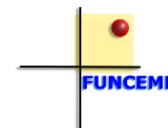
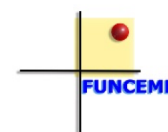


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# Tendências para a Quadra Chuvosa de 2022

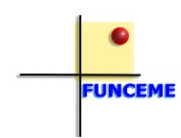
Meiry Sakamoto - FUNCEME



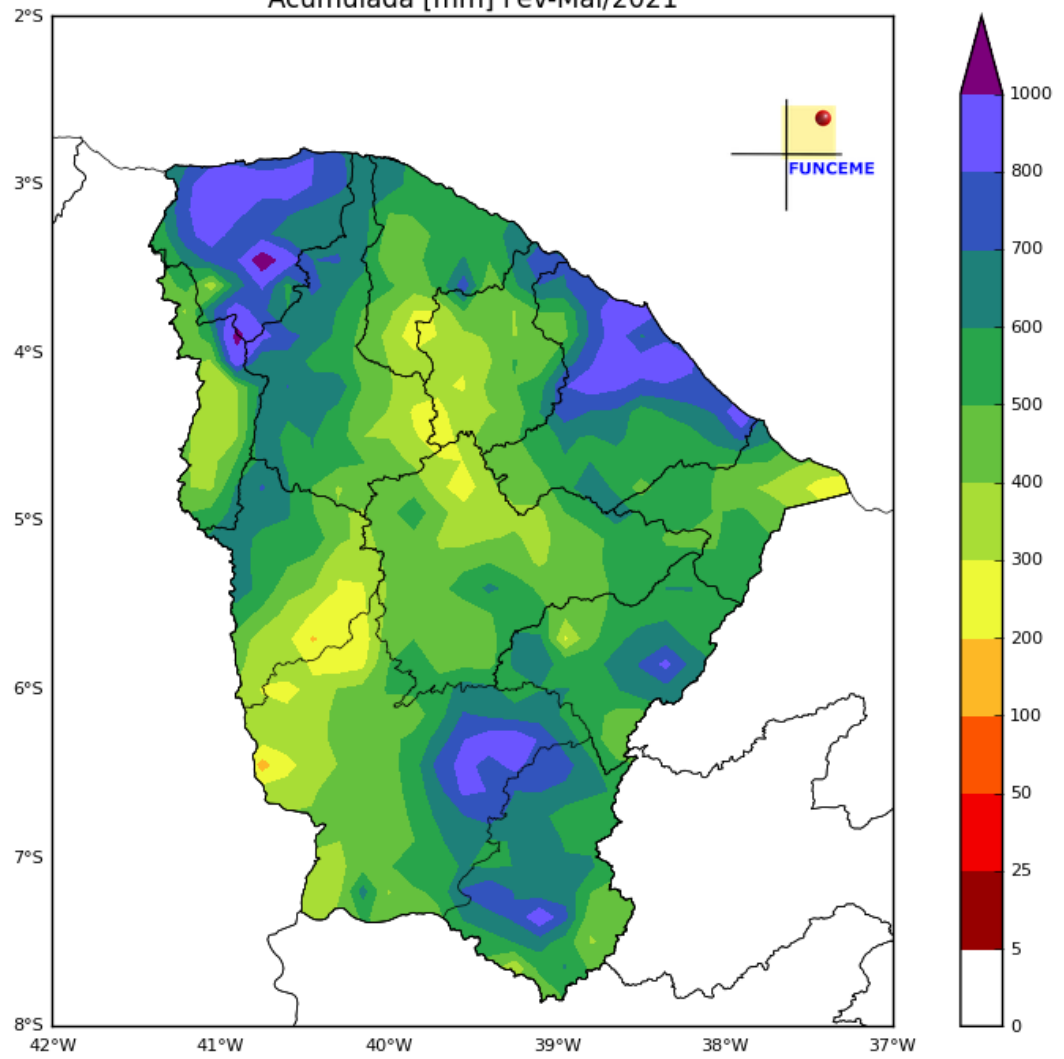
**CEARÁ**  
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# Quadra Chuvosa 2021 e Situação das Bacias Hidrográficas

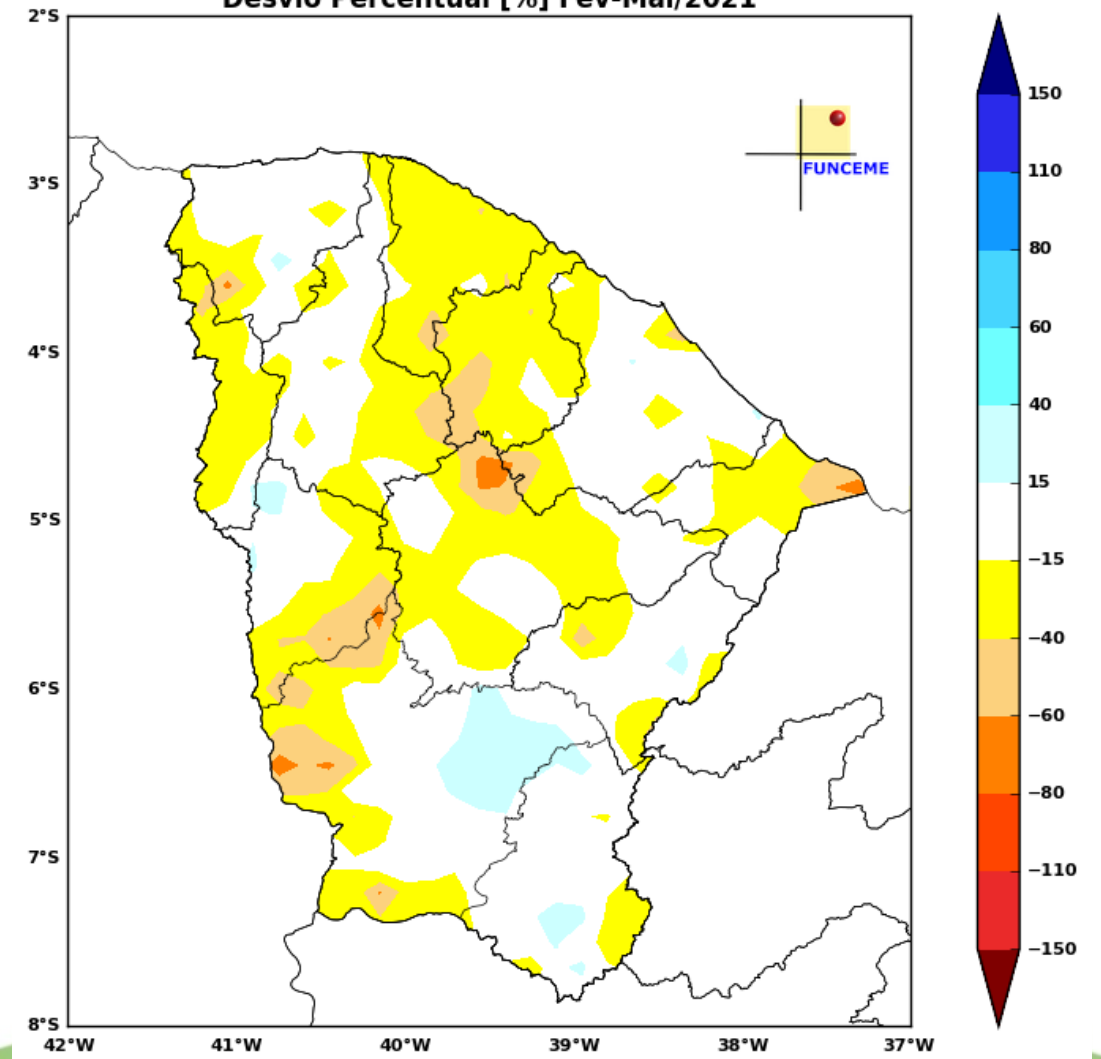
# Precipitações Quadra Chuvosa (fevereiro a maio) 2021



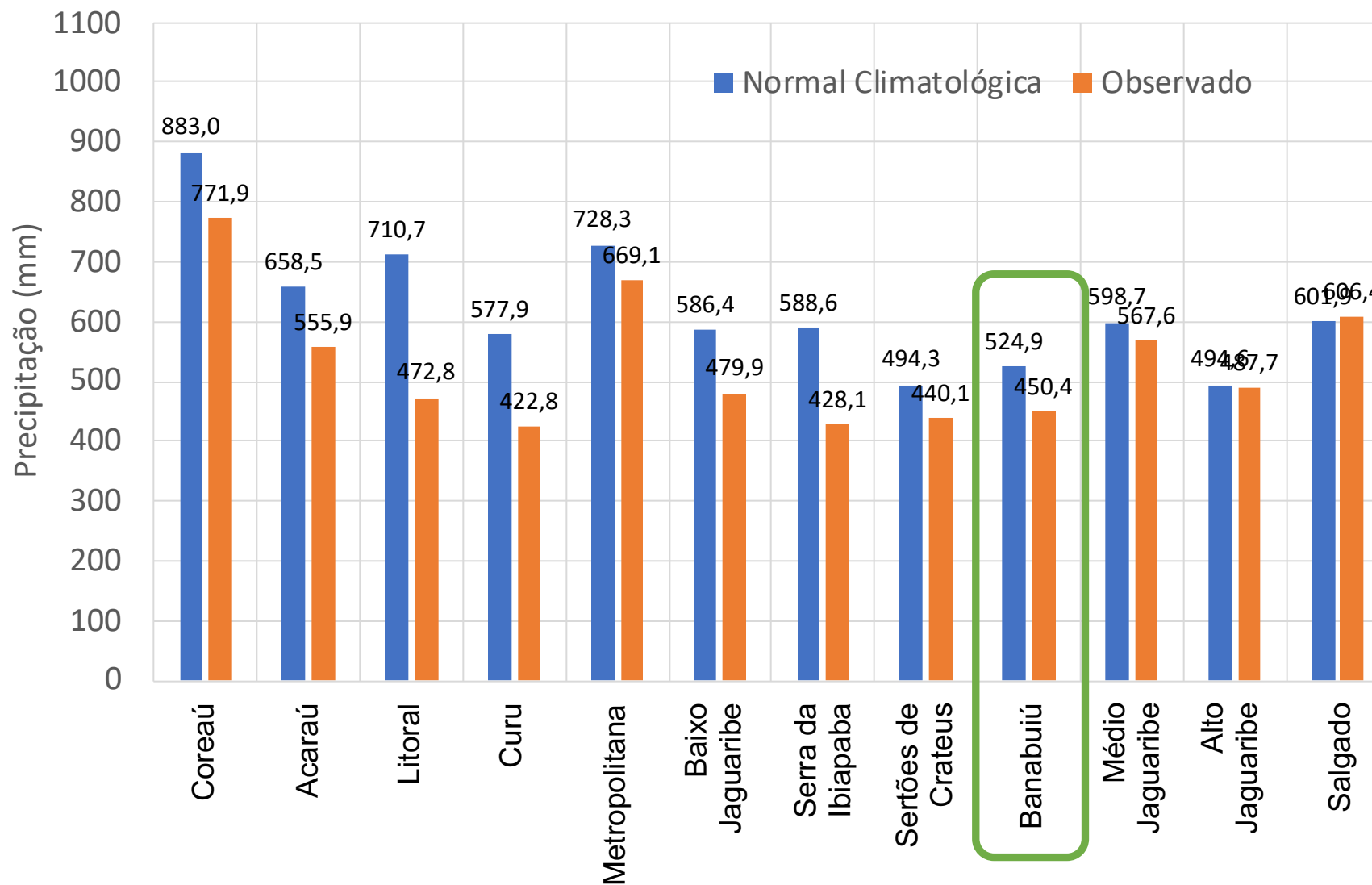
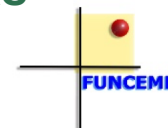
Precipitação  
Acumulada [mm] Fev-Mai/2021



