

Monitoramento da situação do “El Niño” na Região Norte

AGOSTO/2023

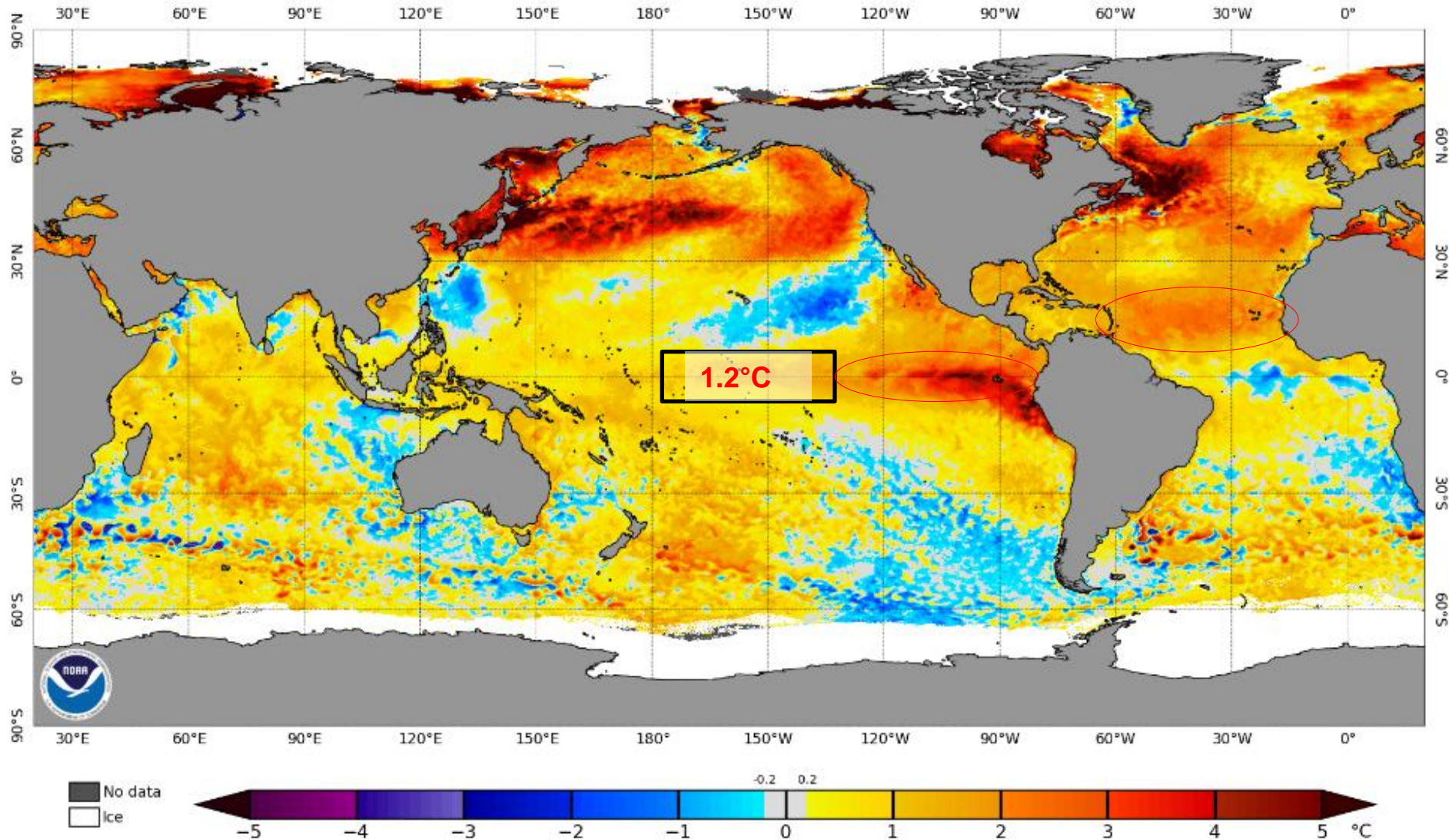


MINISTÉRIO DA
CIÊNCIA, TECNOLOGIA
E INOVAÇÃO

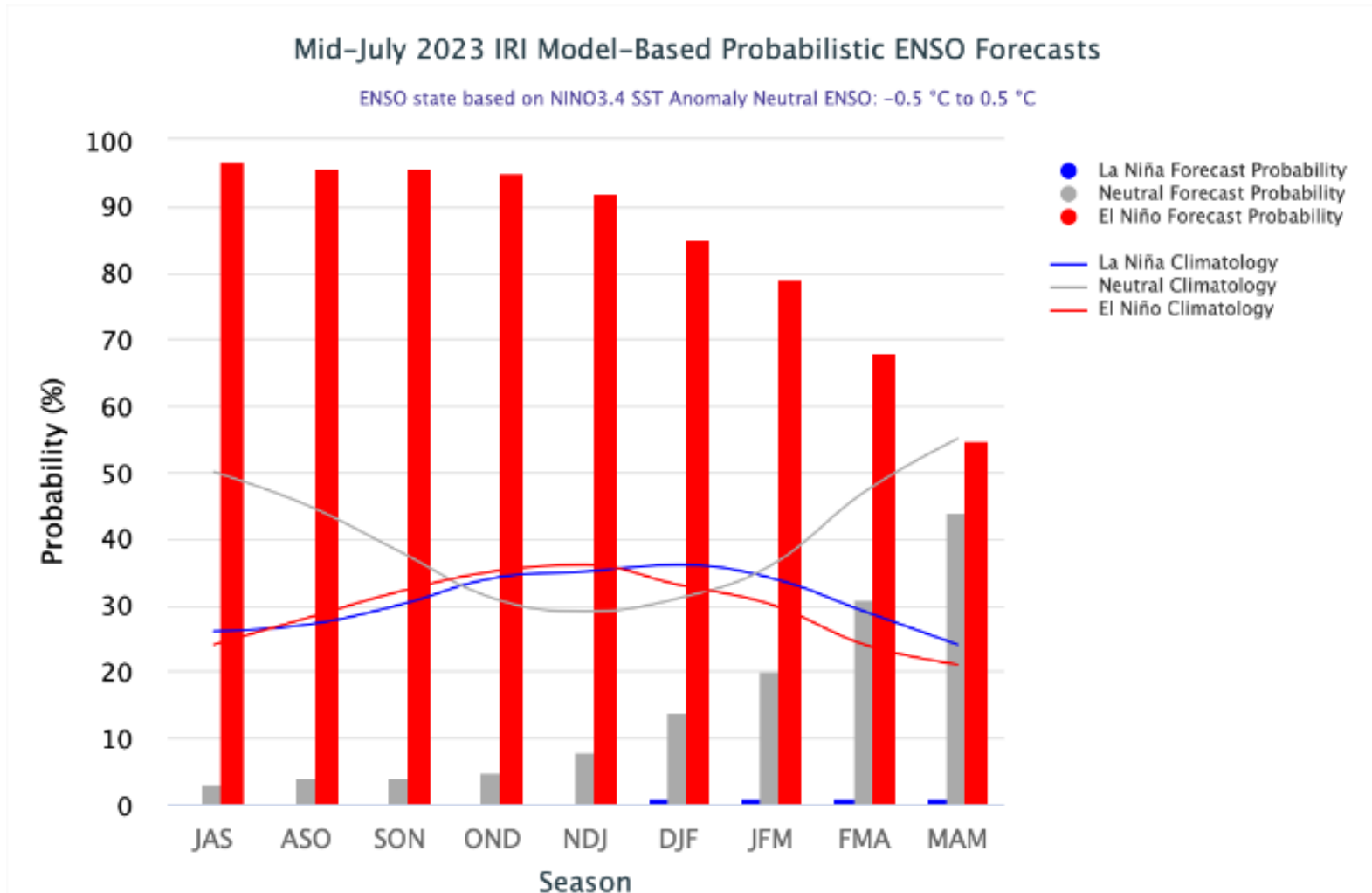


Status Atual: El Niño

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



Previsão do “ENSO”

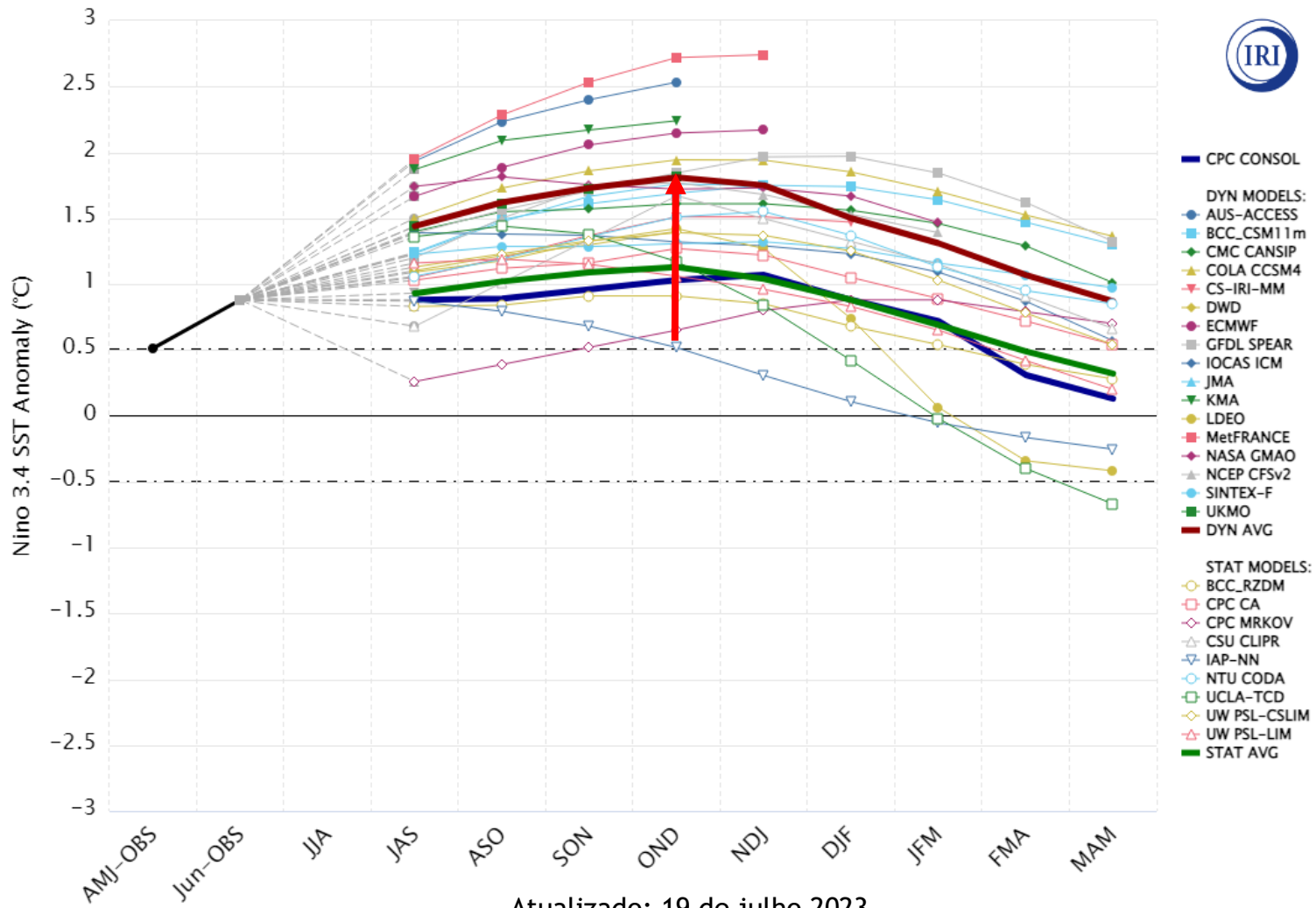


Status Atual: **EI NIÑO**

FONTE: IRI

Previsão do “ENSO”

