



# CEMADEN

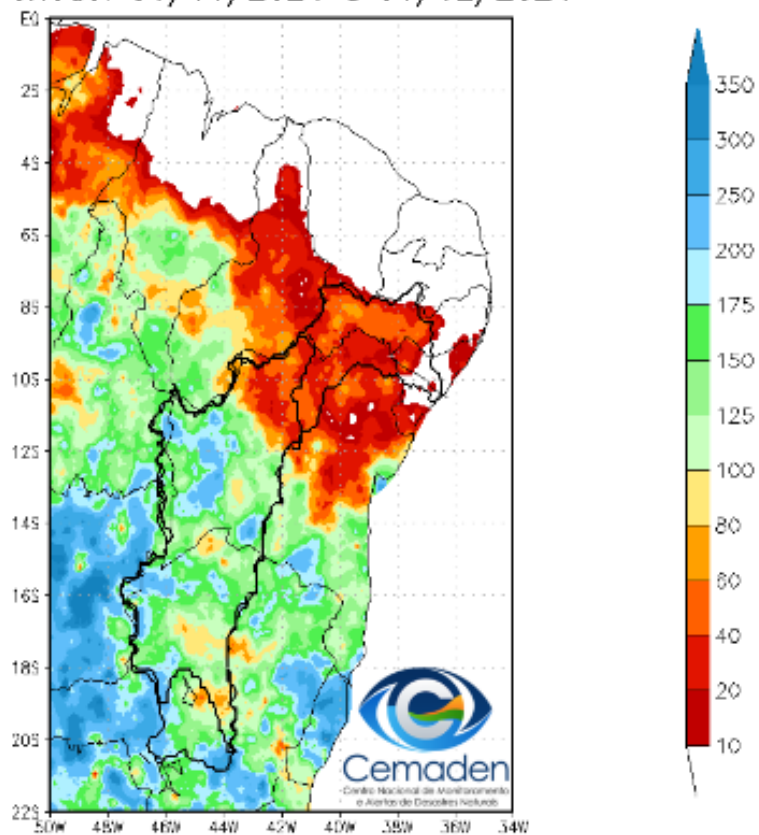
**Centro Nacional de Monitoramento e  
Alertas de Desastres Naturais**