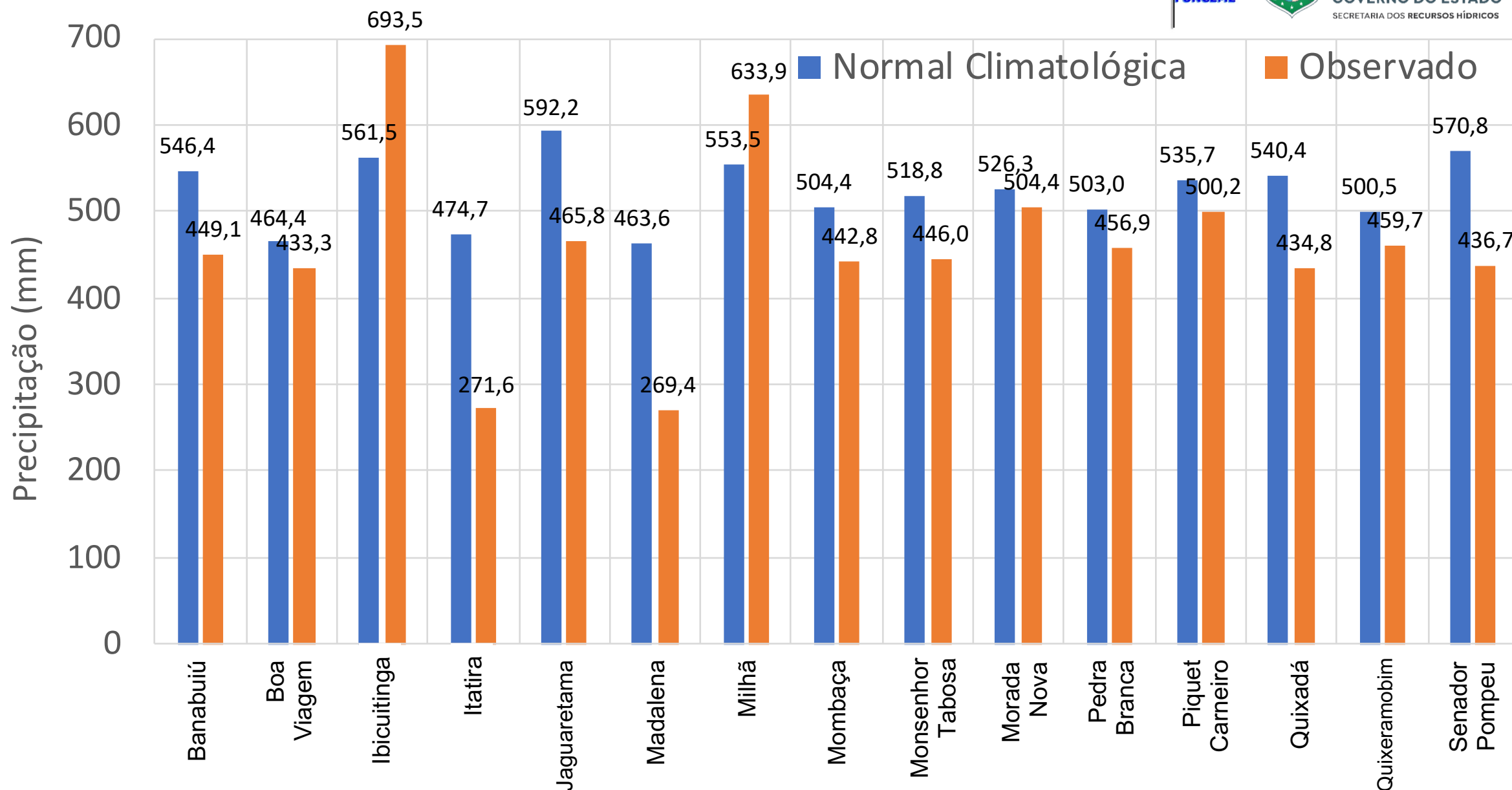
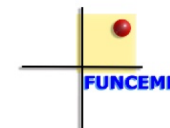
Precipitação  
Desvio Percentual [%] Fev-Mai/2021



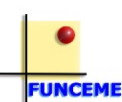
# Precipitações Quadra Chuvosa (fevereiro a maio) 2021 – Regiões Hidrográficas



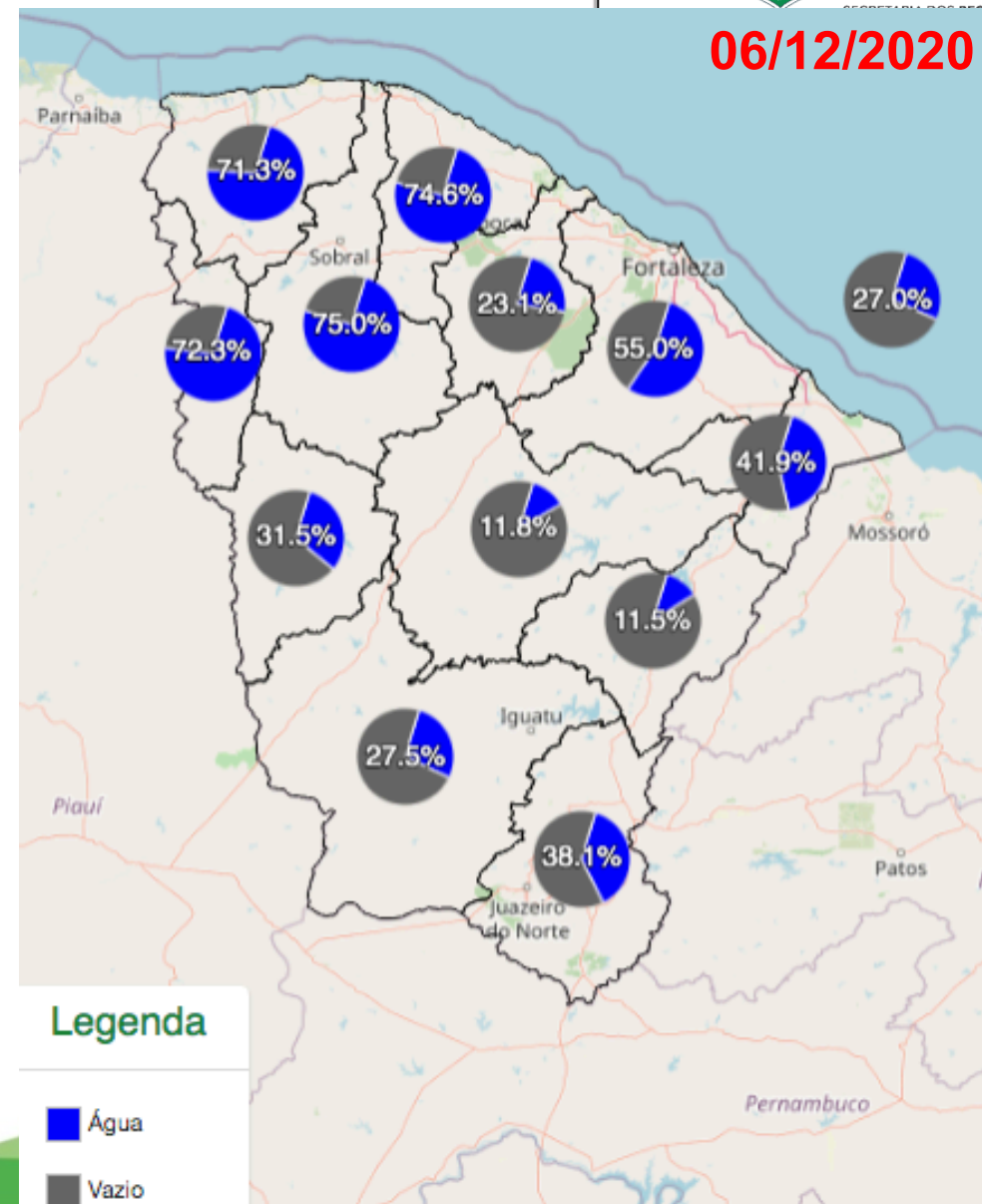
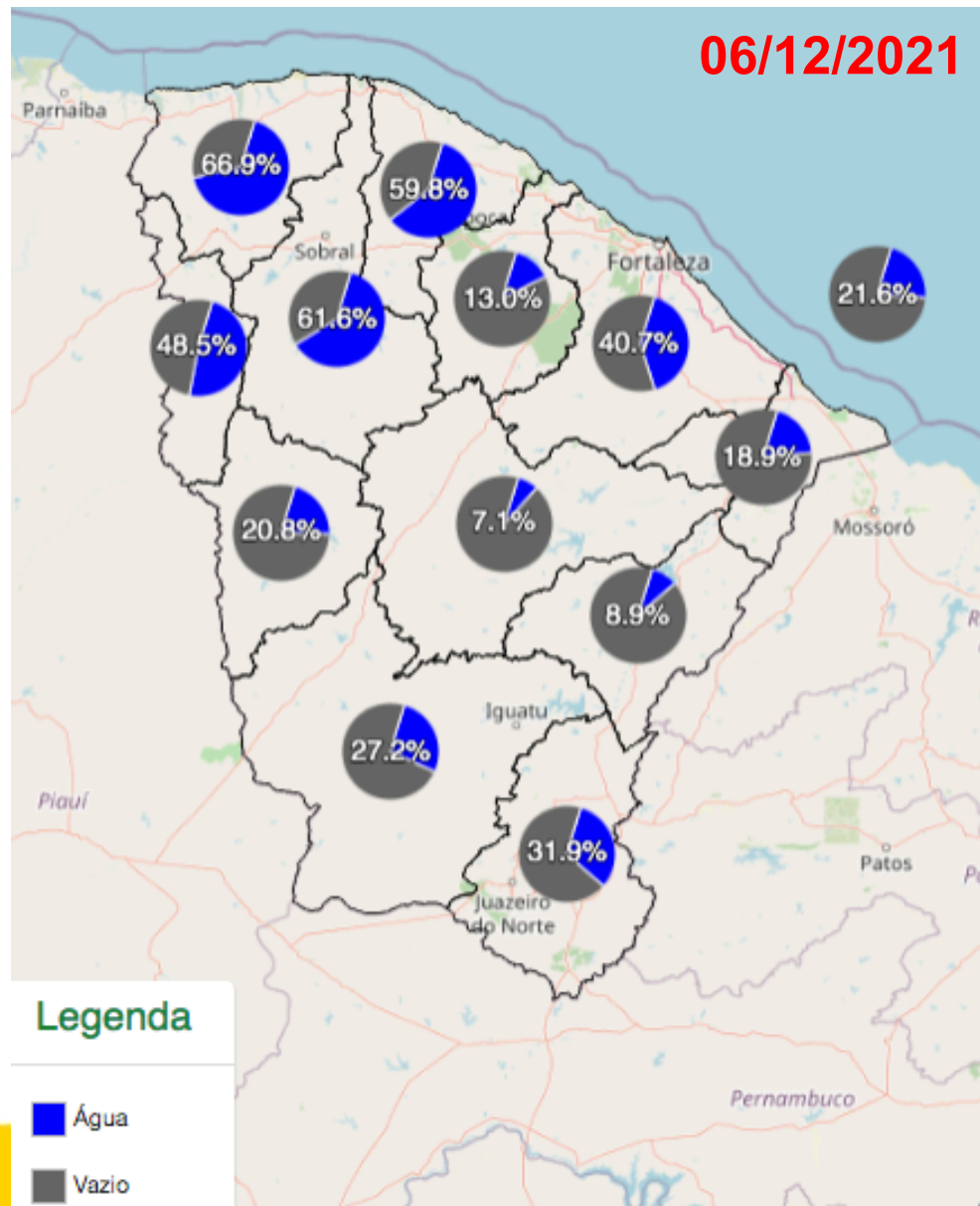
# Precipitações Quadra Chuvosa (fevereiro a maio) 2021 – Municípios do CBH Banabuiú

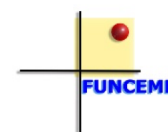


# Situação das Regiões Hidrográficas



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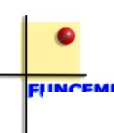


