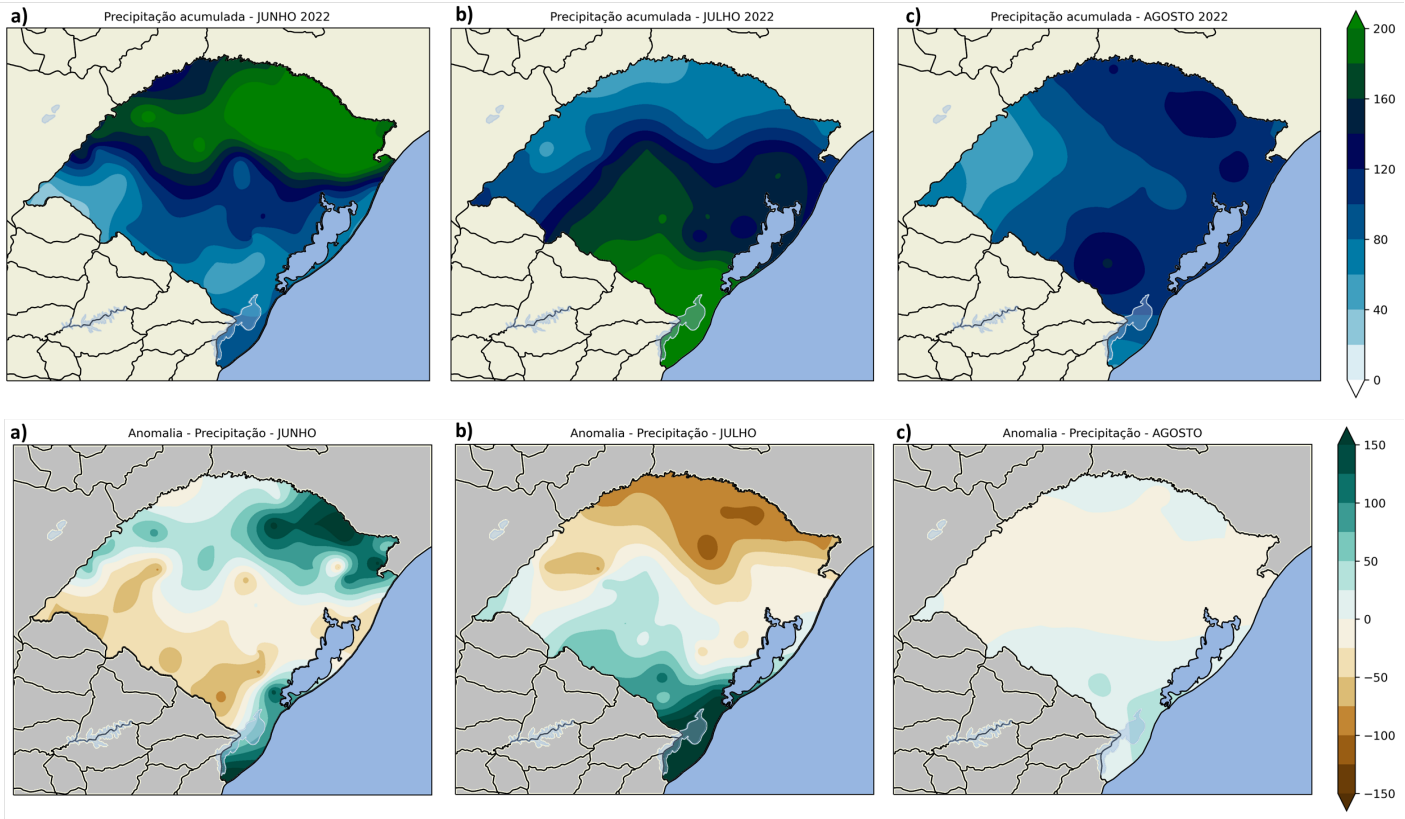
Reunião Climática Mensal

Curso de Meteorologia
UFSM

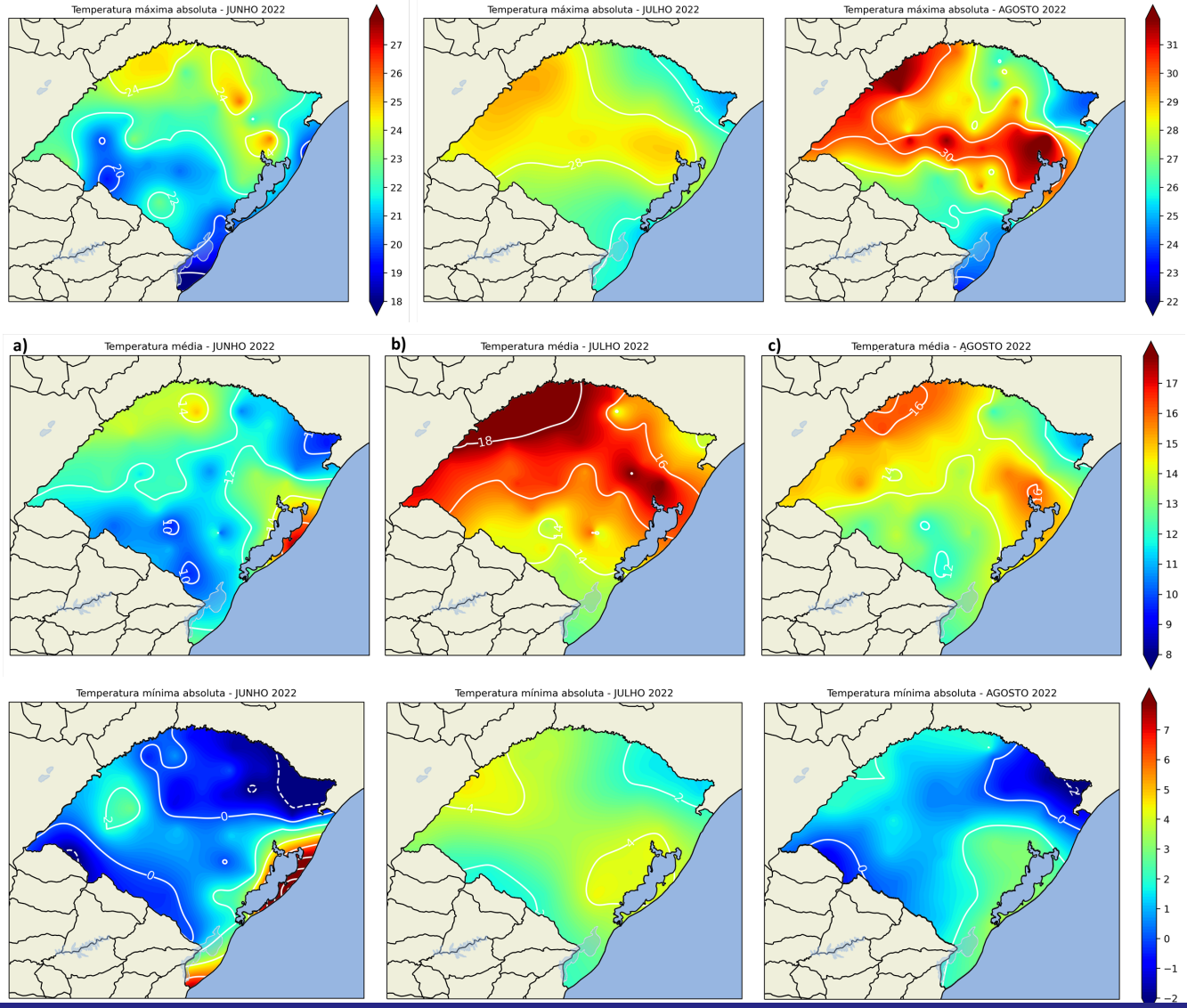
16 de Setembro de 2022

Sumário

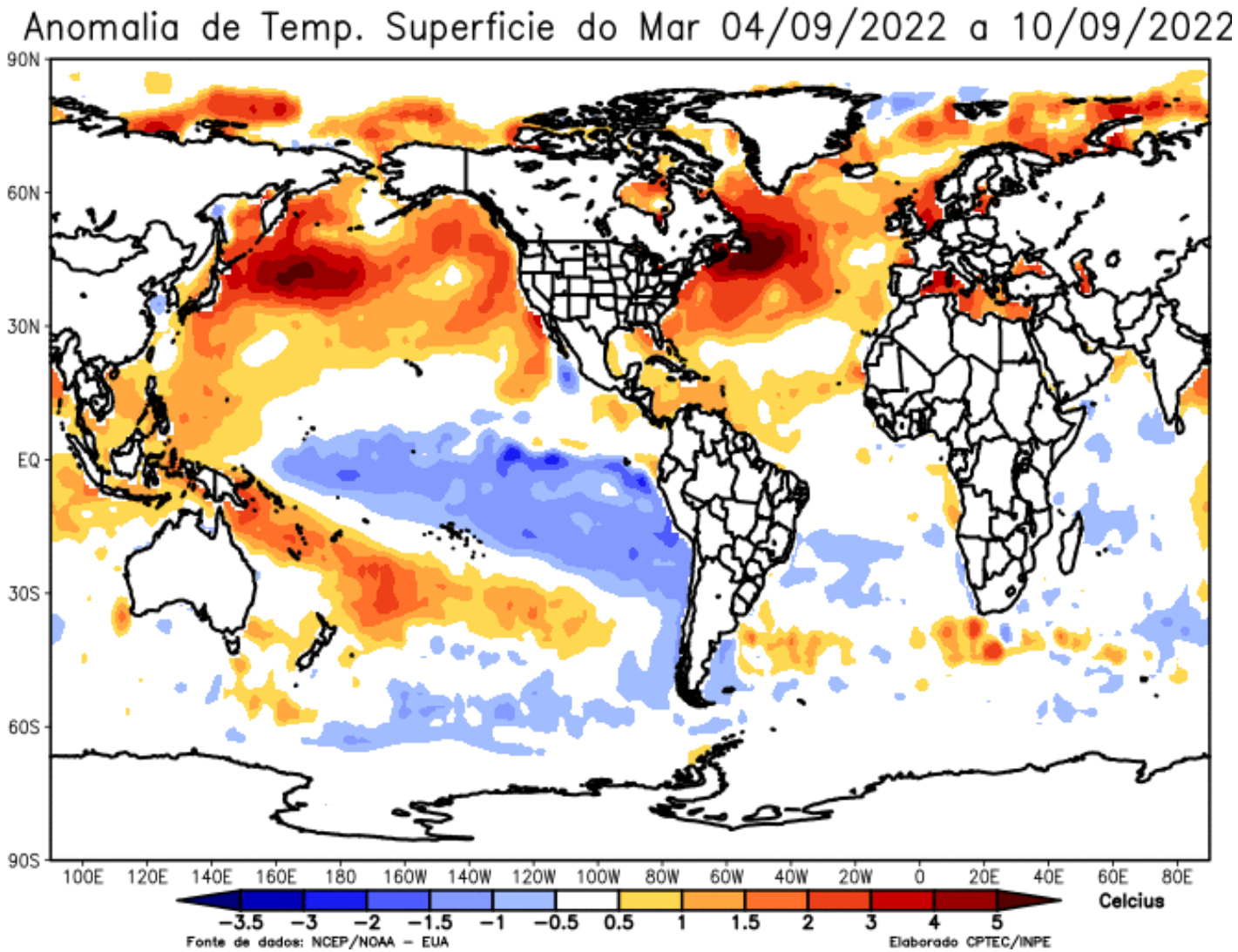
Precipitação

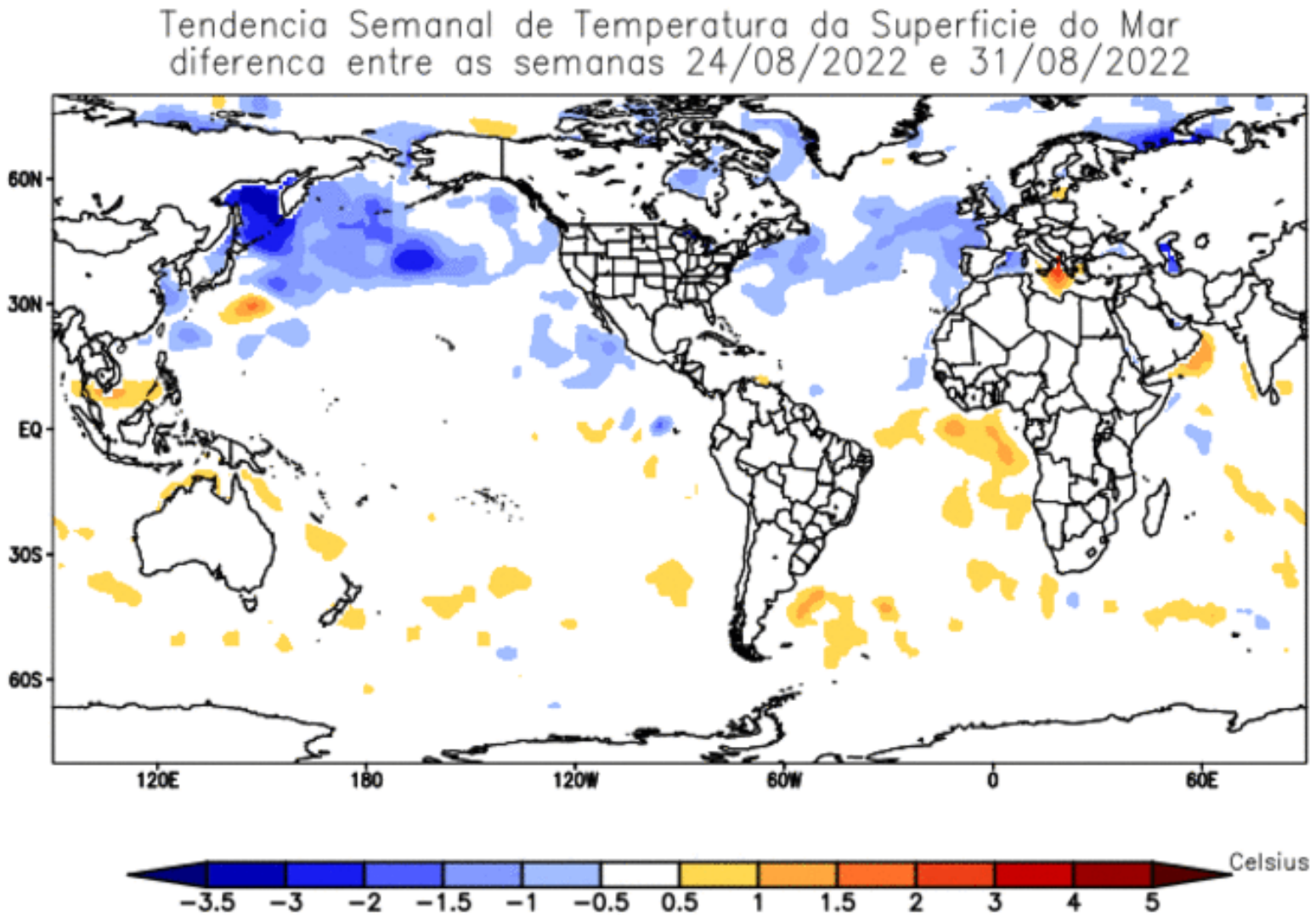


Temperatura



Sumário


Anomalia de Temp. Superficie do Mar 04/09/2022 a 10/09/2022
90N
60N
30N
EQ
30S
60S
90S
100E 120E 140E 160E 180 160W 140W 120W 100W 80W 60W 40W 20W 0 20E 40E 60E 80E
−3.5 −3 −2 −1.5 −1 −0.5 0.5 1 1.5 2 3 4 5
Celcius
Fonte de dados: NCEP/NOAA – EUA
Elaborado CPTEC/INPE


Tendencia Semanal de Temperatura da Superficie do Mar
diferenca entre as semanas 24/08/2022 e 31/08/2022
