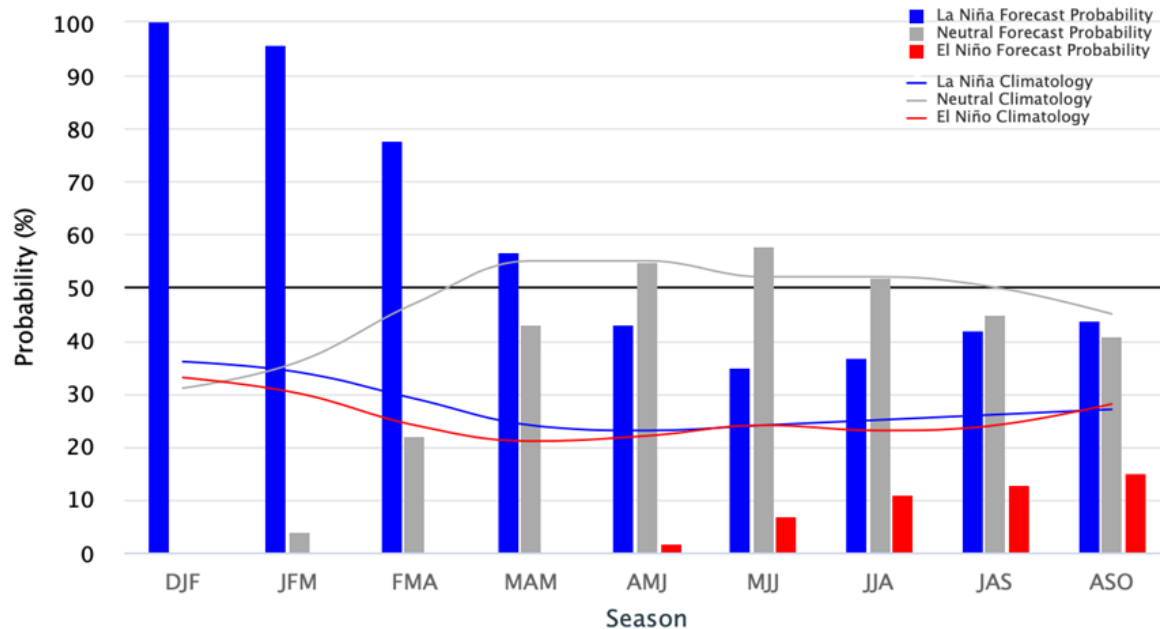
ENSO Outlook

La Niña is expected to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March), with a potential transition to ENSO-neutral during the spring 2021 (55% chance during April-June).*