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# Condições Atuais dos Oceanos Pacífico e Atlântico

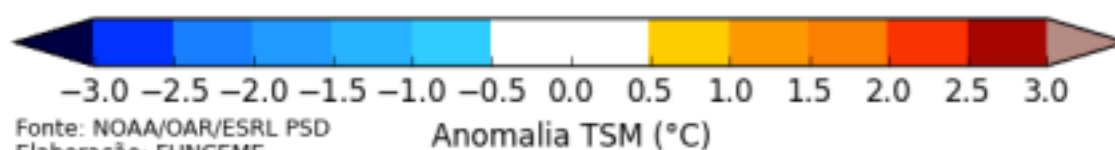
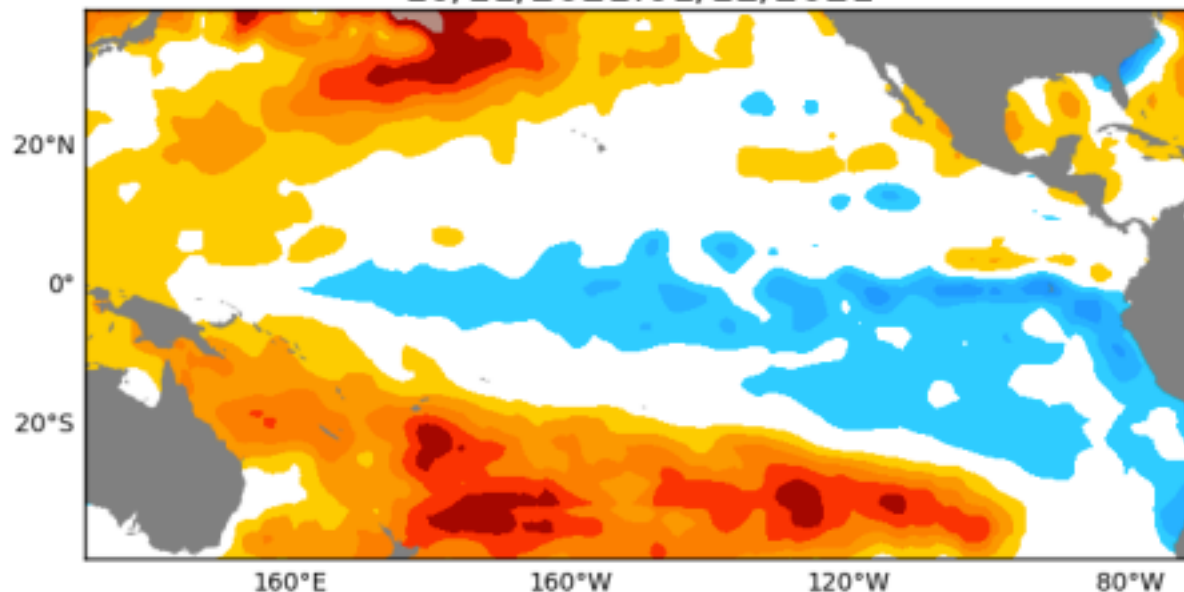


# Anomalia da Temperatura da Superfície do Mar no Oceano Pacífico



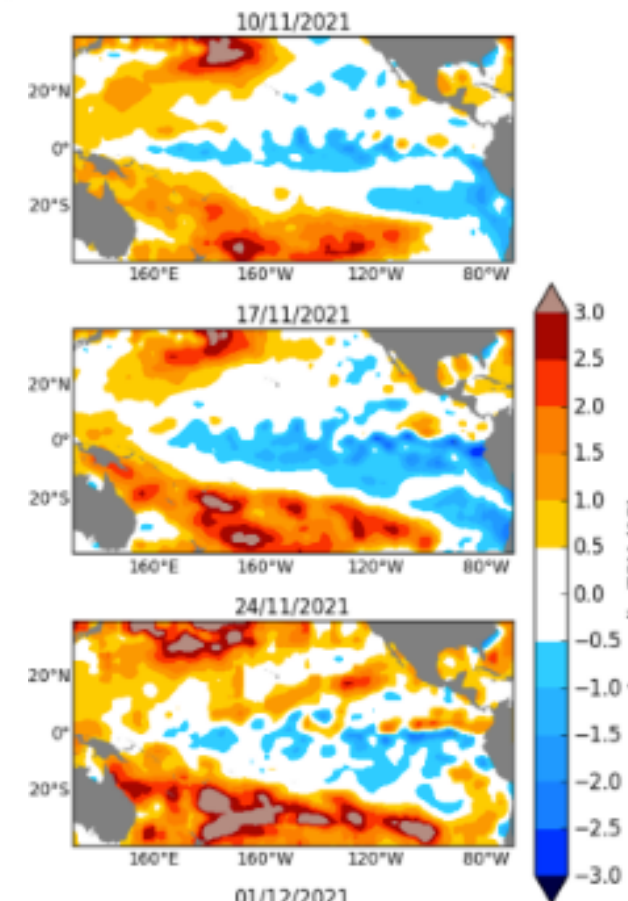
Anomalia Semanal de TSM

Média da Anomalia de TSM das últimas quatro semanas  
10/11/2021:01/12/2021

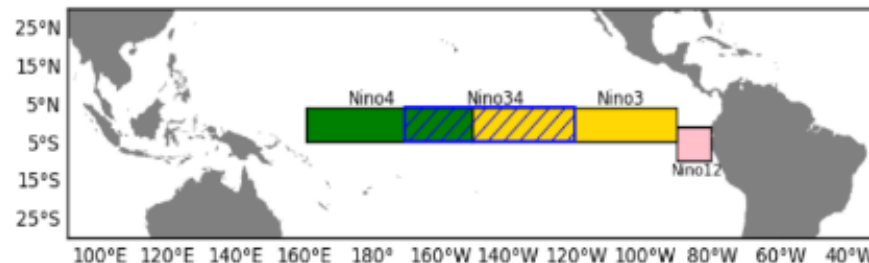
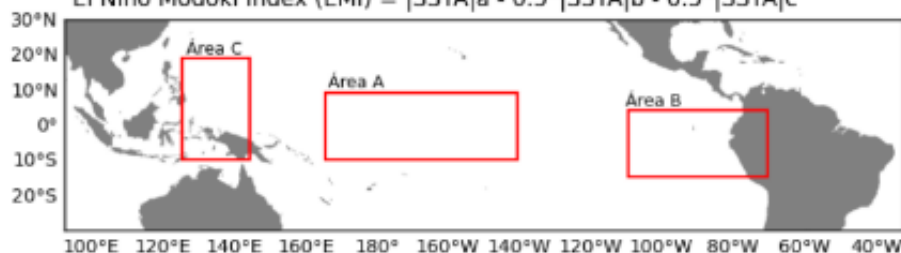


Fonte: NOAA/OAR/ESRL PSD  
Elaboração: FUNCEME

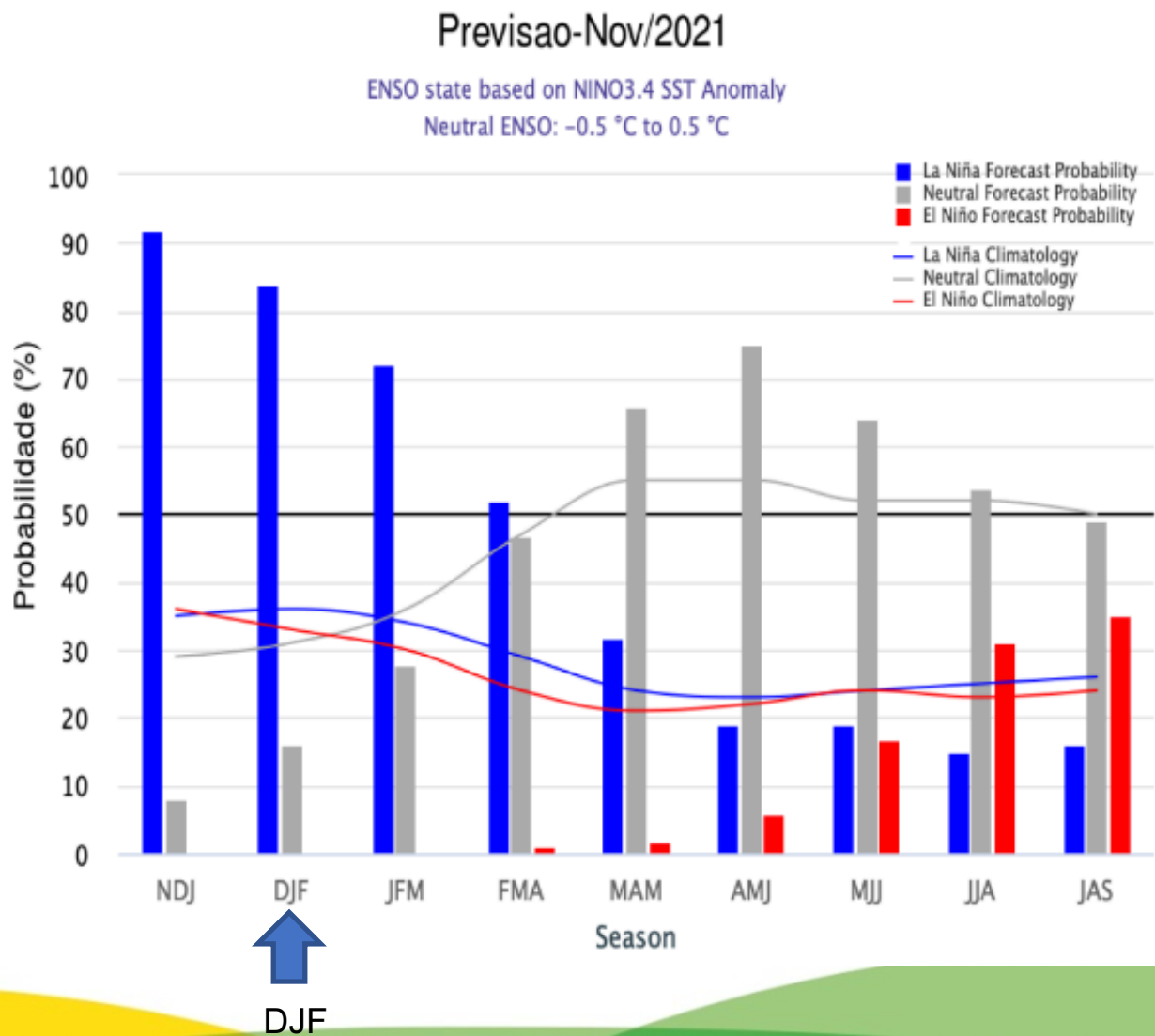
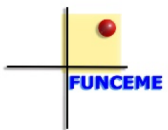
- Niño 1+2 -1.1
- Niño 3 -0.7
- Niño 3.4 -0.7**
- Niño 4 -0.5
- Niño EMI -0.5

