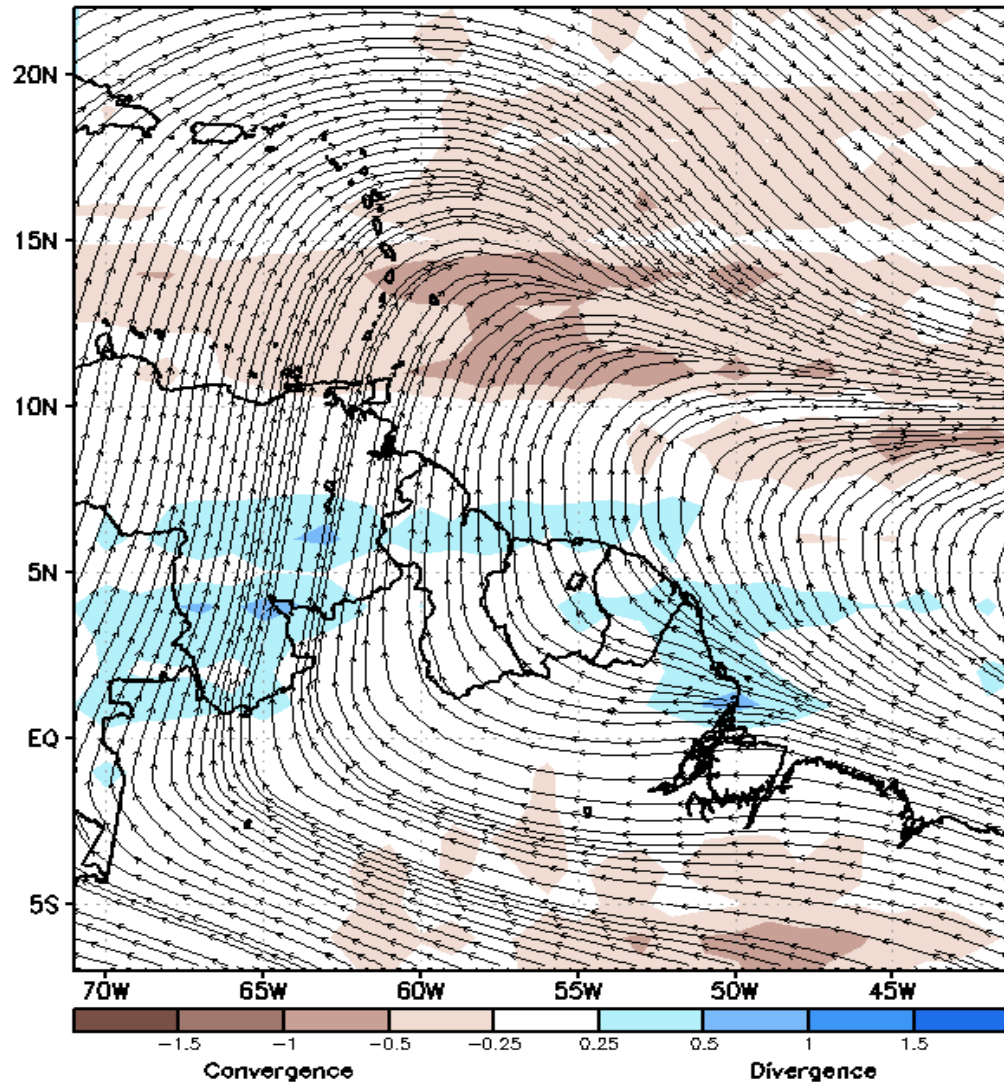


**Second WMO RCC-  
Washington International  
Training Workshop**  
**Real-time week-2 extreme  
precipitation outlook**

8 – 10 November 2021

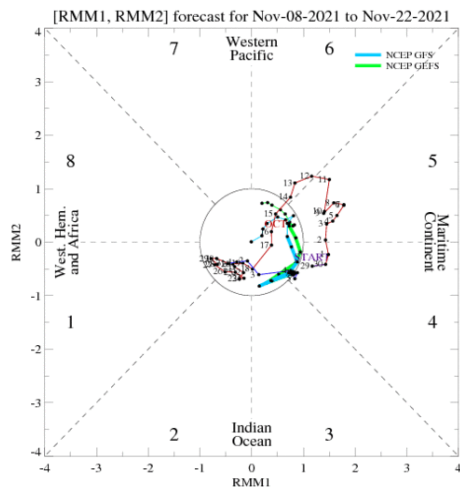
# 200-hPa Velocity Potential Anomaly

GEFS Week-2 200-hPa Divergence and Wind Anomaly  
Valid: 20211116 - 20211122

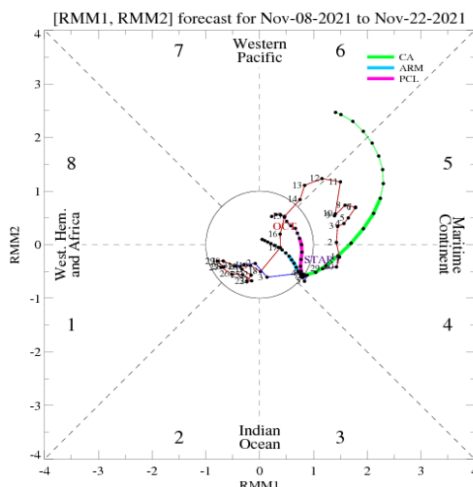


# Wheeler-Hendon Index – Forecasts

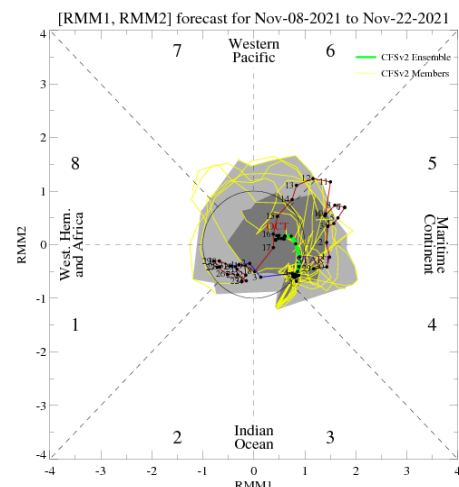
## GEFS



## Statistical

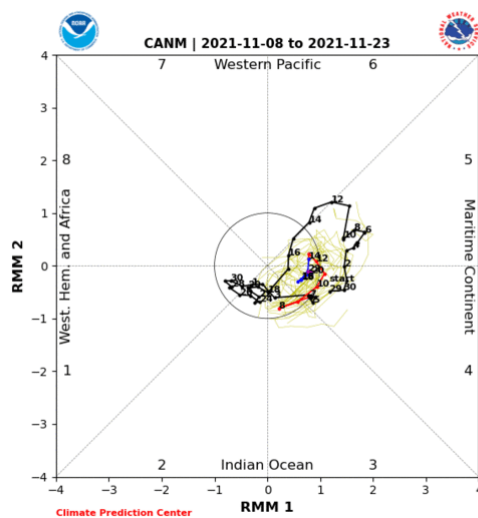
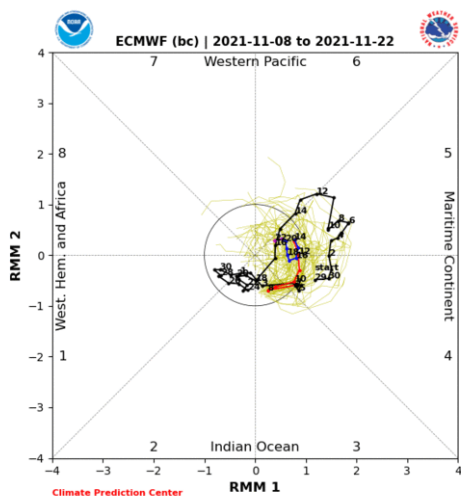


