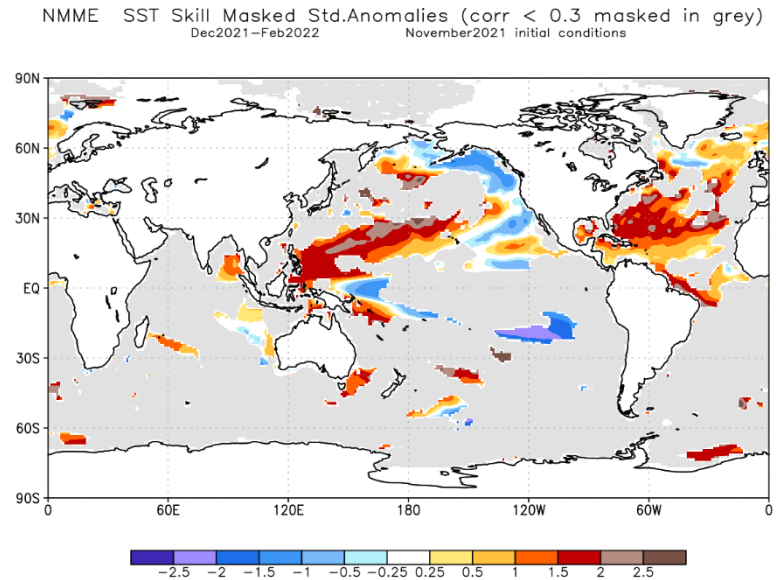
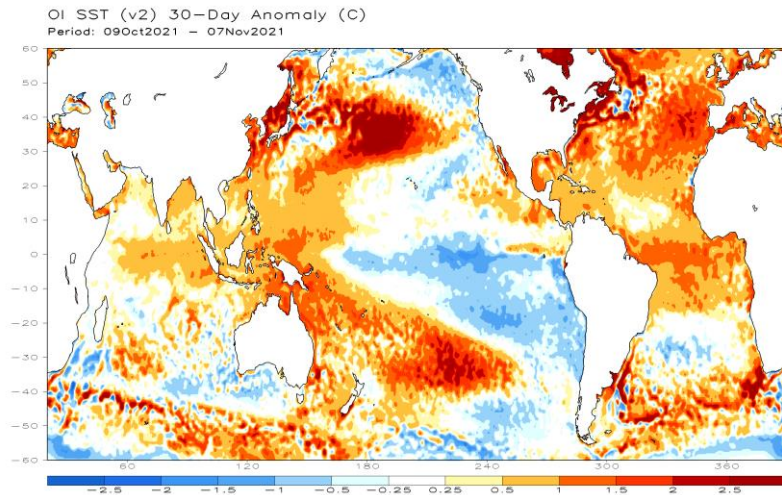