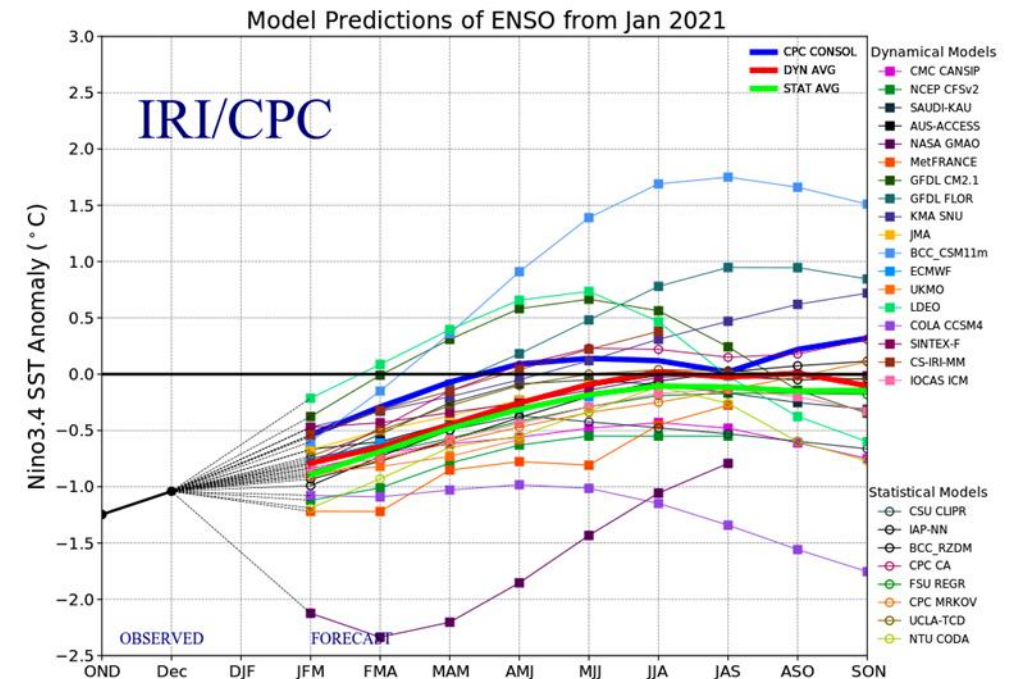
CPC/IRI Probabilistic Forecast

Early-January 2021 CPC/IRI Official Probabilistic ENSO Forecasts

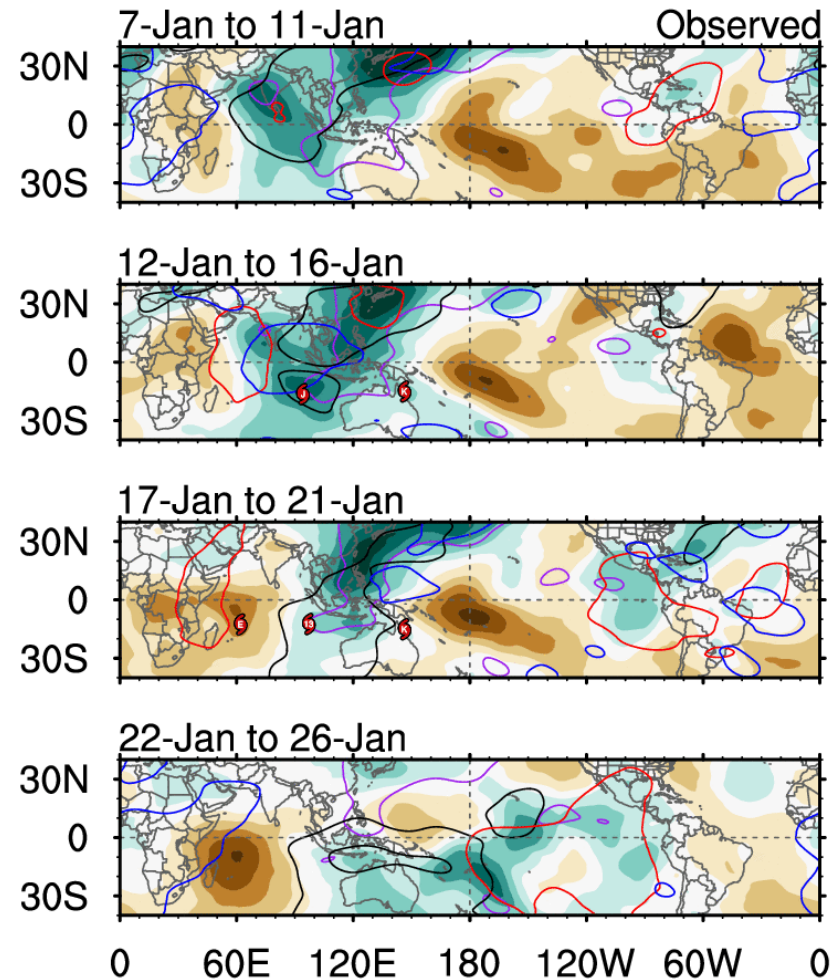
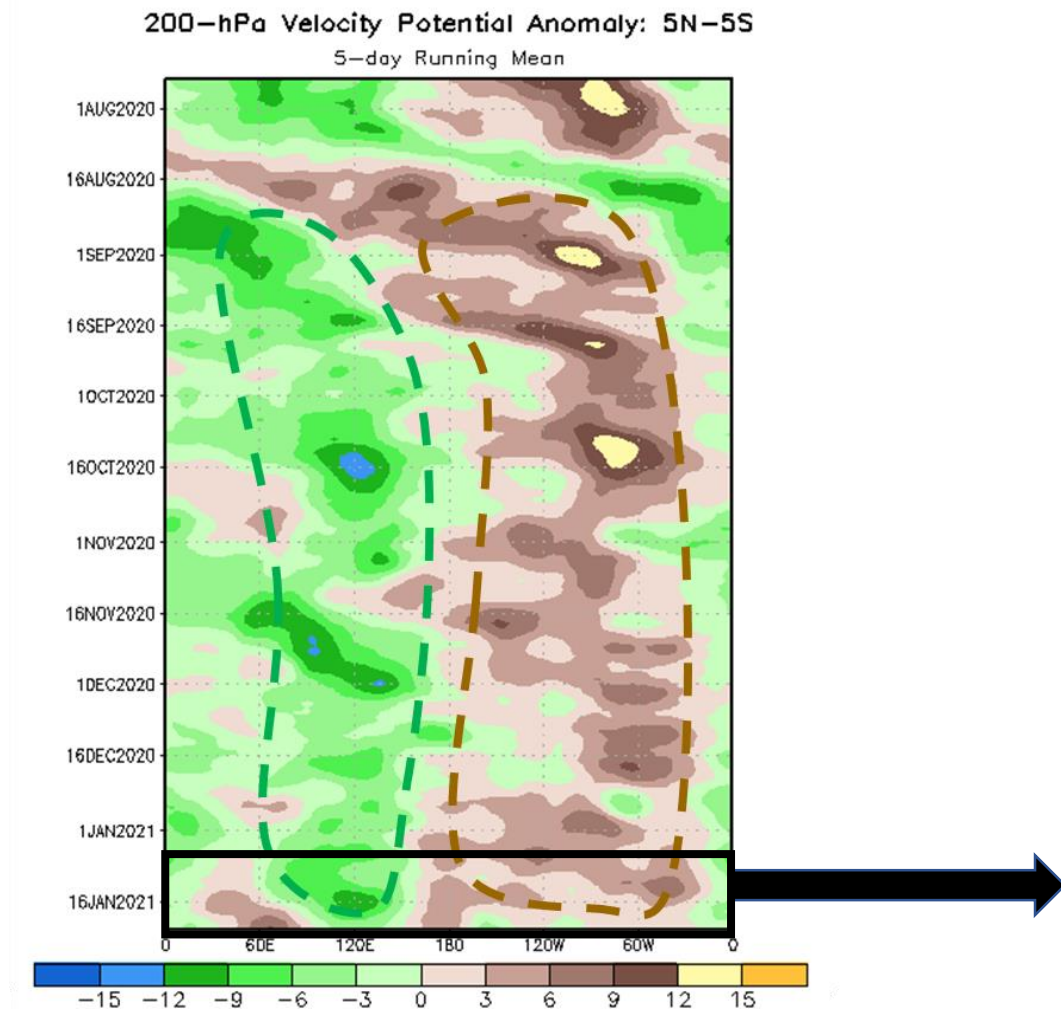
ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5°C to 0.5°C