## CFSv2



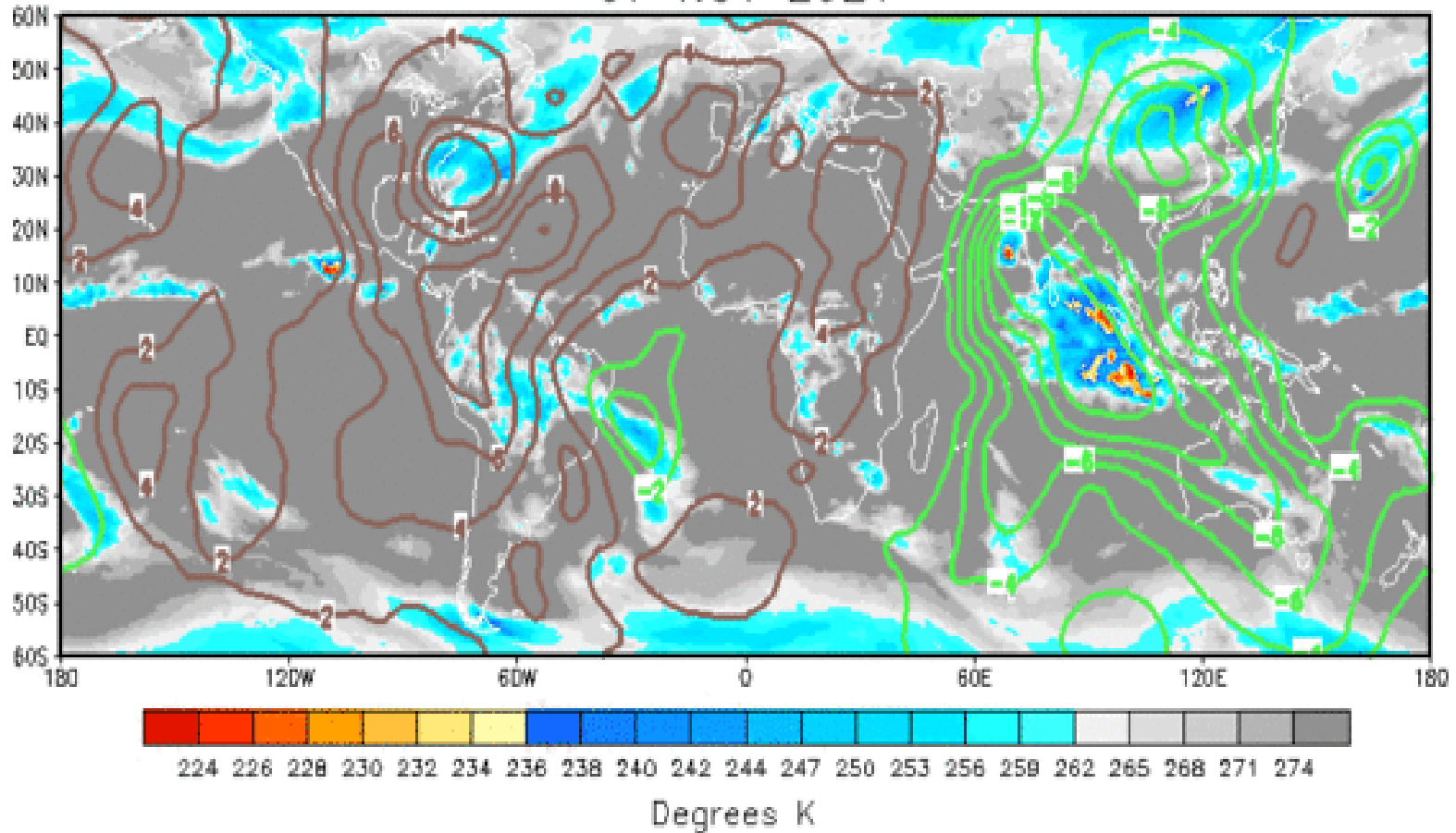
ECMWF

CANM



# Evolution of MJO-related Anomalies

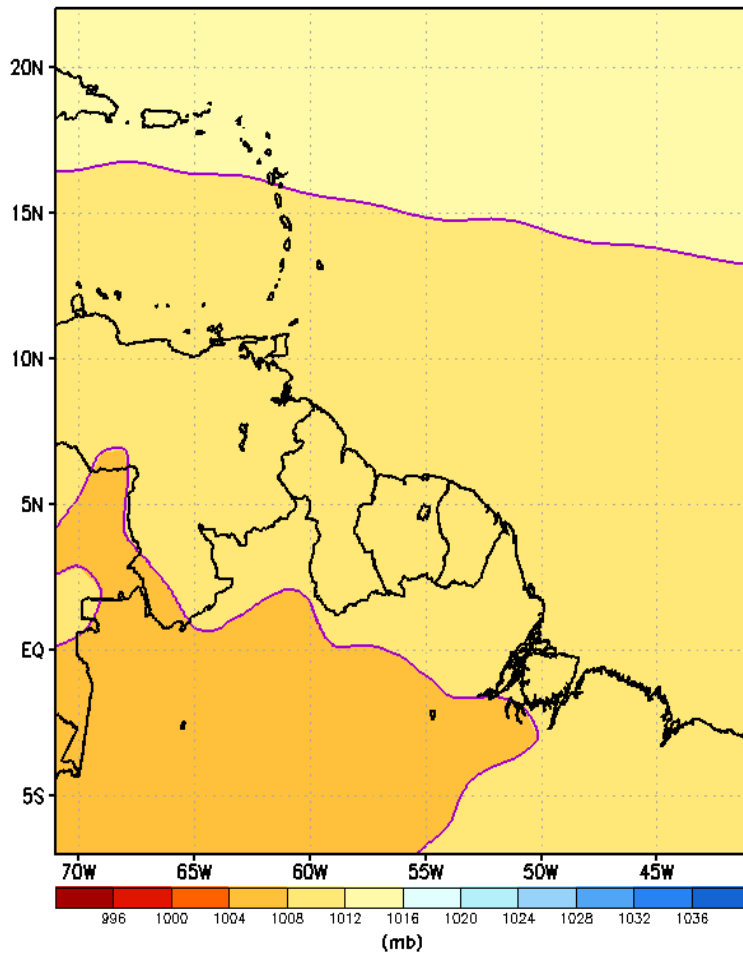
07 NOV 2021



# Mean Sea Level Pressure

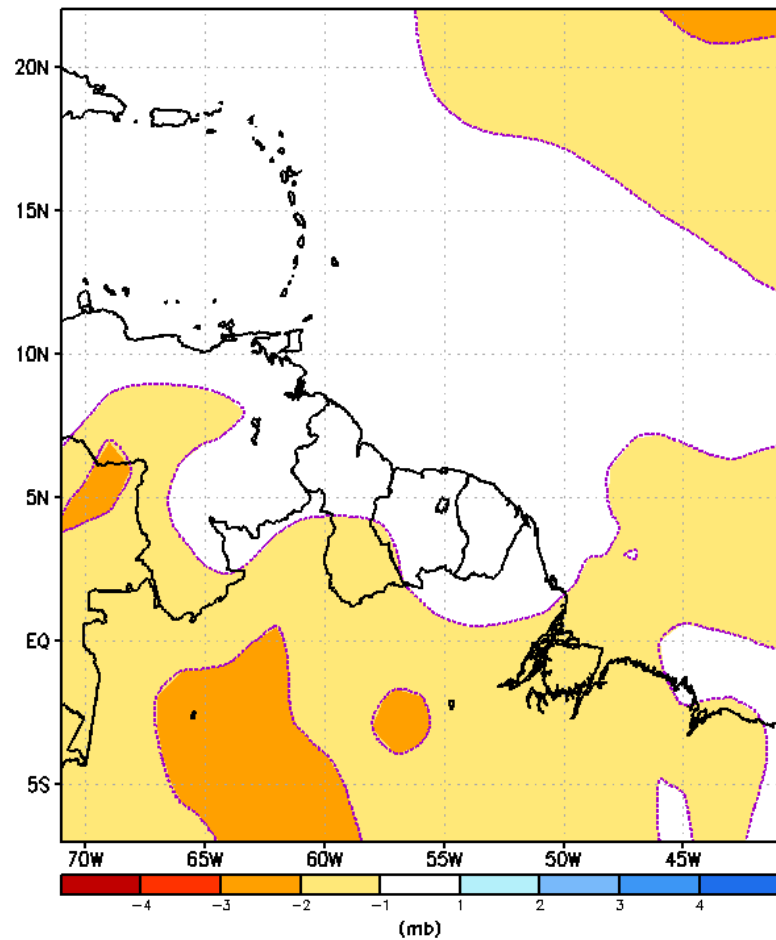