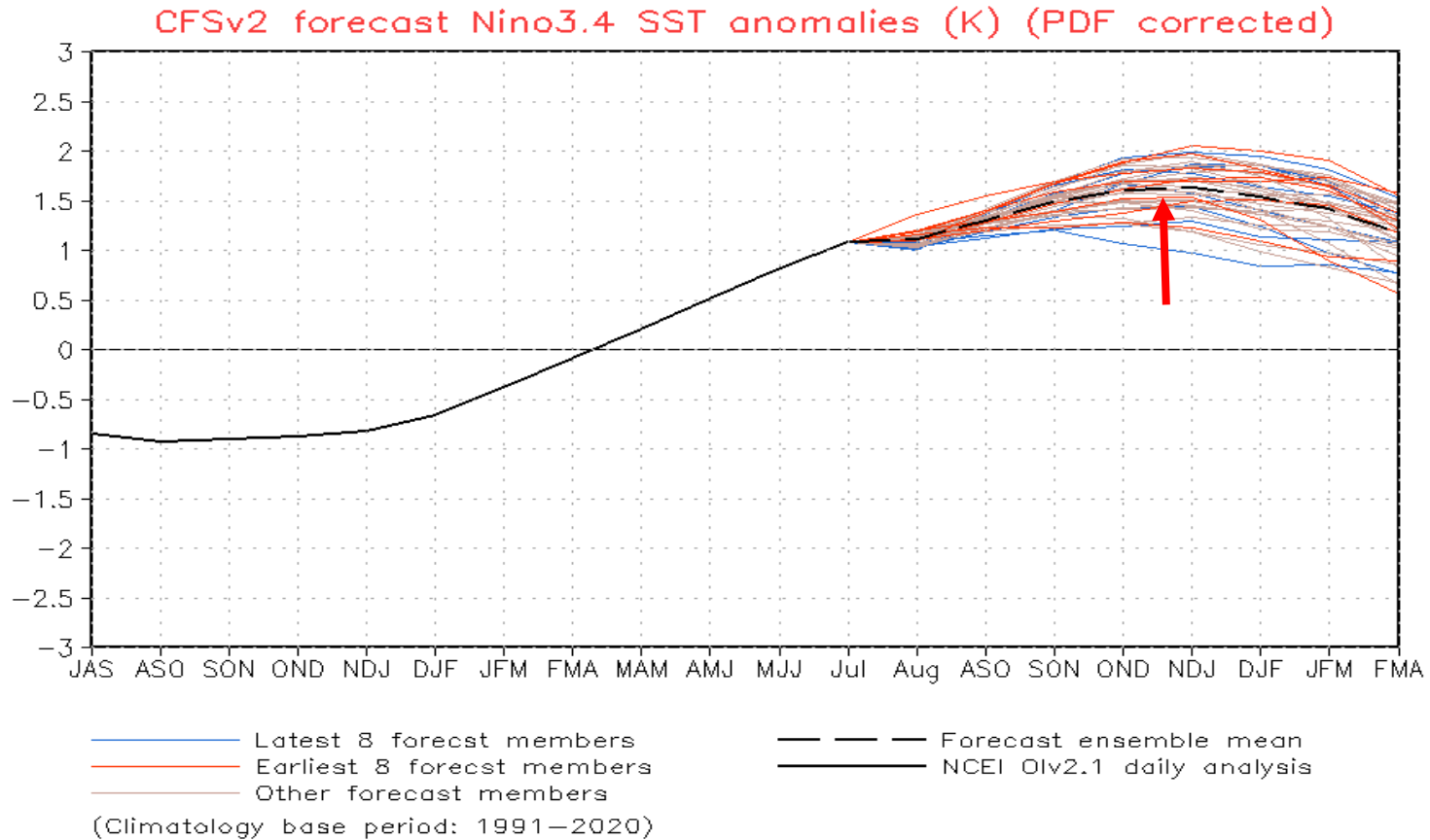
Model Predictions of ENSO from Jul 2023



Atualizado: 19 de julho 2023

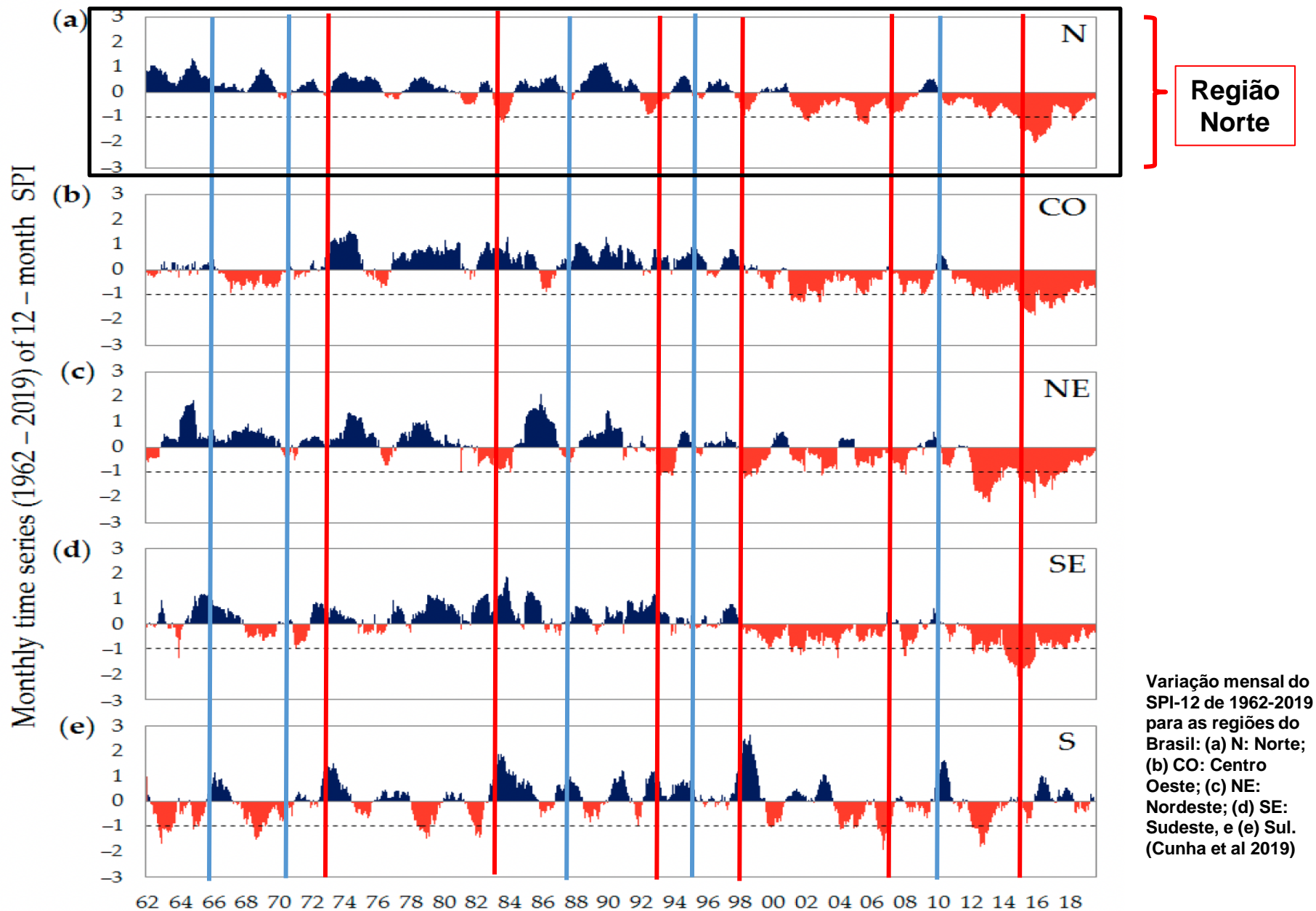
Highcharts.com





























Previsão do “ENSO”



Atualizado 31 de julho 2023

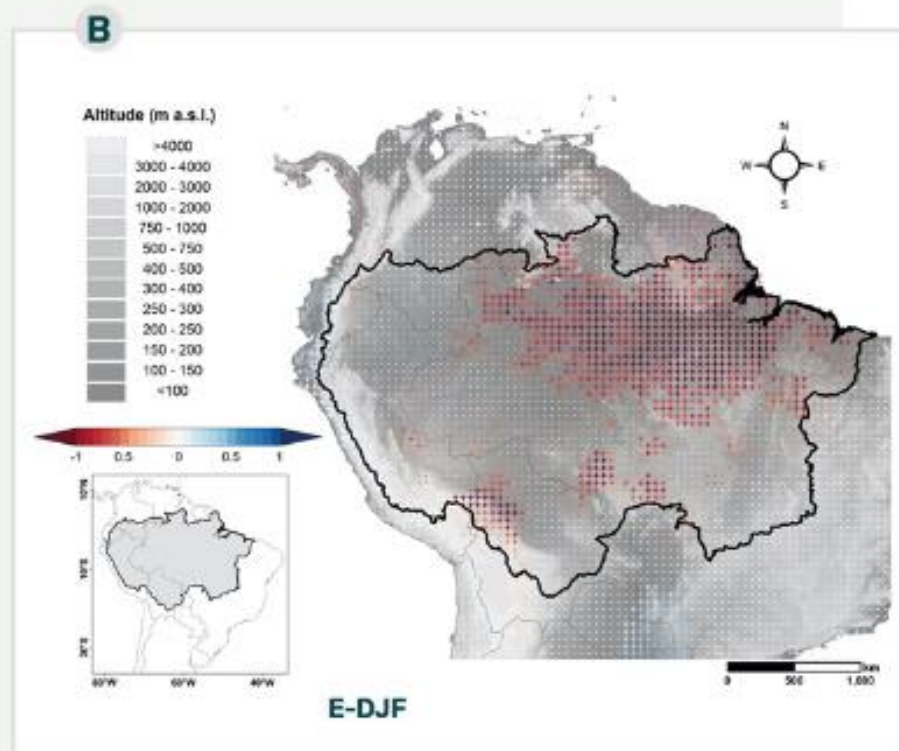
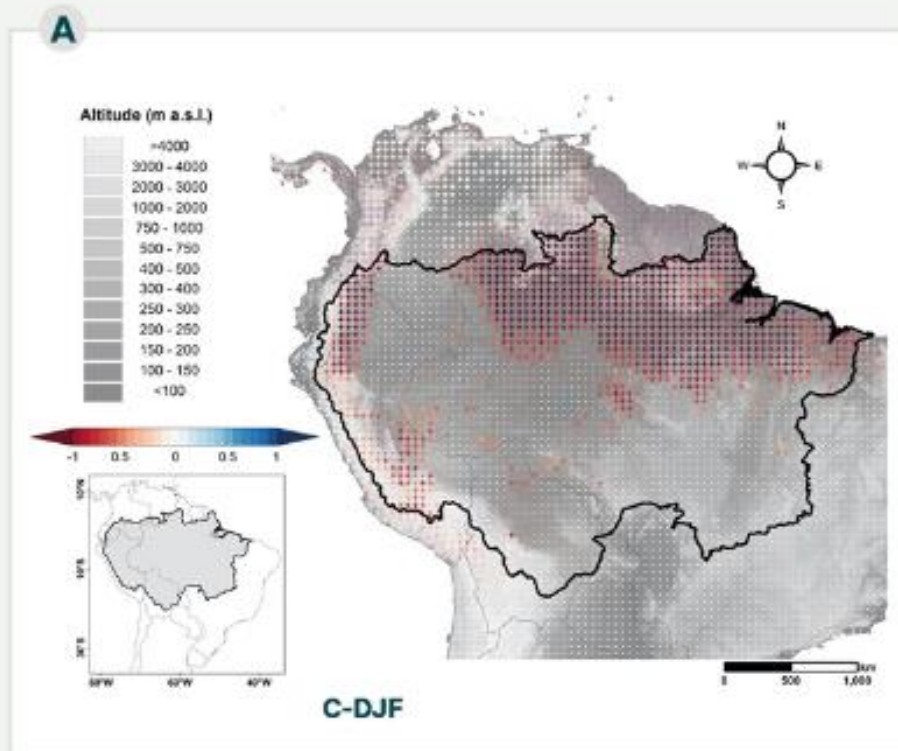
Impacto na Precipitação



Year	Extreme seasonal event		Causes
1906	Drought		EN (E and C indices suggest a strong CP event in 1905, and weak EP and CP events in 1906)
1909	Flood		?
1912	Drought		EN-E
1916	Drought		EN
1922	Flood		?
1925-26	Drought		EN
1936	Drought		?
1948	Drought		EN
1953	Flood		weak LN
1958	Drought		EN
1963-64	Drought		warm TNA 
1971	Flood		LN?
1975	Flood		LN?
1976	Flood		LN
1979-81	Drought		warm TNA 
1982-83	Drought		EN-E + warm TNA
1989	Flood		LN (Cold anomalies were higher in the CP region)
1995	Drought		EN-C + warm TNA
1997-98	Drought		EN-E + warm TNA
1999	Flood		LN (Cold anomalies over CP region)
2005	Drought		warm TNA (+moderate EN-C)
2009	Flood		warm TSA
2010	Drought		EN-C + warm TNA
2012	Flood		LN + warm TSA
2014	Flood		warm IP + warm SSA
2015-16	Drought		EN-C (also strong EN-E in 2016), warm TNA

Correlação entre “El Niño” e precipitação na Amazônia

Dezembro-Janeiro-Fevereiro



Amazon Assessment Report 2021

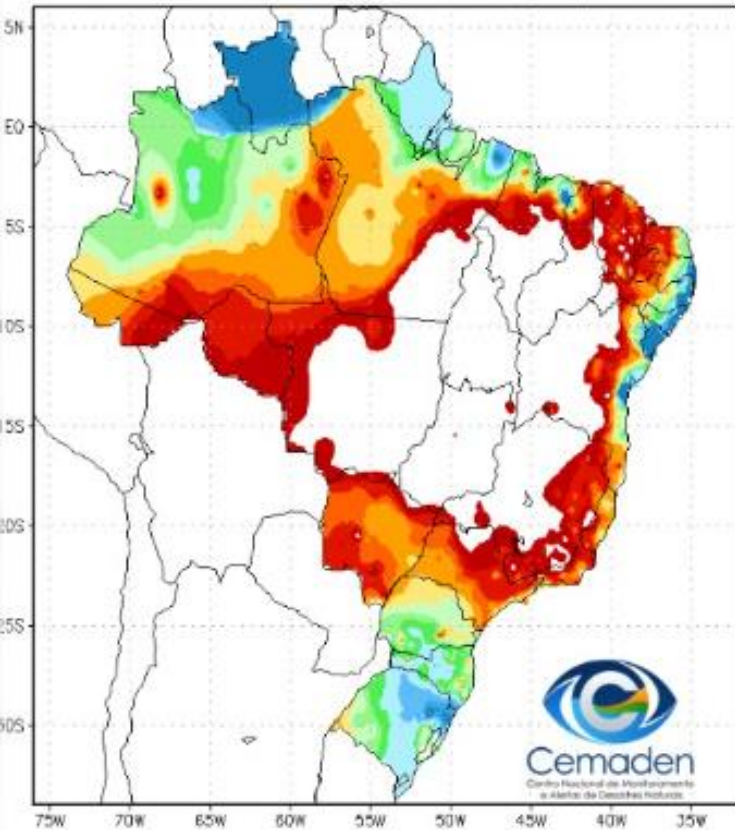
Chapter 22

Long-term Variability, Extremes, and Changes
in Temperature and Hydro Meteorology

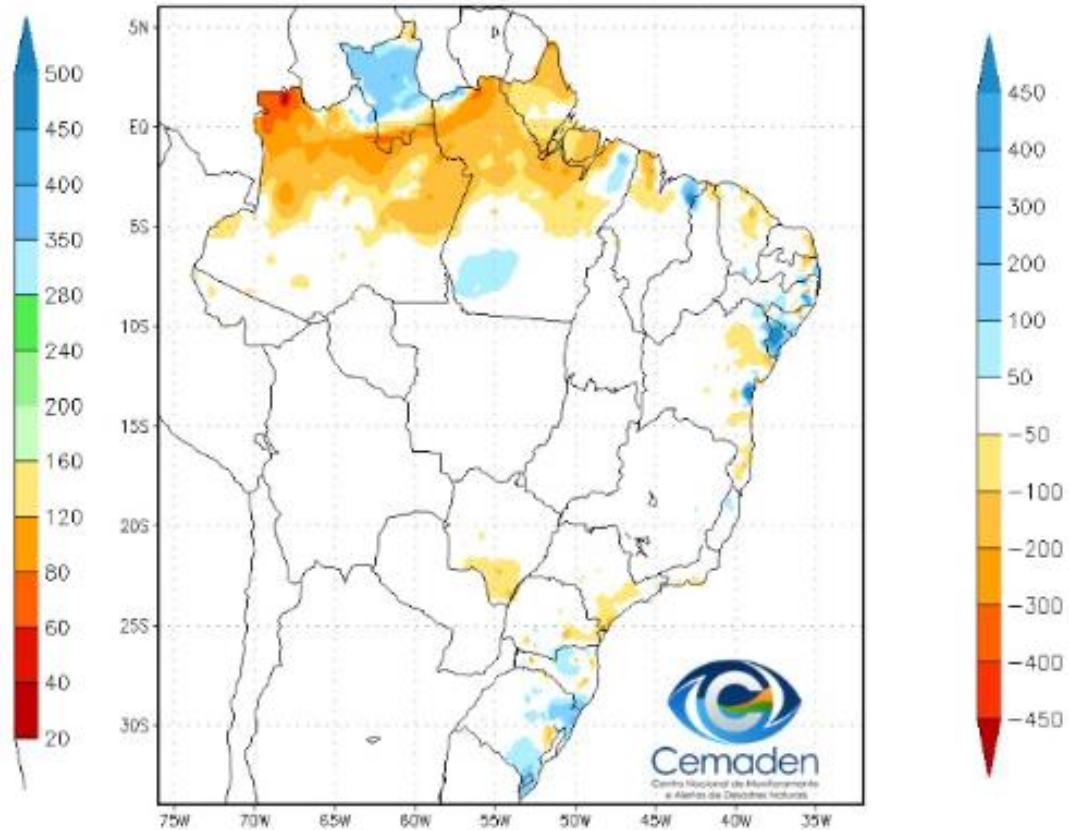
Jose Antonio Marengo^a, Jhan-Carlo Espinoza^b, Rong Fu^c, Juan Carlos Jimenez Muñoz^d, Lincoln Muniz Alves^e, Humberto Ribeiro da Rocha^f, Jochen Schöngart^g

