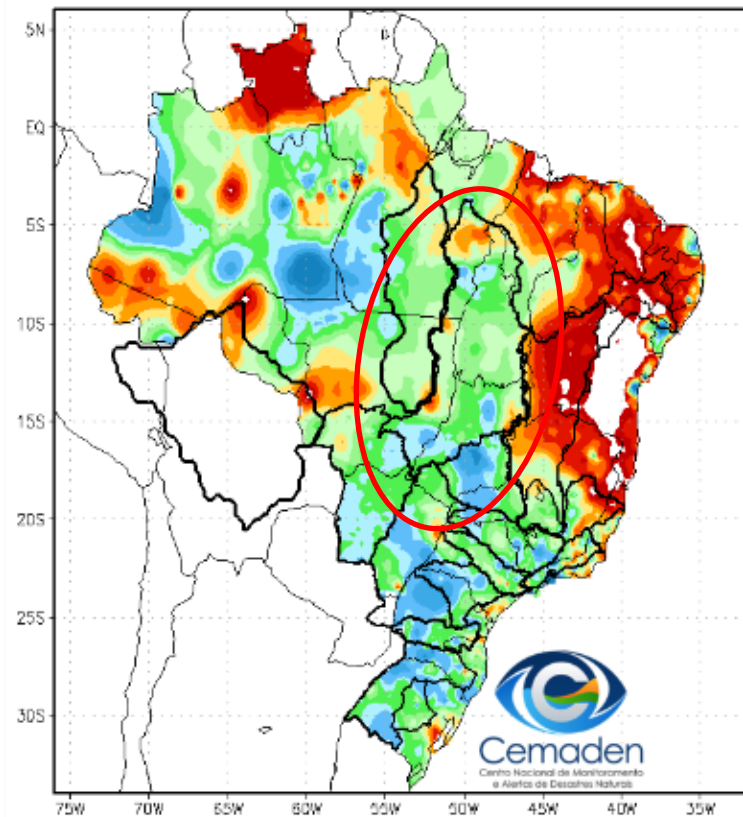


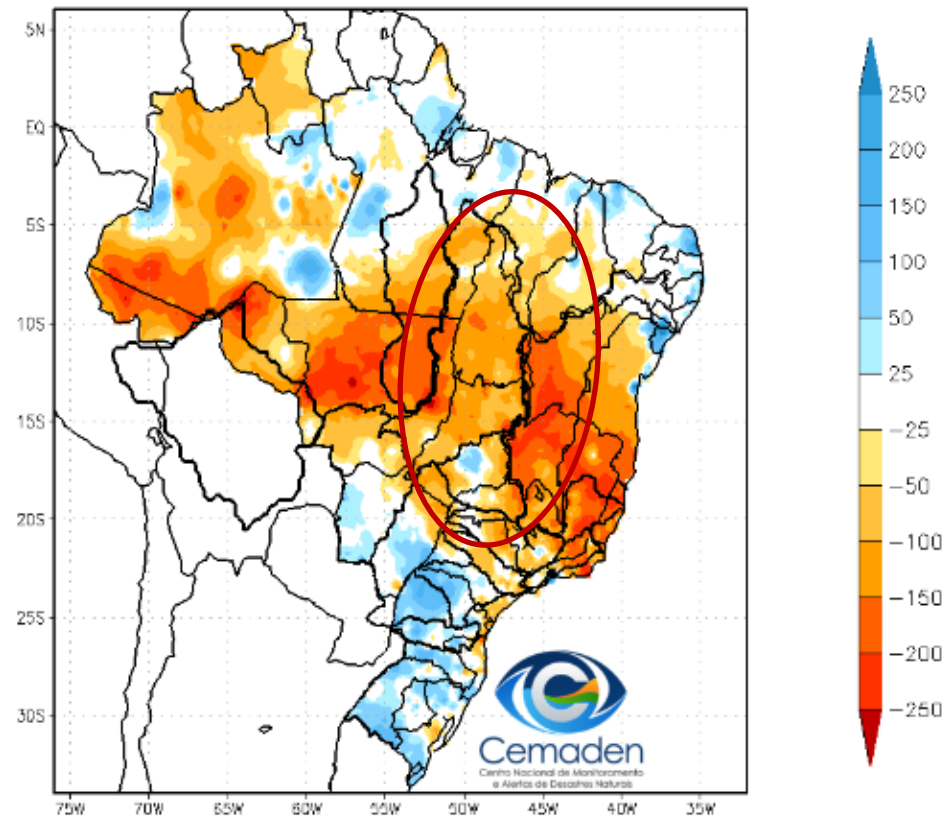
# Monitoramento e Previsões para a Bacia do rio Tocantins

# Precipitação acumulada nos últimos 30 dias

Precipitação Acumulada (mm) A.S.  
Período: 19/11/2023 a 19/12/2023

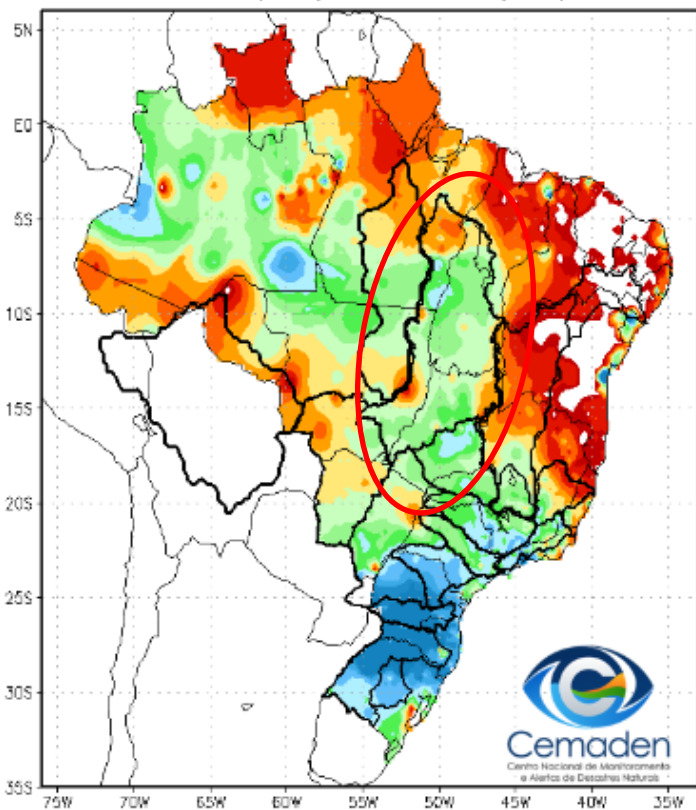


Anomalia de Precipitação (mm) A.S.  
Período: 19/11/2023 a 19/12/2023

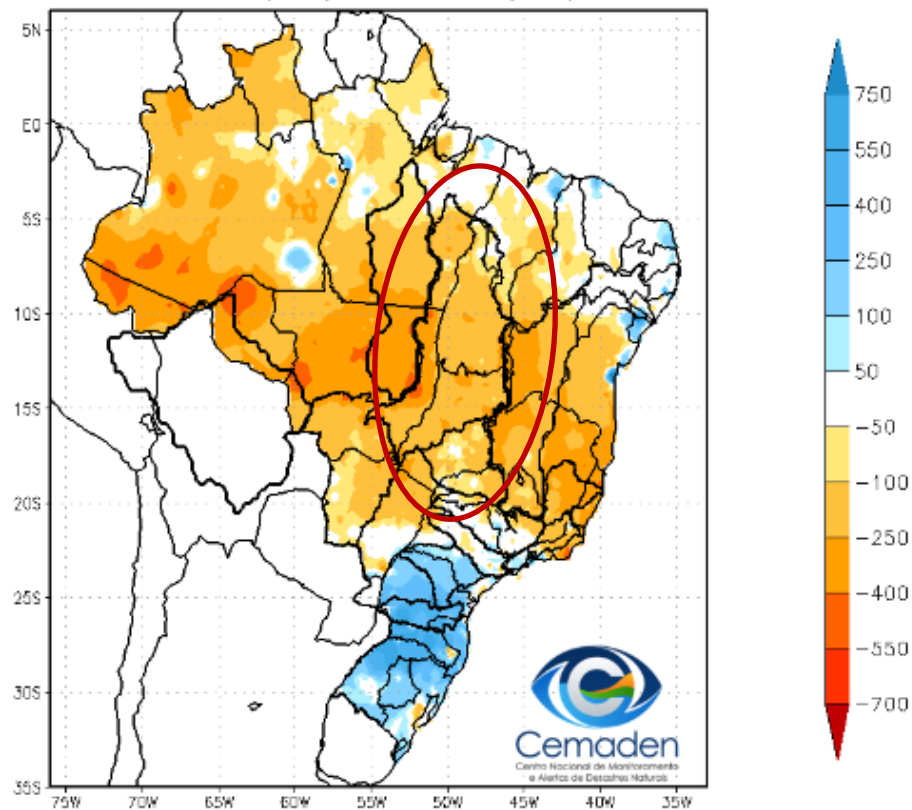


# Precipitação acumulada no Ano Hidrológico

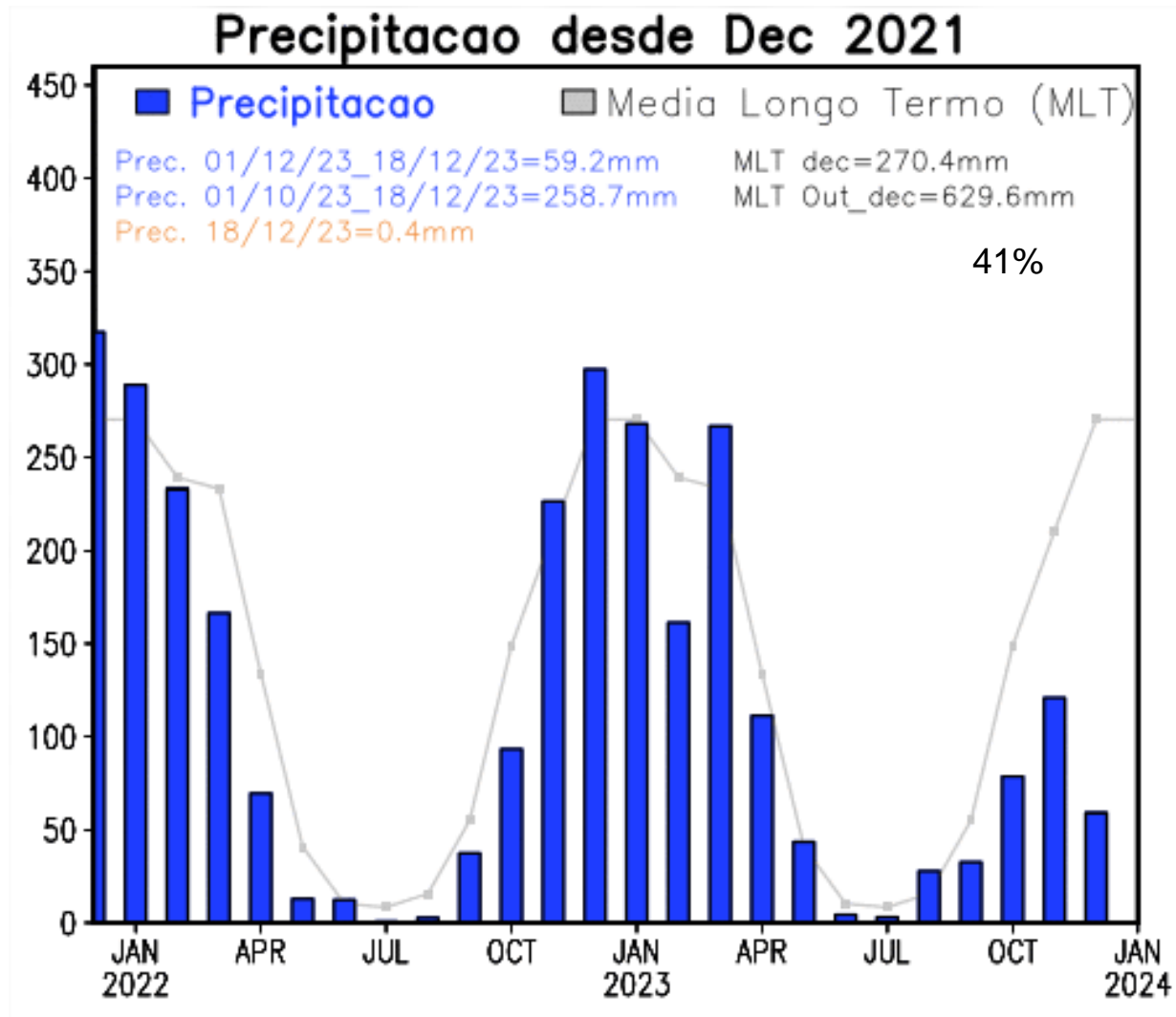
Precipitação Acumulada (mm) A.S.  
Período: 01/10/2023 a 19/12/2023