## Monitoramento, Previsões e Projeções para a Bacia do Rio São Francisco

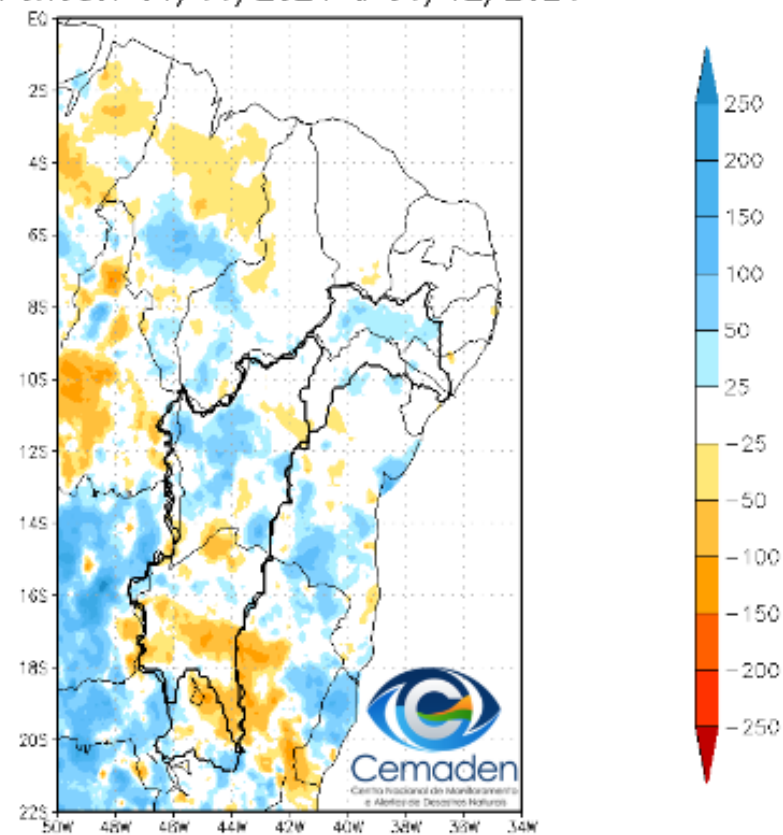
03 de Dezembro de 2024

## Chuva dos últimos 30 dias

Precipitacao Acumulada (mm) A.S.  
Período: 01/11/2024 a 01/12/2024

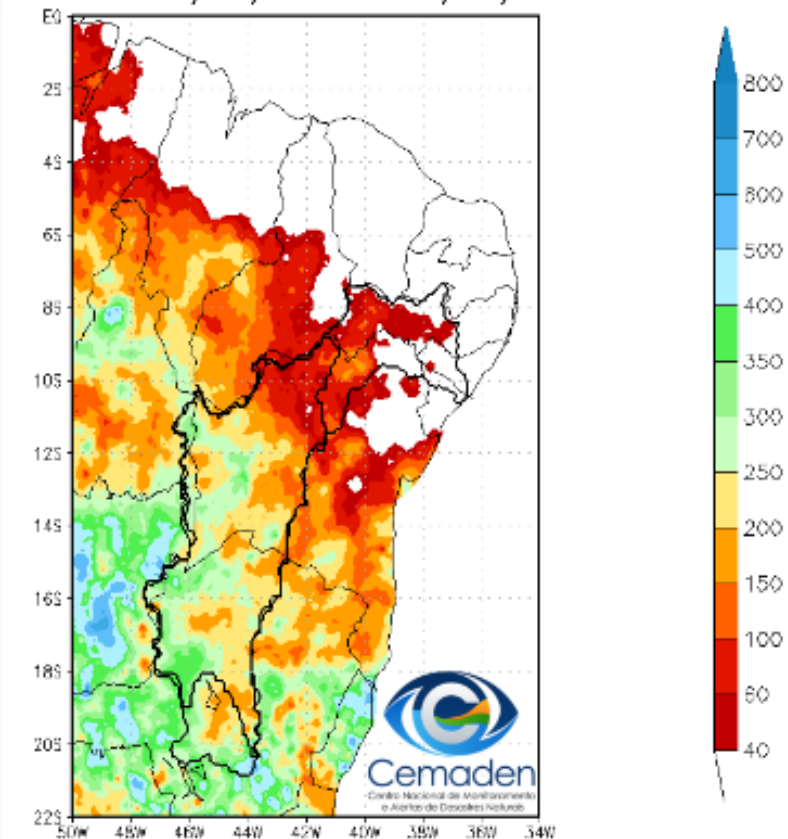


Anomalia de Precipitacao (mm) A.S.  
Período: 01/11/2024 a 01/12/2024

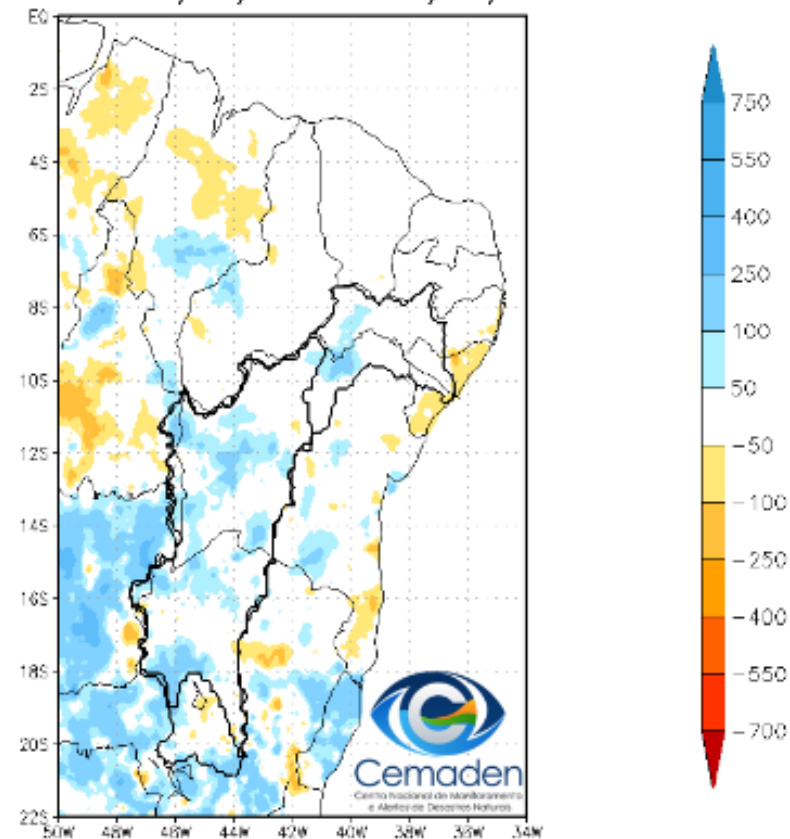


## Chuva no Ano Hidrológico - desde 01/10/2023

Precipitacao Acumulada (mm) A.S.  
Período: 01/10/2024 a 01/12/2024

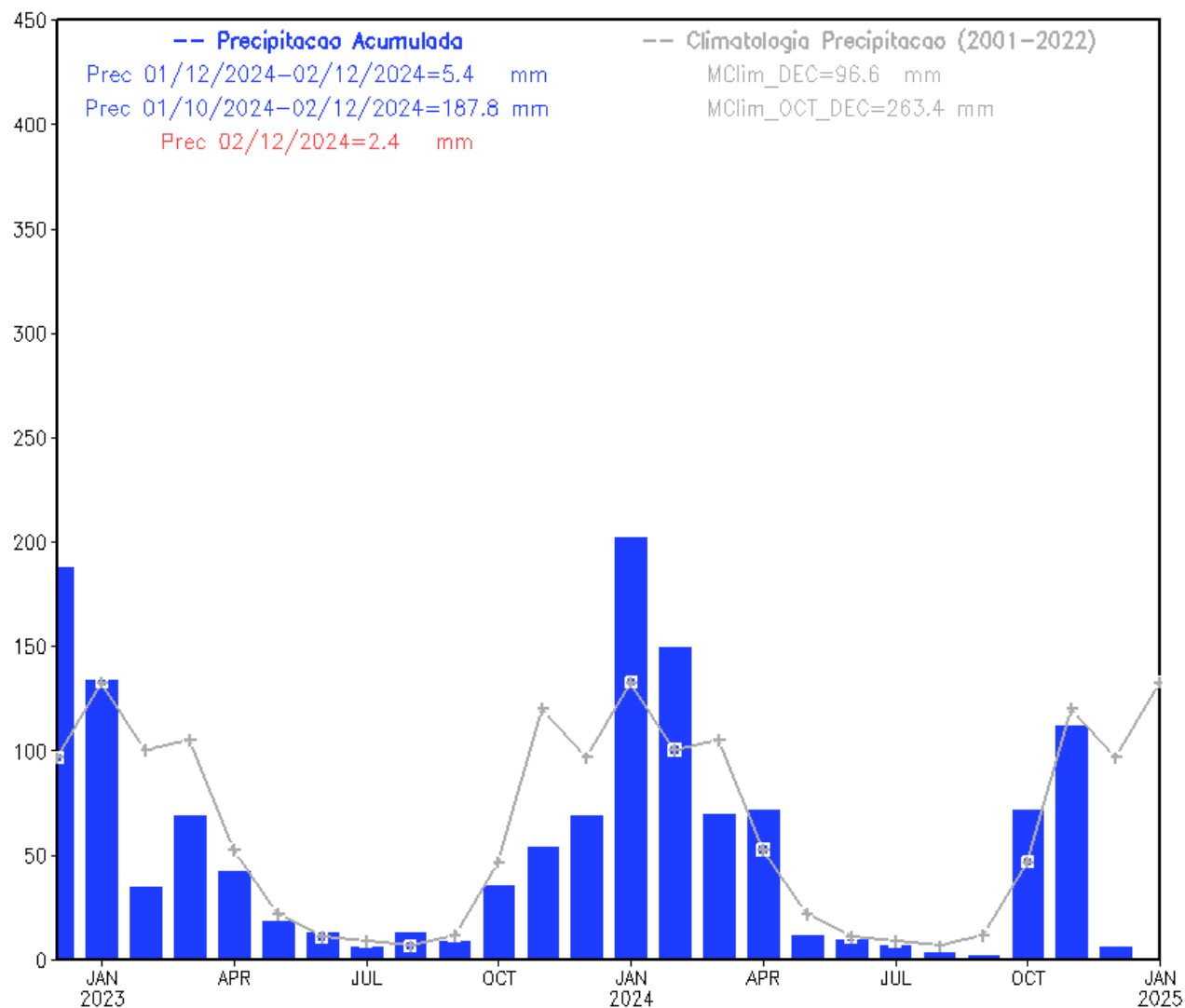


Anomalia de Precipitacao (mm) A.S.  
Período: 01/10/2024 a 01/12/2024



## Chuva dos últimos dois anos

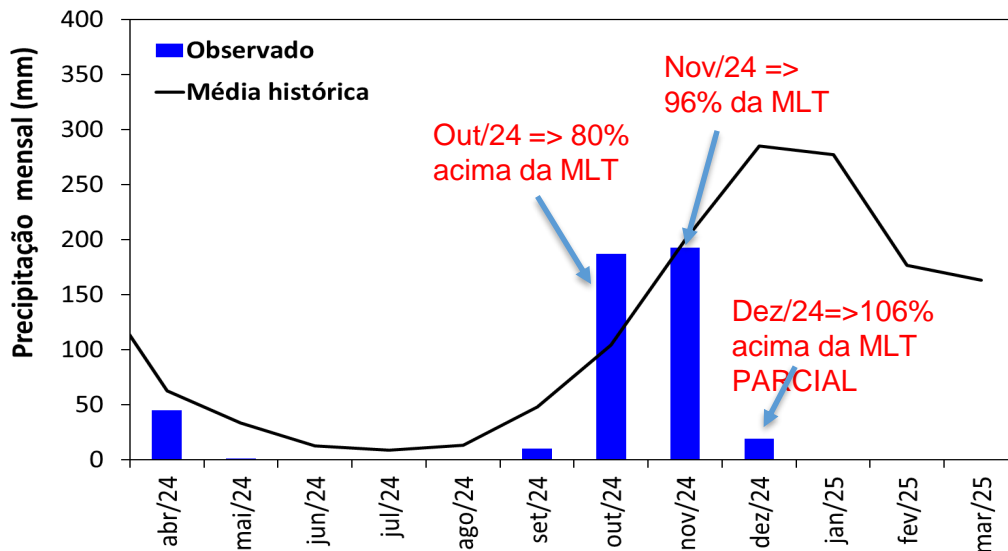
### Precipitacao Bacia do Rio Sao\_Francisco desde DEC 2022





# Monitoramento UHE Três Marias

## Precipitação



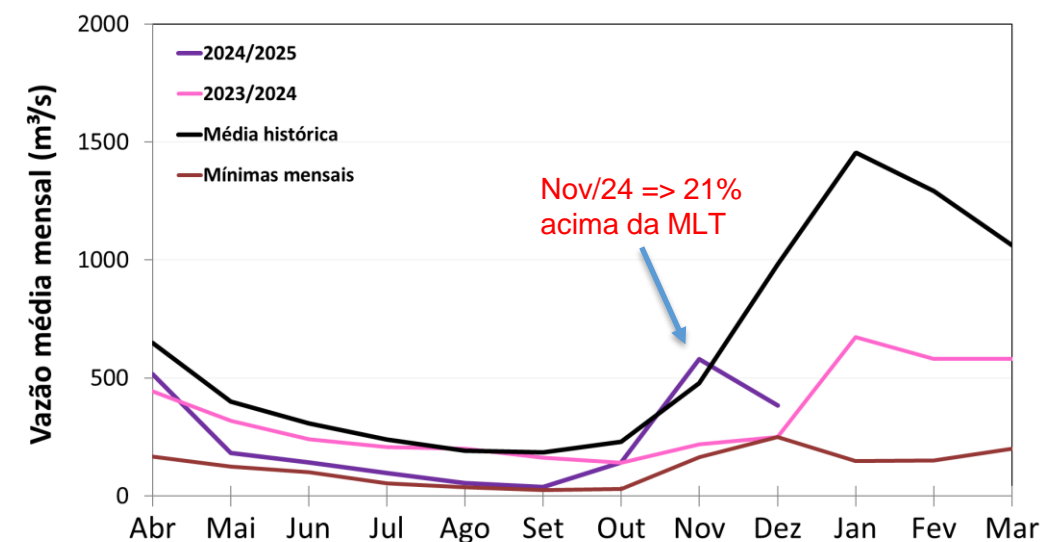
**Estação Chuvosa - Out a Mar - 1205 mm**  
2023/2024: 1057 mm (**88% da MLT**)  
2024/2025\*: 398 mm (**97% da MLT PARCIAL**)

**Estação Seca - Abr a Set - 178 mm**  
2023: 142 mm (**79% da MLT**)  
2024: 57 mm (**32% da MLT**)

**Nov/24: 193 mm (96% da MLT)**  
**Dez/24\*: 19 mm (206% da MLT PARCIAL)**

\*Até 01/12/2024

## Vazão



**Estação Chuvosa - Out a Mar - 917 m³/s**  
2023/2024: 408 m³/s (**44% da MLT**)  
2024/2025\*: 369 m³/s (**40% da MLT**)

**Estação Seca - Abr a Set - 329 m³/s**  
2023: 262 m³/s (**80% da MLT**)  
2024: 172 m³/s (**52% da MLT**)

**Nov/24: 580 m³/s (121% da MLT)**  
**01/Dez/24: 384 m³/s (39% da MLT)**

\*Até 01/12/2024

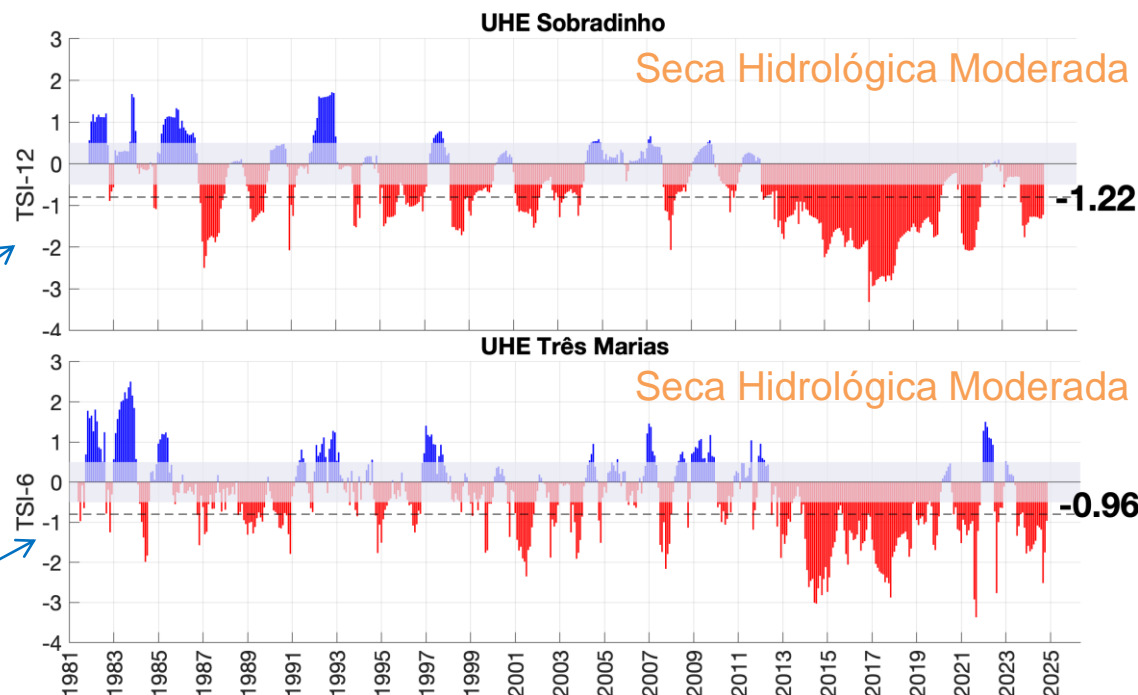
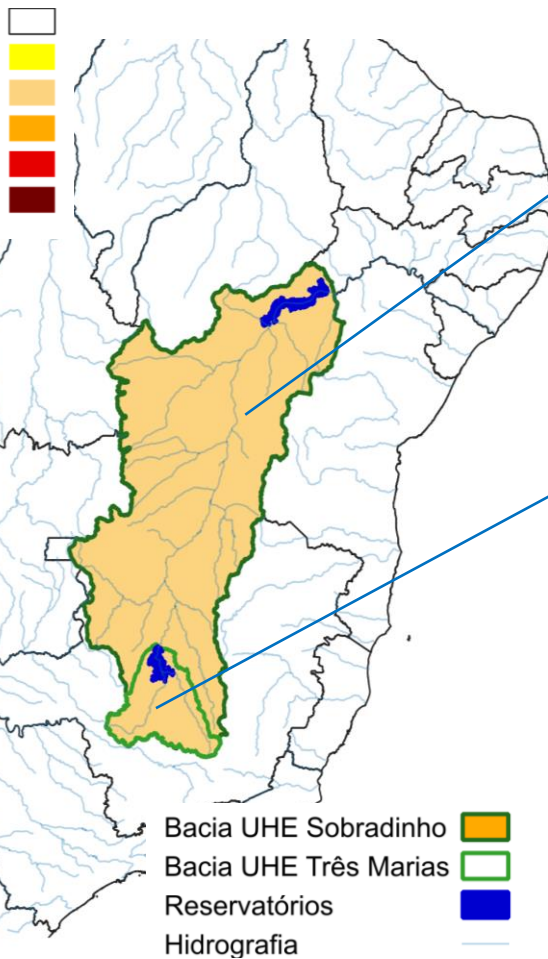
MLT: Média de Longo Termo (1983-2023)

Dados de precipitação: INMET, ANA, CEMADEN.  
Dados de vazão: ONS e ANA.