Precipitação nos últimos 60 dias

Precipitação Acumulada (mm)
Período: 02/06/2023 a 01/08/2023

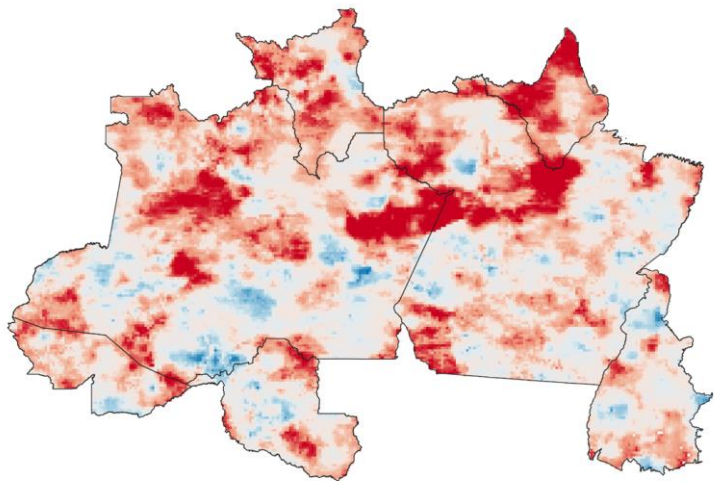


Anomalia de Precipitação (mm)
Período: 02/06/2023 a 01/08/2023

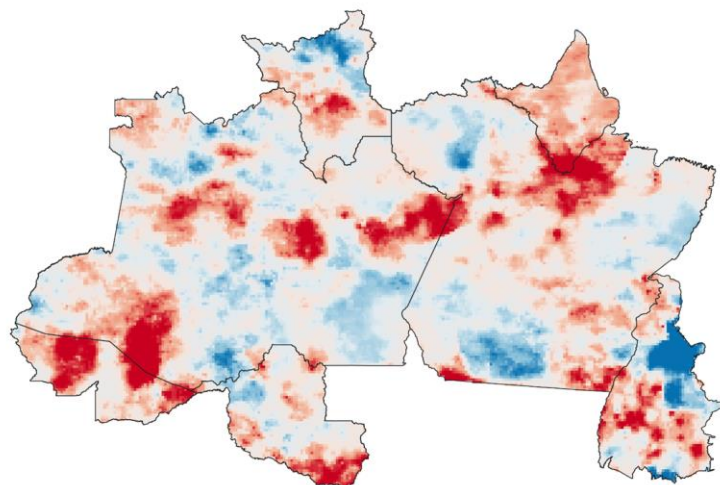


SPI: JULHO 2023

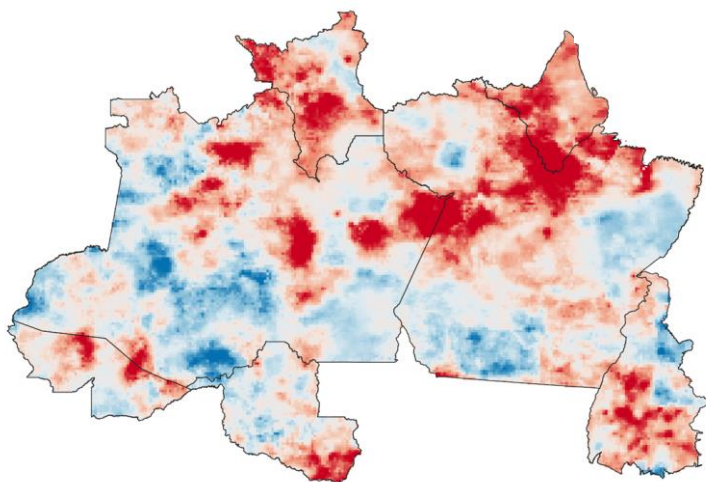
SPI03



SPI12



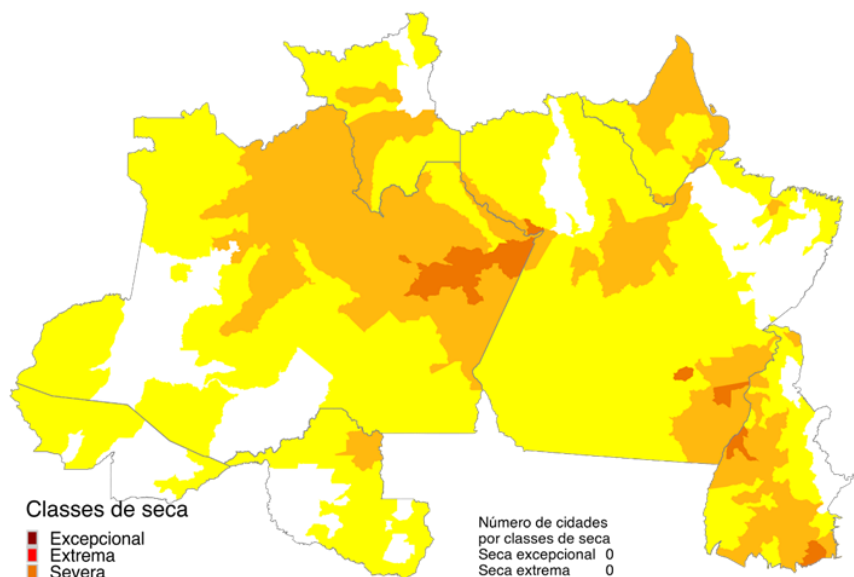
SPI06



ÍNDICE INTEGRADO DE SECA - IIS

(SPI3 E 6 + VHI + AUS): JULHO/2023

IIS 3 MESES



Classes de seca

- Excepcional
- Extrema
- Severa
- Moderada
- Fraca
- Condição normal

Número de cidades por classes de seca

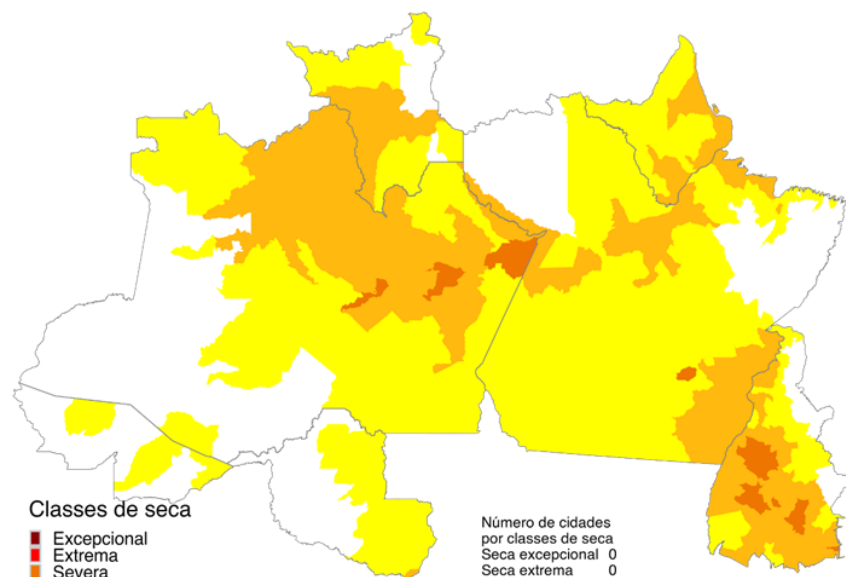
Seca excepcional	0
Seca extrema	0
Seca severa	19
Seca moderada	133
Seca fraca	208

Julho 2023

Índice Integrado de Seca (SPI3, VHI, US)

Dados: CPTEC/INPE - NOAA - NASA / Preparação: Cemaden/MCTI

IIS 6 MESES



Classes de seca

- Excepcional
- Extrema
- Severa
- Moderada
- Fraca
- Condição normal

Número de cidades por classes de seca

Seca excepcional	0
Seca extrema	0
Seca severa	26
Seca moderada	129
Seca fraca	175

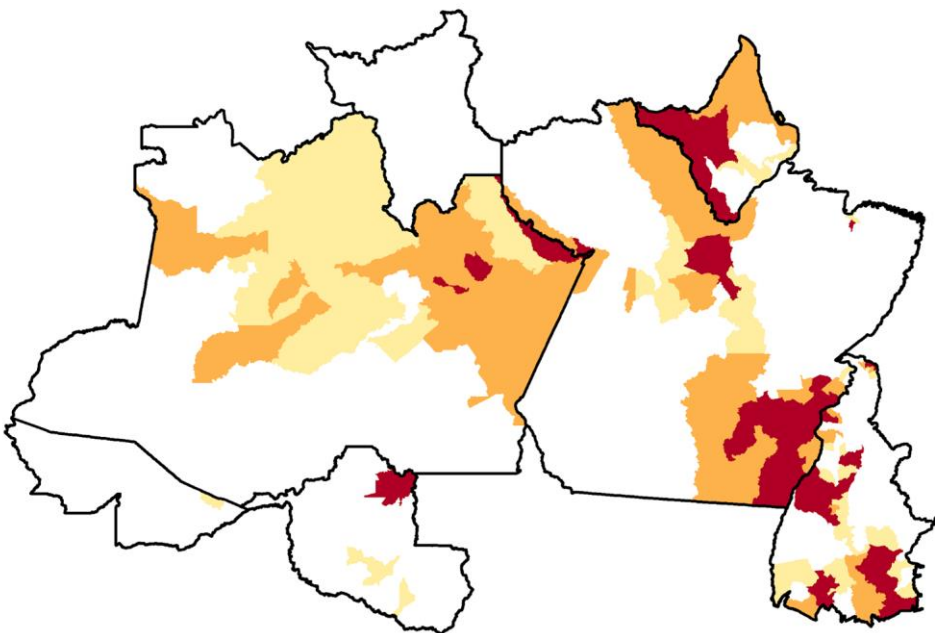
Julho 2023

Índice Integrado de Seca (SPI6, VHI, US)

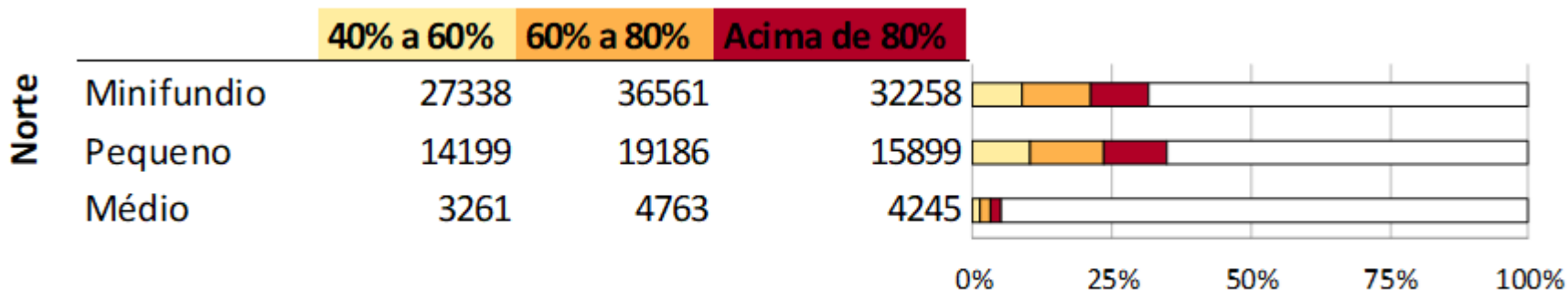
Dados: CPTEC/INPE - NOAA - NASA / Preparação: Cemaden/MCTI

ÁREAS DE PASTAGENS E AGRÍCOLAS AFETADAS PELA SECA

JULHO/23

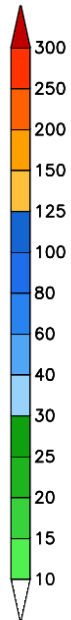
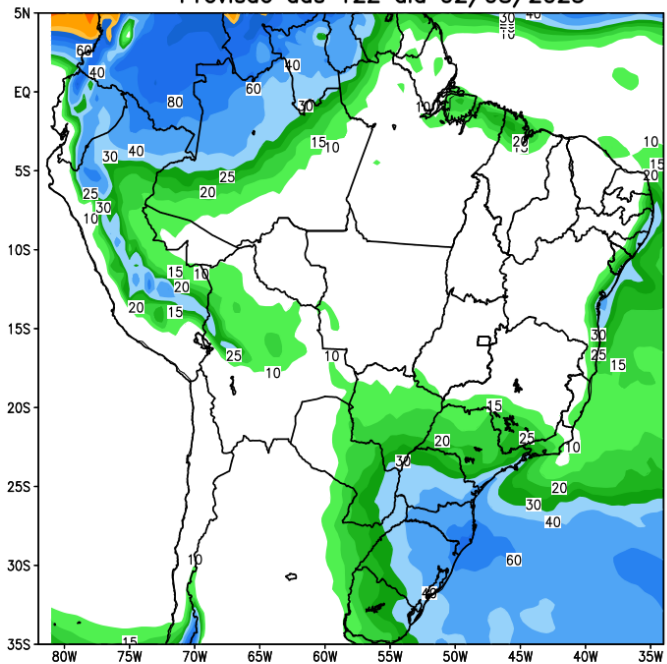