Anomalia de Precipitação (mm) A.S.  
Período: 01/10/2023 a 19/12/2023



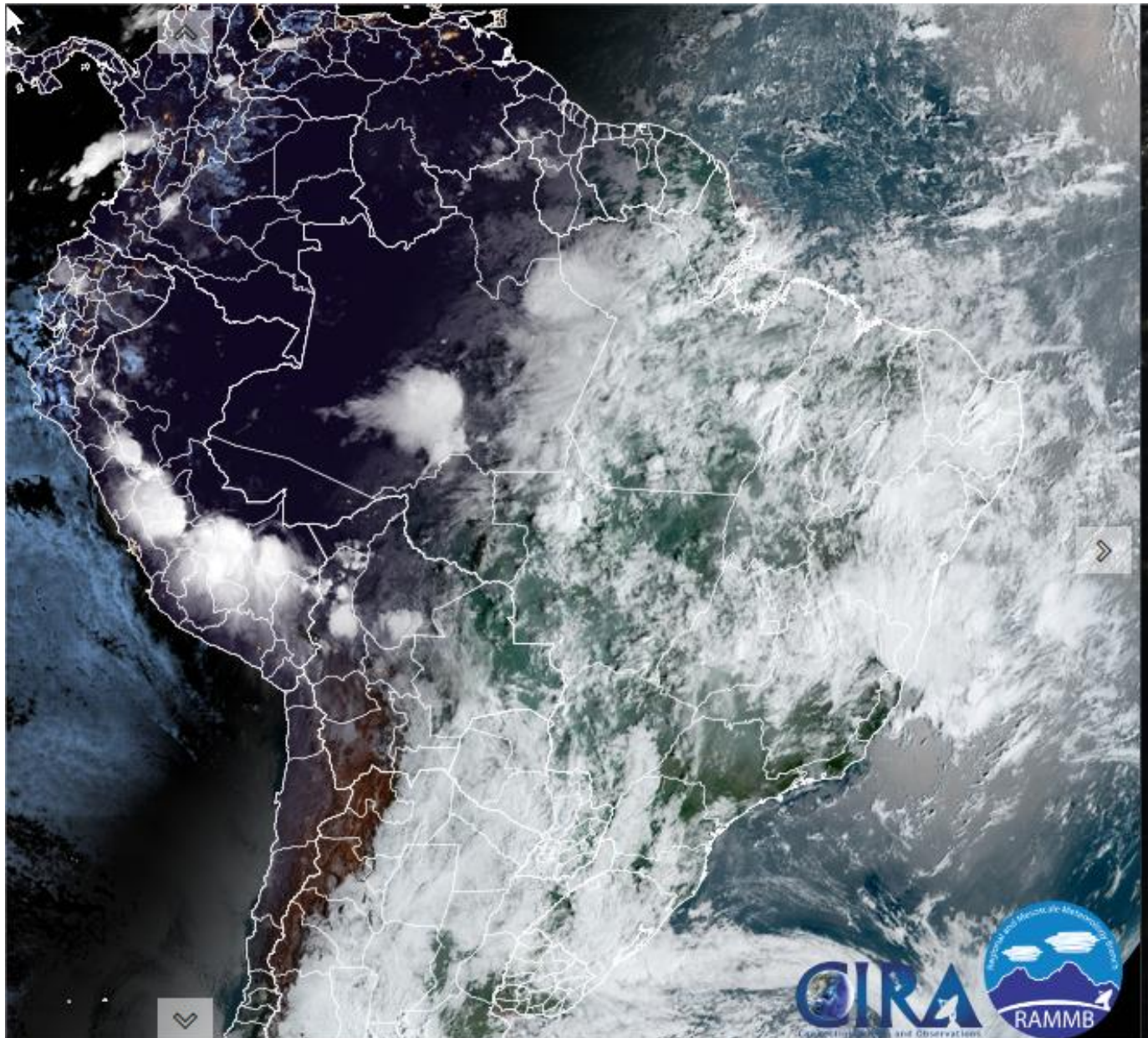
# Evolução da Precipitação



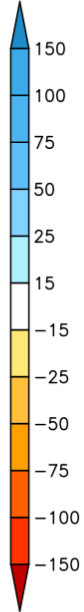
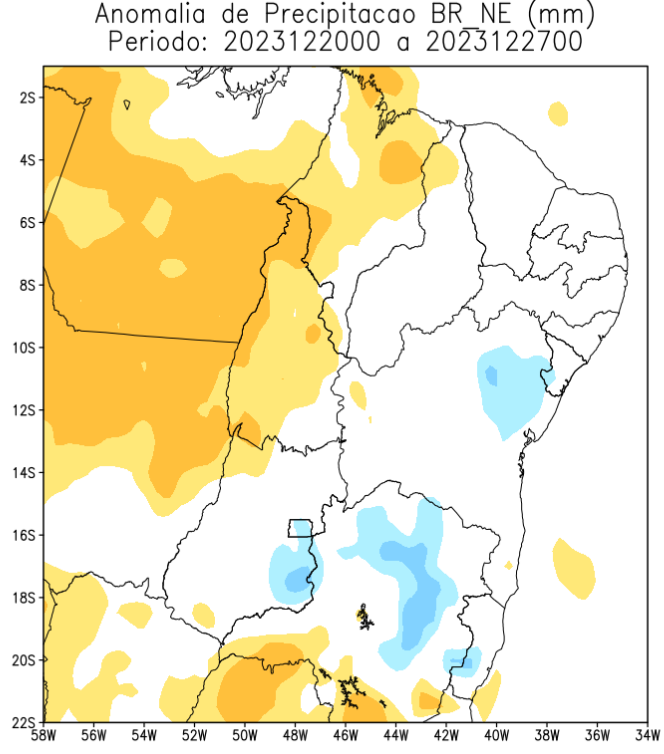
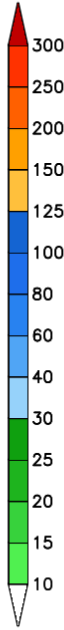
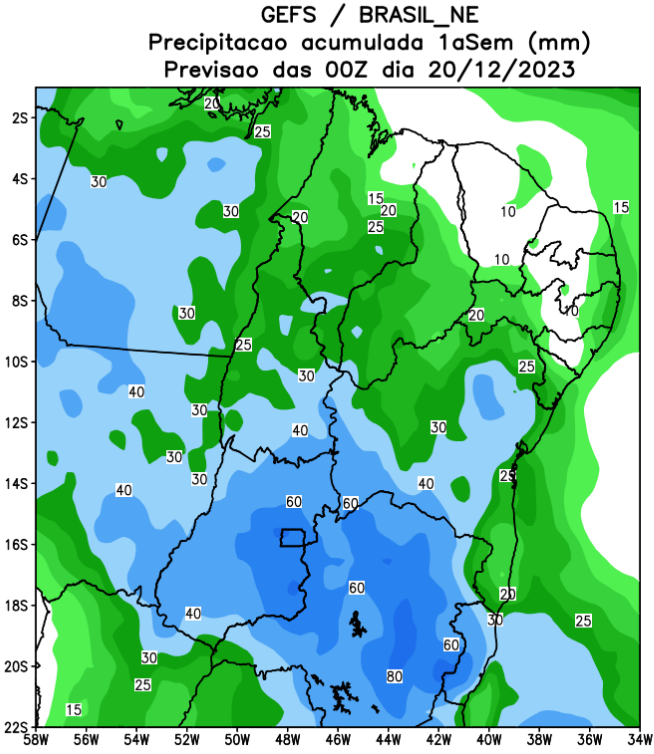
FONTE:  
INPE



# Situação meteorológica atual



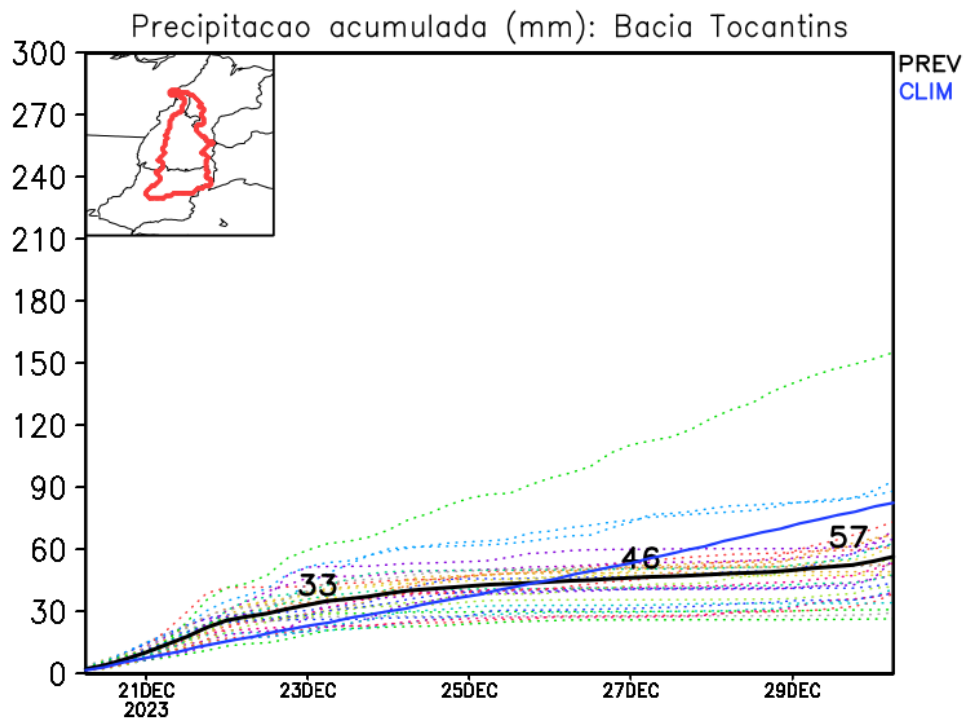
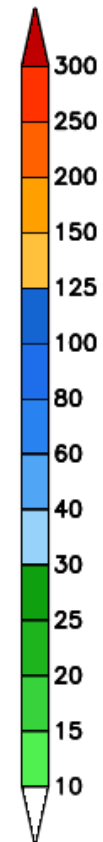
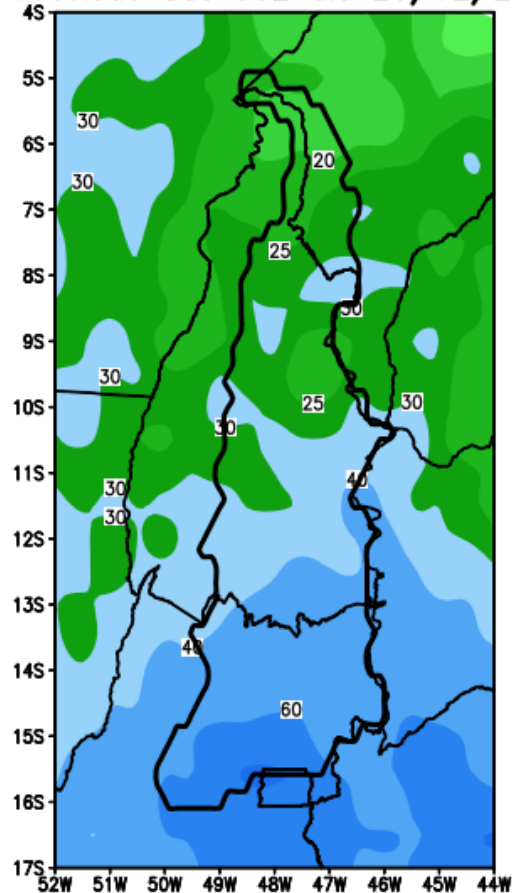
# Previsão de chuva próximos 7 dias