# Monitoramento UHE Três Marias e Sobradinho

## Índice Padronizado Bivariado (Chuva-Vazão) – Longo Prazo

Condição Normal  
Seca Fraca  
Seca Moderada  
Seca Severa  
Seca Extrema  
Seca Excepcional

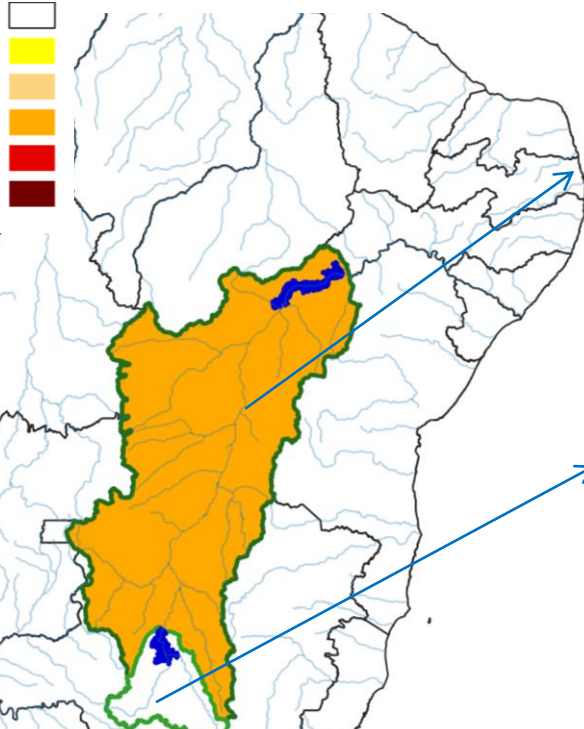


Bacia afluyente à UHE:	TSI-Out	TSI-Nov
Sobradinho	Severa (-1.31)	Moderada (-1.22)
Três Marias	Extrema (-1.74)	Moderada (-0.96)

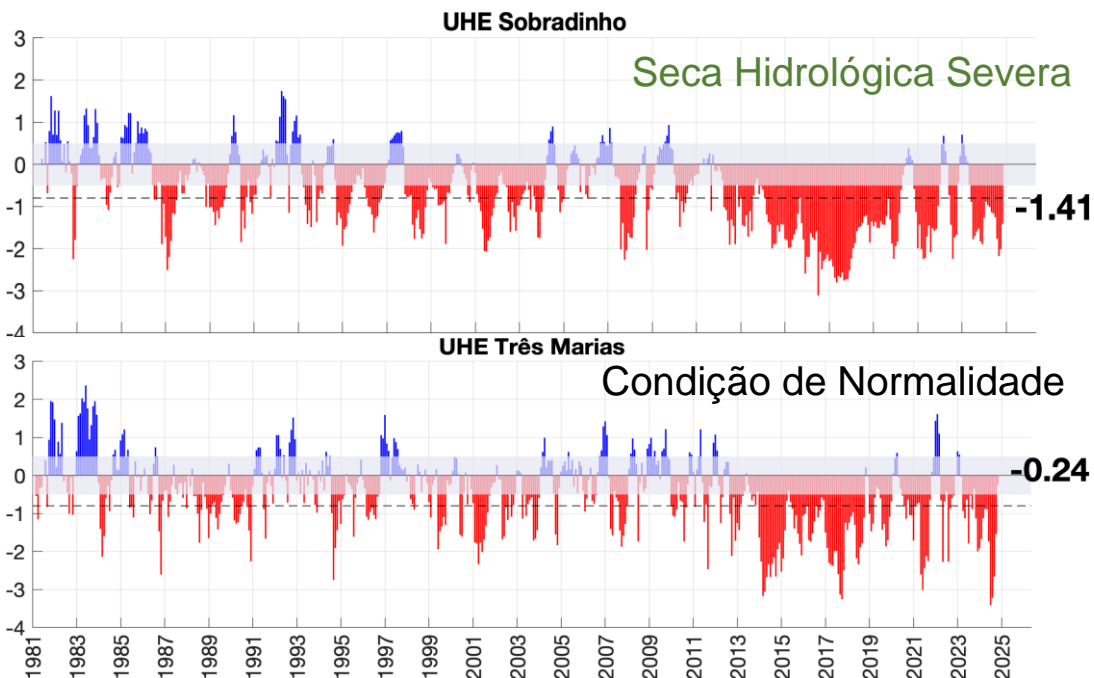
# Monitoramento UHE Três Marias e Sobradinho

## Índice Padronizado Bivariado (Chuva-Vazão) – Curto Prazo

Condição Normal  
Seca Fraca  
Seca Moderada  
Seca Severa  
Seca Extrema  
Seca Excepcional



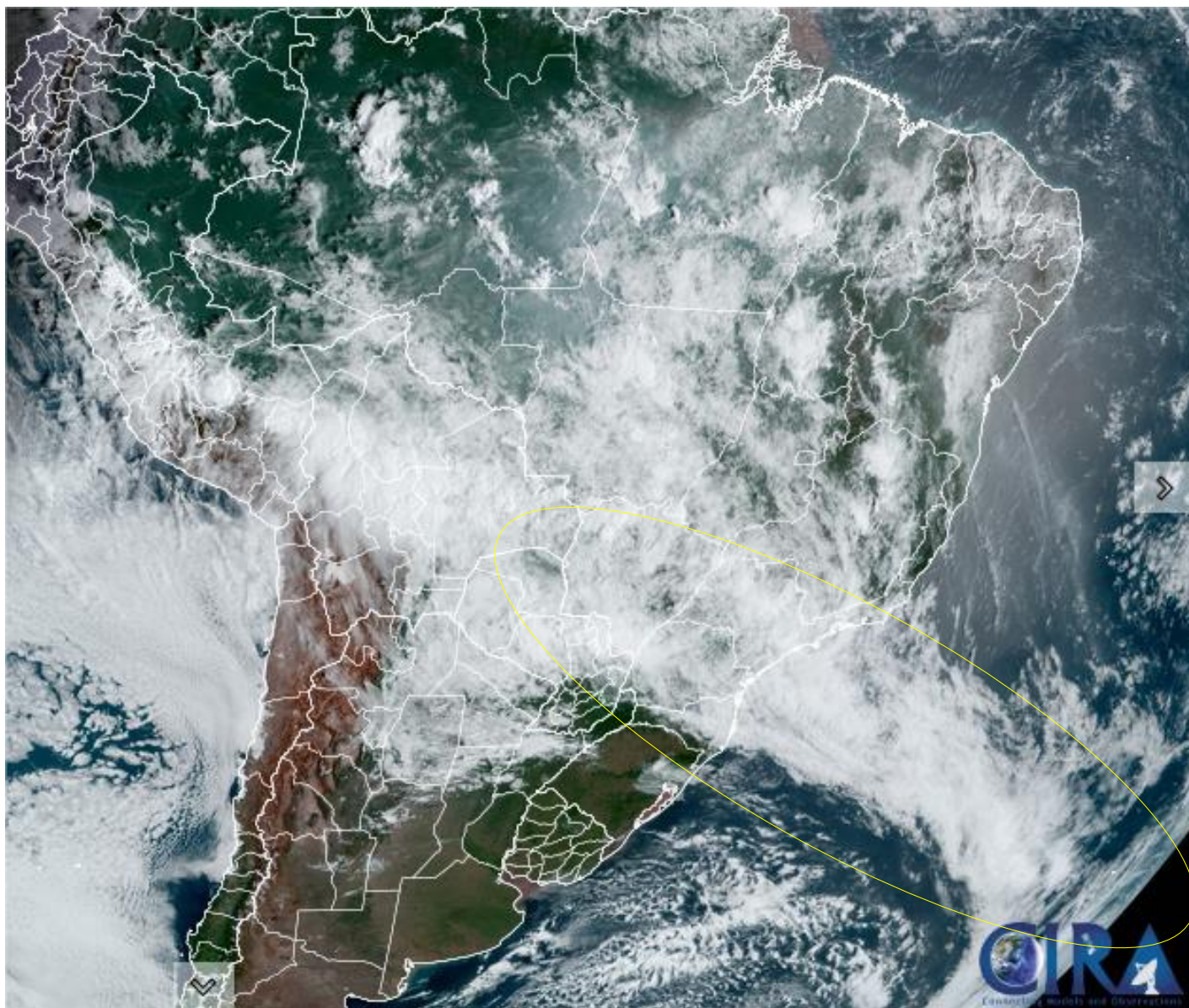
Bacia UHE Sobradinho  
Bacia UHE Três Marias  
Reservatórios  
Hidrografia



Bacia afluyente à UHE:	TSI-Out	TSI-Nov
Sobradinho	Extrema (-2.00)	Severa (-1.41)
Três Marias	Severa (-1.51)	Normal (-0.24)



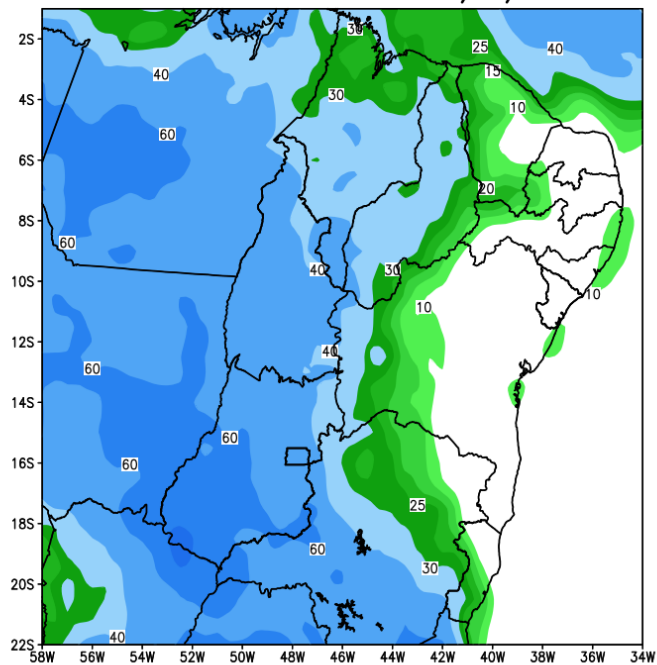
# Situação meteorológica atual



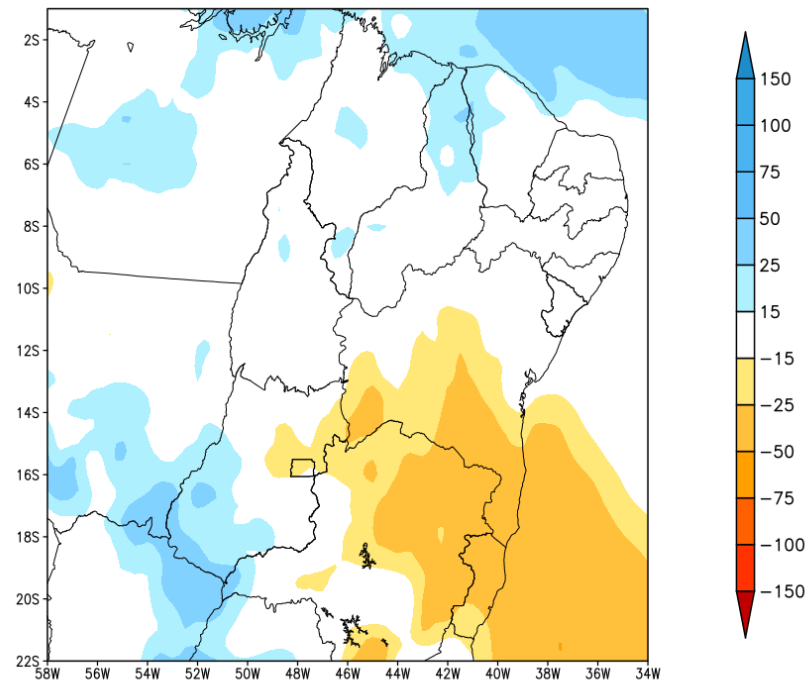


# Previsão de chuva próximos 7 dias

GEFS / BRASIL\_NE  
Precipitação acumulada 1aSem (mm)  
Previsão das 00Z dia 03/12/2024