60N
30N
EQ
30S
60S
120E
180
120W
60W
0
60E
Celsius
-3.5 -3 -2 -1.5 -1 -0.5 0.5 1 1.5 2 3 4 5
Fonte de dados: NCEP/NOAA - EUA
Elaboracao: CPTEC/INPE

Sumário

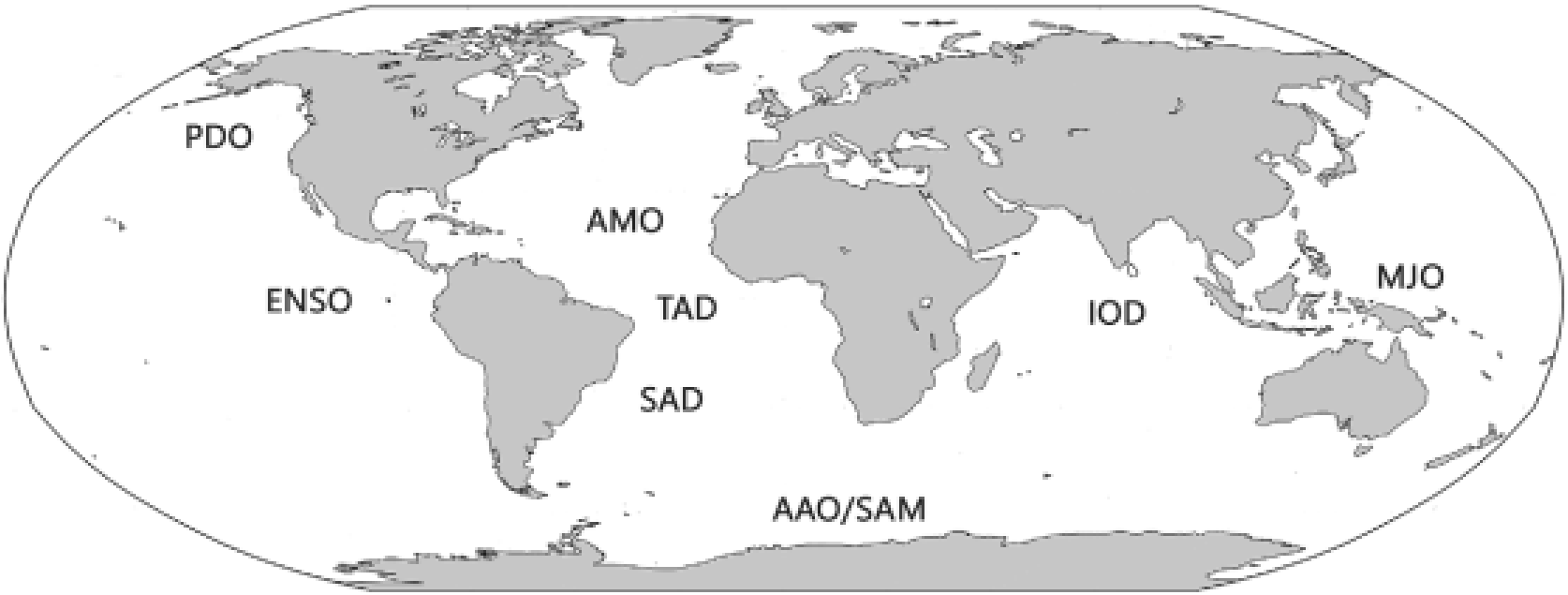
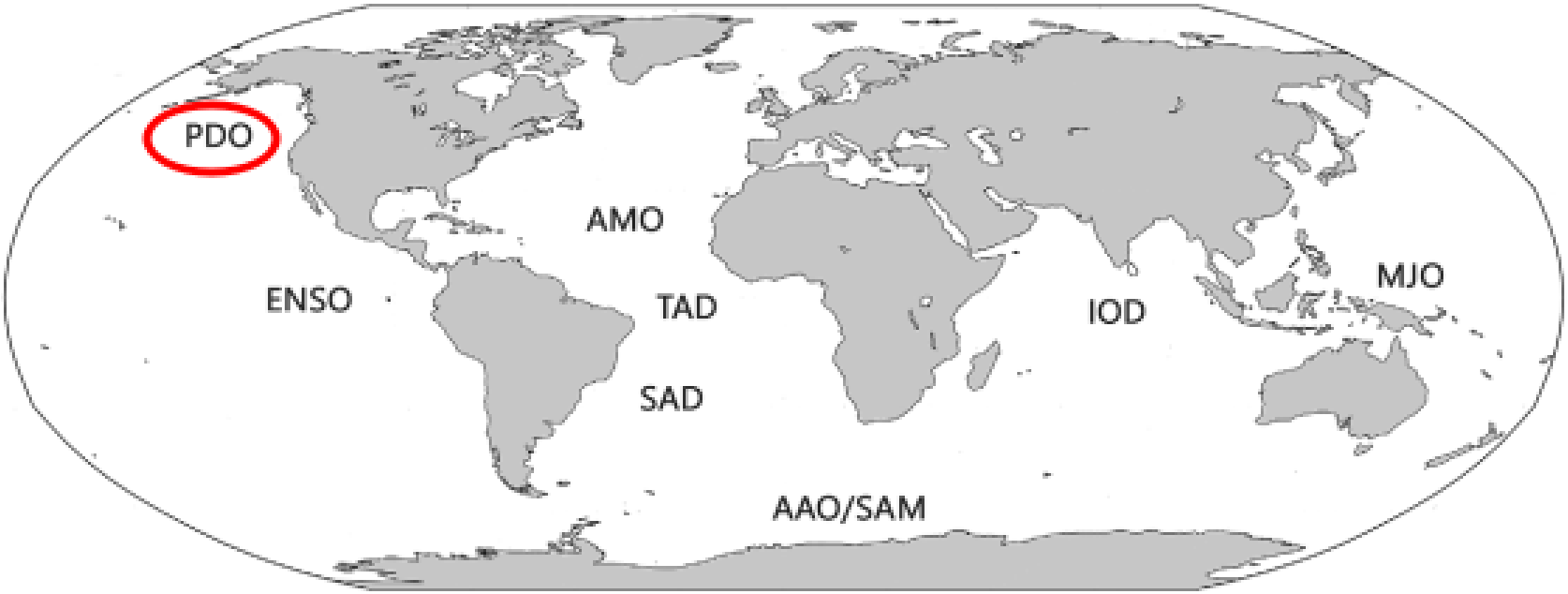


Figure 1. Main source regions of the teleconnection patterns included in this study being the El Niño–Southern Oscillation (ENSO), the Pacific Decadal Oscillation (PDO), the Atlantic Multidecadal Oscillation (AMO), the Tropical Atlantic Dipole (TAD), the South Atlantic Dipole (SAD), the Southern Annular Mode (SAM), the Madden–Julian Oscillation (MJO), and the Indian Ocean Dipole (IOD).

Fonte: Reboita et al. (2021).