IRI/CPC Dynamic Models



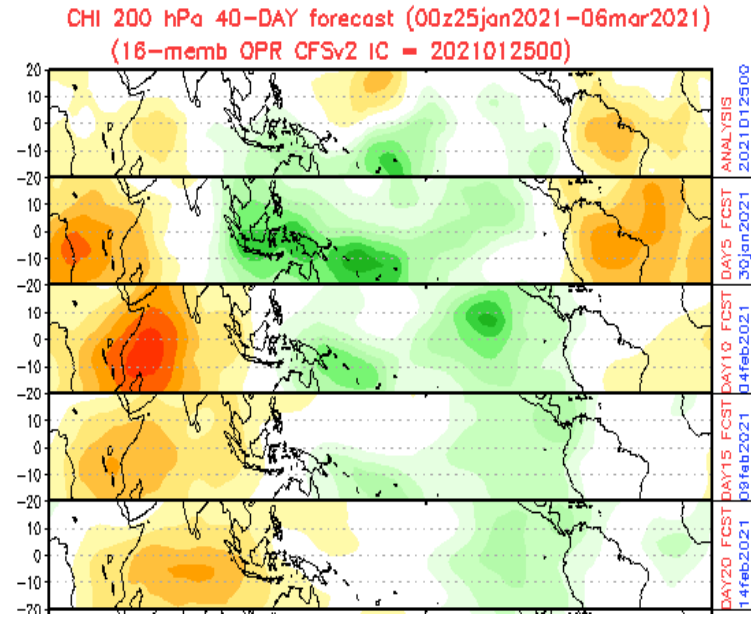
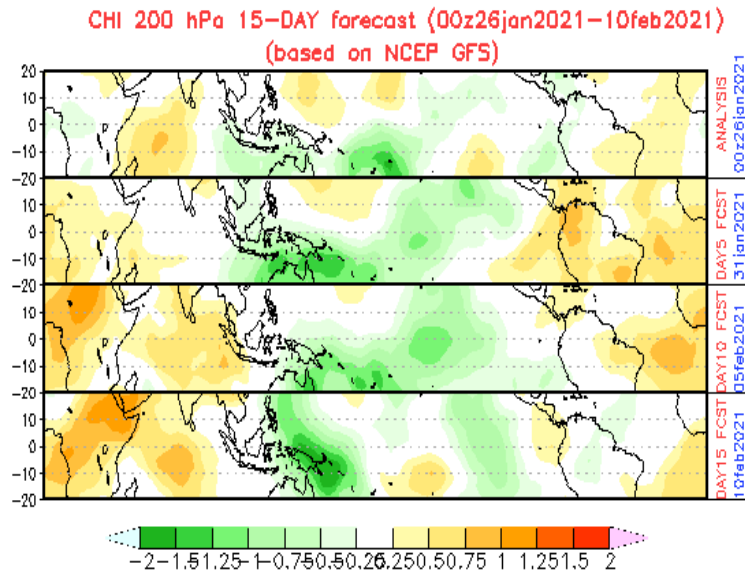
Madden-Julian Oscillation (MJO)



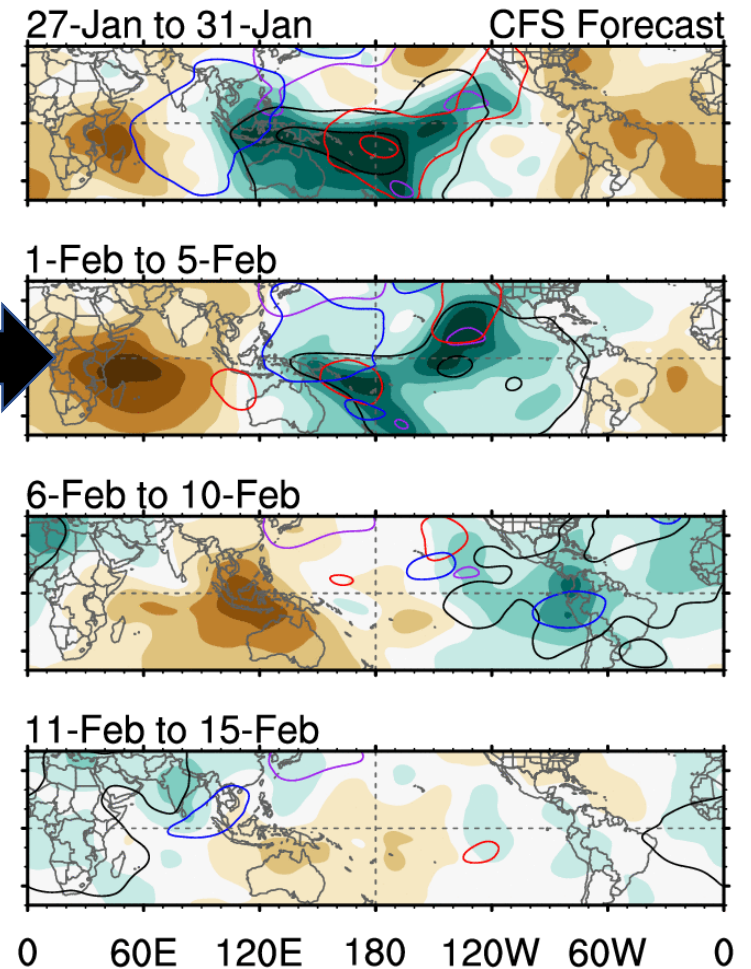
 Favors rain storms  Favors limited rainfall