Fonte: GFS/NOAA

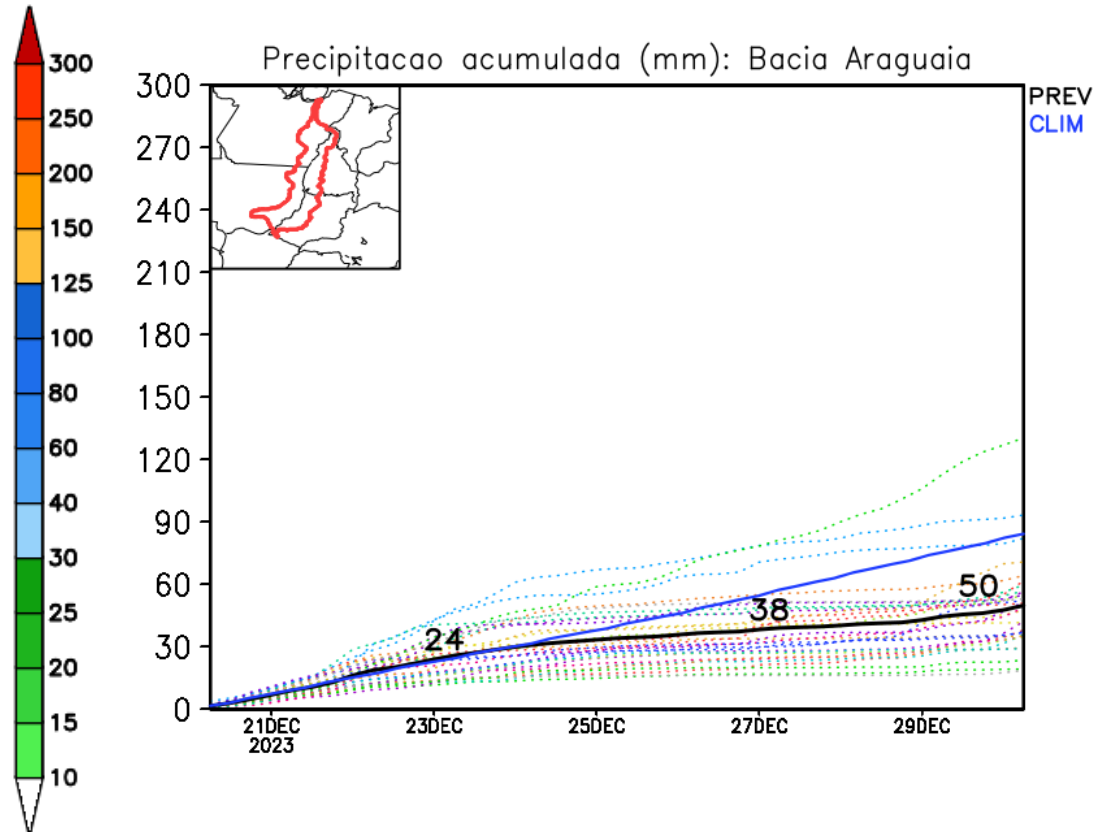
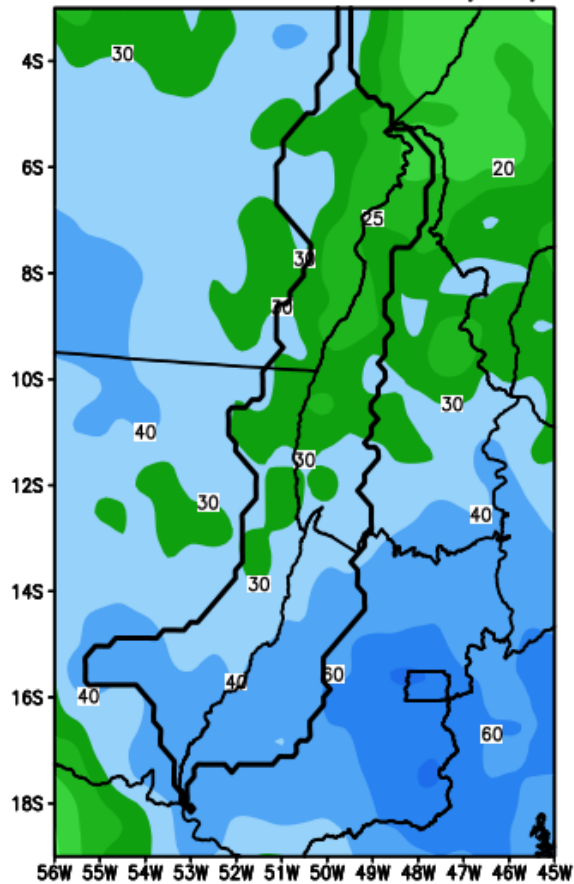
# Previsão Bacia Rio Tocantins

GEFS / Bacia Tocantins  
Precipitacao acumulada em 7 dias (mm)  
Previsao das 00Z dia 20/12/2023



# Previsão Bacia Rio Araguaia

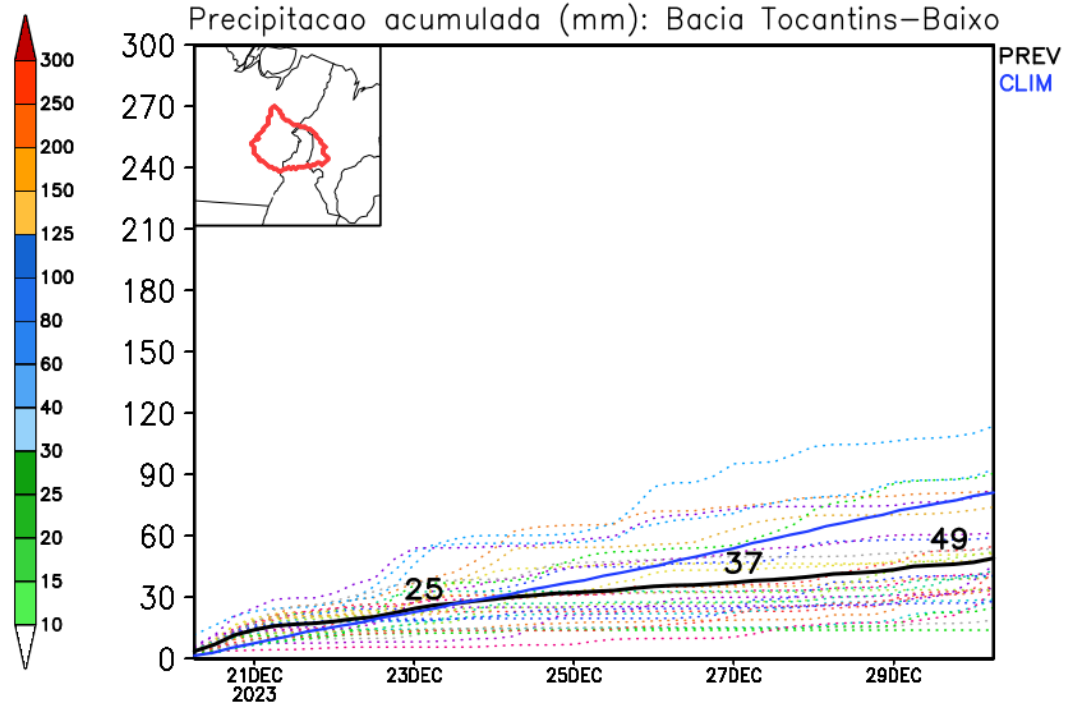
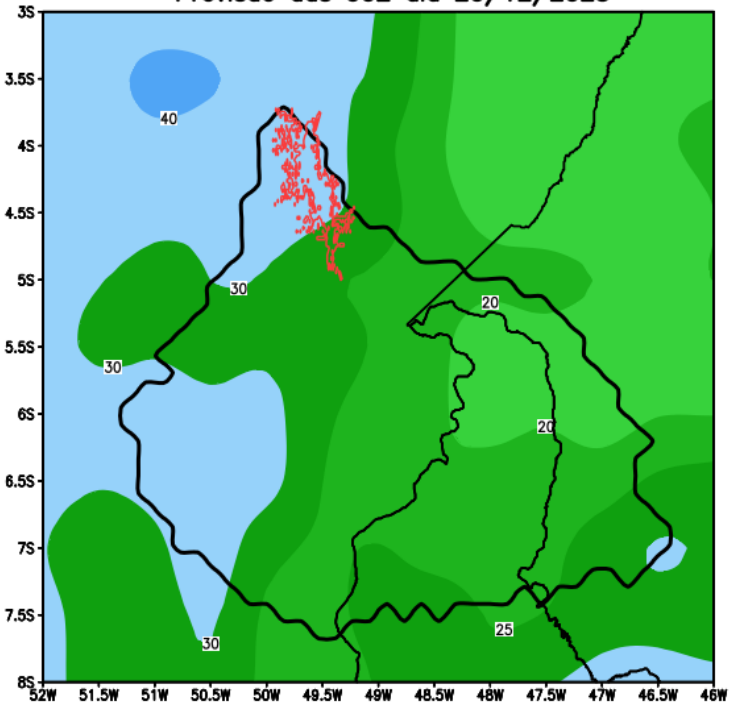
GEFS / Bacia do Rio Araguaia  
Precipitação acumulada em 7 dias (mm)  
Previsão das 00Z dia 20/12/2023





