



# CEMADEN

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

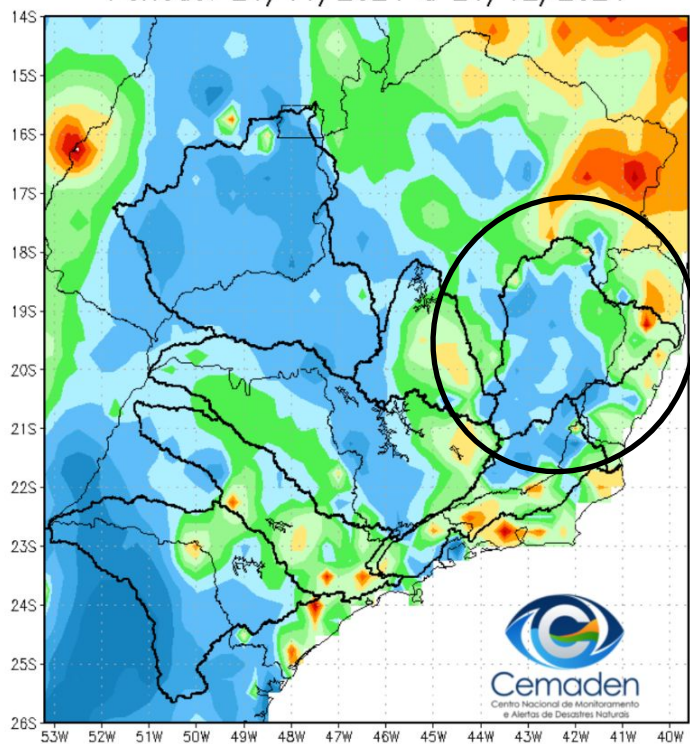
## Monitoramento e Previsões para a Bacia do rio Doce

**23 de Dezembro de 2024**

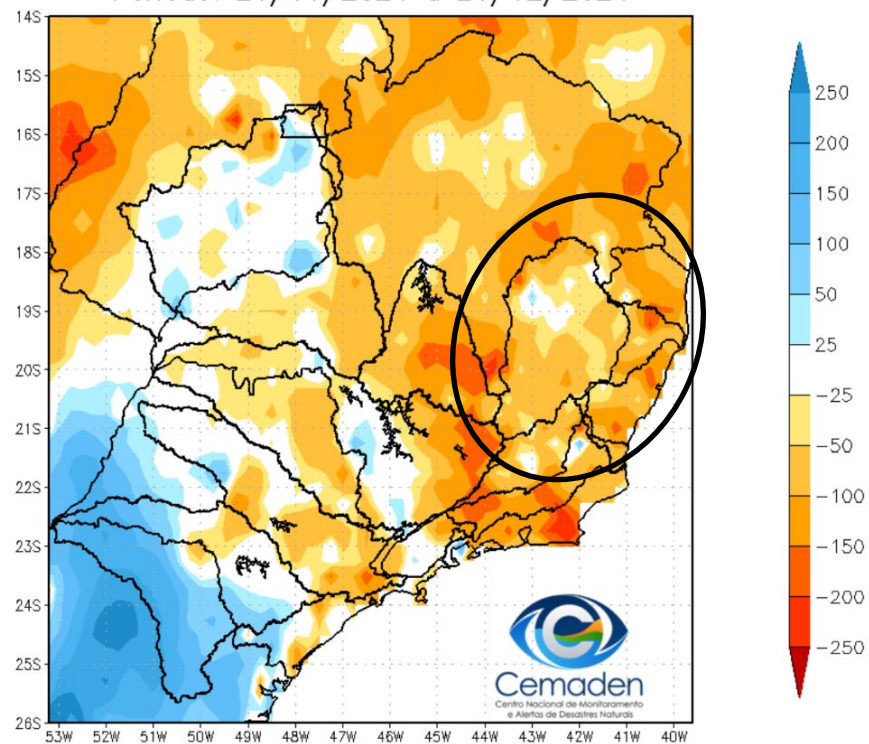


## Precipitação acumulada nos últimos 30 dias

Precipitação Acumulada (mm) A.S.  
Período: 21/11/2024 a 21/12/2024



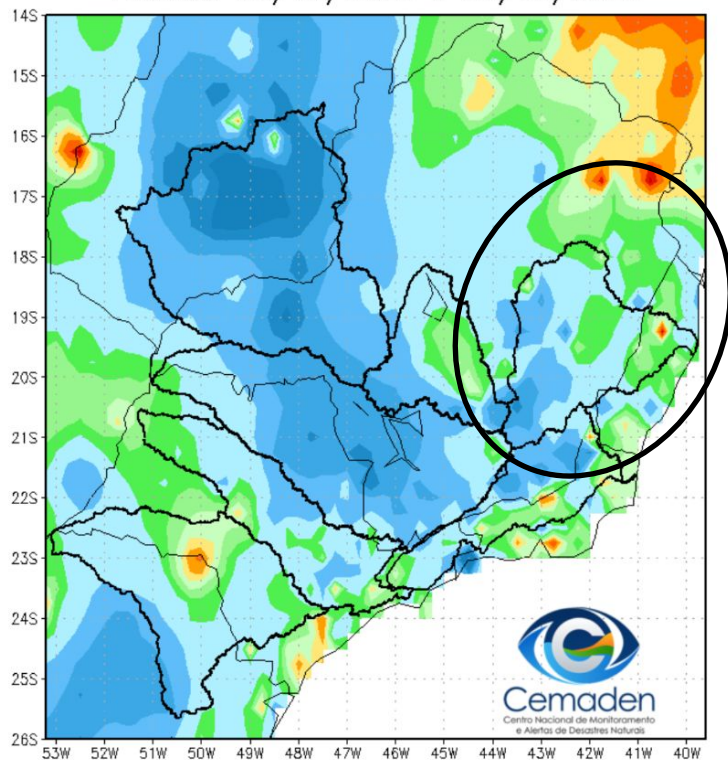
Anomalia de Precipitação (mm) A.S.  
Período: 21/11/2024 a 21/12/2024



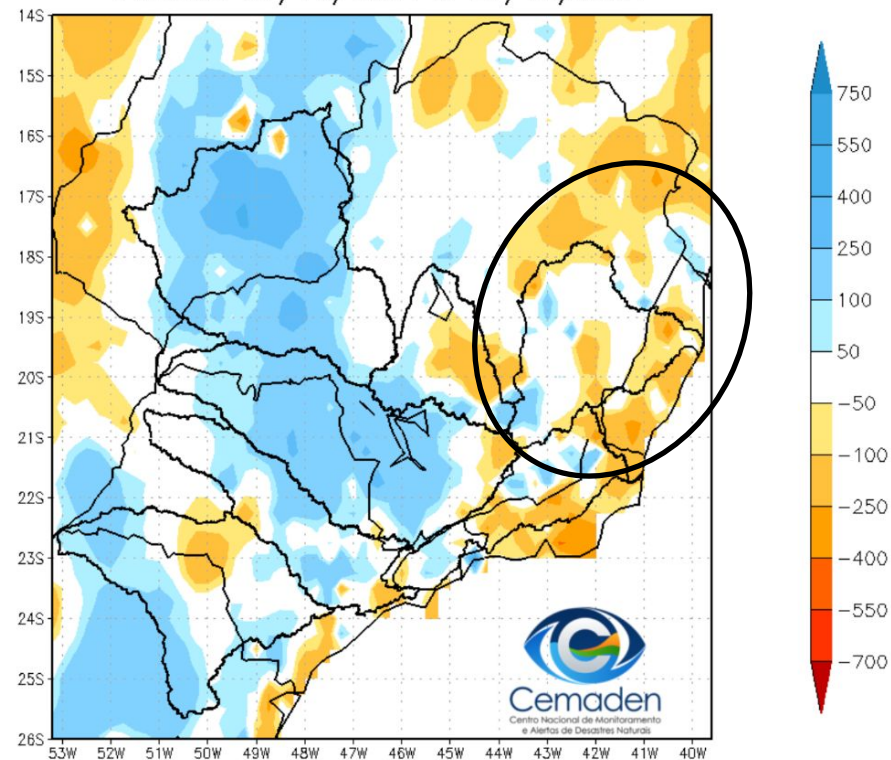


# Precipitação acumulada no Ano Hidrológico

Precipitação Acumulada (mm) A.S.  
Período: 01/10/2024 a 21/12/2024

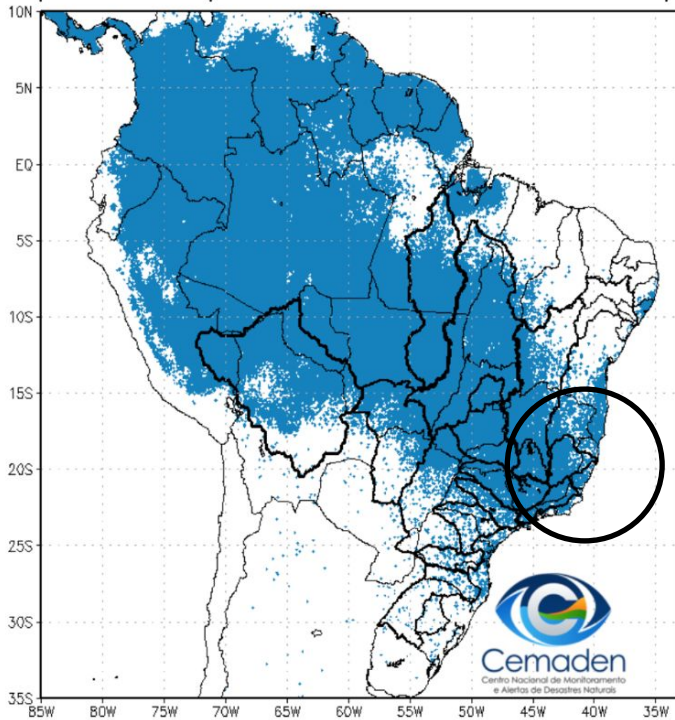


Anomalia de Precipitação (mm) A.S.  
Período: 01/10/2024 a 21/12/2024

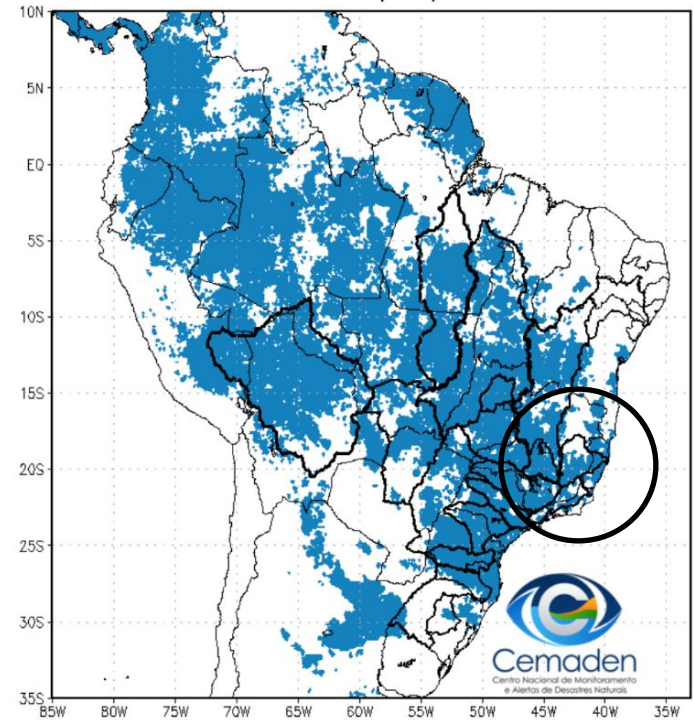


# Situação da Estação Chuvosa

Climatologia da Precipitação (2001–2023)  
Superior 3 mm/dia em 4 de 5 dias Período: 22/12



