

Clima: Tendências para a temporada 2019/2020

Dezembro/2018

INTERANUAL: Variação de um ano para outro (aquecimento/resfriamento) das águas do oceano Pacífico equatorial.

Primavera em período de “NEUTRO”, com indicativo de EL NIÑO para o Verão!

INTERDECADAL: Ciclo de 20 a 30 anos do comportamento médio das águas do oceano Pacífico equatorial. Estamos no começo de uma FASE FRIA!!

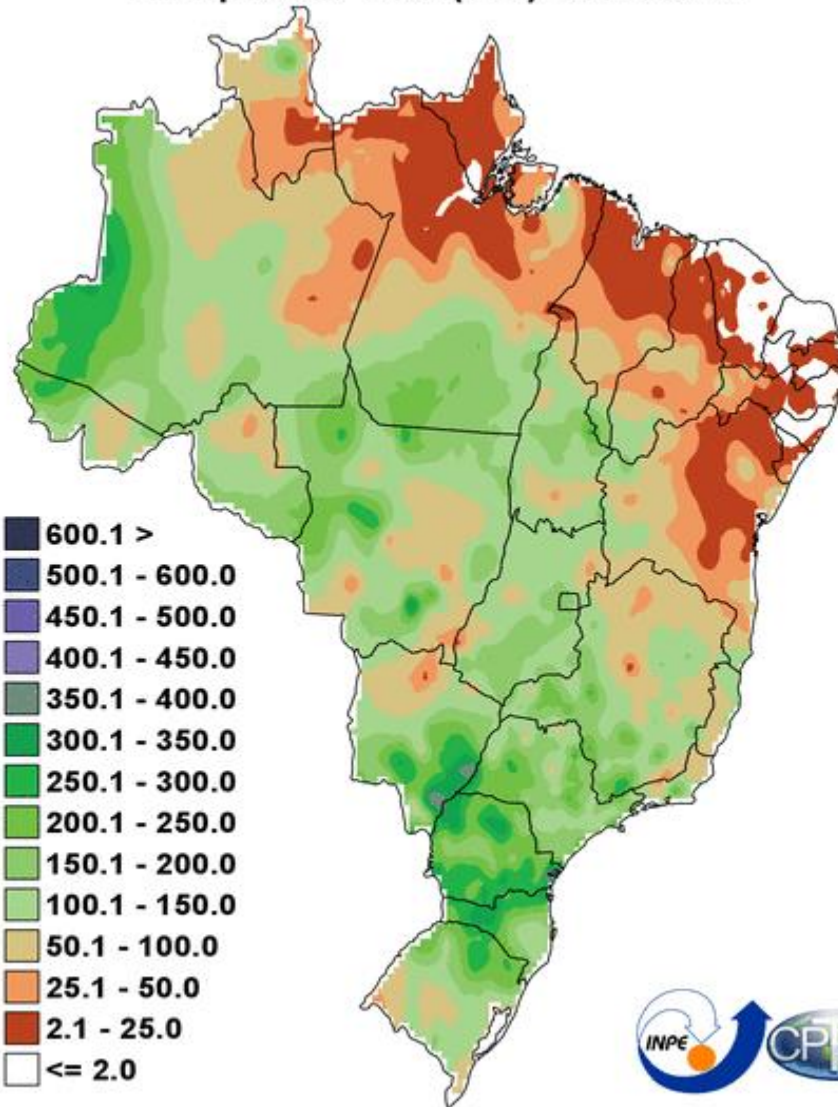
CICLO SOLAR: Máximo e Mínimo Solar a cada 11 anos. Neste ano enfrentamos o menor Máximo Solar dos últimos 100 anos. Nos próximos anos vamos para o MÍNIMO SOLAR.

- 1 – CICLOS CLIMÁTICOS: Explicar por que há mais de 6 safras diminuiu a incidência de “INVERNADAS” no Centro-Oeste, enquanto as safras de verão do Sul do Brasil apresentaram melhor regularidade.
- 2 – OCEANO PACÍFICO: Período de transição Climática com início da fase quente. Permanece previsão da configuração do El Niño para o verão 2019.
- 3 – CHUVAS DE OUTUBRO E NOVEMBRO: Favorecidas pelo período de transição e oceano pacífico leste ainda frio. Essa condição não bloqueia a frente fria no Sul do Brasil, permitindo assim o avanço até a Bahia.
- 4 – DEZEMBRO: Ainda mantém padrão de chuvas no Sudeste e Centro-Oeste. No decorrer do mês podem reduzir as chuvas na região do MATOPIBA.

- 4 – VERÃO 2019: Muda o padrão climático. Com a instalação do El Niño pode puxar as chuvas mais para o Sul do Brasil, enquanto reduz as chuvas no centro-norte. Porém, sem apresentar períodos longos de escassez total de chuva.
- 5 – CENTRO-OESTE e SUDESTE: Baixo risco para as lavouras de verão. Entre janeiro e março chuvas em torno das respectivas médias mensais.
- 6 – SUL: Indicativo de El Niño favorece lavouras do SUL do Brasil, pois reduz risco de estiagem prolongada.
- 7 – MATOPIBA: Mesmo com as boas chuvas de outubro e novembro, não está garantido o mesmo padrão de chuva nos próximos meses. A instalação do El Niño no início do ano pode reduzir a frequência das chuvas entre janeiro e fevereiro.