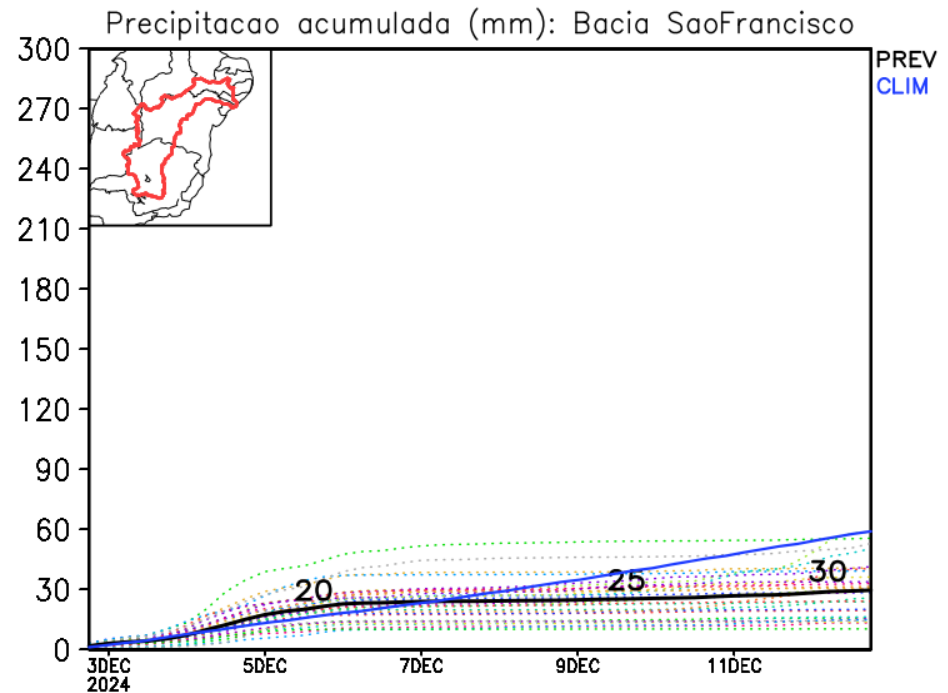
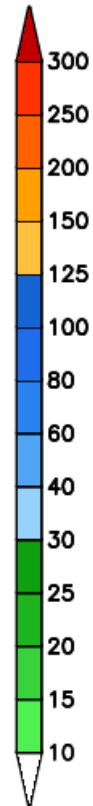
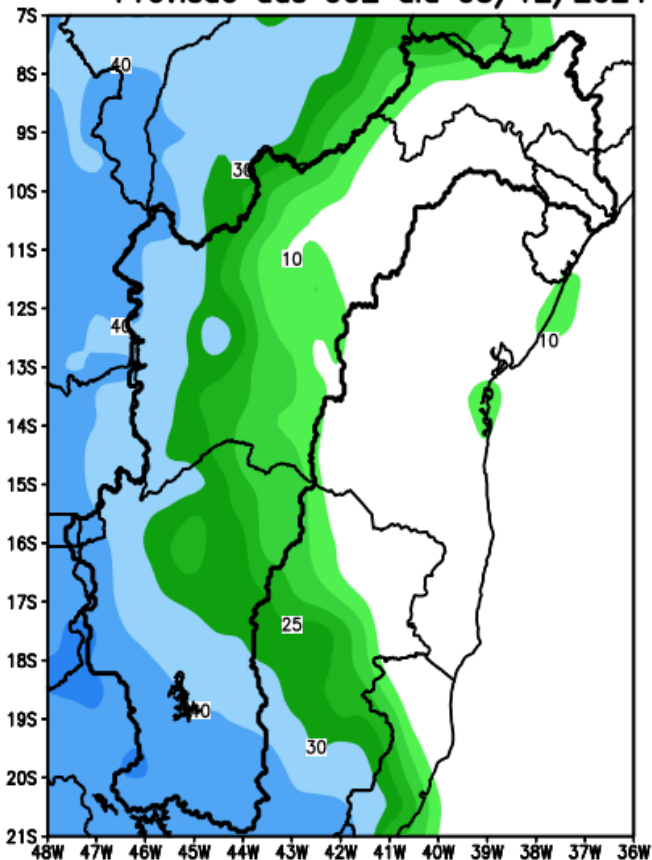


Anomalia de Precipitação BR\_NE (mm)  
Período: 2024120300 a 2024121000



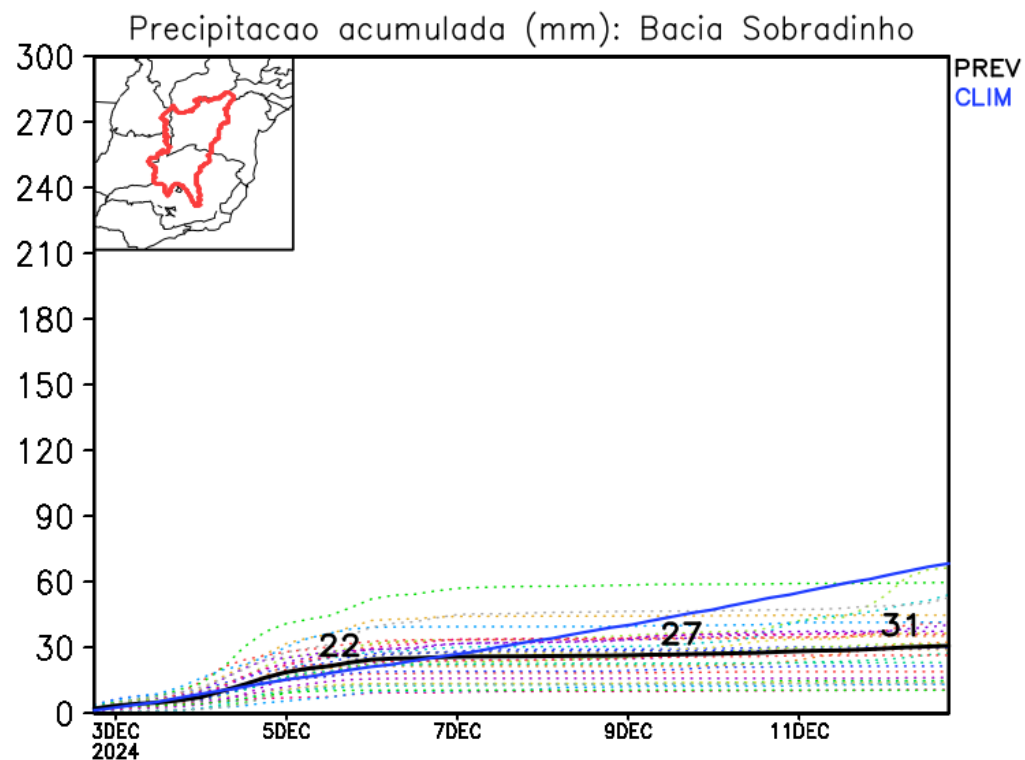
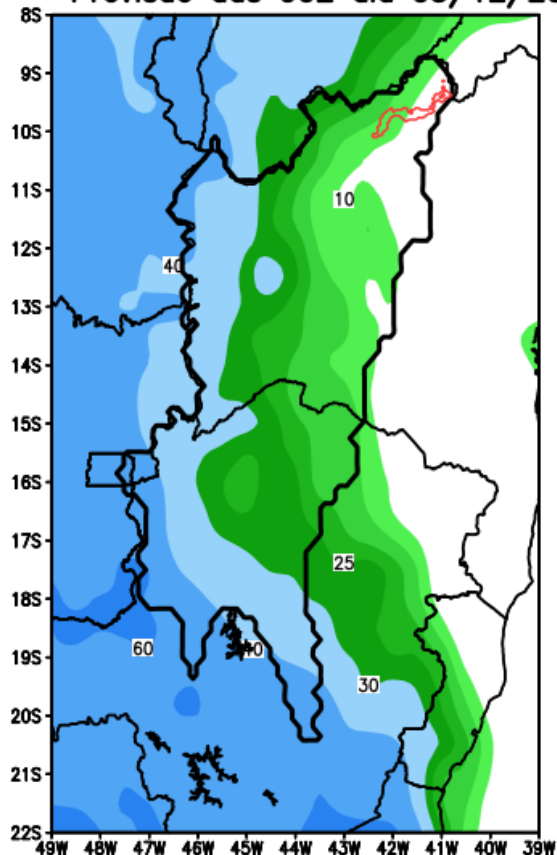
# Bacia do rio São Francisco

GEFS / Bacia do Rio Sao Francisco  
Precipitacao acumulada em 7 dias (mm)  
Previsao das 00Z dia 03/12/2024