Second WMO RCC-Washington International Training Workshop

Real-time week-2 extreme precipitation outlook

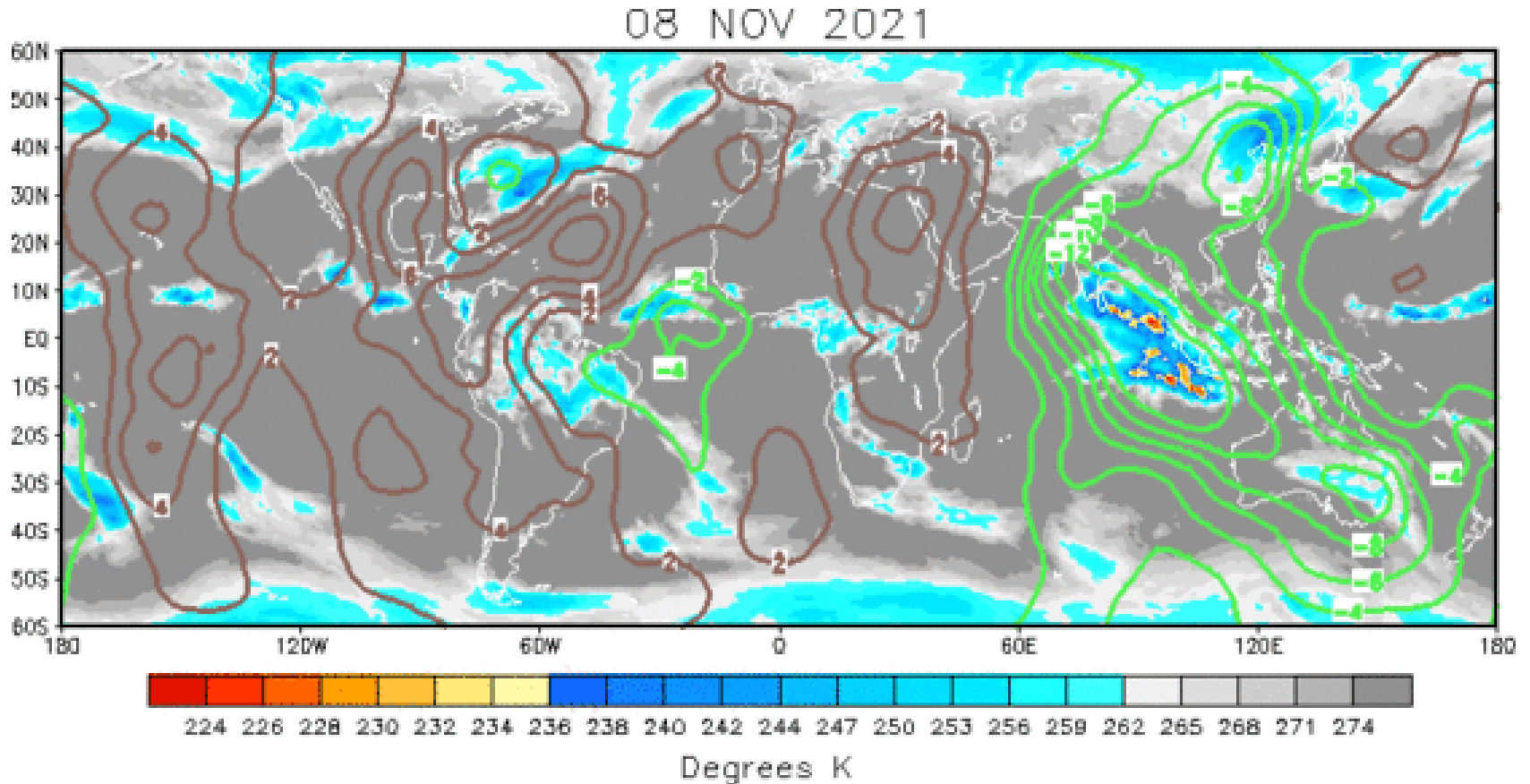
8 – 10 November 2021

30-day SST anomalies



La Niña conditions in the Pacific, warm anomalies all around the Caribbean.
➔ typical ingredients for a wetter than usual end of the year

200-hPa Velocity Potential Anomaly

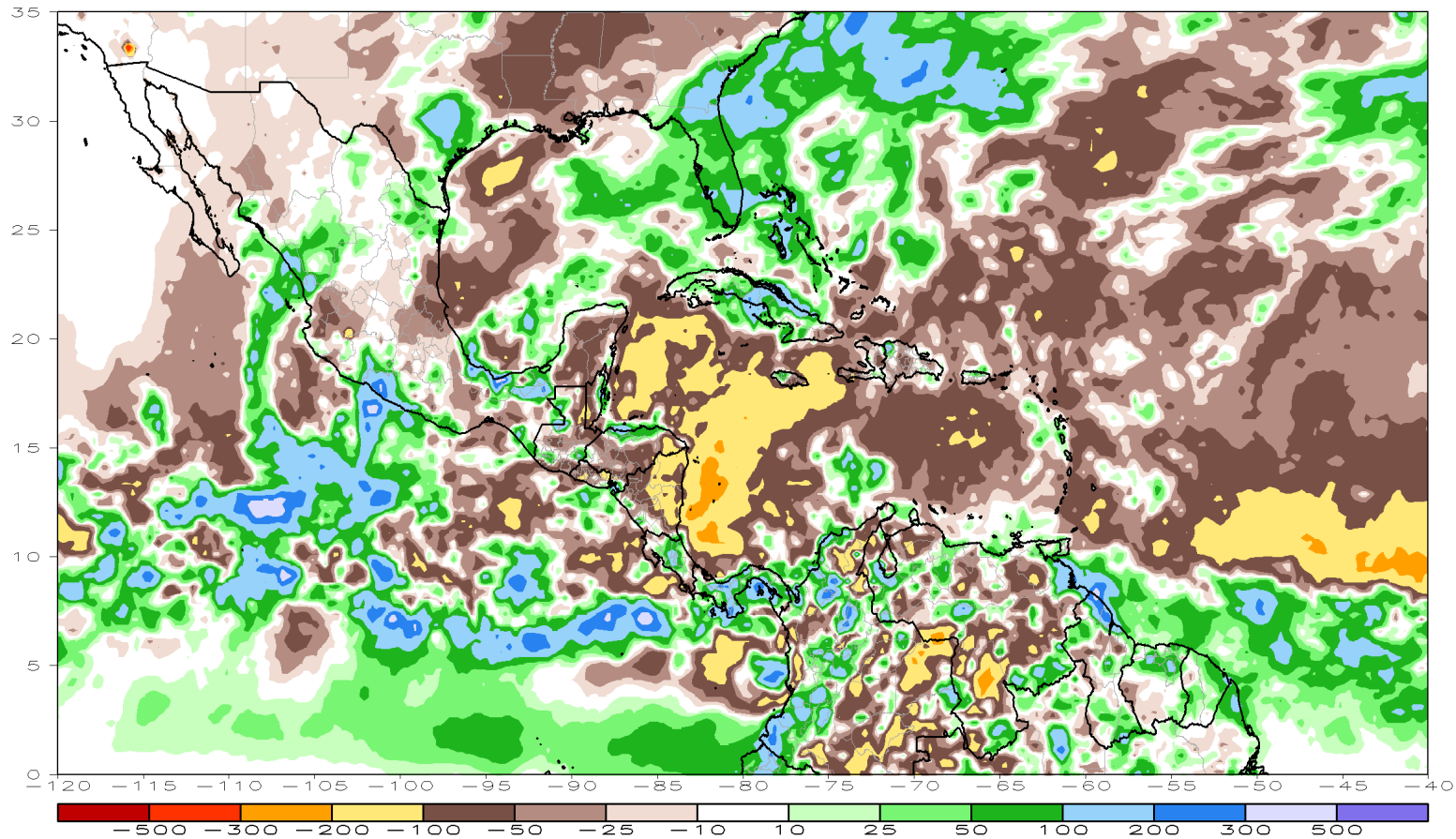


Strengthened upper level convergence over the subtropical North Atlantic and over the Caribbean Sea → promoting subsidence, inhibiting deep convection