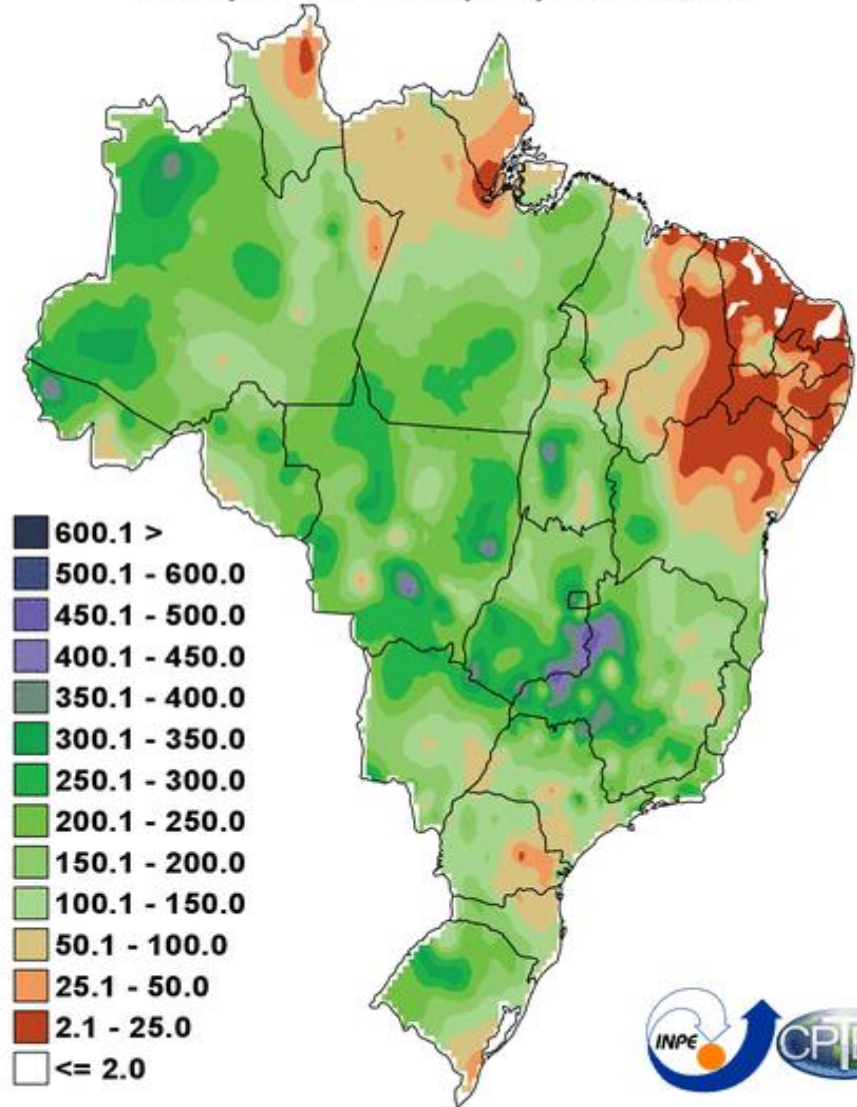
Data da ultima atualizacao: 01/11/2018

Precipitacao Total (mm) - OUT/2018



Data da ultima atualizacao: 01/12/2018

Precipitacao Total (mm) - NOV/2018



Fontes de dados: CPTEC/INPE INMET FUNCEME/CE AESA/PB

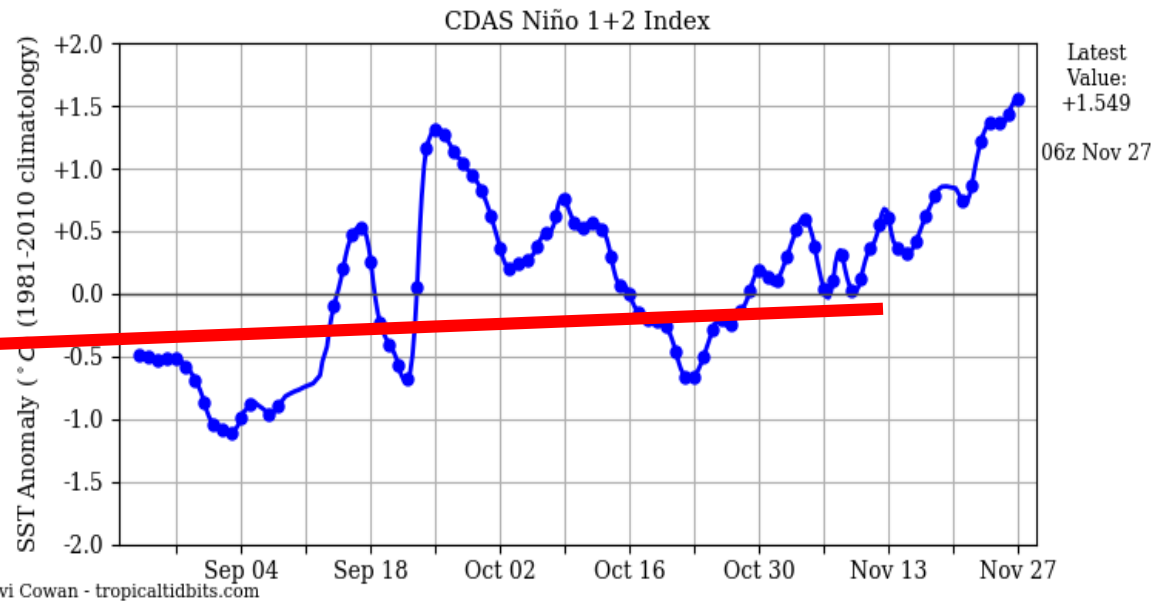
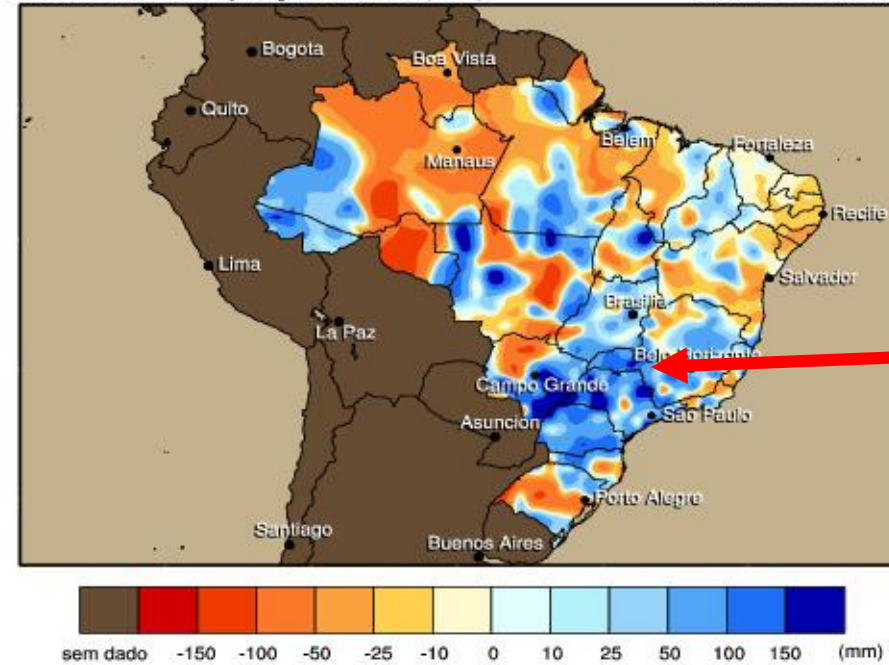
EMPARN/RN ITEP/LAMEPE/PE DHME/PI CMRH/SE SEMARH/DHN/AL COMET/RJ
SEMARH/BA-CEMIG/SIMGE/MG-SEAG/ES-SIMEPAR/PR-CLIMERH/SC-IAC/SP