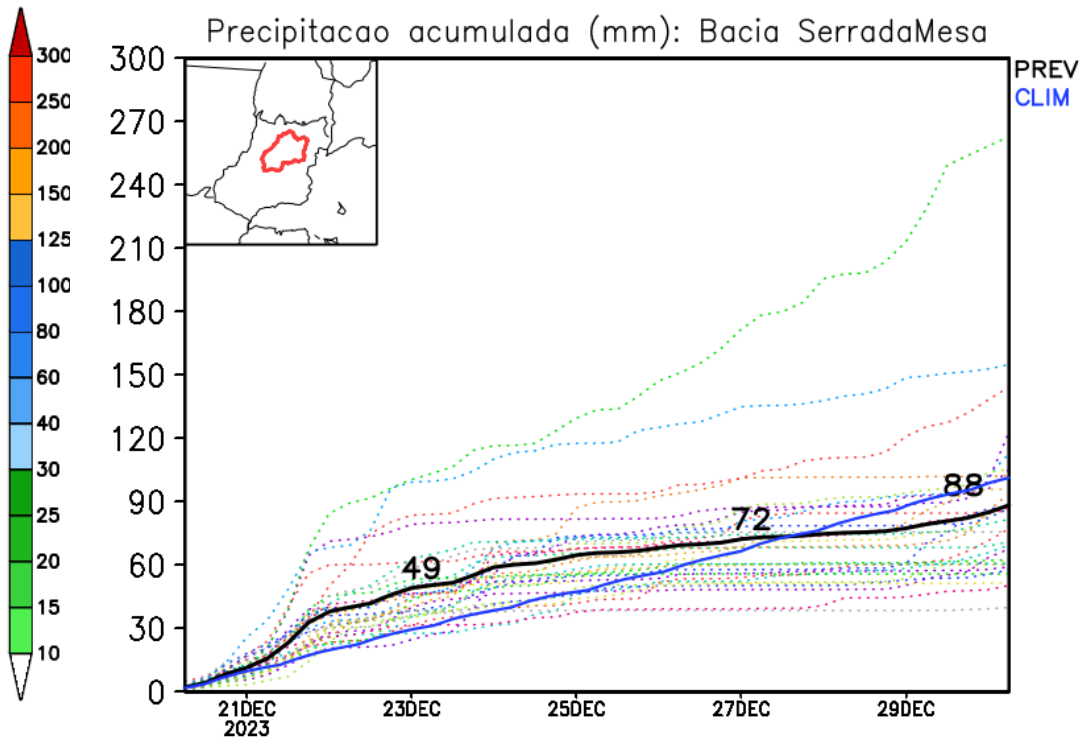
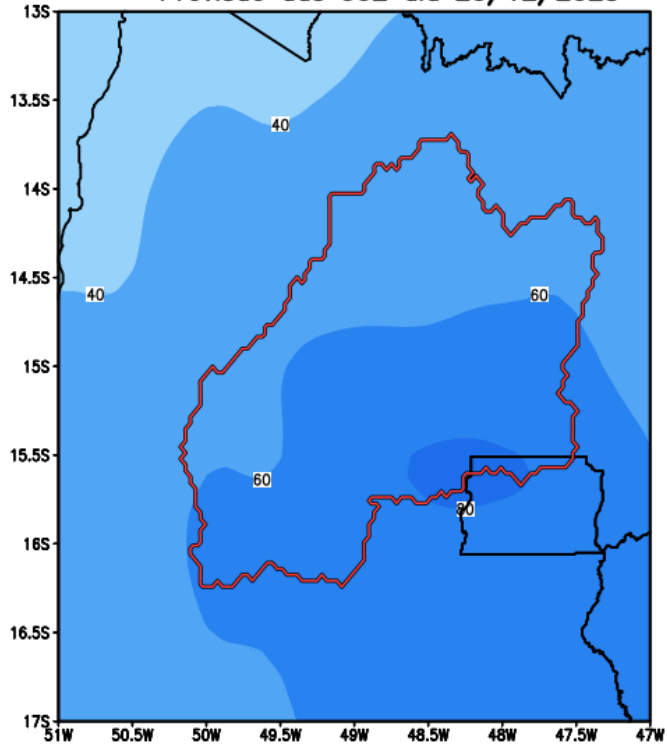
# Previsão Bacia Tocantins (Baixo)

GEFS / Bacia Baixo Tocantins  
Precipitação acumulada em 7 dias (mm)  
Previsão das 00Z dia 20/12/2023

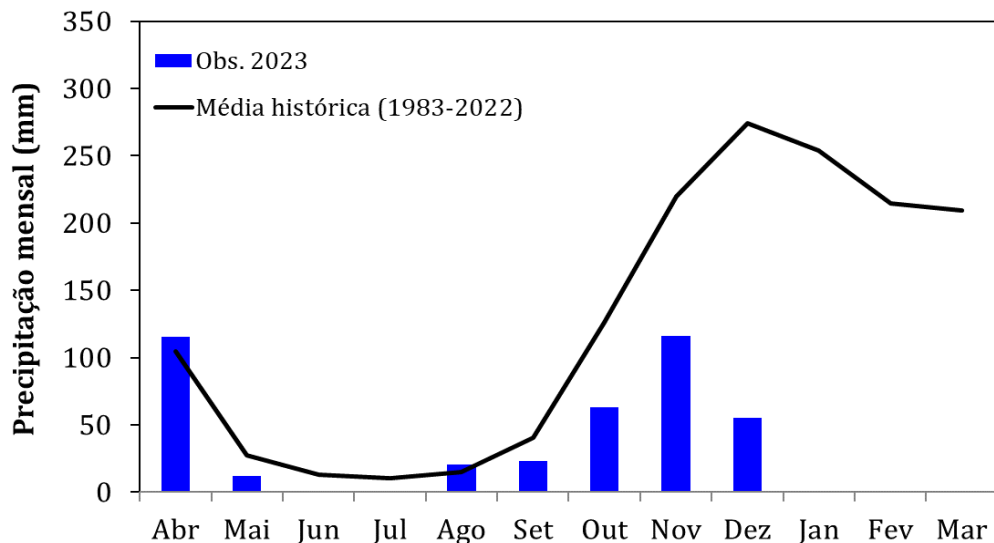


# Previsão Bacia Serra da Mesa

GEFS / Bacia Serra da Mesa  
Precipitacao acumulada em 7 dias (mm)  
Previsao das 00Z dia 20/12/2023



# Monitoramento UHE Serra da Mesa



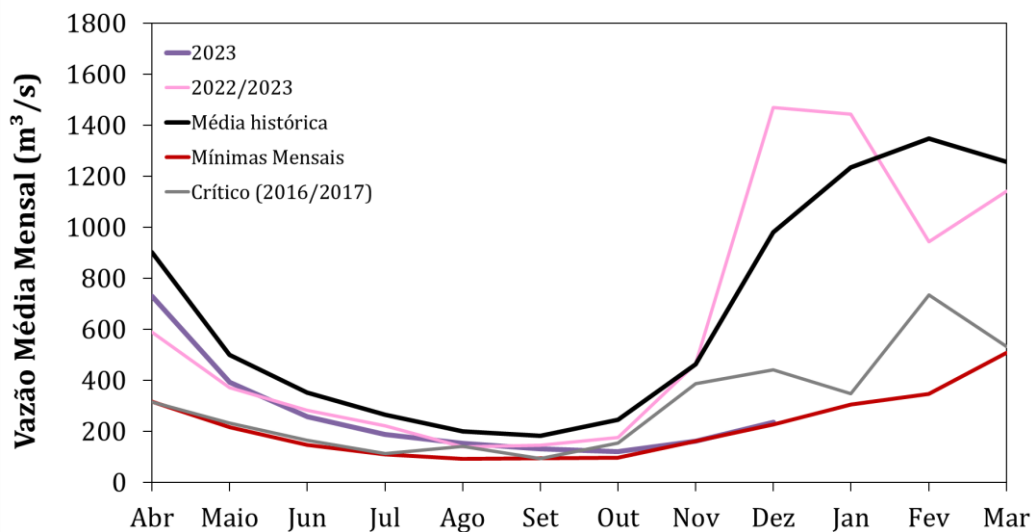
## Precipitação

**Estação Chuvosa - Out a Abr – 1402 mm**  
 2021/2022: 1473 mm (105% da média histórica)  
 2022/2023: 1358 mm (97% da média histórica)

**Estação Seca - Maio a Set – 106 mm**  
 2022: 54 mm (51% da média histórica)  
 2023: 57 mm (53% da média histórica)

**Dez/2023\*: 55 mm (Média histórica = 274 mm)**

\*Até 18/12/2023



## Vazão

**Estação Chuvosa - Out a Abr – 918 m³/s**  
 2021/2022: 1184 m³/s (129% da MLT)  
 2022/2023: 909 m³/s (99% da MLT)

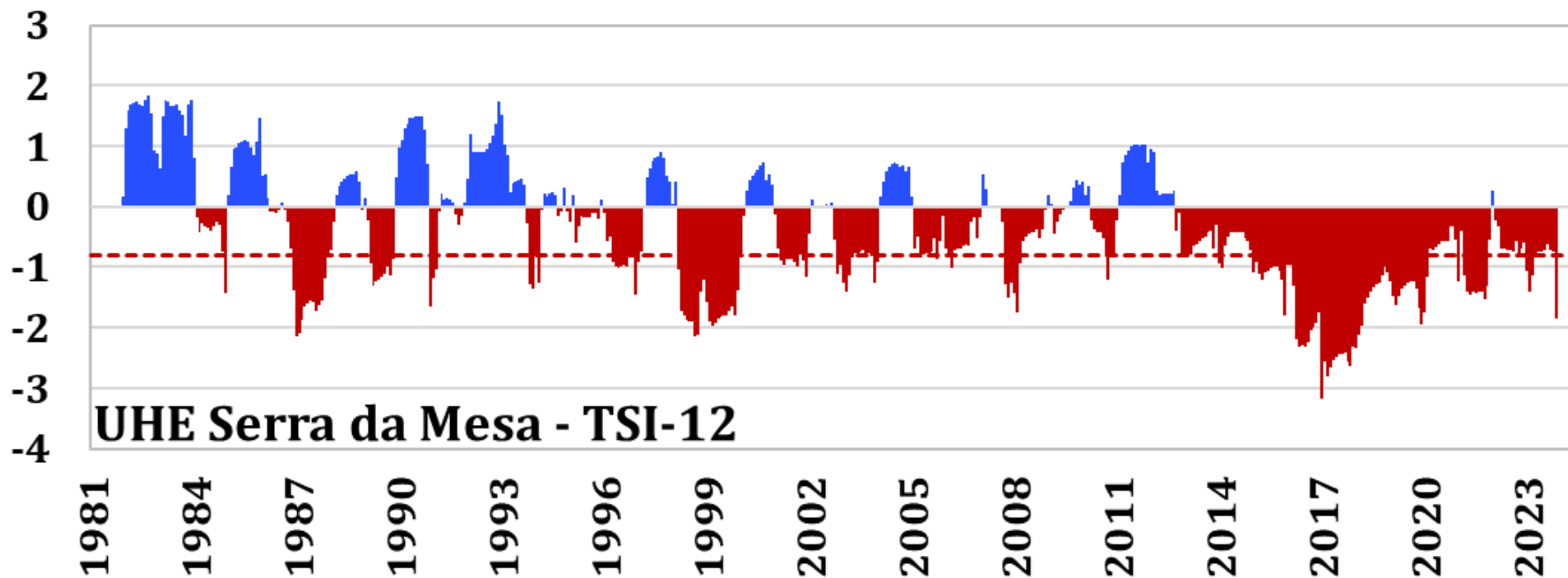
**Estação Seca - Maio a Set – 300 m³/s**  
 2022: 231 m³/s (77% da MLT)  
 2023: 224 m³/s (75% da MLT)