30-day Satellite-based precipitation ano. (CMORPH)

CMORPH 30-Day Total Rainfall Anomaly (mm)

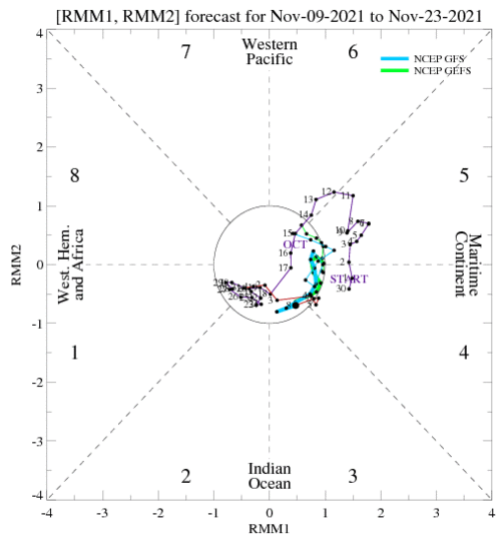
Period: 09Oct2021 - 07Nov2021



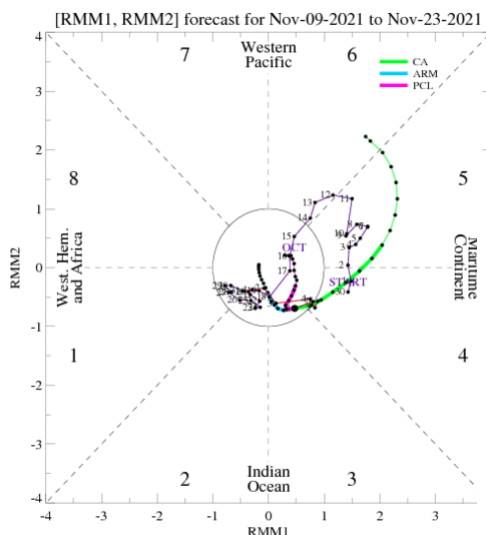
Most of the region has received little rainfall at the climatologically wettest time of the year. Exceptions appear to be northern & central Bahamas, central Cuba and northernmost Guyana

