

Monitoramento e Previsões para a Bacia do rio Araguaia-Tocantins

DEZEMBRO 2024

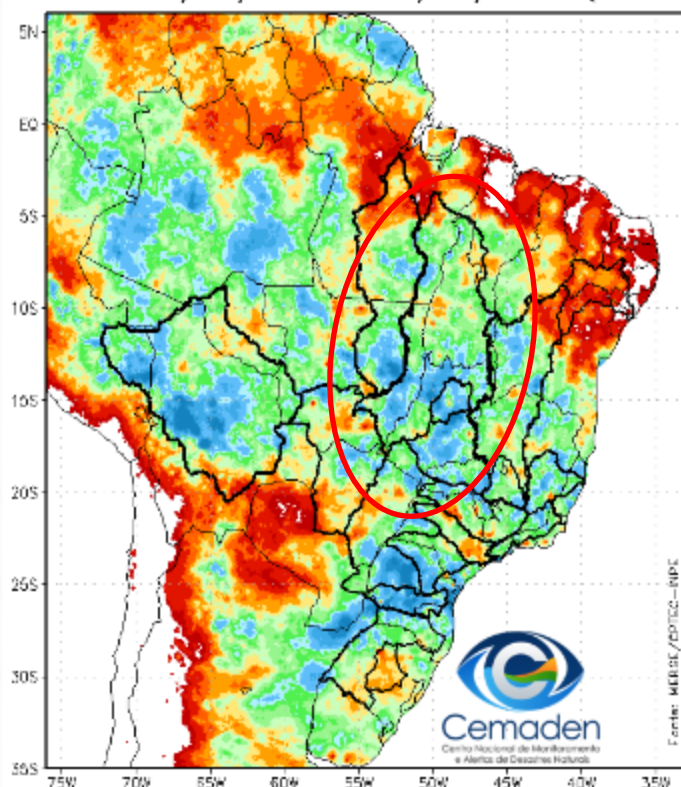


MINISTÉRIO DA
**CIÊNCIA, TECNOLOGIA
E INOVAÇÃO**



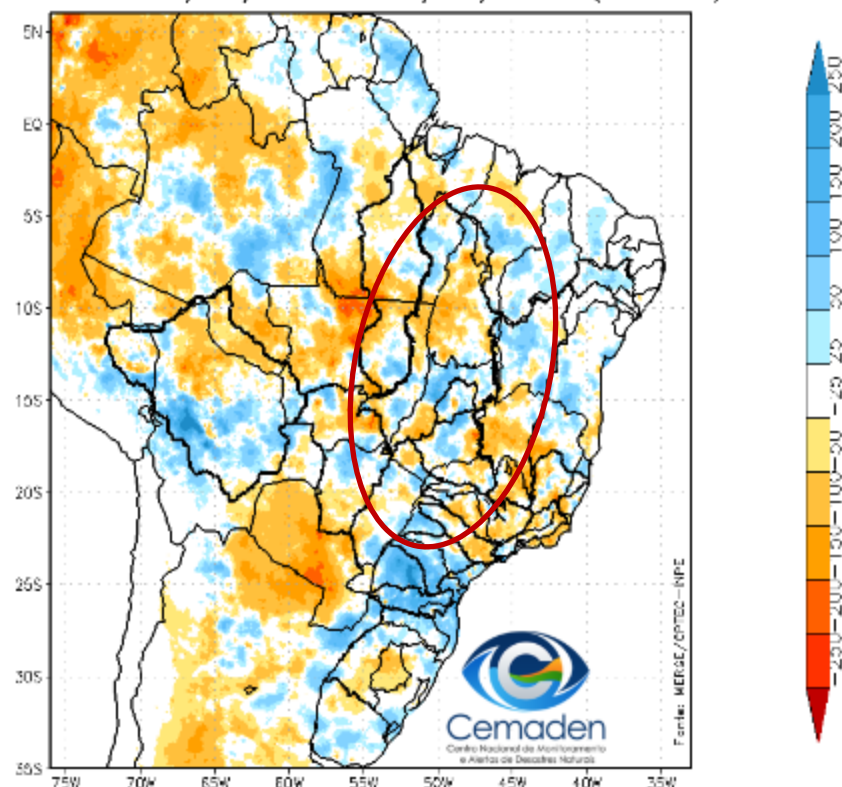
Precipitação acumulada nos últimos 30 dias

Precipitação Acumulada (mm) A.S.
Período: 10/11/2024 a 10/12/2024 (30 dias)



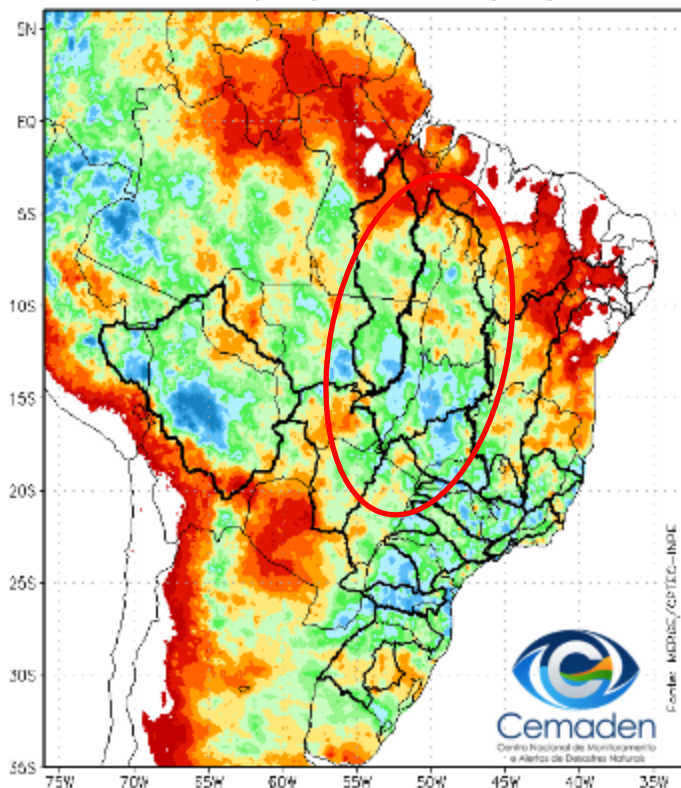
Fonte dos dados: Merge/INPE

Anomalia de Precipitação (mm) A.S.
Período: 10/11/2024 a 10/12/2024 (30 dias)

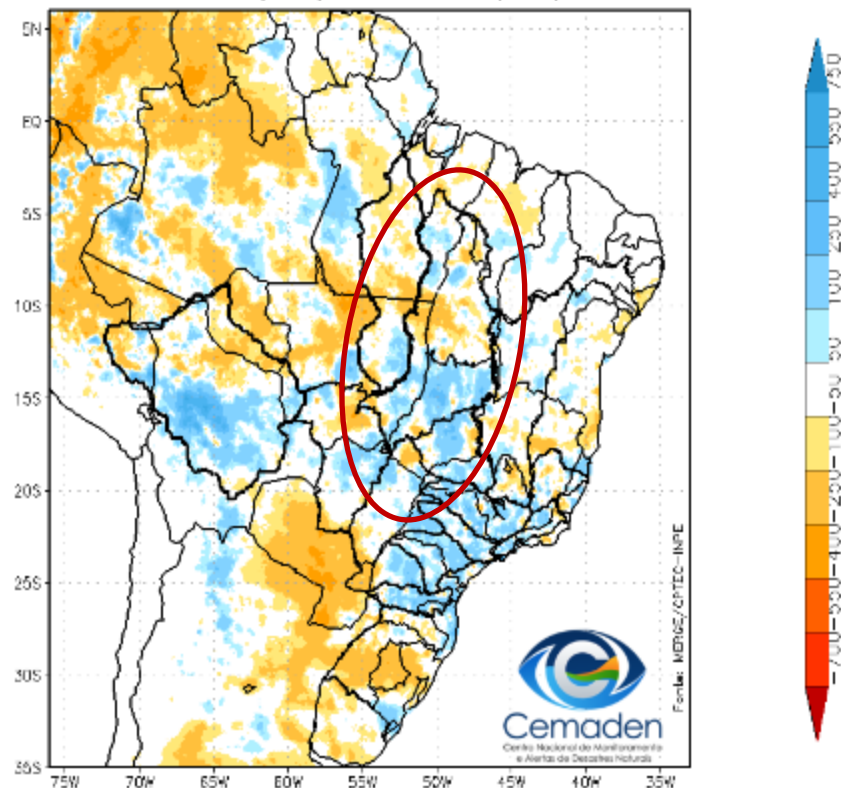


Precipitação acumulada no Ano Hidrológico

Precipitação Acumulada (mm) Ano Hidrológico
Período: 01/10/2024 a 11/12/2024



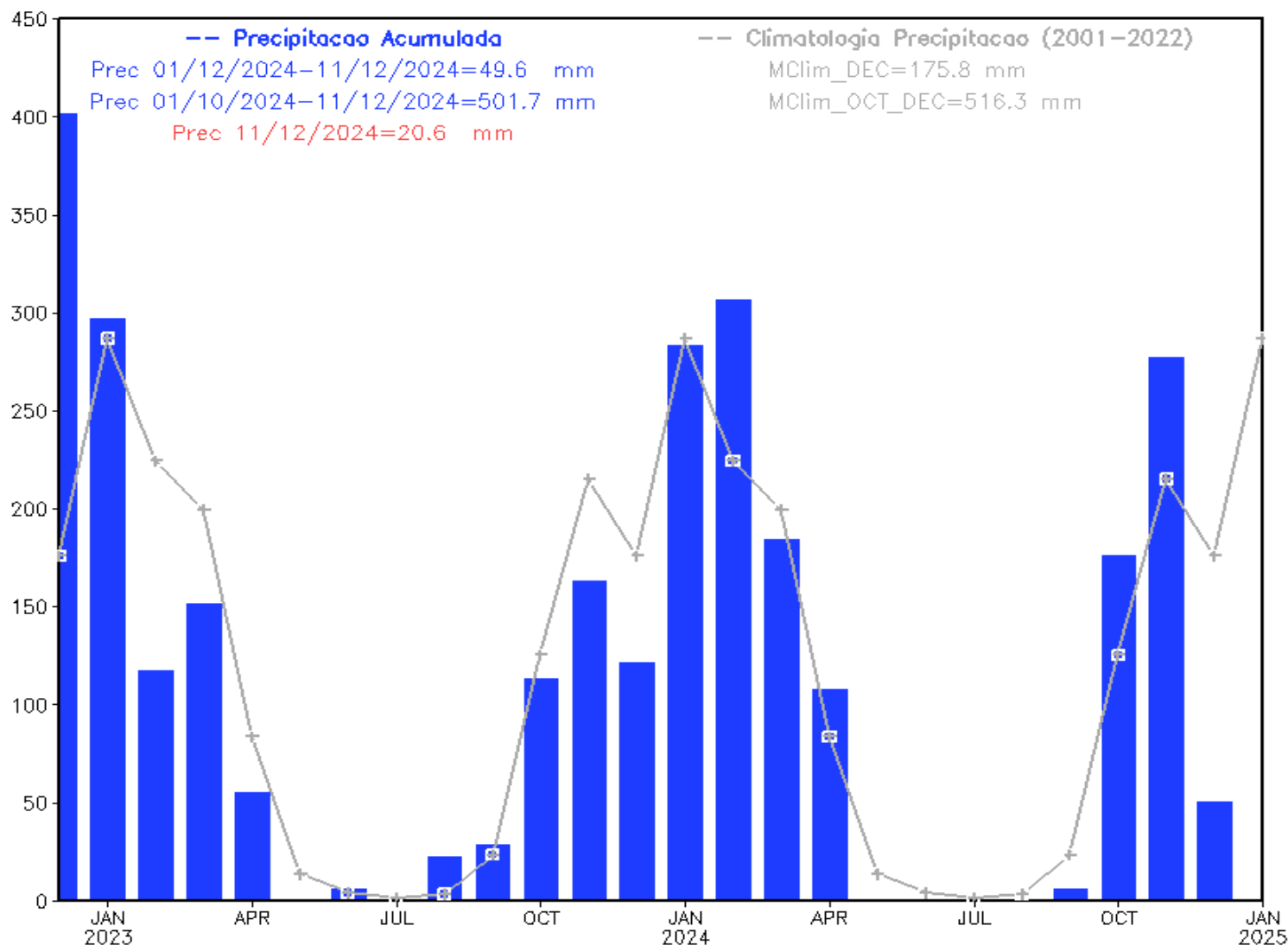
Anomalia de Precipitação (mm) Ano Hidrológico
Período: 01/10/2024 a 11/12/2024