## Total

GEFS Week-2 Mean Sea Level Pressure Total  
Valid: 20211116 - 20211122



## Anomaly

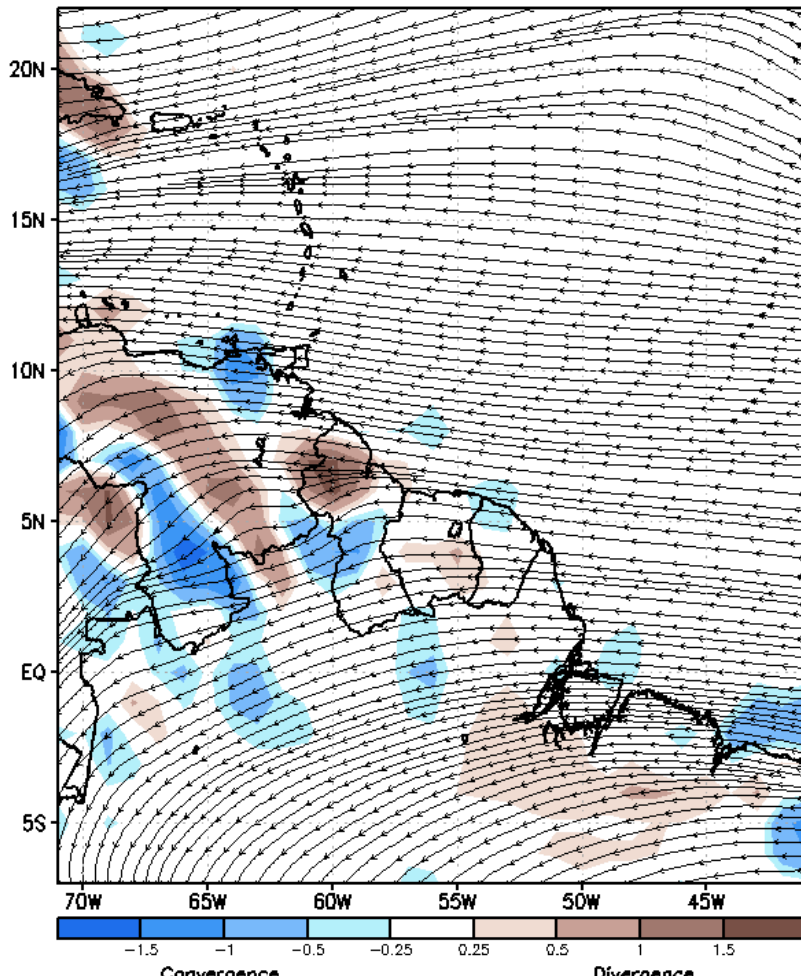
GEFS Week-2 Mean Sea Level Pressure Anomaly  
Valid: 20211116 - 20211122