Wheeler-Hendon Index – Forecasts

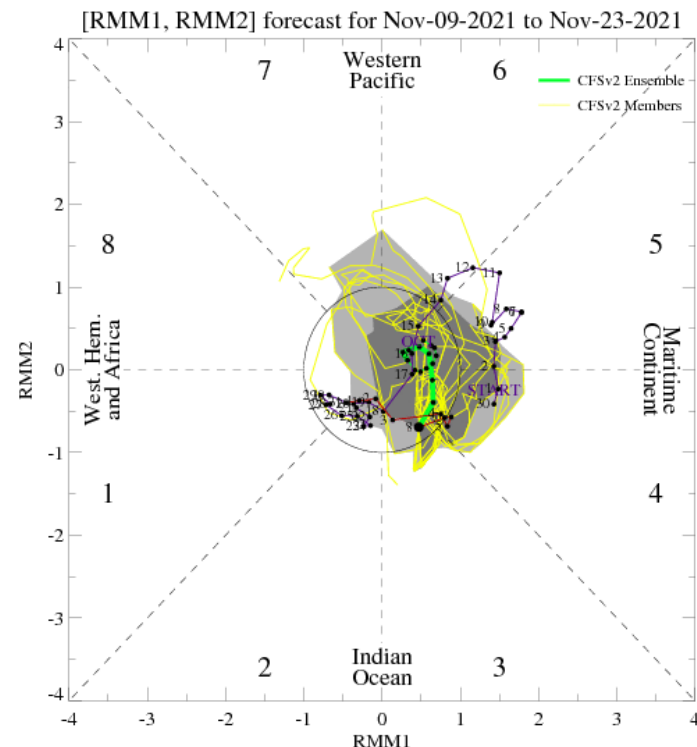
GEFS



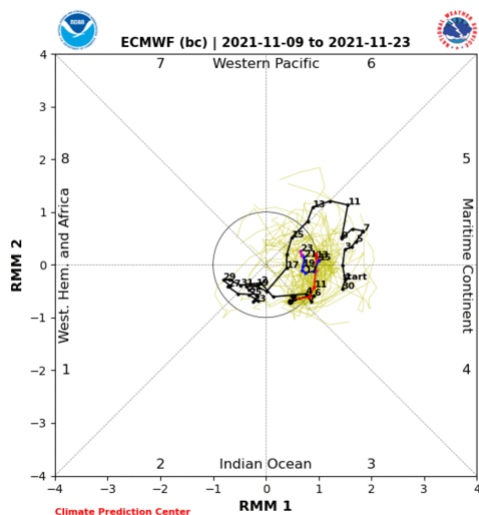
Statistical



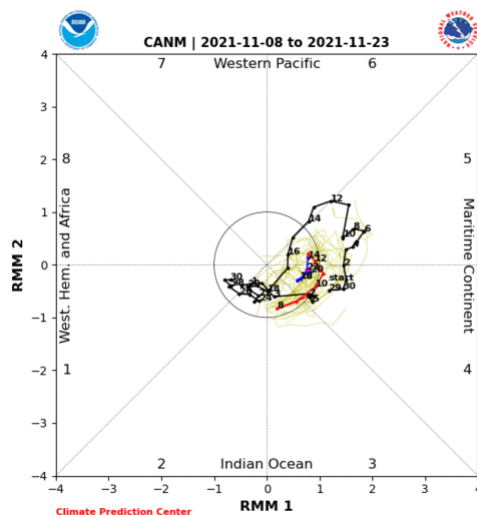
CFSv2



ECMWF



ECCC

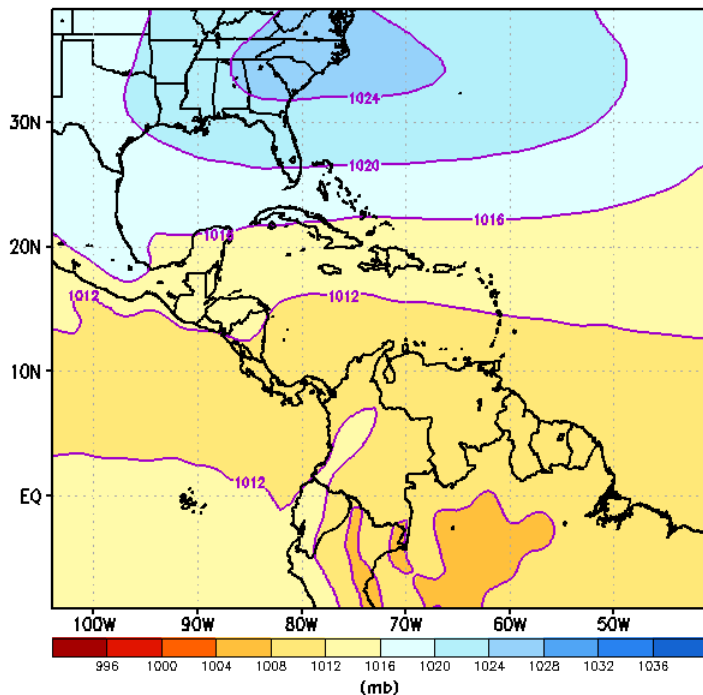


Weak phases 4 and 5 of MJO → slight shift to drier conditions expected over Caribbean

Mean Sea Level Pressure

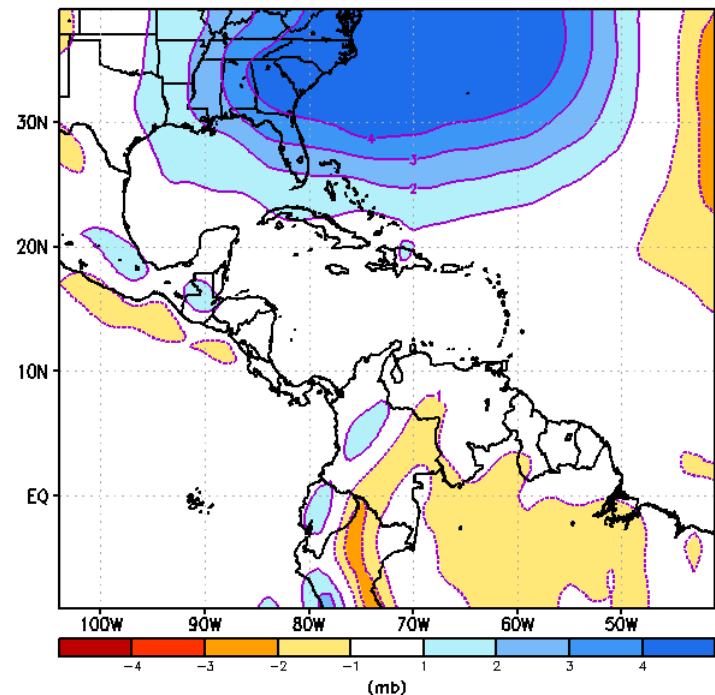
Total

GEFS Week-2 Mean Sea Level Pressure Total
Valid: 20210820 - 20211123



Anomaly

GEFS Week-2 Mean Sea Level Pressure Anomaly
Valid: 20210820 - 20211123

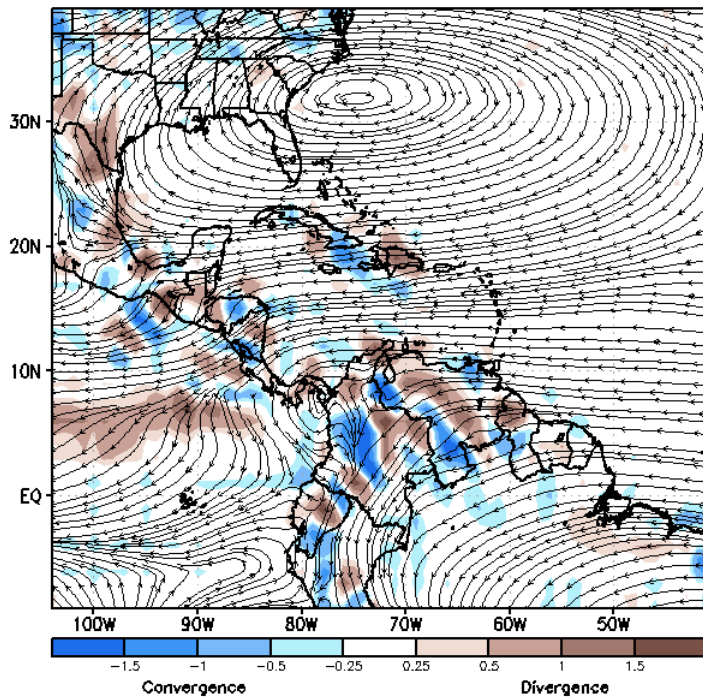


Higher sea level pressure over sub-tropical North Atlantic
➔ promoting subsidence, inhibiting deep convection over the Bahamas