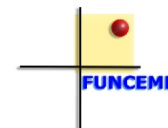


El Niño Modoki Index (EMI) =  $|SSTA|_a - 0.5*|SSTA|_b - 0.5*|SSTA|_c$



# Previsão de Anomalia de Temperatura das Superfície do Mar no Oceano Pacífico





### Dados de 1950 a 2021

26 eventos de La Niña no trimestre dezembro, janeiro e fevereiro

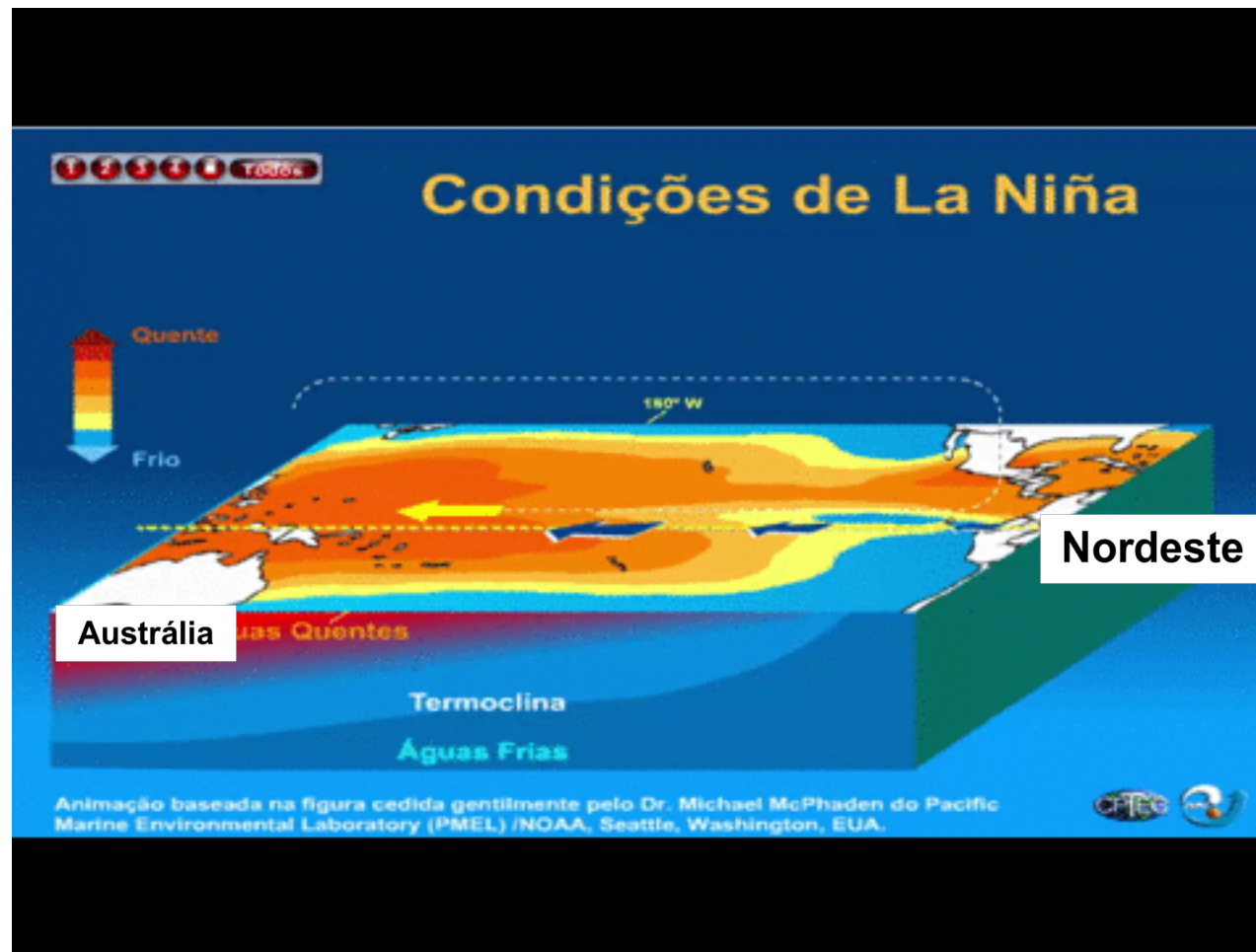
Como ficaram as chuvas, no Ceará, no trimestre dezembro, janeiro e fevereiro?

46% (12 anos) tiveram chuva em torno da normal

35% (09 anos) tiveram chuva abaixo da normal

19% (05 anos) tiveram chuva acima da normal

# Influência do Fenômeno La Niña

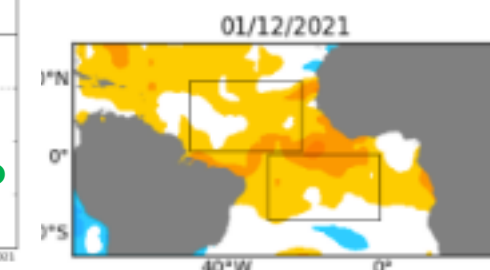
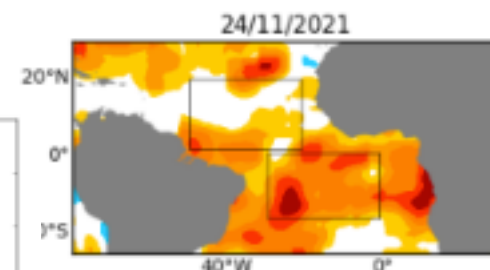
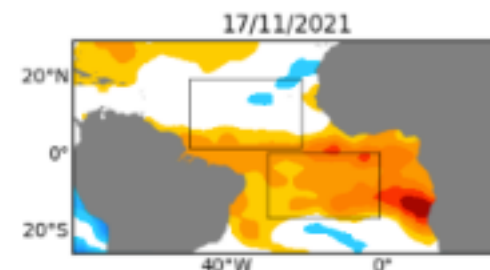
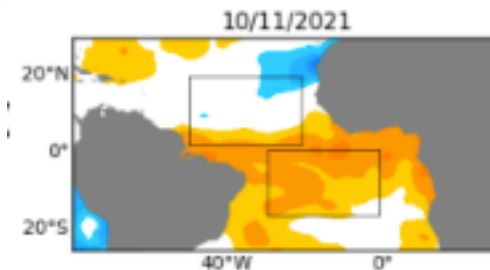


Fonte: CPTEC/INPE

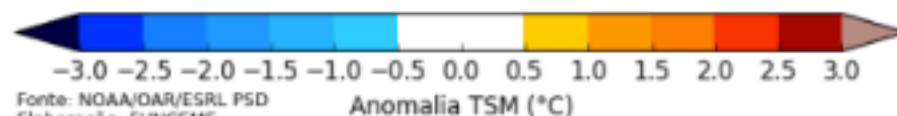
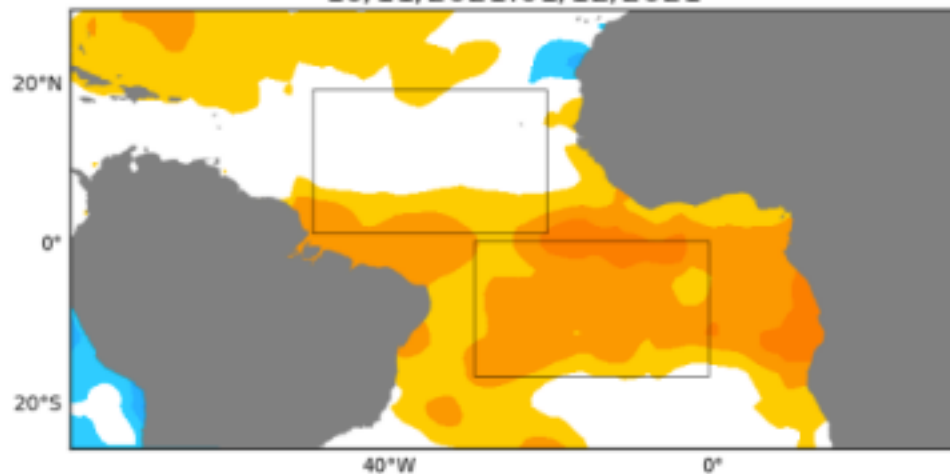
# Anomalia da Temperatura da Superfície do Mar no Oceano Atlântico



Anomalia Semanal de TSM

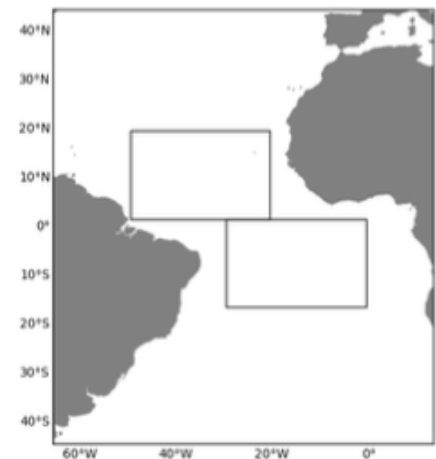
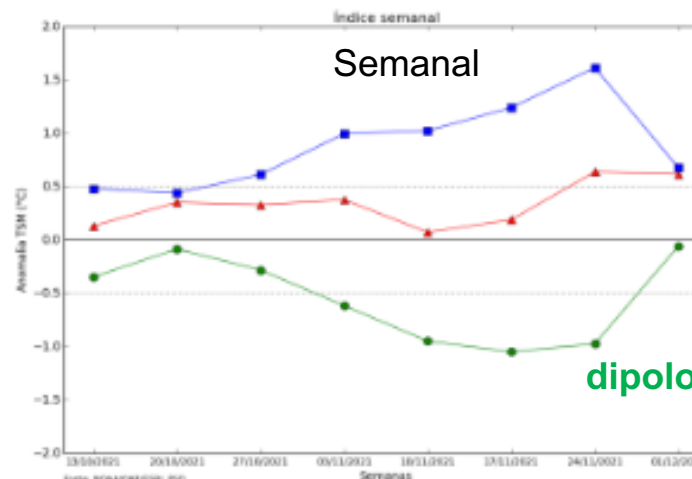
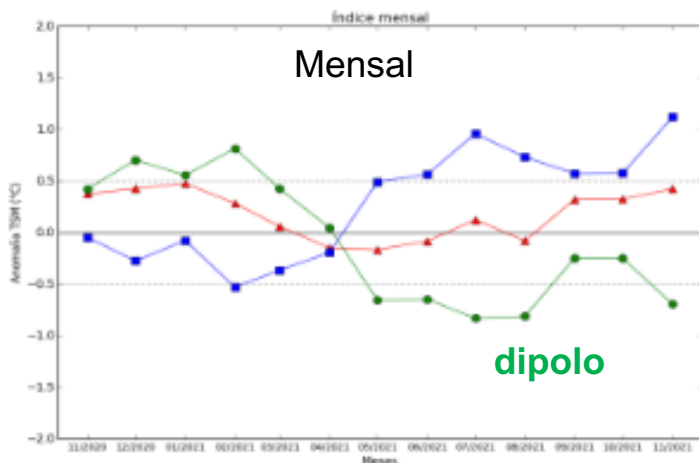


Média da Anomalia de TSM das últimas quatro semanas  
10/11/2021:01/12/2021

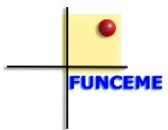


Fonte: NOAA/OAR/ESRL PSD  
Elaboração: FUNCEME

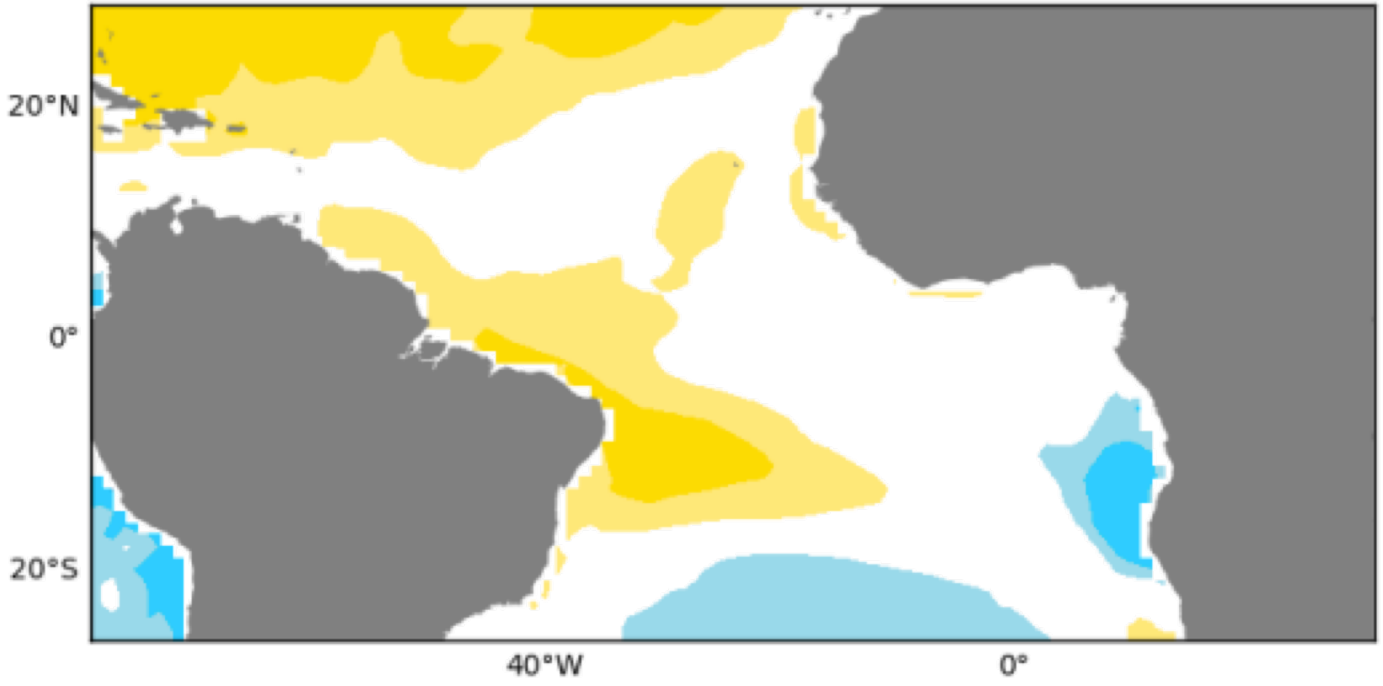
- ▲ Anom\_TSM\_Atl\_Norte
- Anom\_TSM\_Atl\_Sul (A)
- Gradiente (ATAN - ATL\_Sul)