Pacific Decadal Oscillation



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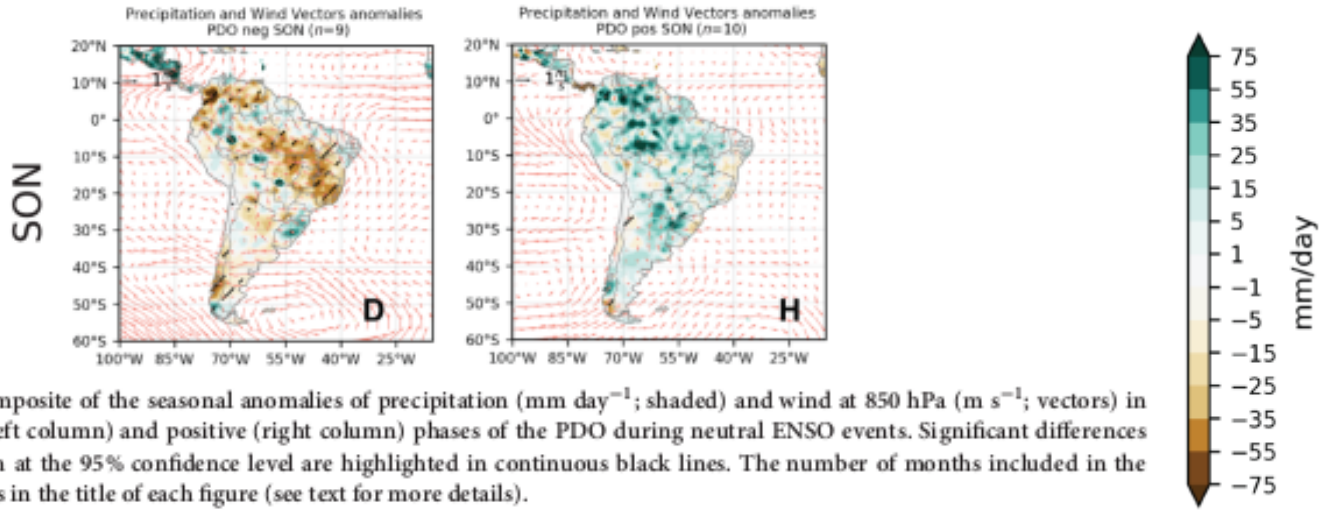
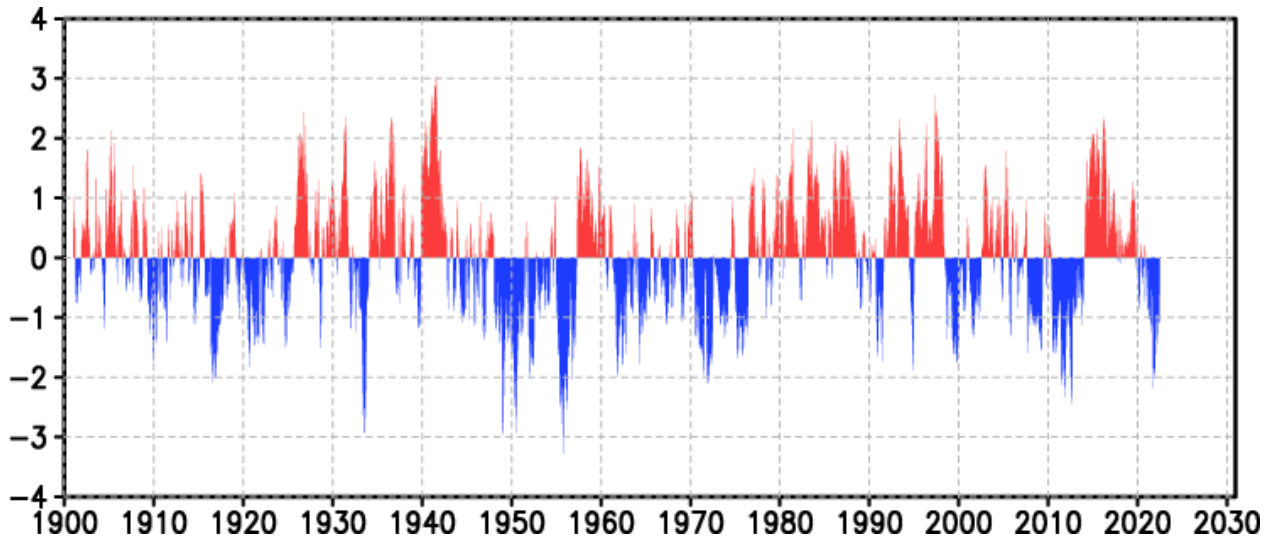
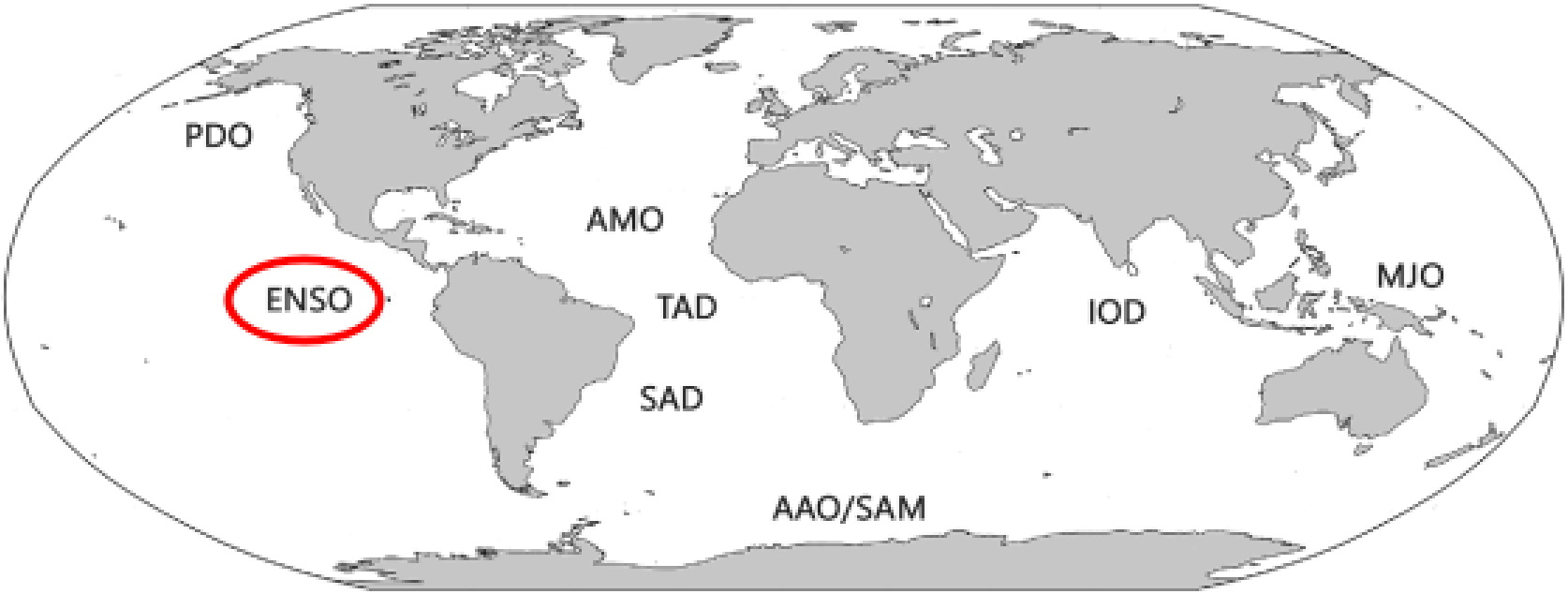


Figure 5. Composite of the seasonal anomalies of precipitation (mm day^{-1}; shaded) and wind at 850 hPa (m s^{-1}; vectors) in the negative (left column) and positive (right column) phases of the PDO during neutral ENSO events. Significant differences in precipitation at the 95% confidence level are highlighted in continuous black lines. The number of months included in the compositions is in the title of each figure (see text for more details).



Fonte: Tokio Climate Center.

Oceanic Niño Index



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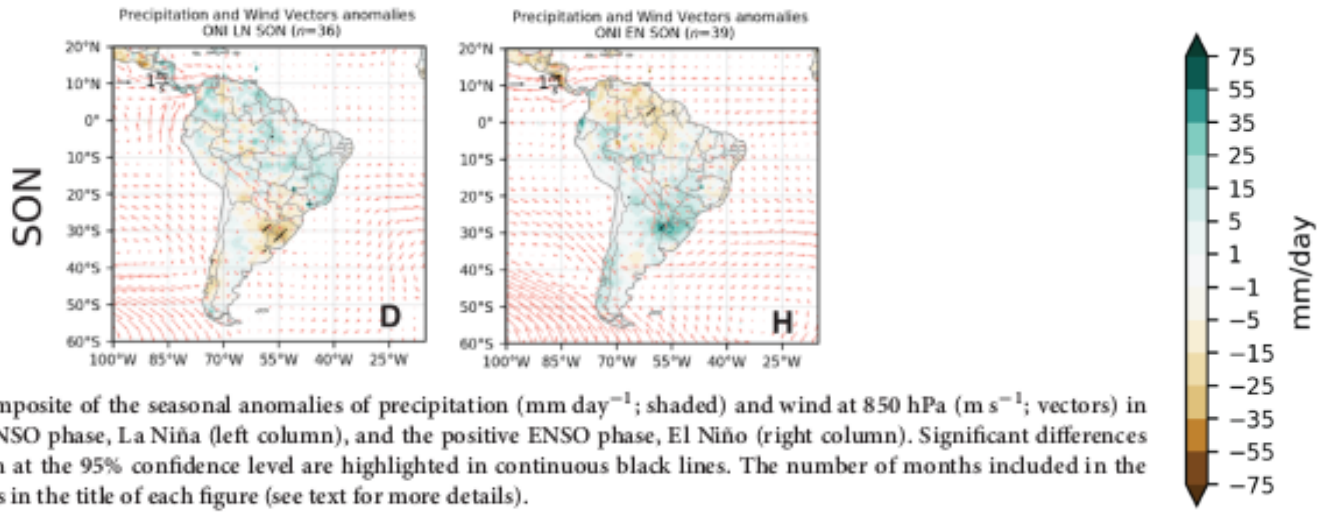
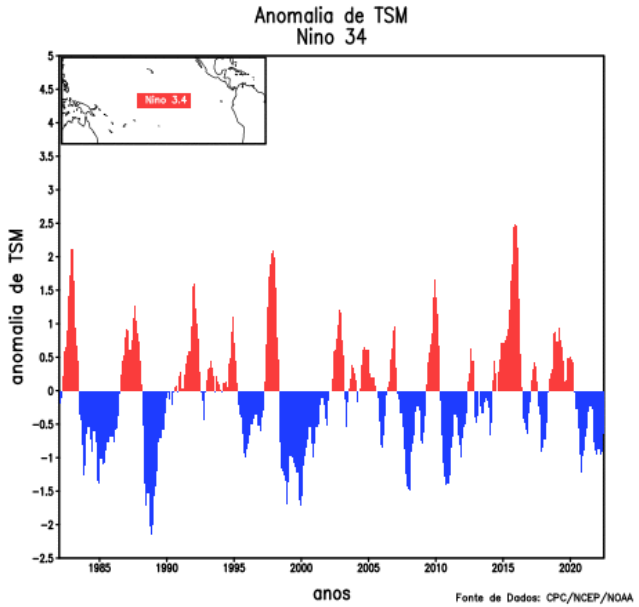
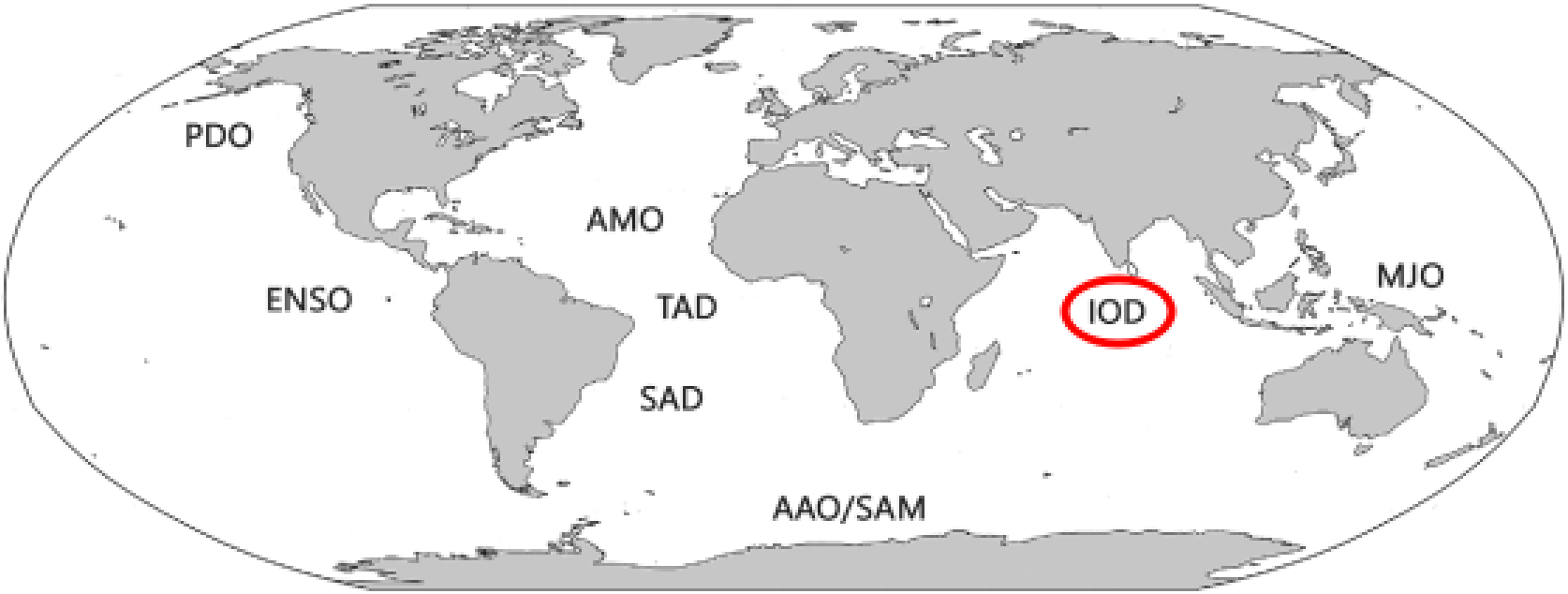