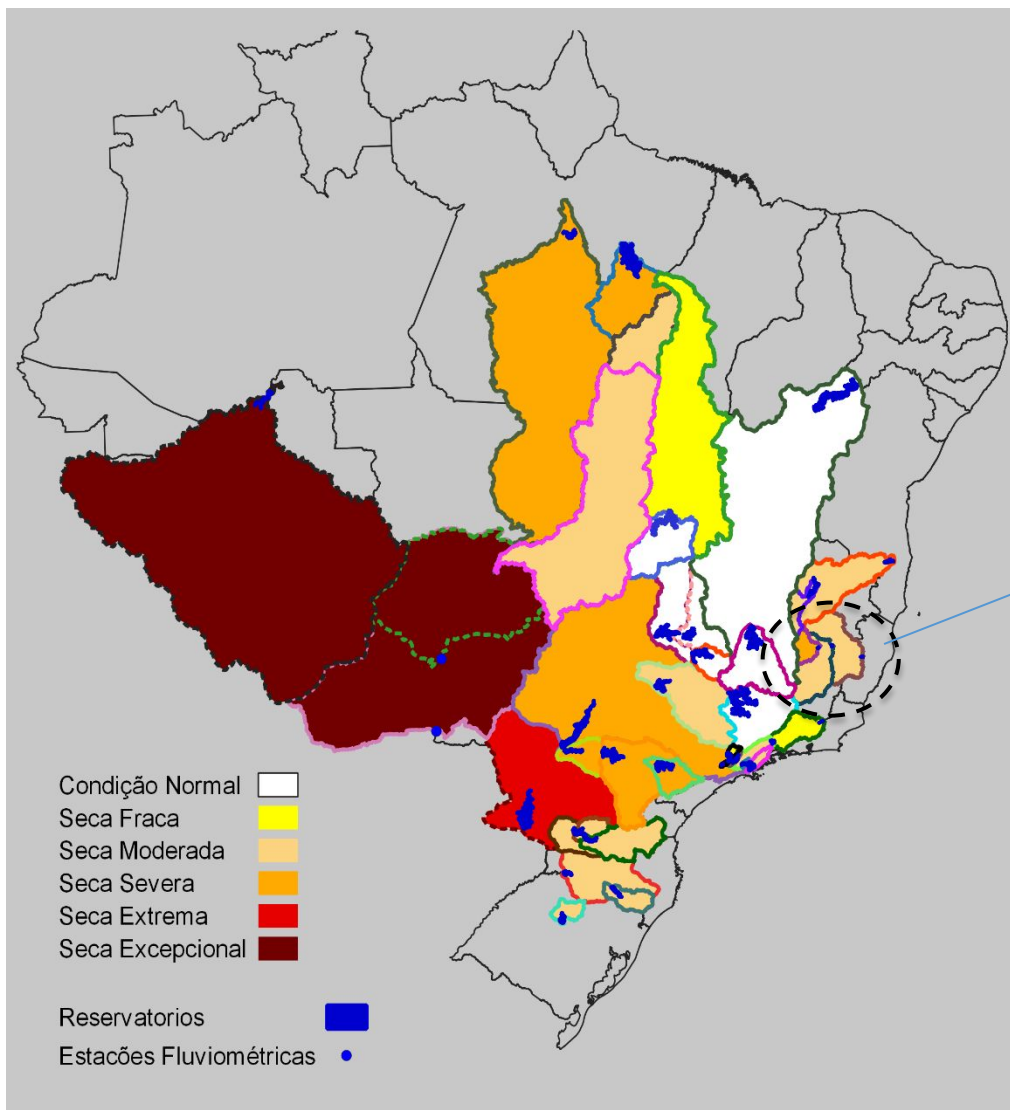
Precipitação A.S. Superior a 3 mm/dia por 4 de 5 dias  
Período: 22/12/2024