Fontes de dados: CPTEC/INPE INMET FUNCEME/CE AESA/PB

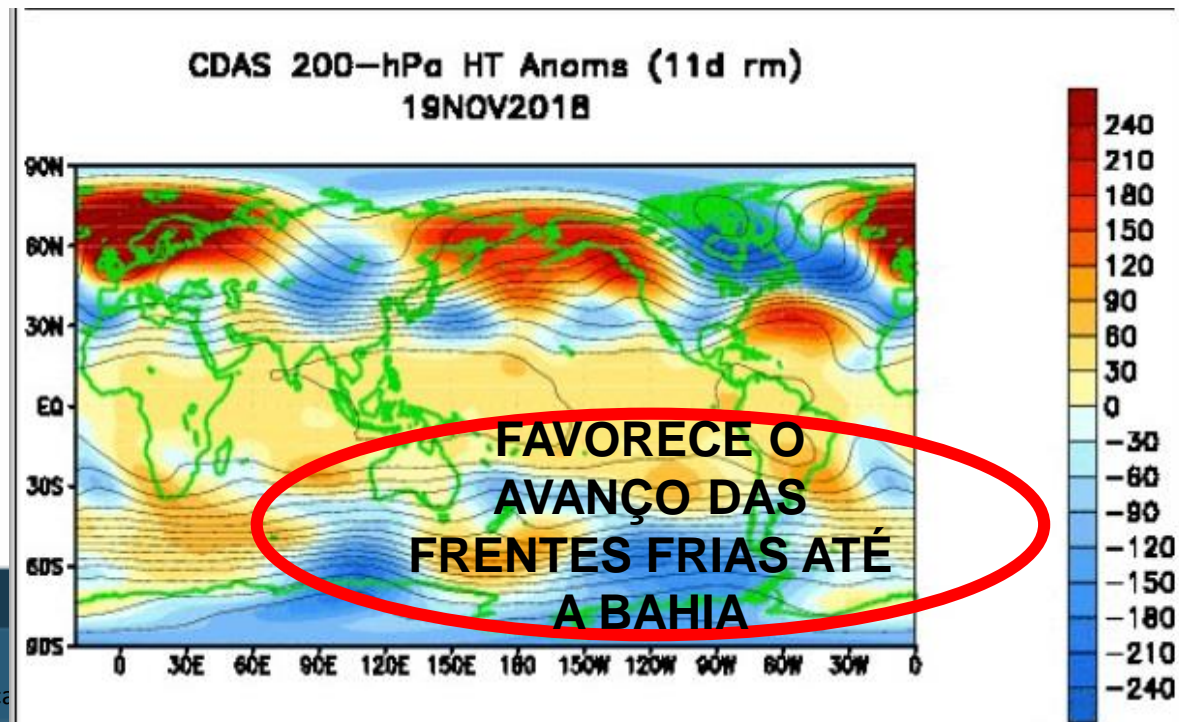
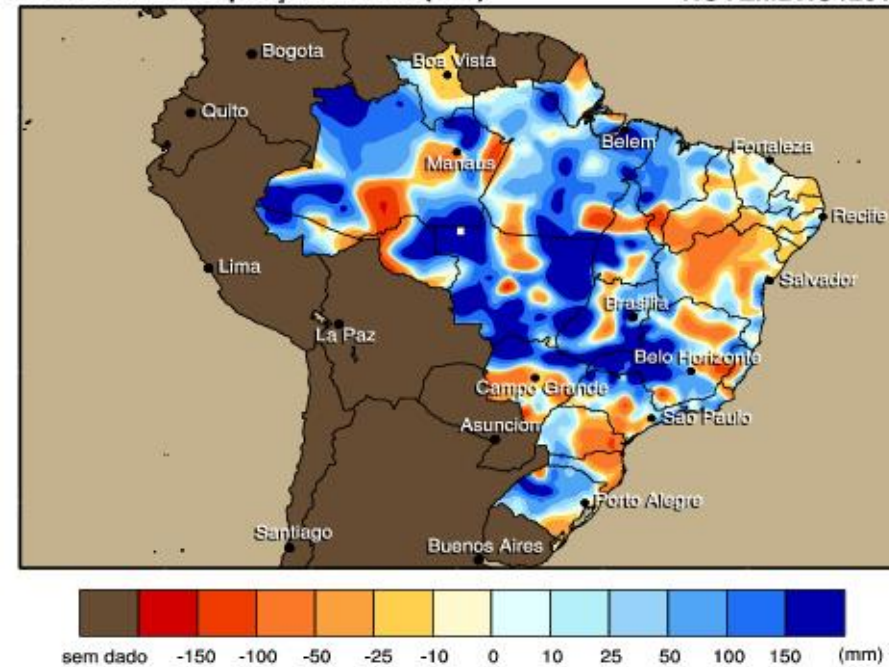
EMPARN/RN ITEP/LAMEPE/PE DHME/PI CMRH/SE SEMARH/DHN/AL COMET/RJ
SEMARH/BA-CEMIG/SIMGE/MG-SEAG/ES-SIMEPAR/PR-CLIMERH/SC-IAC/SP

Chuvas de outubro e novembro favorecem o plantio

Anomalia da Precipitação mensal (mm) **OUTUBRO /2018**



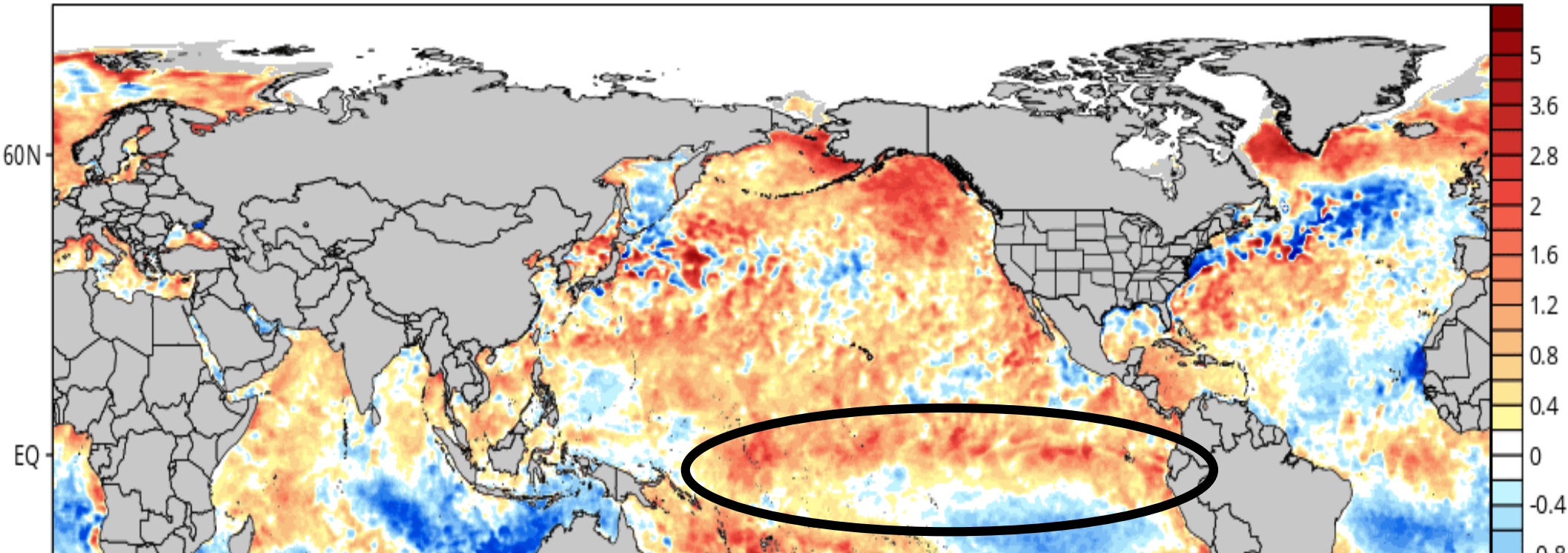
Anomalia da Precipitação mensal (mm) **NOVEMBRO /2018**