**Dezembro/2023\*: 235 m³/s (24% da MLT)**  
**18/Dez/2023: 158 m³/s (16% da MLT)**

\*Até 18/12/2023

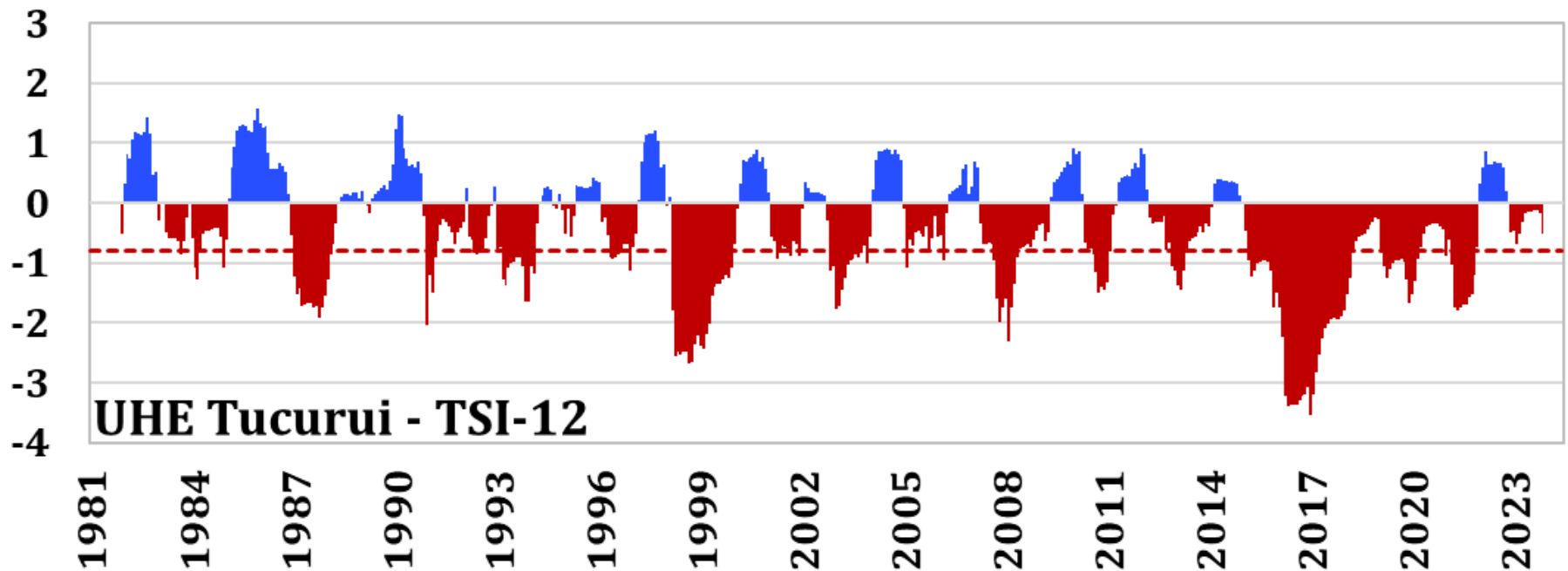
**Seca Hidrológica Extrema**

**Índice Padronizado Bivariado (Chuva-Vazão) - TSI-12**



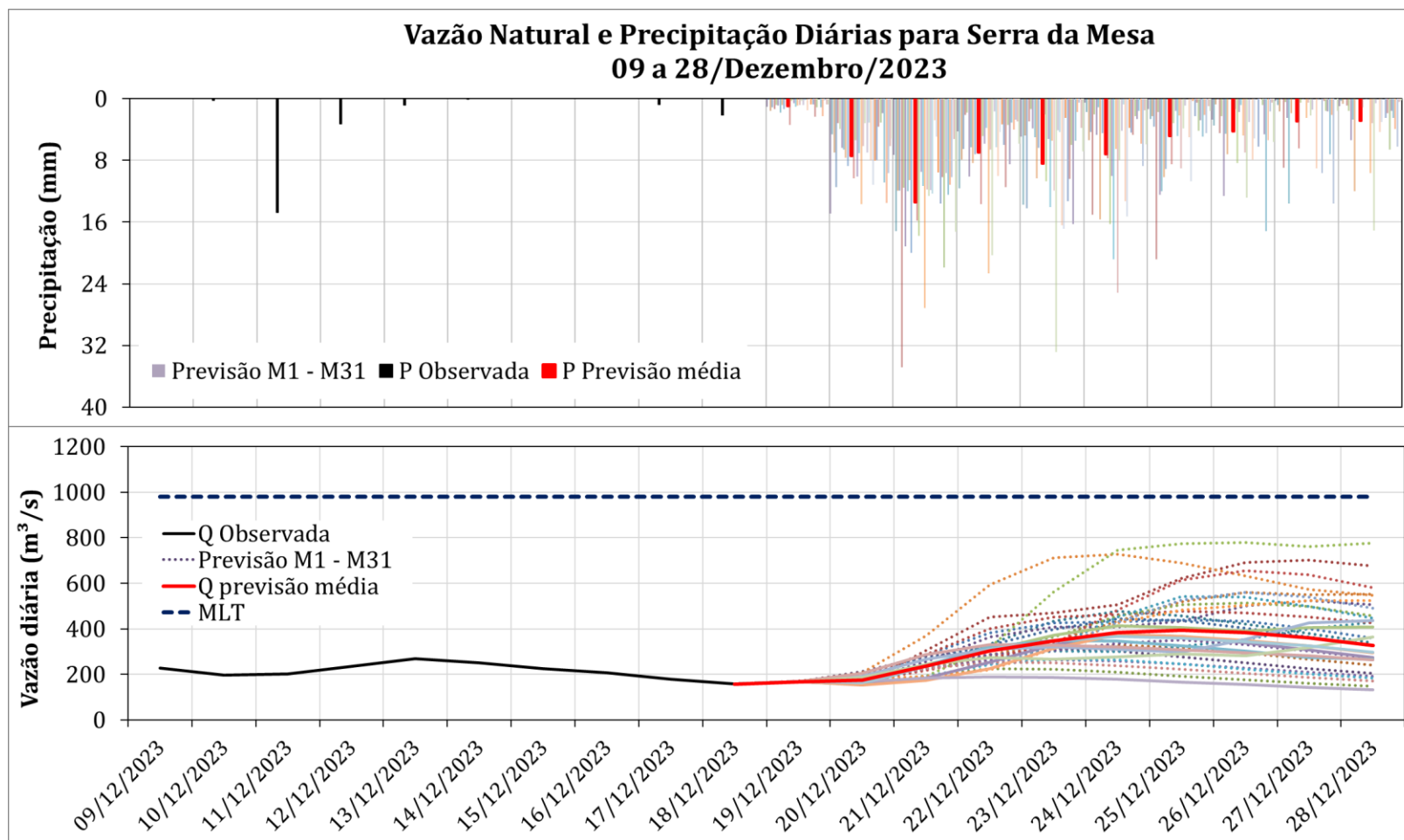
**Seca Hidrológica Fraca**

**Índice Padronizado Bivariado (Chuva-Vazão) - TSI-12**





# Serra da Mesa: Previsão de Vazão (modelo hidrológico PDM-CEMADEN)



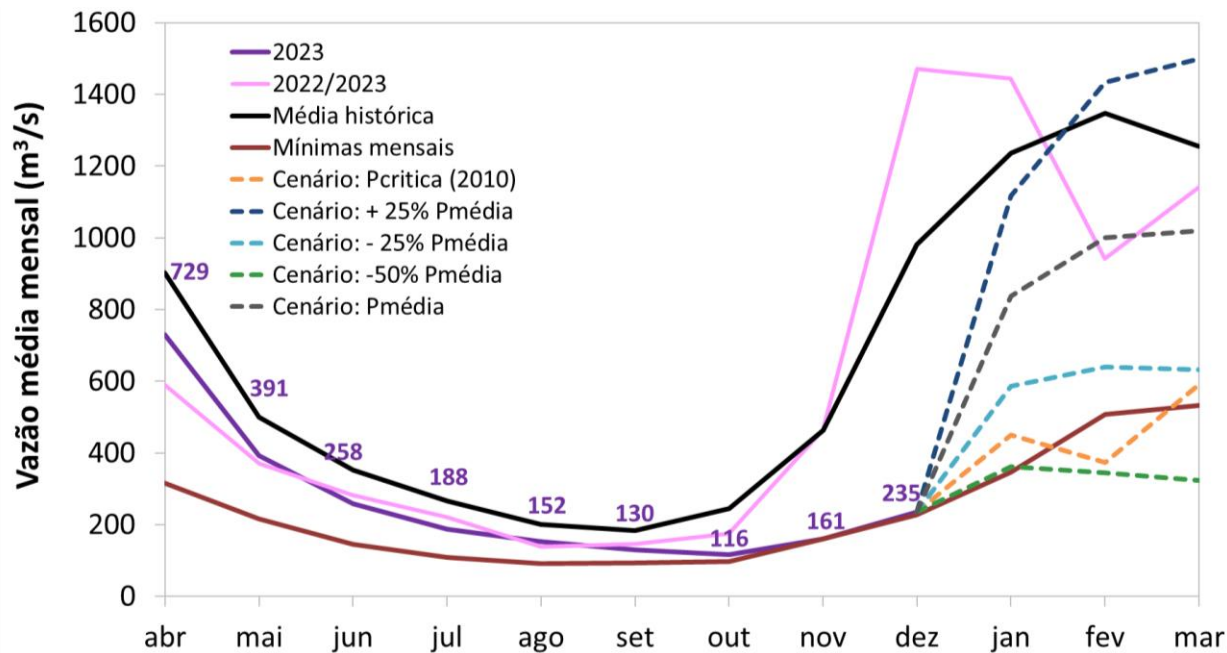
Dados **observados de precipitação** (barras pretas) para o período 09 a 18/12/23 e **previsão** para o período de 19/12 a 28/12/23.  
Dados **observados de vazão** (linha preta) para o período 09 a 18/12/23 e **previsão** para o período de 19/12 a 28/12/23.

As barras coloridas correspondem às previsões da chuva para os 31 membros GEFS/NOAA e à média destes membros.

As linhas coloridas representam os membros de previsão de vazão.