# Índice Bivariado de Seca (Precipitação-Vazão) - TSI

Escala de Longo Prazo: **TSI-6 meses**

**Previsão até 31/Dezembro**



## Desintensificação da seca:

☐ Baguari

## Estabilidade da seca:

☐ Mascarenhas

☐ Porto Estrela

	Intensidade
Mascarenhas	MODERADA
Porto Estrela	SEVERA
Baguari	MODERADA

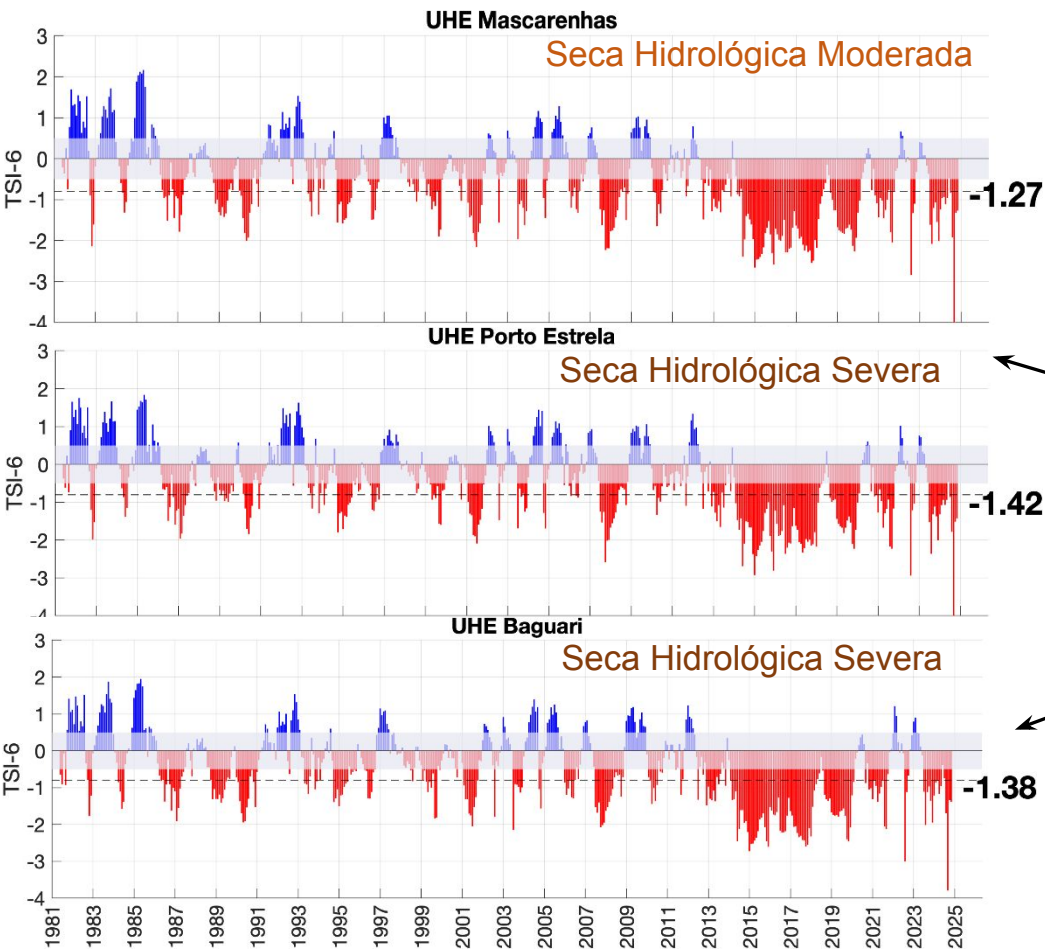
Fonte: CEMADEN

Previsão de Precipitação: *Climate Forecast System (CFS)*

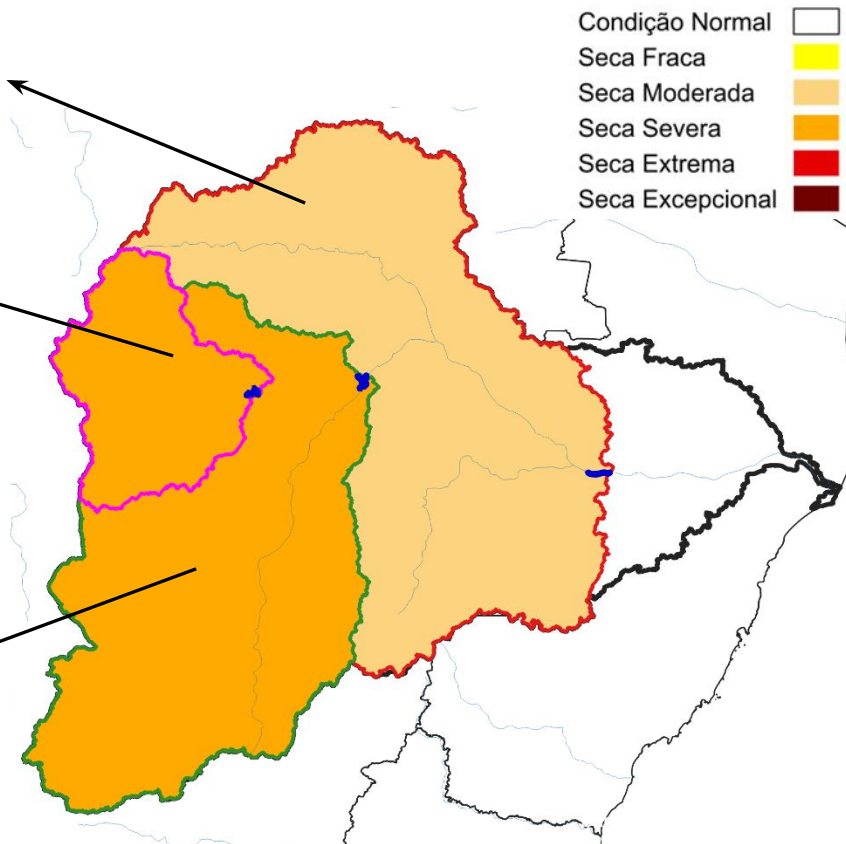


# Índice Bivariado de Seca (Precipitação-Vazão) - TSI

## Escala de longo prazo: **TSI-6 meses**



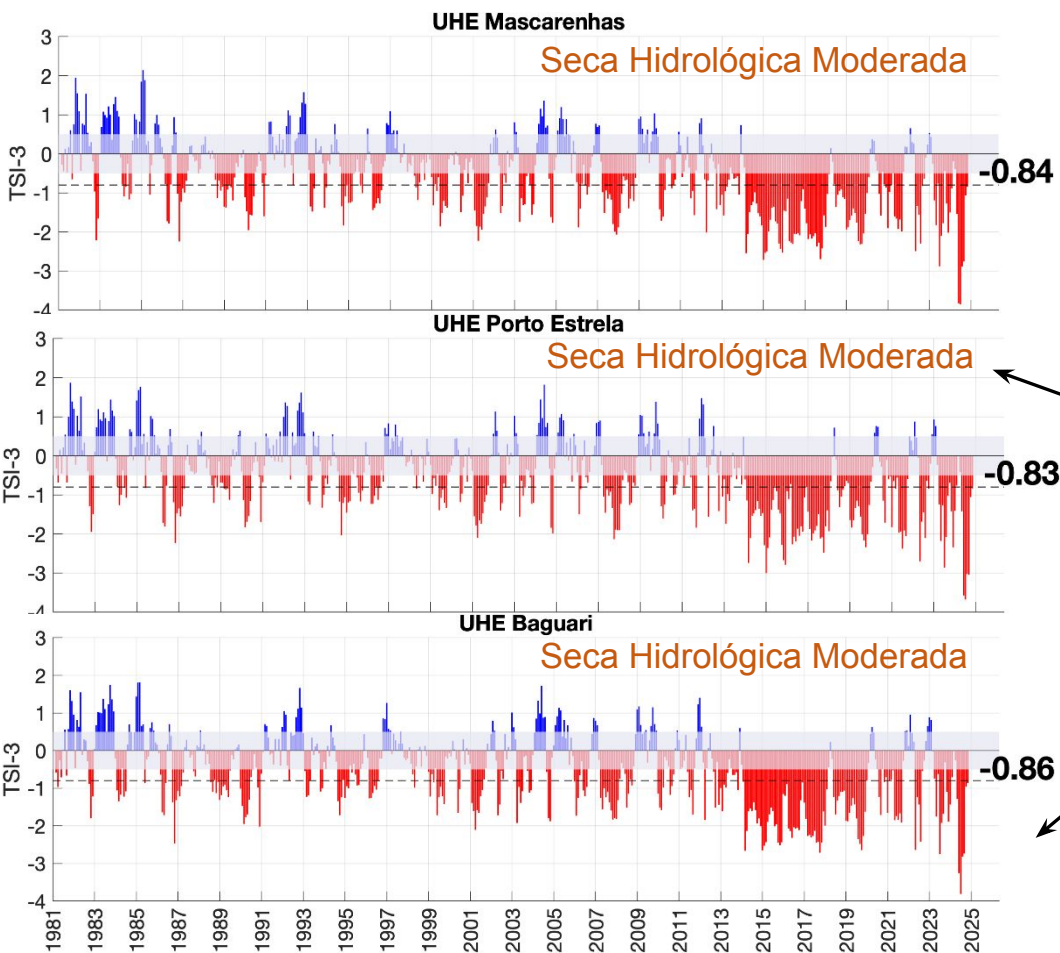
**TSI-6 Novembro 2024**



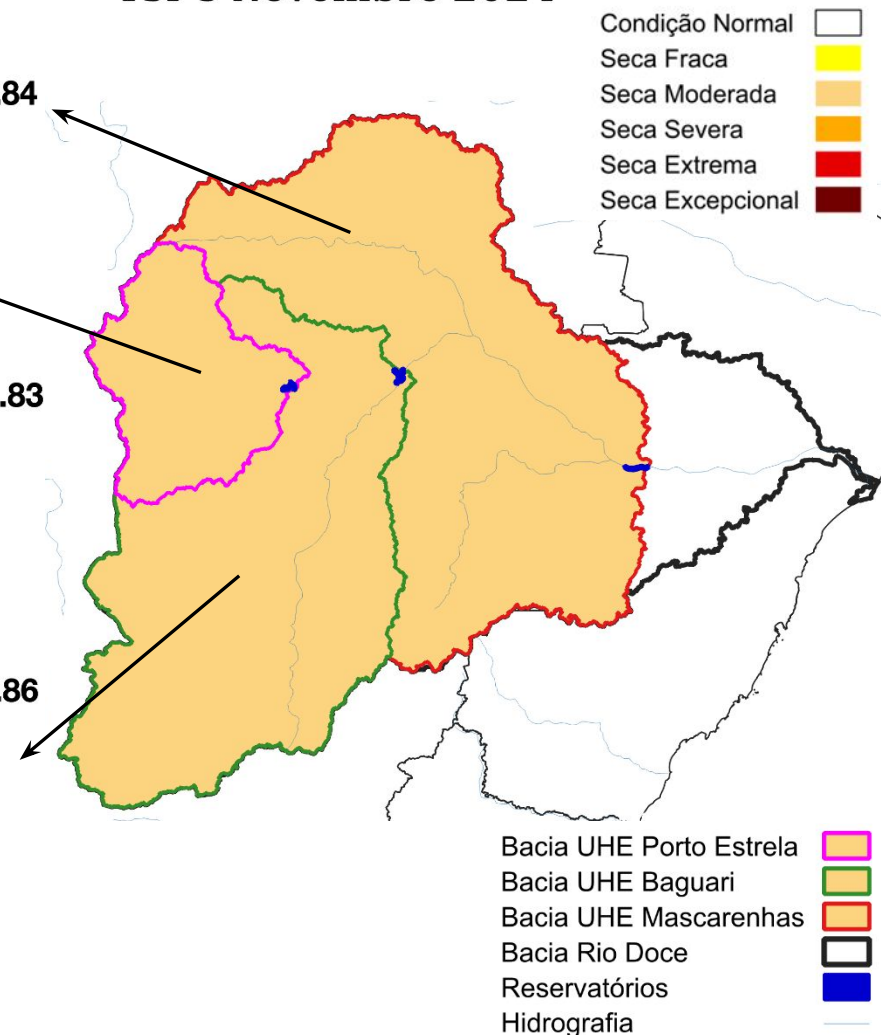
Bacia UHE Porto Estrela (Pink)  
Bacia UHE Baguari (Green)  
Bacia UHE Mascarenhas (Orange)  
Bacia Rio Doce (Black)  
Reservatórios (Blue)  
Hidrografia (Light Blue)

# Índice Bivariado de Seca (Precipitação-Vazão) - TSI

## Escala de curto prazo: **TSI-3 meses**



**TSI-3 Novembro 2024**

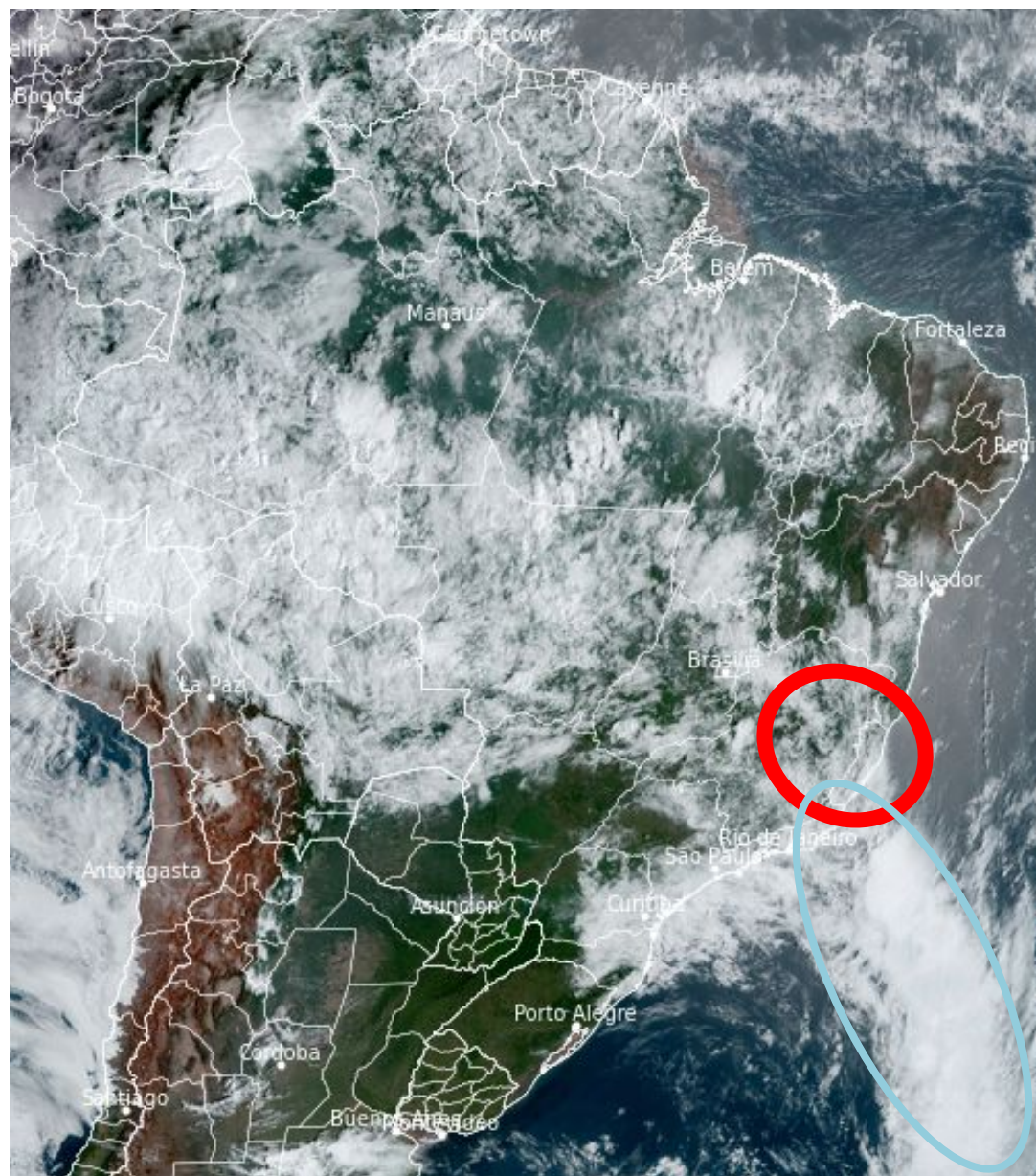


Fonte: CEMADEN

Dados: Precipitação (MERGE)

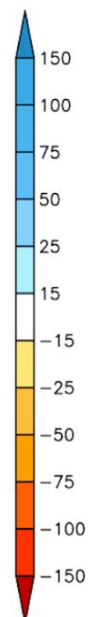
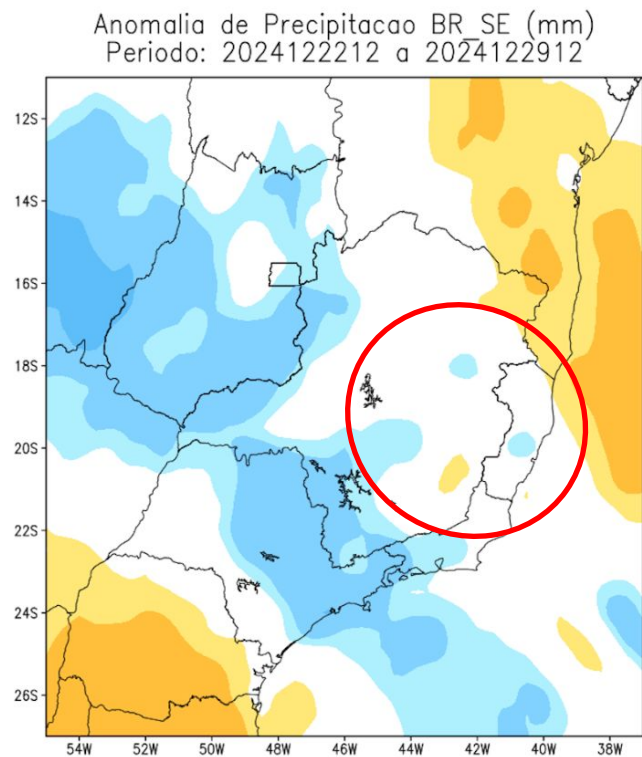
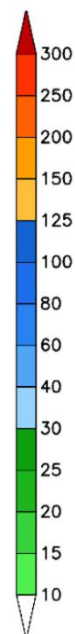
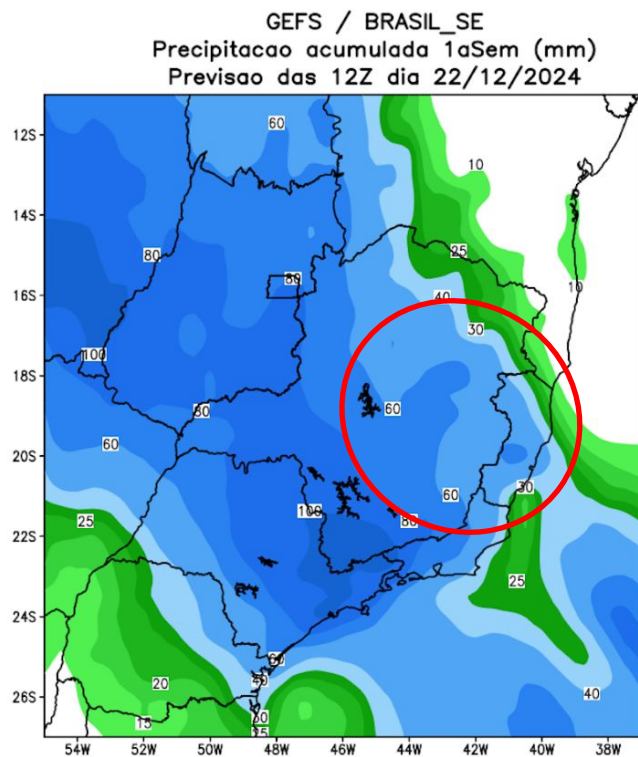
Vazão (ONS/ANA) - Jan/1981-Nov/2024.