# Bacia de Sobradinho

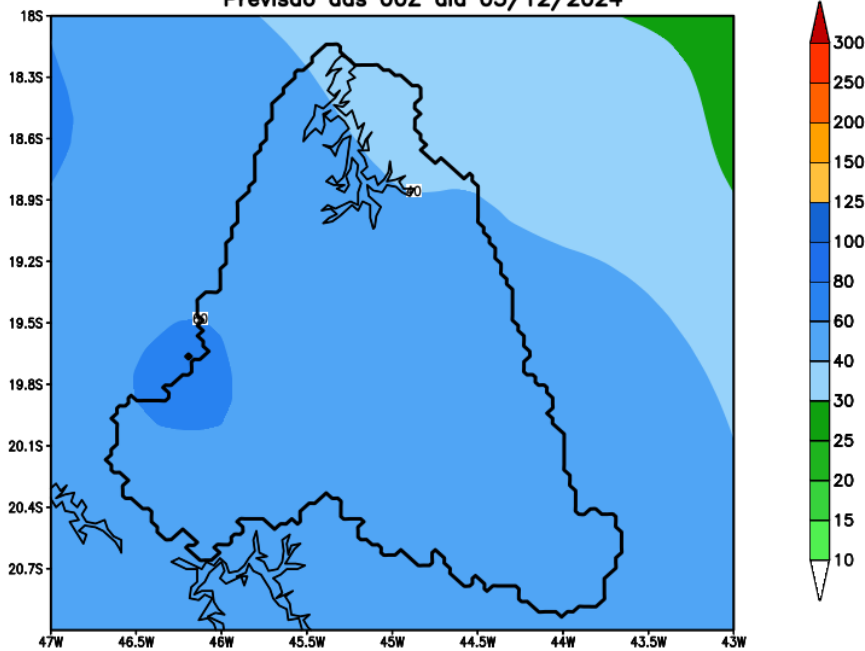
GEFS / Sobradinho  
Precipitacao acumulada em 7 dias (mm)  
Previsao das 00Z dia 03/12/2024



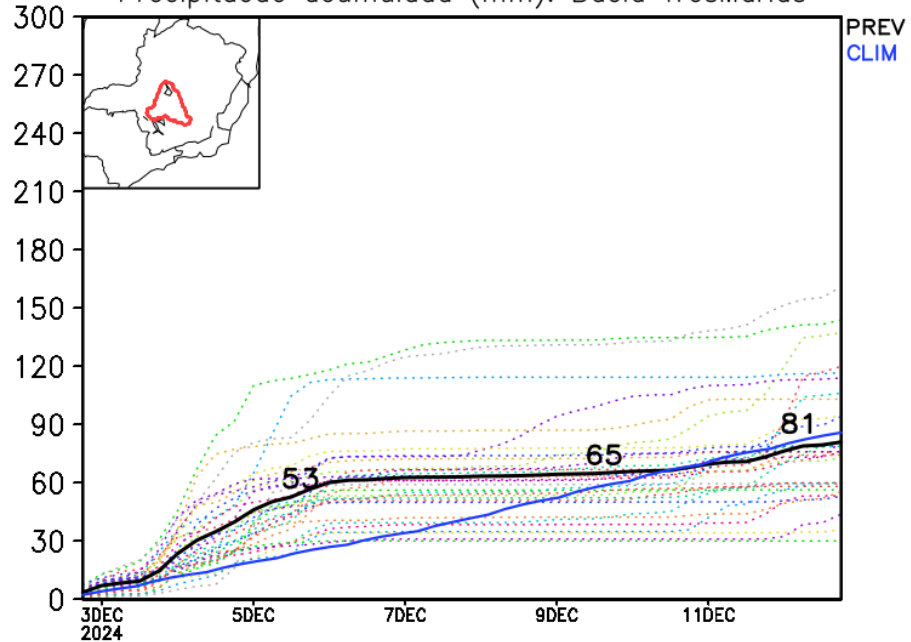


# Bacia de Três Marias

GEFS / Tres Marias  
Precipitacao acumulada em 7 dias (mm)  
Previsao das 00Z dia 03/12/2024

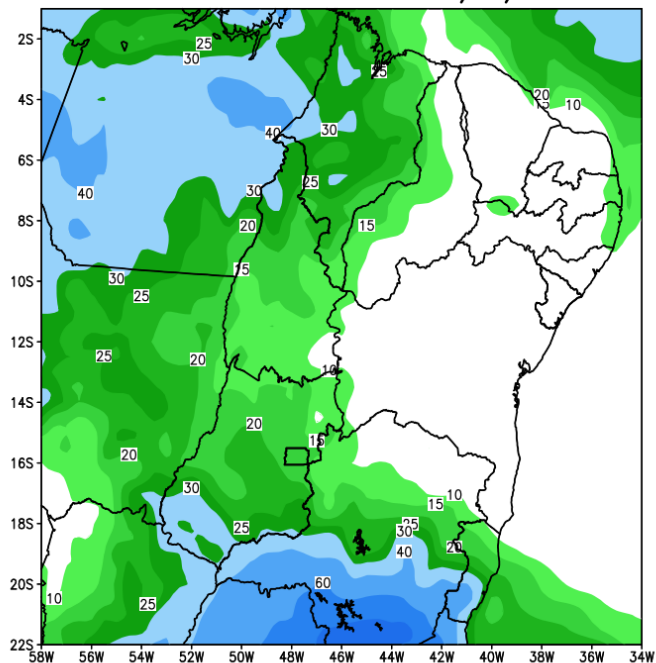


Precipitacao acumulada (mm): Bacia TresMarias

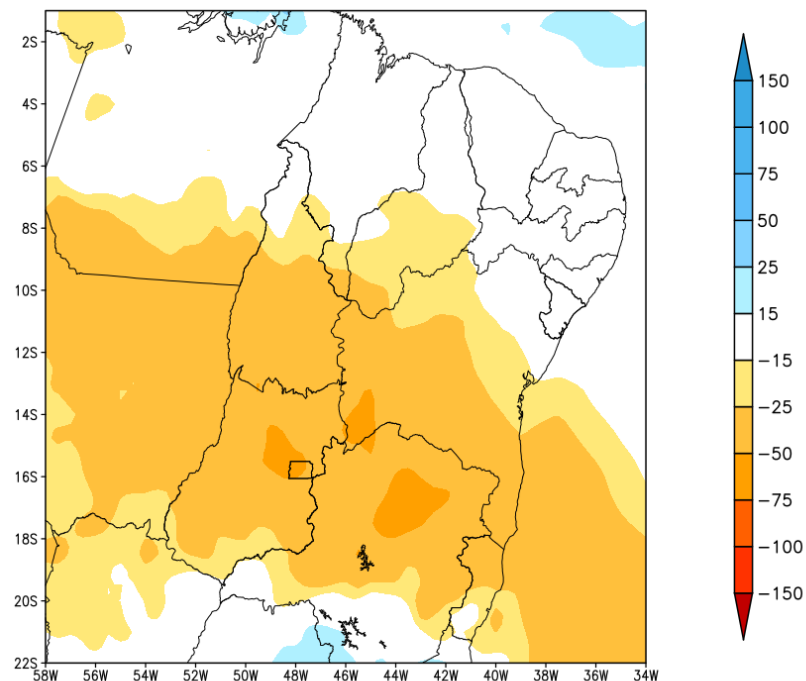


# Tendência para a 2a semana

GEFS / BRASIL\_NE  
Precipitacao acumulada 2aSem (mm)  
Previsao das 00Z dia 03/12/2024



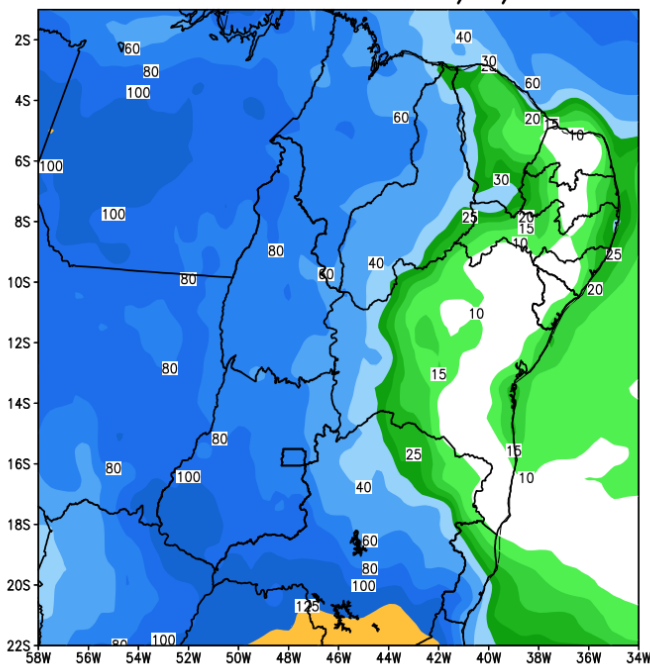
Anomalia de Precipitacao BR\_NE (mm)  
Periodo: 2024121100 a 2024121700



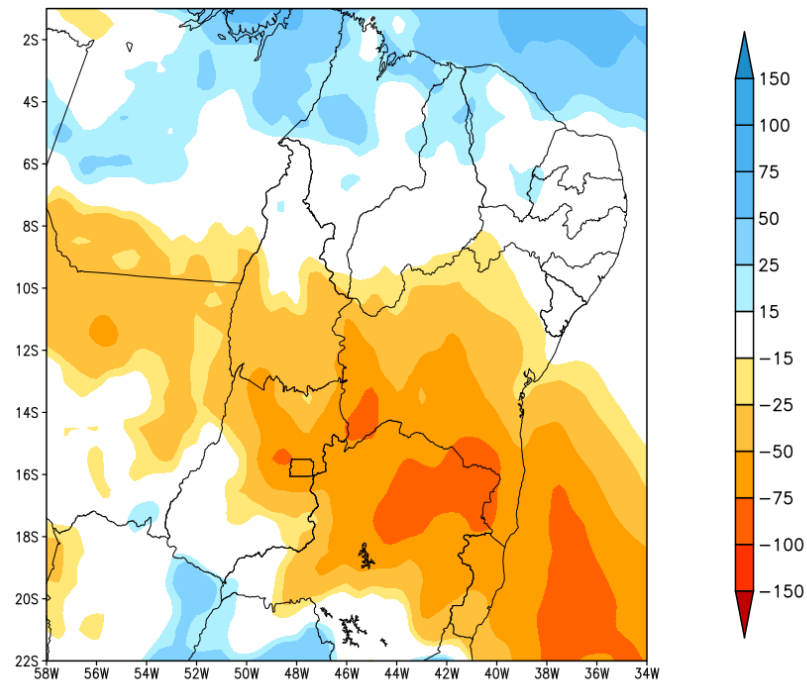
Modelo GFS/NOAA

# Tendência para as duas próximas semanas

GEFS / BRASIL\_NE  
Precipitacao acumulada 14dias (mm)  
Previsao das 00Z dia 03/12/2024