**Previsão média para os próximos 10 dias: 308 m<sup>3</sup>/s**

# Serra da Mesa: Projeção de Vazão (modelo hidrológico PDM-CEMADEN)

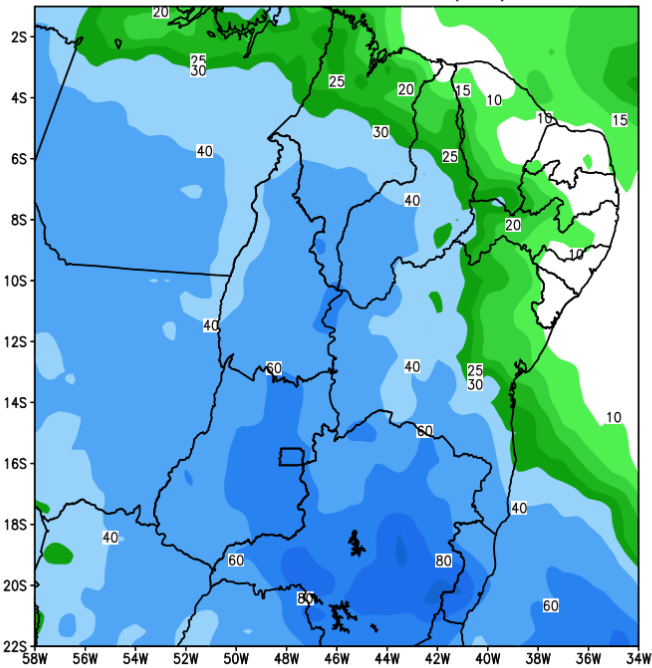


**Janeiro - Março**  
MLT: 1279 m³/s

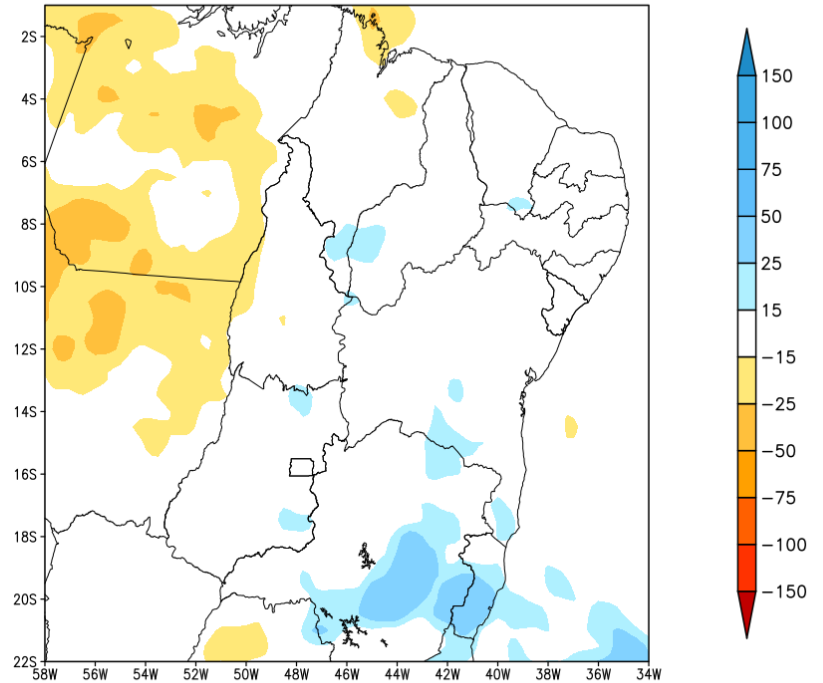
Vazão	% MLT
1350 m³/s	106%
953 m³/s	74%
619 m³/s	48%
343 m³/s	27%
471 m³/s	37%

# Tendência para a 2a Semana

GEFS / BRASIL\_NE  
Precipitacao acumulada 2aSem (mm)  
Previsao das 00Z dia 20/12/2023

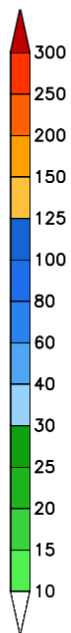
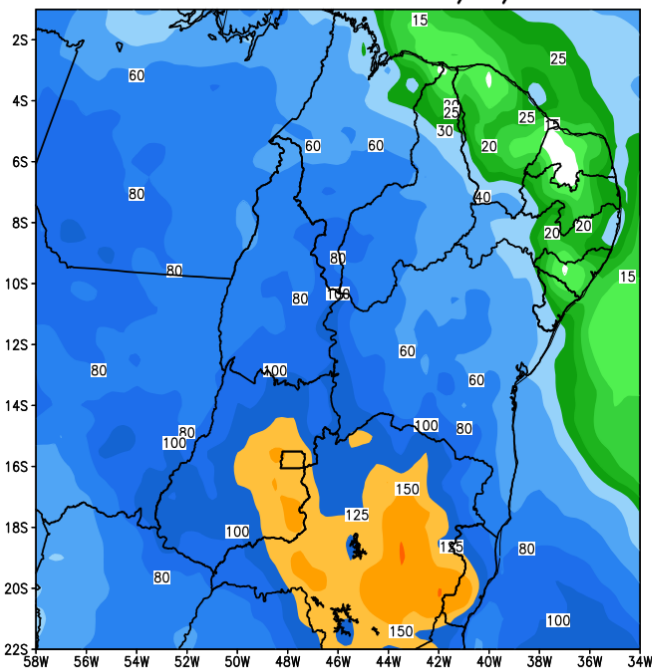


Anomalia de Precipitacao BR NE (mm)  
Periodo: 2023122800 a 2024010300

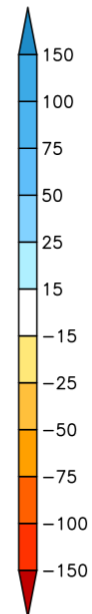
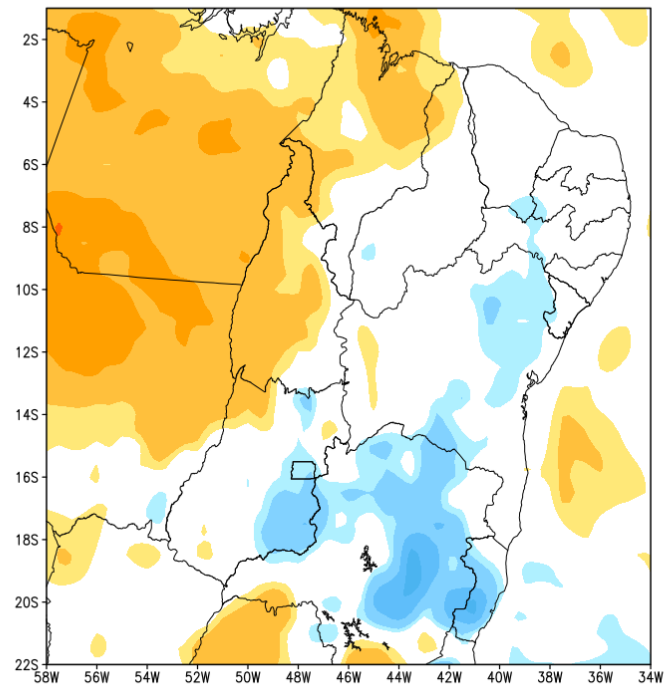


# Tendência para as próximas duas semanas

GEFS / BRASIL\_NE  
Precipitacao acumulada 14dias (mm)  
Previsao das 00Z dia 20/12/2023