## Situação meteorológica atual



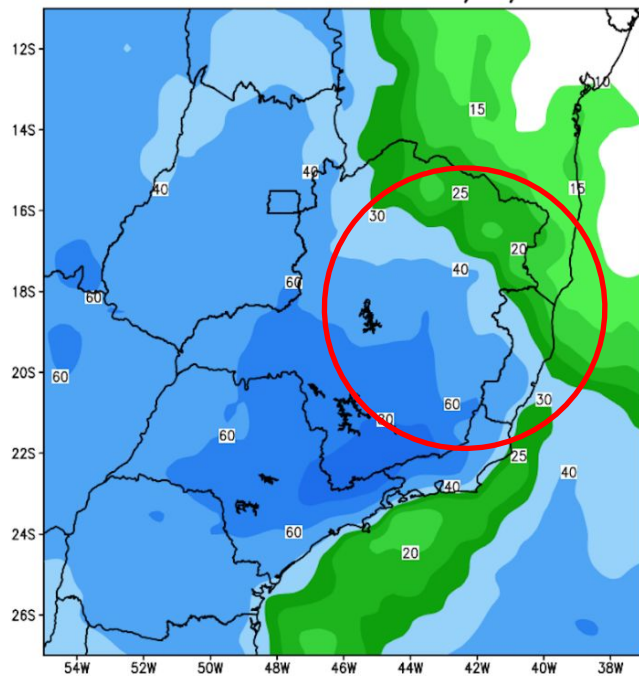


## Previsão de chuva para os próximos 7 dias

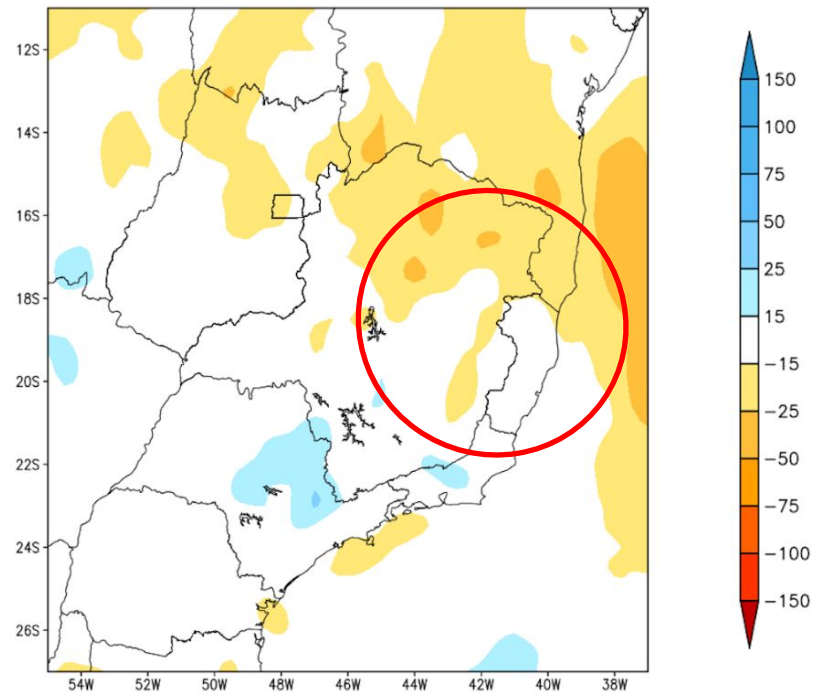


## Tendência para a 2ª Semana

GEFS / BRASIL\_SE  
Precipitacao acumulada 2aSem (mm)  
Previsao das 12Z dia 22/12/2024

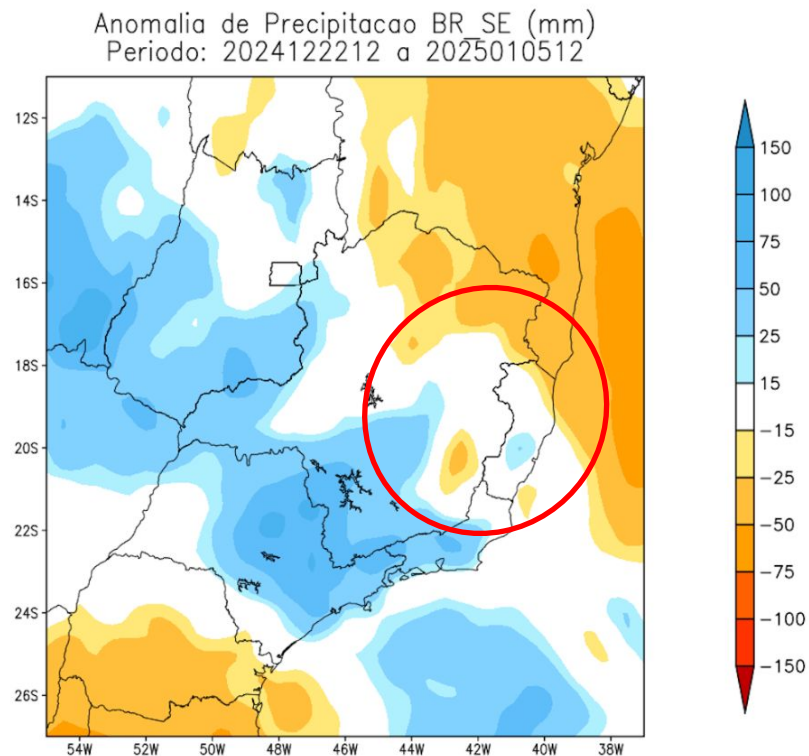
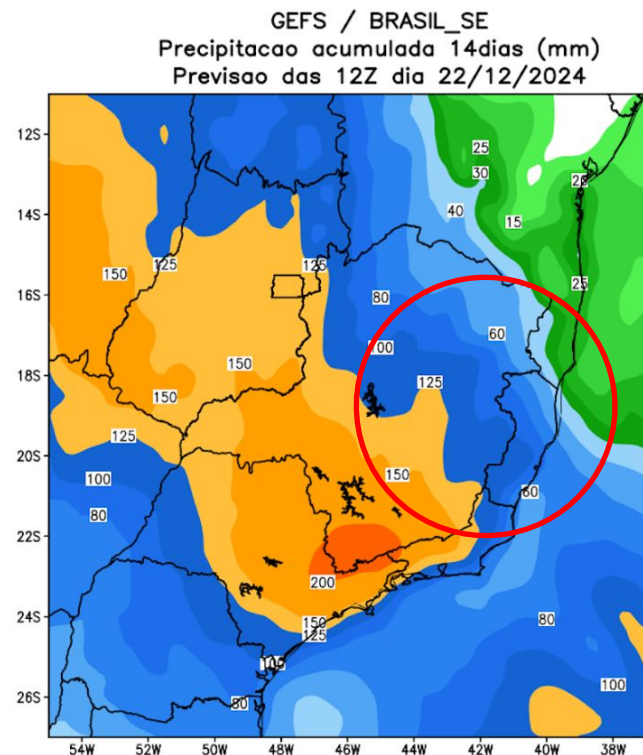


Anomalia de Precipitacao BR\_SE (mm)  
Período: 2024123012 a 2025010512





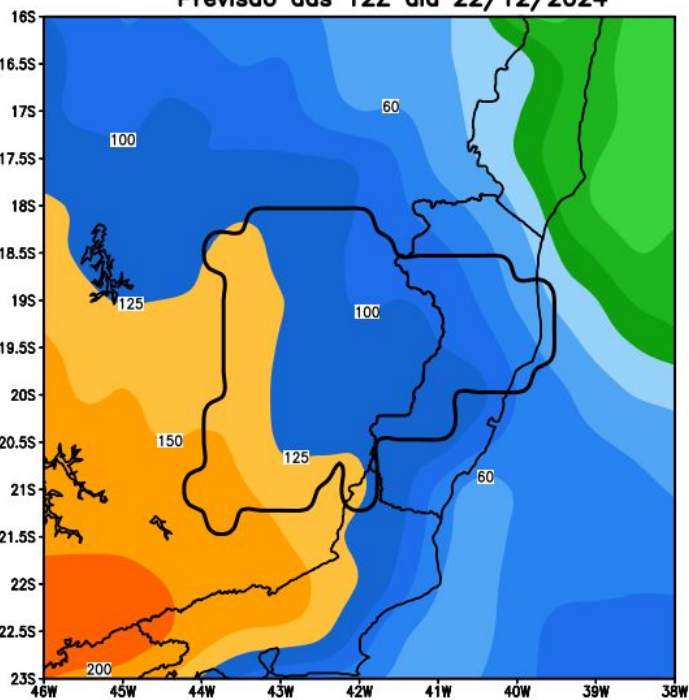
# Tendência para as duas próximas semanas



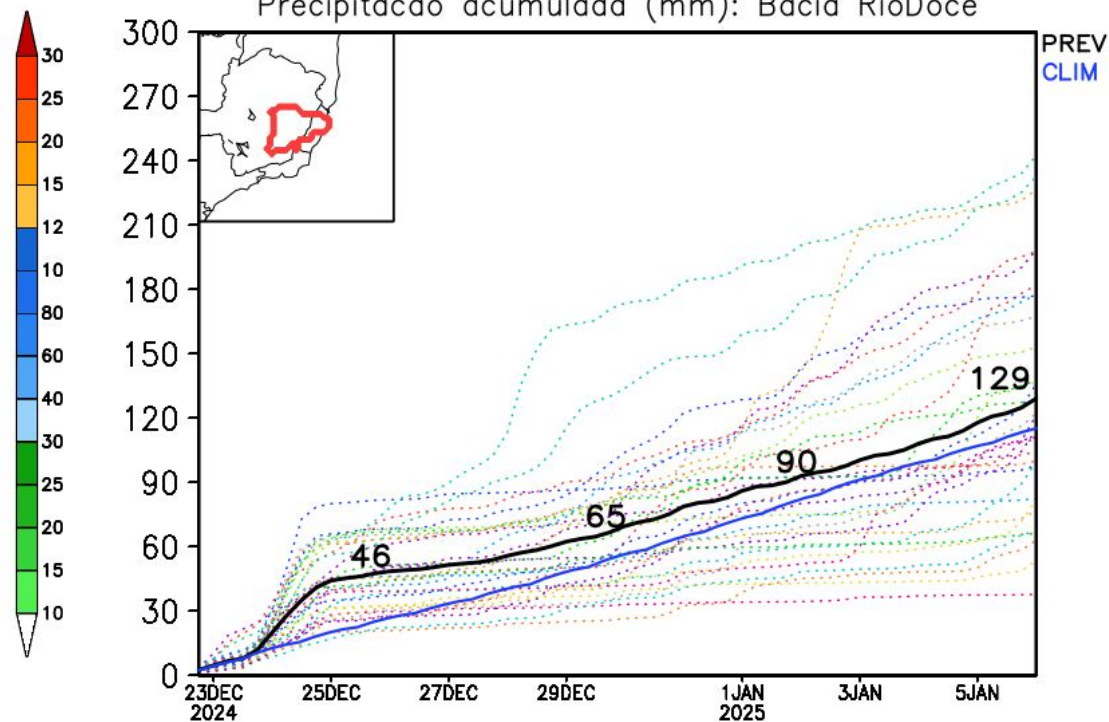
Fonte: GEFS/NOAA

# Bacia do rio Doce

GEFS / Bacia do Rio Doce  
Precipitacao acumulada em 14 dias (mm)  
Previsao das 12Z dia 22/12/2024