850-hPa Wind

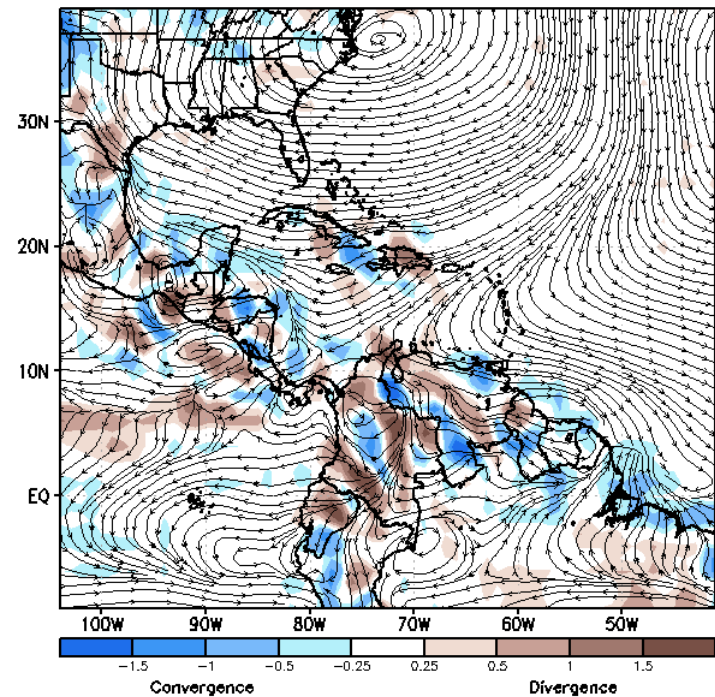
Total

GEFS Week-2 850-hPa Divergence and Wind Total
Valid: 20210820 - 20211123



Anomaly

GEFS Week-2 850-hPa Divergence and Wind Anomaly
Valid: 20210820 - 20211123

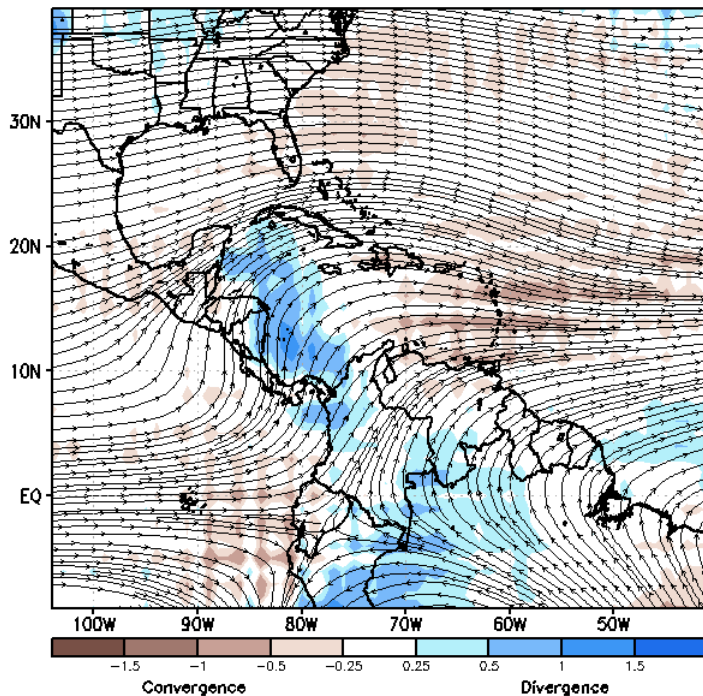


some low level convergence over central Guyana, far southeast Cuba and far southwest Haiti;
some low level divergence over NW Guyana, the remainder of Hispaniola and south-central Cuba.