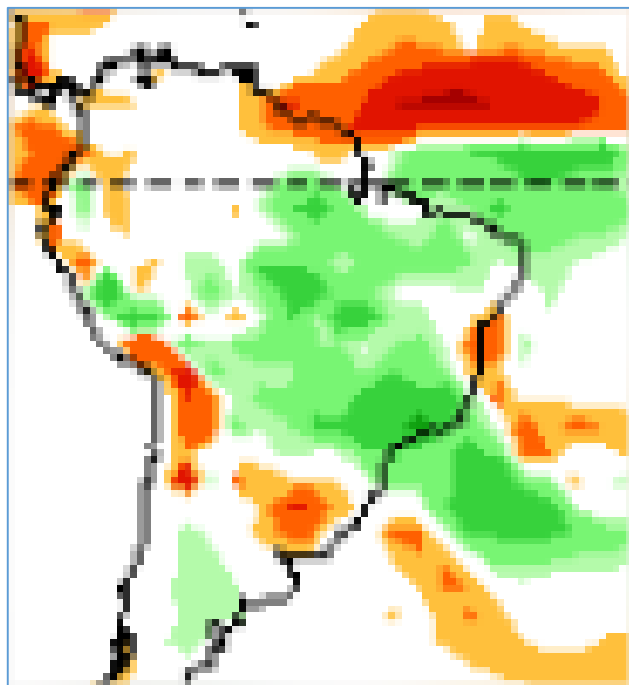


Anomalia de Precipitacao BR NE (mm)  
Periodo: 2023122000 a 2024010300

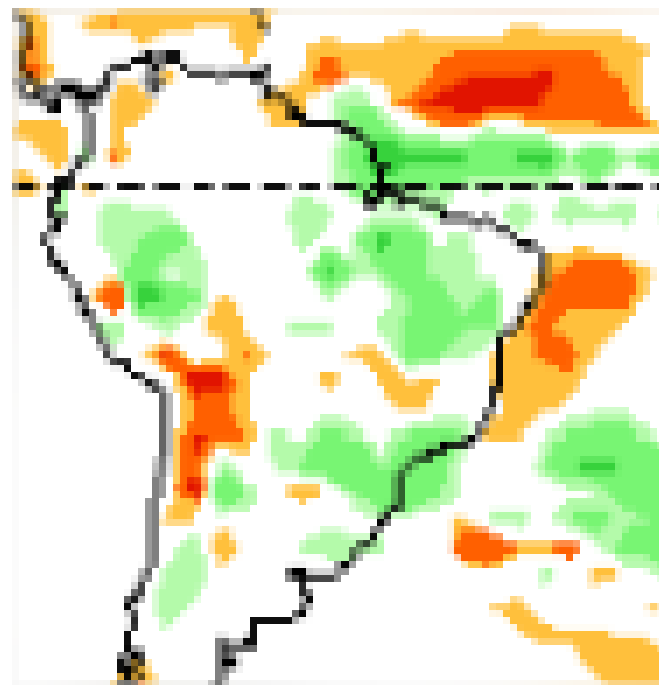


# Tendência 3a e 4a semanas

03-09/01



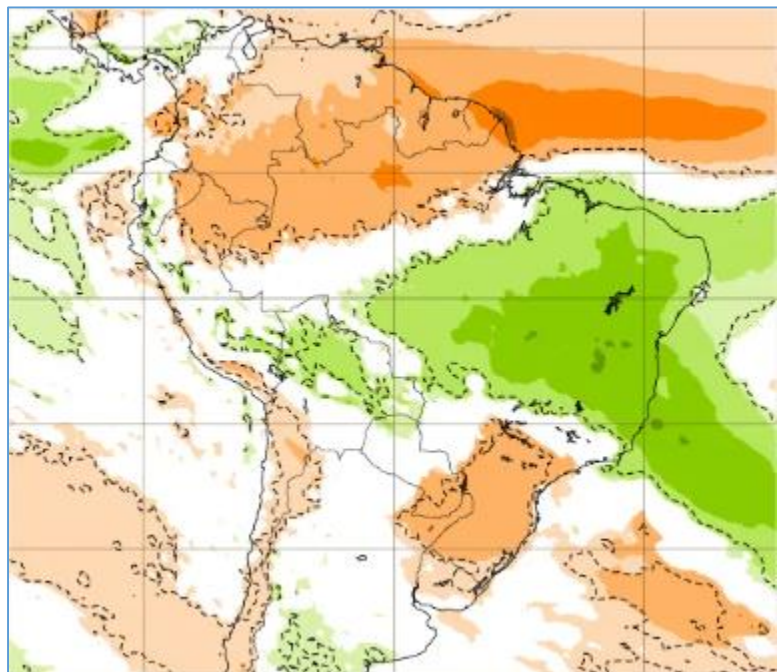
10-16/01



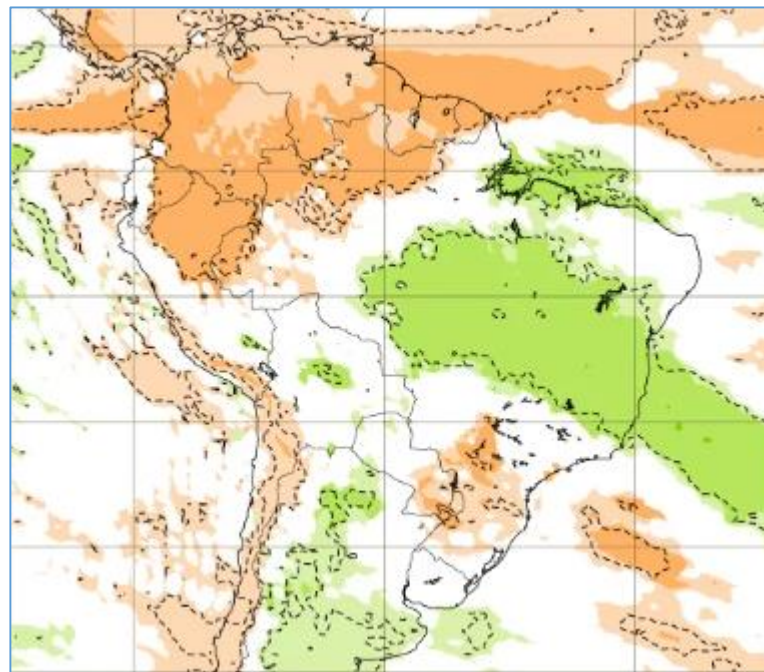


# Tendência para 3ª e 4ª semanas

01-08/01

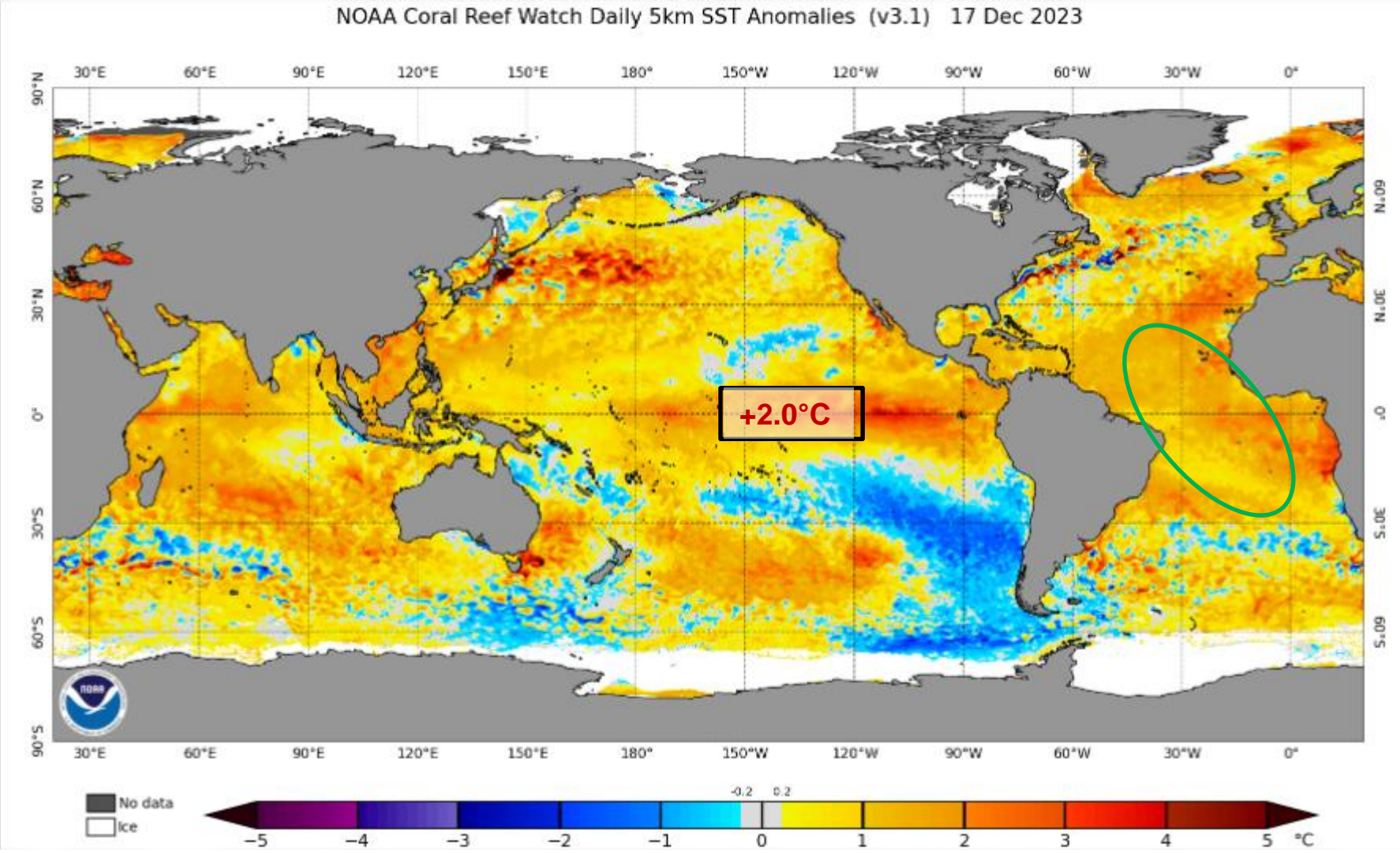


08-15/01



Status Atual: **El Niño**

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 17 Dec 2023



# Previsão do “ENSO”

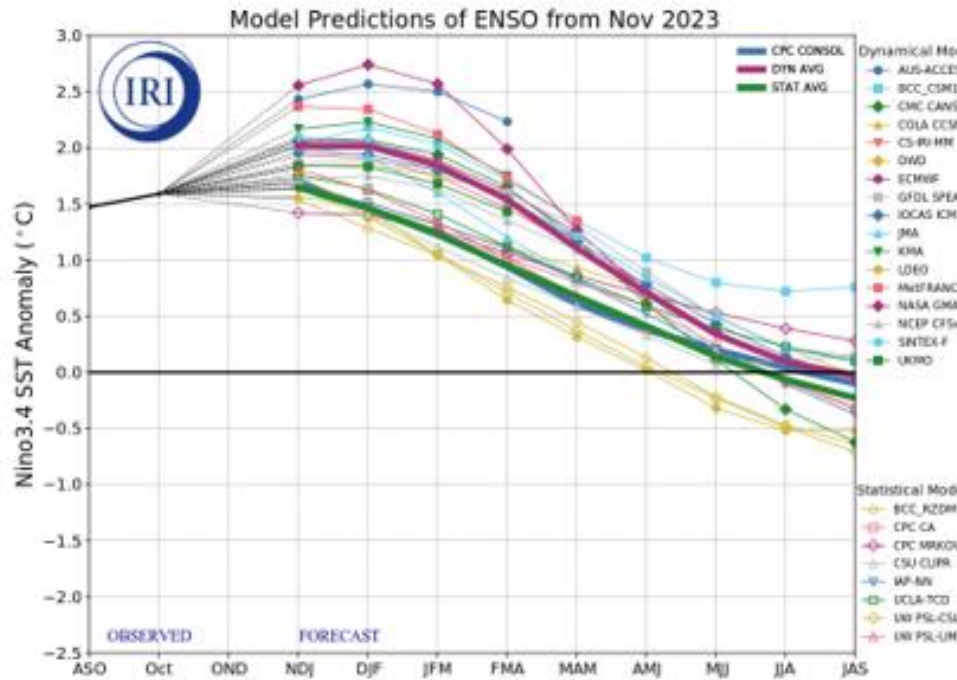
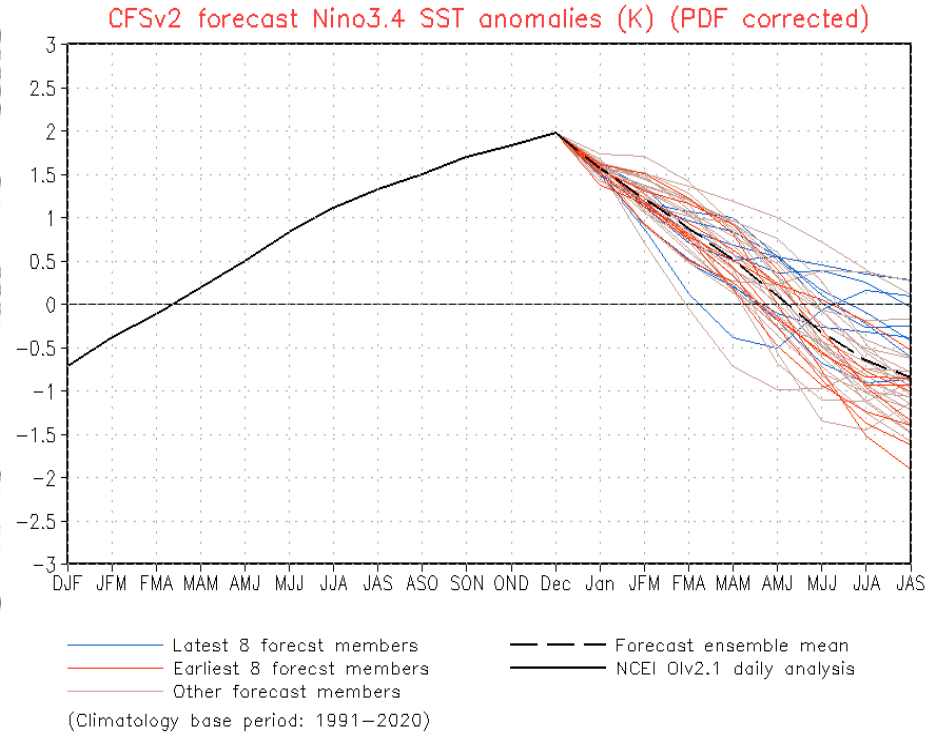


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 20 November 2023).