MJO Forecasts

GFS



CFS



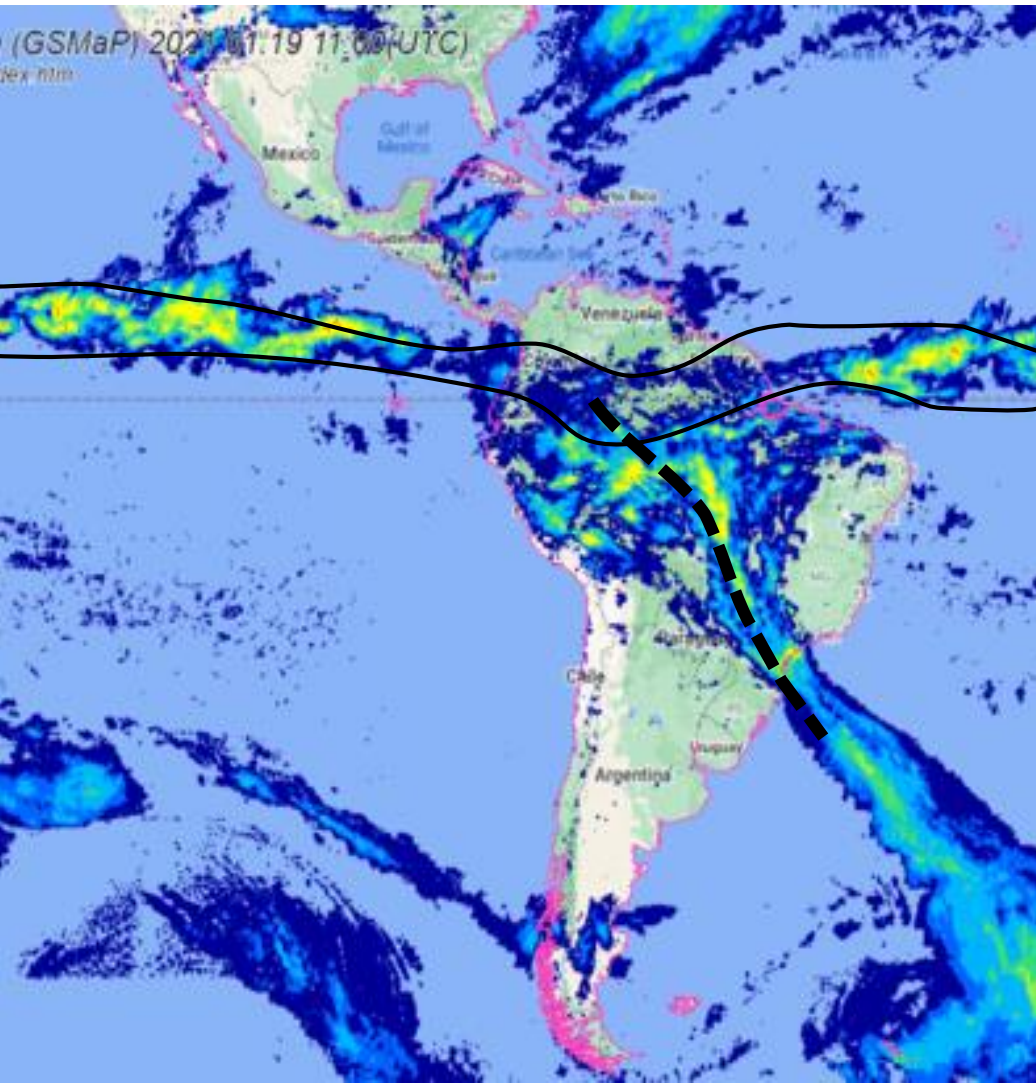
7-day CHI200 with CFS forecasts

Wed 2020-09-16 1018 UTC

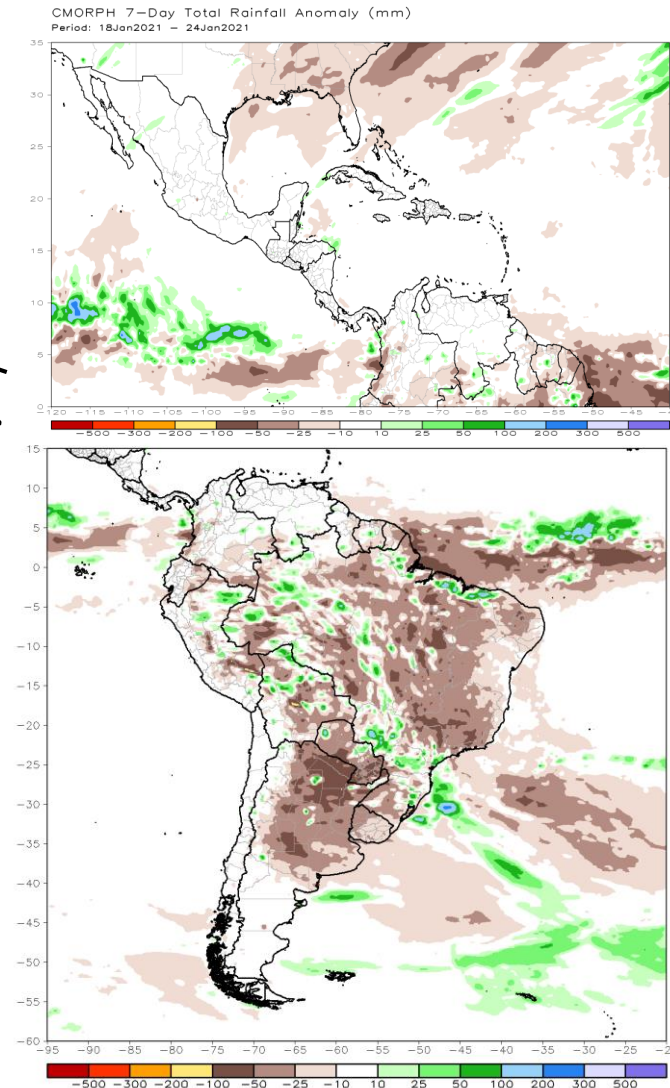
— MJO — Kelvin x2
— Low — ER
Contours at $-2, -6 \times 10^6 \text{ m}^2 \text{ s}^{-1}$
Carl Schreck
carl_schreck@ncsu.edu

Rainfall patterns last week

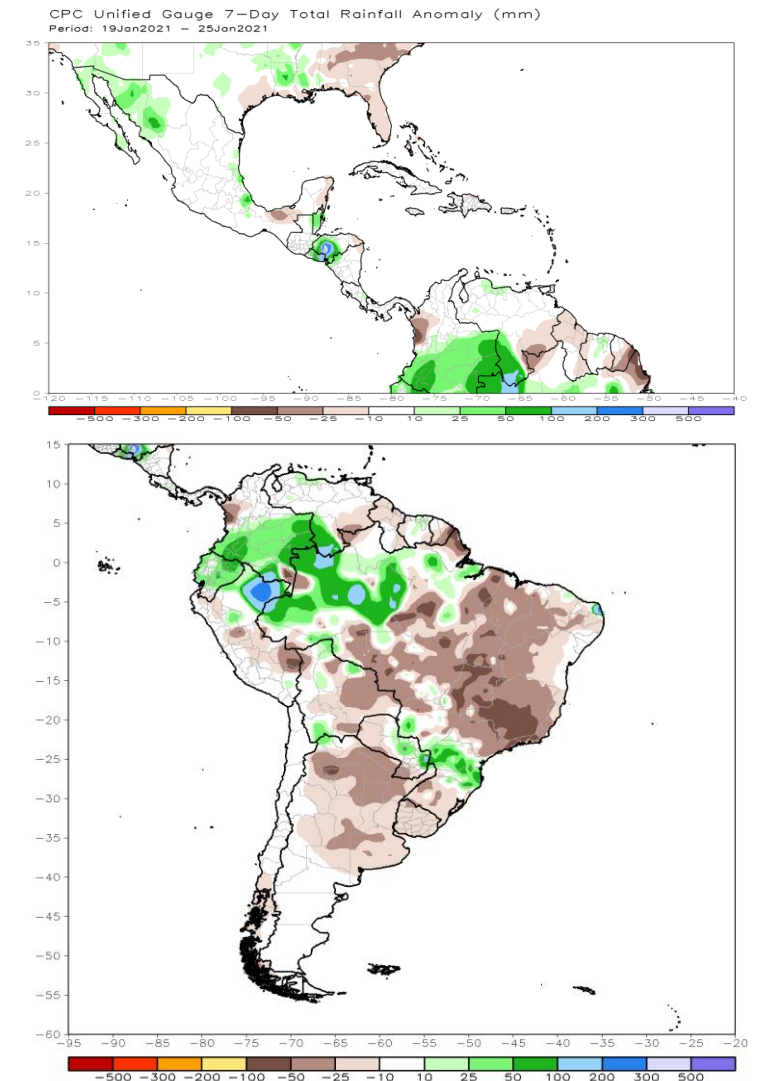
JAXA GsMaP Estimated Rainfall from Satellites