CDAS Sea Surface Temperature Anomaly (°C) (based on CFSR 1981-2010 Climatology)

Analysis Time: 06z Dec 02 2018

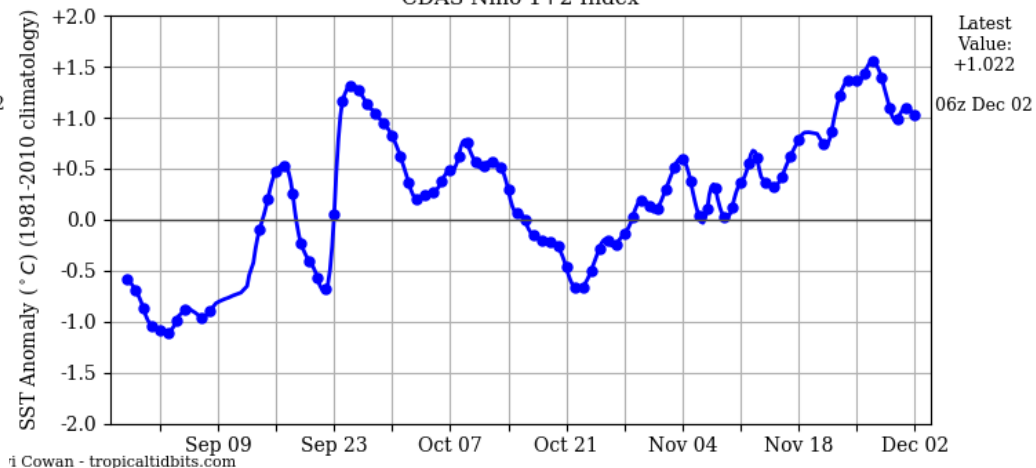
TROPICALTIDBITS.COM



CDAS Niño 3.4 Index

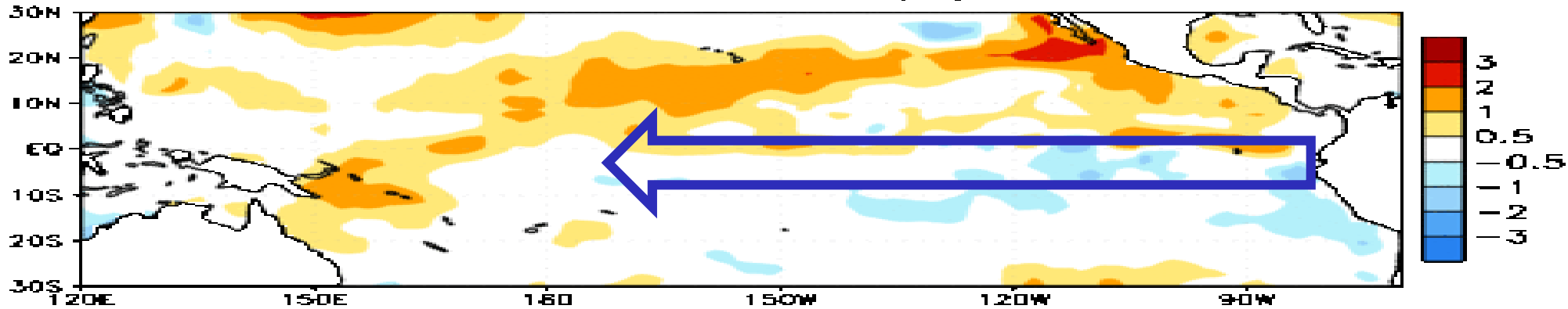


CDAS Niño 1+2 Index

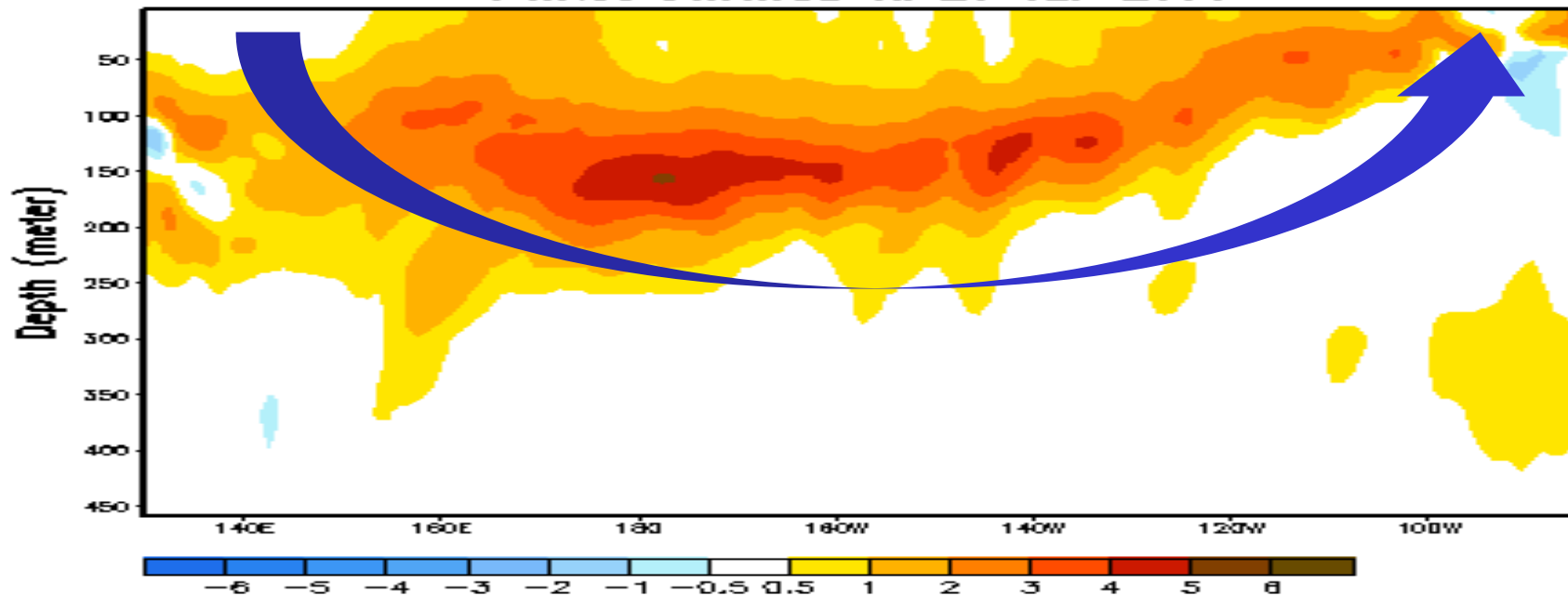


Oceano Pacífico sustenta aquecimento

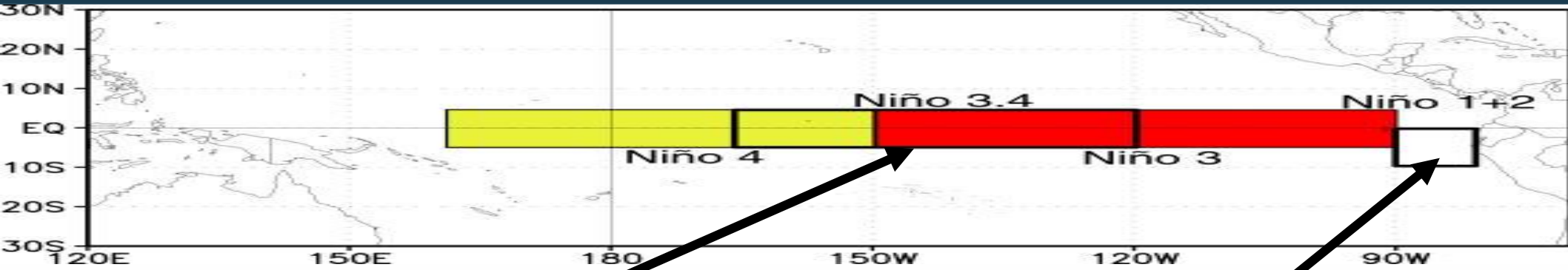
Week centered on 05 SEP 2018
SST Anomalies (°C)



Equatorial Temperature Anomaly (°C)
Pentad centered on 25 SEP 2018



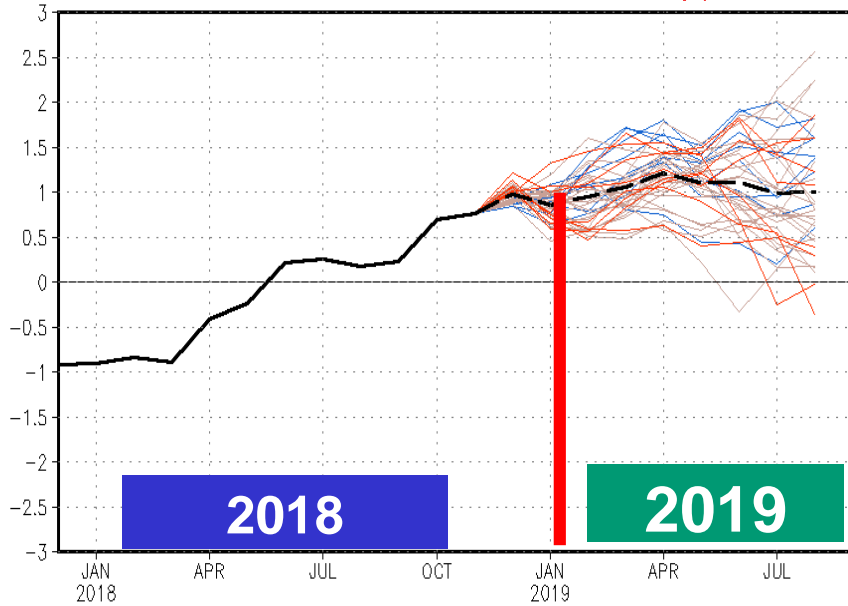
NCEP/NOAA: Mantém previsão de EL NIÑO para o verão de 2019!!



NWS/NCEP/CPC