UF	40 a 60%	60 - 80%	> 80%
AC	1		
AM	11	22	3
AP	2	3	4
PA	8	13	19
RO	3		2
TO	15	10	36

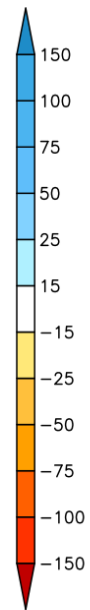
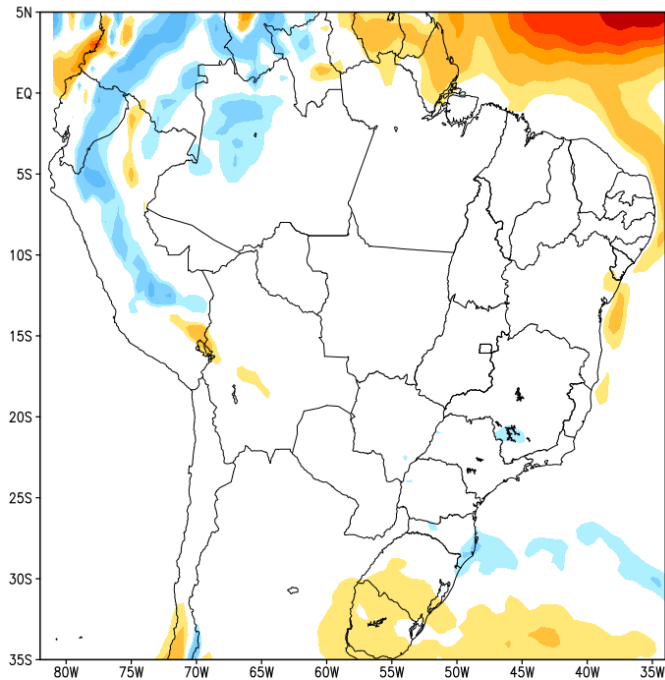


Previsão de chuva próximas duas semanas

GEFS / BRASIL
Precipitação acumulada 14 dias (mm)
Previsão das 12Z dia 02/08/2023

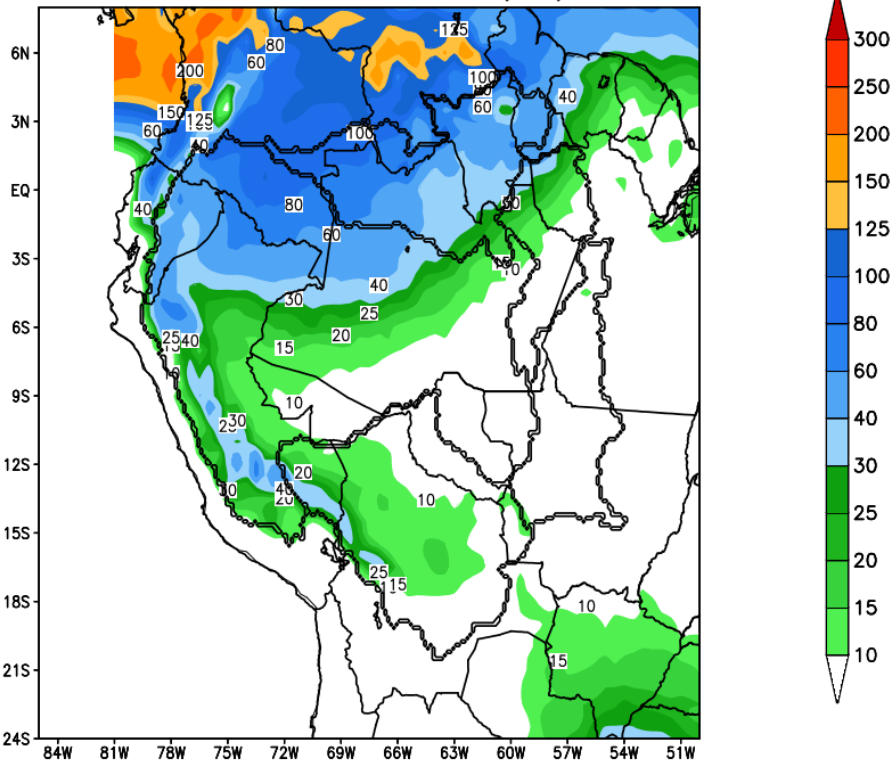


Anomalia de Precipitação BR (mm)
Período: 2023080212 a 2023081612

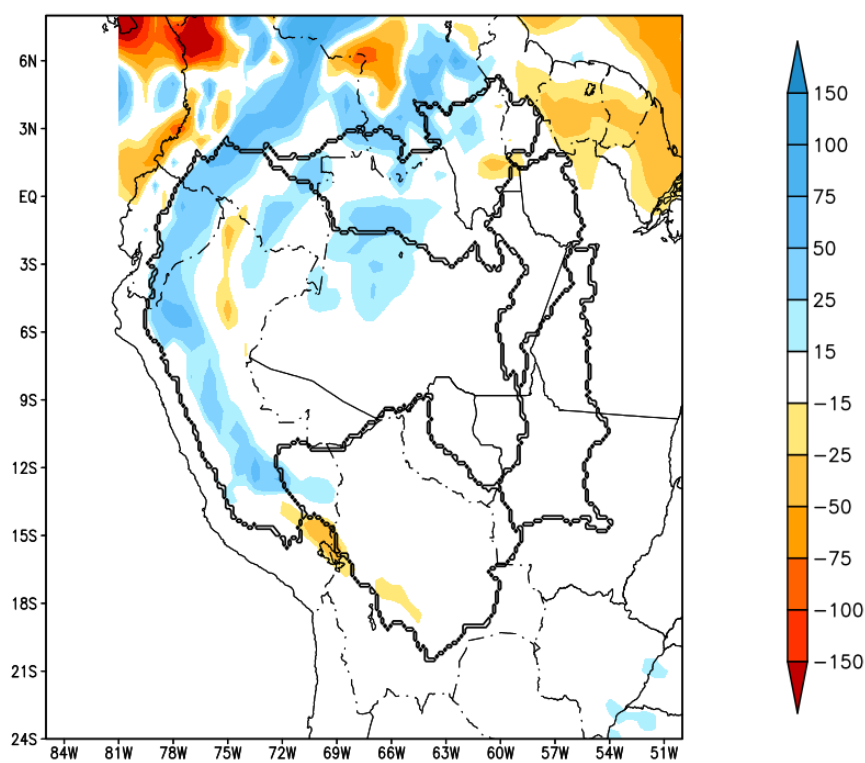


Previsão de chuva próximas duas semanas

GEFS / BRASIL_NORTE
Precipitacao acumulada 14dias (mm)
Previsao das 12Z dia 02/08/2023



Anomalia de Precipitacao BR_NORTE (mm)
Periodo: 2023080212 a 2023081612



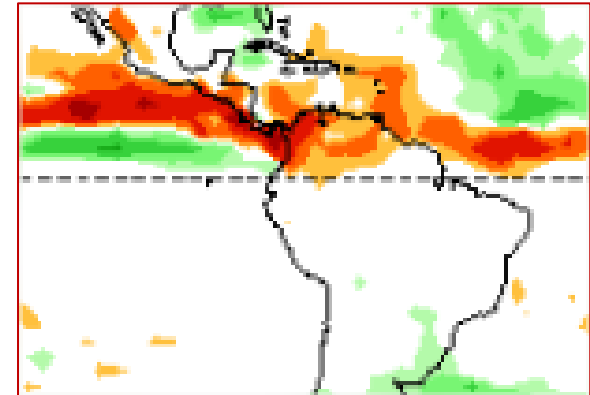
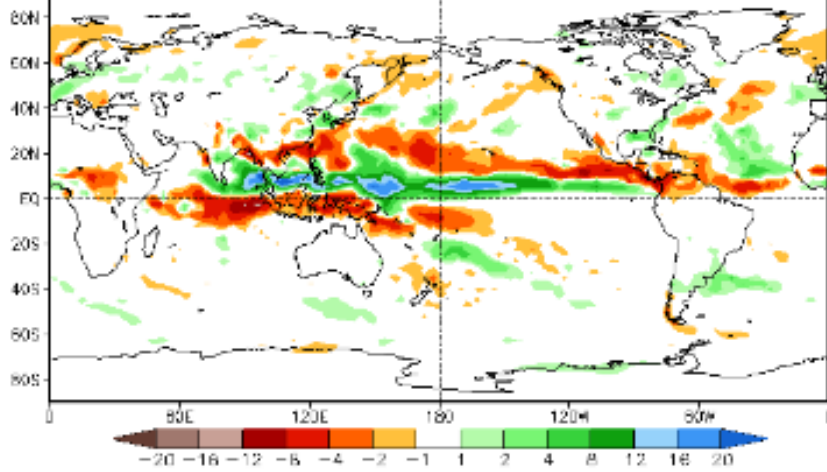
Modelo GFS/NOAA

Tendência 3a e 4a semanas

16 Member Ensemble Mean Forecast from 02Aug2023

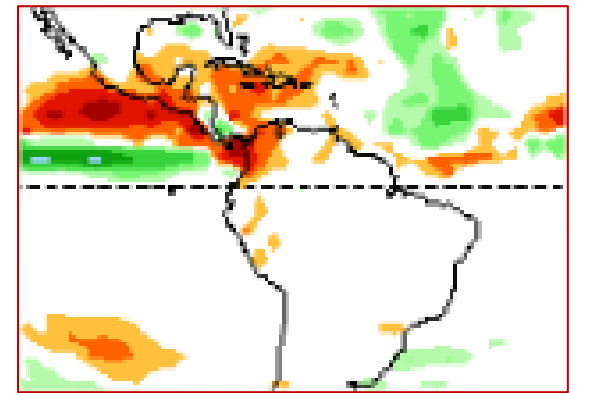
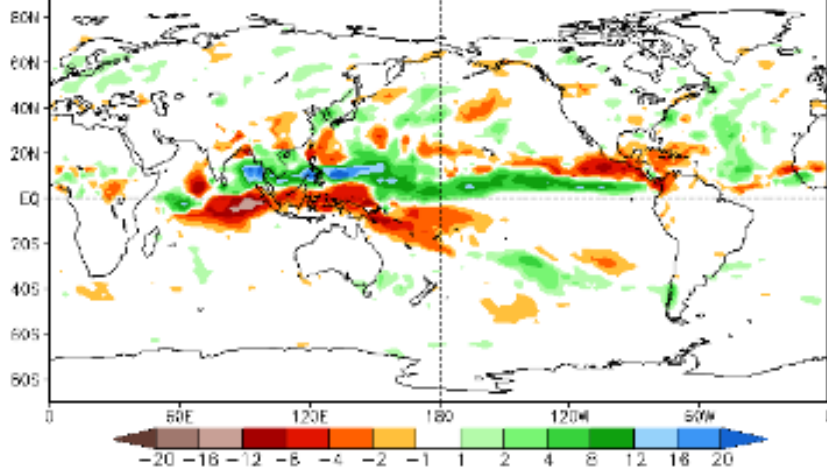
Week 3 Anomalies (mm/day)

17Aug2023–23Aug2023



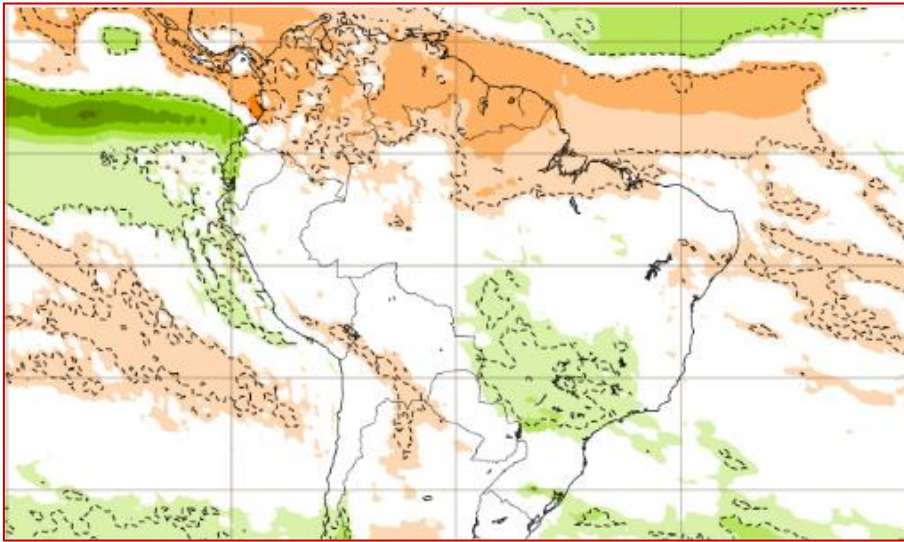
Week 4 Anomalies (mm/day)