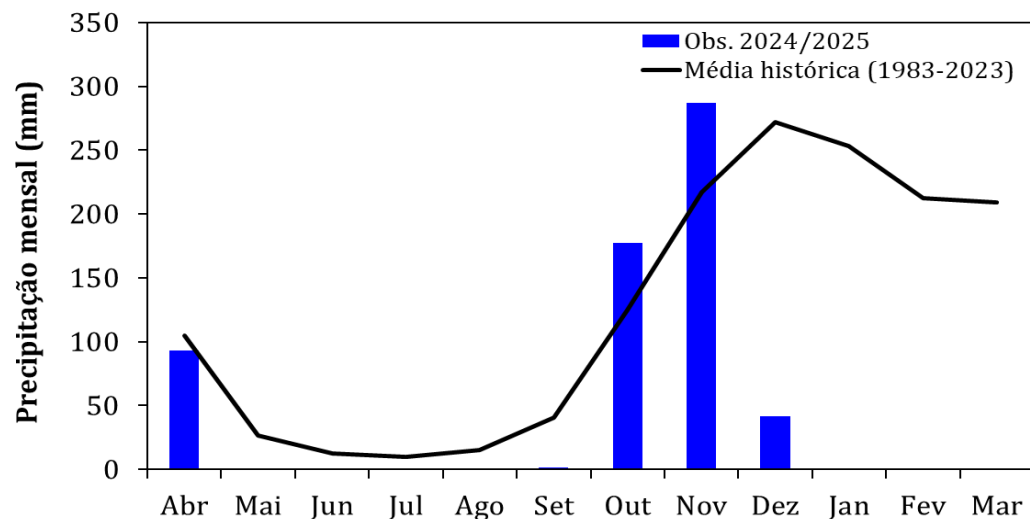
Fonte dos dados: Merge/INPE

Evolução da Precipitação

Precipitacao Bacia do Rio Tocantins desde DEC 2022



Monitoramento UHE Serra da Mesa



Precipitação

Estação Chuvosa - Out a Abr – 1392 mm

2023/2024: 1245 mm (**89% da MLT**)

2024/2025*: 505 mm (**93% da MLT PARCIAL**)

Estação Seca - Maio a Set – 105 mm

2023: 57 mm (**54% da MLT**)

2024: 2 mm (**2% da MLT**)

Nov/2024: 287 mm (**132% da MLT**)

Dez/2024*: 41 mm (**46% da MLT PARCIAL**)

*Até 10/12/2024

Vazão

Estação Chuvosa - Out a Abr – 913 m³/s

2023/2024: 751 m³/s (**82% da MLT**)

2024/2025**: 519 m³/s (**57% da MLT**)

Estação Seca - Maio a Set – 298 m³/s

2023: 224 m³/s (**75% da MLT**)

2024: 183 m³/s (**61% da MLT**)

Nov/2024: 704 m³/s (**154% da MLT**)

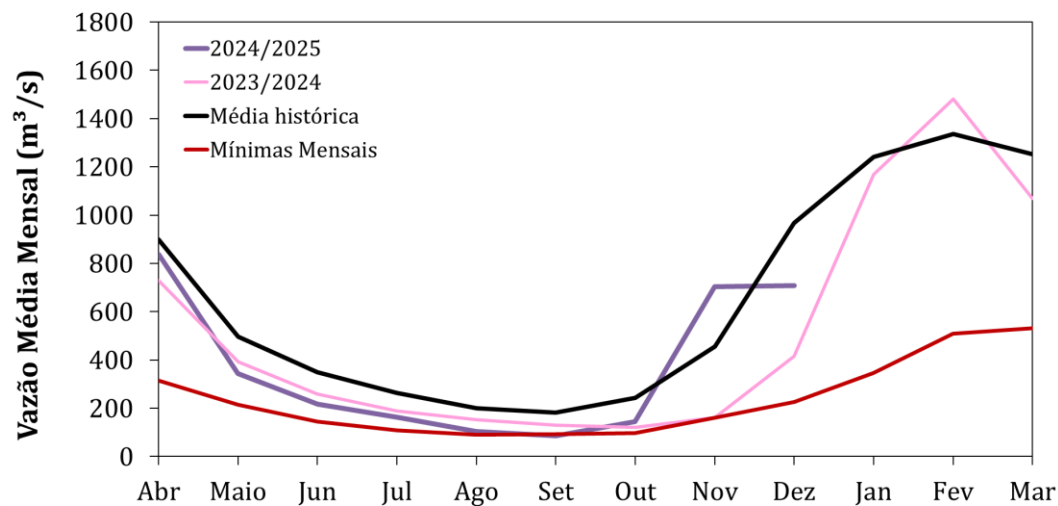
Dez/24**: 708 m³/s (**73% da MLT**)

10/Dez/24: 544 m³/s (**56% da MLT**)

**Até 10/12/2024

Dados de precipitação: INMET, ANA, CEMADEN

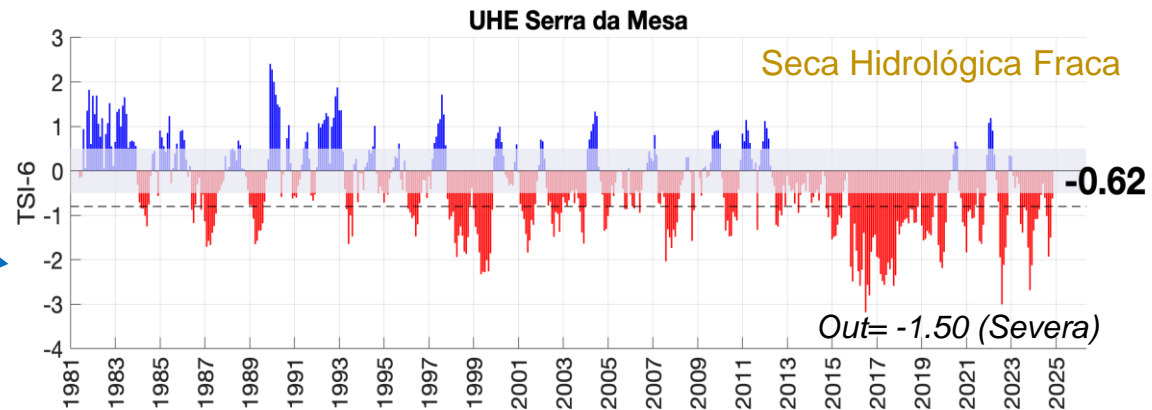
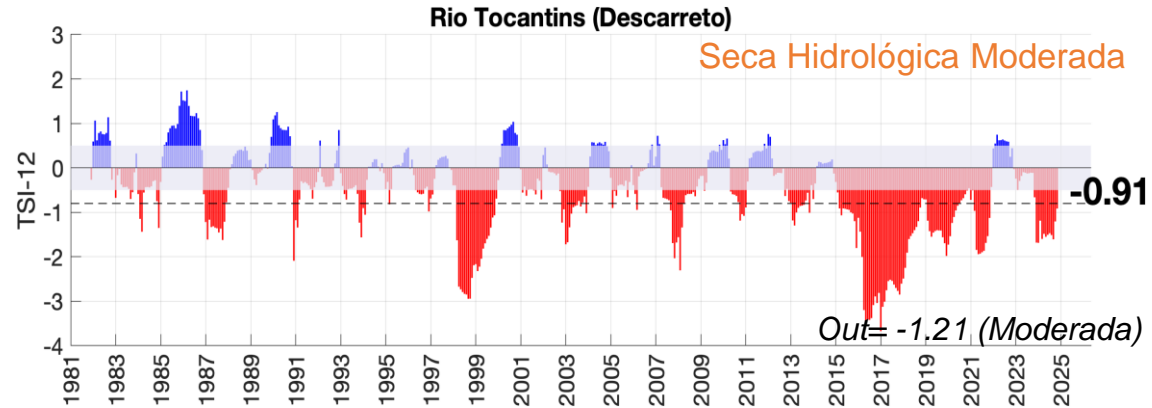
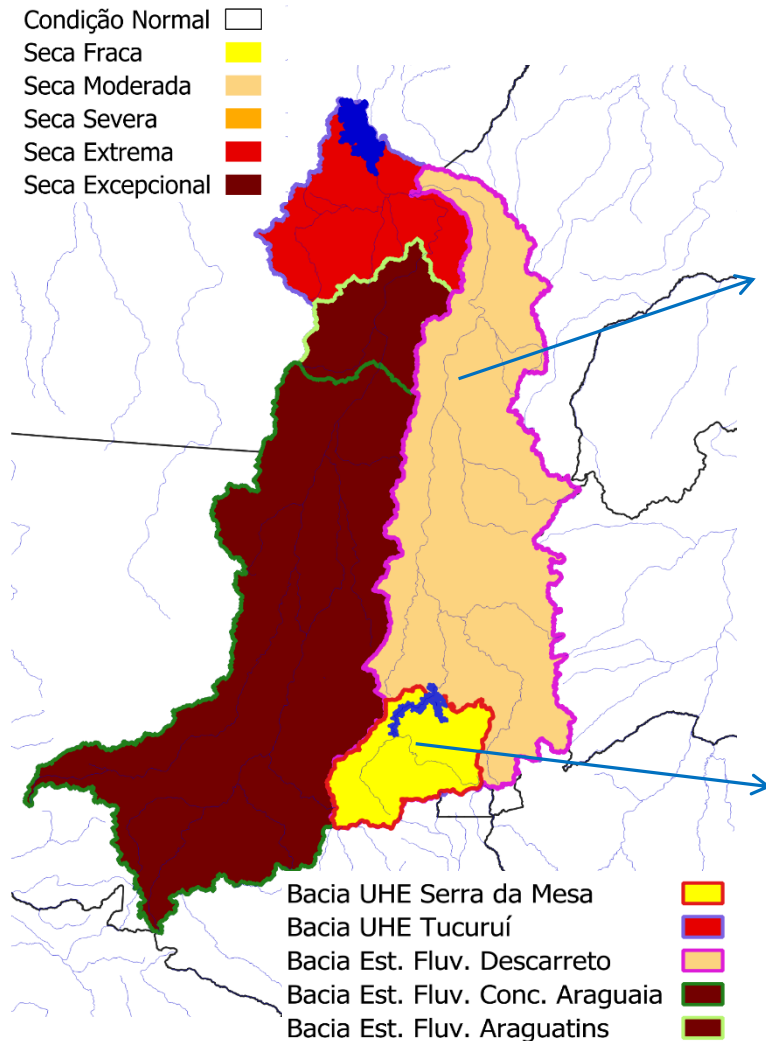
Dados de vazão: ONS e ANA