200-hPa Wind

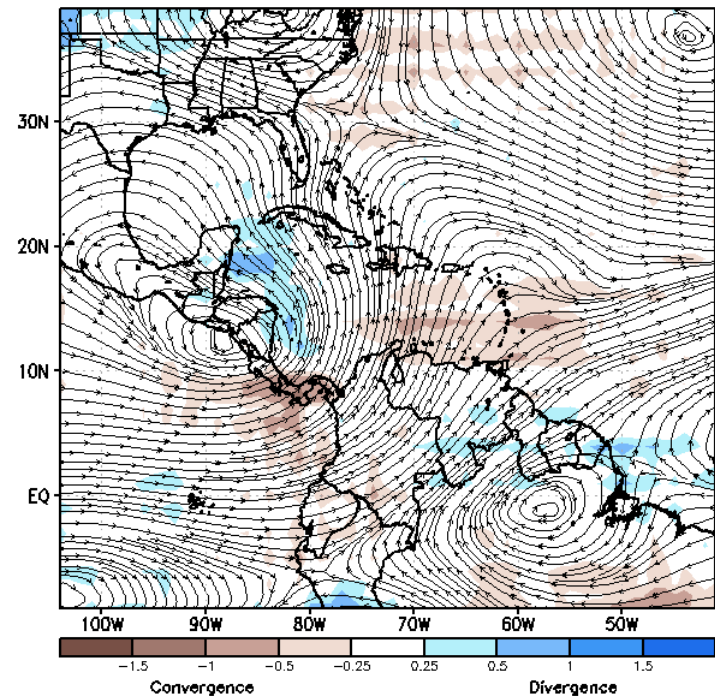
Total

GEFS Week-2 200-hPa Divergence and Wind Total
Valid: 20210820 - 20211123



Anomaly

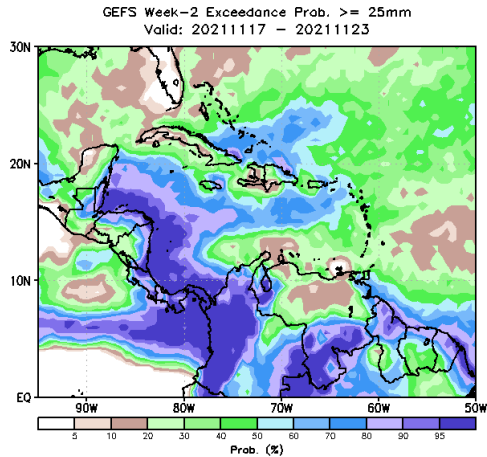
GEFS Week-2 200-hPa Divergence and Wind Anomaly
Valid: 20210820 - 20211123



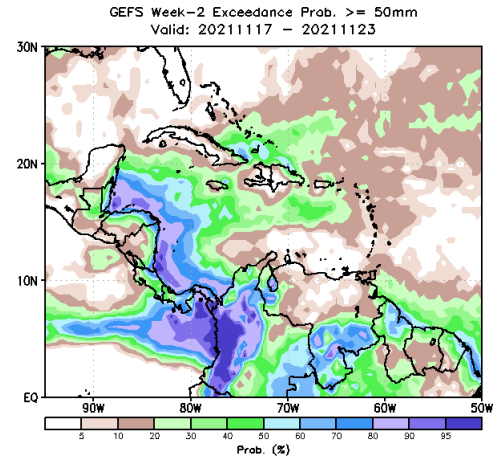
upper level convergence dominates over eastern and southern Caribbean;
upper level divergence over far western Caribbean

Precipitation Exceedance Probability

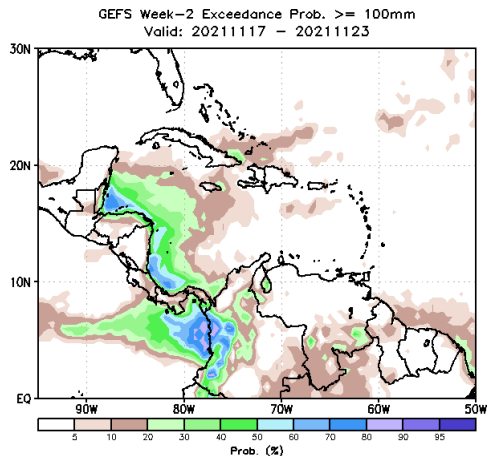
$\geq 25\text{mm}$



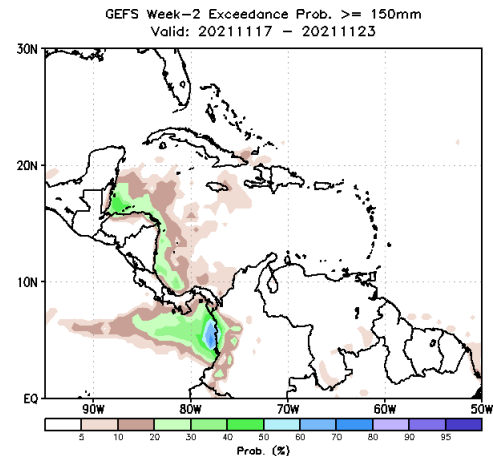
$\geq 50\text{mm}$



$\geq 100\text{mm}$



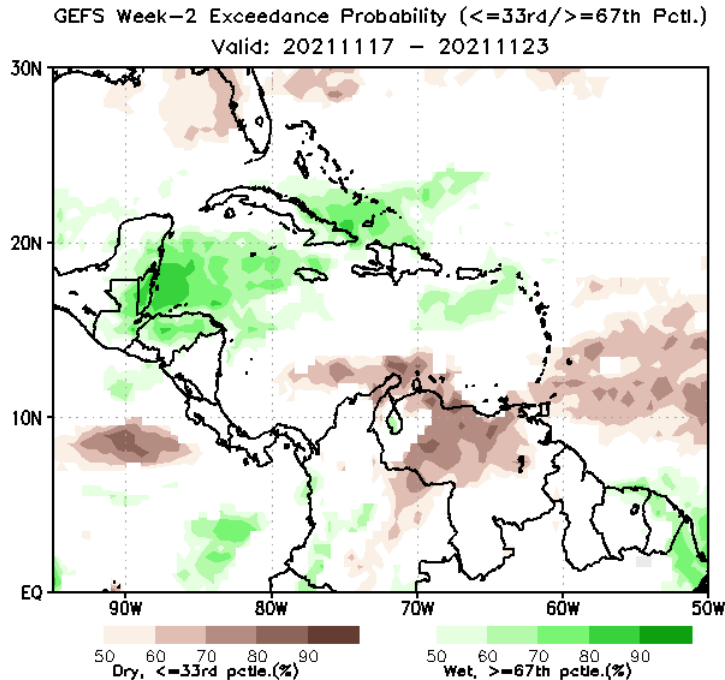
$\geq 150\text{mm}$



Much of the region likely less than 25mm, except Belize, coastal Guianas, southeast Bahamas
Eastern Belize only location with high rainfall accumulations over the week