# Previsão de Anomalia de Temperatura das Superfície do Mar no Oceano Atlântico

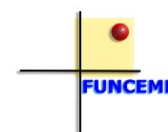


NMME - Nov/2021 - Previsão - DJF/2021  
Anomalia de TSM



Fonte: NOAA/NCEP/CPC  
Elaboração: FUNCEME

Anomalia de TSM (°C)

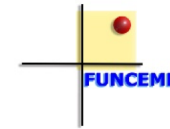


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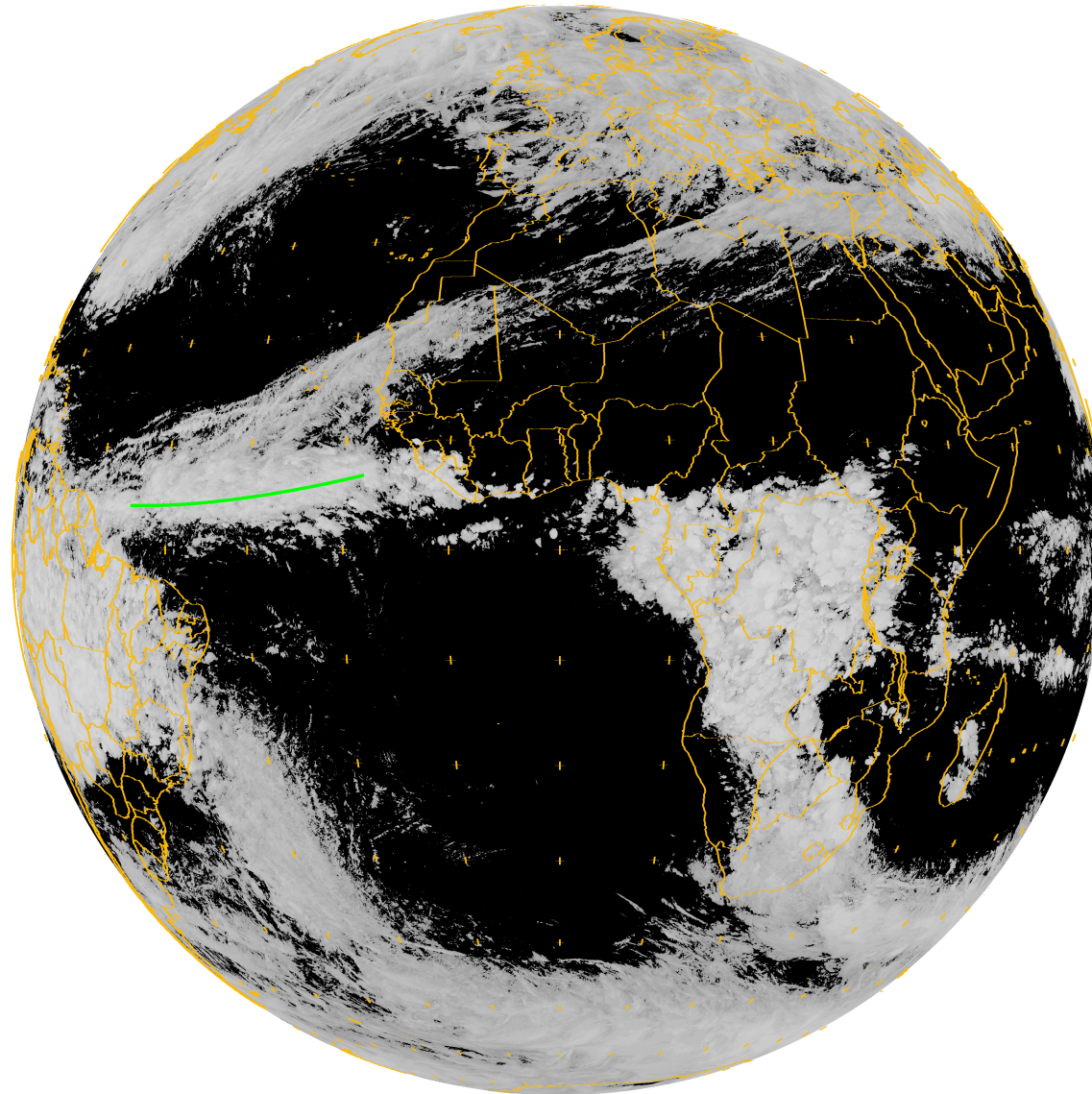
# A Posição da Zona de Convergência Intertropical (ZCIT)

# Posição Média da ZCIT entre 01 a 05/12/2021

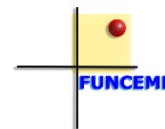
ZCIT Período: 01/12/2021 a 05/12/2021



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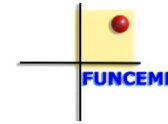




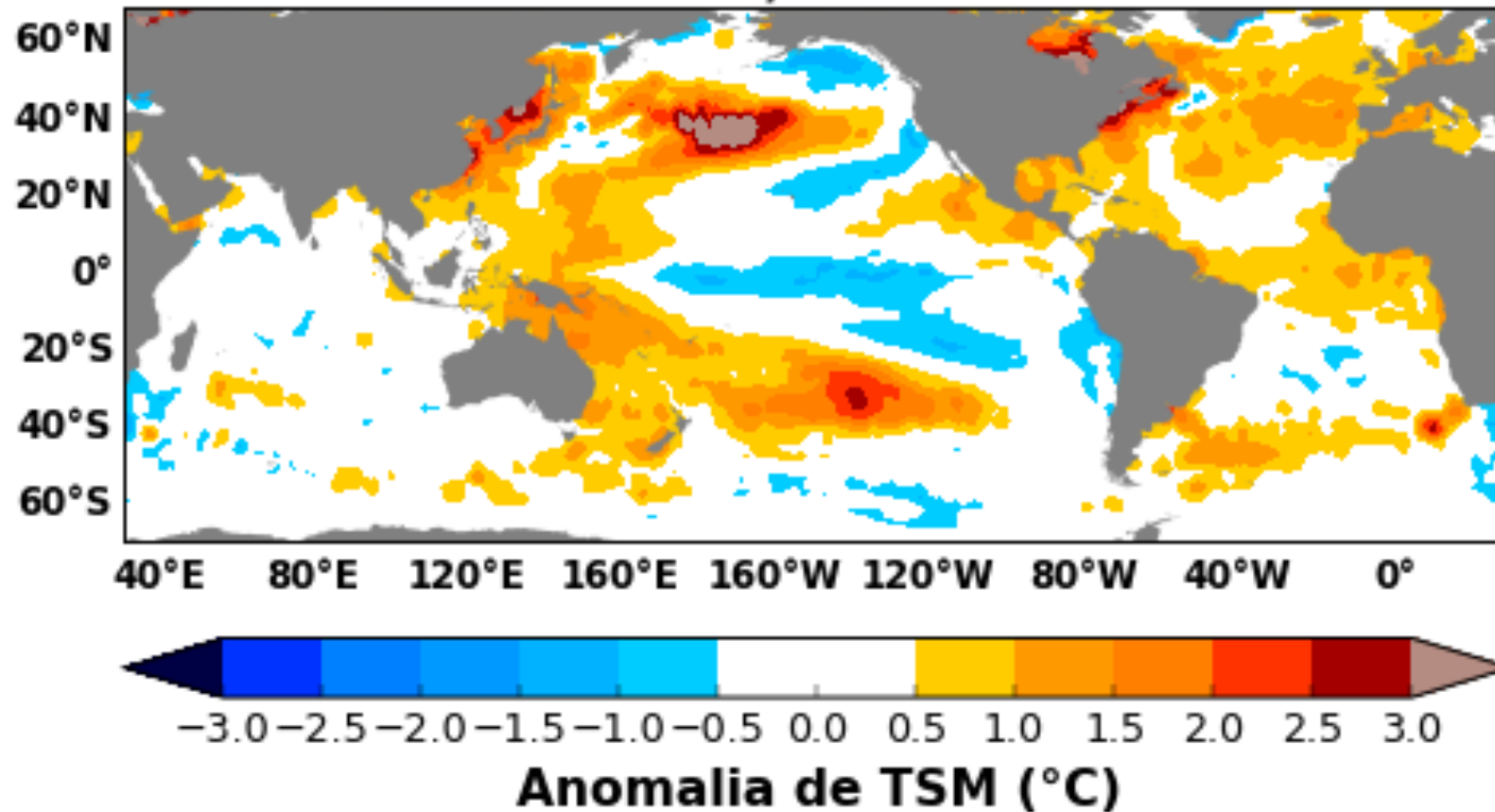
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SECRETARIA DOS RECURSOS HÍDRICOS