Média de Longo Termo – MLT = 1983-2023

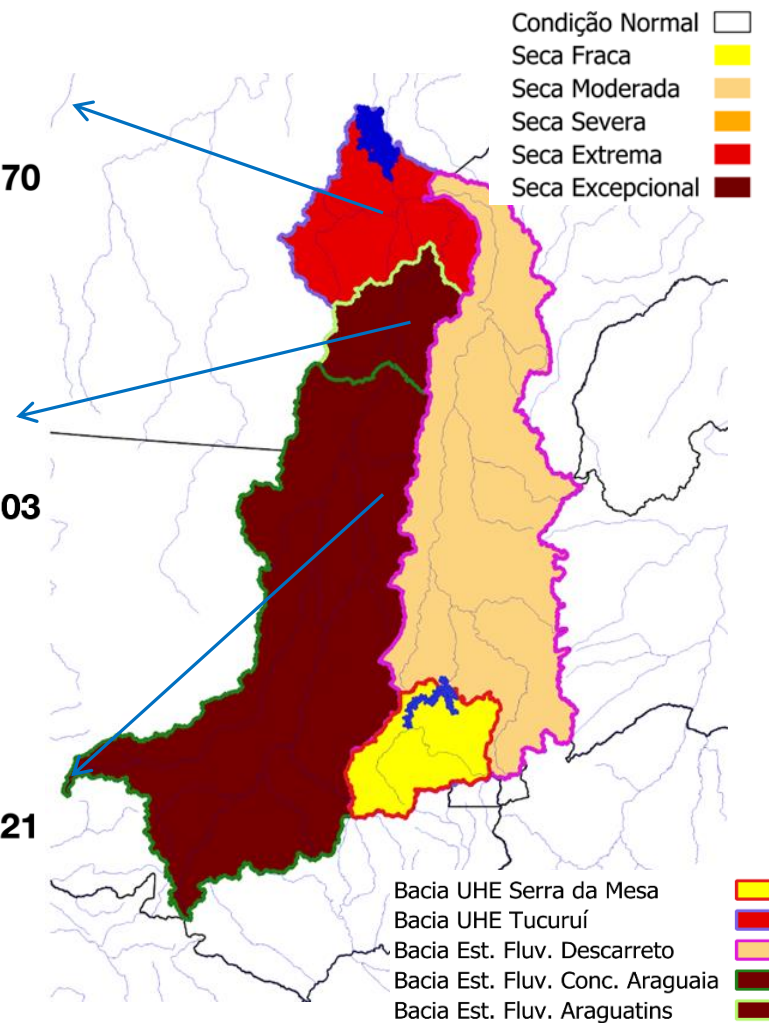
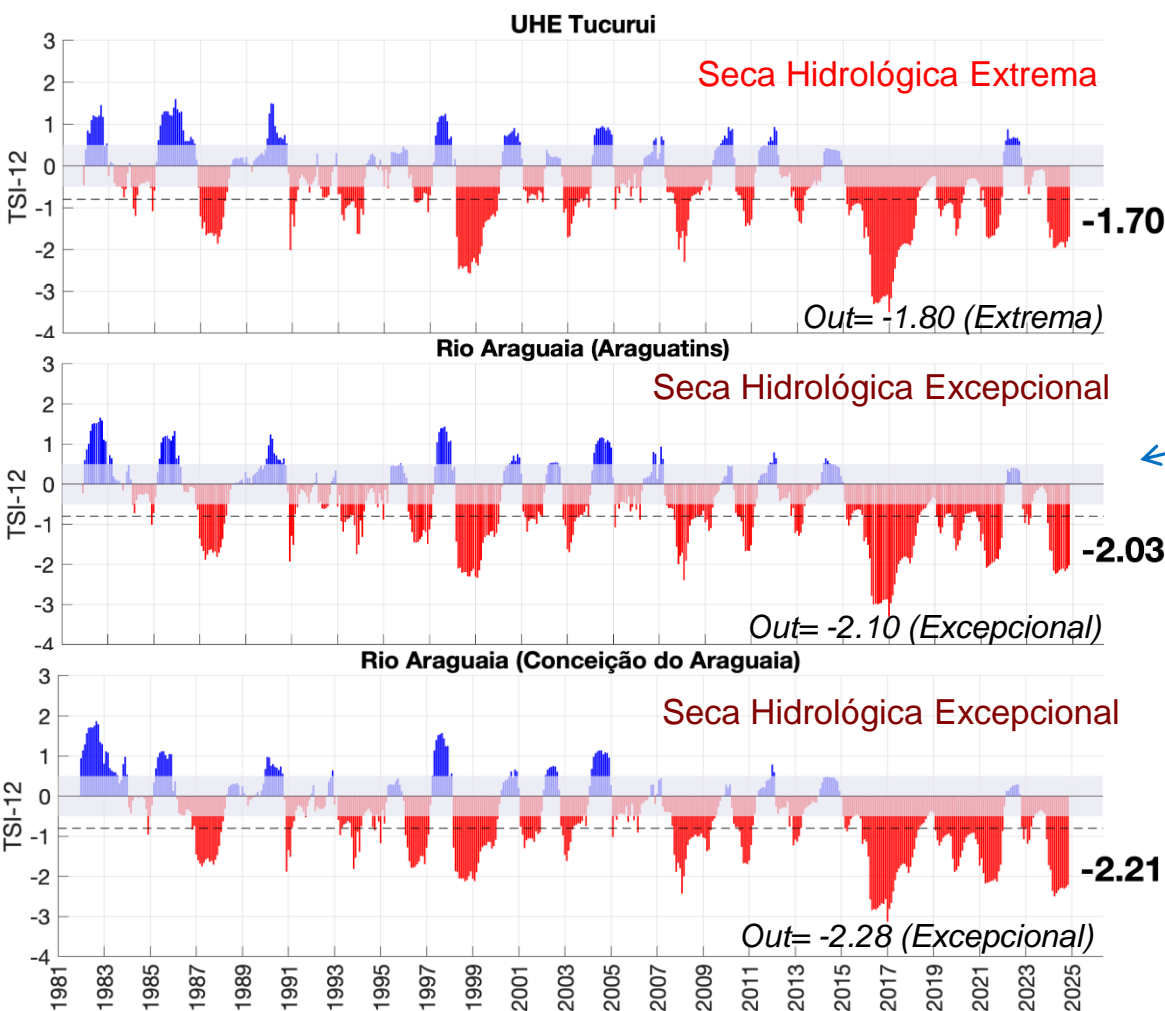
Índice Bivariado de Seca (Precipitação-Cota/Vazão) - TSI

Escala de longo prazo: TSI-6/12 meses

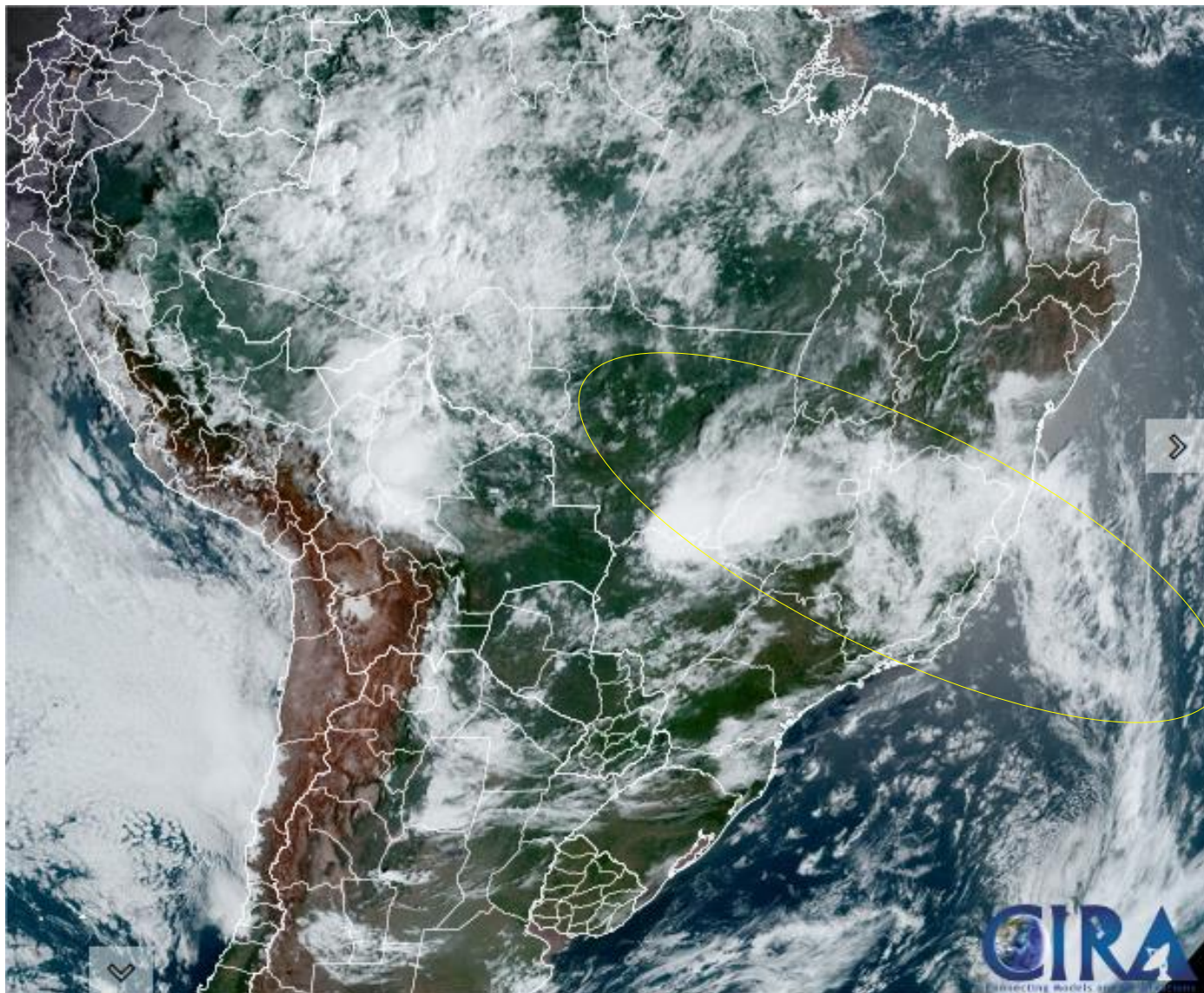


Índice Bivariado de Seca (Precipitação-Cota/Vazão) - TSI

Escala de longo prazo: TSI-6/12 meses

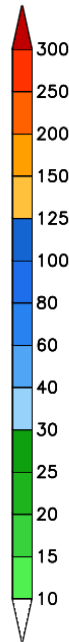
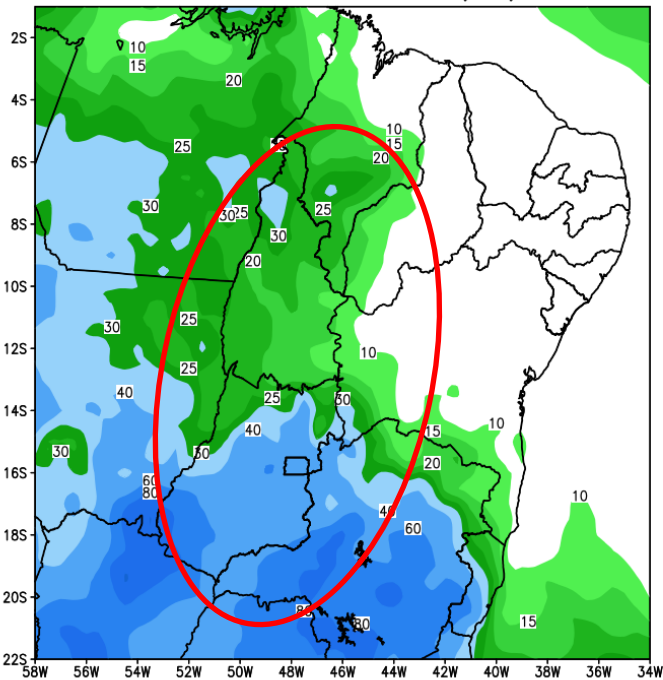


Situação meteorológica atual

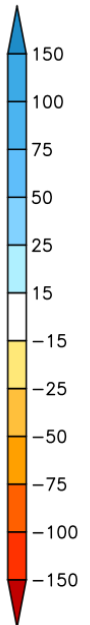
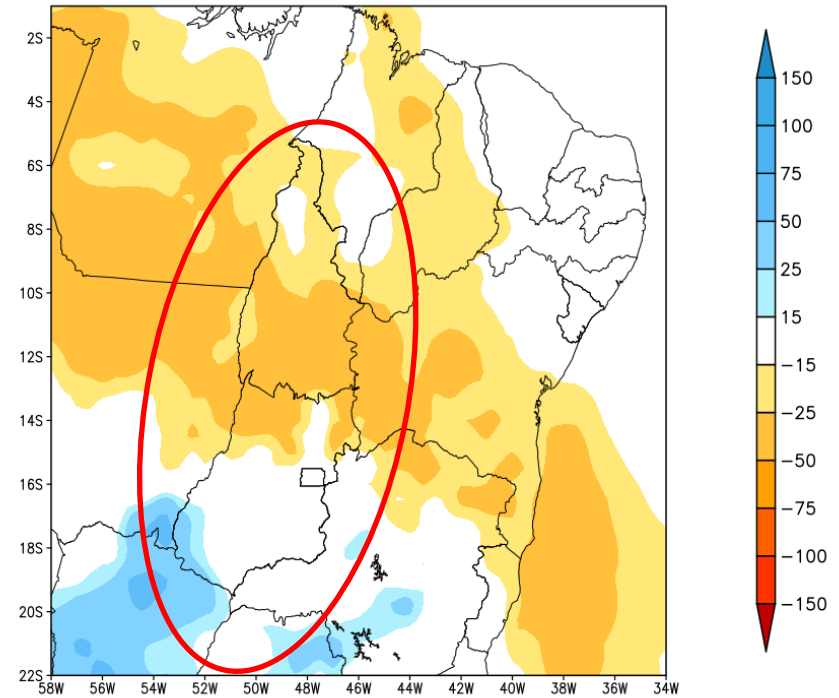


Previsão de chuva próximos 7 dias

GEFS / BRASIL_NE
Precipitação acumulada 1aSem (mm)
Previsão das 00Z dia 12/12/2024