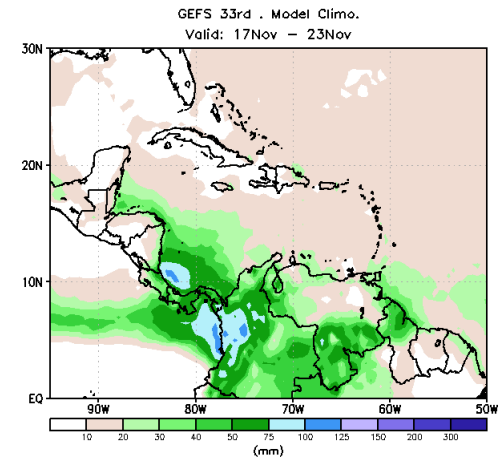
Precipitation Exceedance Probability ($\leq 33^{\text{rd}}$ & $\geq 67^{\text{th}}$ percentiles)

$\leq 33^{\text{rd}}$ & $\geq 67^{\text{th}}$ percentiles

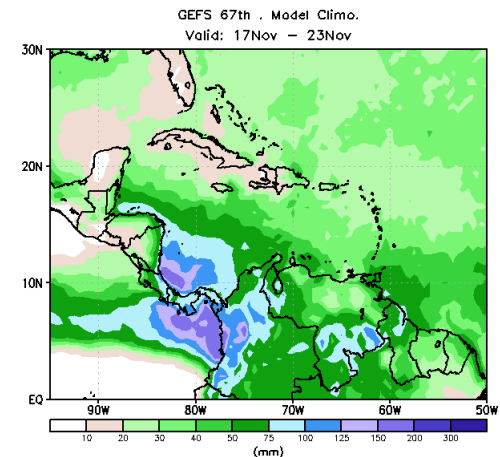


Rainfall in Belize, southeast Bahamas and coastal French Guiana likely in the upper tercile; in ABC Islands and southeast Caribbean likely in lower tercile.

33^{rd} percentile climo

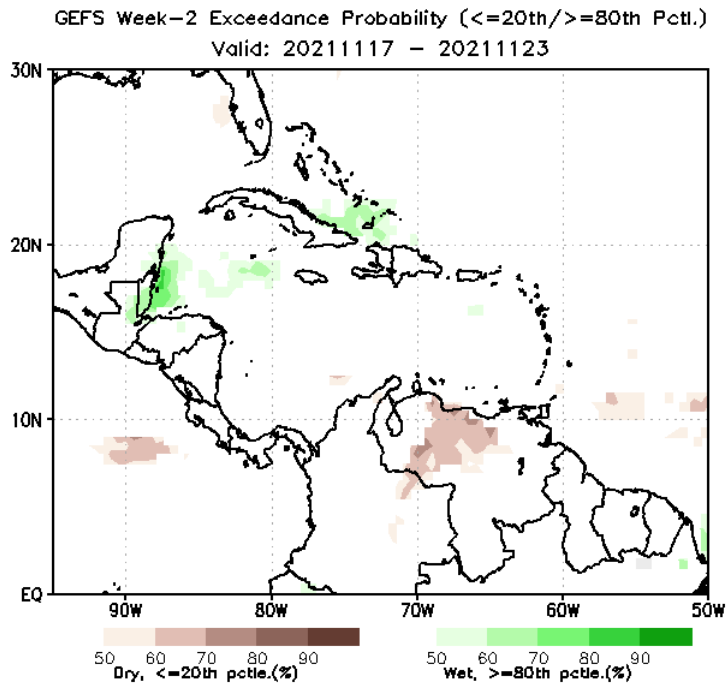


67^{th} percentile climo



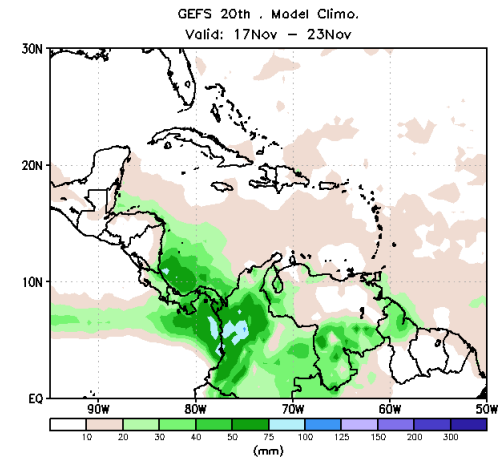
Precipitation Exceedance Probability ($\leq 20^{\text{th}}$ & $\geq 80^{\text{th}}$ percentiles)

$\leq 20^{\text{th}}$ & $\geq 80^{\text{th}}$ percentiles

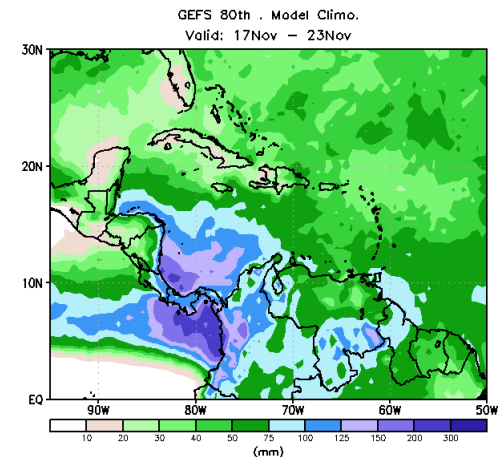


Rainfall in Belize and southeast Bahamas
likely above 80th perc.