# Resultado de Modelo de Previsão para o Trimestre Dez/21-Jan e Fev/22

# Condições de Anomalia de Temperatura do Mar Utilizada para Processar Modelo de Previsão de Clima



## Média Mensal da Anomalia de TSM 10/2021

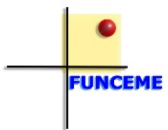


Referência: 1982-2011

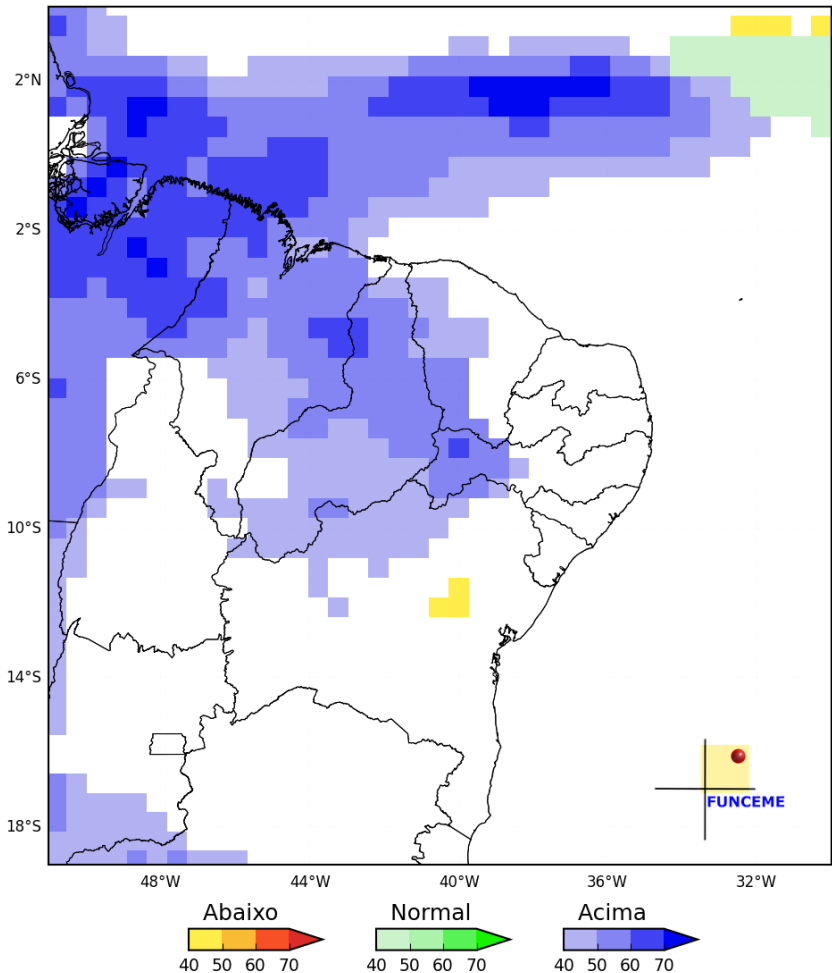
Fonte: NOAA/OAR/ESRL PSD

Elaboração: FUNCEME

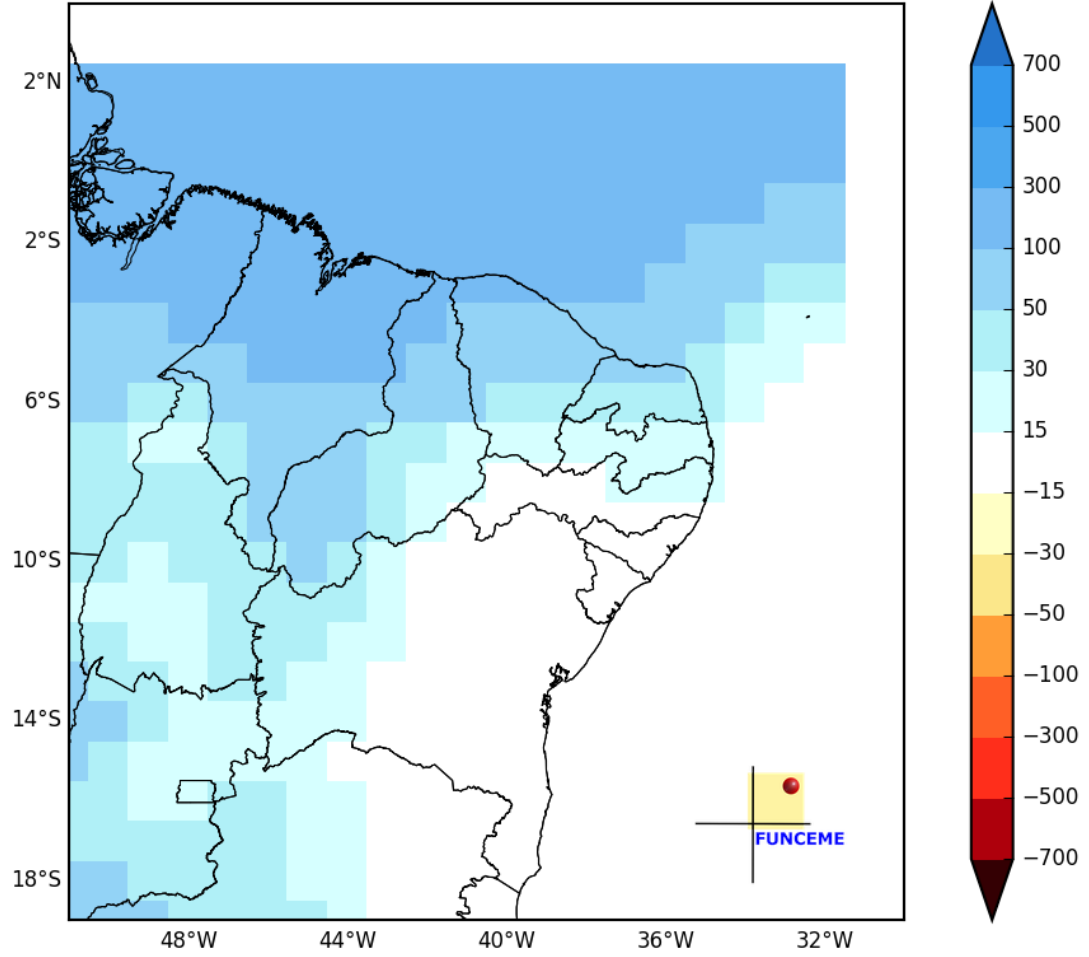
# Resultado de Modelo de Previsão de Clima para o Trimestre Dez/21-Jan e Fev/22



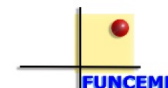
RSM97 - NOV/2021 - DJF/2021  
PROB PREC (%) (81-10)



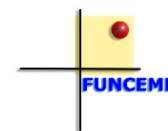
ECHAM4.6 - NOV/2021 - DJF/2021  
ANOMALIA (mm) - PRECIP ACUM (81-10)



## Normal Climatológica da Precipitação (mm)



Regiões	Dez (mm)	Jan (mm)	Fev (mm)	DJF (mm)
Acaraú	25,1	106,5	132,3	263,9
Alto Jaguaribe	47,4	104,6	109,8	261,8
Baixo Jaguaribe	17,6	75,6	105,9	199,1
Banabuiú	24,4	76,7	93,3	194,4
Coreaú	30,4	133,4	183,0	346,8
Curu	13,6	77,7	101,0	192,3
Litoral	17,3	95,9	134,9	248,1
Metropolitana	23,4	93,6	122,5	239,5
Médio Jaguaribe	23,0	87,4	108,8	219,2
Salgado	66,0	143,5	152,3	361,8
Serra da Ibiapaba	33,8	100,3	120,7	254,8
Sertões de Crateús	30,1	93,9	106,6	230,6



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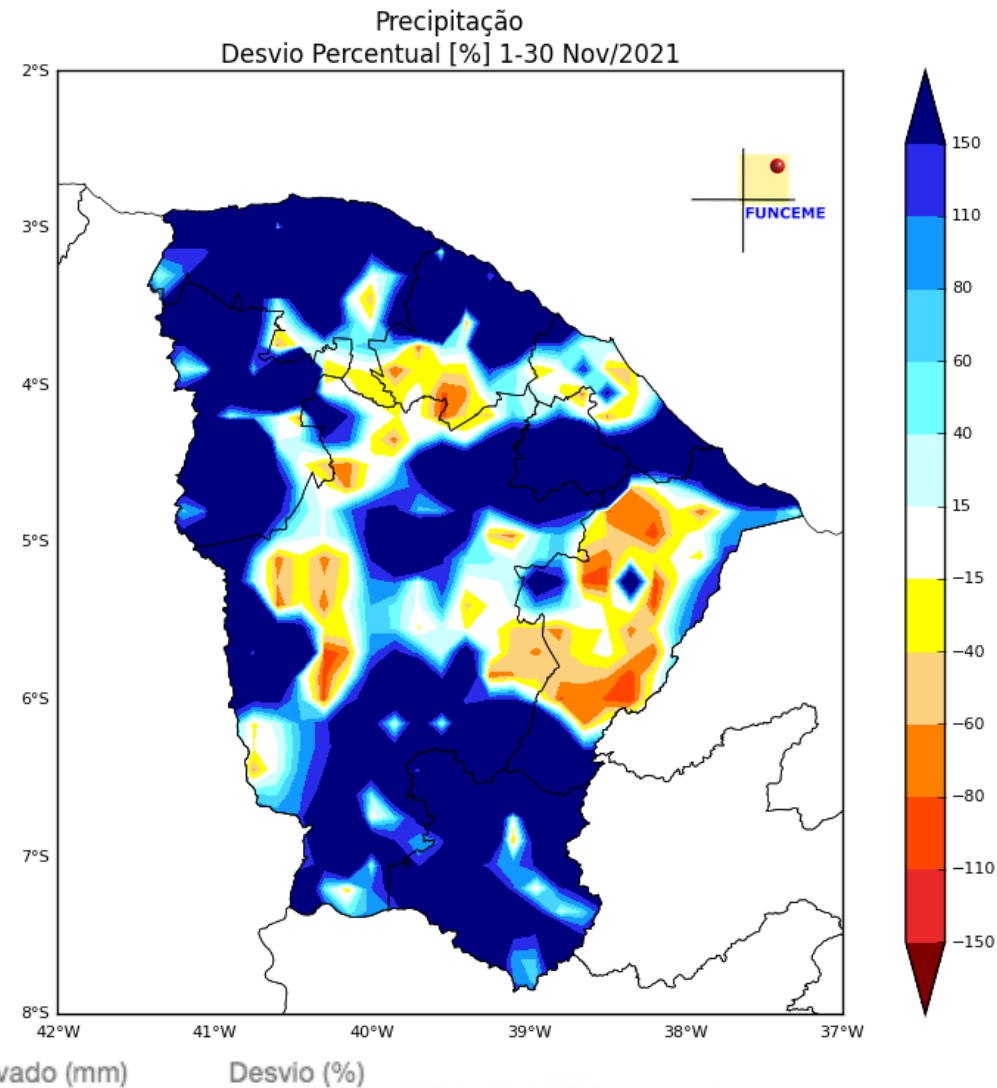
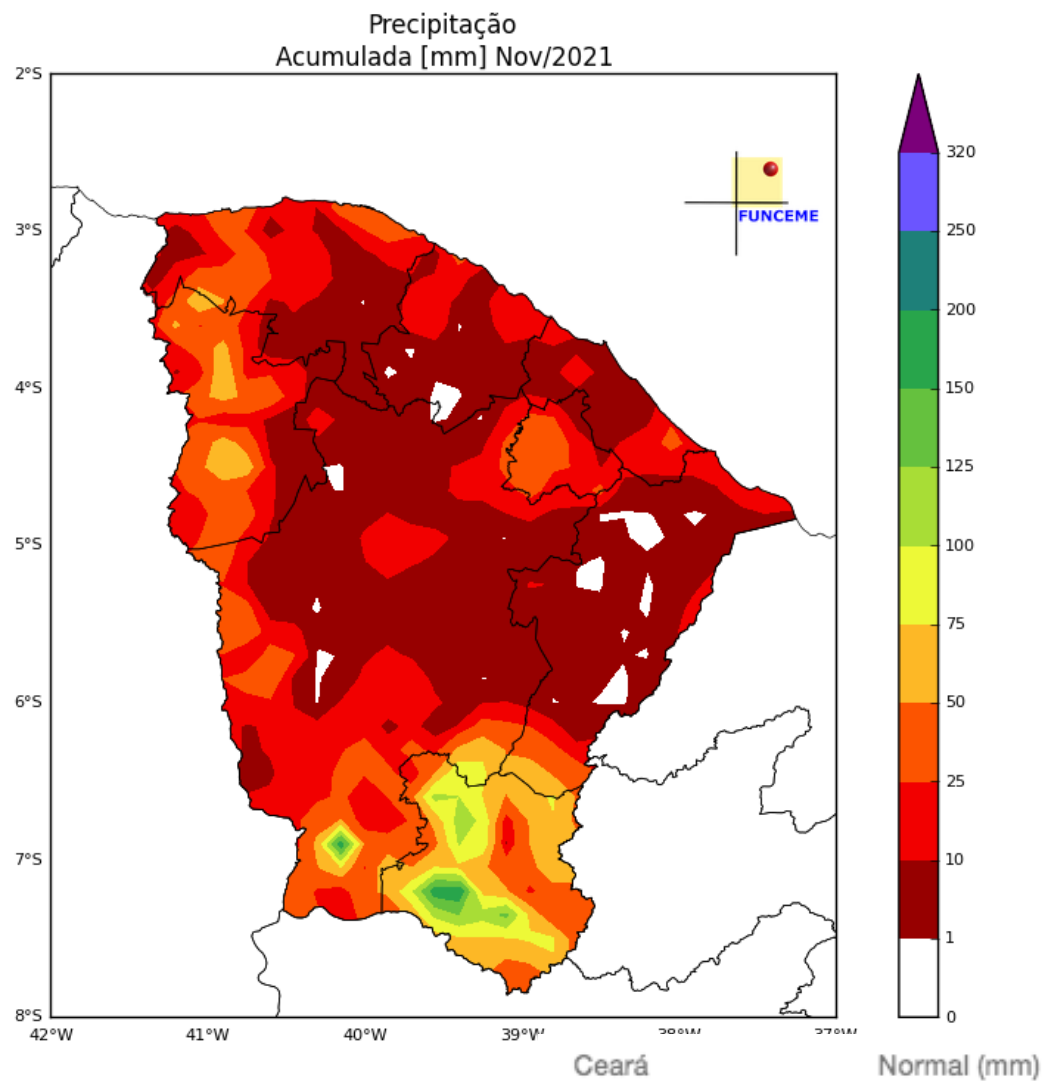
# As Chuvas de Novembro de 2021