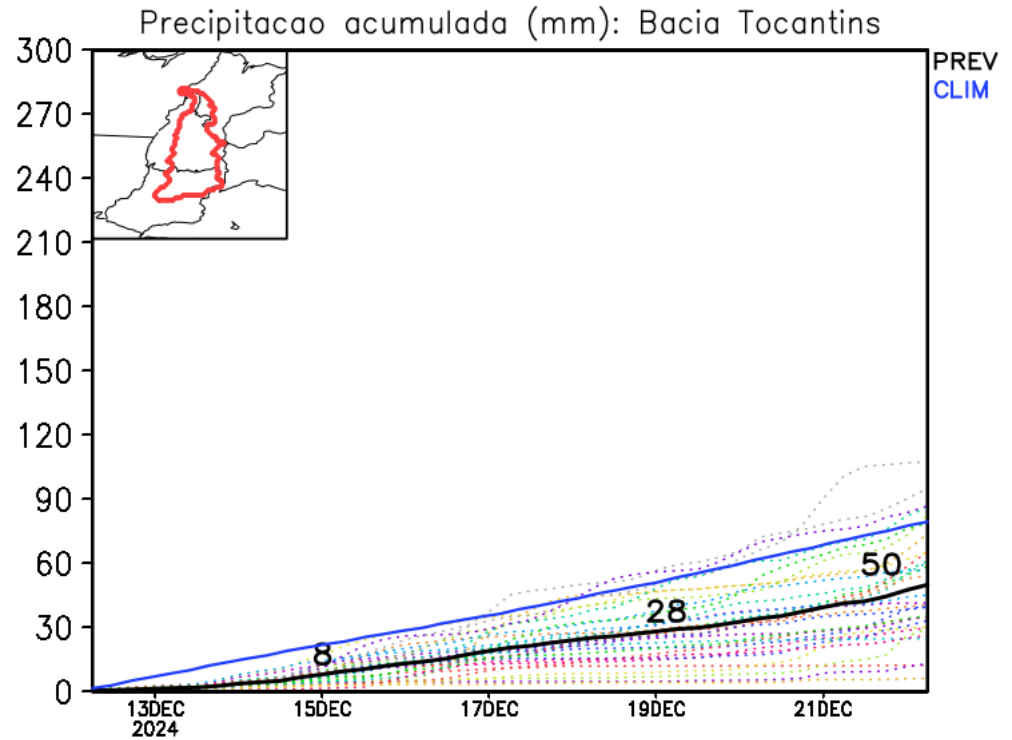
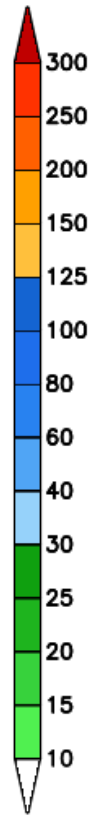
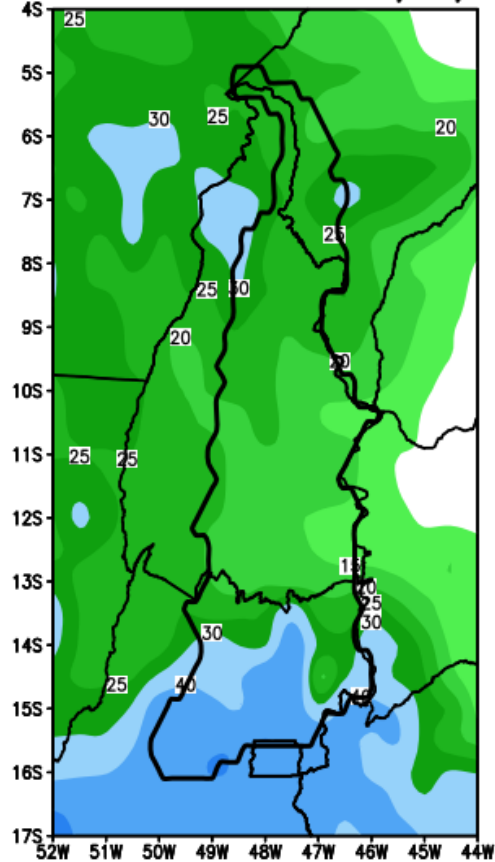
Anomalia de Precipitação BR_NE (mm)
Período: 2024121200 a 2024121900



Fonte: GEFS/NOAA

Previsão Bacia Rio Tocantins

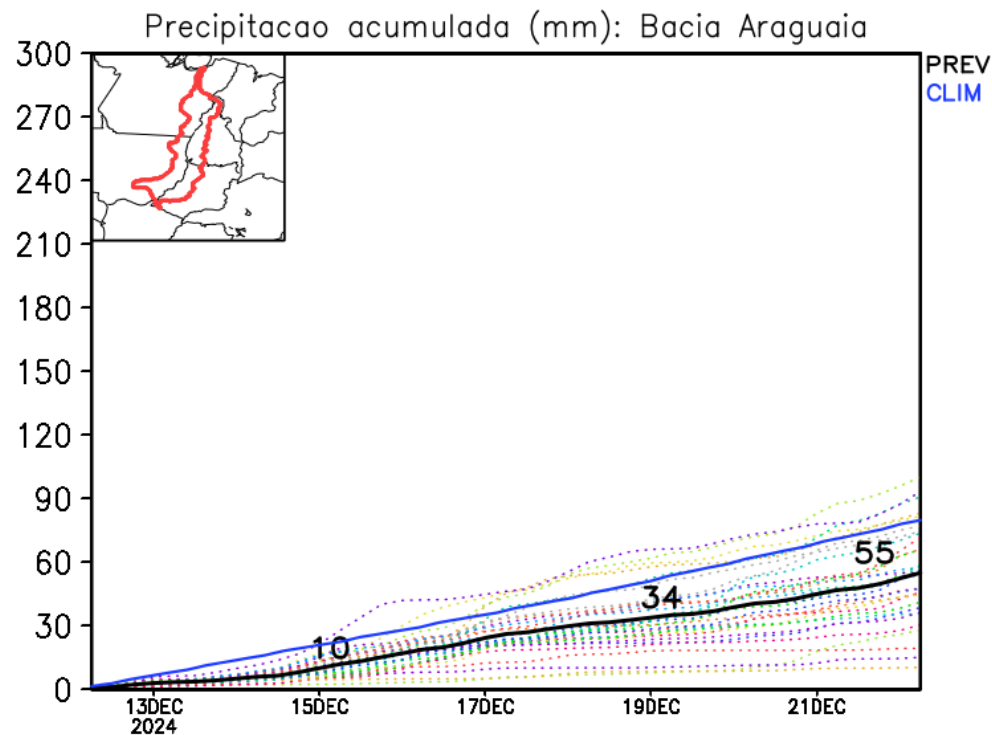
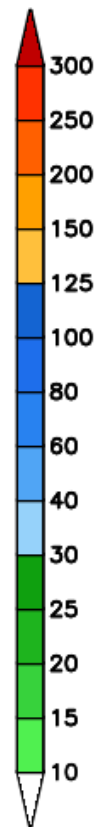
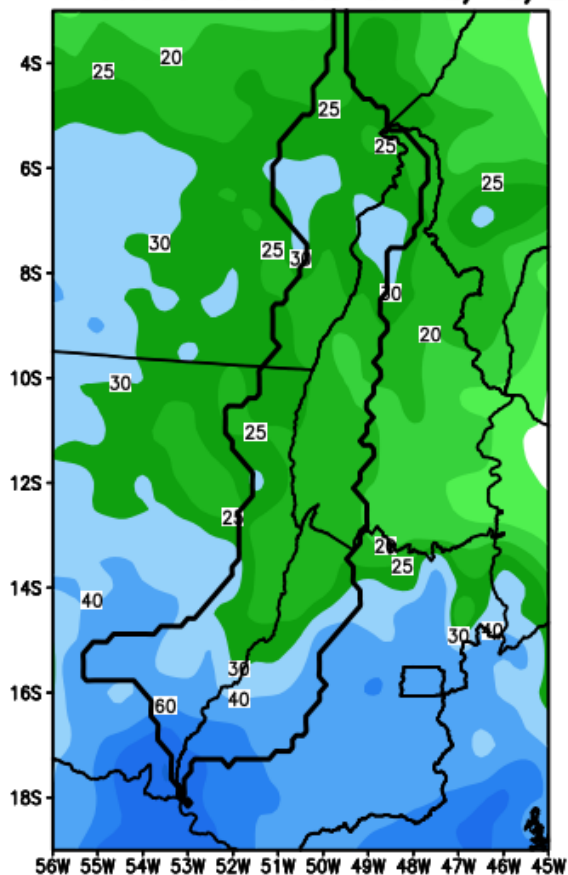
GEFS / Bacia Tocantins
Precipitacao acumulada em 7 dias (mm)
Previsao das 00Z dia 12/12/2024



Fonte: GEFS/NOAA

Previsão Bacia Rio Araguaia

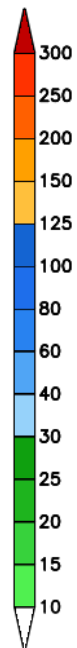
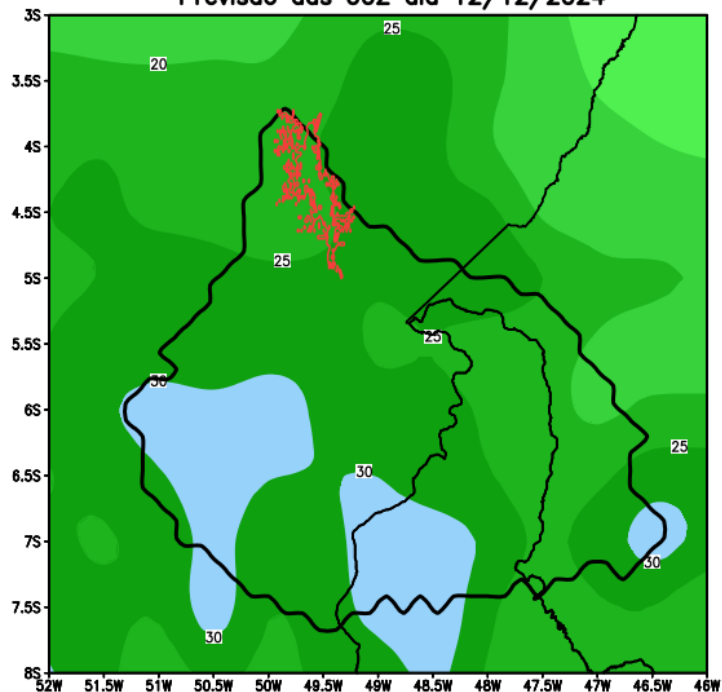
GEFS / Bacia do Rio Araguaia
Precipitacao acumulada em 7 dias (mm)
Previsao das 00Z dia 12/12/2024



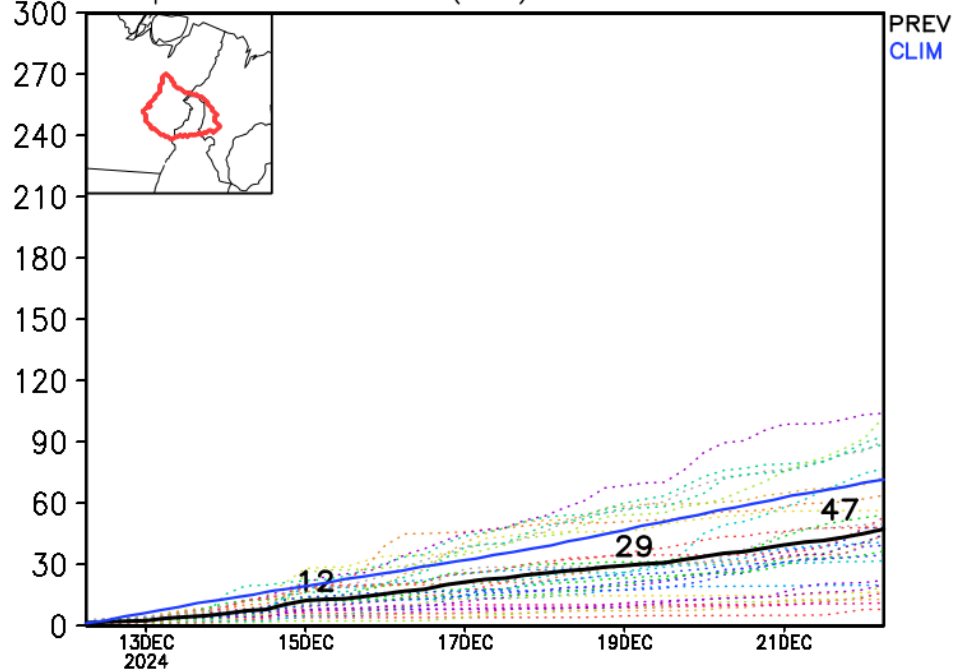
Fonte: GEFS/NOAA

Previsão Bacia Tocantins (Baixo)

GEFS / Bacia Baixo Tocantins
Precipitação acumulada em 7 dias (mm)
Previsão das 00Z dia 12/12/2024