20th percentile climo



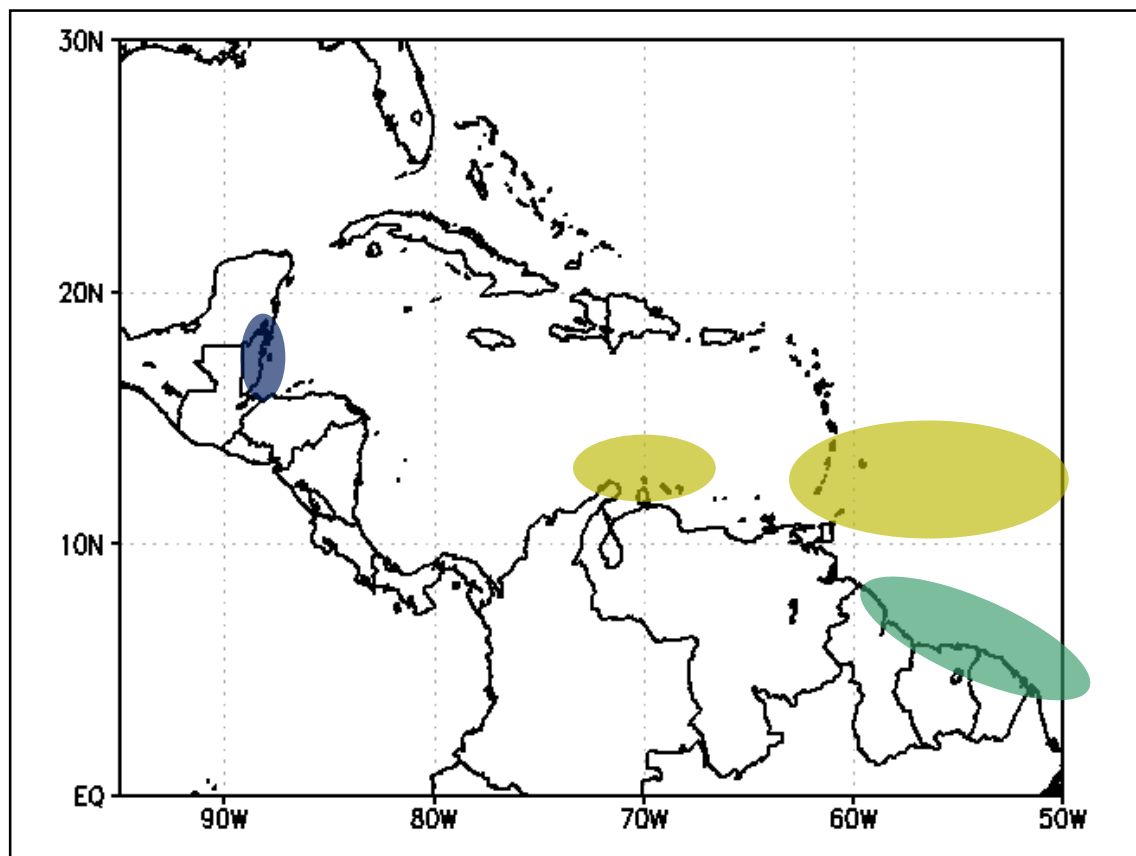
80th percentile climo



Summary

- **Monitoring + Global FCST guidance:**
 - **La Niña conditions** + **warm SST anomalies around the Caribbean**
 - ➔ **wetter end of the year + enhanced flood potential** expected in much of the Caribbean, except the far NW.
 - BUT, past 30-day period drier to much drier than usual except in far north.
- **Week 2 FCST guidance:**
 - Strengthened upper level convergence over subtropical North Atlantic and Caribbean Sea ➔ promoting subsidence, inhibiting deep convection
 - Weak MJO phases 4 & 5 ➔ slight shift to drier conditions over Caribbean
 - Higher sea level pressure over sub-tropical North Atlantic
 - ➔ promoting subsidence over Bahamas
 - upper level convergence over eastern & southern Caribbean; upper level divergence over far western Caribbean
- **Week 2 Precipitation FCST:**
 - **Most areas likely <25mm**, except Belize, coastal Guianas, and southeast Bahamas (a relatively dry area, esp. at this time of the year);
 - Likely **excessive rainfall to potentially trigger flooding over eastern Belize**;
 - **Rainfall in Belize and southeast Bahamas likely >80th perc.**; **coastal French Guiana likely >upper tercile**; **ABC Islands and southeast Caribbean likely <33rd perc.**

Extreme Precipitation Outlooks



Legend

	Excessive Wet
	Moderate Wet
	Excessive Dry
	Moderate Dry

1. Likely continuation of unseasonably dry conditions from 17 to 23 Nov 2021 over ABC Islands and SE Caribbean driven by persistent upper level convergence.
2. Potential for excessive rainfall and flooding in E Belize driven by upper level divergence;
3. Seasonable, progressive return to wet season in coastal Guianas.