Figure 4. Composite of the seasonal anomalies of precipitation (mm day^{-1}; shaded) and wind at 850 hPa (m s^{-1}; vectors) in the negative ENSO phase, La Niña (left column), and the positive ENSO phase, El Niño (right column). Significant differences in precipitation at the 95% confidence level are highlighted in continuous black lines. The number of months included in the compositions is in the title of each figure (see text for more details).



Fonte: CPTEC/INPE.

Indian Ocean Dipole (Dipole Mode Index - DMI)



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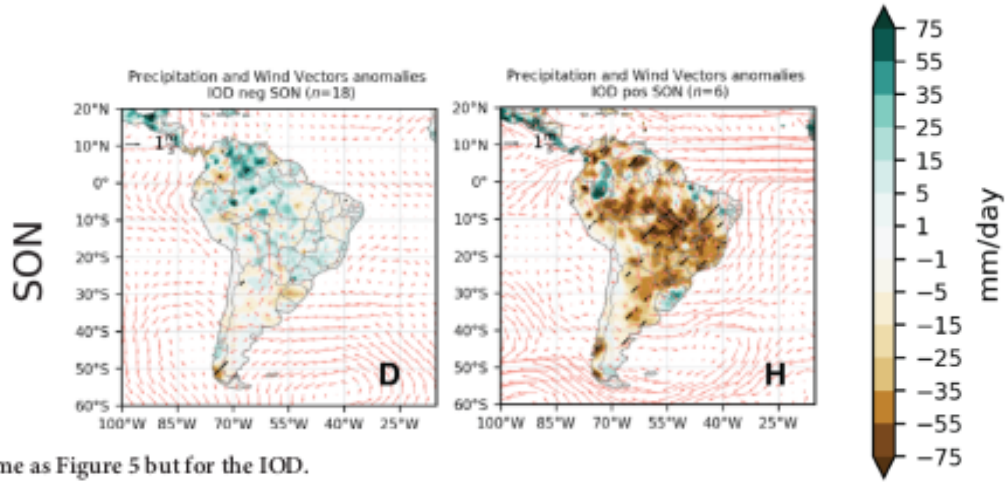
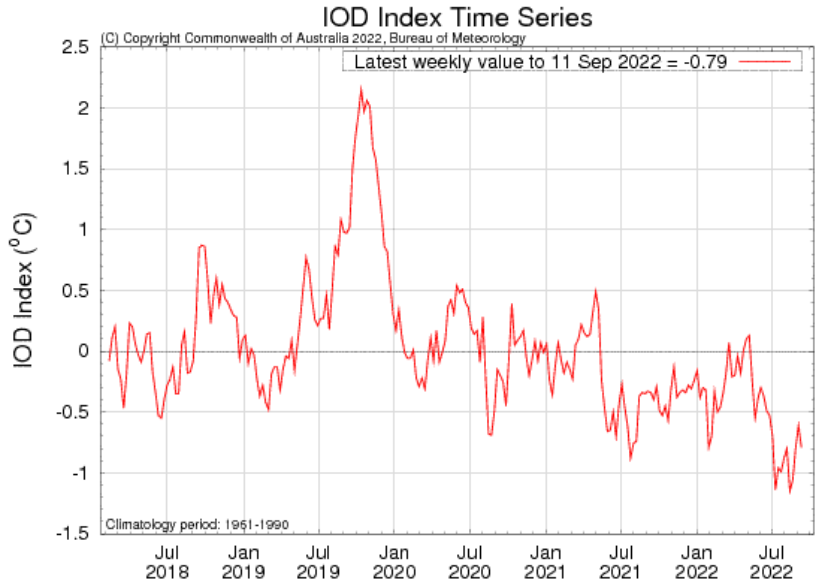
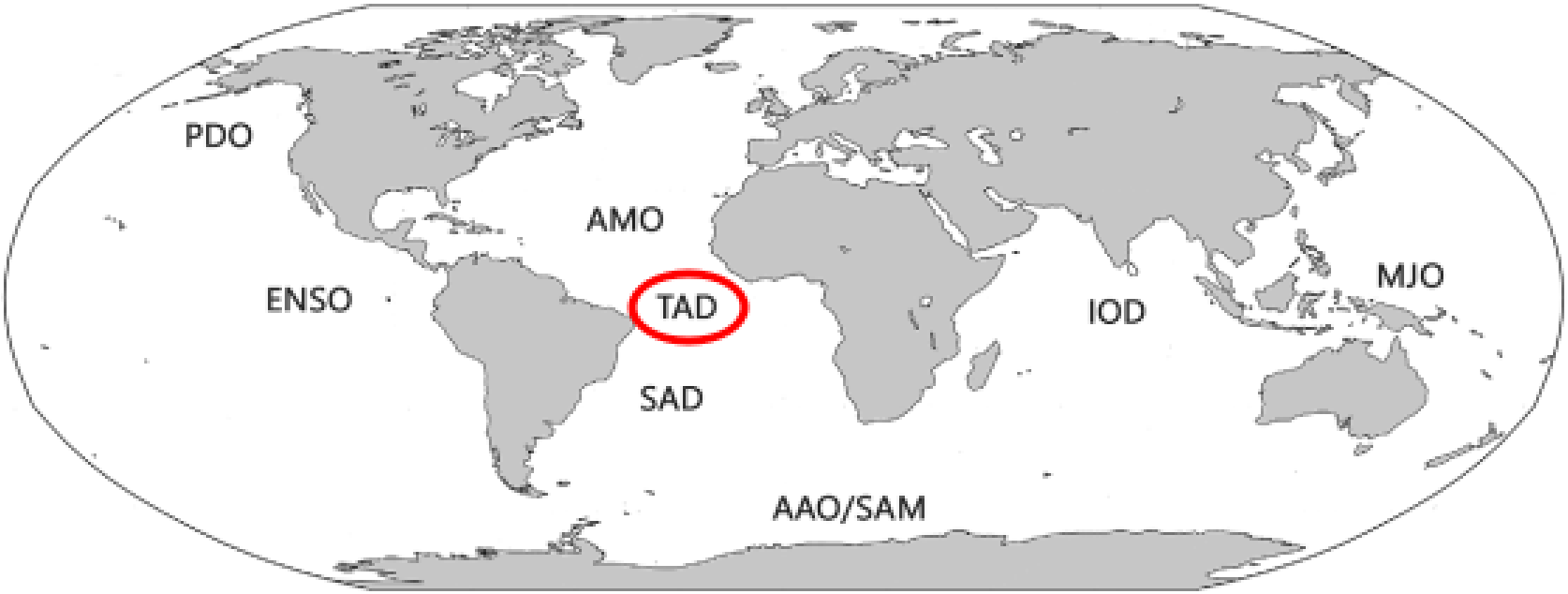


Figure 11. Same as Figure 5 but for the IOD.



Fonte: Australian Boreau of Meteorology.

Tropical Atlantic Dipole



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Fonte: Reboita et al. (2021).