24Aug2023–30Aug2023

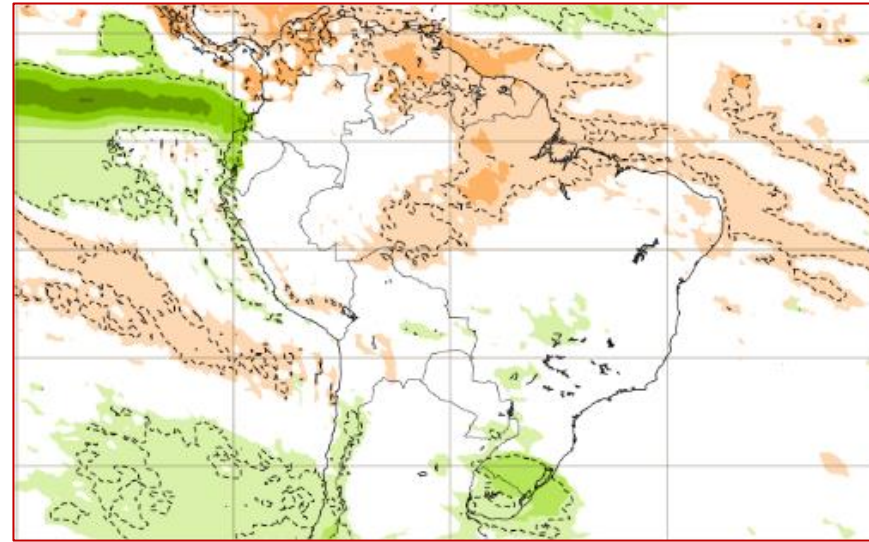


Tendência para 3ª e 4ª semanas

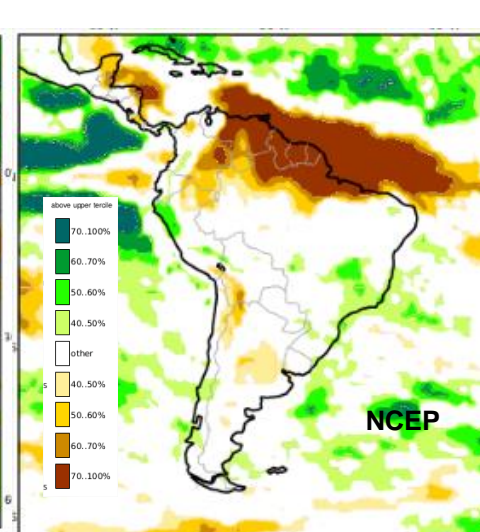
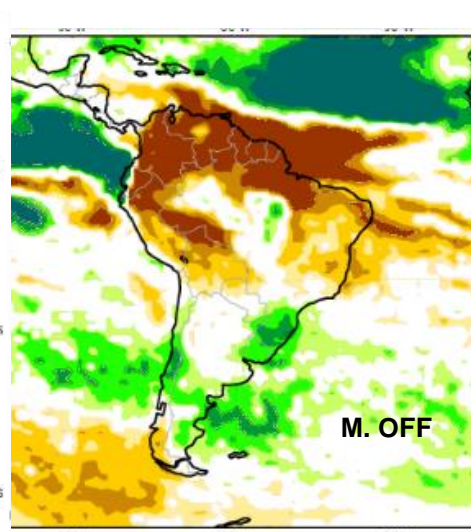
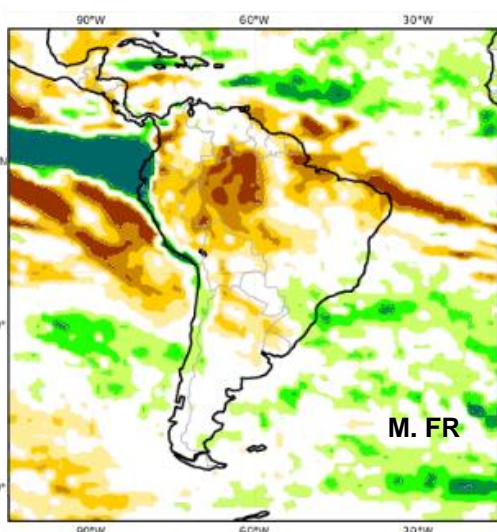
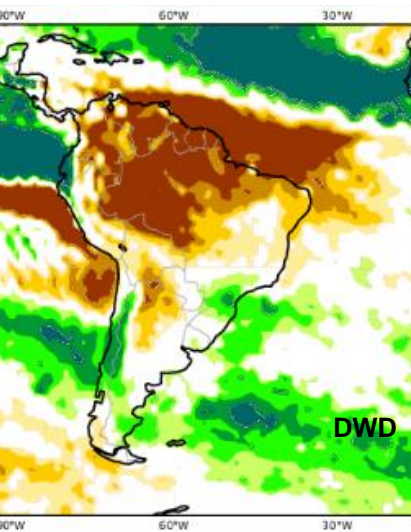
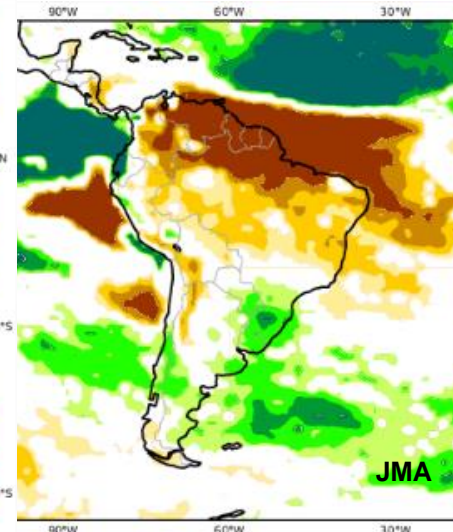
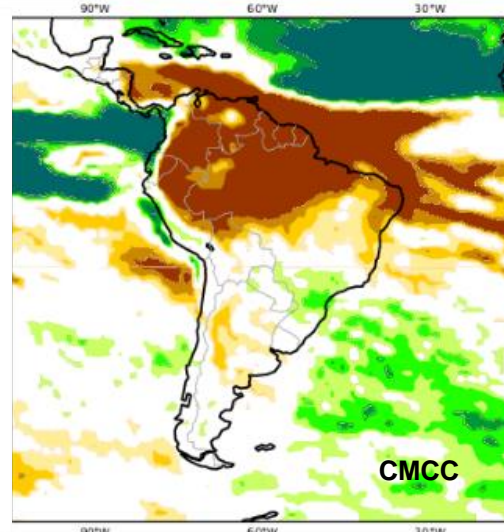
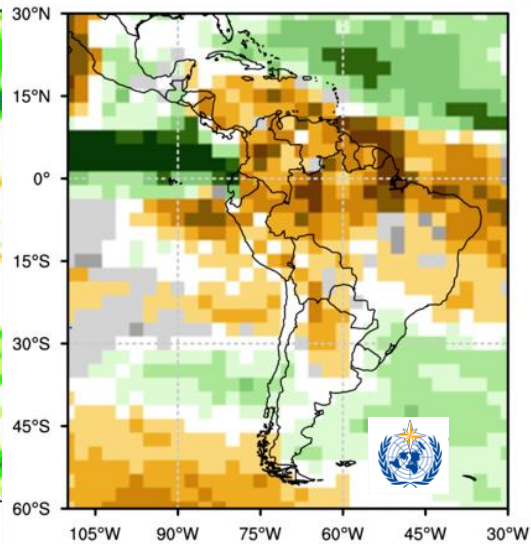
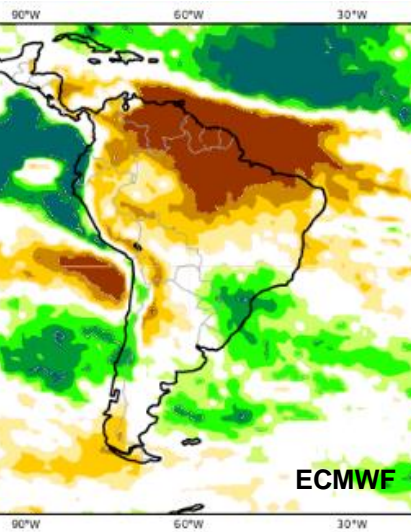
21-28/08



28/08-4/09



Previsão sazonal de Chuva ASO



Previsão Multi Modelo ASO

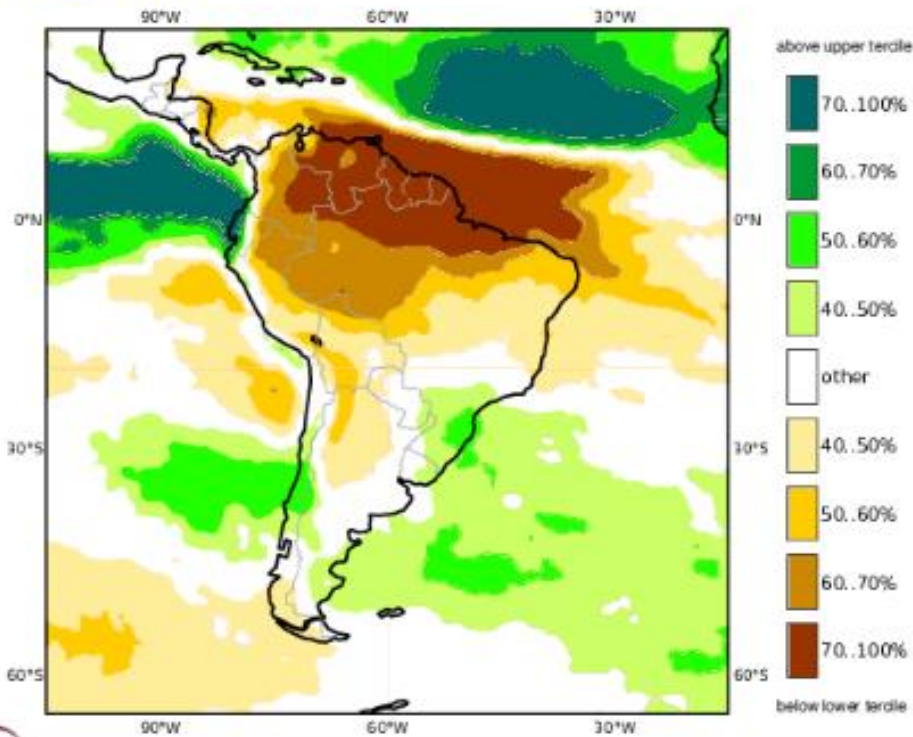
C3S multi-system seasonal forecast

Prob(most likely category of precipitation)

Nominal forecast start: 01/07/23

Unweighted mean

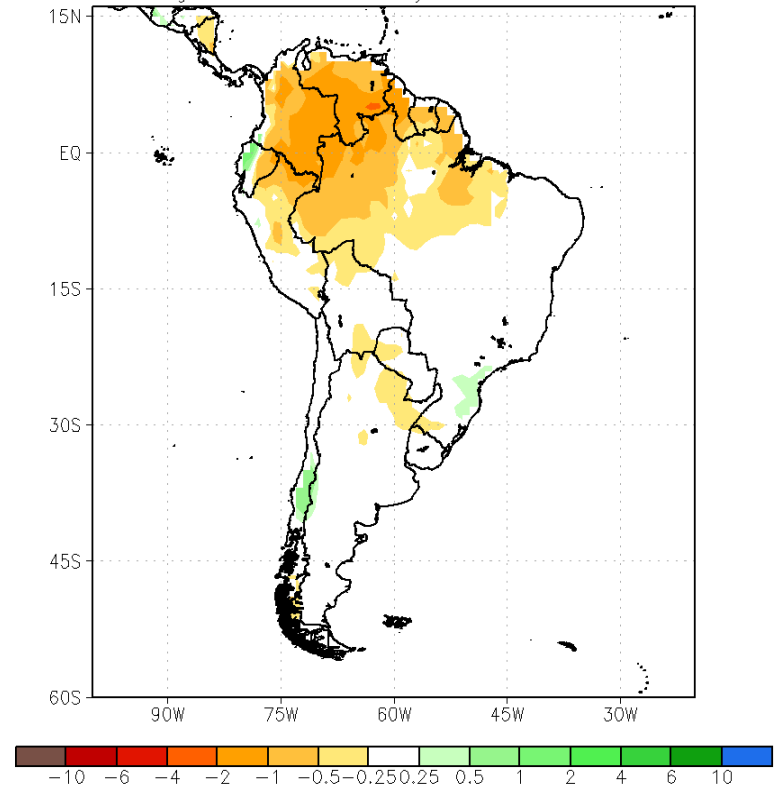
ASO 2023



NMME Precipitation Anomalies (mm/day)

Aug2023–Oct2023

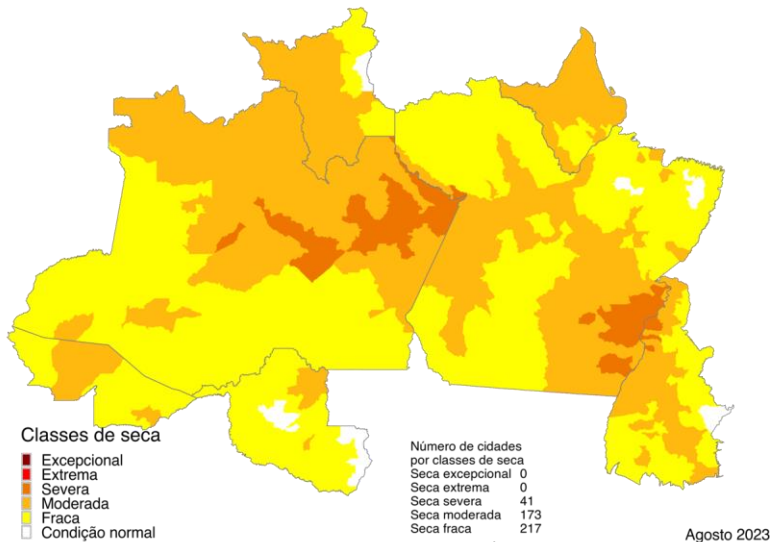
July2023 initial conditions



Agosto/23

CHUVA 50% ABAIXO DA MÉDIA

Setembro/23



Classes de seca

- Excepcional
- Extrema
- Severa
- Moderada
- Fraca
- Condição normal

Número de cidades por classes de seca

Seca excepcional	0
Seca extrema	0
Seca severa	41
Seca moderada	173
Seca fraca	217

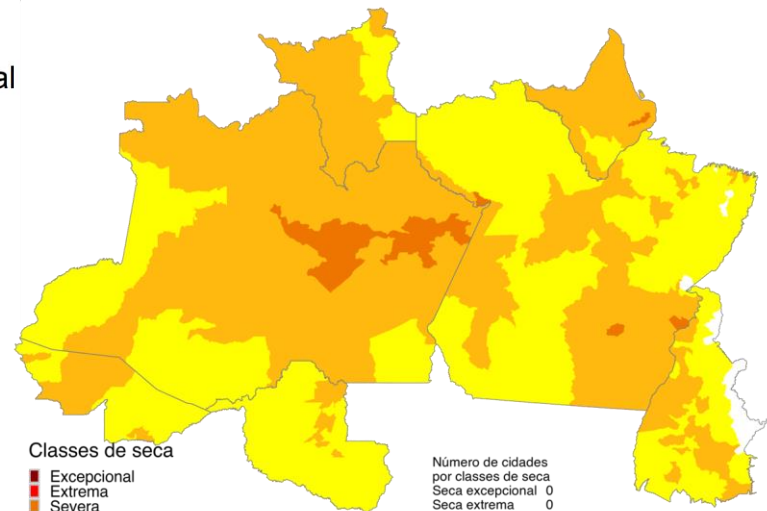
Agosto 2023

Índice Integrado de Seca (SPI3, VHI, US)

Dados: CPTEC/INPE - NOAA - NASA / Preparação: Cemaden/MCTI

IIS

- Seca Excepcional
- Seca Extrema
- Seca Severa
- Seca Moderada
- Seca Fraca
- Normal



Classes de seca

- Excepcional
- Extrema
- Severa
- Moderada
- Fraca
- Condição normal

Número de cidades por classes de seca

Seca excepcional	0
Seca extrema	0
Seca severa	19
Seca moderada	171
Seca fraca	245

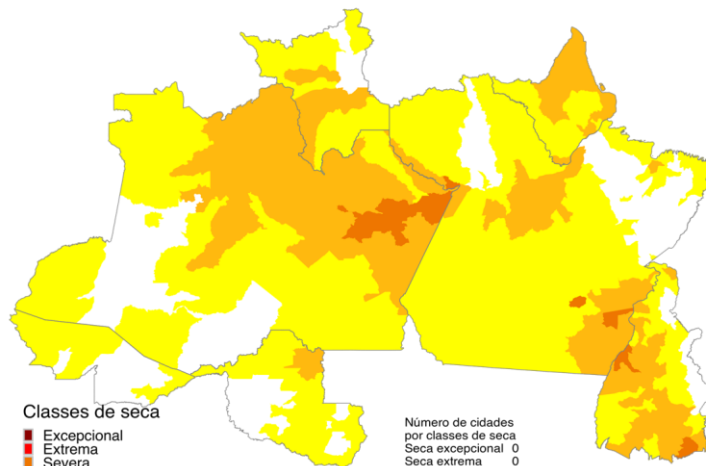
Setembro 2023

Índice Integrado de Seca (SPI3, VHI, US)