Last update: Sat Dec 1 2018
Initial conditions: 21 Nov 2018–30 Nov 2018

CFSv2 forecast Niño3.4 SST anomalies (K)



— Latest 8 forecast members
— Earliest 8 forecast members
— Other forecast members
— Forecast ensemble mean
— NCDP daily analysis

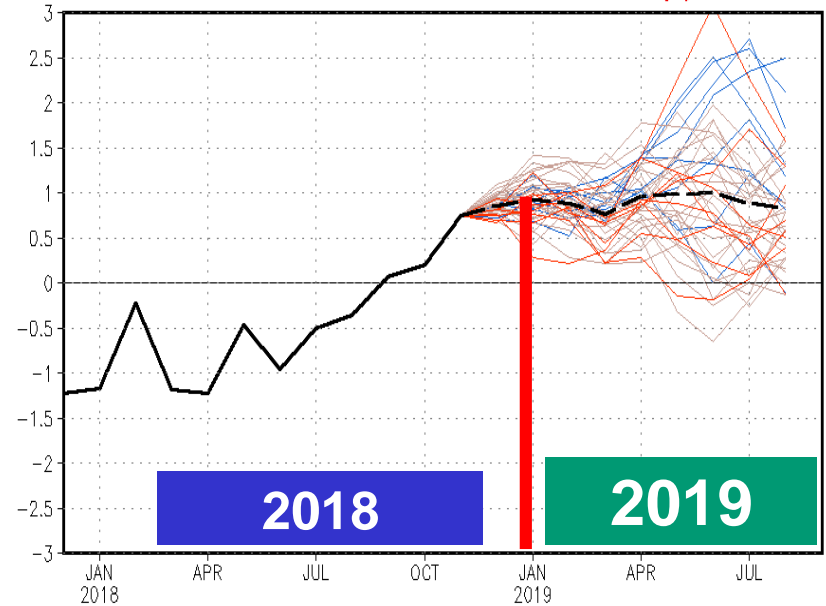
(Model bias correct base period: 1999–2010; Climatology base period: 1982–2010)



NWS/NCEP/CPC

Last update: Sat Dec 1 2018
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CFSv2 forecast Niño1+2 SST anomalies (K)



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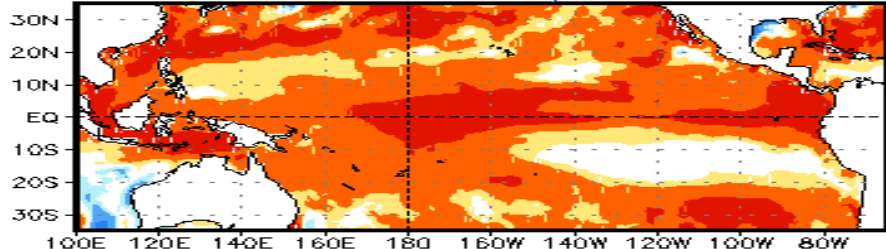
NWS/NCEP/CPC