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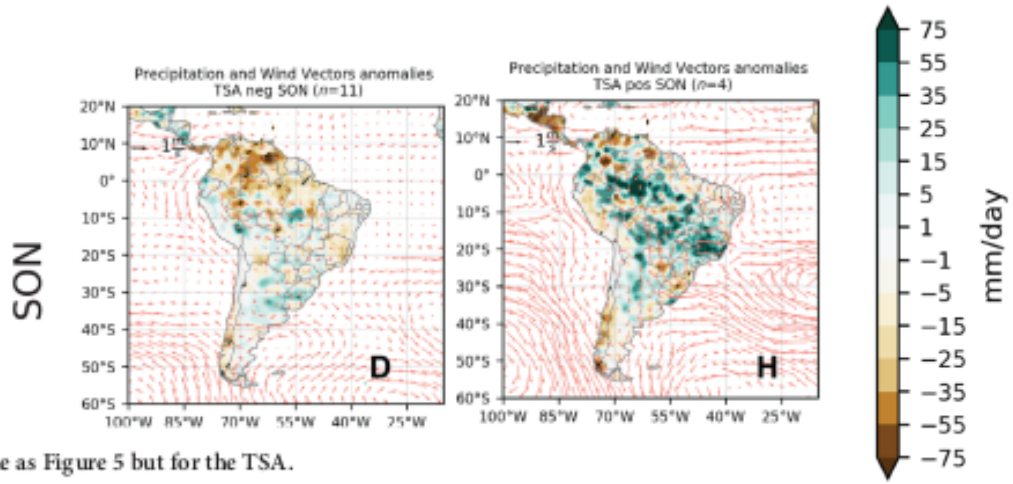
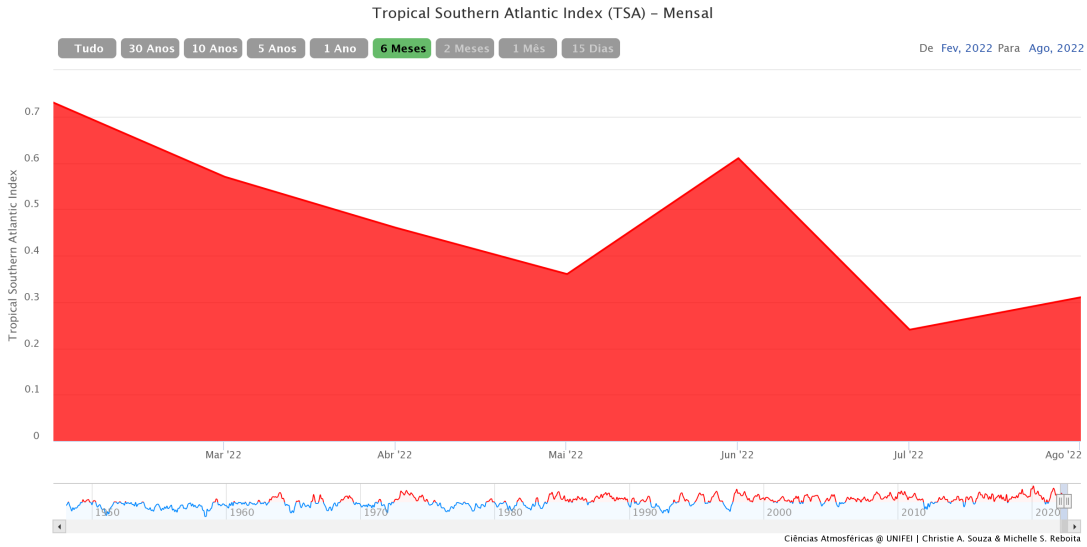
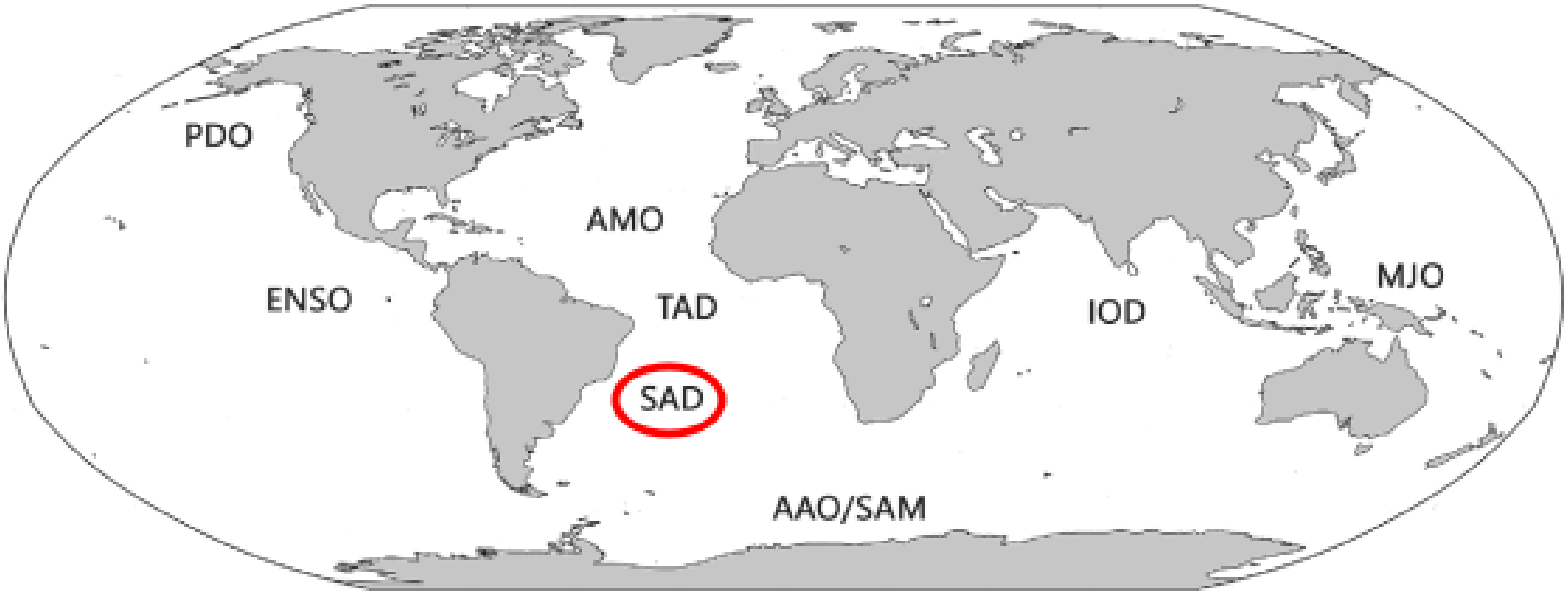


Figure 7. Same as Figure 5 but for the TSA.



Fonte: Ciências Atmosféricas - UNIFEI.

South Atlantic Dipole Index



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Fonte: Reboita et al. (2021).

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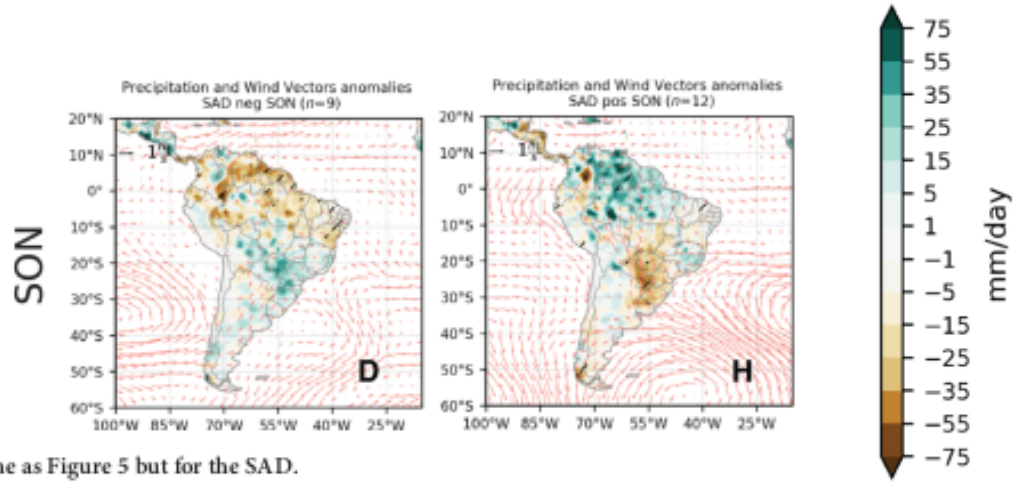
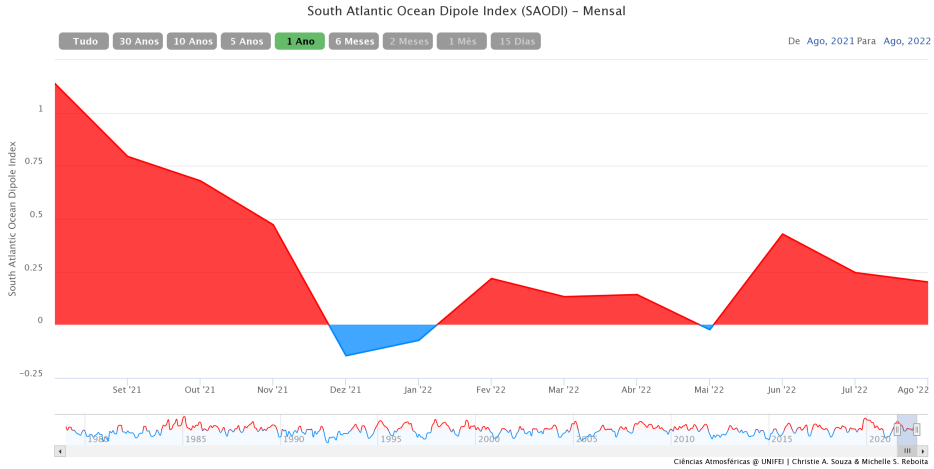
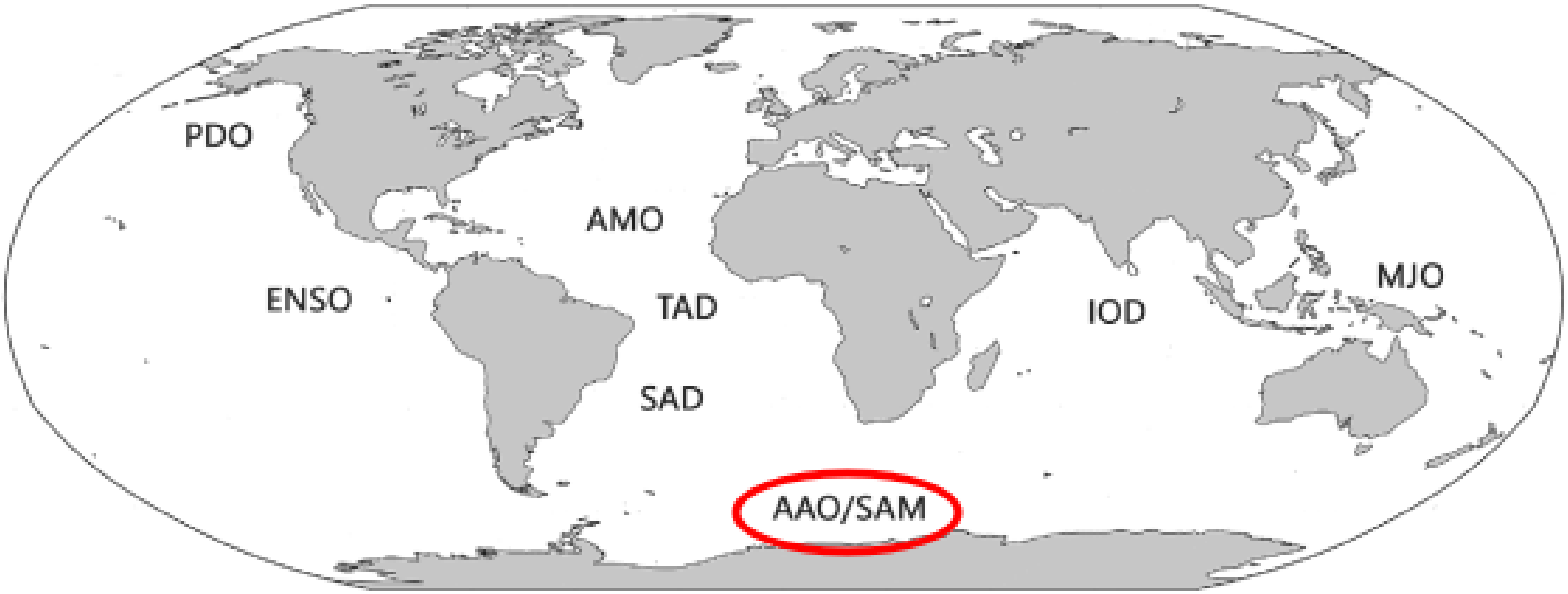


Figure 8. Same as Figure 5 but for the SAD.



Fonte: Ciências Atmosféricas - UNIFEI.

South Annular Mode



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Fonte: Reboita et al. (2021).