# 850-hPa Wind

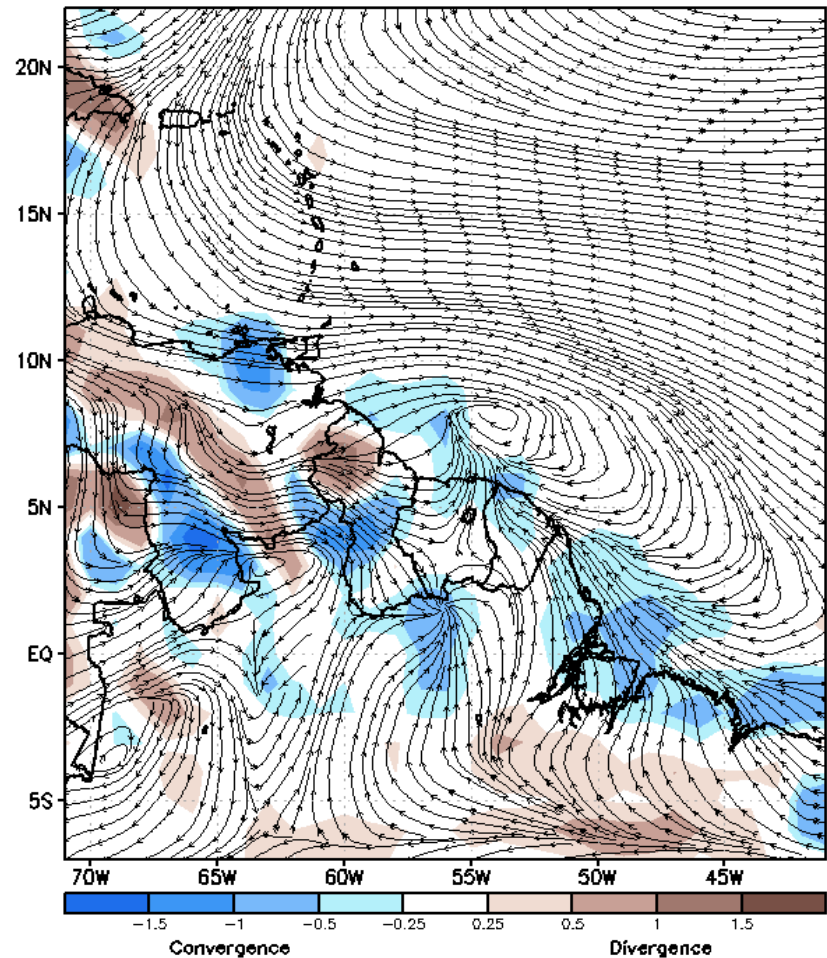
## Total

GEFS Week-2 850-hPa Divergence and Wind Total  
Valid: 20211116 - 20211122



## Anomaly

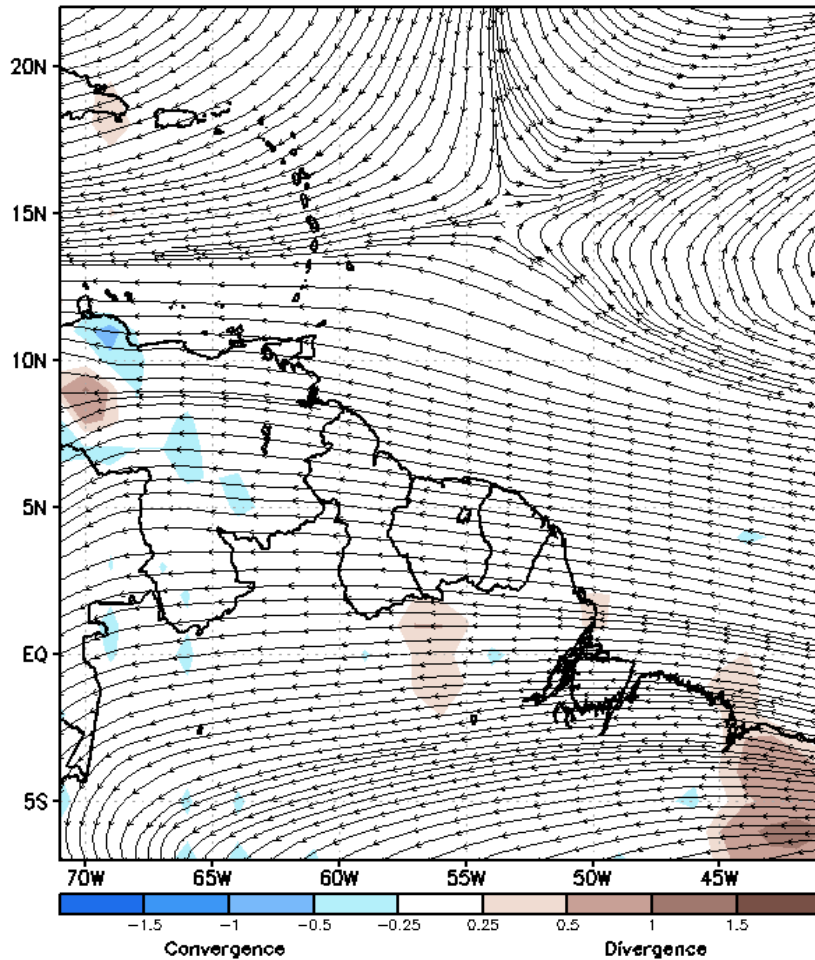
GEFS Week-2 850-hPa Divergence and Wind Anomaly  
Valid: 20211116 - 20211122