Dados: CPTEC/INPE - NOAA - NASA / Preparação: Cemaden/MCTI

IIS OBSERVADO (IIS6)

Julho/23



Classes de seca

- Excepcional
- Extrema
- Severa
- Moderada
- Fraca
- Condição normal

Número de cidades por classes de seca

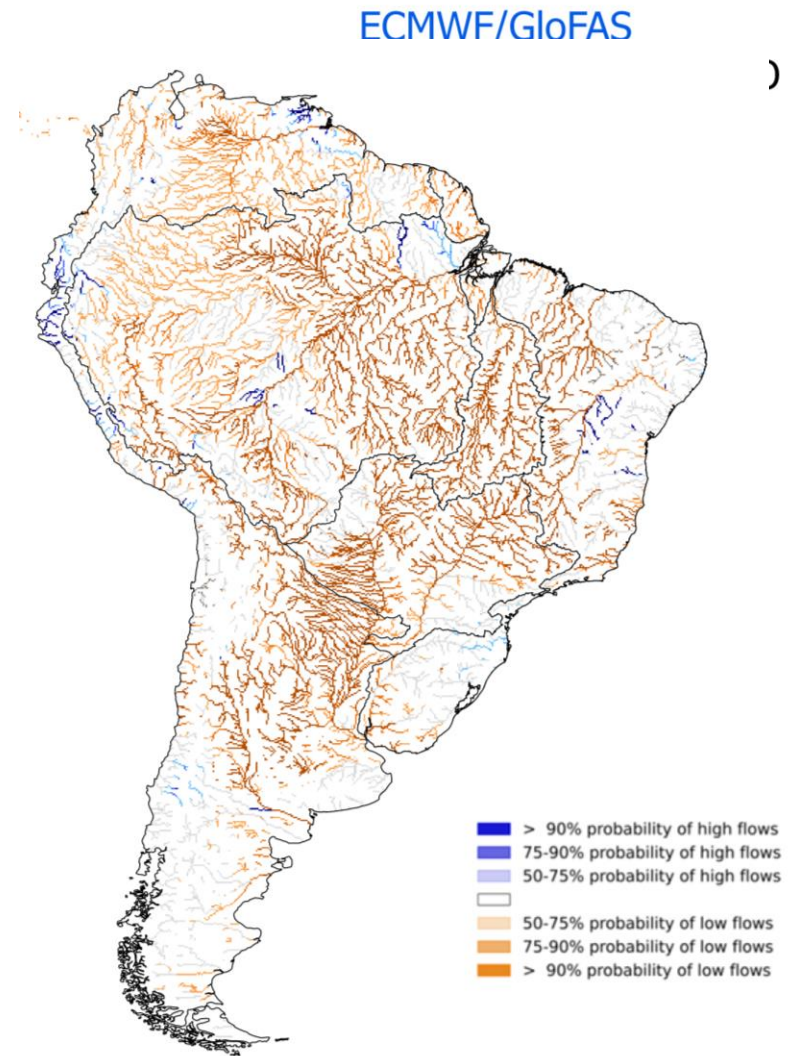
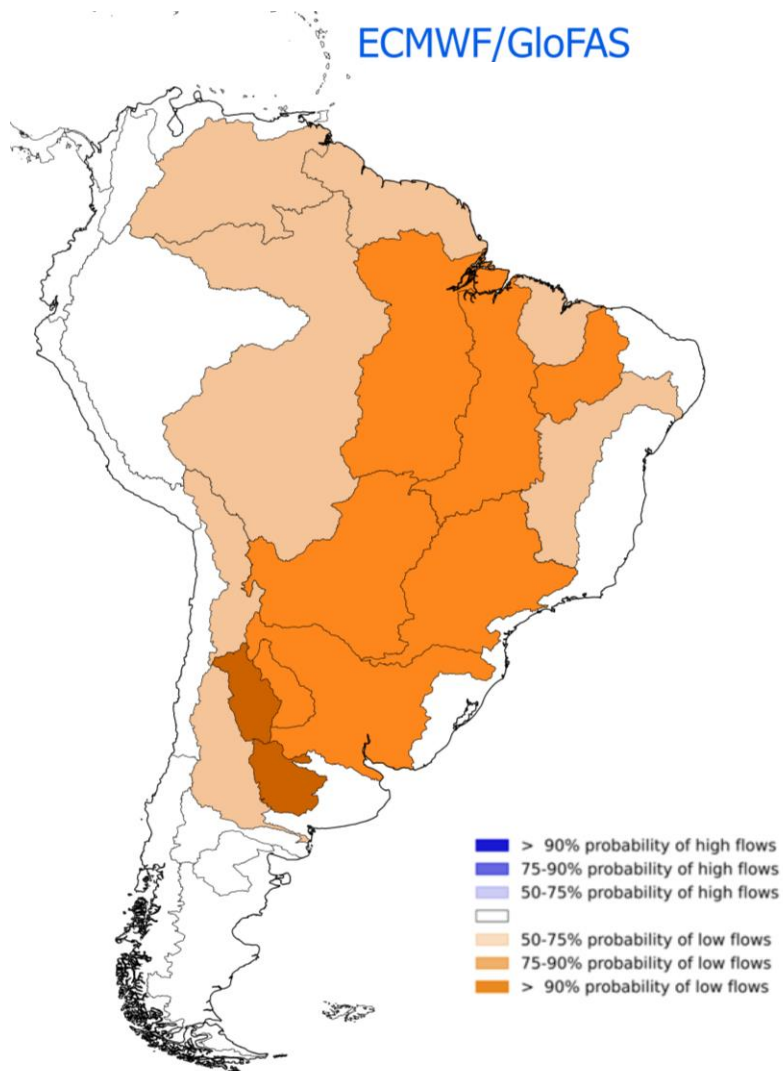
Seca excepcional	0
Seca extrema	0
Seca severa	19
Seca moderada	133
Seca fraca	208

Julho 2023

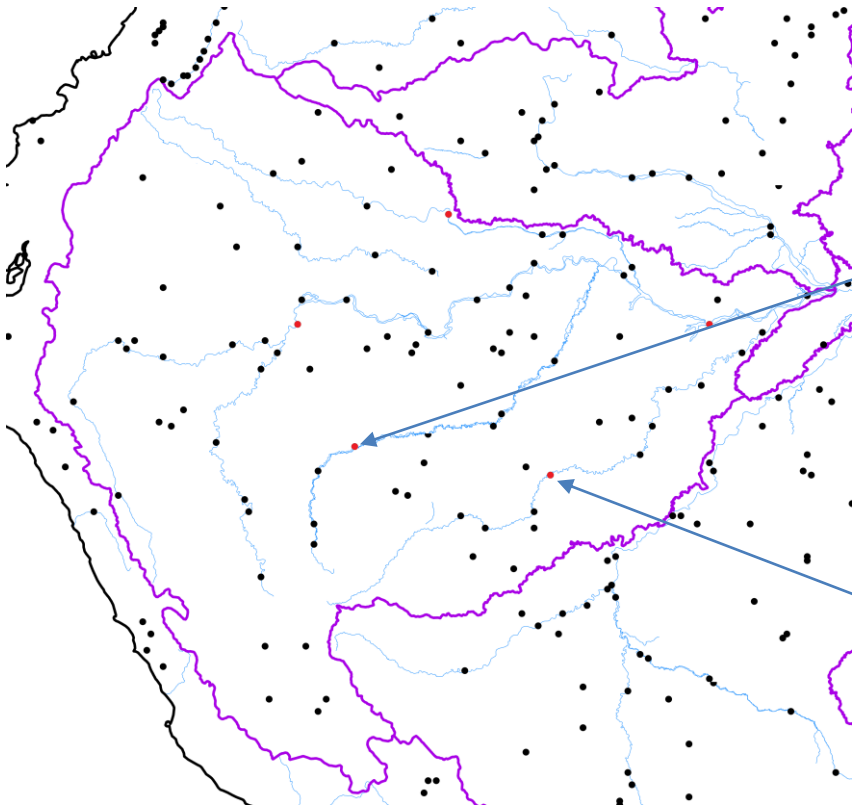
Índice Integrado de Seca (SPI3, VHI, US)

Dados: CPTEC/INPE - NOAA - NASA / Preparação: Cemaden/MCTI

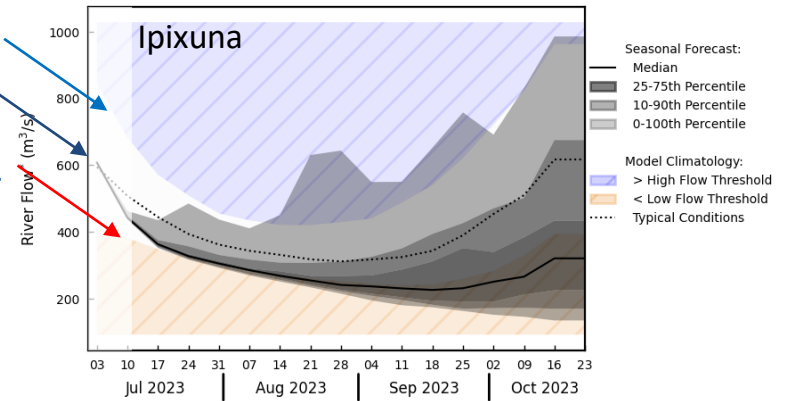
Previsão hidrológica Sazonal ECMWF.GLOFAS ASO



Previsão Sazonal: ASO

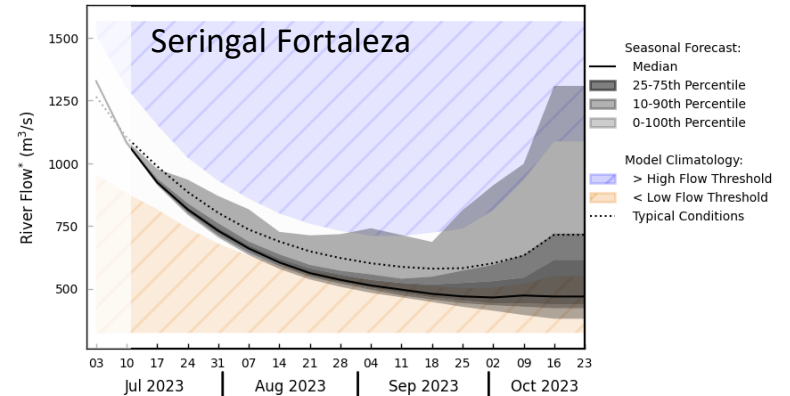


Solimões



*River flow is a weekly average, displayed at start of week (dates shown)

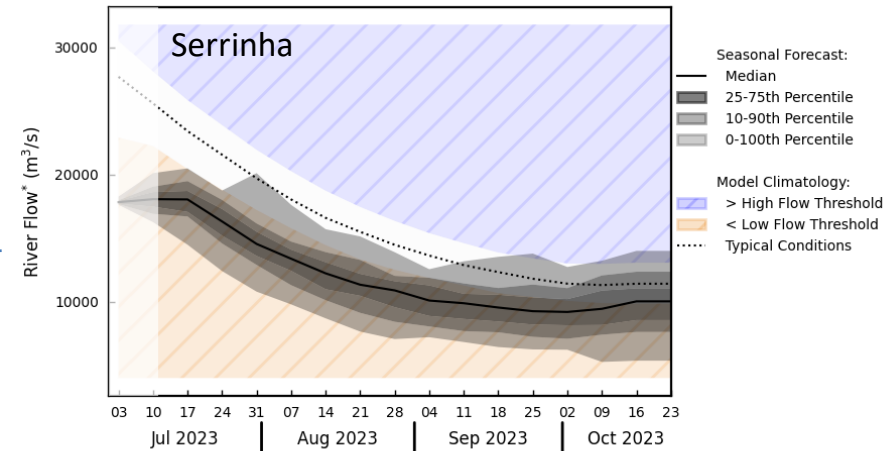
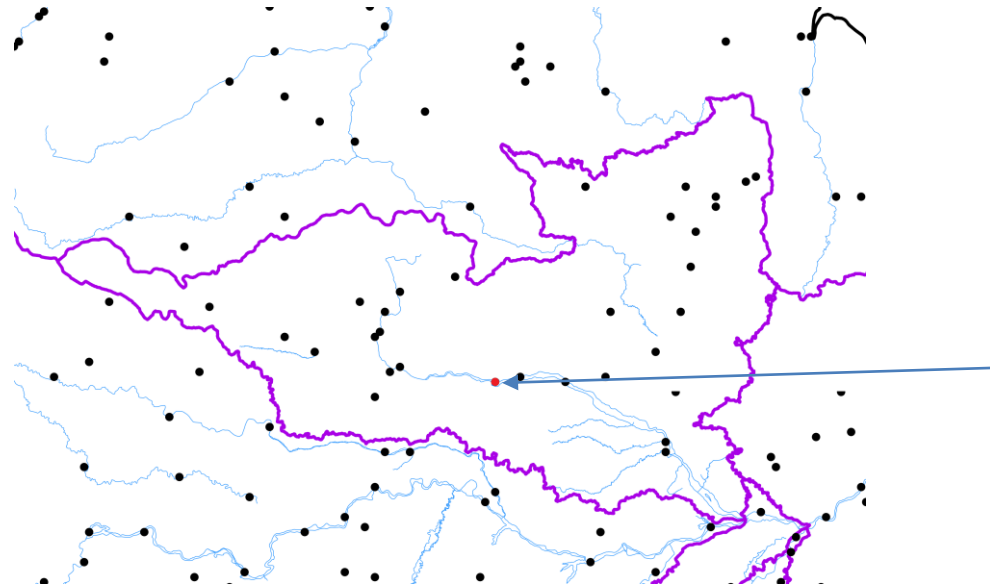
**High and low flow thresholds refer to the 80th and 20th percentiles of the model climatology