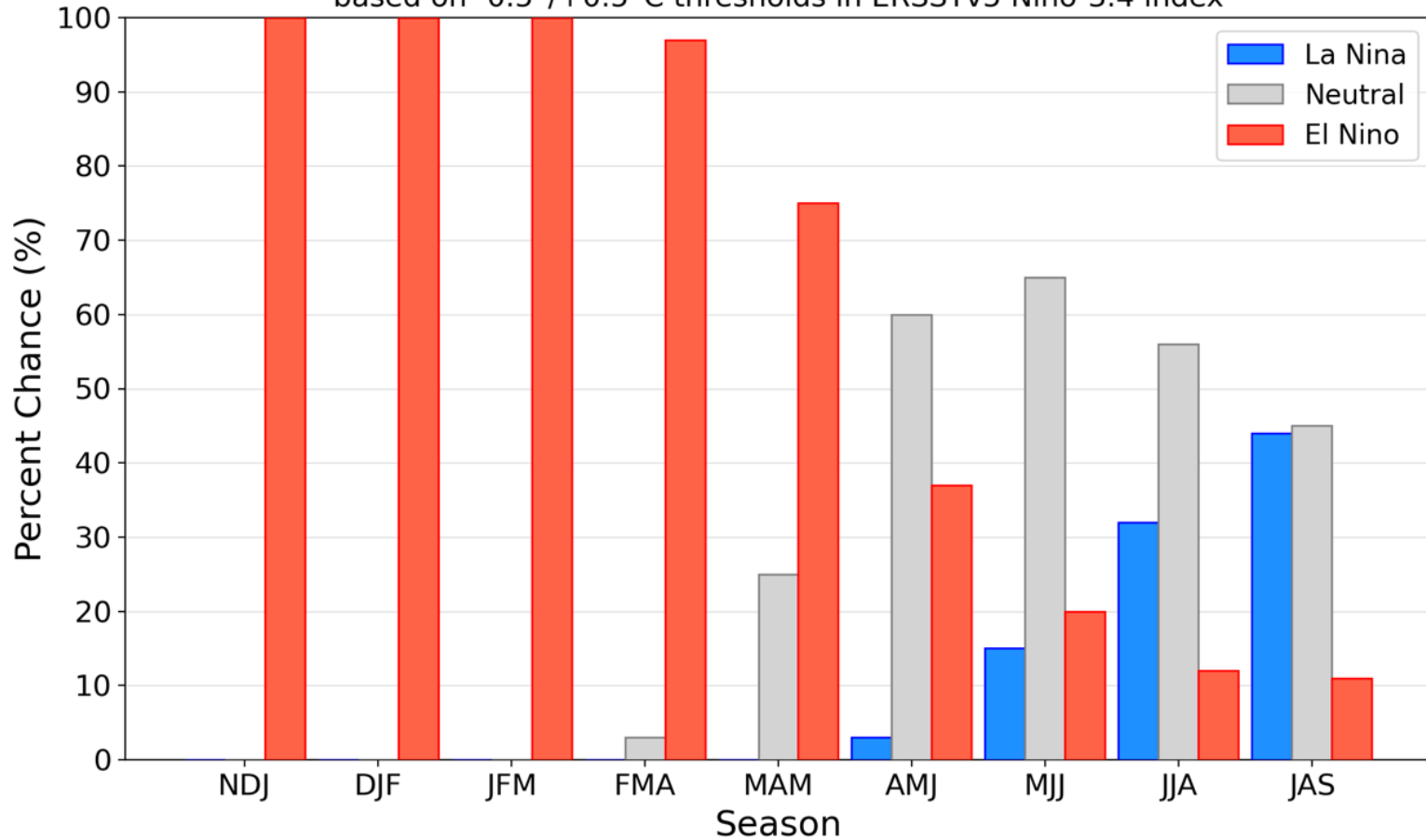


Atualizado 18 de dezembro

# Previsão do “ENSO”

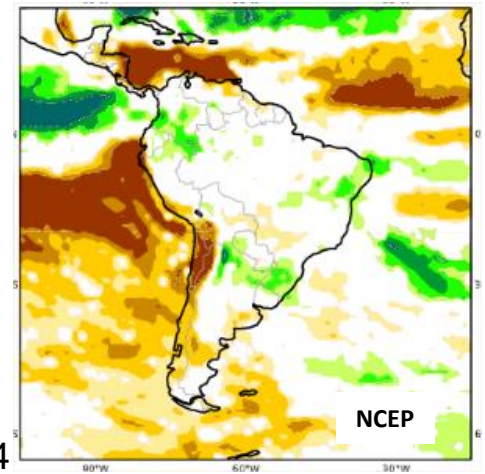
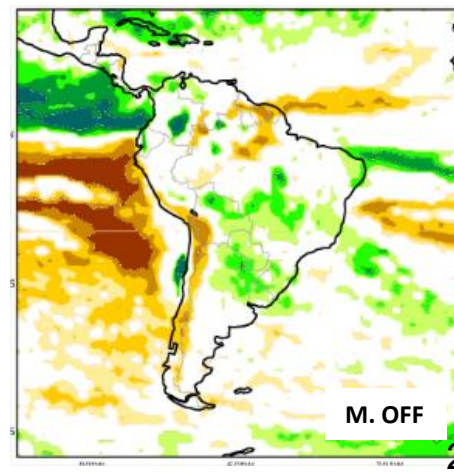
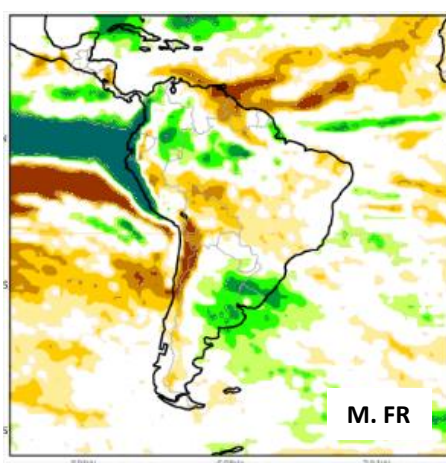
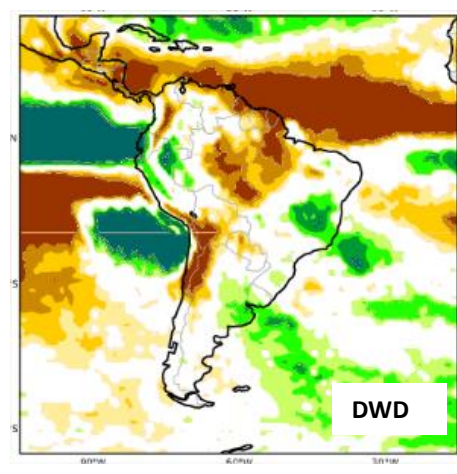
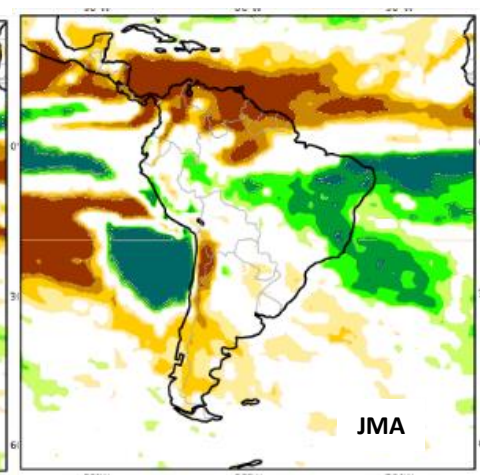
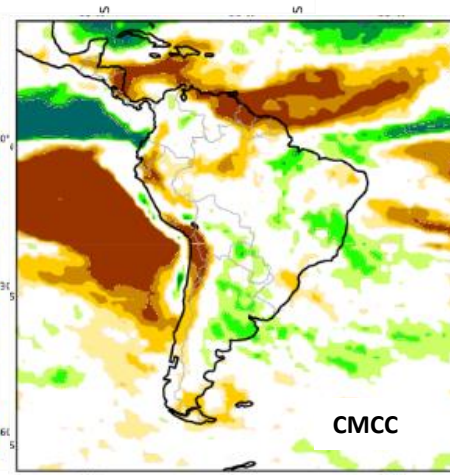
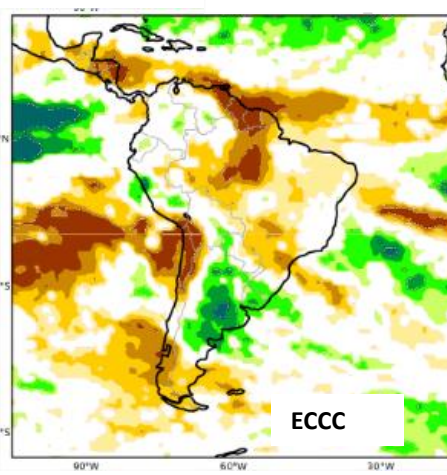
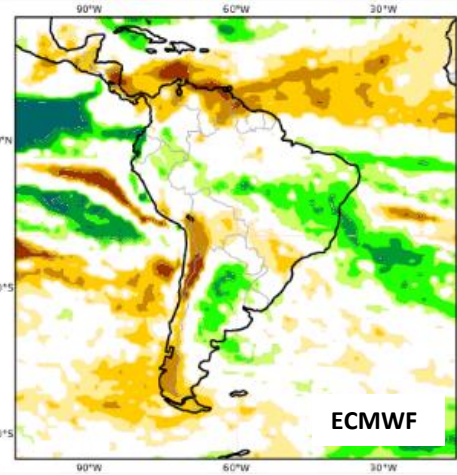
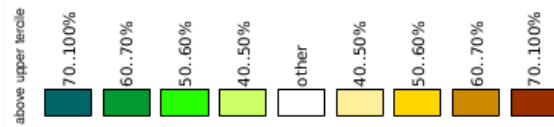
## Official NOAA CPC ENSO Probabilities (issued Dec. 2023)

based on  $-0.5^{\circ}/+0.5^{\circ}\text{C}$  thresholds in ERSSTv5 Niño-3.4 index





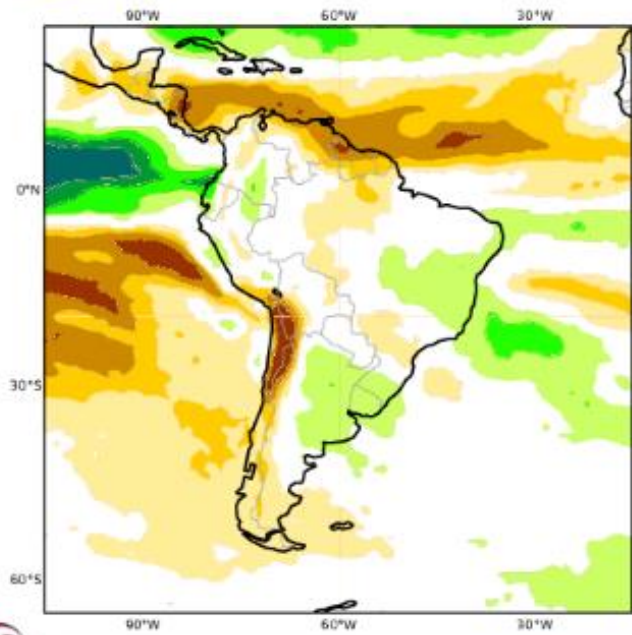
# Previsão Sazonal de Chuva JFM



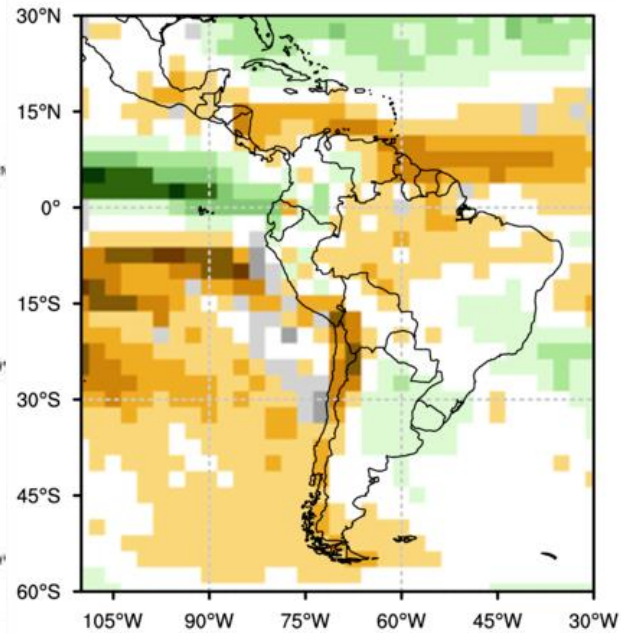


# Previsão Sazonal de Chuva Multi-Modelo para JFM

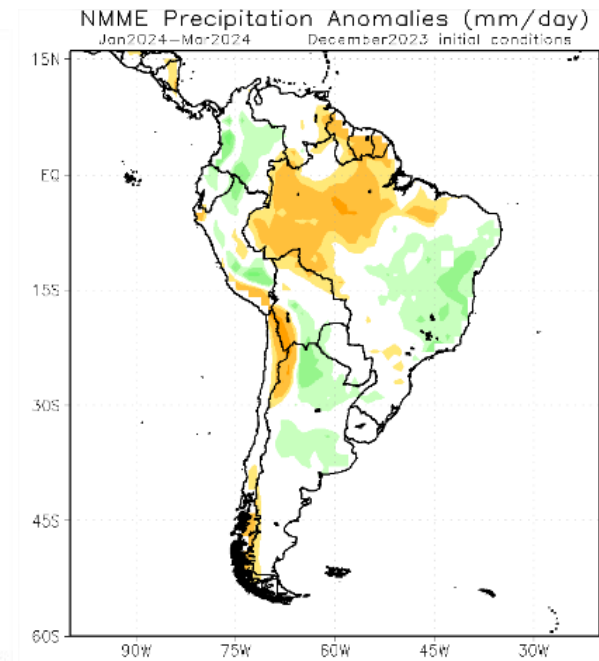
C3S multi-system seasonal forecast  
Prob(most likely category of precipitation)  
Nominal forecast start: 01/12/23  
Unweighted mean



Modelos Europeus



Modelos da Organização Meteorológica Mundial



Modelos Americanos