# Precipitações de Novembro de 2021



**CEARÁ**

DO  
ICOS



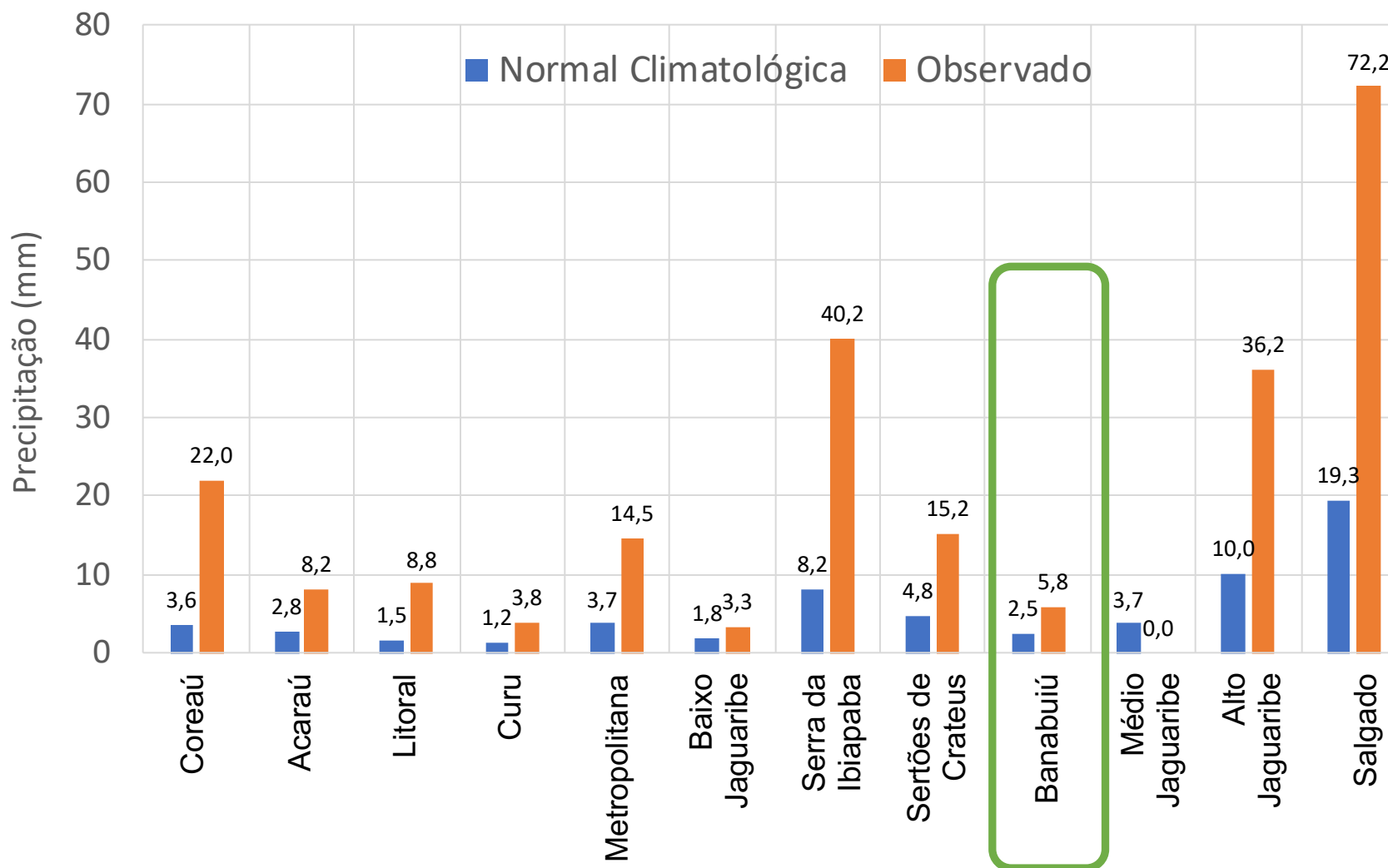
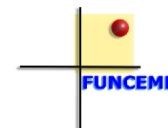
Estado do Ceará

5.8

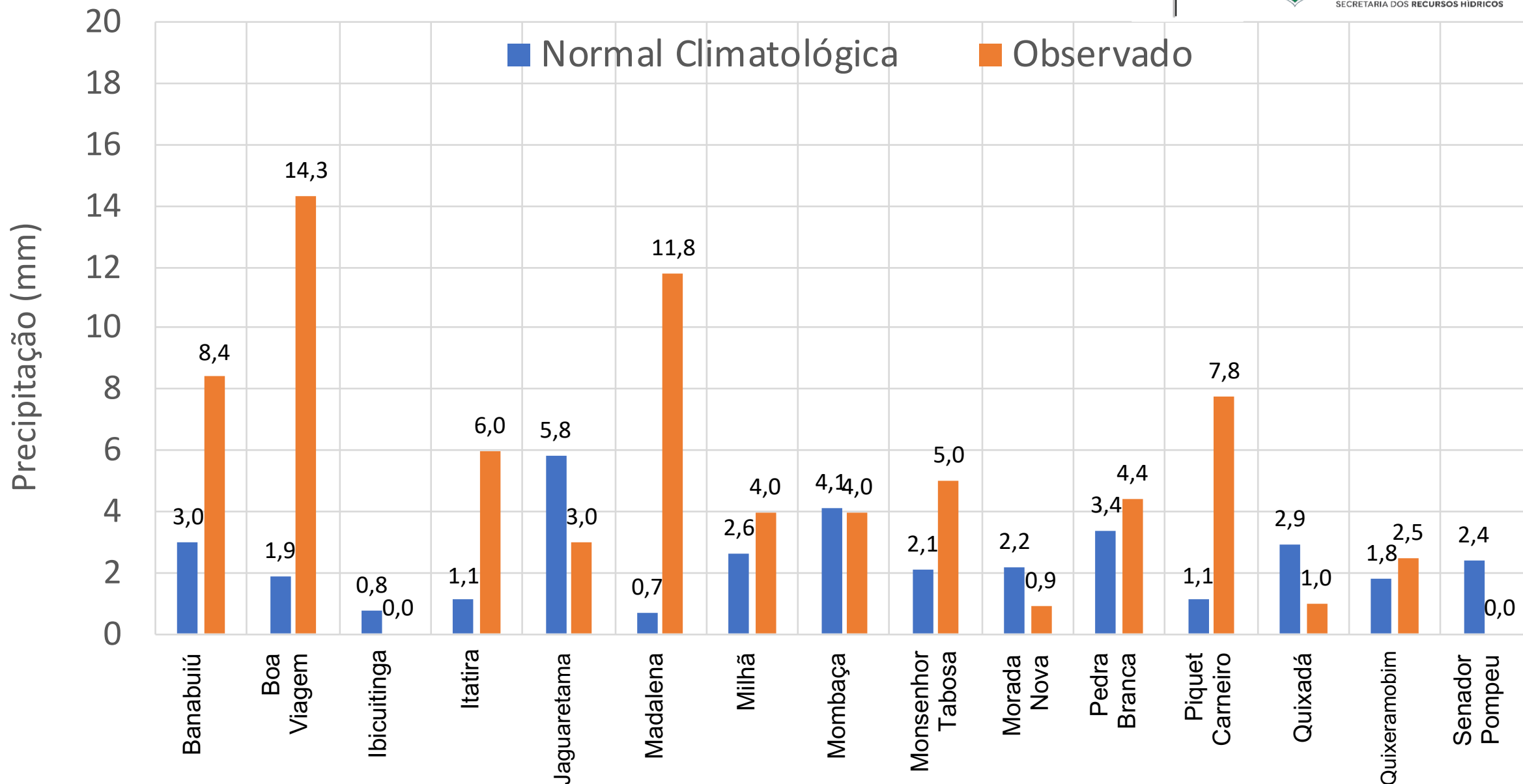
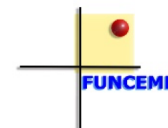
21.1