Precipitacao acumulada (mm): Bacia RioDoce

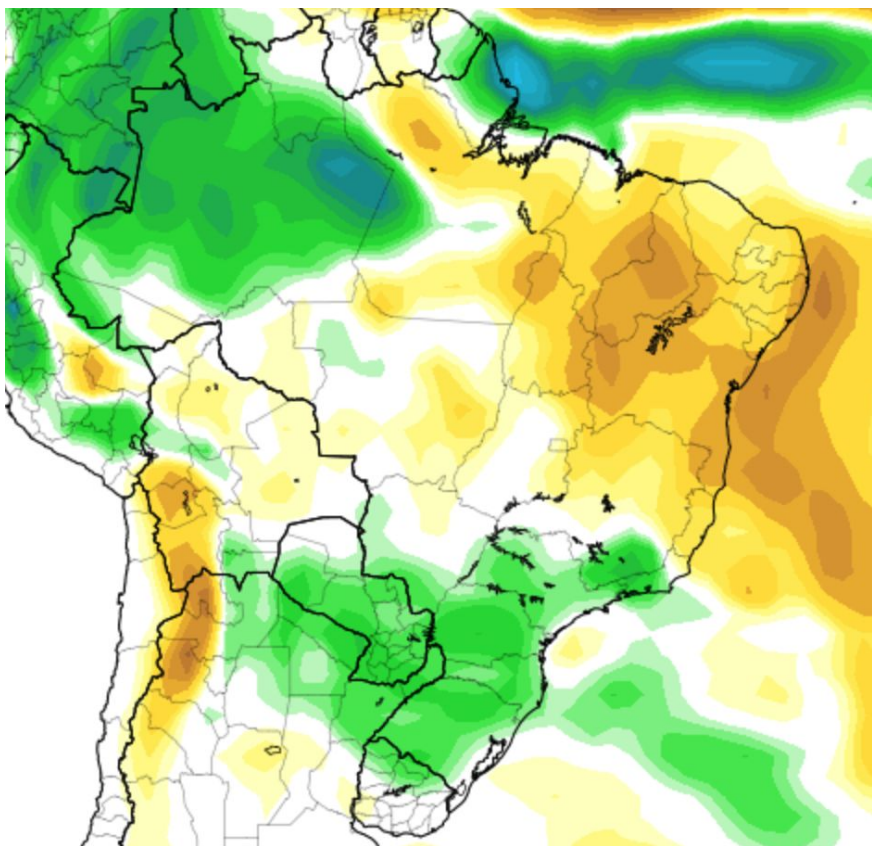


Fonte: GEFS/NOAA

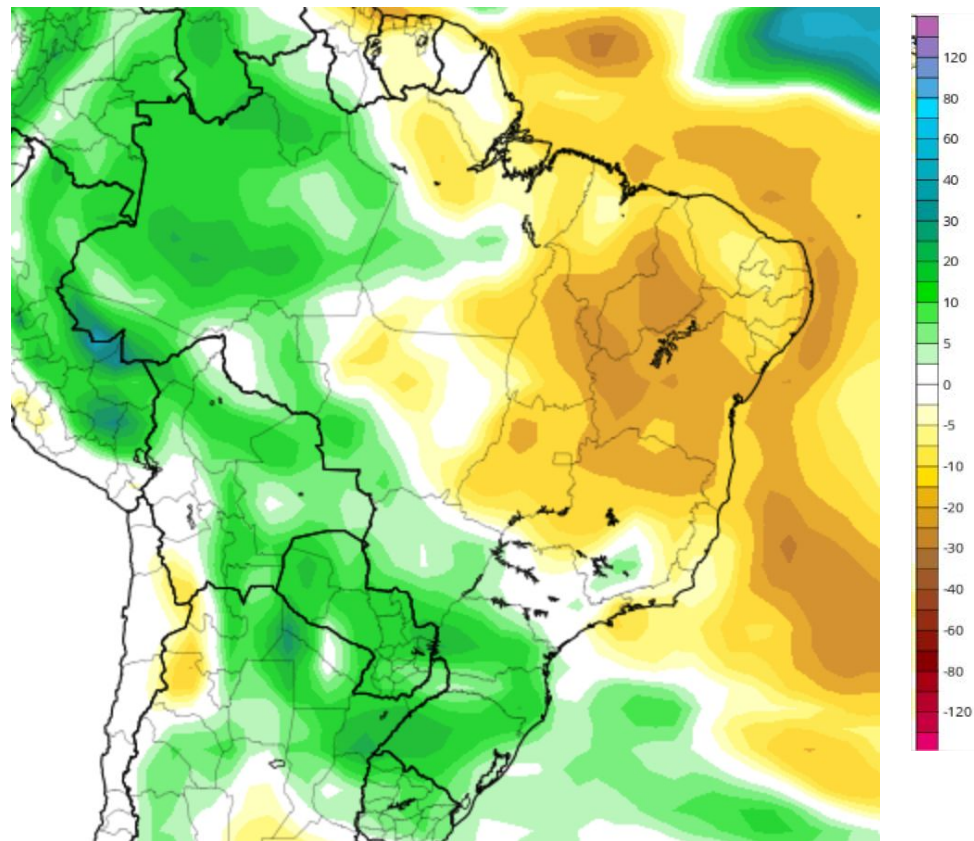


## Tendência 3a e 4a semanas

06-12 Jan

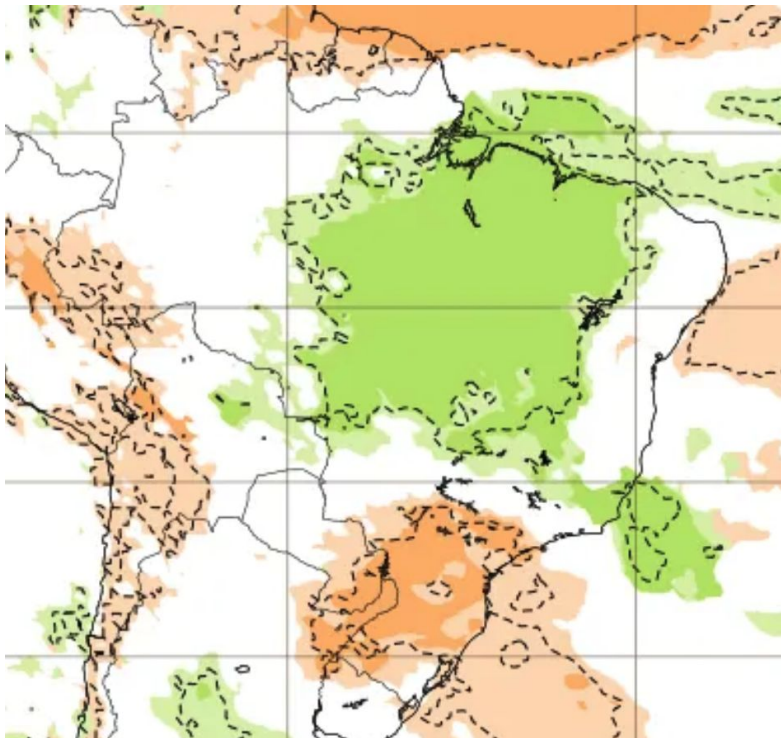


13-19 Jan

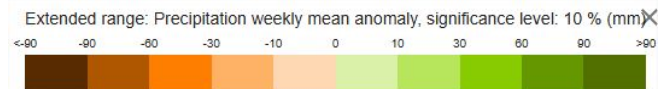
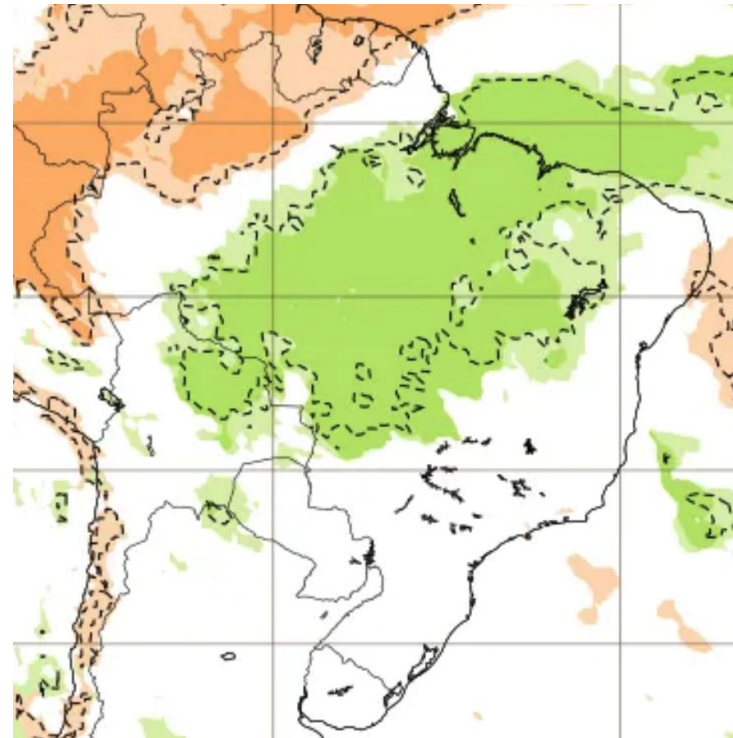


## Tendência para 3<sup>a</sup> e 4<sup>a</sup> semanas

06-12 Jan

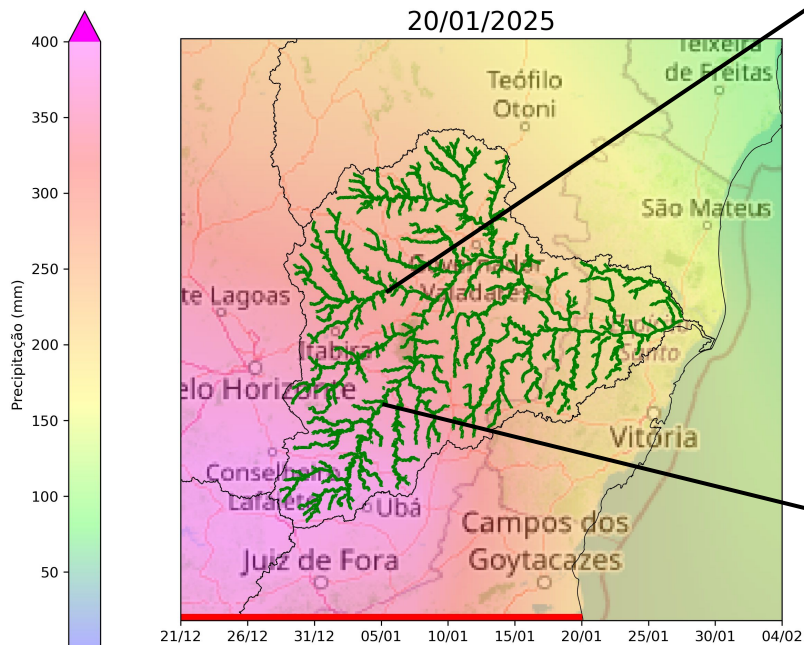


13-19 Jan





# Previsão de vazão natural na Bacia Rio Doce 30 dias (Modelo hidrológico MHD)

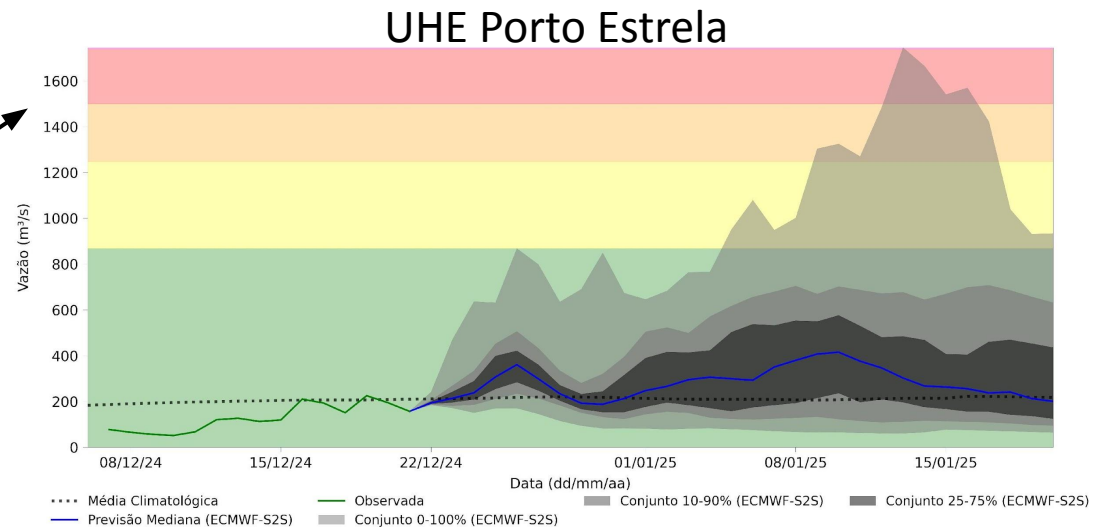


- Observação
- Moderado (25% acima do TR 2 anos)
- Alto (25% acima do TR 5 anos)
- Muito Alto (25% acima do TR 10 anos)
- Extrem. Alto (25% acima do TR 20 anos)