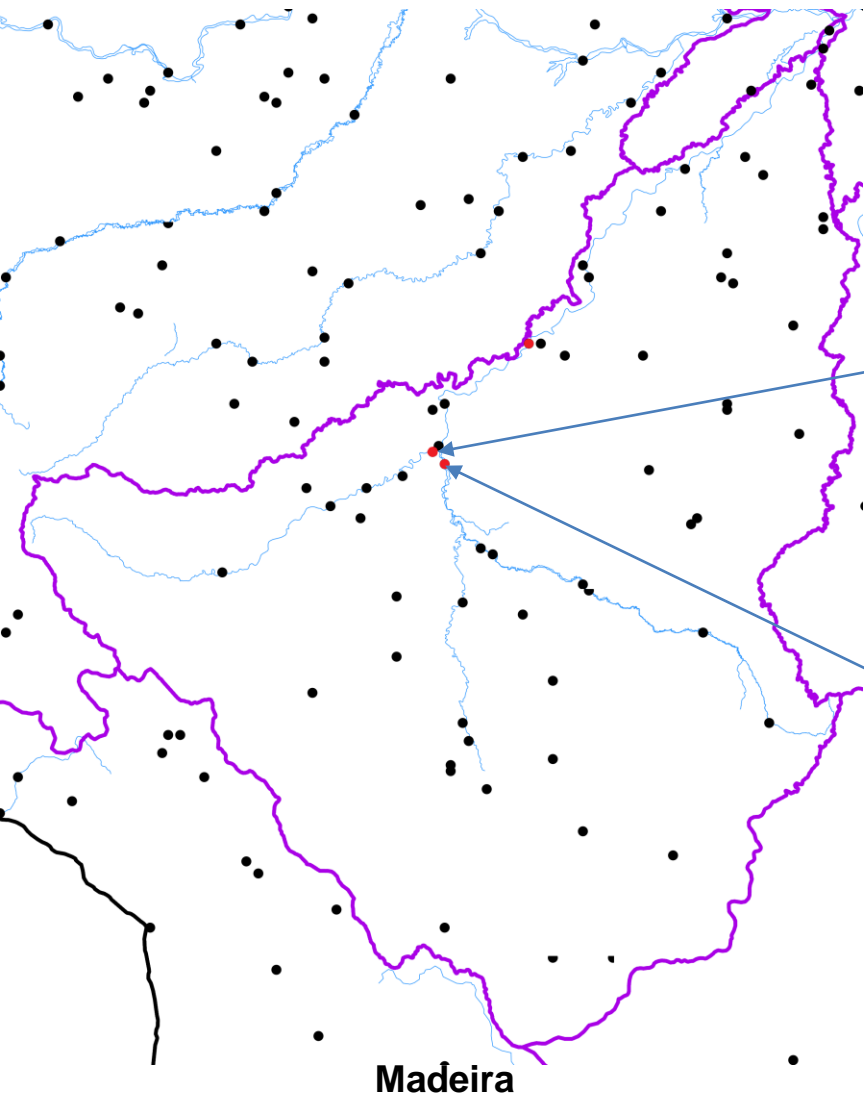
*River flow is a weekly average, displayed at start of week (dates shown)

**High and low flow thresholds refer to the 80th and 20th percentiles of the model climatology

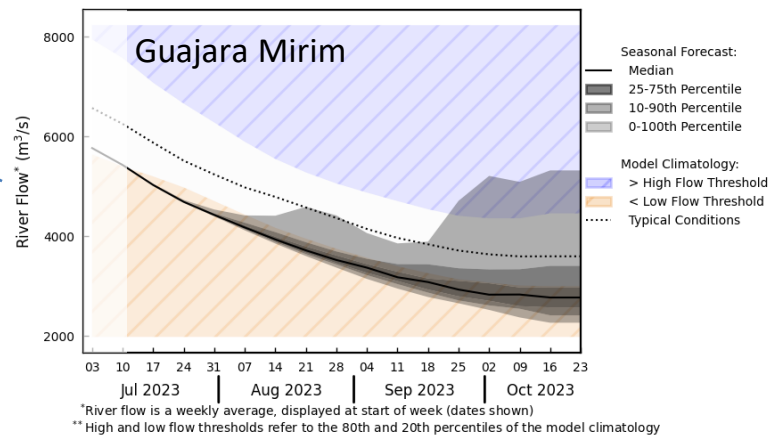
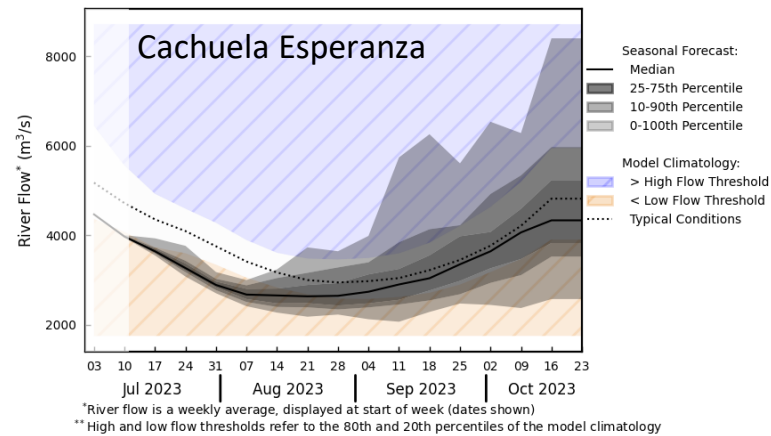
Previsão Sazonal: ASO



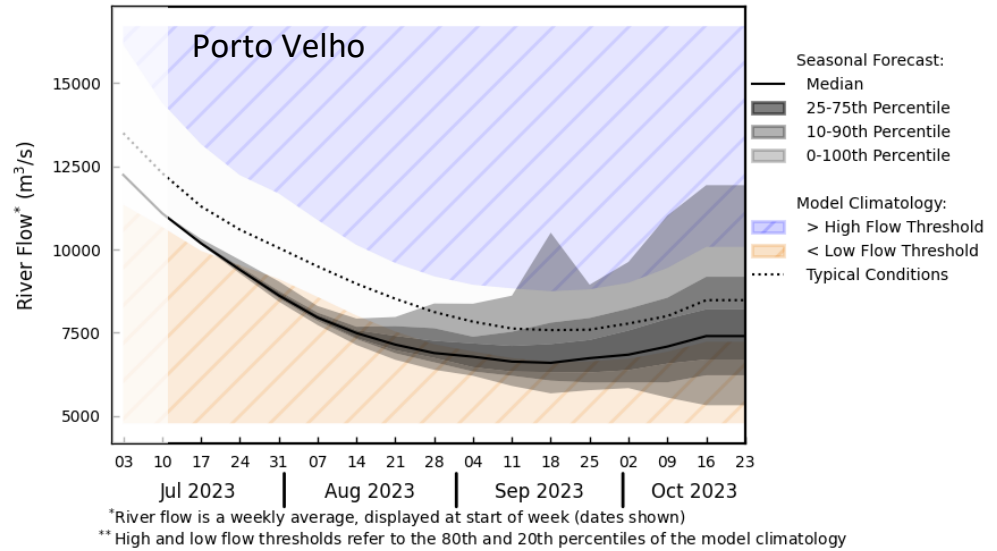
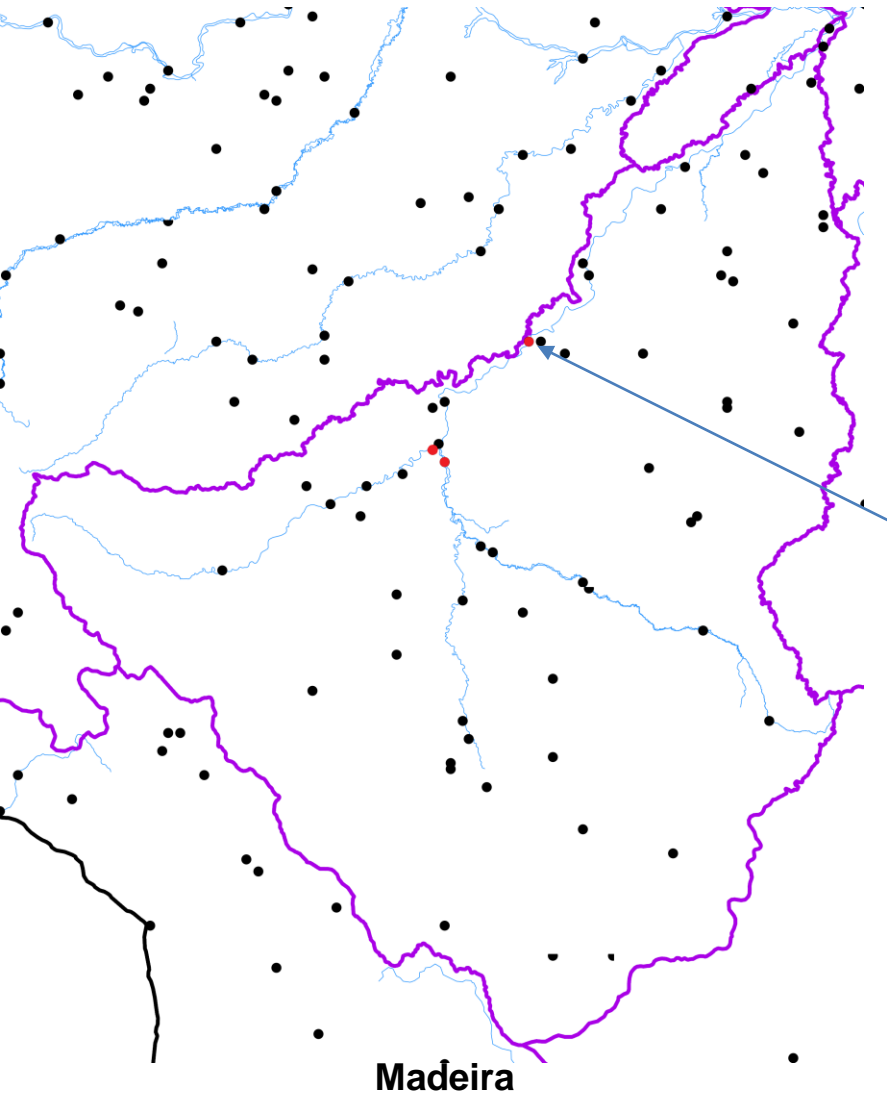
Negro