CMORPH Anomalies



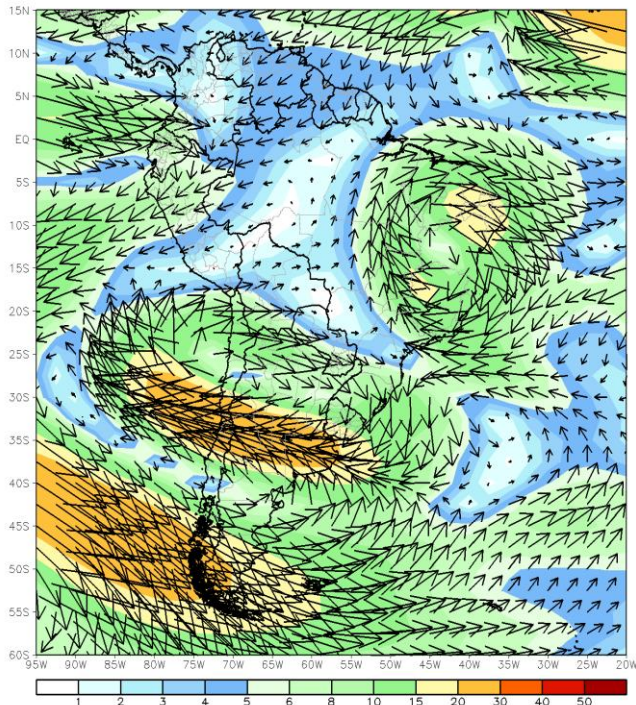
Gauge Anomalies



Last week's anomalies for South America

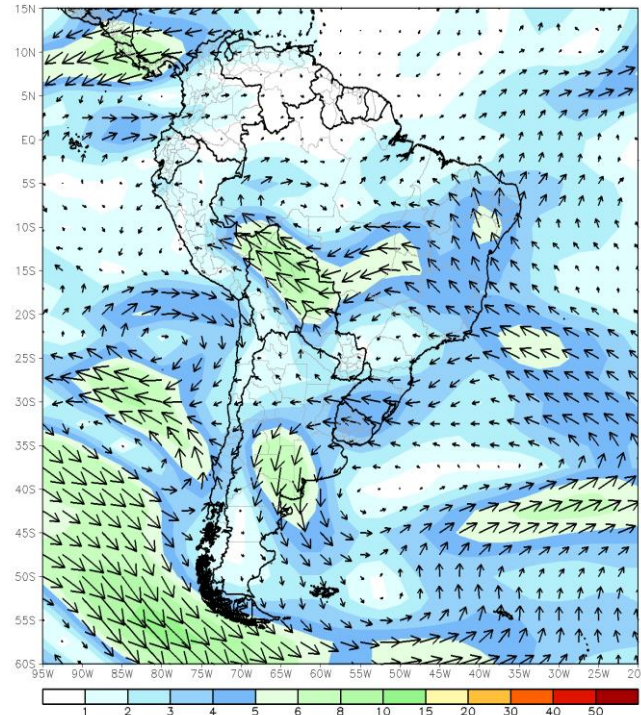
200 hPa Flow

CDAS 200mb 7-Day Mean Vector Wind Anomaly (m/s)
Period: 18Jan2021 - 24Jan2021



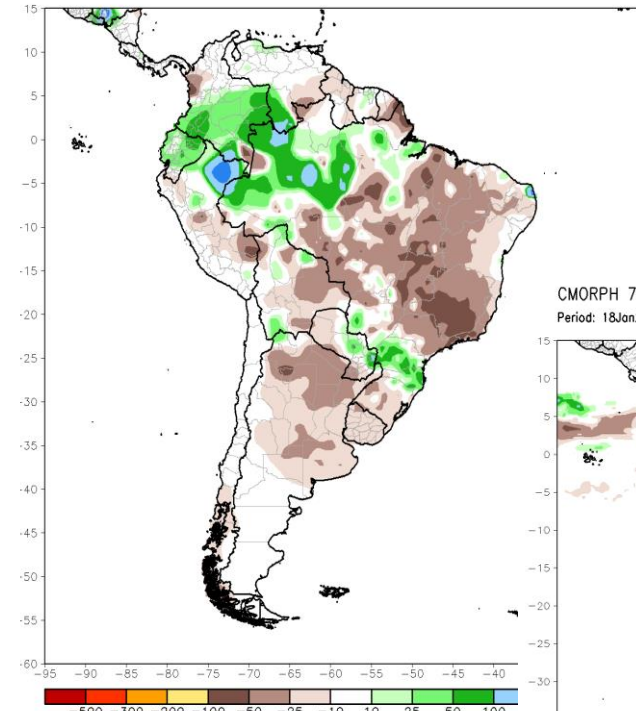
850 hPa Flow

CDAS 850mb 7-Day Mean Vector Wind Anomaly (m/s)
Period: 18Jan2021 - 24Jan2021

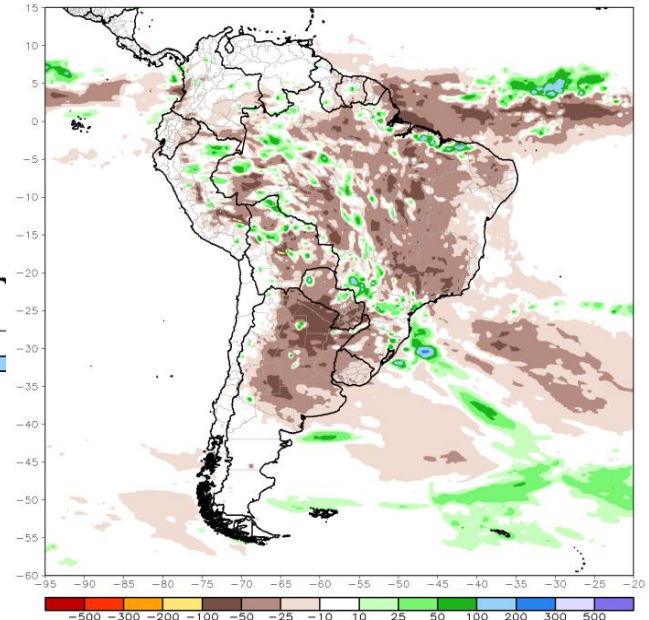


Rainfall

CPC Unified Gauge 7-Day Total Rainfall Anomaly (mm)
Period: 19Jan2021 - 25Jan2021



CMORPH 7-Day Total Rainfall Anomaly (mm)
Period: 18Jan2021 - 24Jan2021

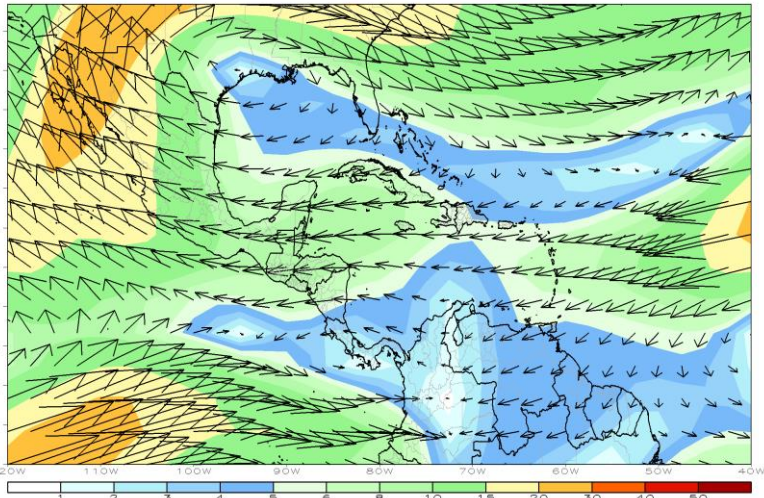


CMORPH: CPC Morphing Technique
https://www.cpc.ncep.noaa.gov/products/janowiak/cmorph_description.html