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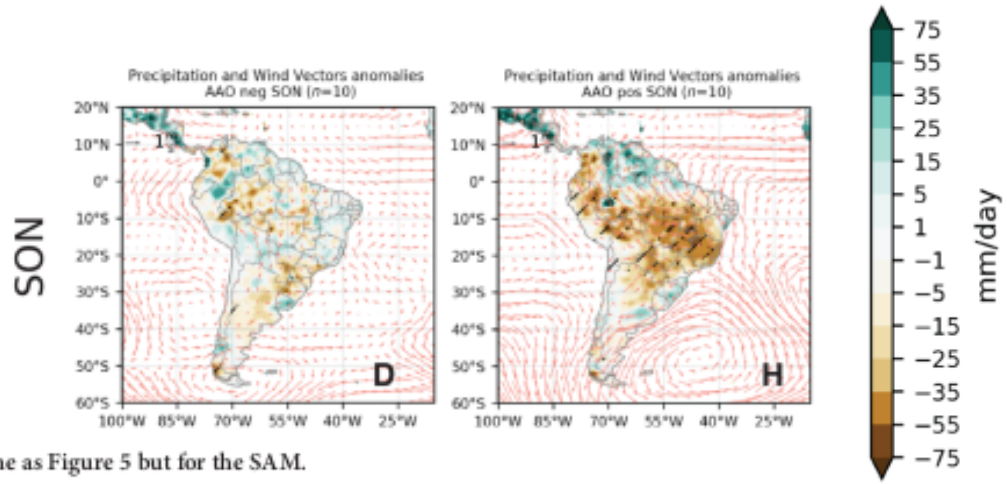
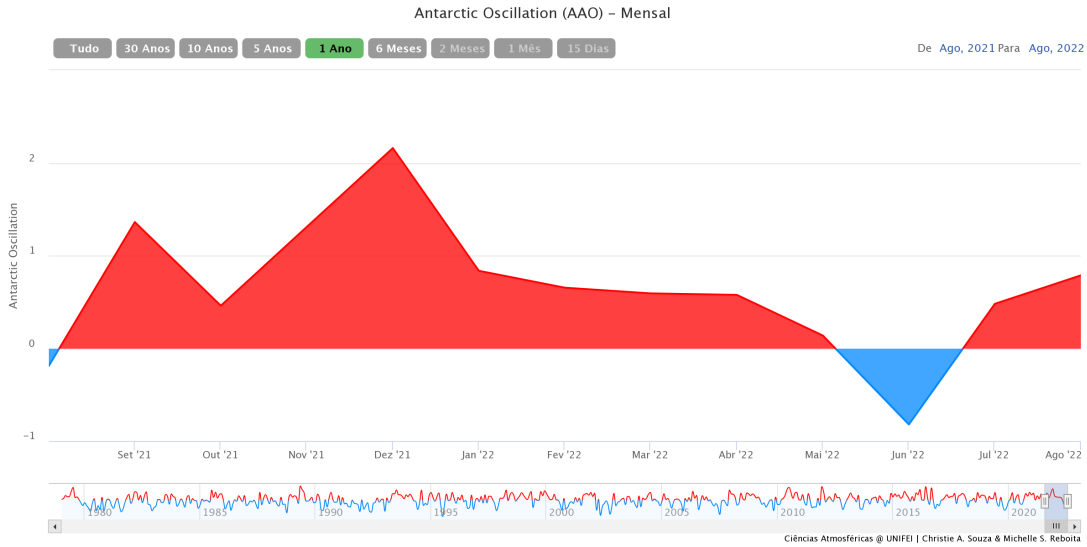


Figure 9. Same as Figure 5 but for the SAM.



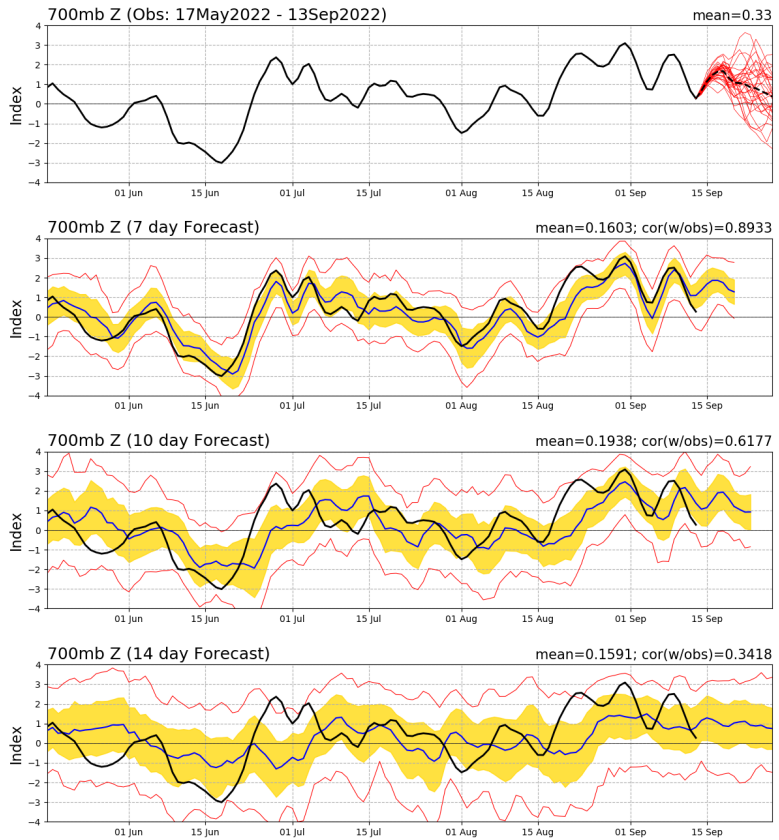
Fonte: Ciências Atmosféricas - UNIFEI.

Resumo

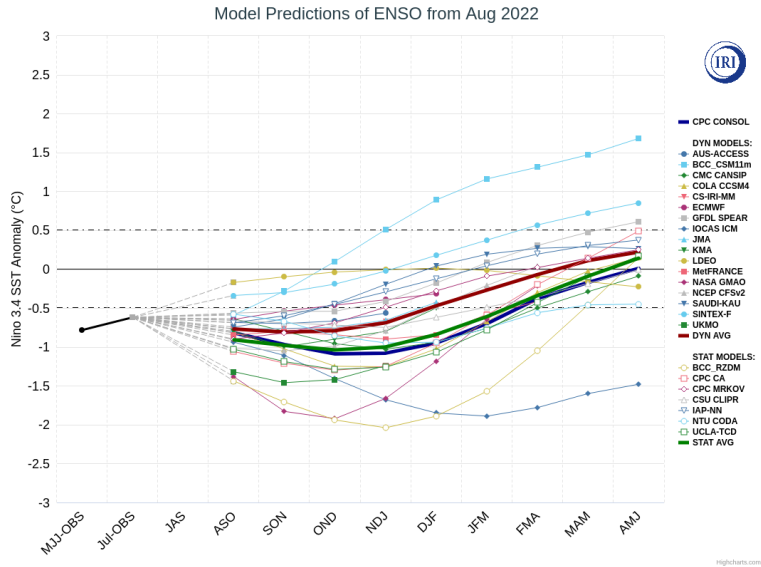
- PDO, fase NEG, indica Prec (+)
- IOD, fase NEG, indica Prec (-)
- ENOS, fase NEG (La Niña), indica Prec (-)
- TSA (TAD), fase POS, indica Prec (-)
- SAD, fase POS, indica Prec (-)
- AAO, fase POS, indica Prec (-) no noroeste RS

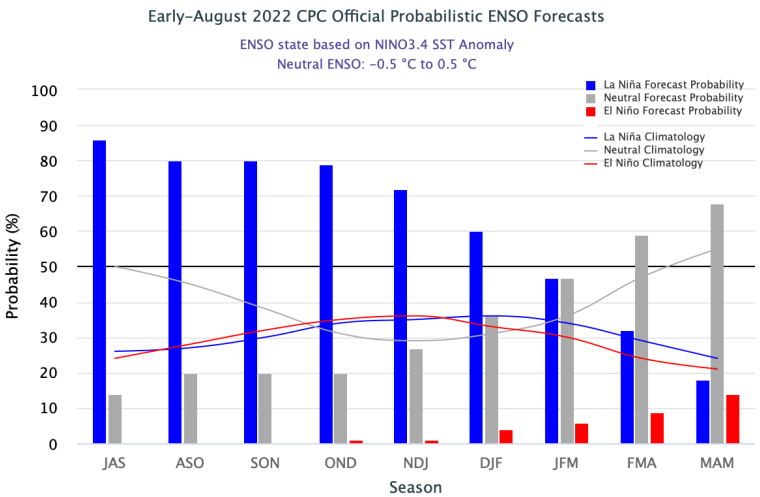
Sumário

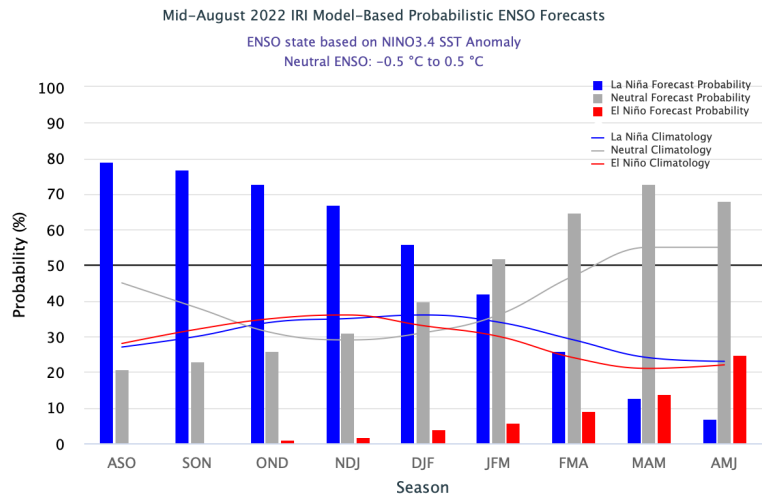
AAO Index: Observed & GEFS Forecasts



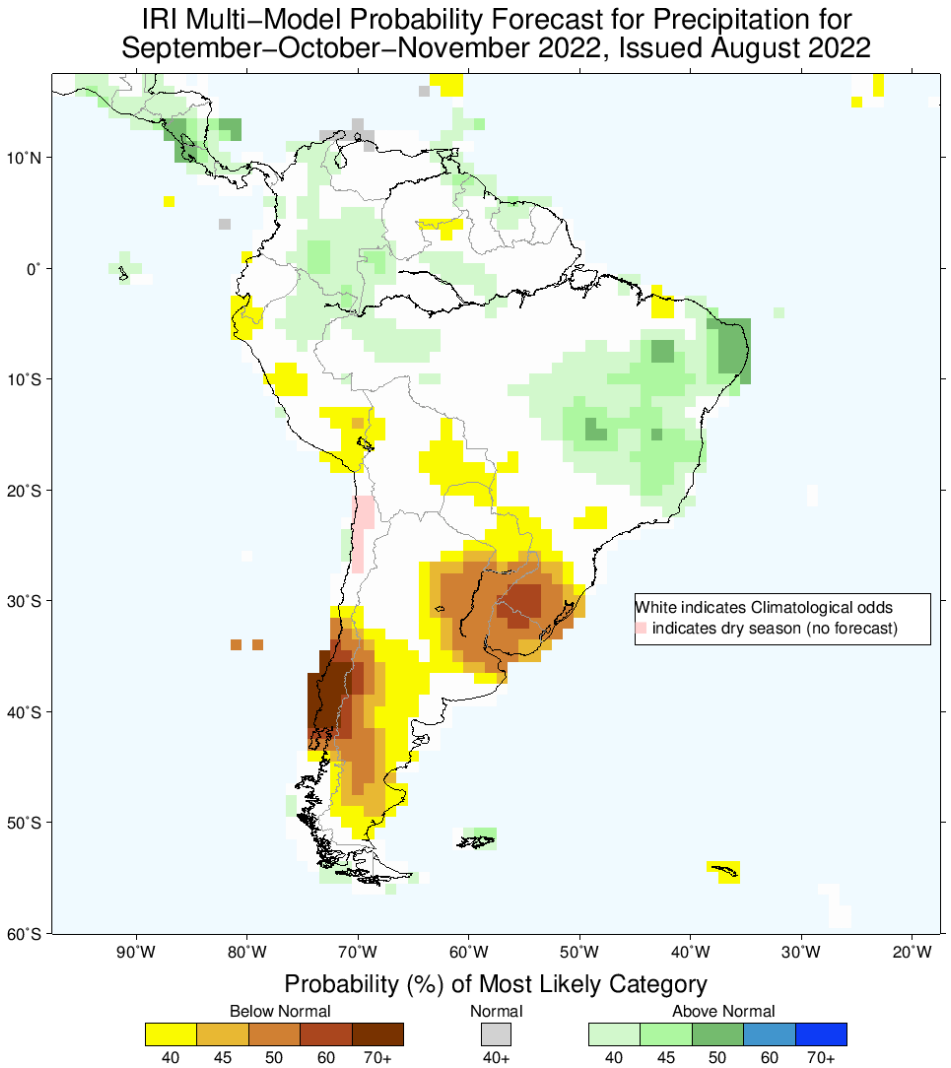
Fonte: NCEP/NOAA.