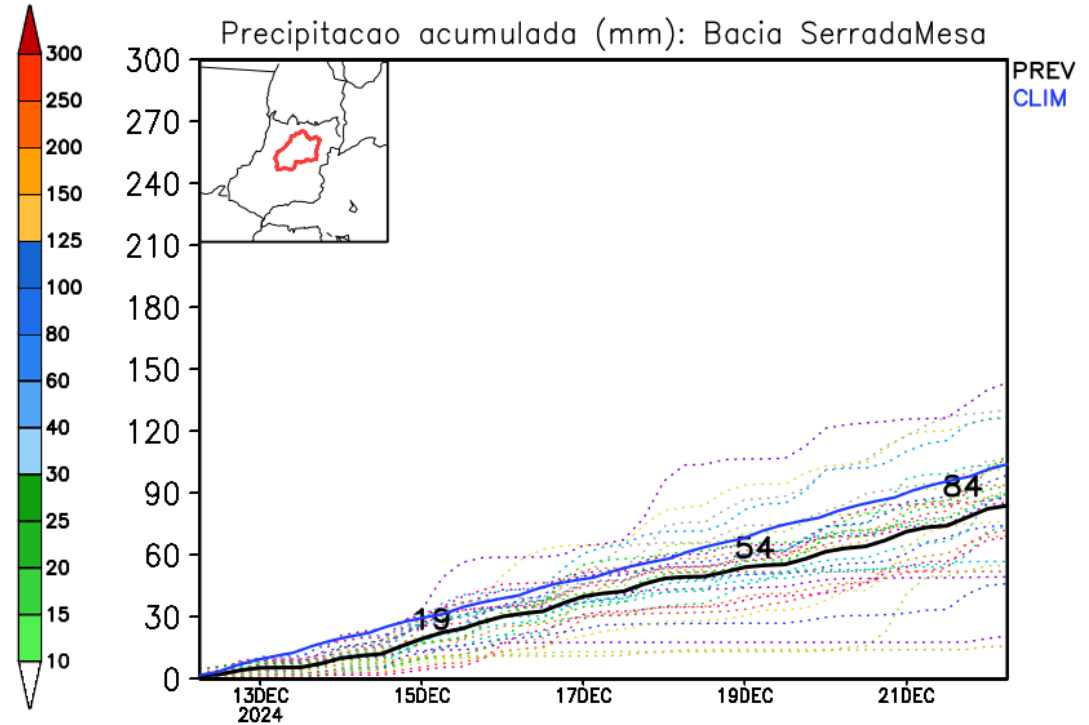
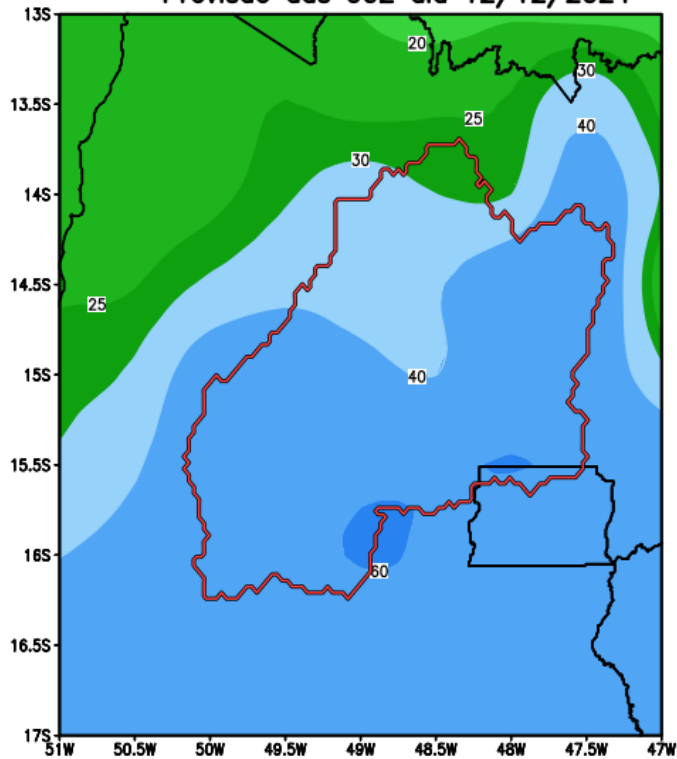
Precipitação acumulada (mm): Bacia Tocantins–Baixo



Fonte: GEFS/NOAA

Previsão Bacia Serra da Mesa

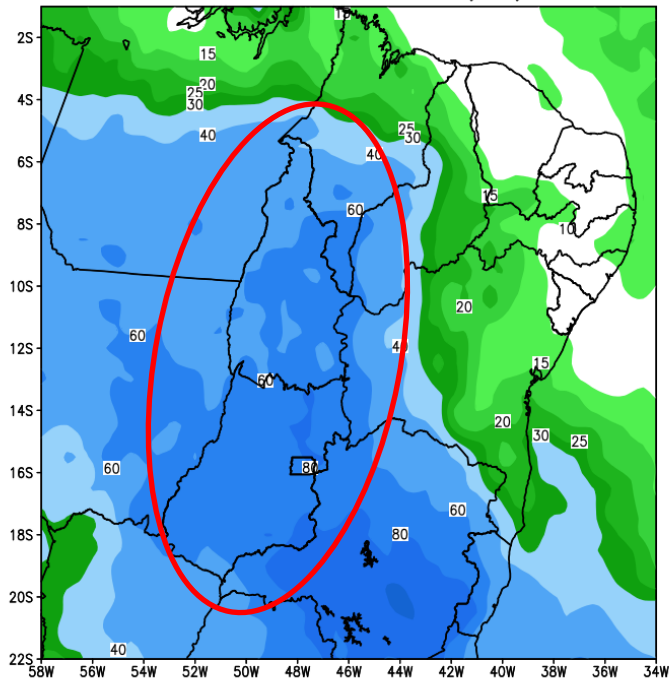
GEFS / Bacia Serra da Mesa
Precipitacao acumulada em 7 dias (mm)
Previsao das 00Z dia 12/12/2024



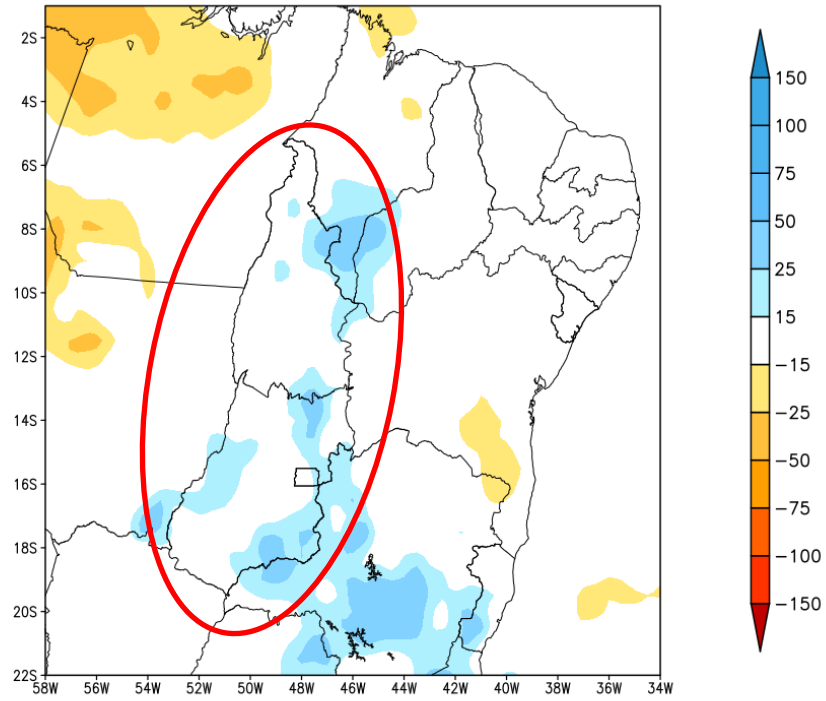
Fonte: GEFS/NOAA

Tendência para a 2a Semana

GEFS / BRASIL_NE
Precipitacao acumulada 2aSem (mm)
Previsao das 00Z dia 12/12/2024

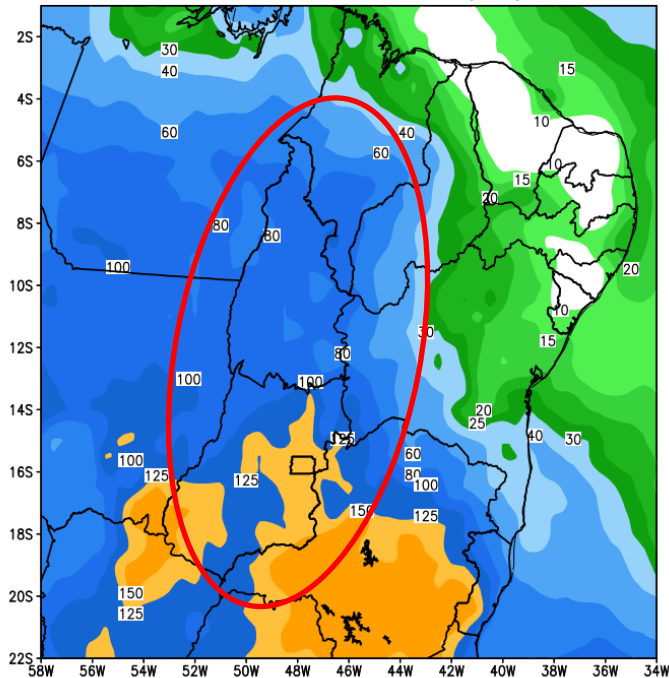


Anomalia de Precipitacao BR NE (mm)
Periodo: 2024122000 a 2024122600

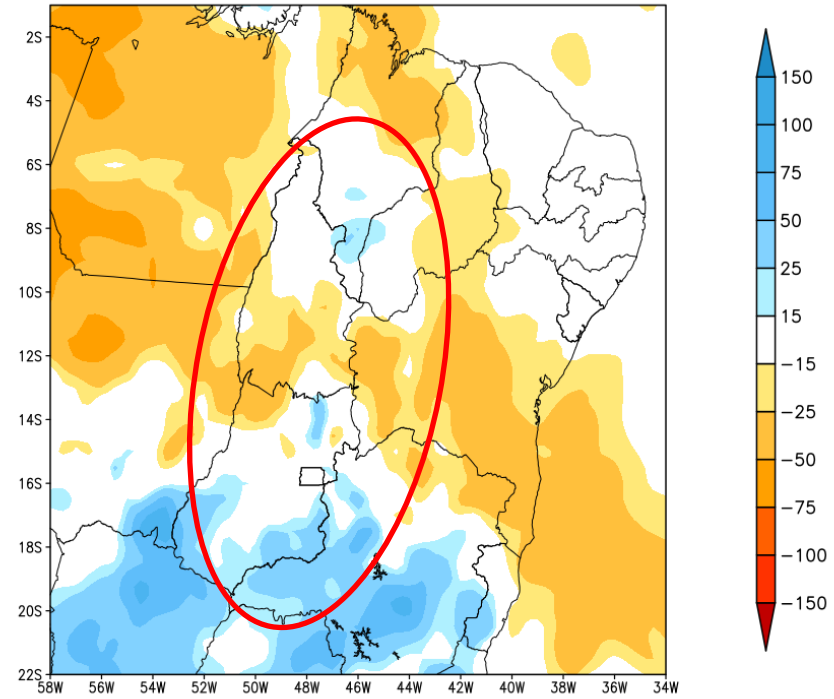


Tendência para as próximas duas semanas

GEFS / BRASIL_NE
Precipitacao acumulada 14dias (mm)
Previsao das 00Z dia 12/12/2024



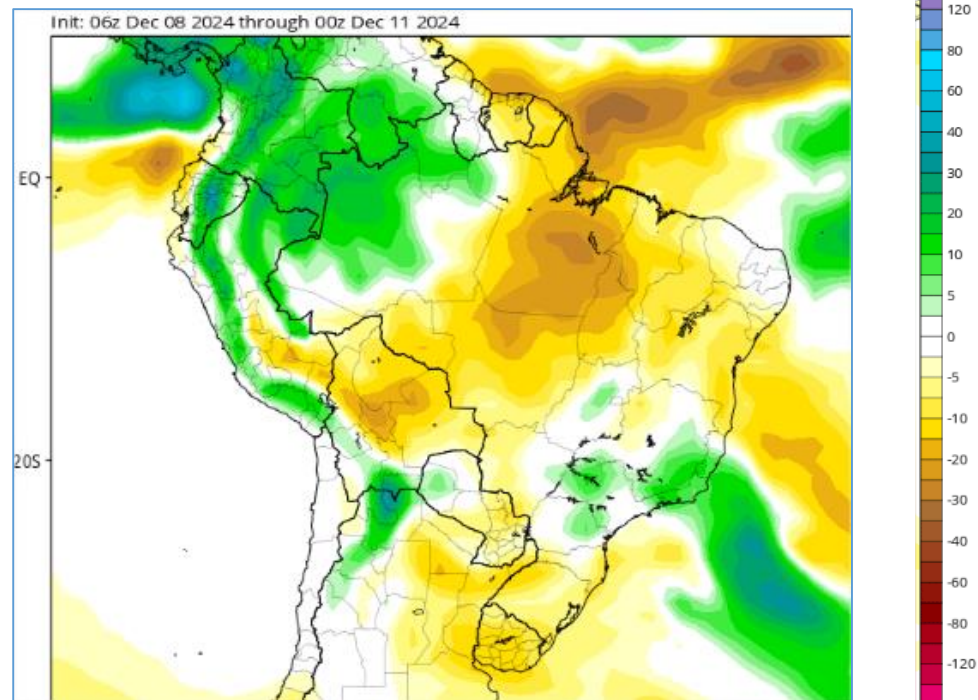
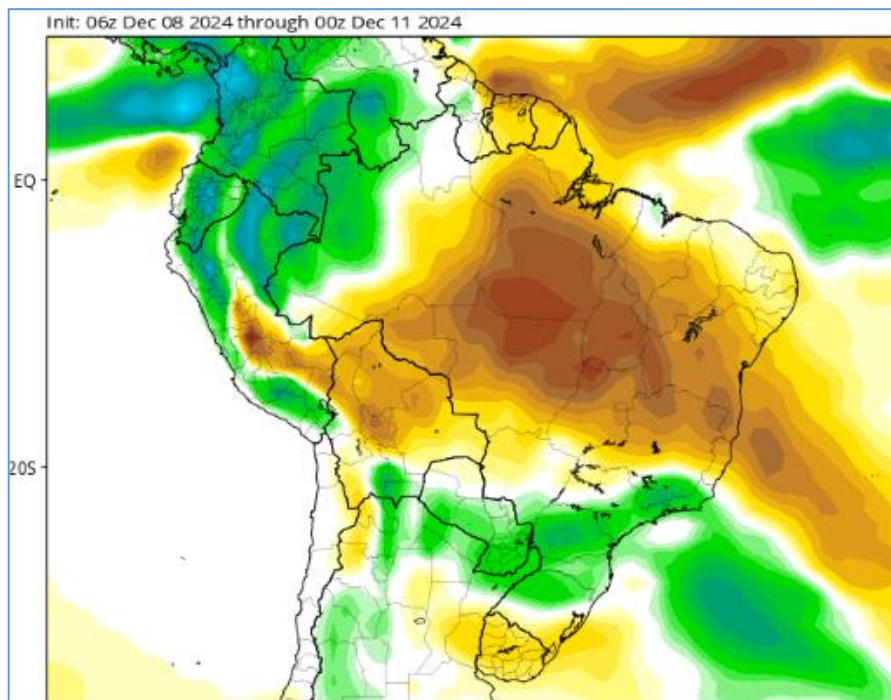
Anomalia de Precipitacao BR NE (mm)
Periodo: 2024121200 a 2024122600