Initial conditions: 21Nov2018–30Nov2018

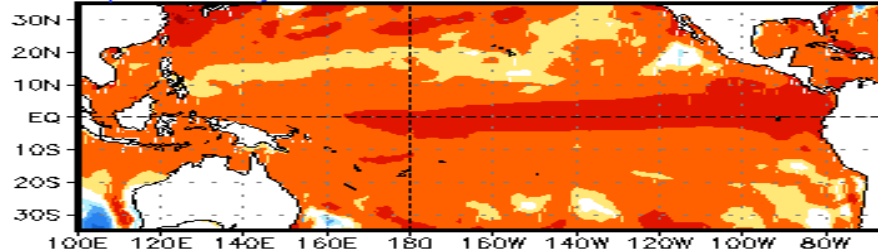
Last update: Sat Dec 1 2018

CFSv2 seasonal SST (K)

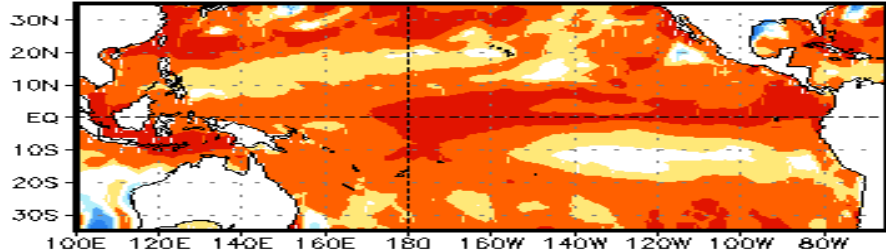
Dec–Jan–Feb 2018/2019



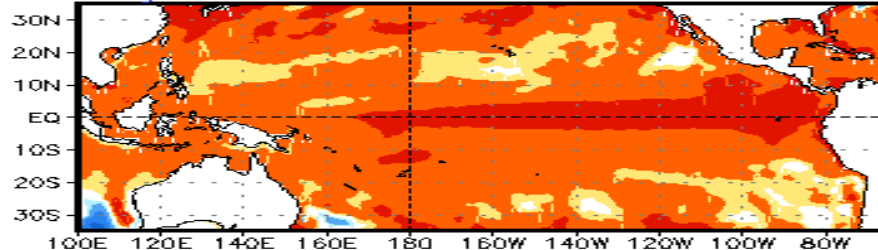
Apr–May–Jun 2019



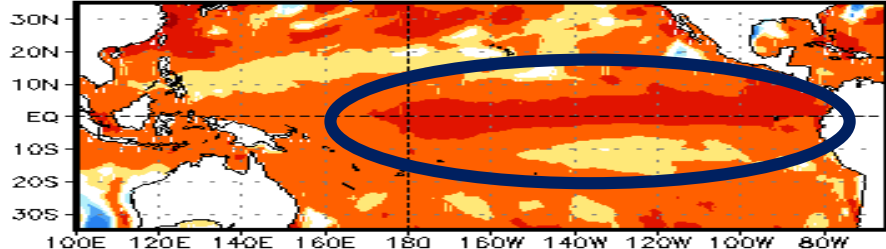
Jan–Feb–Mar 2019



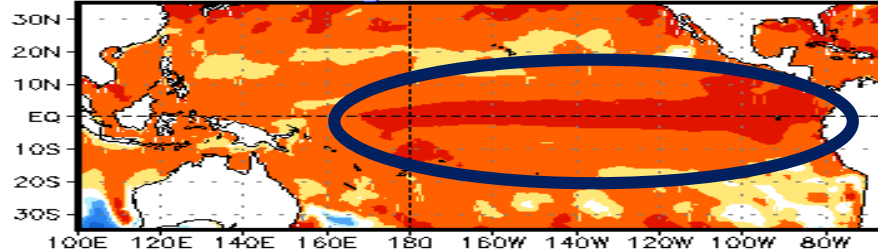
May–Jun–Jul 2019



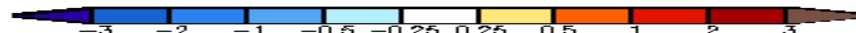
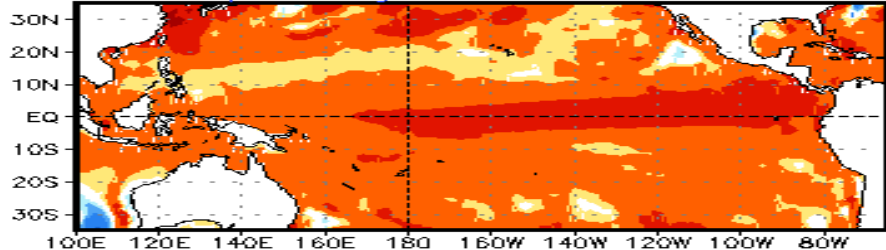
Feb–Mar–Apr 2019



Jun–Jul–Aug 2019



Mar–Apr–May 2019



(Model bias correction base period: 1999–2010; Climatology base period: 1982–2010)

- **MILHO SEGUNDA SAFRA:** Indicativo de El Niño favorece lavouras do Paraná e Mato Grosso do Sul, pois oferece boa condição de umidade no solo e reduz o risco de geada no cedo (abril/maio). Já para as lavouras de milho de Mato Grosso e Goiás, a presença do El Niño provoca o corte das chuvas mais cedo. Aumenta o risco de maio ser seco.
- **ENERGIA:** Chuvas de outubro e novembro melhoram condições hidrológicas, com queda do preço (R\$/MWh) no Mercado Livre e Bandeira Tarifária Verde para os Consumidores. Porém ainda NÃO está garantido a recuperação dos RESERVATÓRIOS. Inclusive, ainda permanece o risco para 2019, de se repetirem as condições observadas nos últimos seis anos.

ENERGIA: Reservatórios começam recuperação

- Simples
- Comparativo
- Temporal

- Selecione
- EAR (MWmês)
 - EAR (GWh)
 - EAR (%)
 - EAR Máximo (MWmês)