# 700-hPa Wind

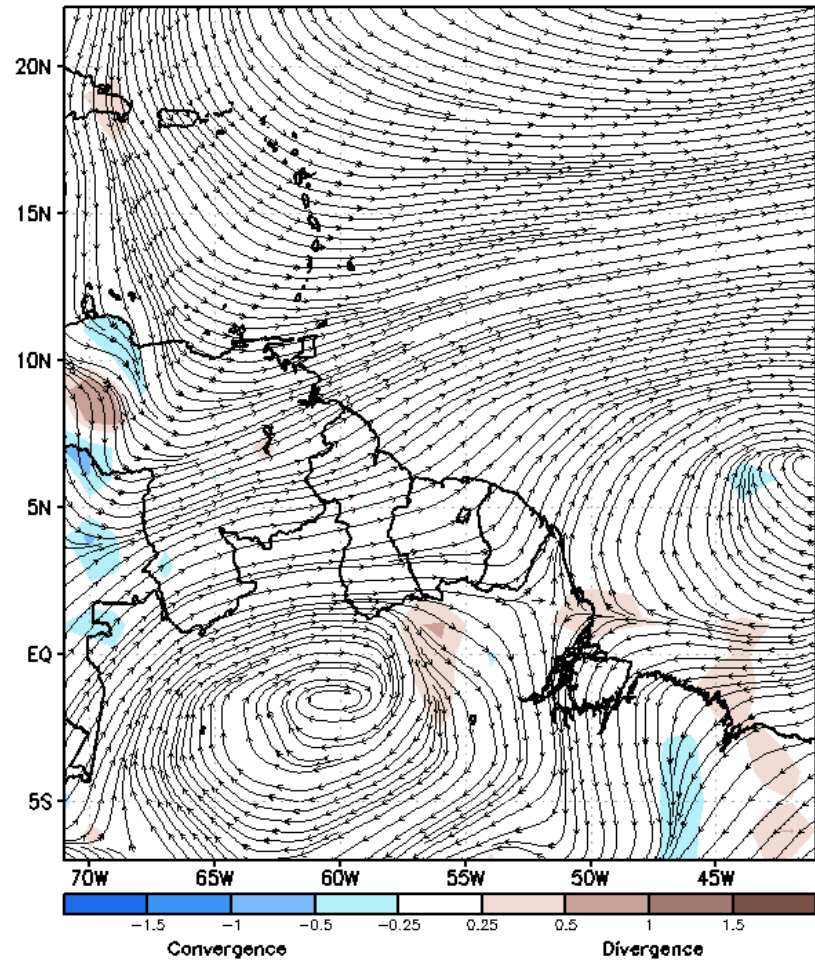
## Total

GEFS Week-2 700-hPa Divergence and Wind Total  
Valid: 20211116 - 20211122



## Anomaly

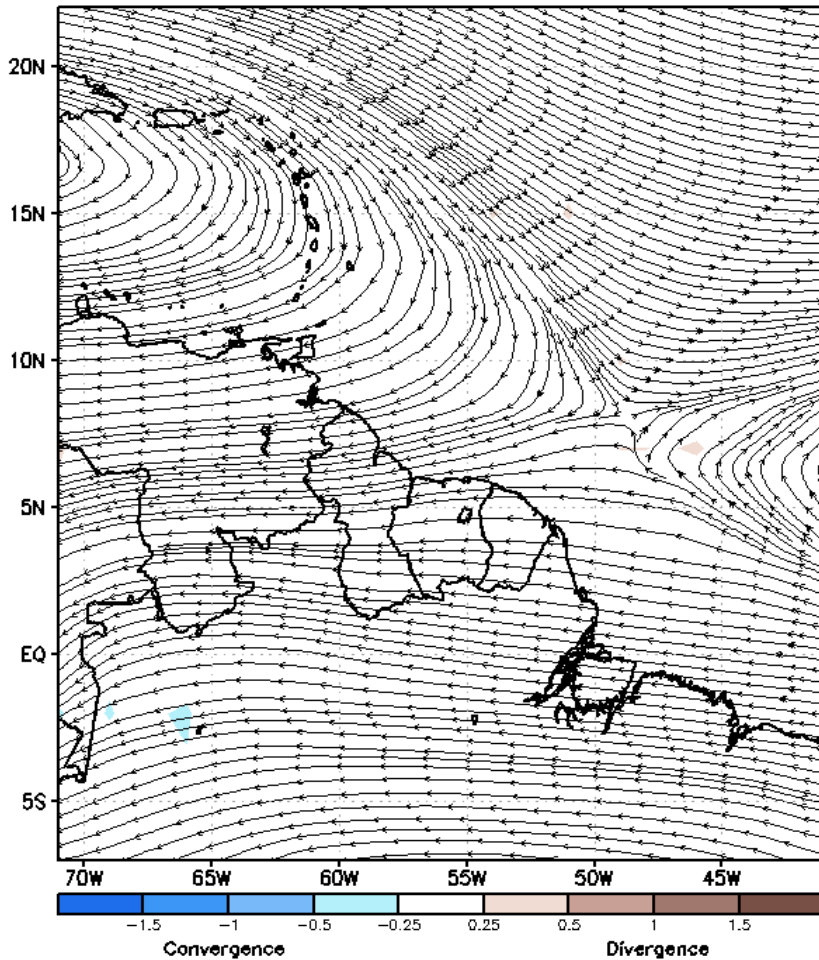
GEFS Week-2 700-hPa Divergence and Wind Anomaly  
Valid: 20211116 - 20211122