Tendência 3a e 4a semanas

25 Dez – 01 Jan

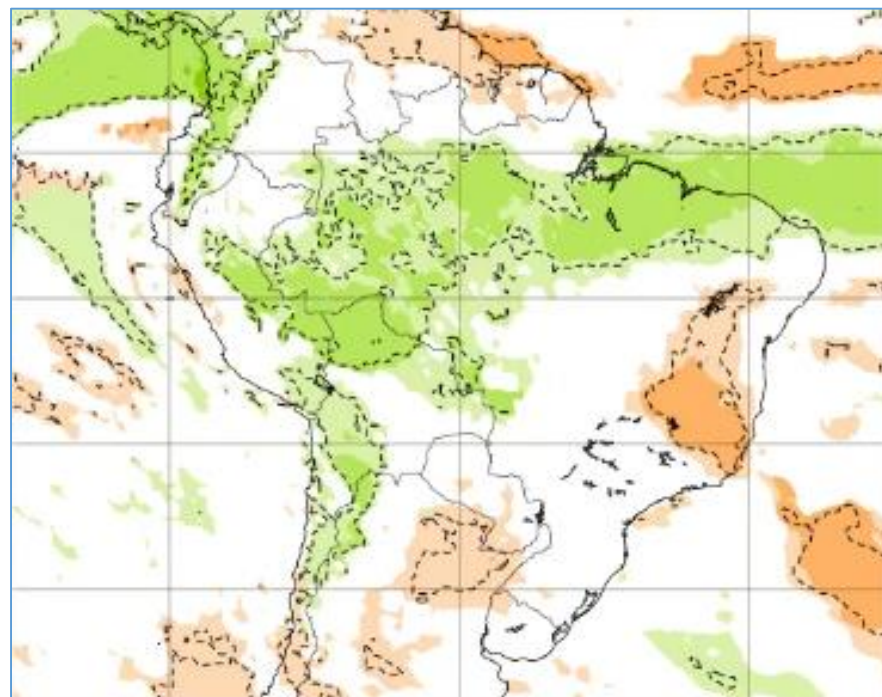
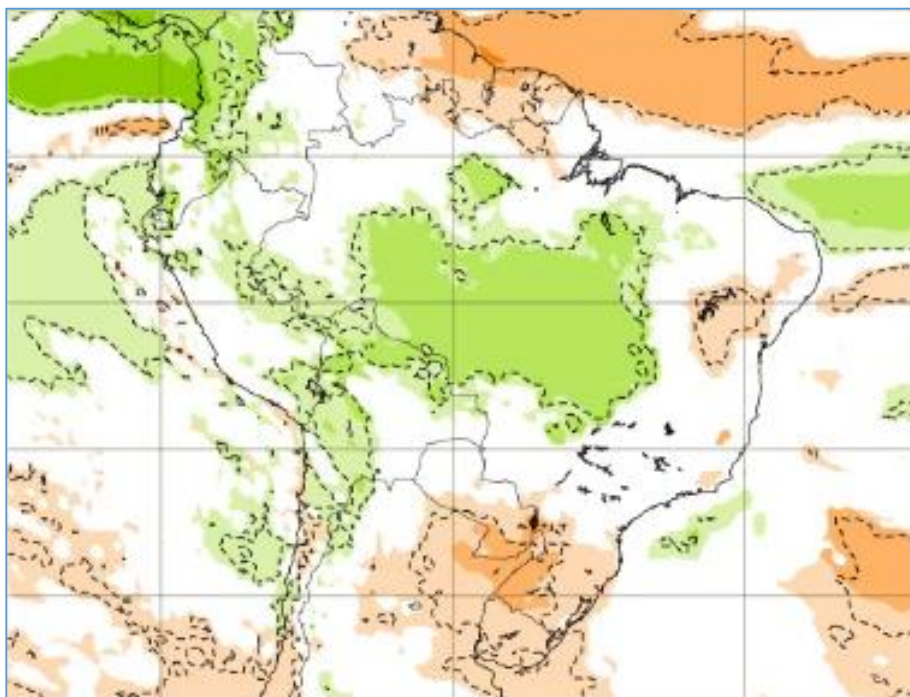
01- 08 Jan



Tendência para 3ª e 4ª semanas

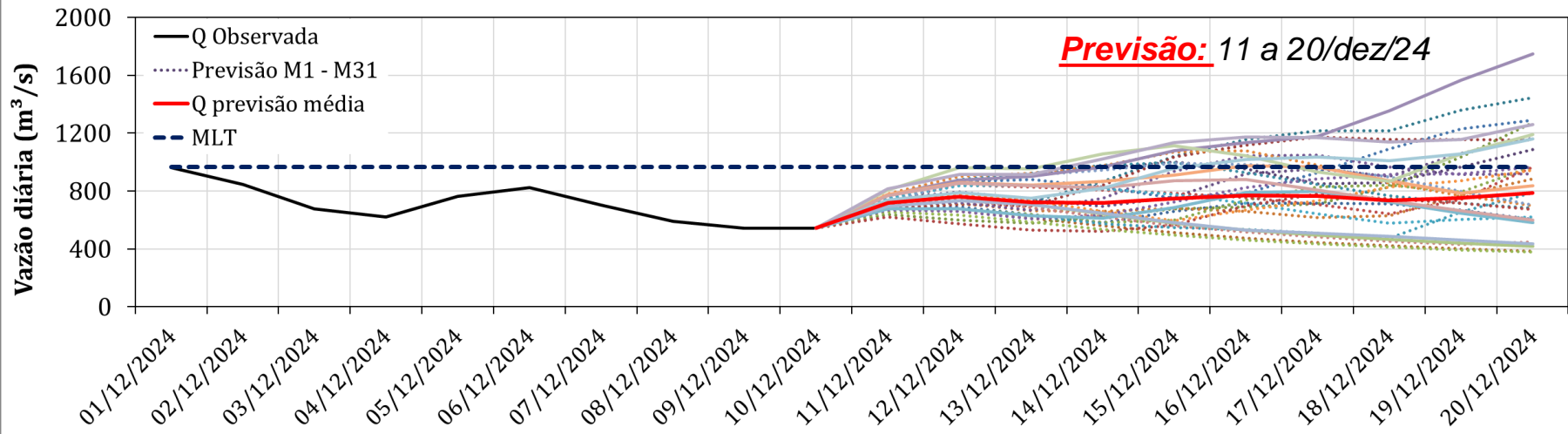
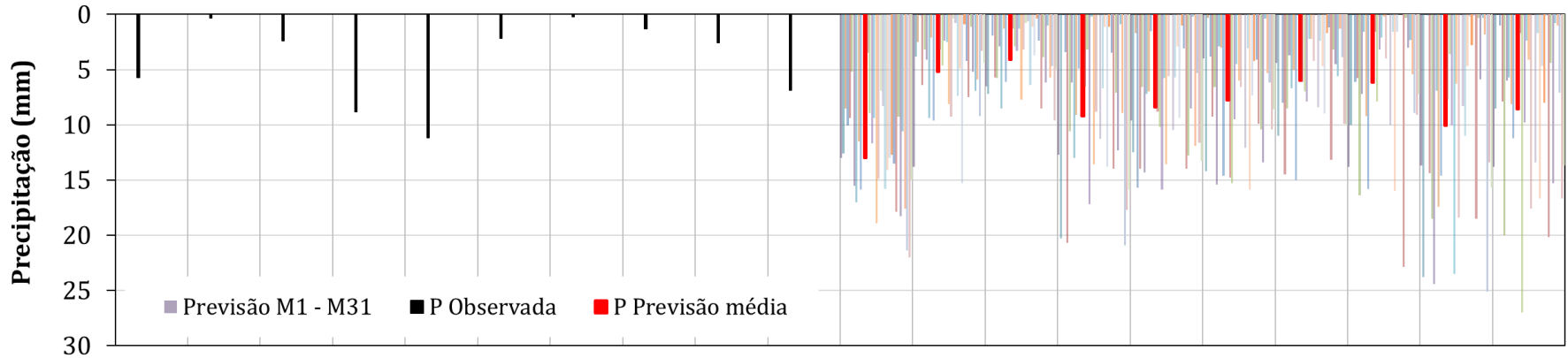
23-30 Dez

30 Dez- 06 Jan

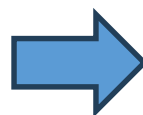


Serra da Mesa: Previsão de Vazão (modelo hidrológico PDM-CEMADEN)

Vazão Natural e Precipitação Diárias para Serra da Mesa
01 a 20/Dezembro/2024



Previsão média para
os próximos 10 dias: **748 m³/s**

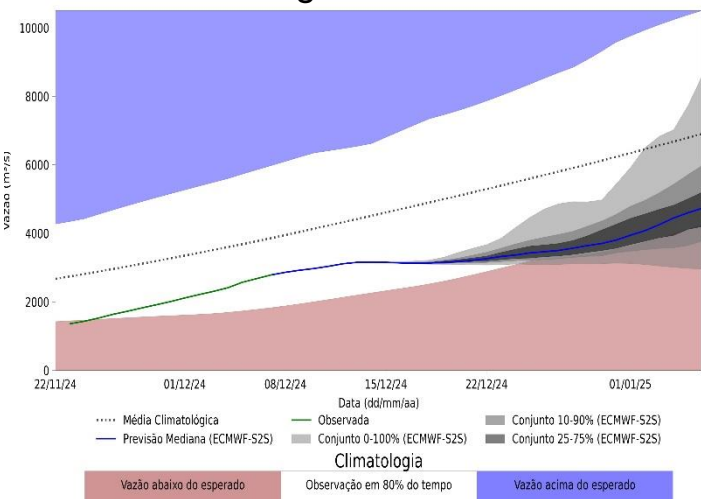


77% da MLT de Dezembro

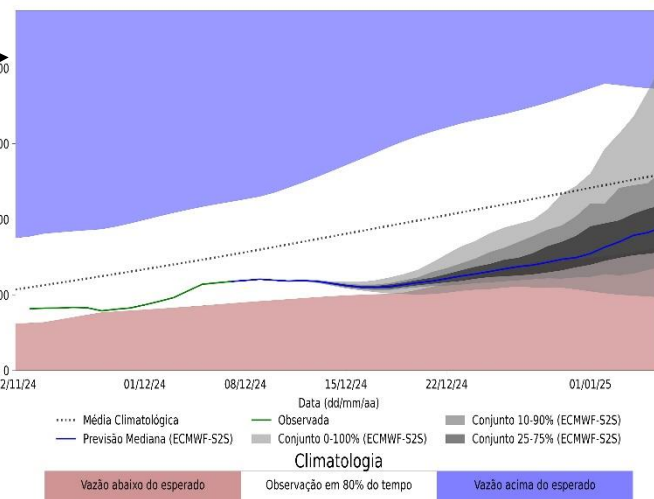
Previsão de vazão natural na Bacia Rio Tocantins-Araguaia 30 dias (Modelo hidrológico Distribuído - MHD)