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

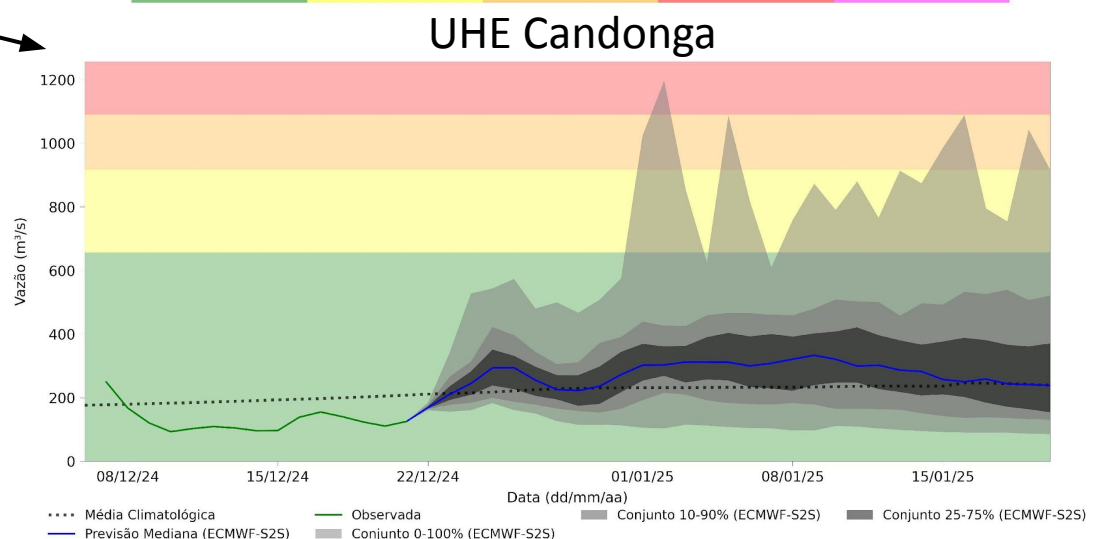
FCP (Gumbel): 2003-2023

Previsão Meteorológica: ECMWF-S2S



Níveis de Alerta

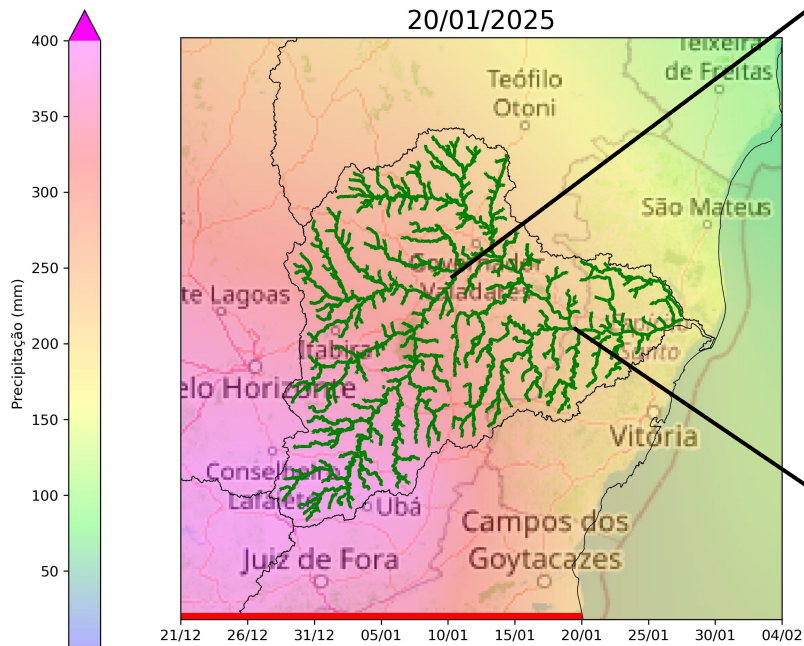
Observação	Moderado (TR>2 anos)	Alto (TR>5 anos)	Muito Alto (TR>10 anos)	Extr. Alto (TR>20 anos)
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Níveis de Alerta

Observação	Moderado (TR>2 anos)	Alto (TR>5 anos)	Muito Alto (TR>10 anos)	Extr. Alto (TR>20 anos)
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# Previsão de vazão natural na Bacia Rio Doce 30 dias (Modelo hidrológico MHD)



### Observação

Moderado (25% acima do TR 2 anos)

Alto (25% acima do TR 5 anos)

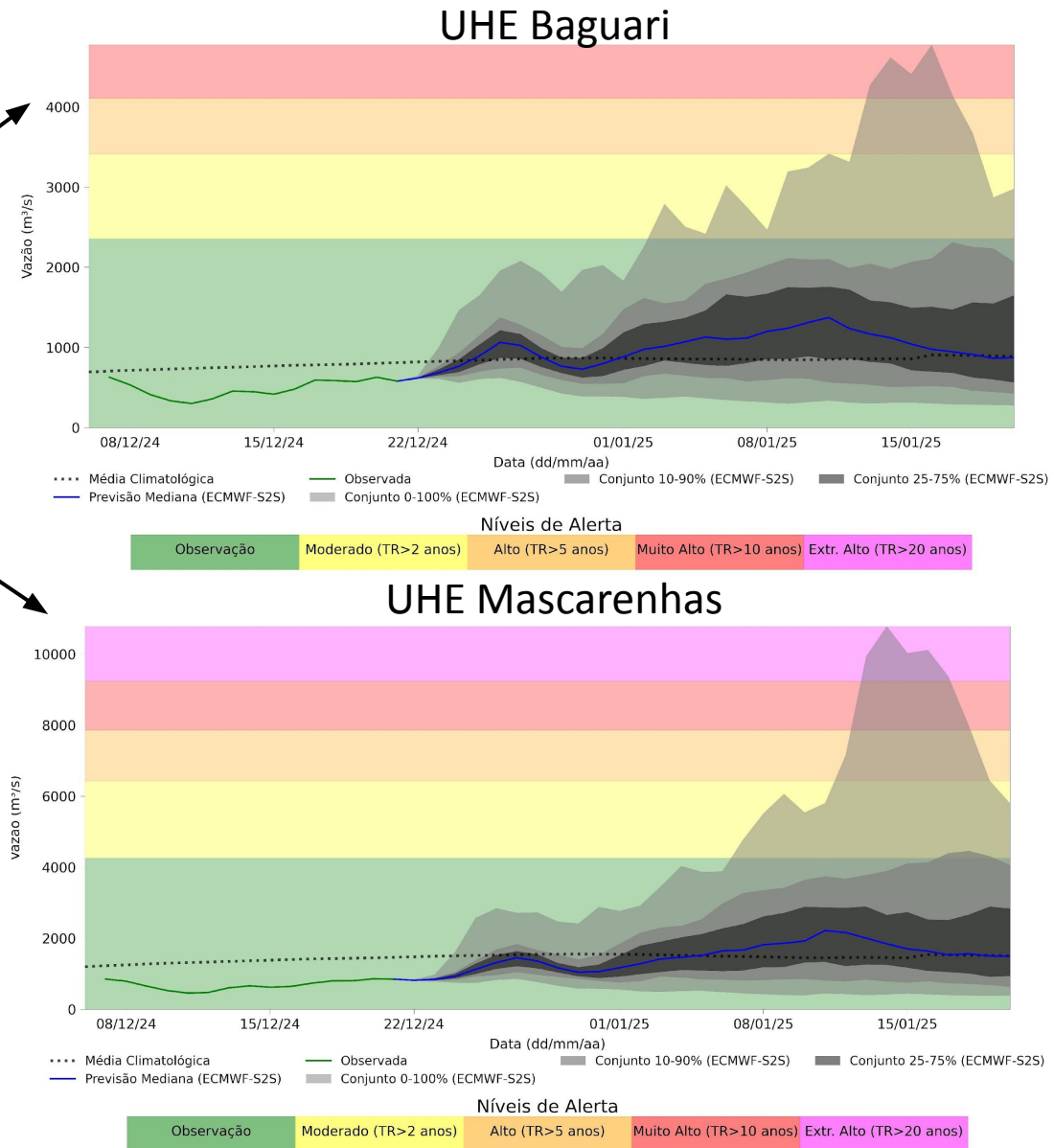
Muito Alto (25% acima do TR 10 anos)

Extrem. Alto (25% acima do TR 20 anos)

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

FCP (Gumbel): 2003-2023

### Previsão Meteorológica: ECMWF-S2S

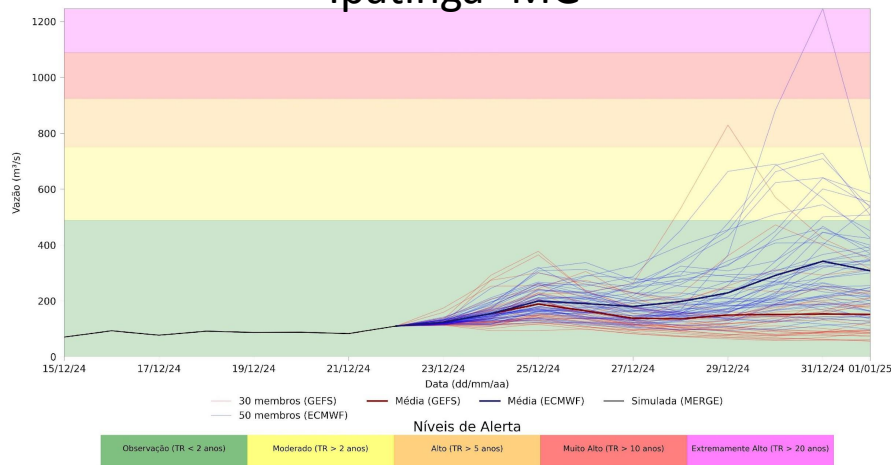




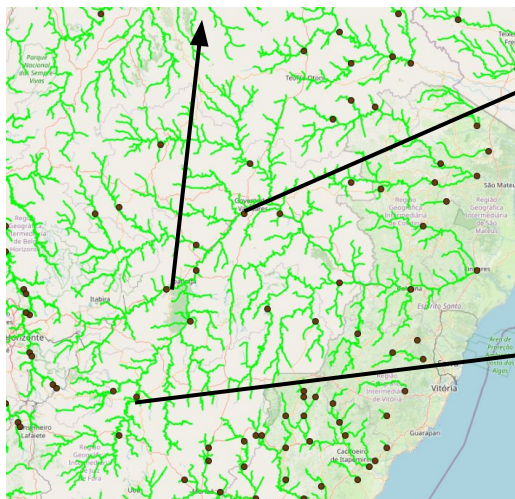
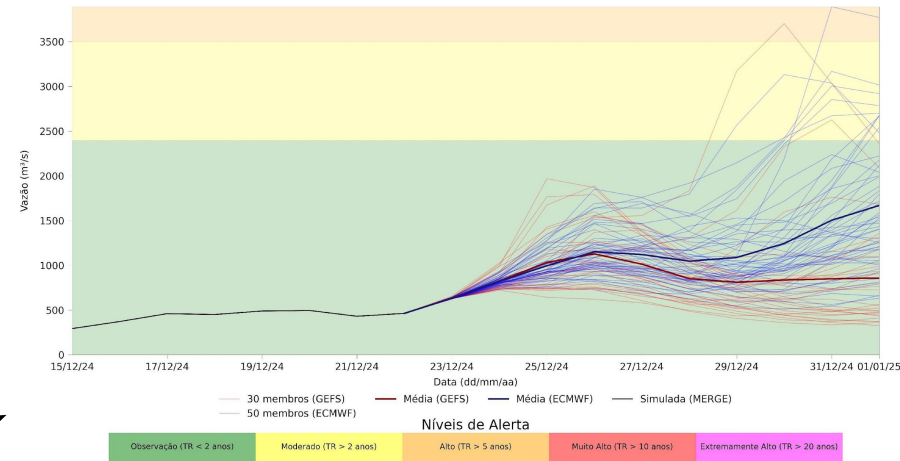
# Previsão de vazão natural na Bacia Rio Doce