# 500-hPa Wind

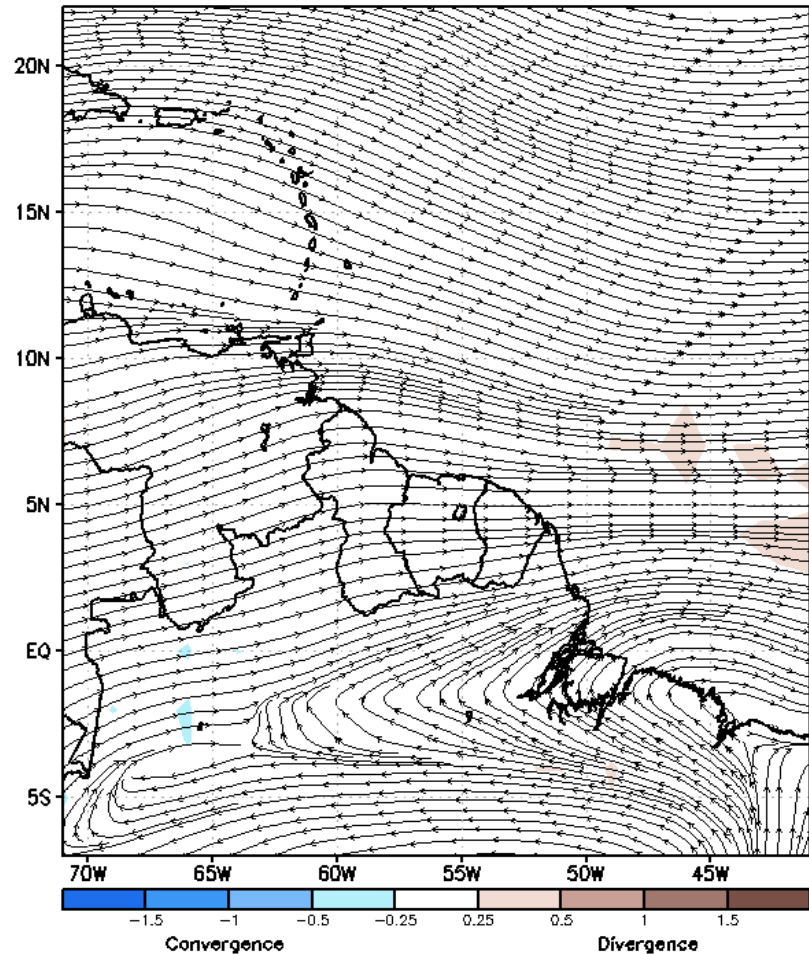
## Total

GEFS Week-2 500-hPa Divergence and Wind Total  
Valid: 20211116 - 20211122



## Anomaly

GEFS Week-2 500-hPa Divergence and Wind Anomaly  
Valid: 20211116 - 20211122

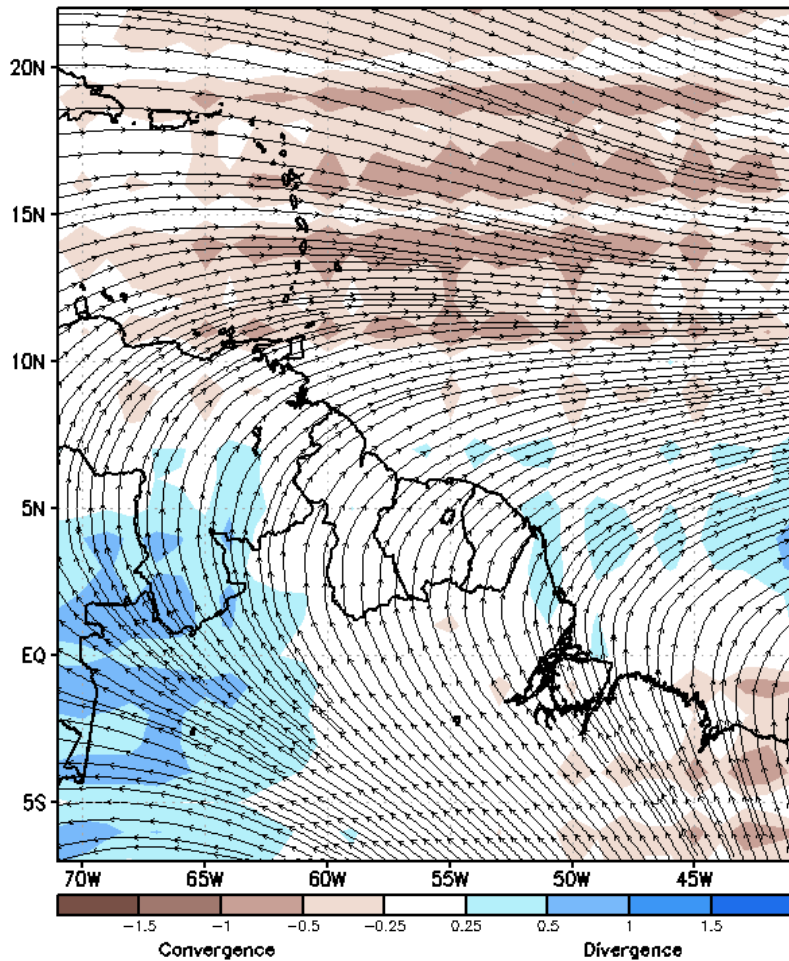




# 200-hPa Wind

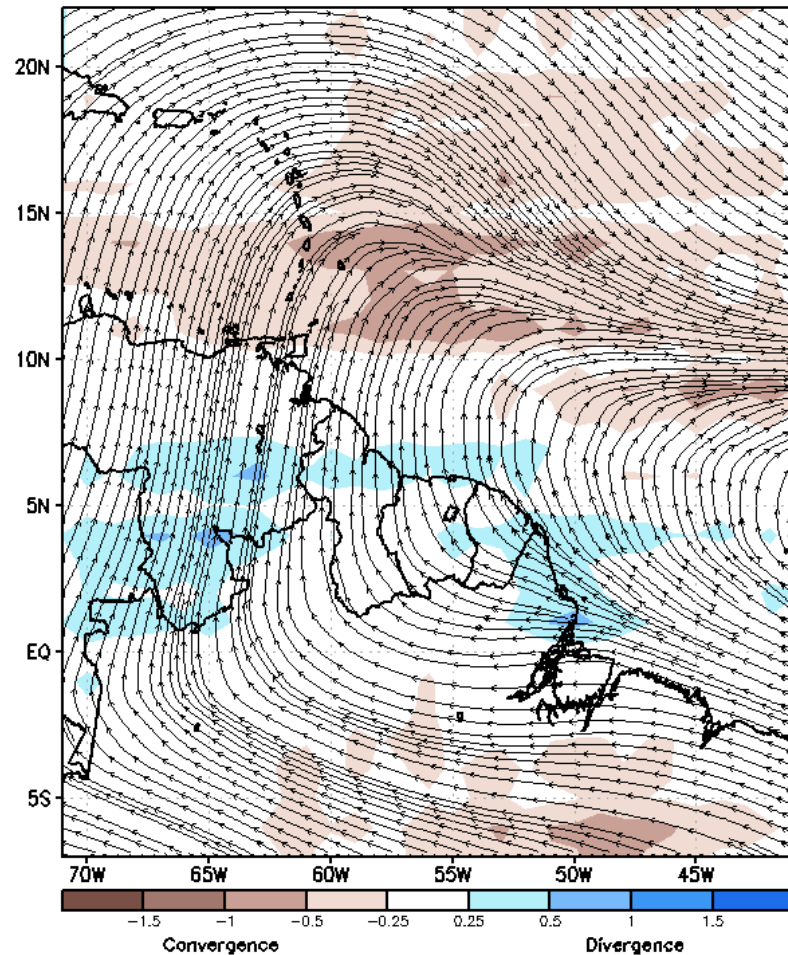
## Total

GEFS Week-2 200-hPa Divergence and Wind Total  
Valid: 20211116 - 20211122



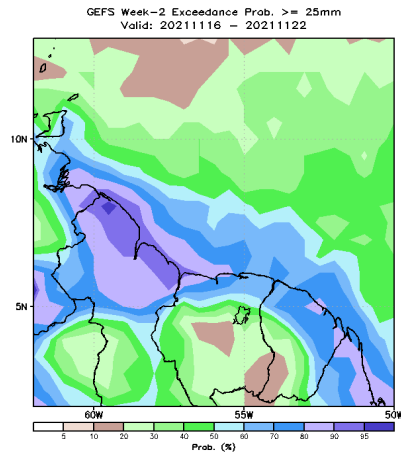
## Anomaly

GEFS Week-2 200-hPa Divergence and Wind Anomaly  
Valid: 20211116 - 20211122

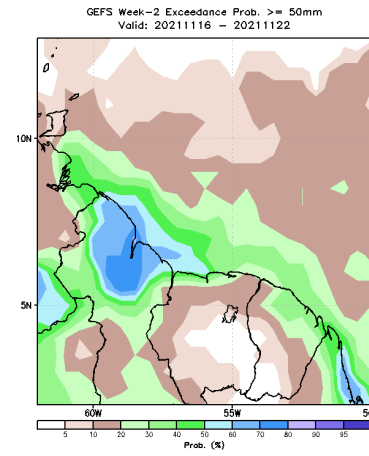


# Precipitation Exceedance Probability

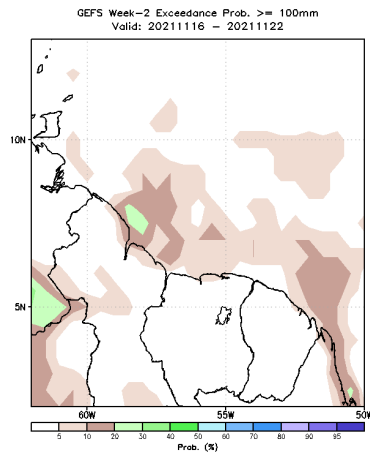
## $\geq 25\text{mm}$



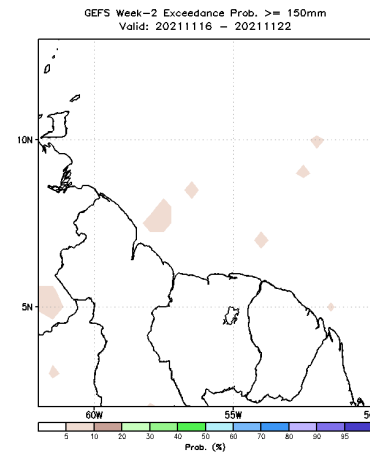
## $\geq 50\text{mm}$



## $\geq 100\text{mm}$



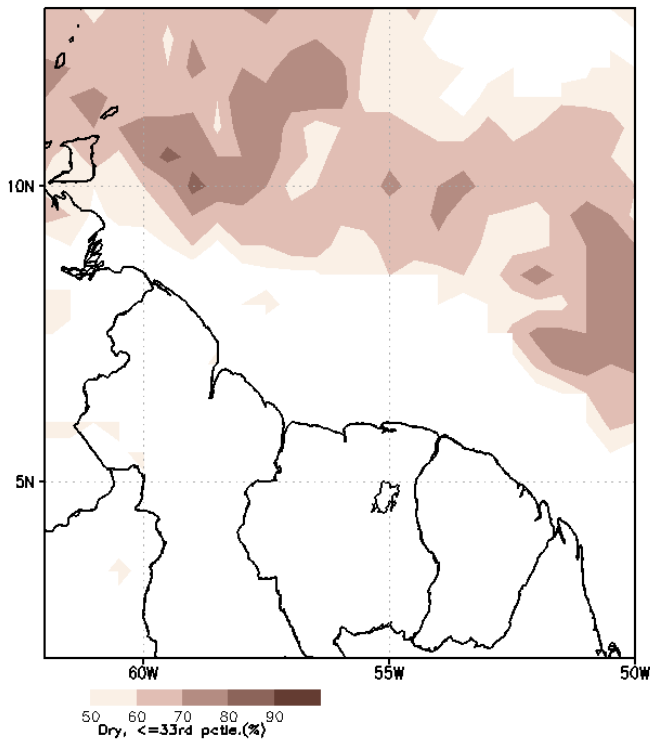