Previsão: 07/12/24 a 06/01/2025

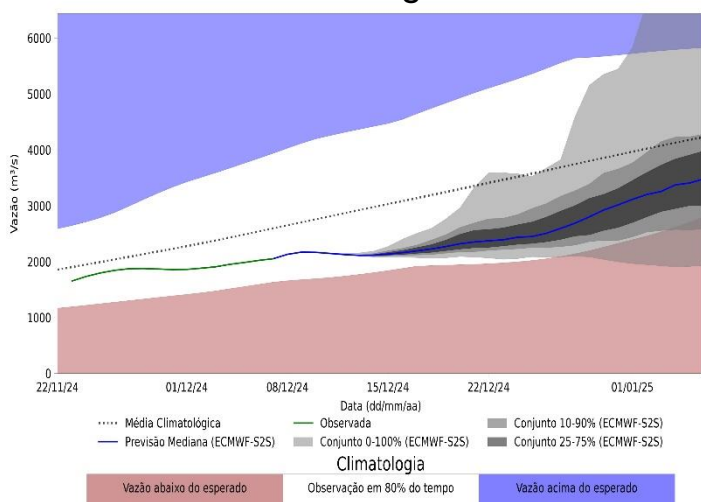
Araguatins - TO



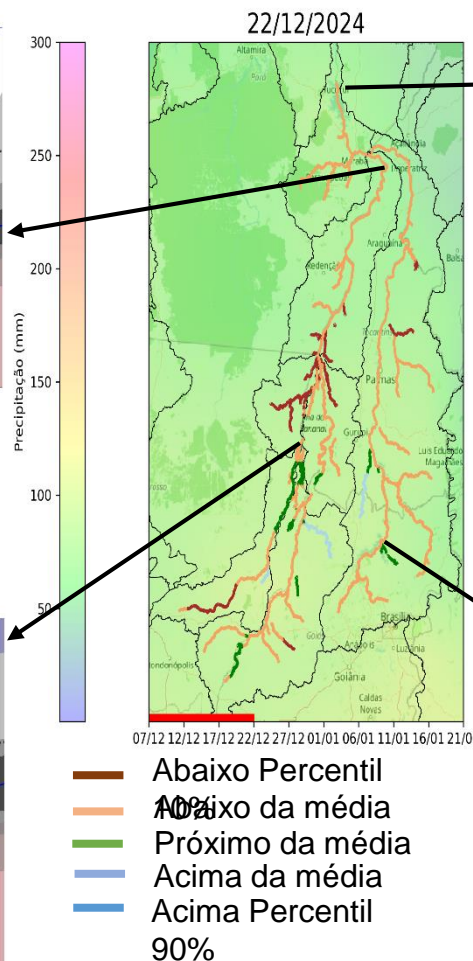
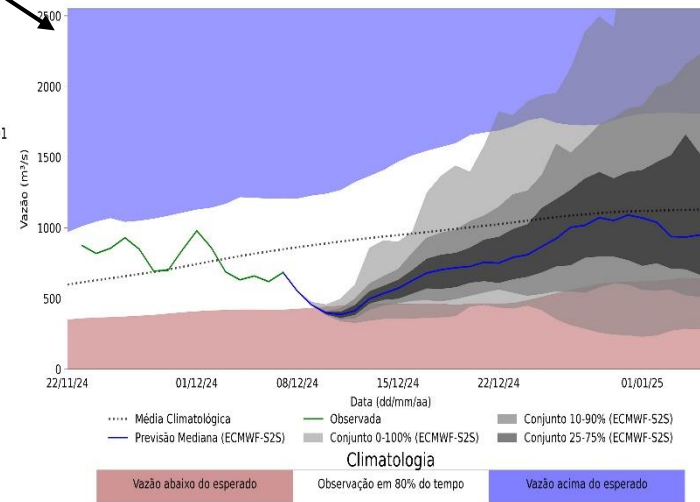
UHE Tucuruí



São Félix do Araguaia - MT



UHE Serra da Mesa



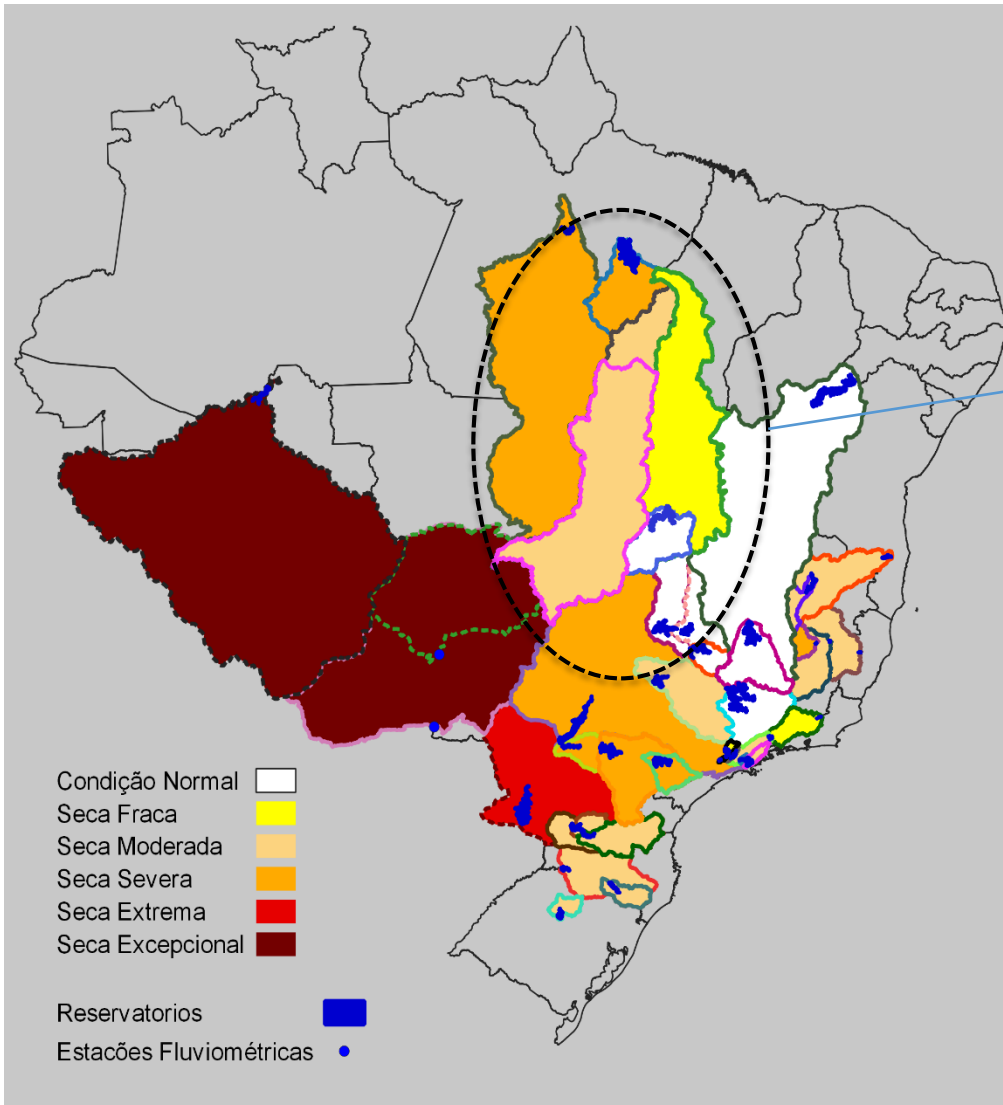
Fonte: Meteorologia
(INMET/MERGE); Vazão
(ANA/ONS)

MLT: 2003-2023

Previsão Meteorológica: ECMWF-

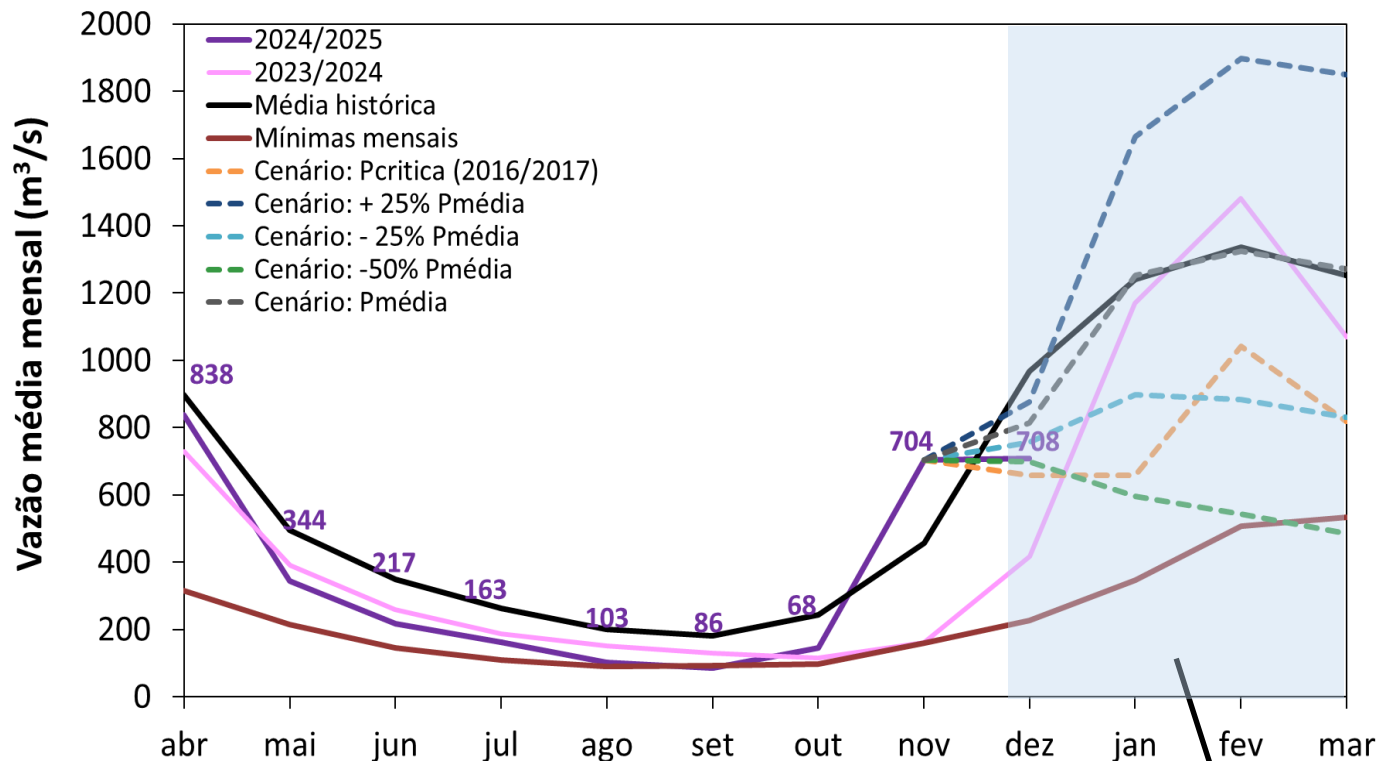
Índice Bivariado de Seca (Precipitação-Cota/Vazão) - TSI

Previsão 30 Dias



	OBSERVADO	PREVISTO
Serra Mesa	Fraca	NORMAL
Descarreto	Moderada	FRACA
Conc.Araguaia	Excepcional	MODERADA
Araguatins	Excepcional	MODERADA
Tucuruí	Extrema	SEVERA

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



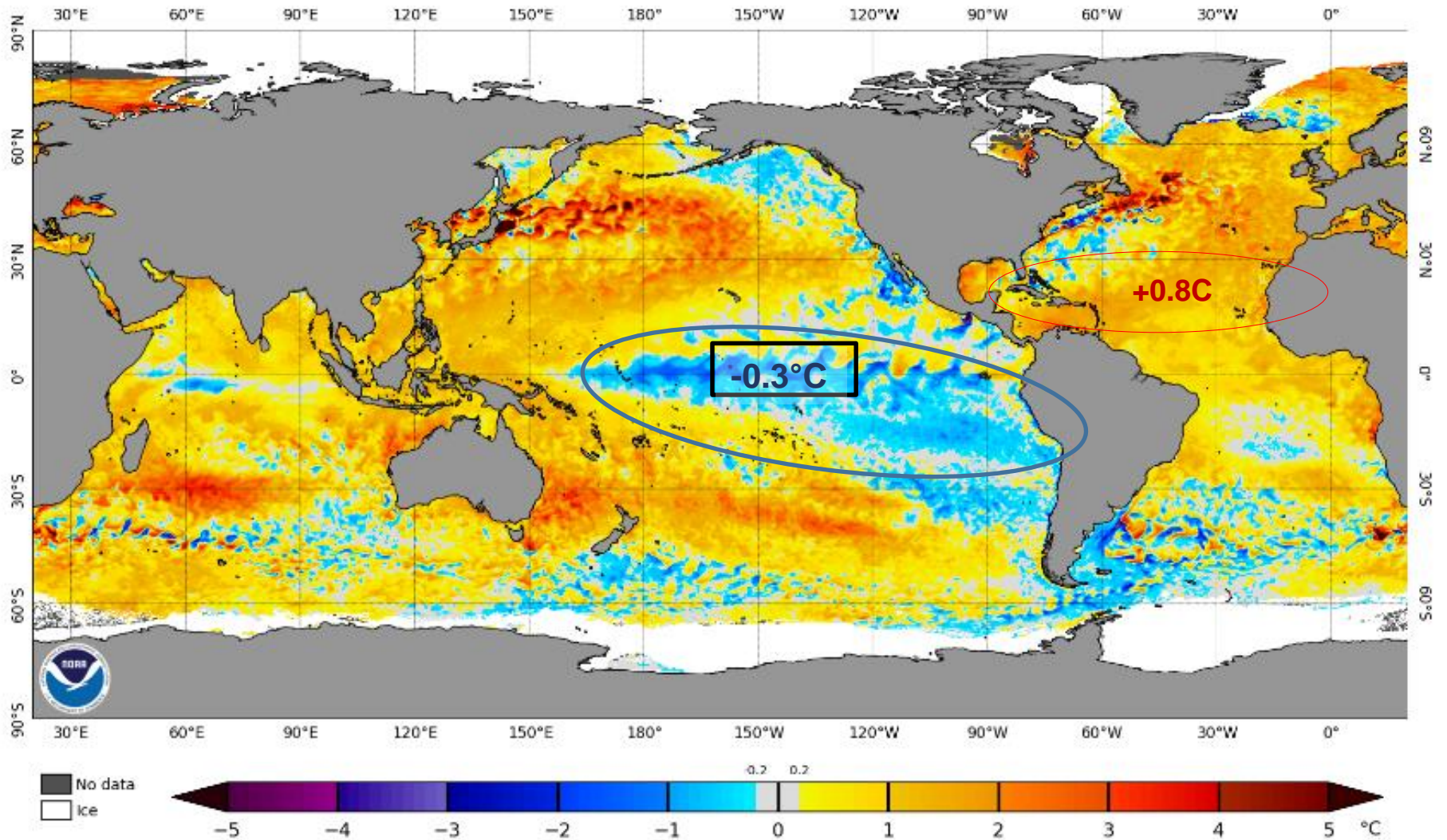
Dez/24-Mar/25 (Meses Chuvosos)