265.4

# Precipitações de Novembro de 2021 – Regiões Hidrográficas

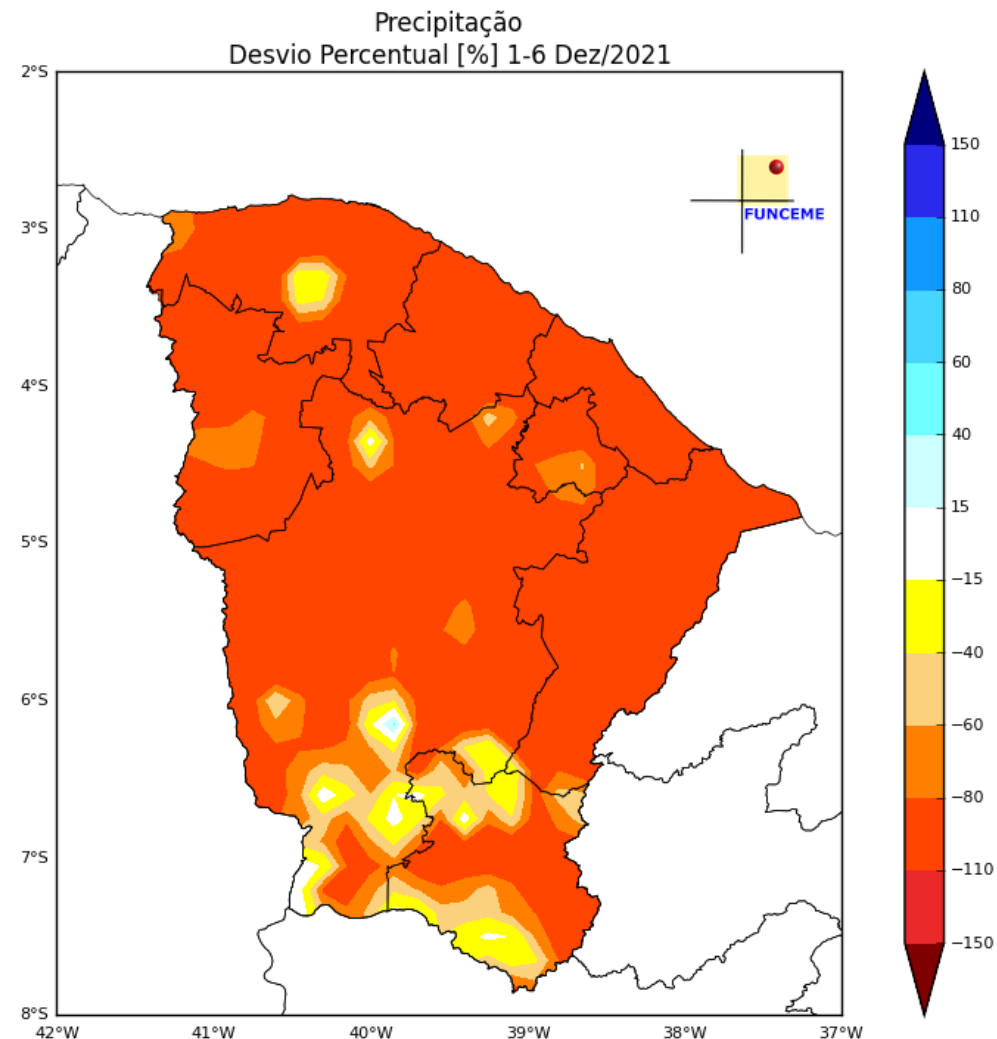
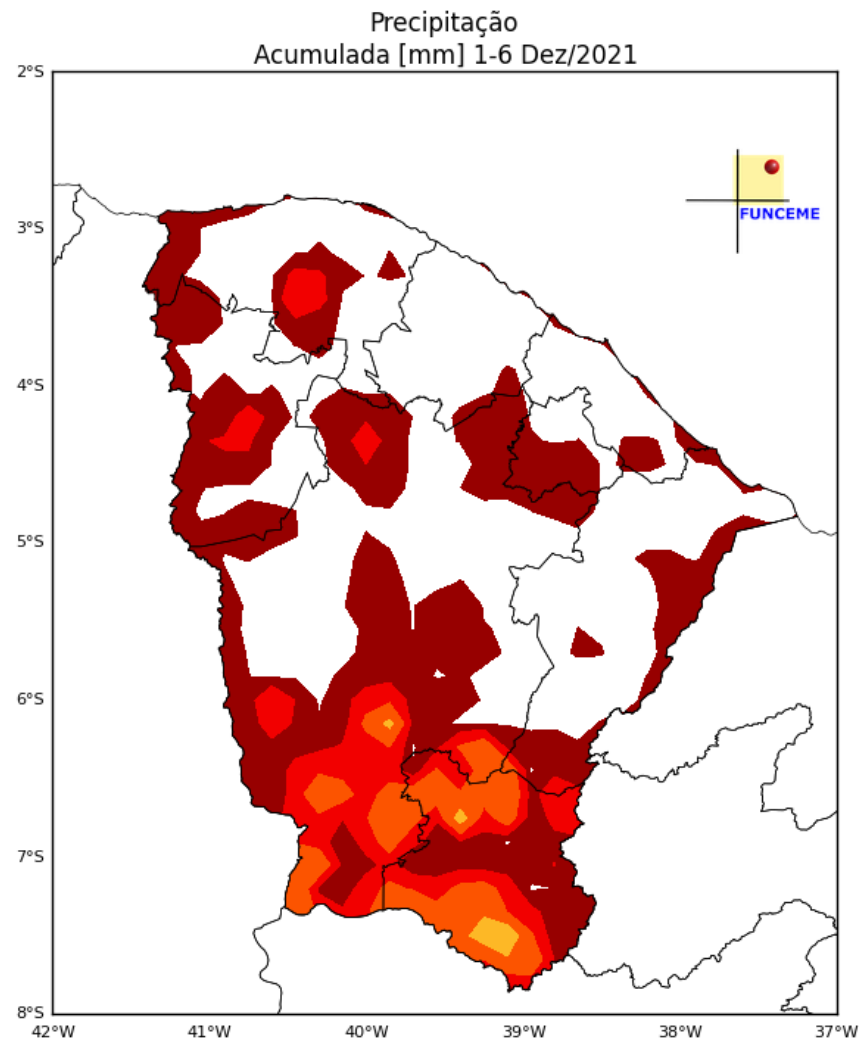


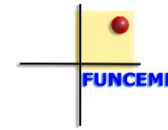
# Precipitações Novembro de 2021 – Municípios do CBH Banabuiú





# Precipitações de Dezembro de 2021 (até dia 06/12)





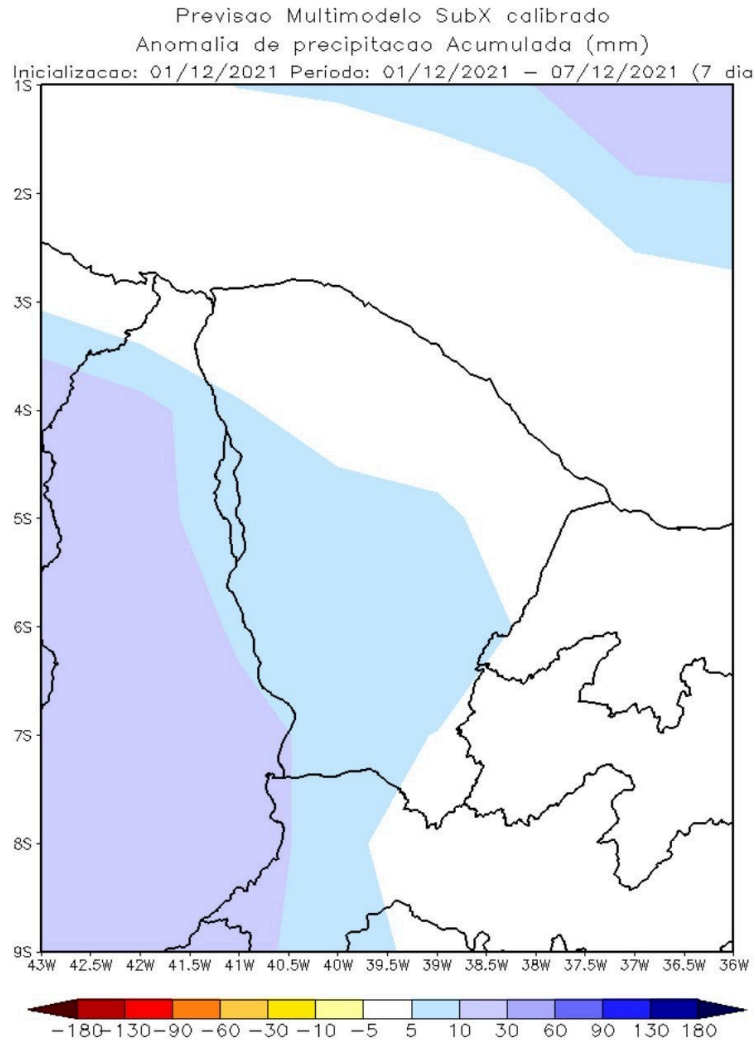
**CEARÁ**  
GOVERNO DO ESTADO  
SECRETARIA DOS RECURSOS HÍDRICOS

# Resultados Experimentais de Modelos de Previsão em Escala Subsazonal

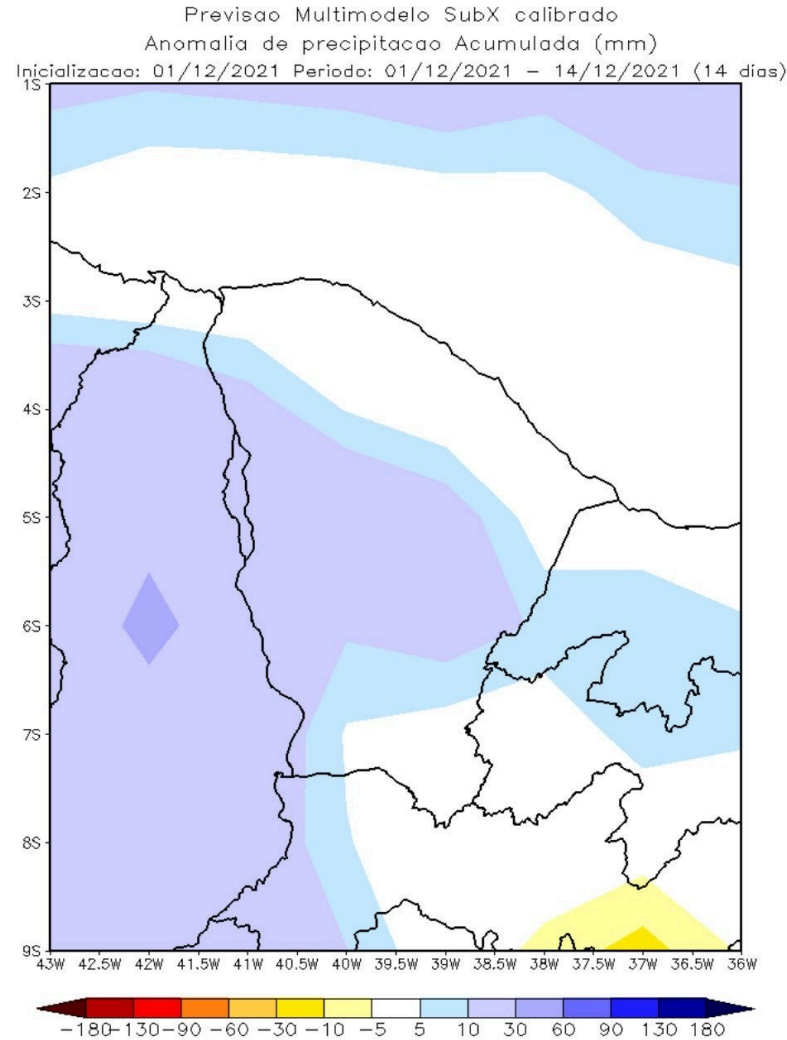
# Resultado Experimentais de Modelos de Previsão de Clima para 7, 14 e 30 Dias



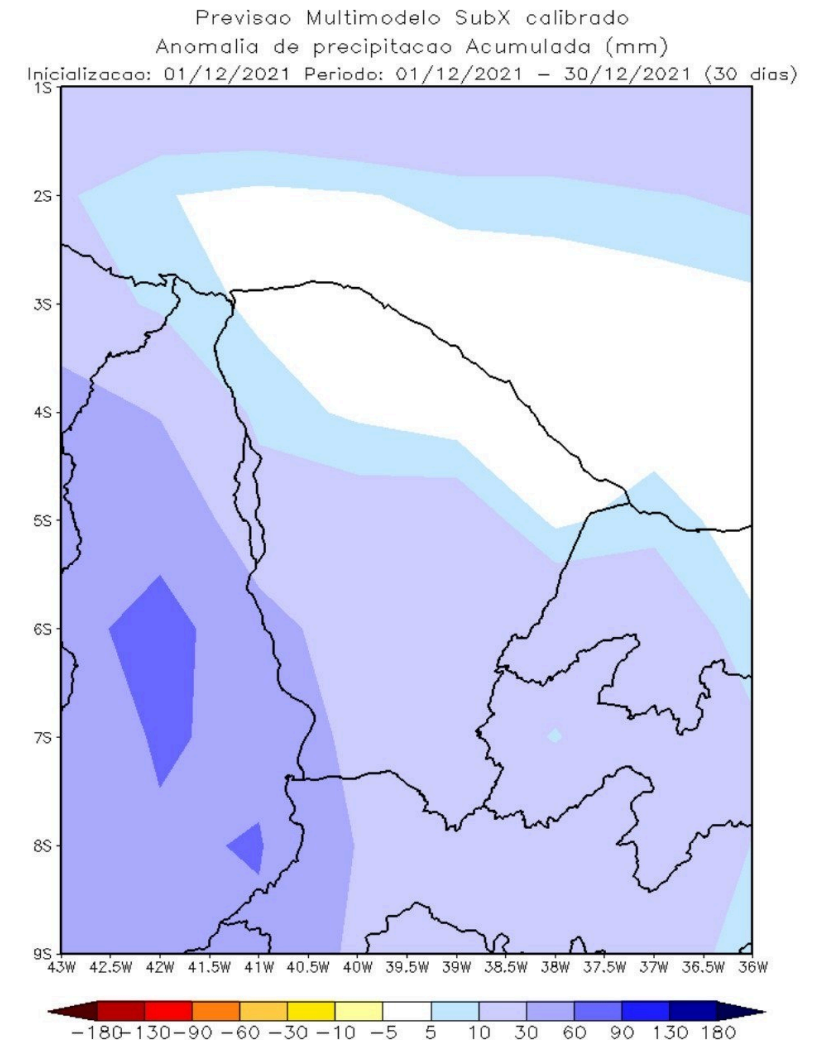
## 01/12 a 07/12/2021



## 01/12 a 14/12/2021



## 01/12 a 30/12/2021





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**GOVERNO DO ESTADO**