## $\geq 150\text{mm}$



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

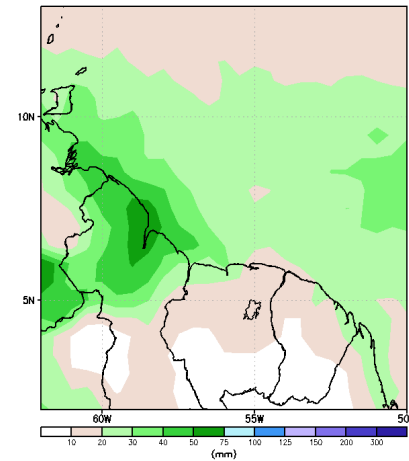
## $\leq 33^{\text{rd}}$ & $\geq 67^{\text{th}}$ percentiles

GEFS Week-2 Exceedance Probability ( $\leq 33^{\text{rd}}/\geq 67^{\text{th}}$  Pctt.)  
Valid: 20211116 - 20211122



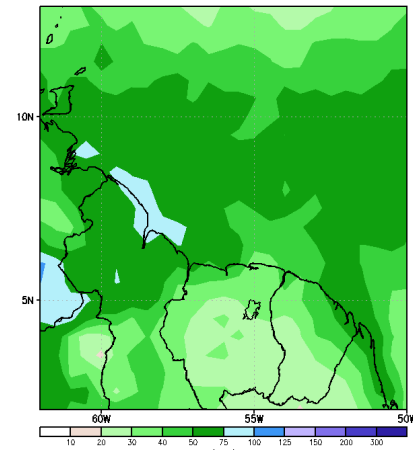
## 33<sup>rd</sup> percentile climo

GEFS 33<sup>rd</sup> . Model Climo.  
Valid: 16Nov - 22Nov



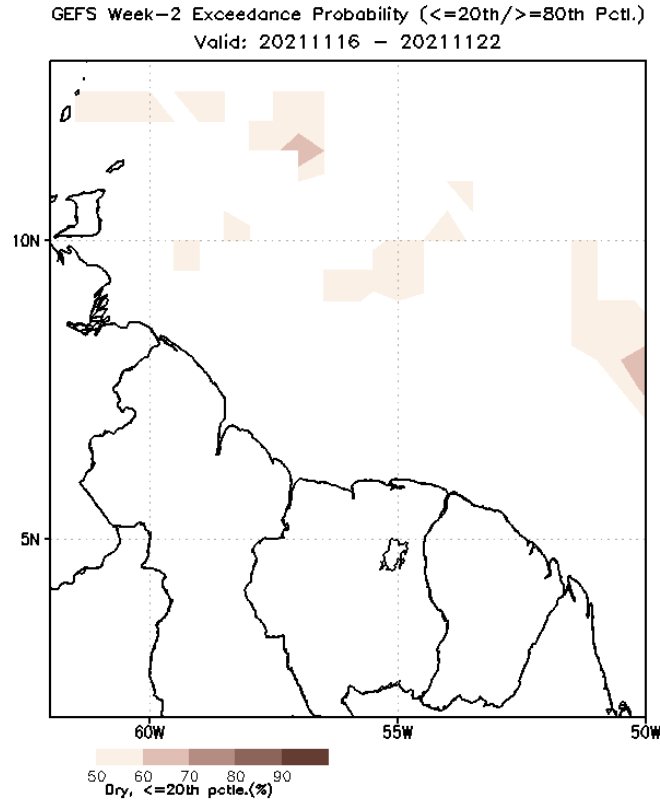
## 67<sup>th</sup> percentile climo

GEFS 67<sup>th</sup> . Model Climo.  
Valid: 16Nov - 22Nov

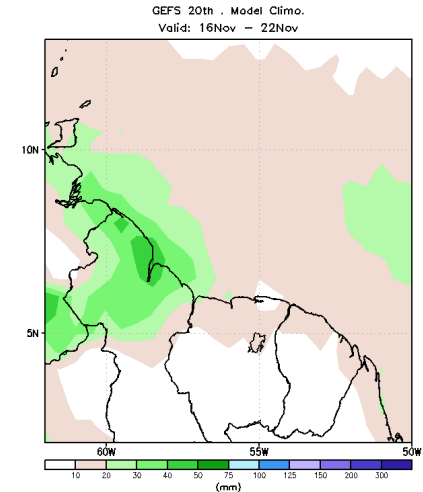


# Precipitation Exceedance Probability ( $\leq 20^{\text{th}}$ & $\geq 80^{\text{th}}$ percentiles)

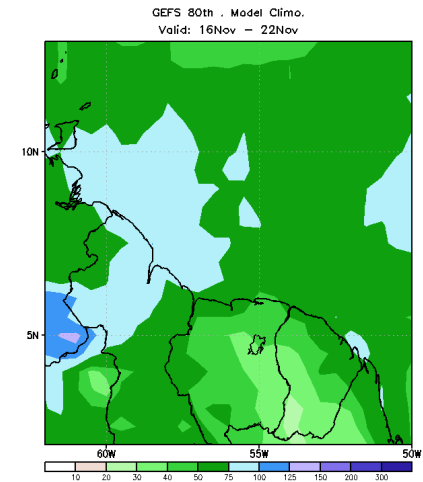
## $\leq 20^{\text{th}}$ & $\geq 80^{\text{th}}$ percentiles