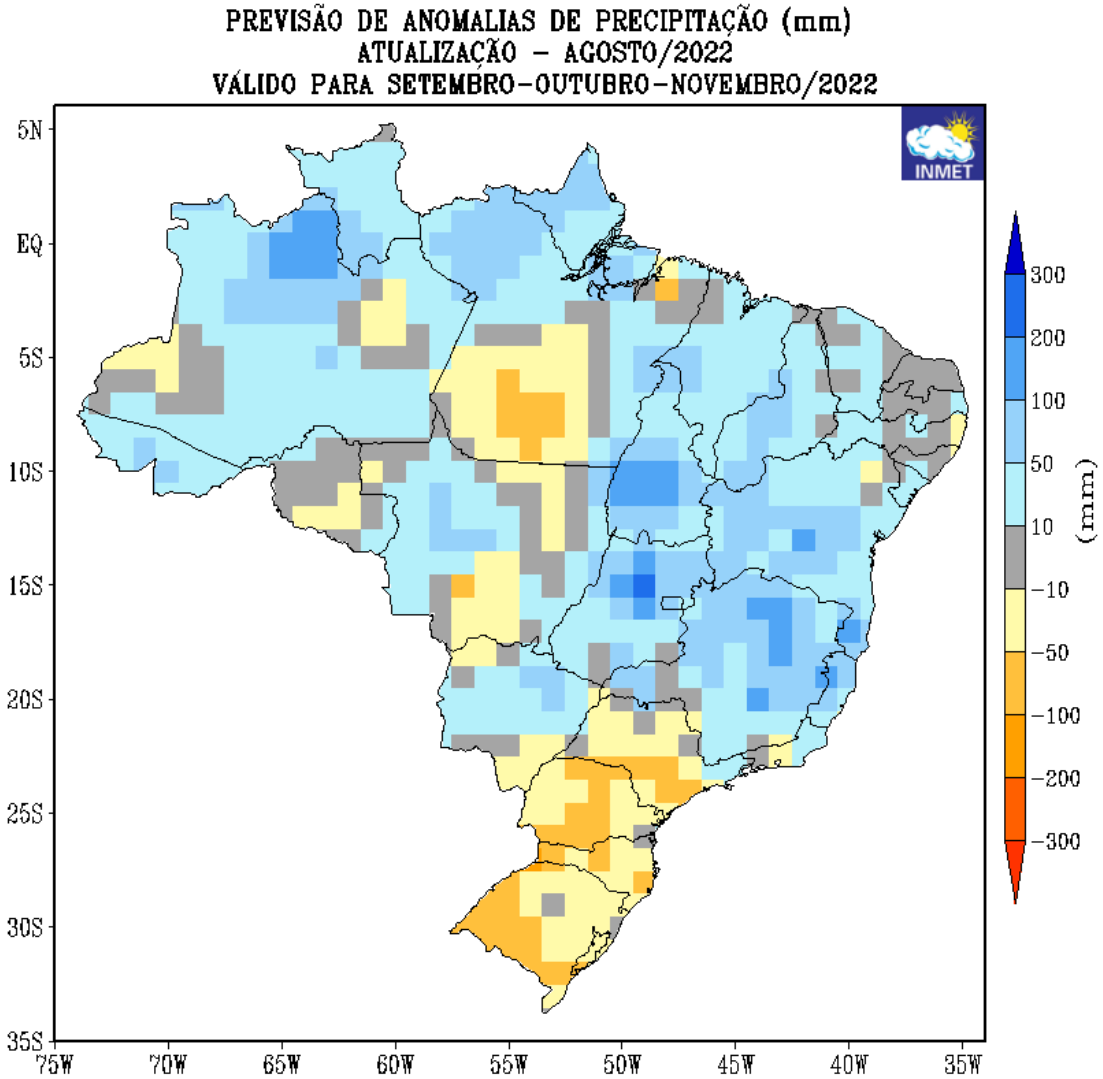




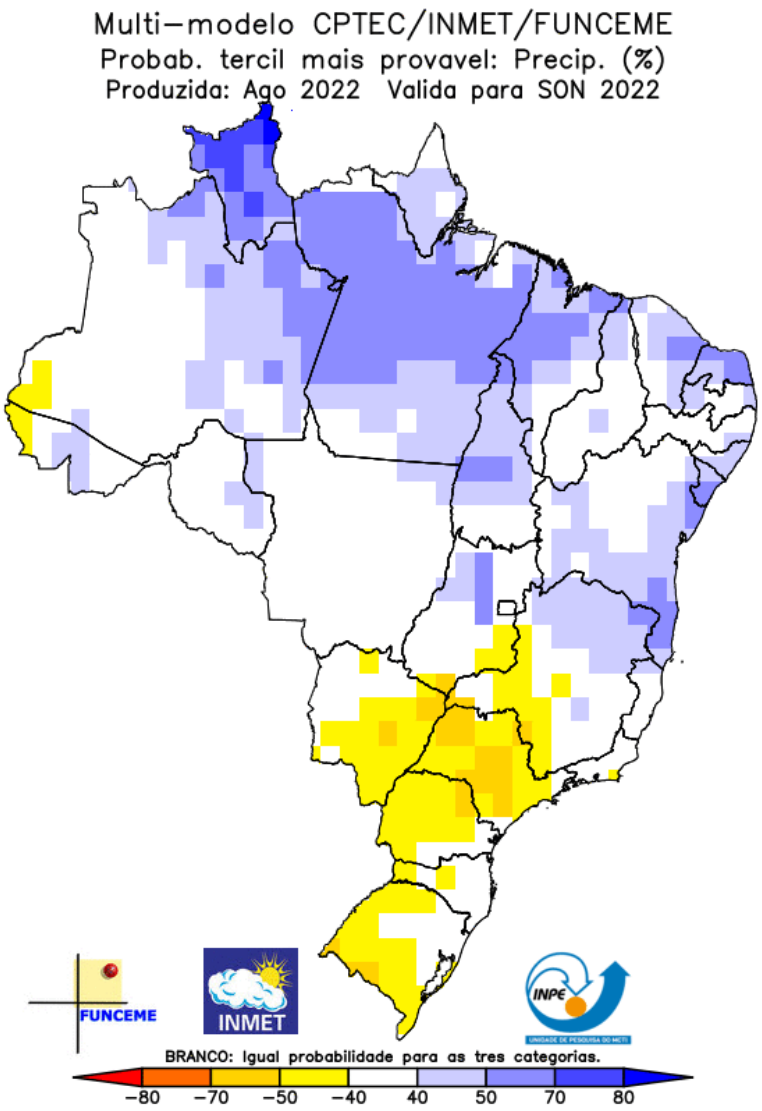
Fonte: *International Research Institute For Climate and Society of Columbia Climate School* - IRI.


IRI Multi–Model Probability Forecast for Precipitation for
September–October–November 2022, Issued August 2022
10°N
0°
10°S
20°S
30°S
40°S
50°S
60°S
90°W
80°W
70°W
60°W
50°W
40°W
30°W
20°W
White indicates Climatological odds
indicates dry season (no forecast)
Probability (%) of Most Likely Category
Below Normal
40 45 50 60 70+
Normal
40+
Above Normal
40 45 50 60 70+

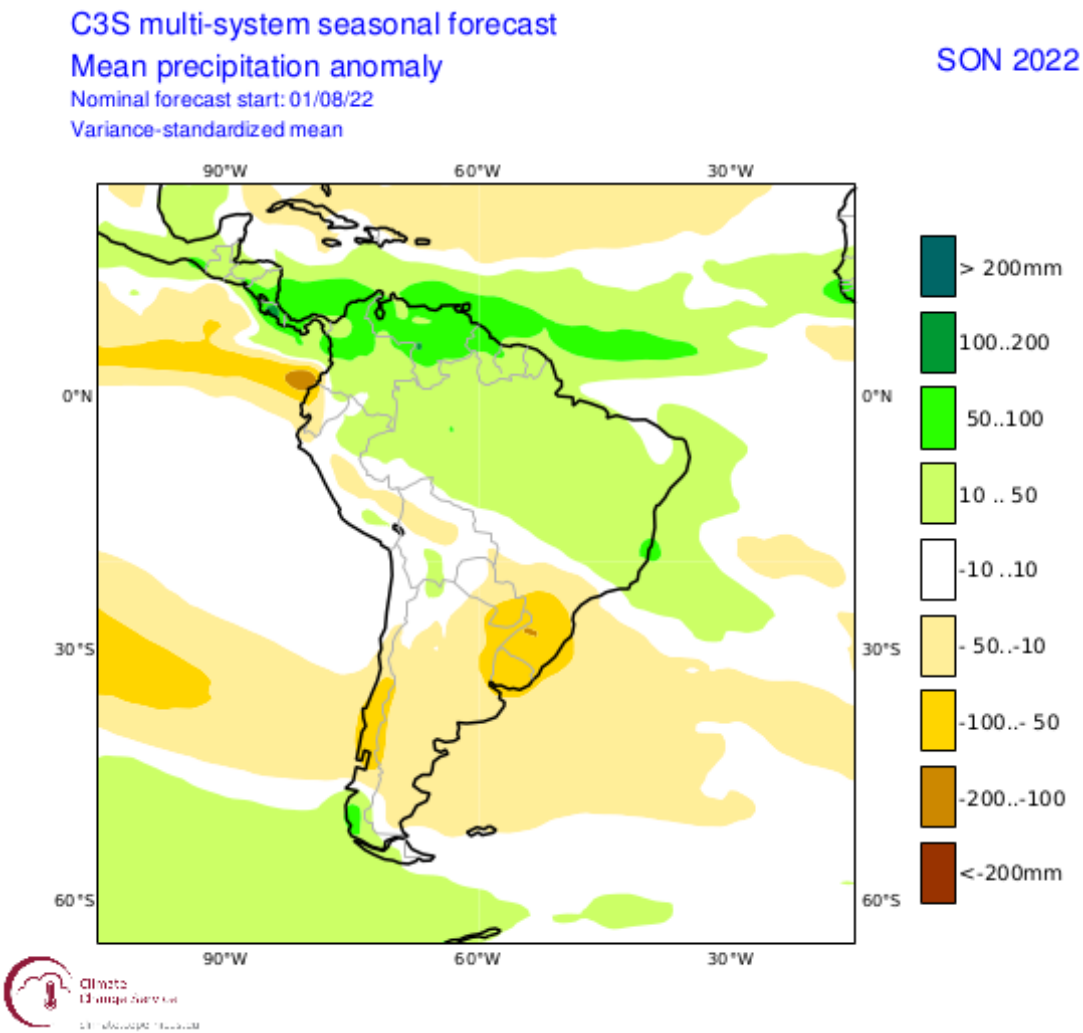
Fonte: IRI.


PREVISÃO DE ANOMALIAS DE PRECIPITAÇÃO (mm)
ATUALIZAÇÃO – AGOSTO/2022
VÁLIDO PARA SETEMBRO-OUTUBRO-NOVEMBRO/2022
INMET
5N
EQ
5S
10S
15S
20S
25S
30S
35S
75W
70W
65W
60W
55W
50W
45W
40W
35W
300
200
100
50
10
−10
−50
−100
−200
−300
(mm)

Fonte: INMET.