MLT: 1199 m³/s

Vazão	% MLT
1573 m³/s	131%
1165 m³/s	97%
841 m³/s	70%
794 m³/s	66%

Status Atual: **La Niña Watch**

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 8 Dec 2024



NINO3.4 SST anomaly plume
C3S multi-system forecast from 1 Dec 2024
ECMWF, Met Office, Météo-France, CMCC, DWD, NCEP, JMA, ECCC
Monthly mean anomalies relative to ERA5 1981-2010 climatology

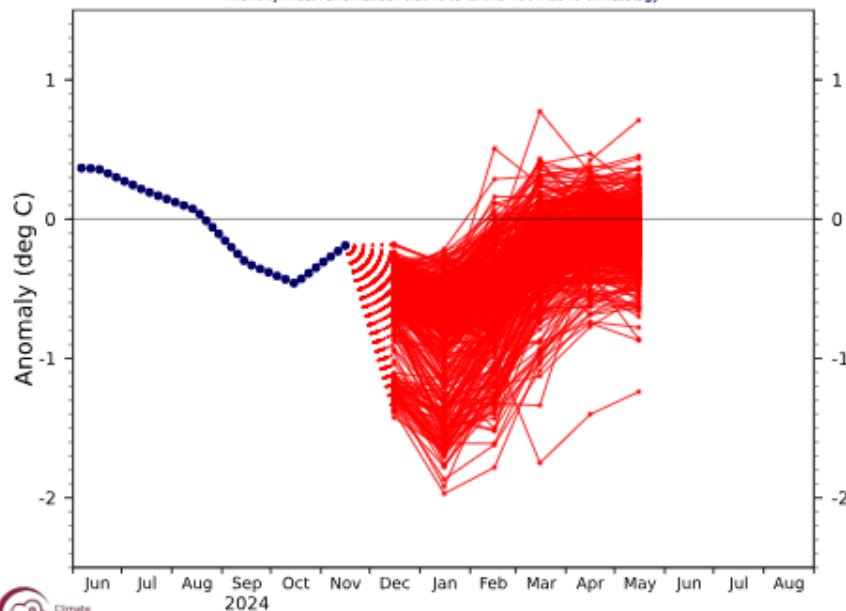
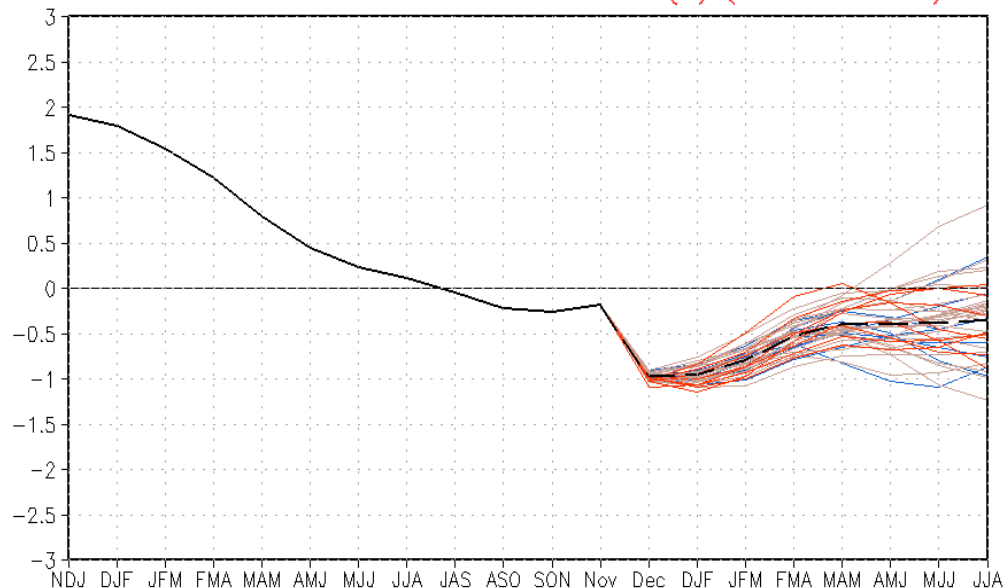


Figure provided by the International Research Institute (IRI) for Climate and Society (updated 19 November 2024).

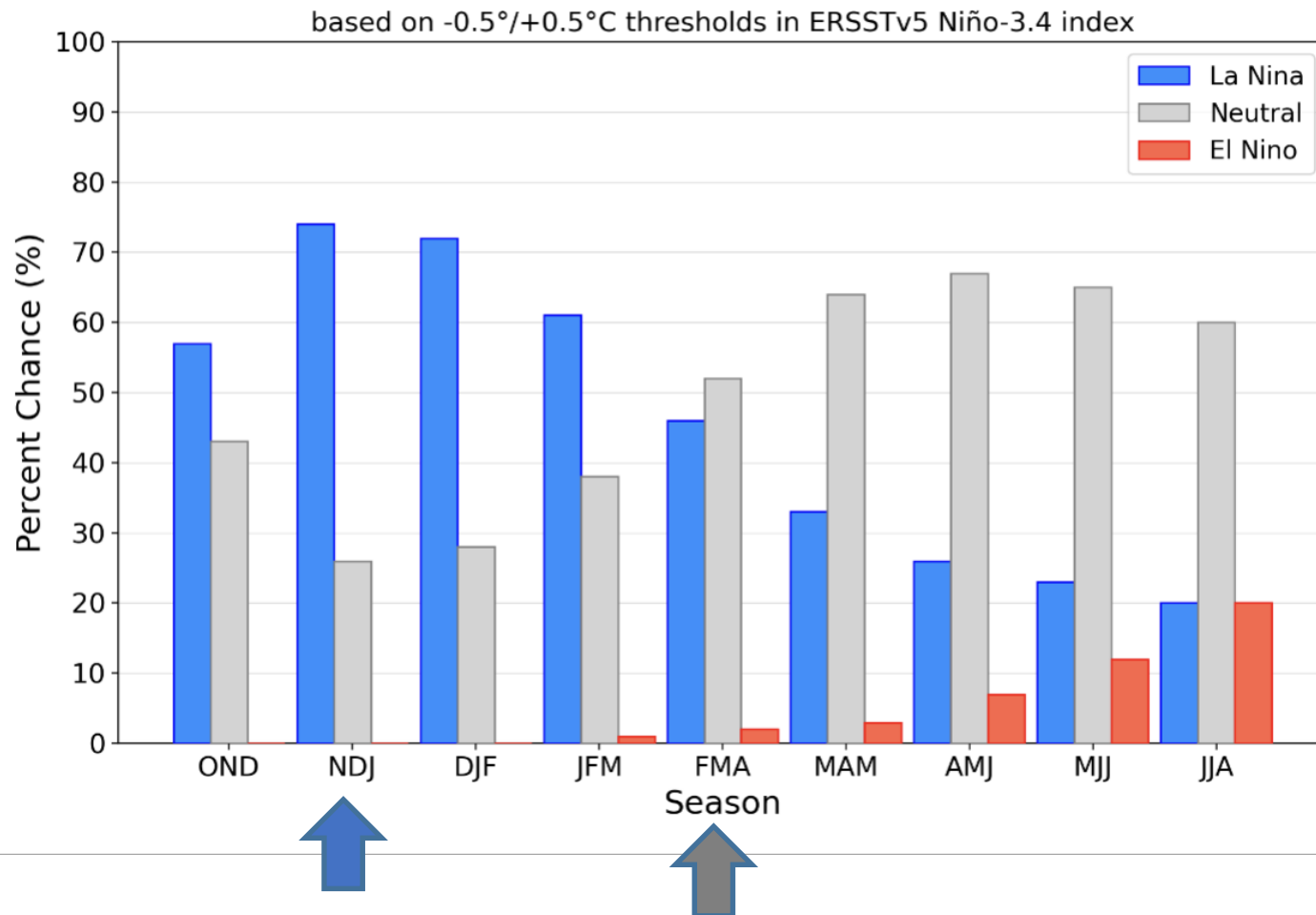
CFSv2 forecast Nino3.4 SST anomalies (K) (PDF corrected)



- Latest 8 forecast members
 - Earliest 8 forecast members
 - Other forecast members
 - Forecast ensemble mean
 - NCEI OIv2.1 daily analysis
- (Climatology base period: 1991–2020)

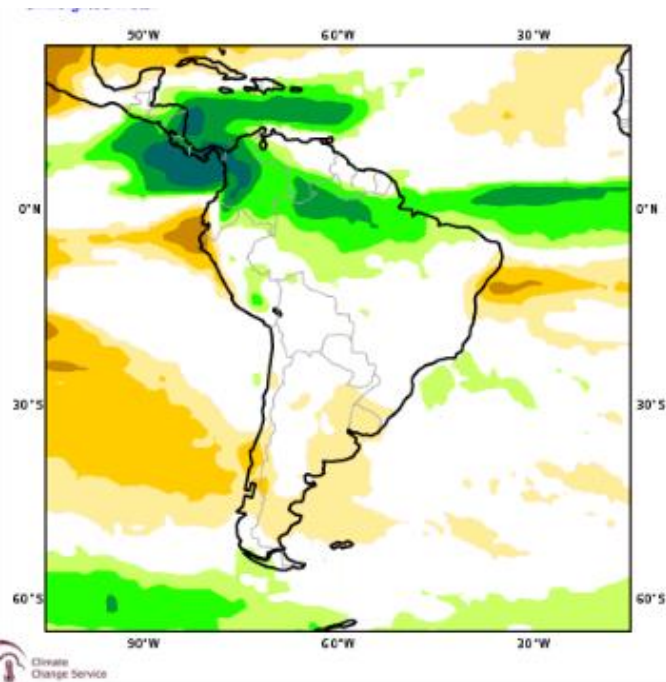
Previsão do “ENSO”

Official NOAA CPC ENSO Probabilities (issued November 2024)

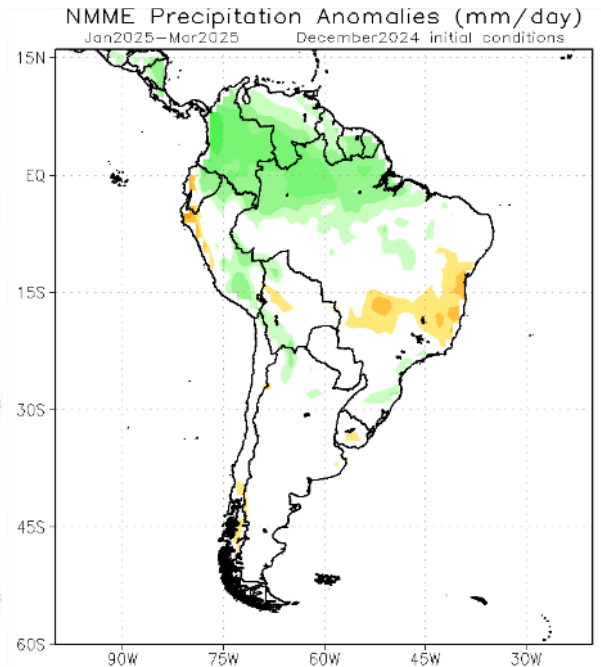


Previsão Sazonal de Chuva Multi-Modelo

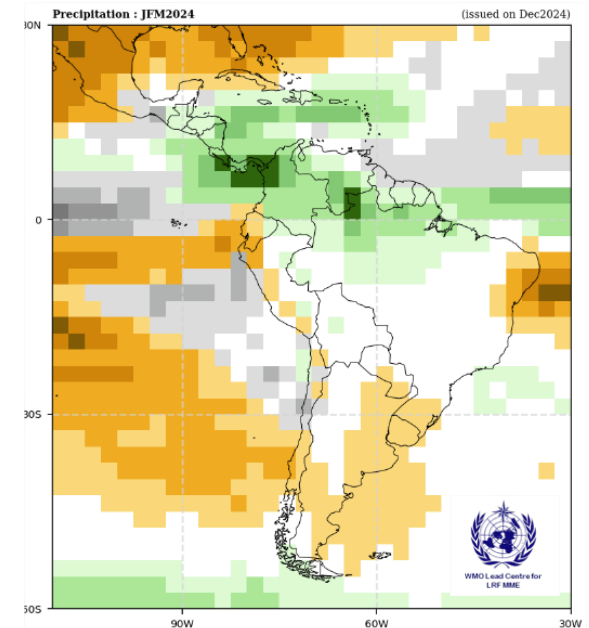
Janeiro-Fevereiro-Março



Modelos Europeus



Modelos Norte Americanos



Modelos da WMO