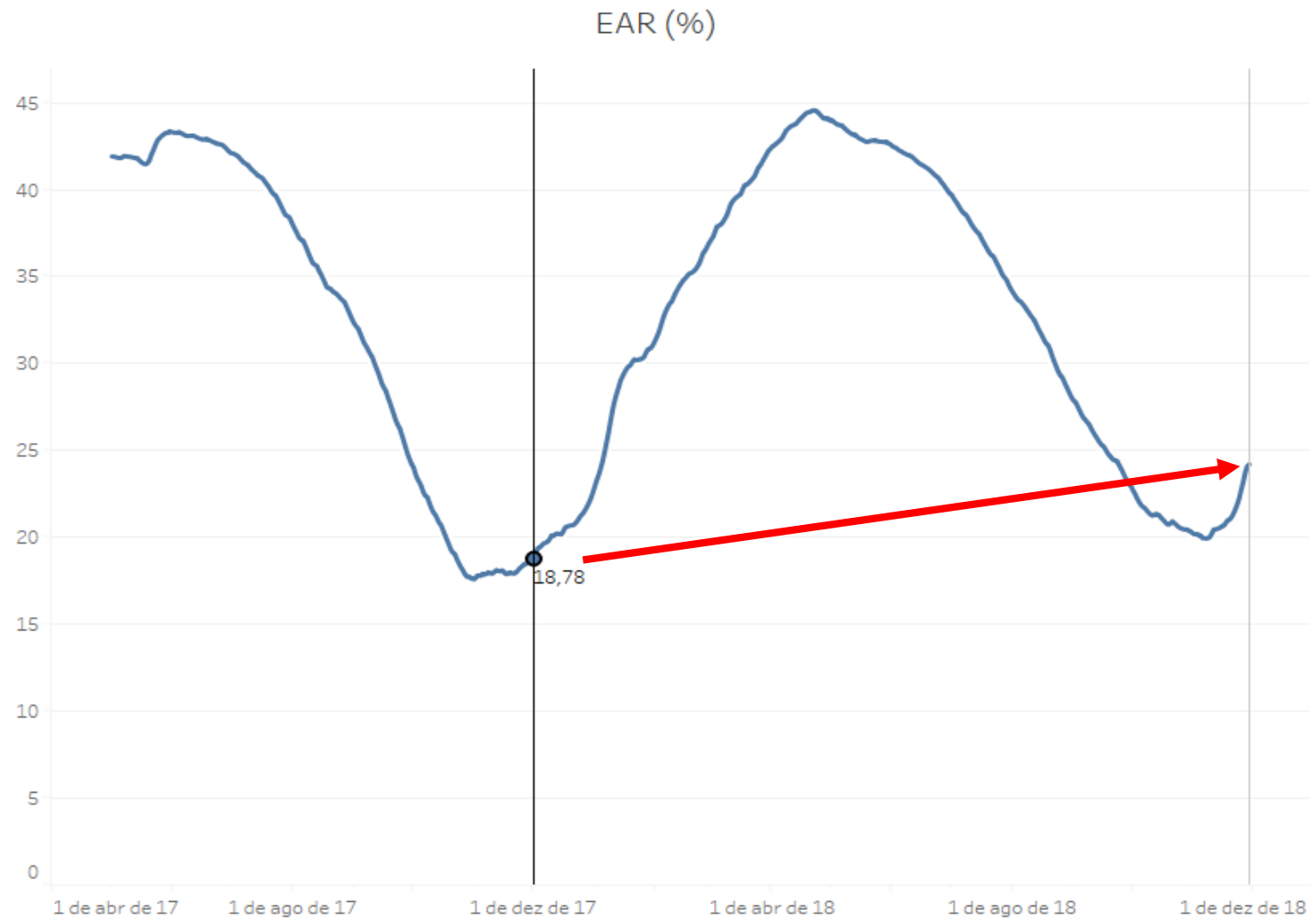
Escala de Tempo
Dia

Subsistema
Sudeste/Centro-Oeste

Período

Início	Fim
01/05/2017	02/12/2018

581 dia(s) selecionado(s)



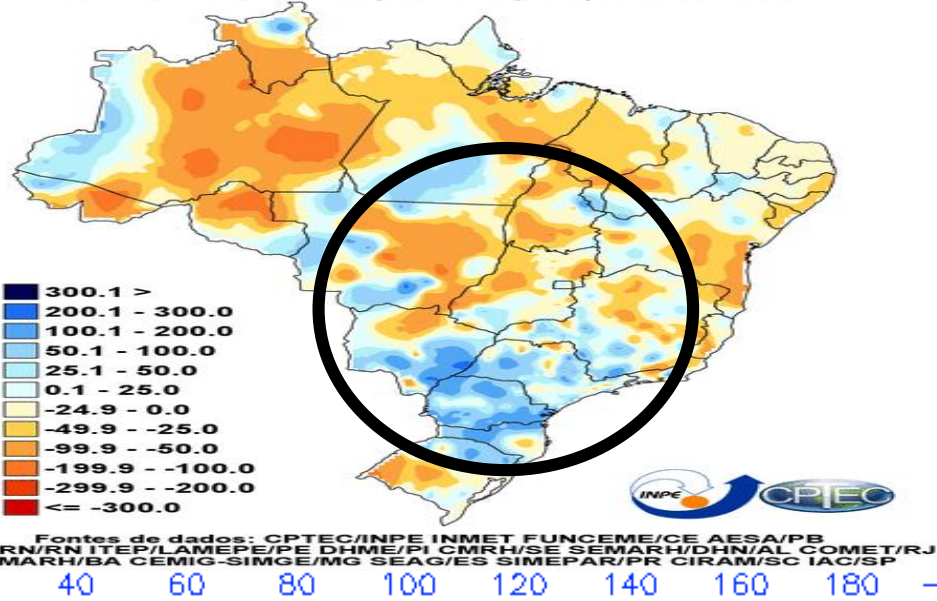
Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2000	-1.7	-1.4	-1.1	-0.8	-0.7	-0.6	-0.6	-0.5	-0.5	-0.6	-0.7	-0.7

2018/19 COM PADRÃO SEMELHANTE A 2014/15?!