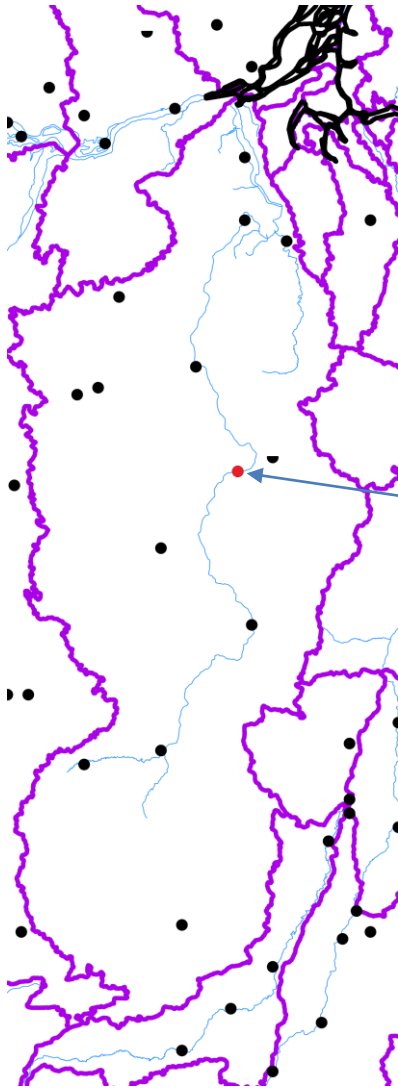
Previsão Sazonal: ASO



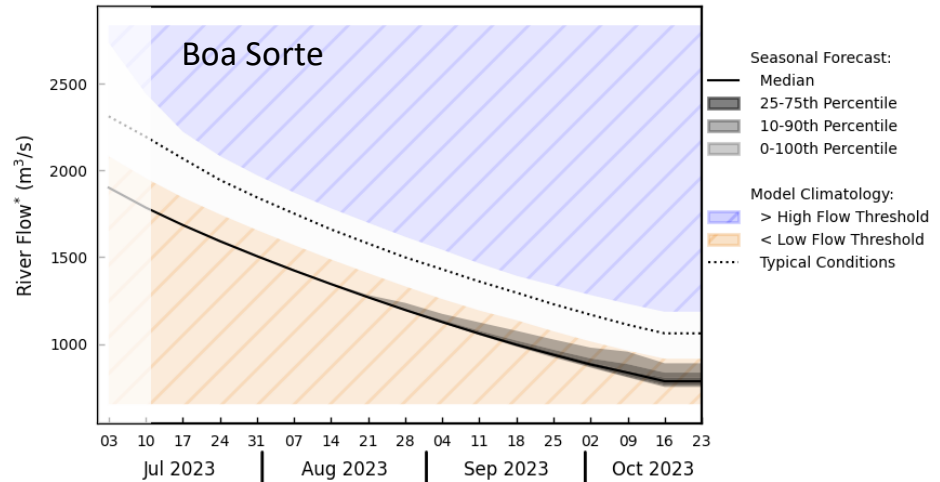
Previsão Sazonal: ASO



Previsão Sazonal: ASO



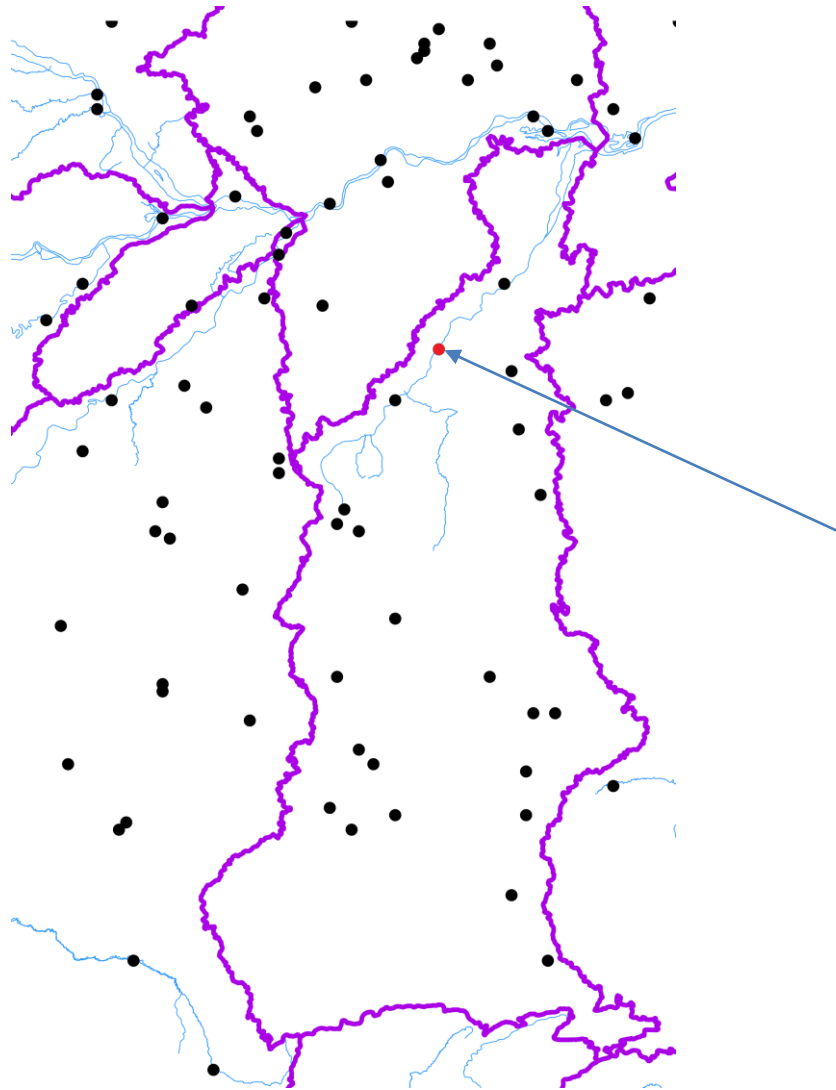
Xingú



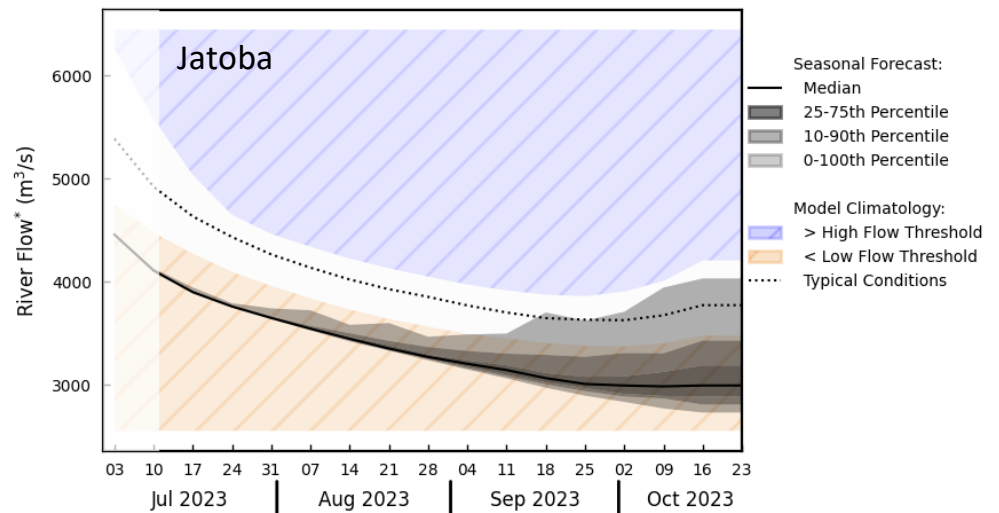
*River flow is a weekly average, displayed at start of week (dates shown)

** High and low flow thresholds refer to the 80th and 20th percentiles of the model climatology

Previsão Sazonal: ASO

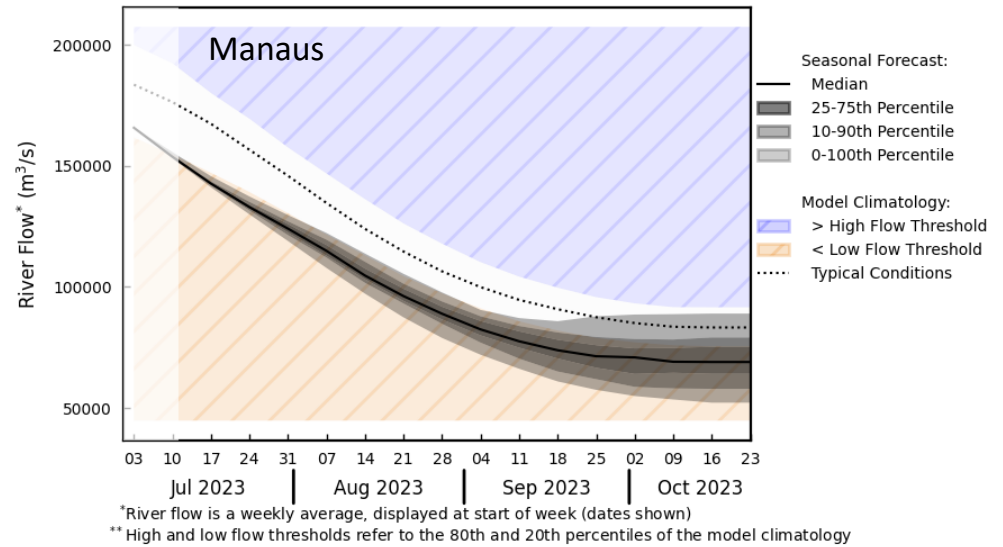
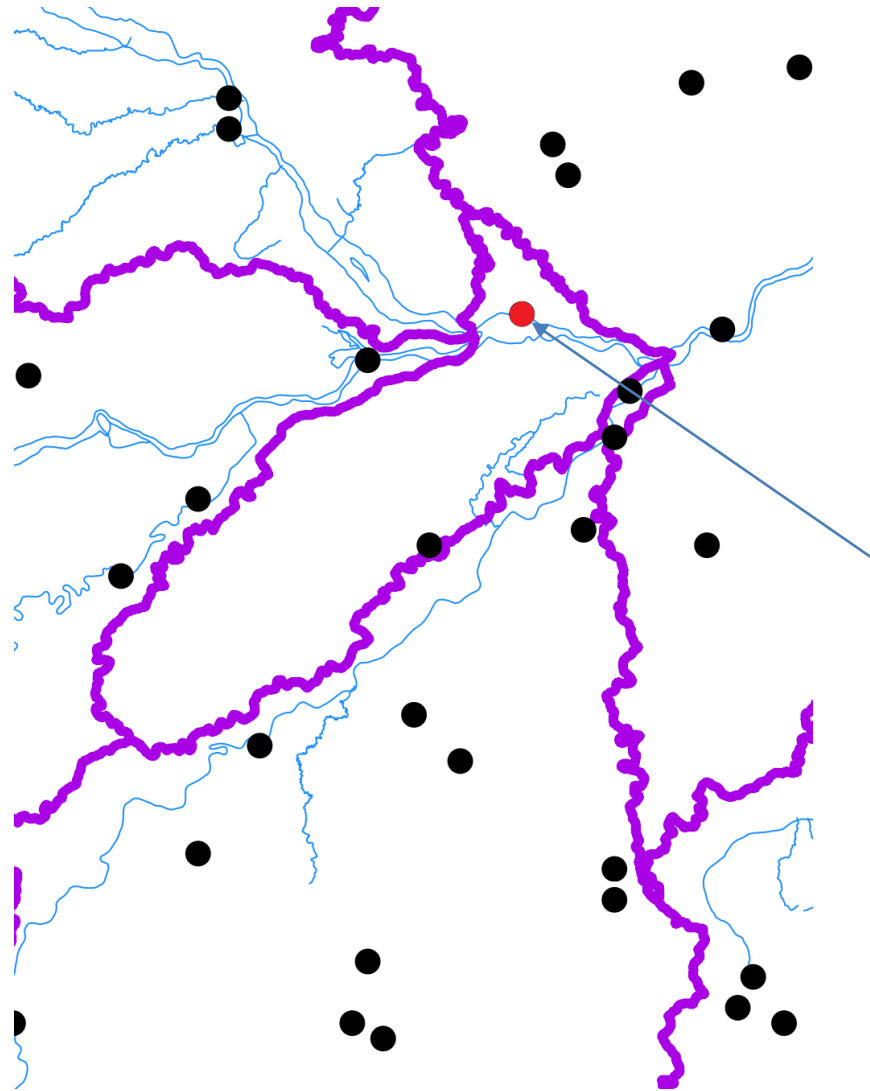


Tapajós



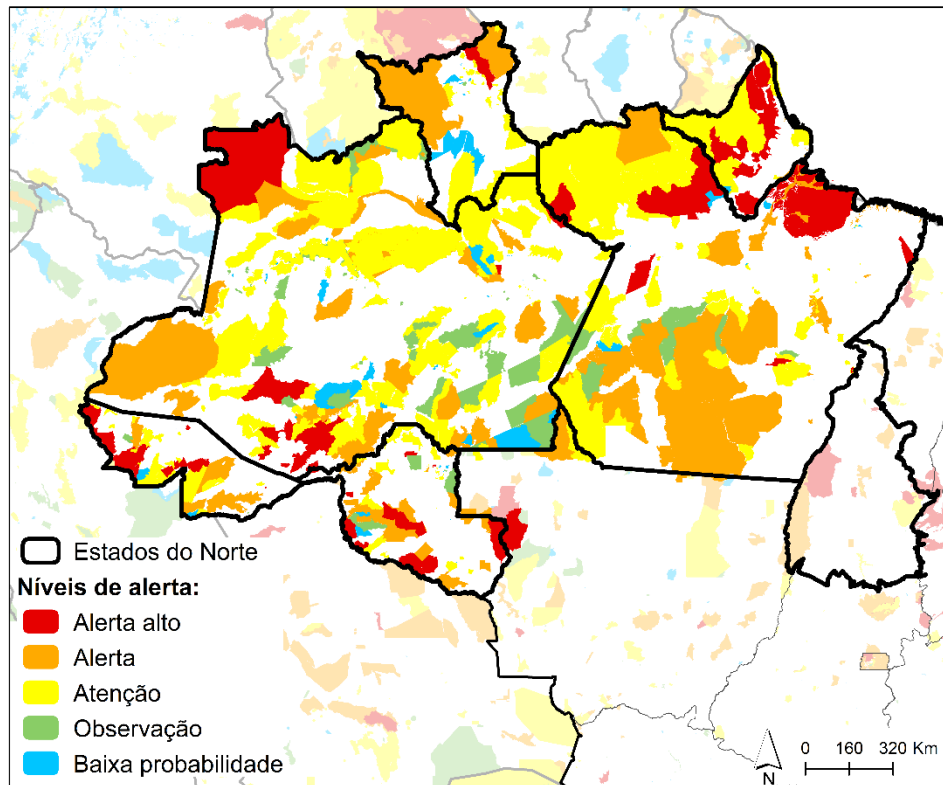
*River flow is a weekly average, displayed at start of week (dates shown)
** High and low flow thresholds refer to the 80th and 20th percentiles of the model climatology

Previsão Sazonal: ASO



Previsão de probabilidade de fogo - Ago-Set-Out 2023

Previsão de alertas ASO

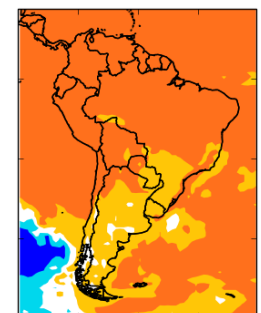
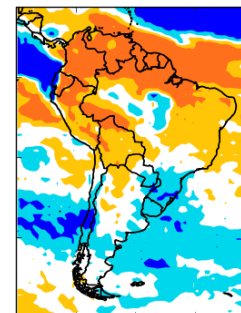


Resultados dos níveis de alerta para as Áreas de Proteção brasileiras da Região Norte:

Nível de Alerta	Número de Áreas de Proteção	Área (km ²)
Alerta alto	41	337,032
Alerta	63	890,932
Atenção	74	56,303
Observação	56	160,072

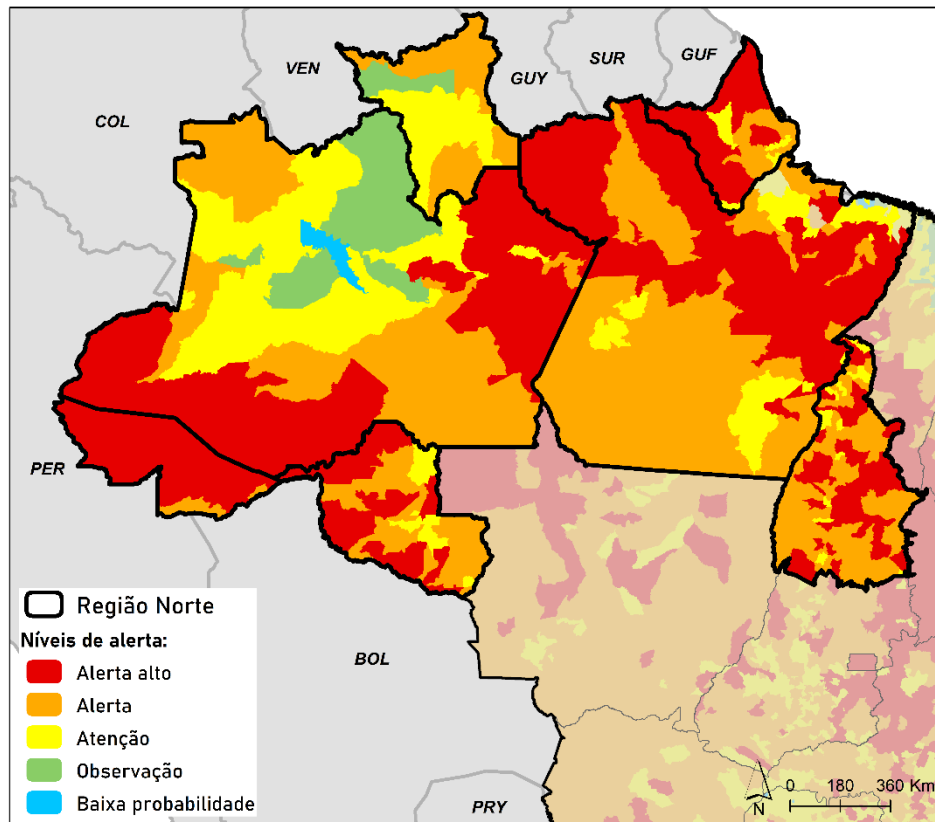
0 20 40 60 80 100 %

Condições Climáticas – GloSea6 / MetOffice



Previsão de probabilidade de fogo - Ago-Set-Out 2023

Previsão de alertas por municípios



Resultados dos níveis de alerta para municípios brasileiros da Região Norte:

Nível de Alerta	Número de municípios	Área (km ²)
Alerta alto	177	1,534,623
Alerta	148	1,461,803
Atenção	102	604,959
Observação	1	16,831
Baixa probabilidade	7	208,704

Aumento do número de municípios em níveis de **Alerta Alto** e **Alerta**!