Anomalia de Precipitacao BR\_NE (mm)  
Periodo: 2024120300 a 2024121700

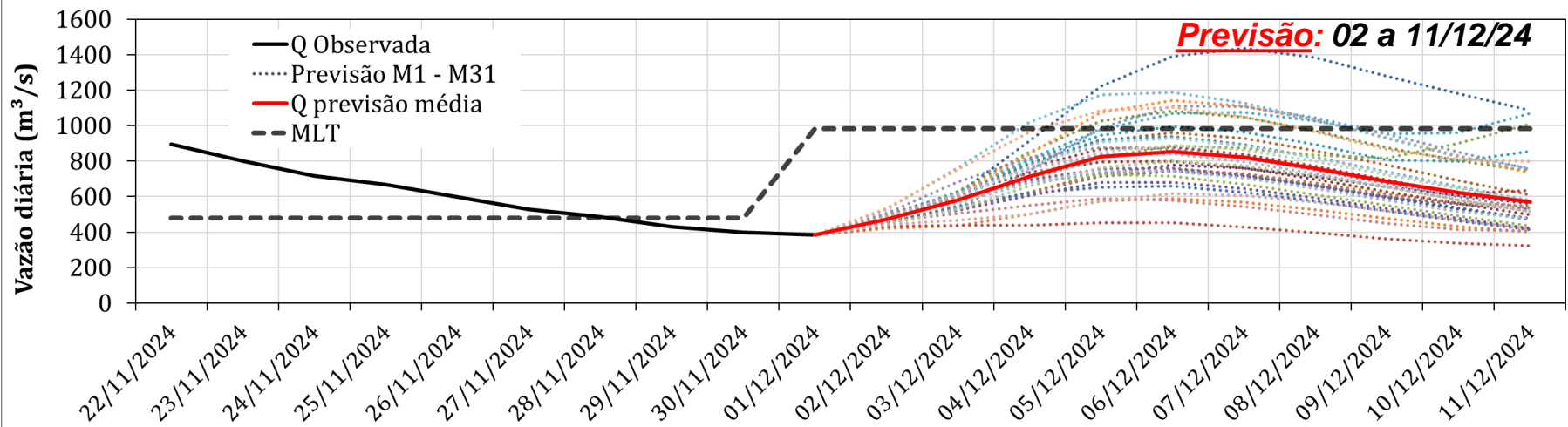
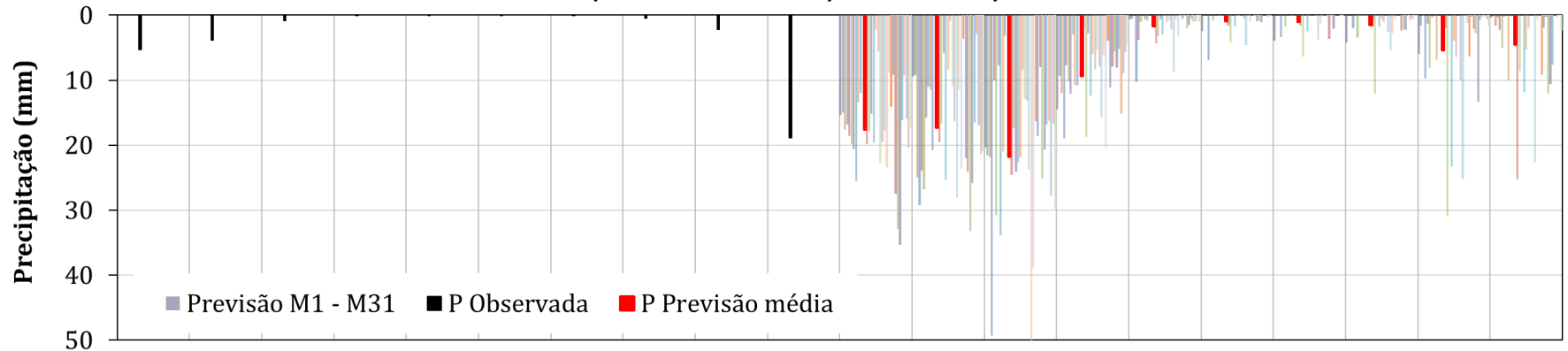


Modelo GFS/NOAA

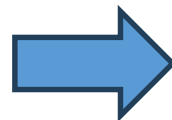


# UHE Três Marias: Previsão de Vazão (modelo PDM/CEMADEN)

Vazão Natural e Precipitação Diárias para Três Marias  
22/Novembro a 11/Dezembro/2024

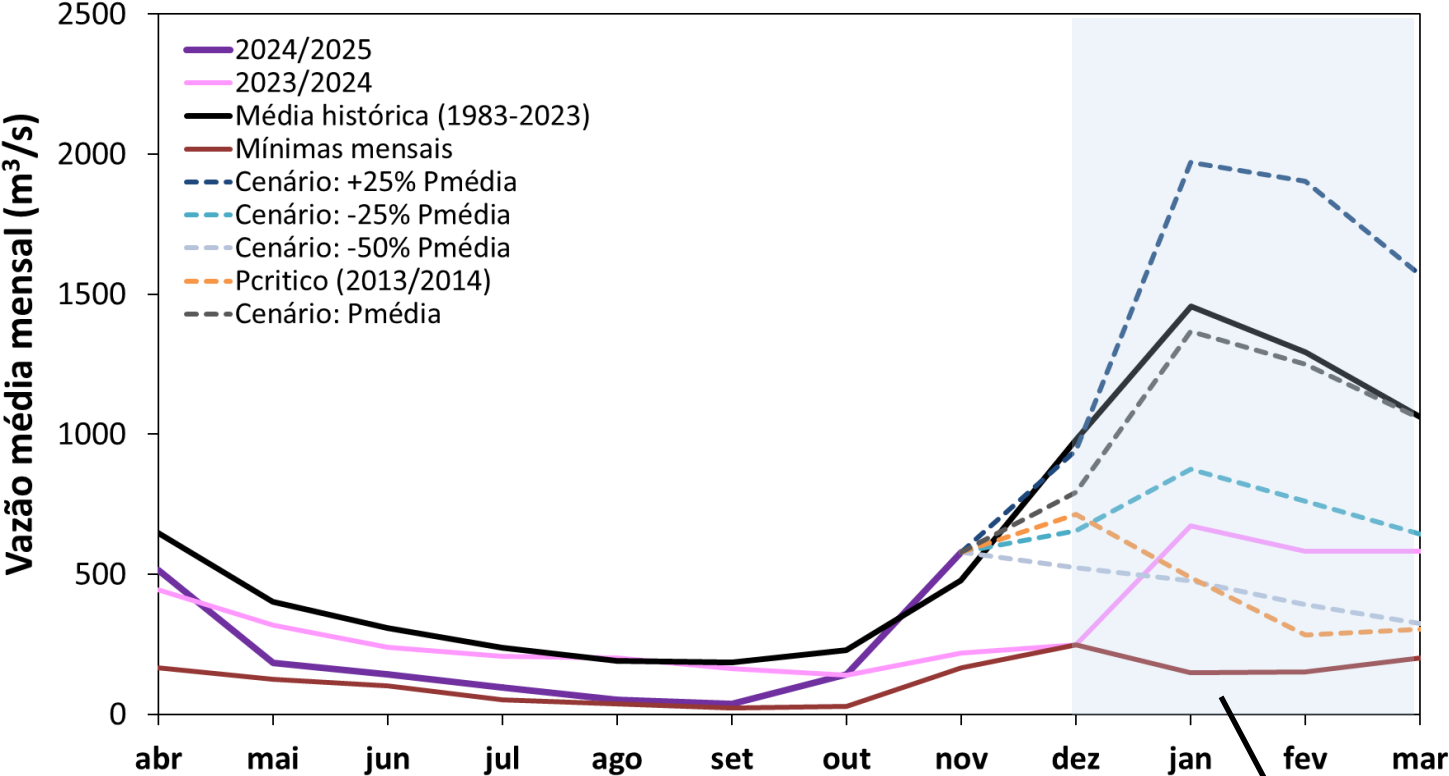


Previsão média para  
os próximos 10 dias: **690 m³/s**



*70% da MLT de Dezembro*

# Três Marias: Projeção de Vazão (Modelo hidrológico PDM-CEMADEN)



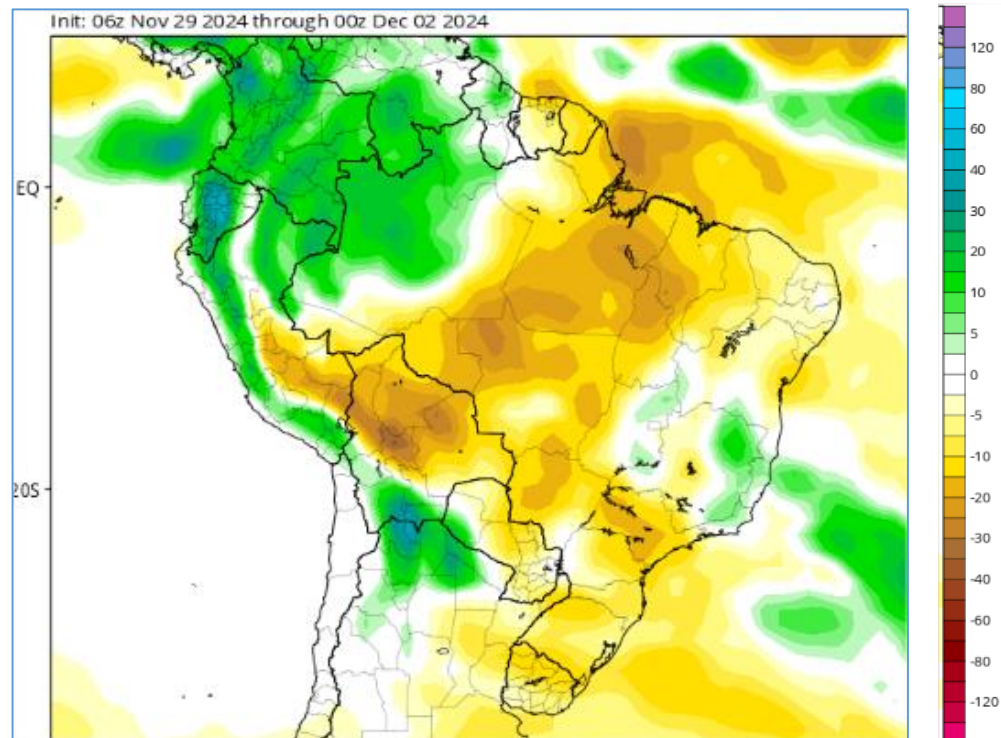
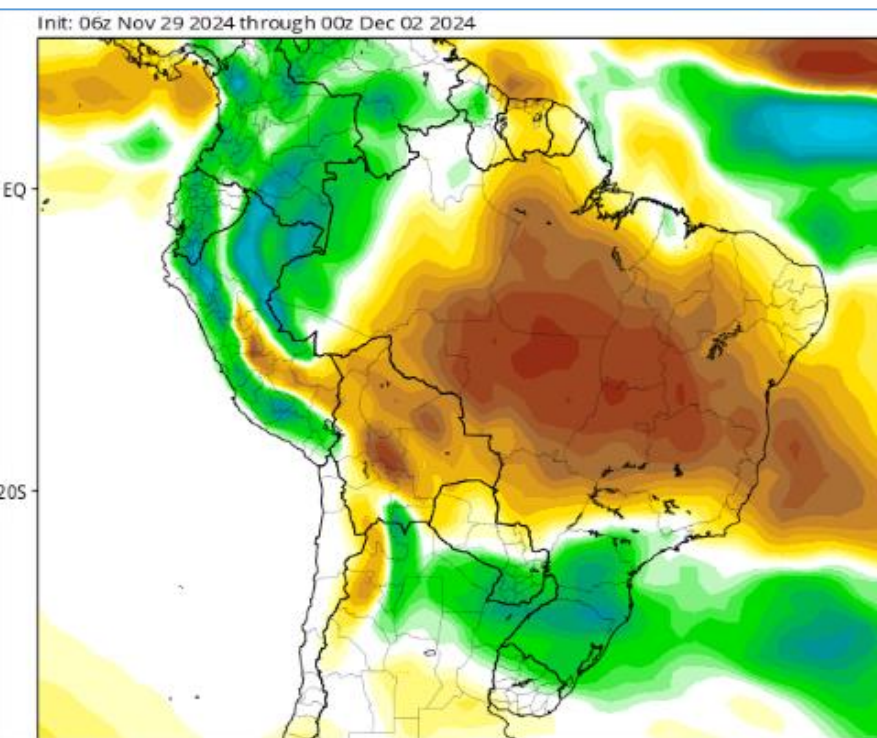
Dez-Mar (Meses Chuvosos)  
MLT: 1198 m³/s