## 10 dias (Modelo hidrológico MHD)

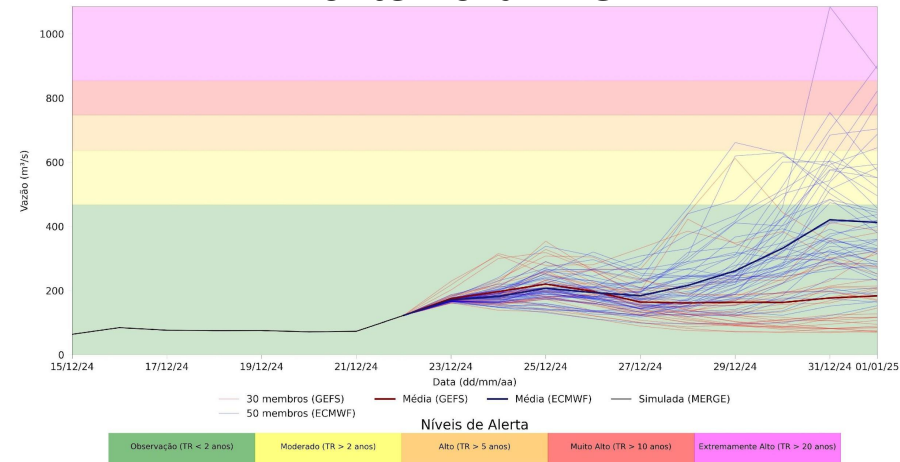
Ipatinga -MG



Governador Valadares -MG



Ponte Nova -MG



Observação

Moderado (média GEFS acima do TR 2 anos)

Alto (média GEFS acima do TR 5 anos)

Muito Alto (média GEFS acima do TR 10 anos)

Extrem. Alto (média GEFS acima do TR 20 anos)

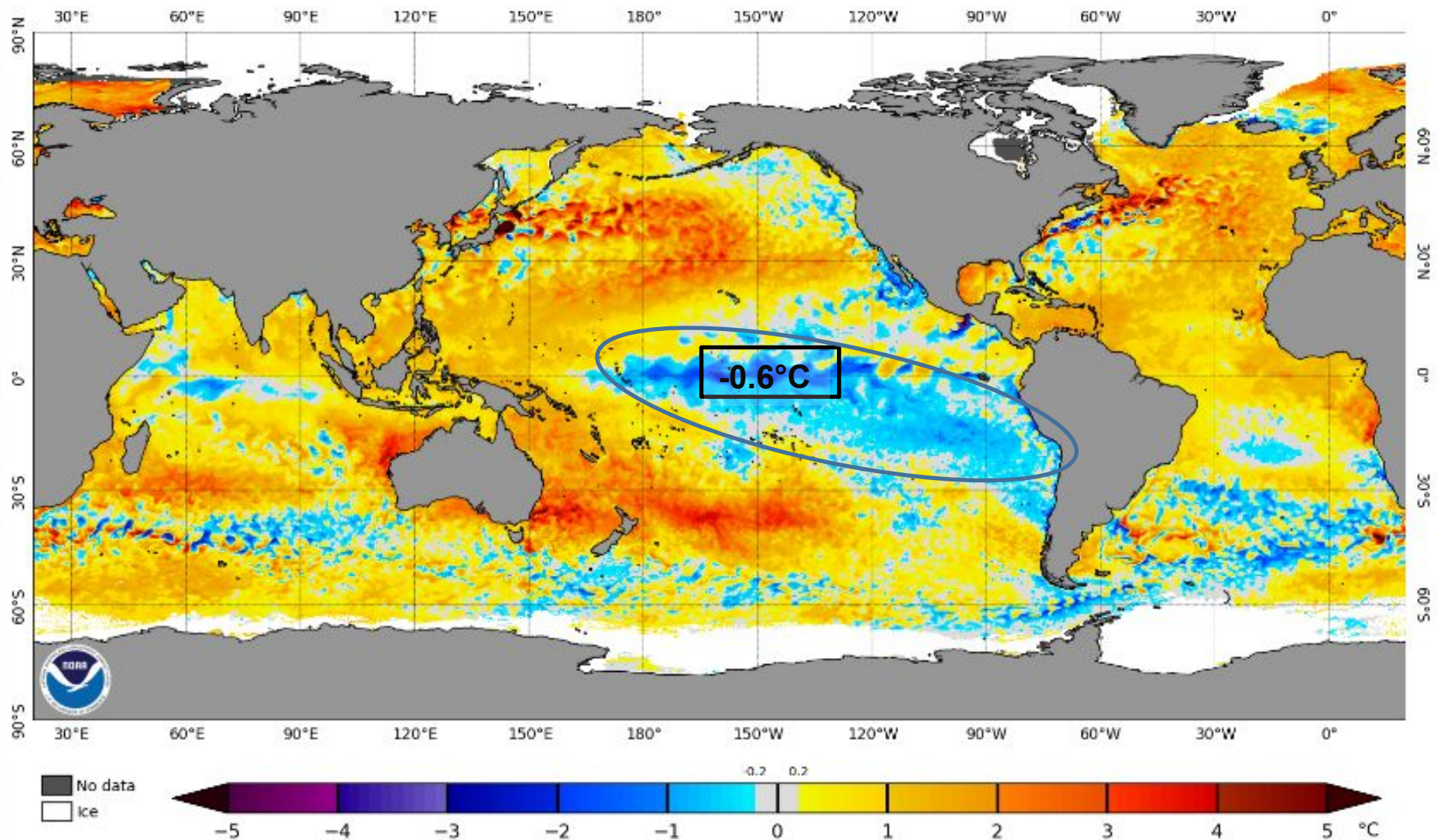
Fonte: Meteorologia (INMET/MERGE); Vazão (ANA/ONS)

FCP (Gumbel): 2003-2023

Previsão Meteorológica: ECMWF e GEFS

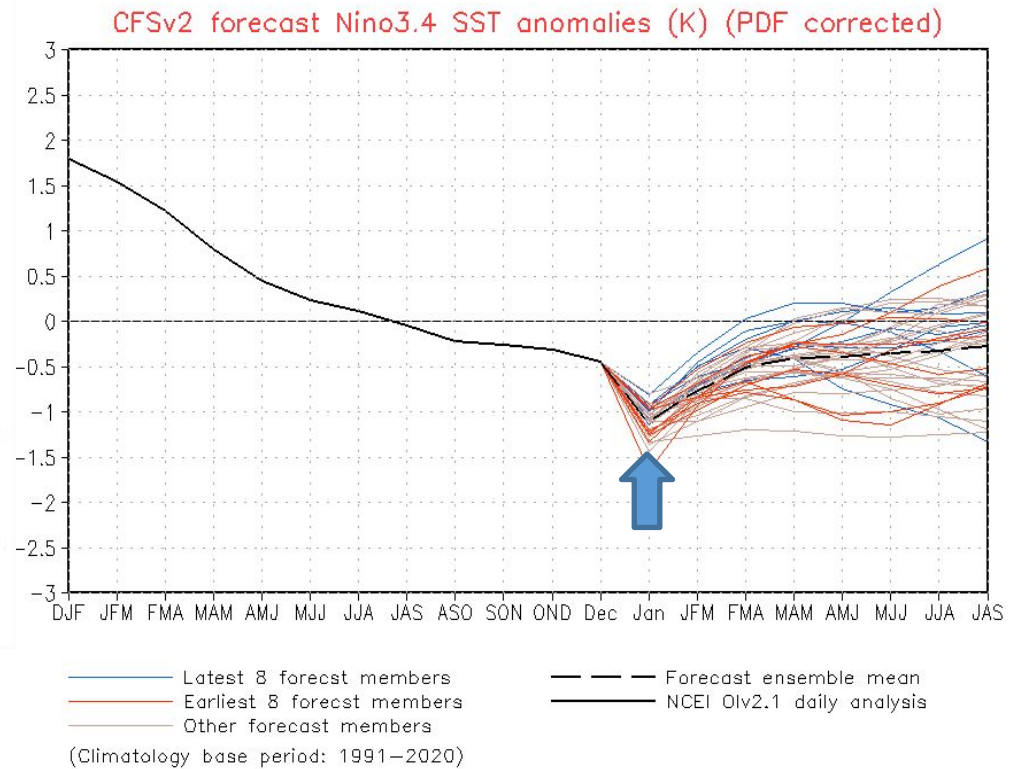
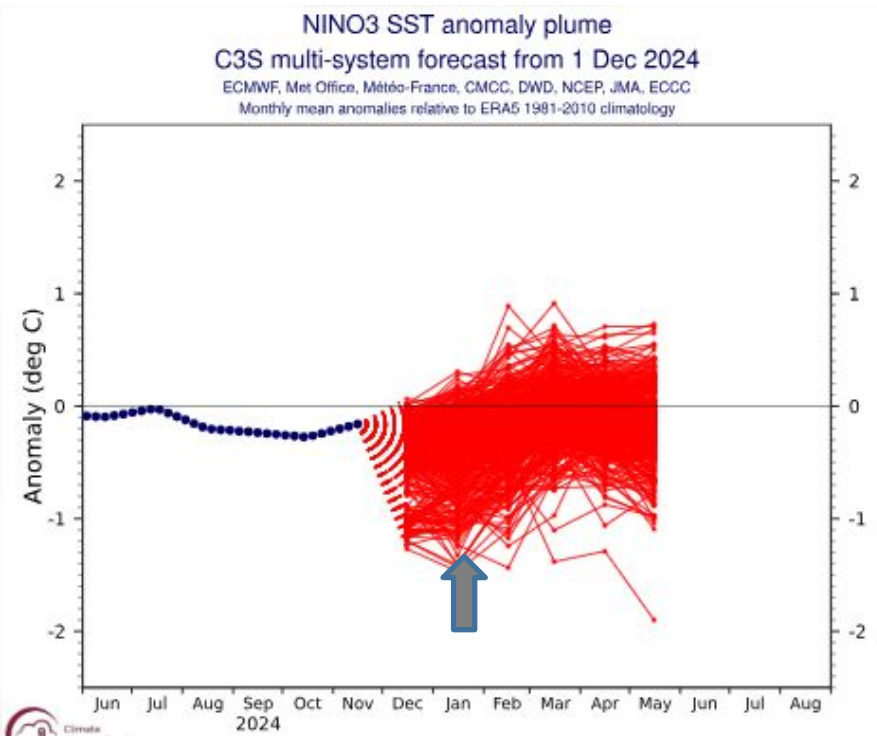
# Status Atual: **La Niña Watch**