Last Week's anomalies for the Tropical Americas

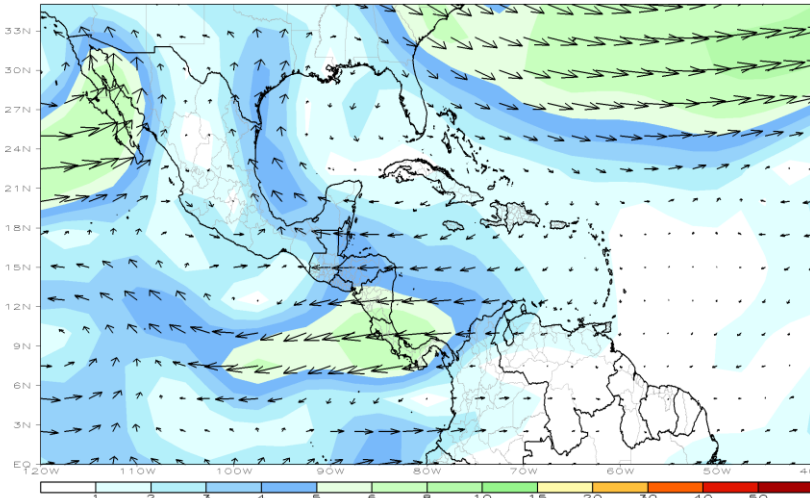
200 hPa Flow

CDAS 200mb 7-Day Mean Vector Wind Anomaly (m/s)
Period: 18Jan2021 - 24Jan2021



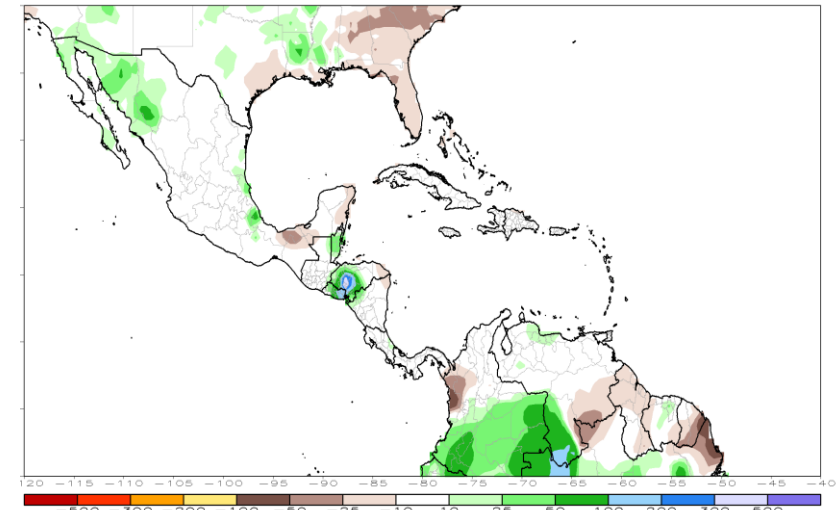
850 hPa Flow

CDAS 850mb 7-Day Mean Vector Wind Anomaly (m/s)
Period: 18Jan2021 - 24Jan2021



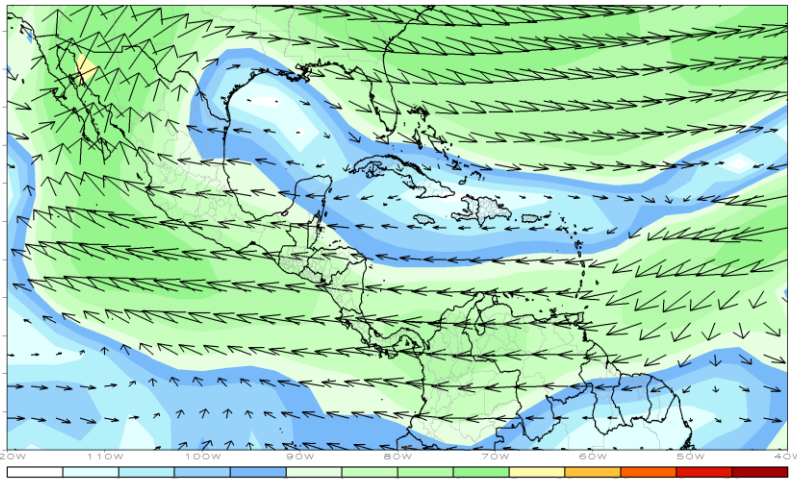