Vazão	% MLT
1600 m³/s	134%
1121 m³/s	94%
737 m³/s	62%
451 m³/s	38%

## Tendência 3a e 4a semanas

16-23 Dez

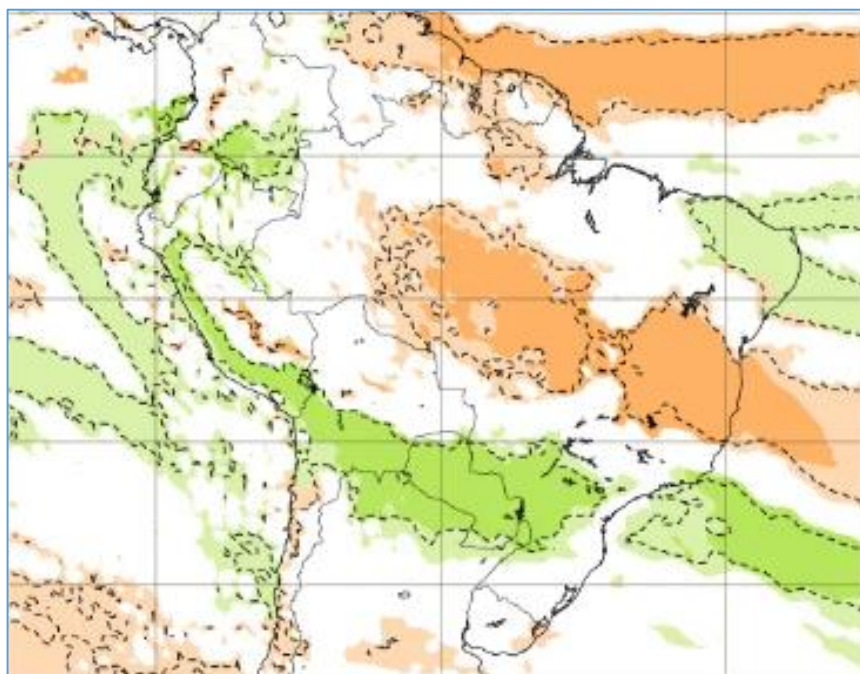
23-30 Dez



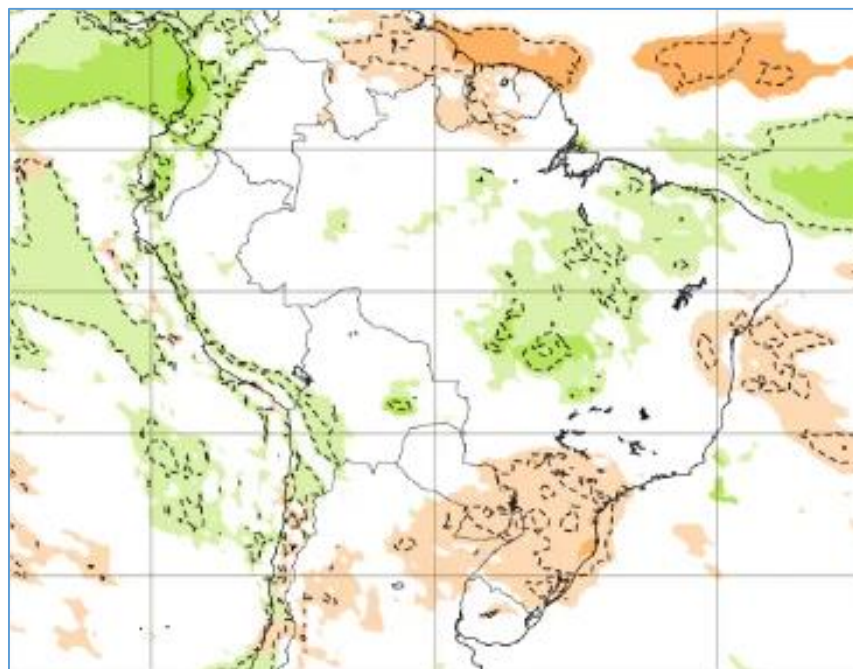


## Tendência para 3ª e 4ª semanas

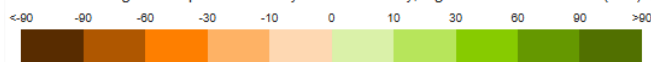
16 – 23 Dez



23-30 Dez

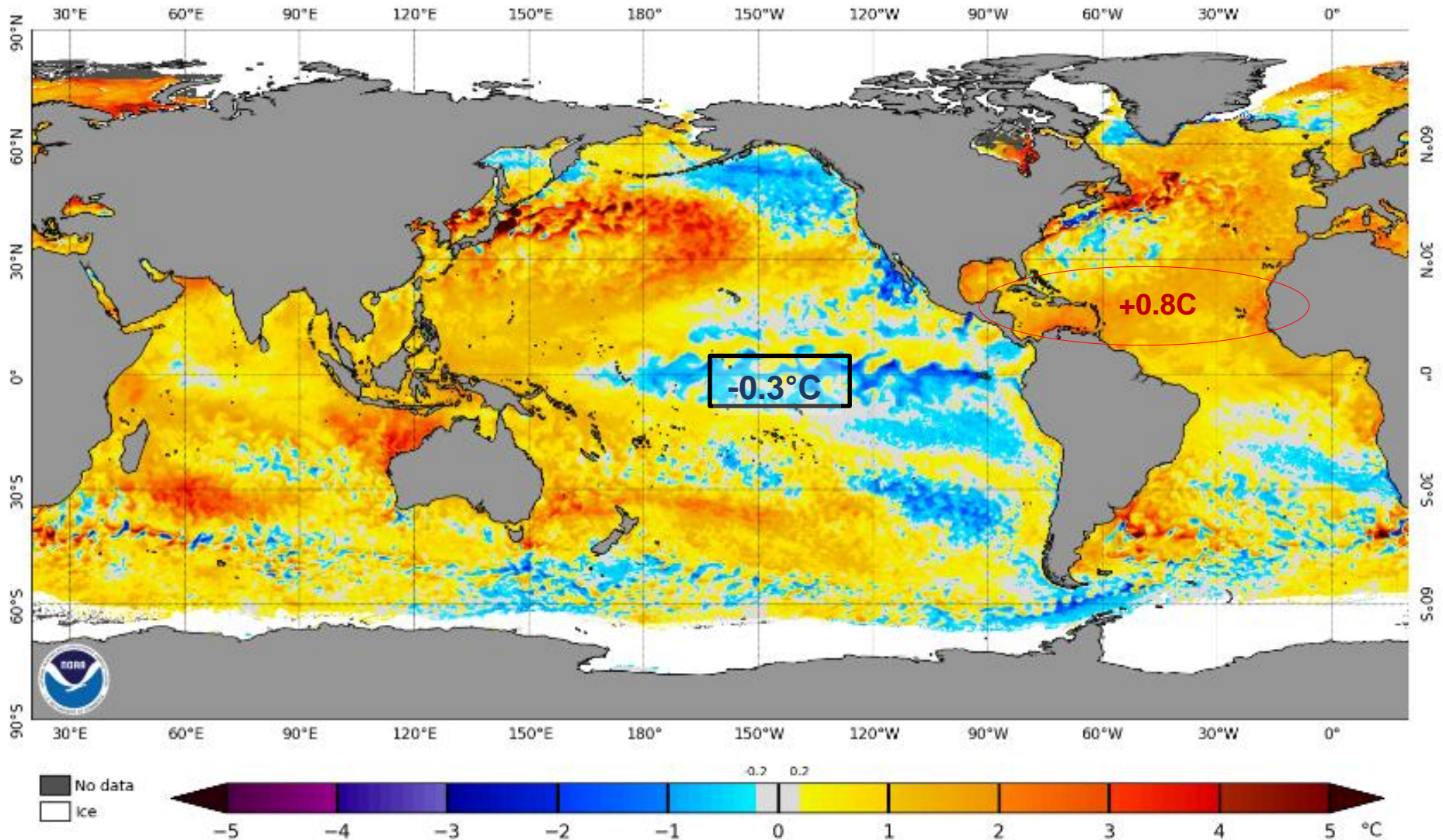


Extended range: Precipitation weekly mean anomaly, significance level: 10 % (mm)