NOAA Coral Reef Watch Daily 5km SST Anomalies (v3.1) 16 Dec 2024





# Previsão do “ENSO”



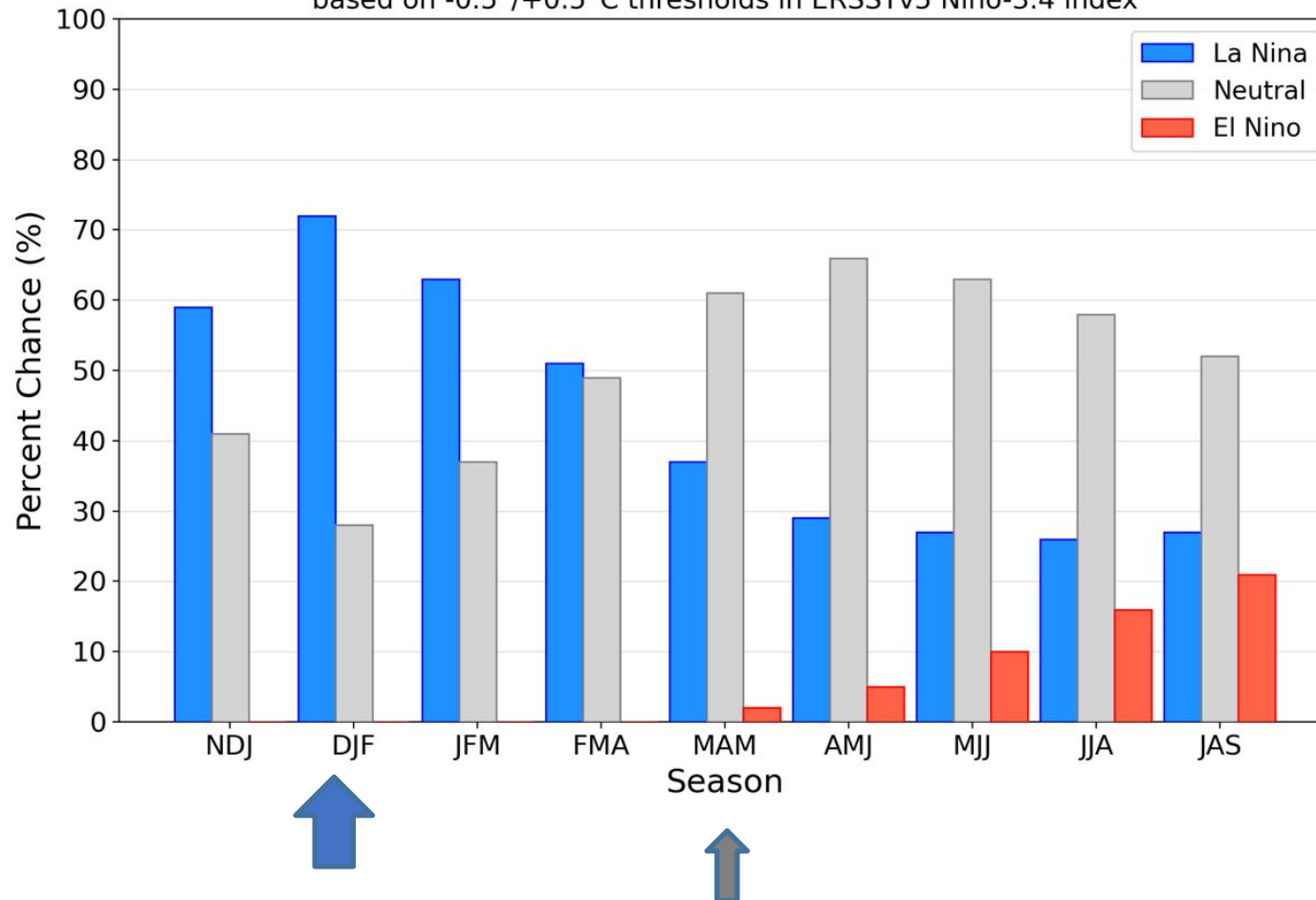
Atualizado 16 de dezembro



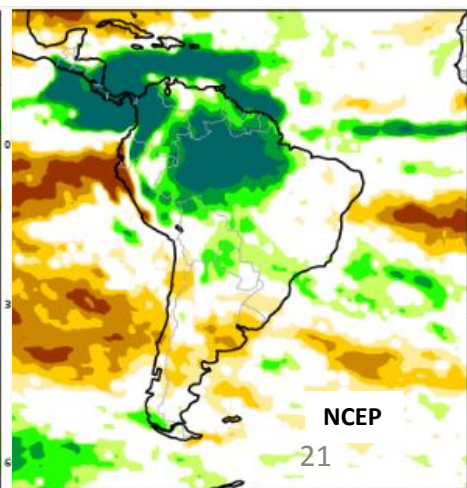
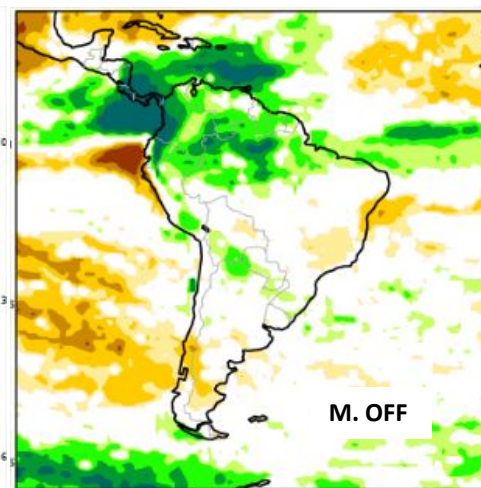
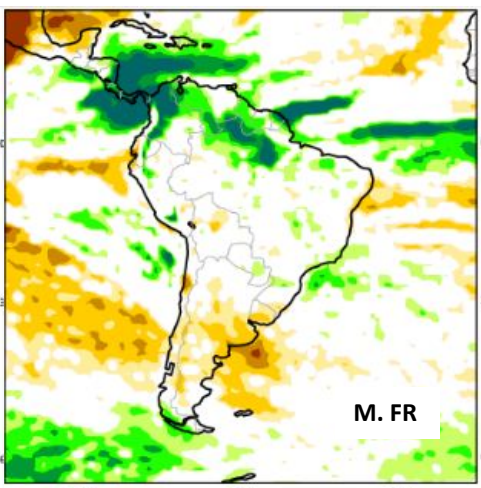
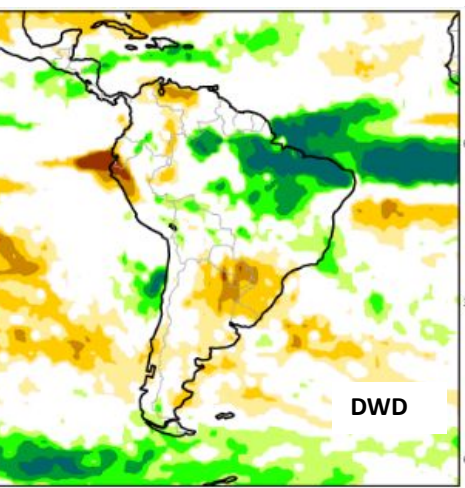
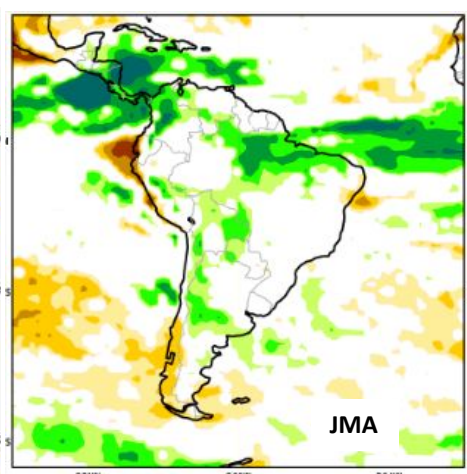
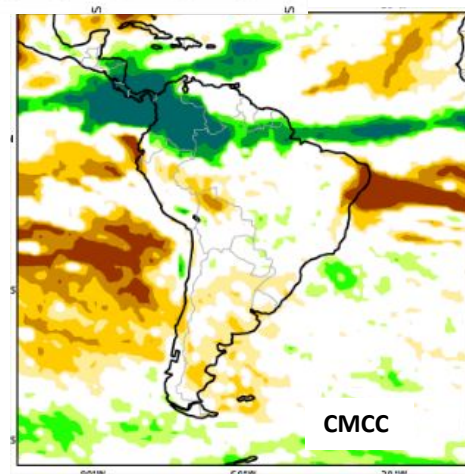
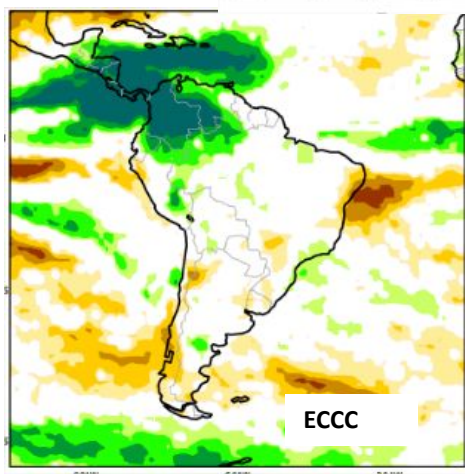
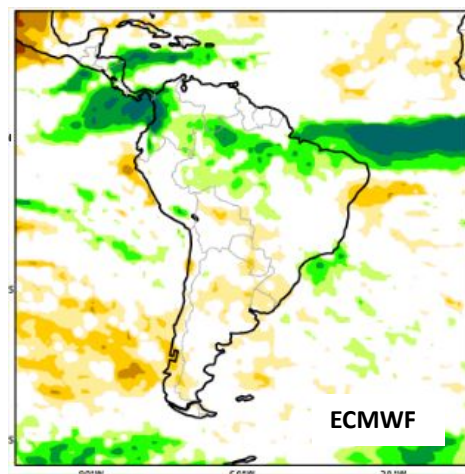
# Previsão do “ENSO”

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

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

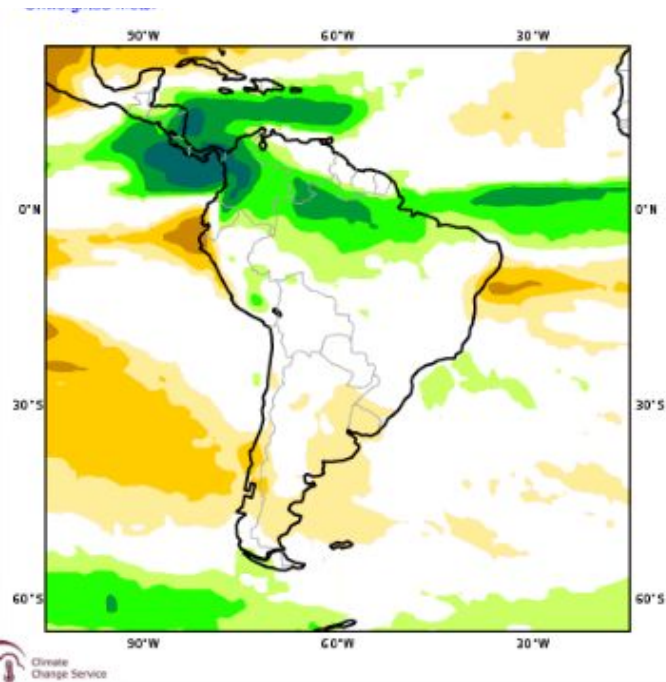


# Previsão Sazonal de Chuva JFM

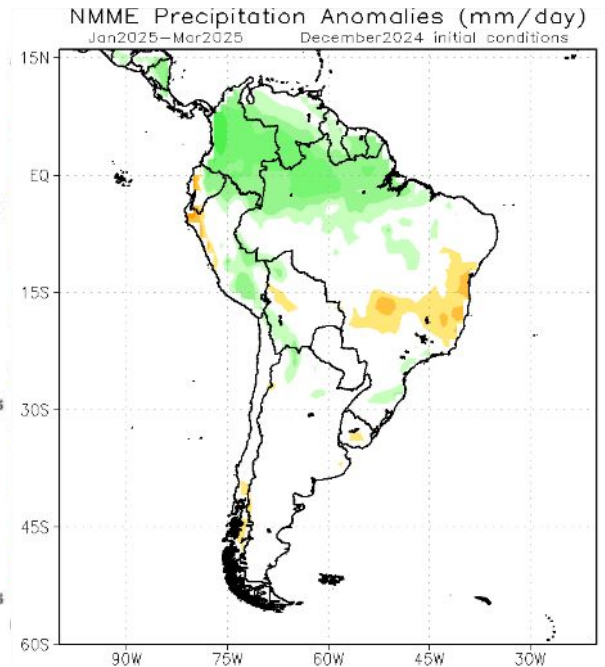


# Previsão Sazonal de Chuva Multi-Modelo

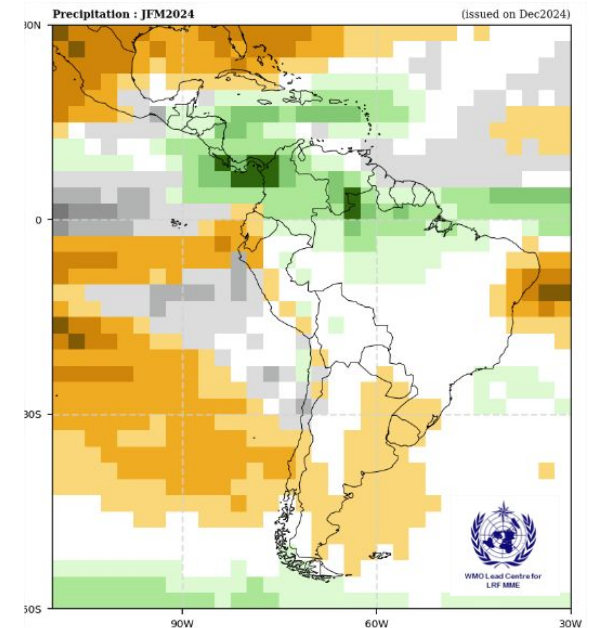
Janeiro-Fevereiro-Março



Modelos Europeus



Modelos Norte Americanos



Modelos da WMO