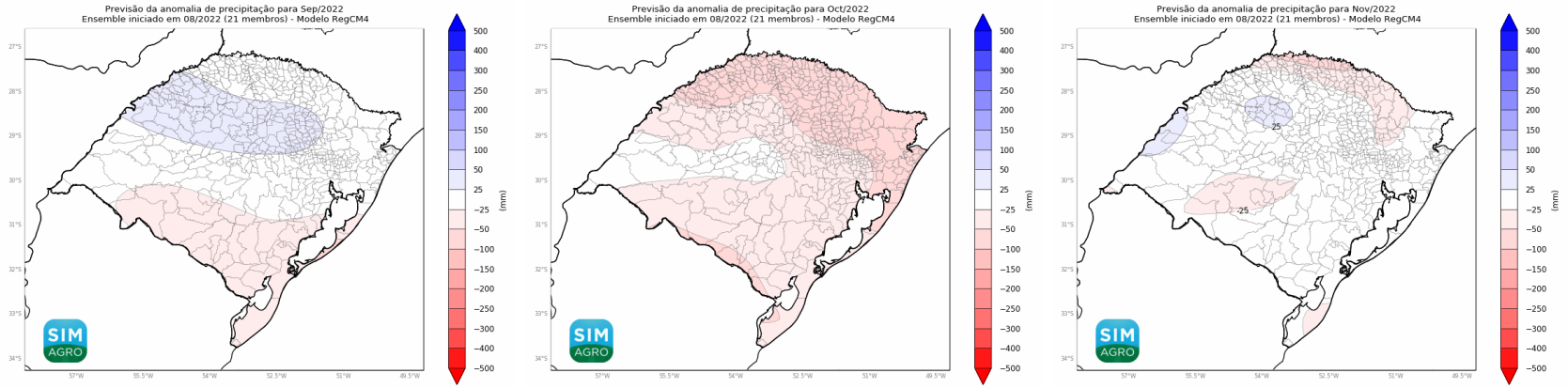

Multi−modelo CPTEC/INMET/FUNCEME
Probab. tercil mais provavel: Precip. (%)
Produzida: Ago 2022 Valida para SON 2022
FUNCEME
INMET
INPE
BRANCO: Igual probabilidade para as tres categorias.
−80 −70 −50 −40 40 50 70 80

Fonte: CPTEC.

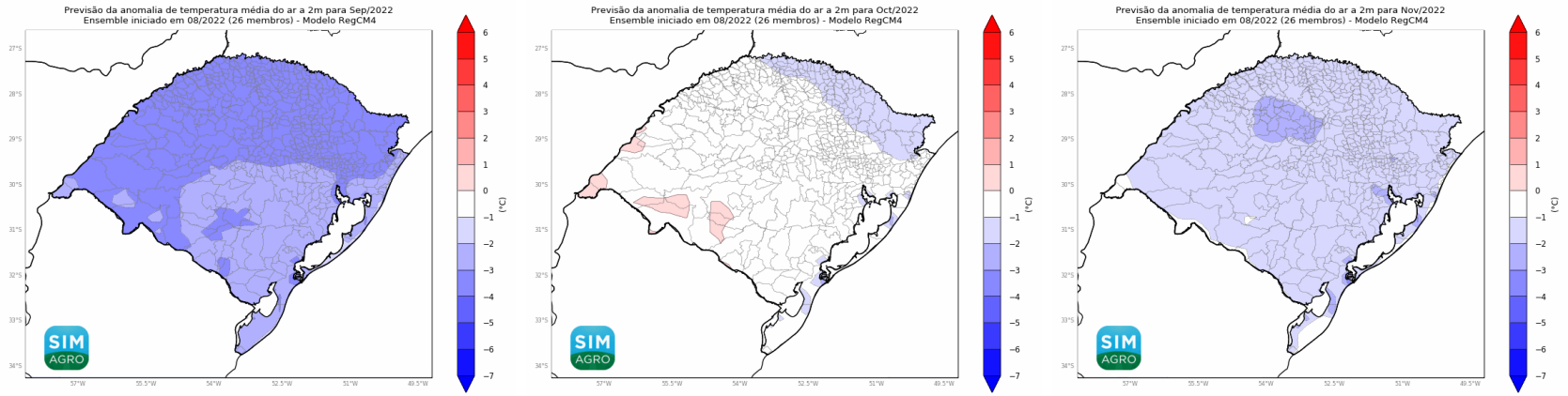

C3S multi-system seasonal forecast
Mean precipitation anomaly
Nominal forecast start: 01/08/22
Variance-standardized mean
SON 2022
90°W
60°W
30°W
0°N
30°S
60°S
> 200mm
100..200
50..100
10 .. 50
-10 ..10
- 50..-10
-100..- 50
-200..-100
<-200mm

Fonte: ECMWF.

Anomalia Precipitação (RegCM4)

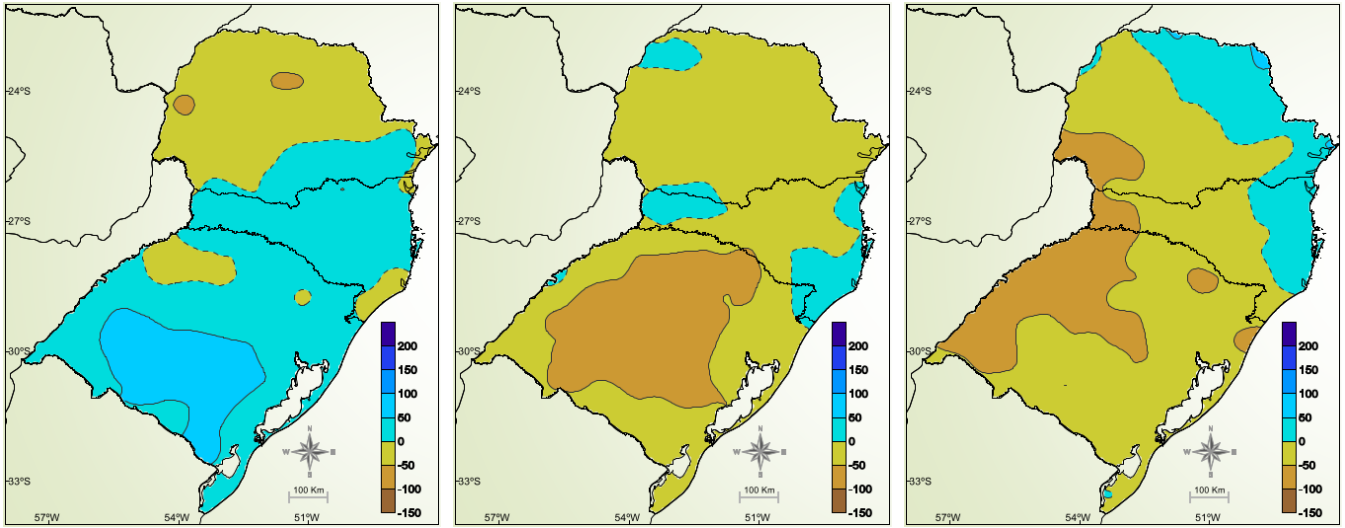


Anomalia Temperatura (RegCM4)

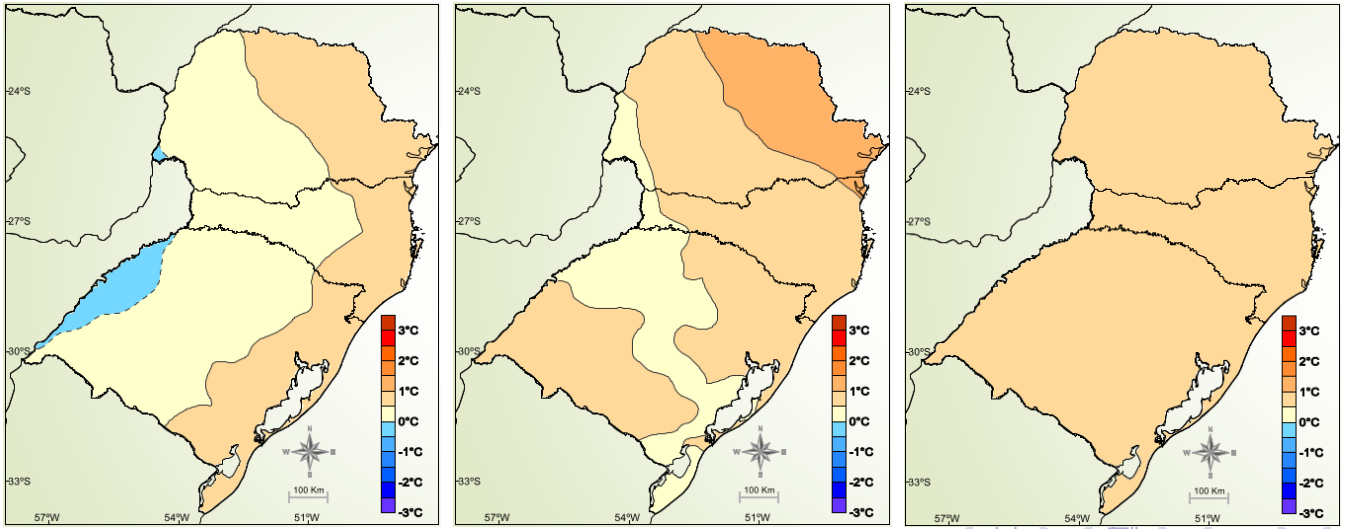


Fonte: SIMAGRO.

Anomalia Precipitação (MoReClima-SUL)



Anomalia Temperatura (MoReClima-SUL)

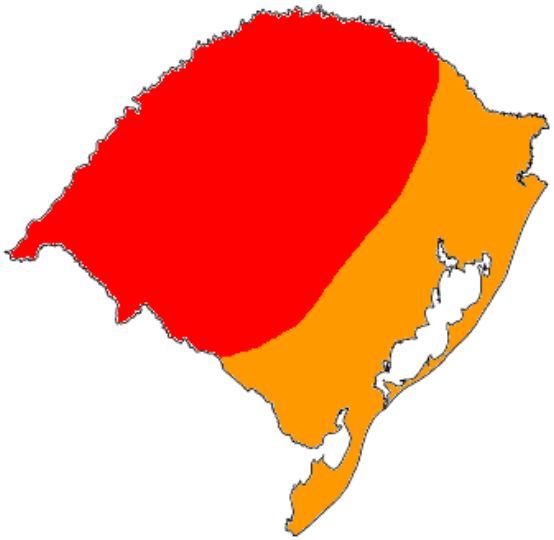


Sumário

Resumo

- La Niña persiste;
- AAO POS persiste 15 dias;
- Indices Oceânicos indicam fases desfavoráveis para Prec;
- Modelos estatísticos e dinâmicos indicam acumulados abaixo do normal para o RS.

Anomalia Precipitação (UFSM)



- Precipitação abaixo da média, em grande parte do RS, e levemente abaixo na região litorânea;

Anomalia Temperatura (UFSM)

- É esperado temperatura dentro da normal climatologica para o trimestre.

Referências:

REBOITA, Michelle Simões et al. **Impacts of teleconnection patterns on South America climate.** Annals of the New York Academy of Sciences, v. 1504, n. 1, p. 116-153, 2021.

http://clima1.cptec.inpe.br/

https://portal.inmet.gov.br/

https://iri.columbia.edu/our-expertise/climate/forecasts/

https://www.cpc.ncep.noaa.gov/products/precip

https://meteorologia.unifei.edu.br/teleconexoes/indices

Sala 1065-1 (CRS/INPE)
danielcae@gmail.com

Obrigado pela atenção!

Meteorologia
UFSM