Rainfall

CPC Unified Gauge 7-Day Total Rainfall Anomaly (mm)
Period: 19Jan2021 - 25Jan2021

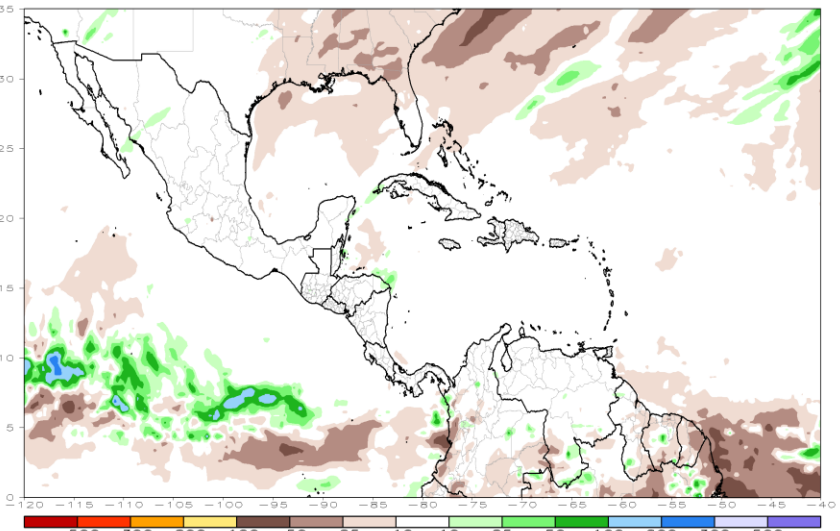


500 hPa Flow

CDAS 500mb 7-Day Mean Vector Wind Anomaly (m/s)
Period: 18Jan2021 - 24Jan2021



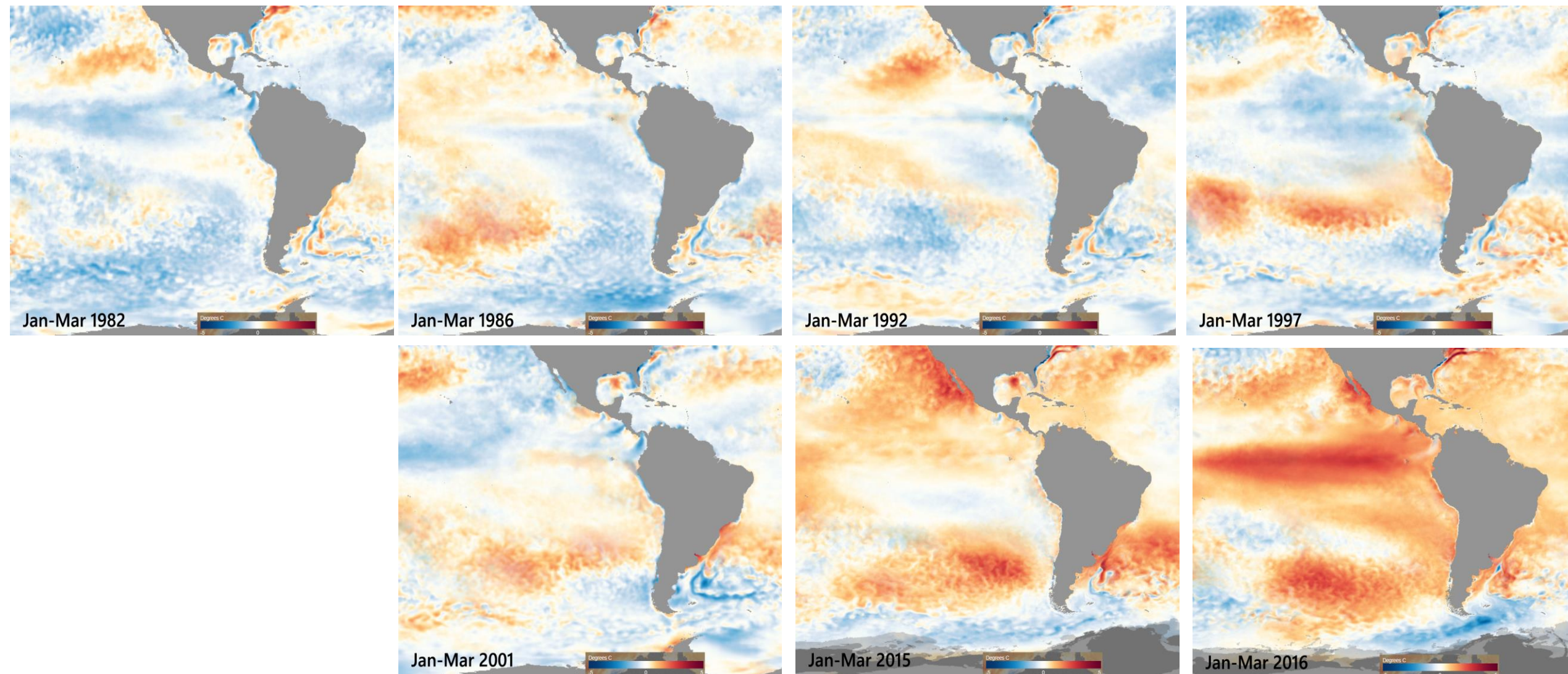
CMORPH 7-Day Total Rainfall Anomaly (mm)
Period: 18Jan2021 - 24Jan2021