## Status Atual: **La Niña Watch**

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 30 Nov 2024



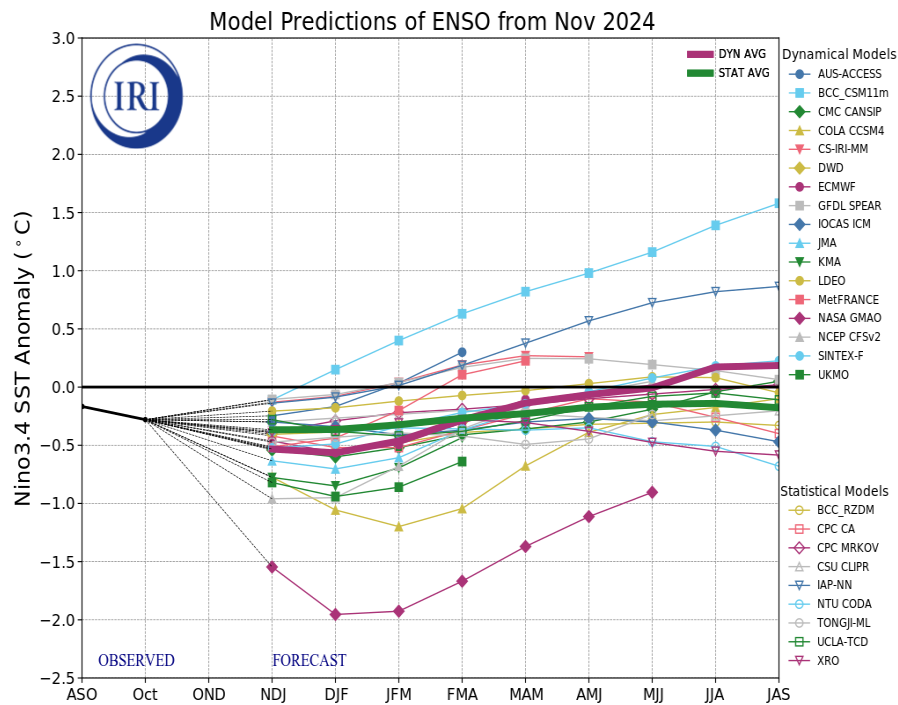
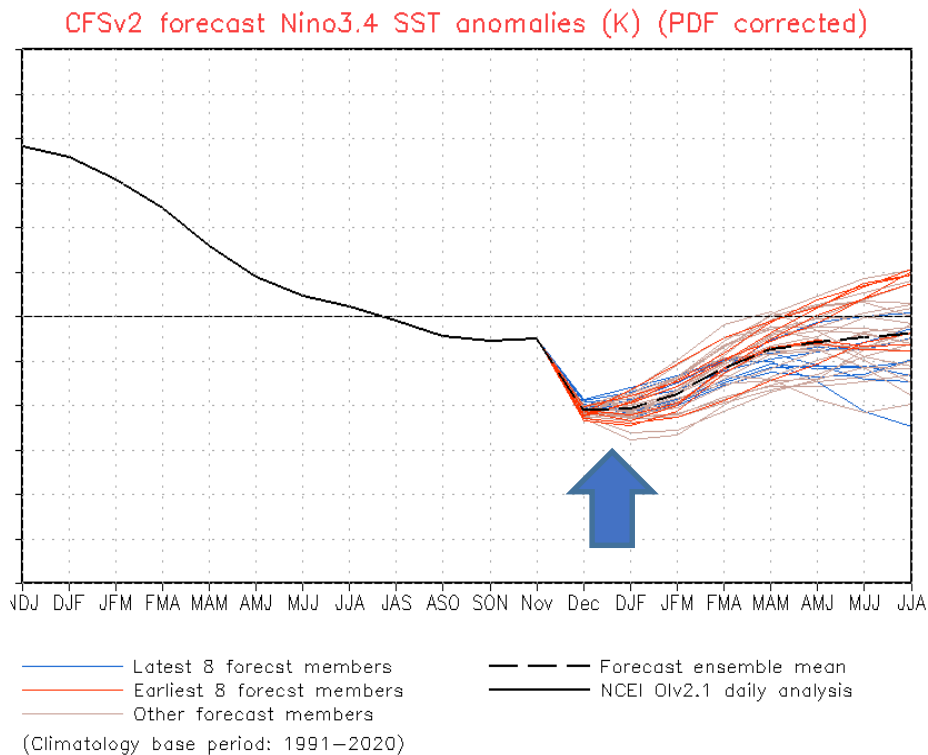


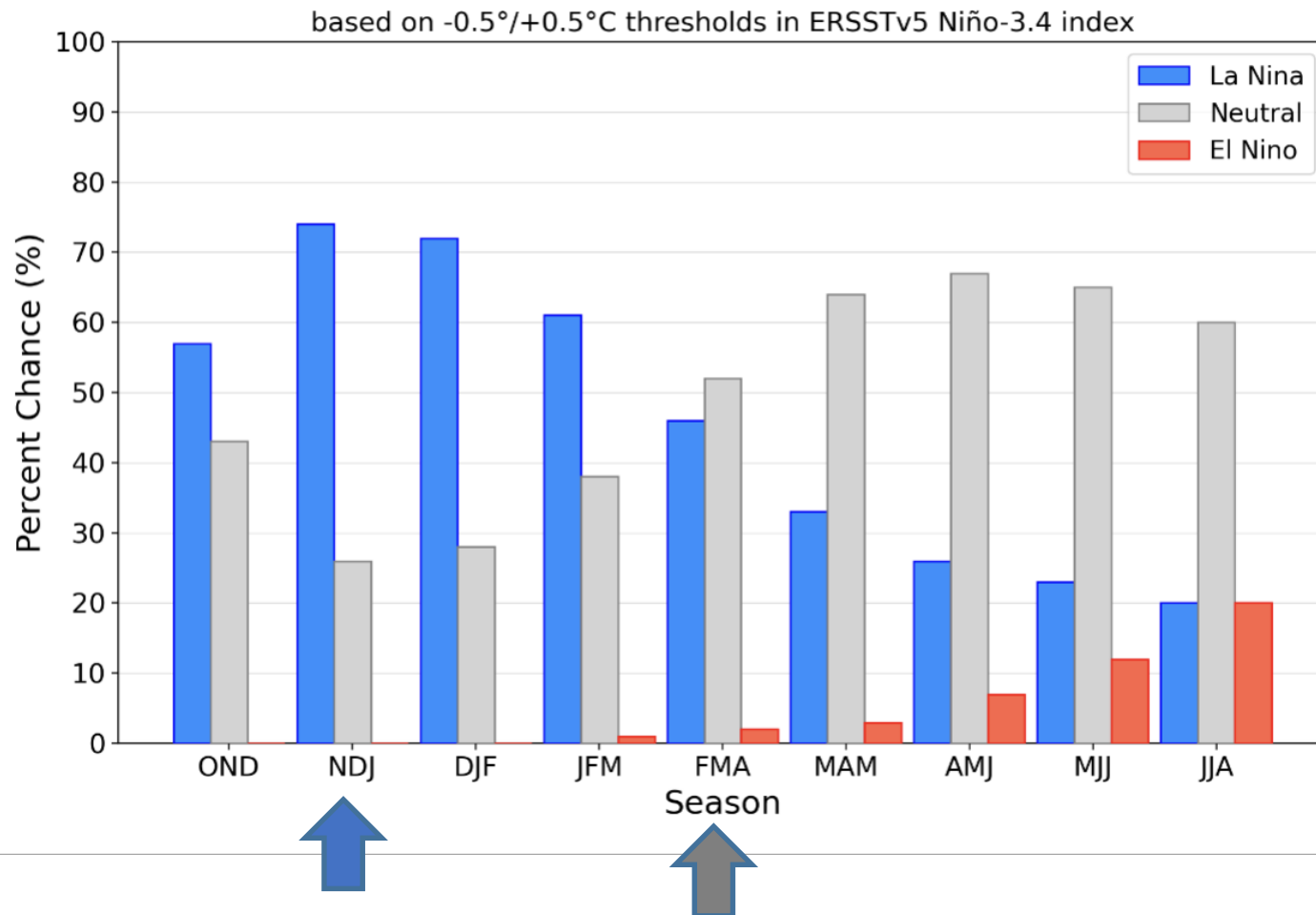
Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 November 2024).





# Previsão do “ENSO”

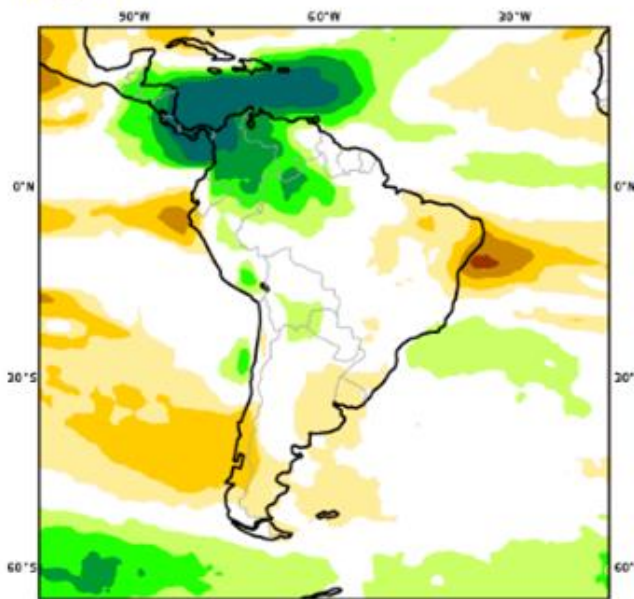
## Official NOAA CPC ENSO Probabilities (issued November 2024)



# Previsão Sazonal de Chuva Multi-Modelo

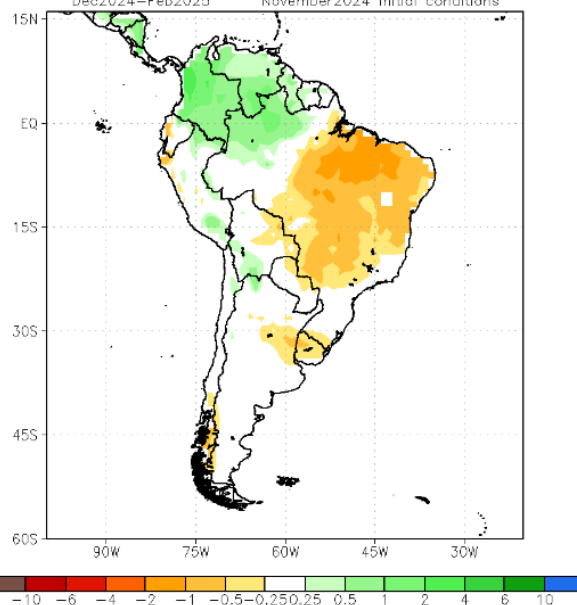
## Dezembro-Janeiro-Fevereiro

C3S multi-system seasonal forecast  
Prob(most likely category of precipitation)  
Nominal forecast start: 01/11/24  
Unweighted mean



Modelos Europeus

NMME Precipitation Anomalies (mm/day)  
Dec2024–Feb2025 November2024 initial conditions

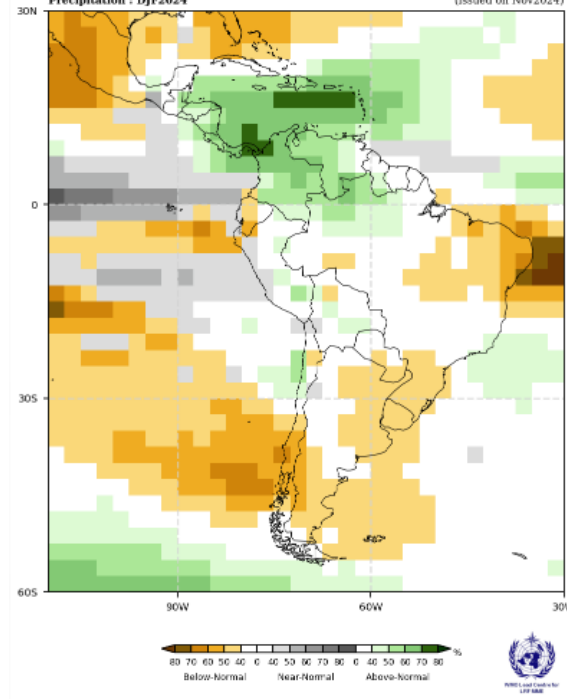


Modelos Norte Americanos

Probabilistic Multi-Model Ensemble Forecast  
Beijing, CMCC, ECMWF, Melbourne, MeteoSwiss, Obninsk, Toulouse

Precipitation : DJF2024

(Issued on Nov2024)



Modelos da WMO