## 20<sup>th</sup> percentile climo

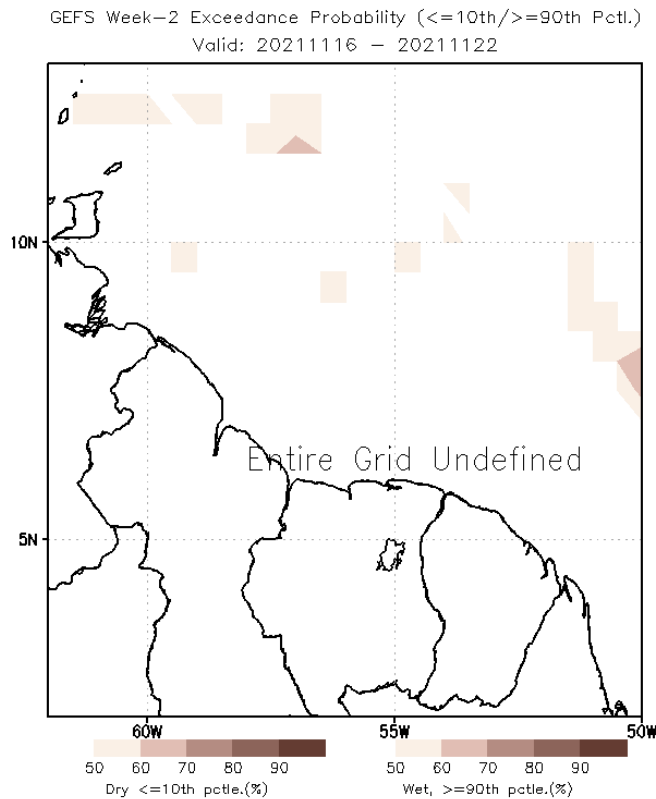


## 80<sup>th</sup> percentile climo

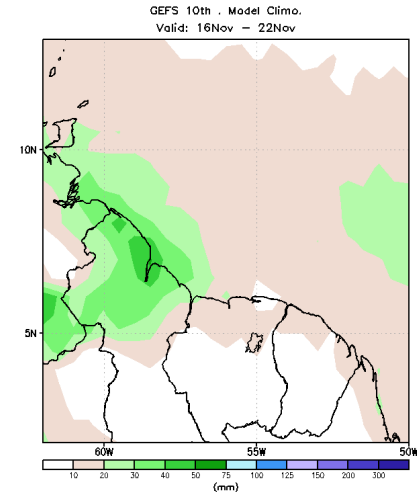


# Precipitation Exceedance Probability ( $\leq 10^{\text{th}}$ & $\geq 90^{\text{th}}$ percentiles)

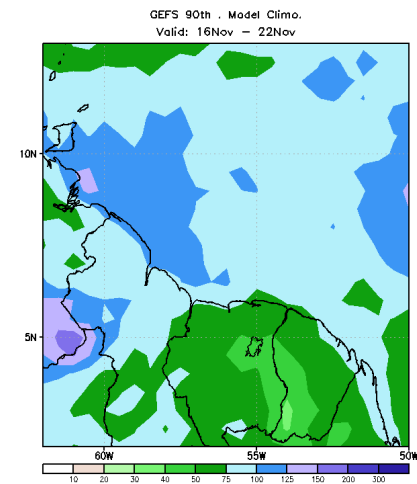
$\leq 10^{\text{th}}$  &  $\geq 90^{\text{th}}$  percentiles



$10^{\text{th}}$  percentile climo



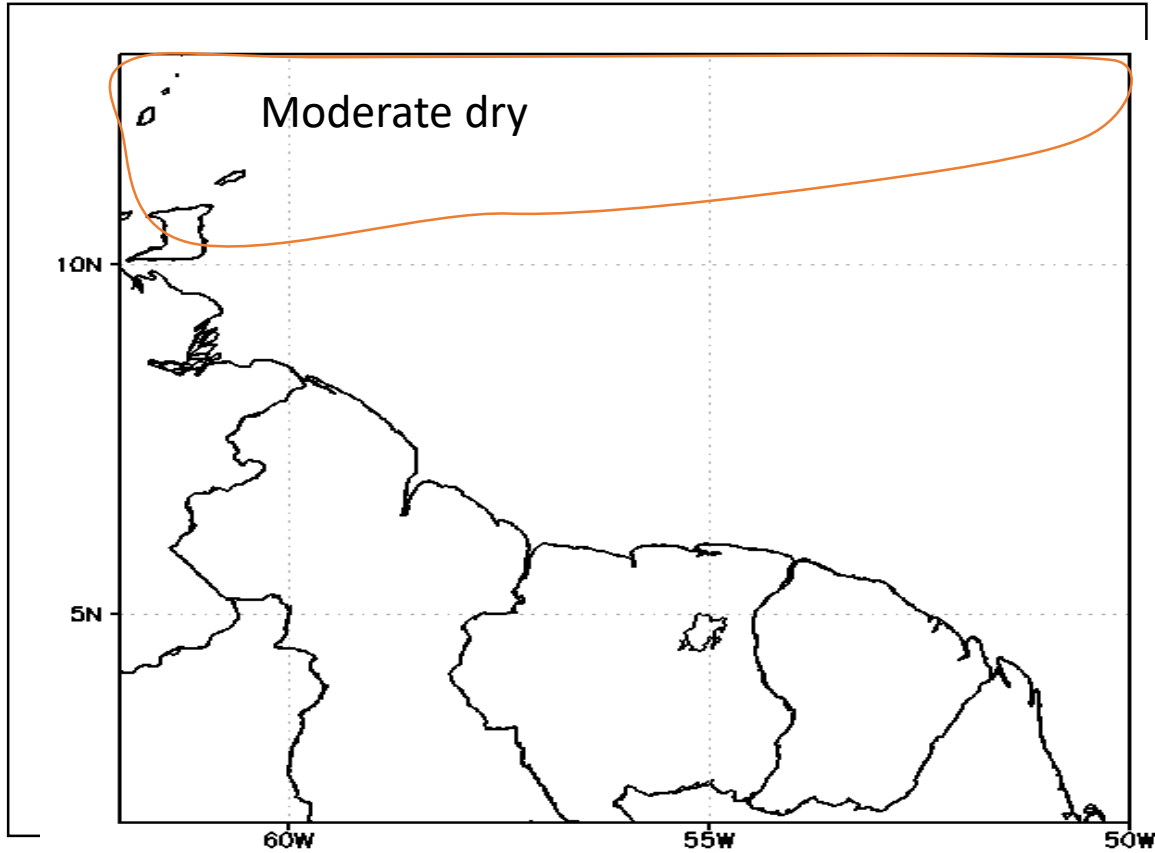
$90^{\text{th}}$  percentile climo



## Summary

- Upper level convergence over the south-eastern Caribbean while pockets of divergence over coastal Guianas and Brazil.
- Wheeler Hendon index-MJO is very weak and non existent over southern eastern Caribbean and Guianas.
- Low level wind speed convergence possible over the coast of Guianas.
- 500hpa shows anomaly of low geopotential heights for eastern Caribbean and Guianas. Cold air advection at the mid levels
- Generally pockets of low level convergence on coast of Guianas and upper level divergence while interior has neutral conditions.
- Precipitation exceedance maps show high probability for between 25.0 mm to 49.9 mm of rainfall to occur along the Guianas coast line and south eastern edge of Trinidad, with very low probability in any other category.
- The  $\leq -20$  and  $\geq 10$  percentiles show that there is a medium chance of rainfall occurring the lower end of ranked rainfall, which supports 25.0 mm to 49.9 mm possible over the week.

# Extreme Precipitation Outlooks



## Legend

- Excessive Wet
- Moderate Wet
- Excessive Dry
- Moderate Dry

Insert your justification

1. Winds at the low, mid and upper level is not conducive to deep convective activity at this time south-eastern Caribbean, while across the Guianas no signal is seen, expect normal conditions.
2. The precipitation exceedance maps  $\geq 25.0$  mm &  $\geq 50.0$  mm shows a high to moderate probability for limited rainfall (25.0 mm to 49.9 mm) over the coastal regions of Guianas, Venezuela and south Trinidad, while very low probability in northern Trinidad and up into eastern Caribbean islands.
3. All statistical probabilities  $\leq 33/\geq 67$  &  $\leq 20/\geq 80$  &  $\leq 10/\geq 90$  percentiles show that there low probability for precipitation across the south-eastern Caribbean with climatological normal in the Guianas.