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

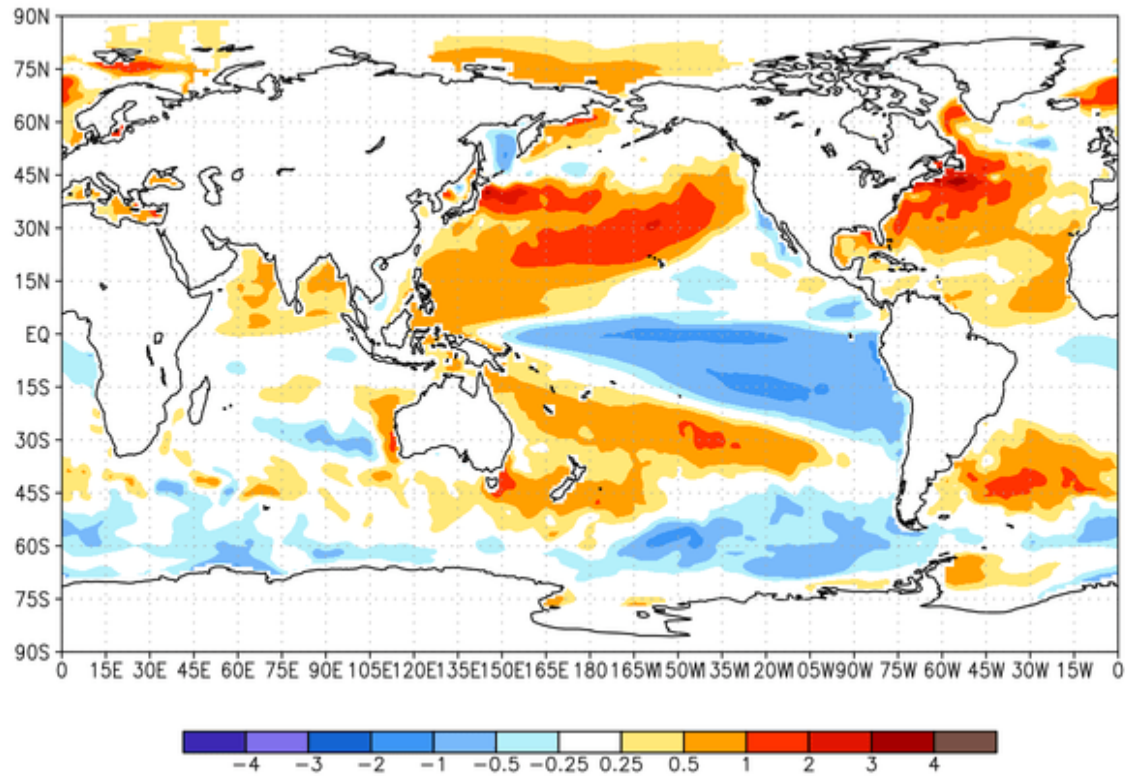
Seasonal Outlook

Jan-Mar SST Anomalies before an ENSO

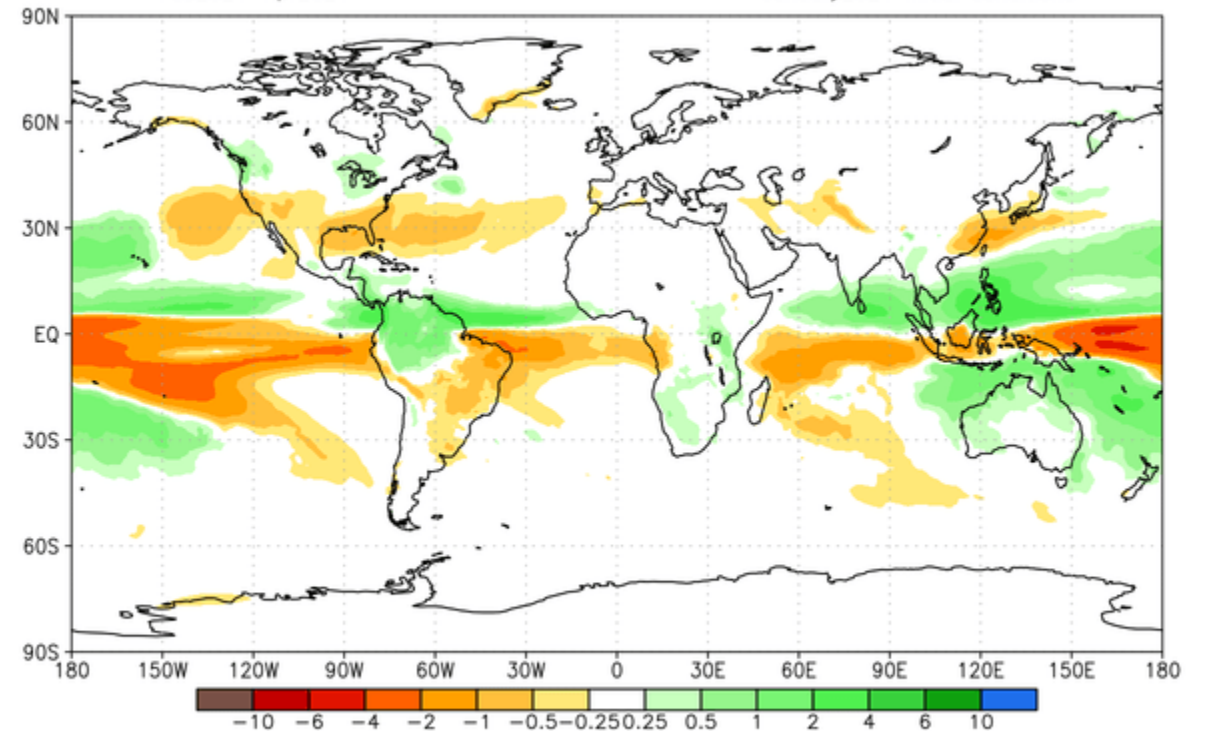


NMME Seasonal Forecasts

NMME Sea Surface Temperature Anomalies (DecC)
Feb2021–Apr2021 January2021 initial conditions



NMME Precipitation Anomalies (mm/day)
Feb2021–Apr2021 January2021 initial conditions



¡Gracias!

Thank you!