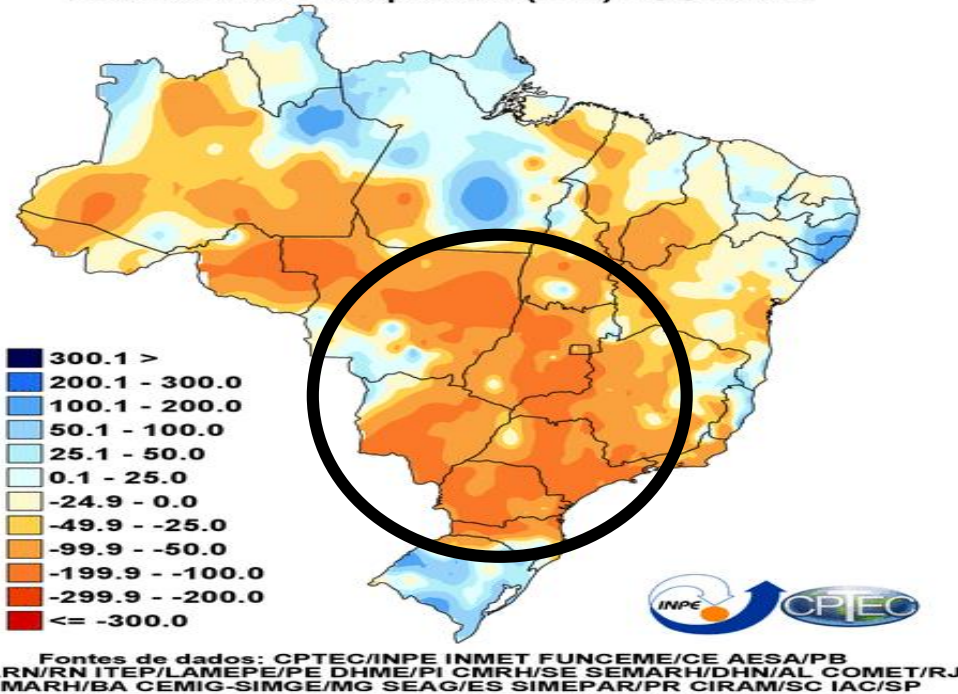
2003	0.9	0.6	0.4	0.0	-0.3	-0.2	0.1	0.2	0.3	0.3	0.4	0.4
2004	0.4	0.3	0.2	0.2	0.2	0.3	0.5	0.6	0.7	0.7	0.7	0.7
2005	0.6	0.6	0.4	0.4	0.3	0.1	-0.1	-0.1	-0.1	-0.3	-0.6	-0.8
2006	-0.8	-0.7	-0.5	-0.3	0.0	0.0	0.1	0.3	0.5	0.7	0.9	0.9
2007	0.7	0.3	0.0	-0.2	-0.3	-0.4	-0.5	-0.8	-1.1	-1.4	-1.5	-1.6
2008	-1.6	-1.4	-1.2	-0.9	-0.8	-0.5	-0.4	-0.3	-0.3	-0.4	-0.6	-0.7
2009	-0.8	-0.7	-0.5	-0.2	0.1	0.4	0.5	0.5	0.7	1.0	1.3	1.6
Year	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND	NDJ
2010	1.5	1.3	0.9	0.4	-0.1	-0.6	-1.0	-1.4	-1.6	-1.7	-1.7	-1.6
2011	-1.4	-1.1	-0.8	-0.6	-0.5	-0.4	-0.5	-0.7	-0.9	-1.1	-1.1	-1.0
2012	-0.8	-0.6	-0.5	-0.4	-0.2	0.1	0.3	0.3	0.3	0.2	0.0	-0.2
2013	-0.4	-0.3	-0.2	-0.2	-0.3	-0.3	-0.4	-0.4	-0.3	-0.2	-0.2	-0.3
2014	-0.4	-0.4	-0.2	0.1	0.3	0.2	0.1	0.0	0.2	0.4	0.6	0.7
2015	0.6	0.6	0.6	0.8	1.0	1.2	1.5	1.8	2.1	2.4	2.5	2.6
2016	2.5	2.2	1.7	1.0	0.5	0.0	-0.3	-0.6	-0.7	-0.7	-0.7	-0.6
2017	-0.3	-0.1	0.1	0.3	0.4	0.4	0.2	-0.1	-0.4	-0.7	-0.9	-1.0
2018	-0.9	-0.8	-0.6	-0.4	-0.1	0.1	0.1	0.2	0.4			

OCEANO PACÍFICO: 2018 x 2014

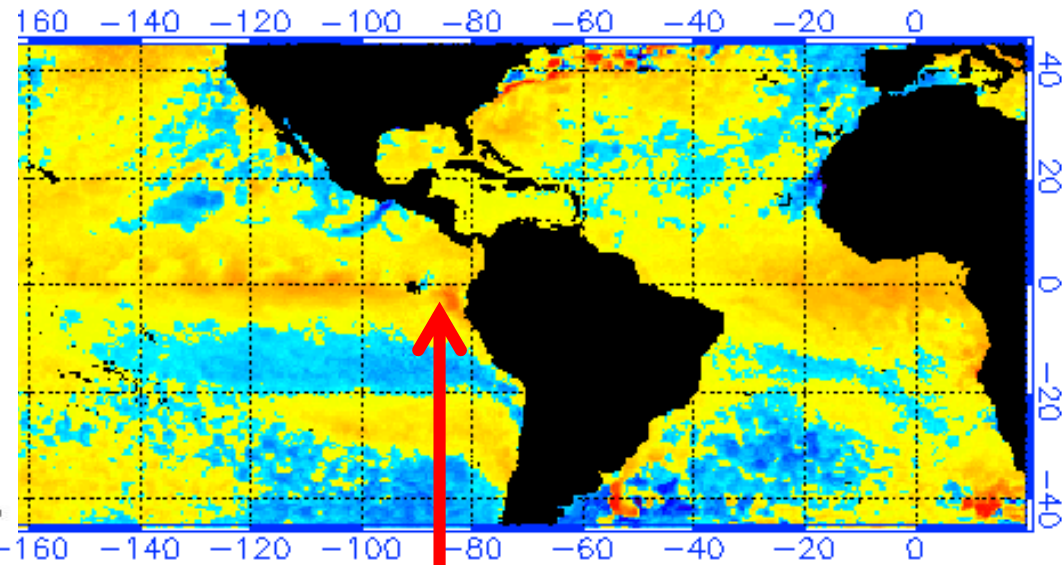
Data da ultima atualizacao: 01/11/2018
Anomalia de Precipitacao (mm) - OUT/2018



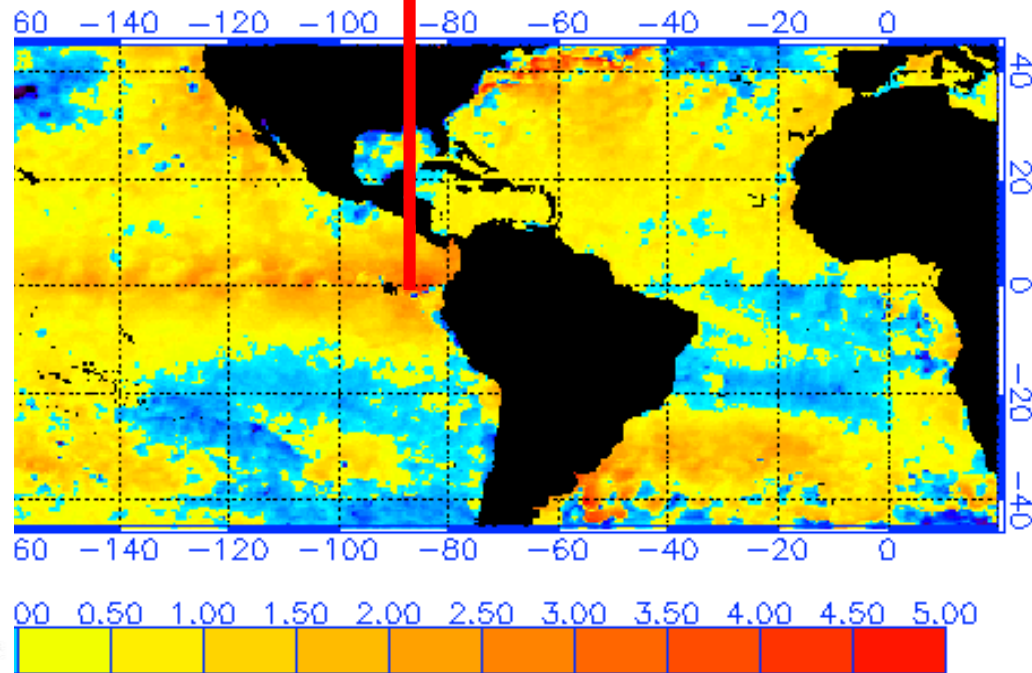
Data da ultima atualizacao: 01/11/2014
Anomalia de Precipitacao (mm) - OUT/2014



...y (degrees C), 11/19/2018



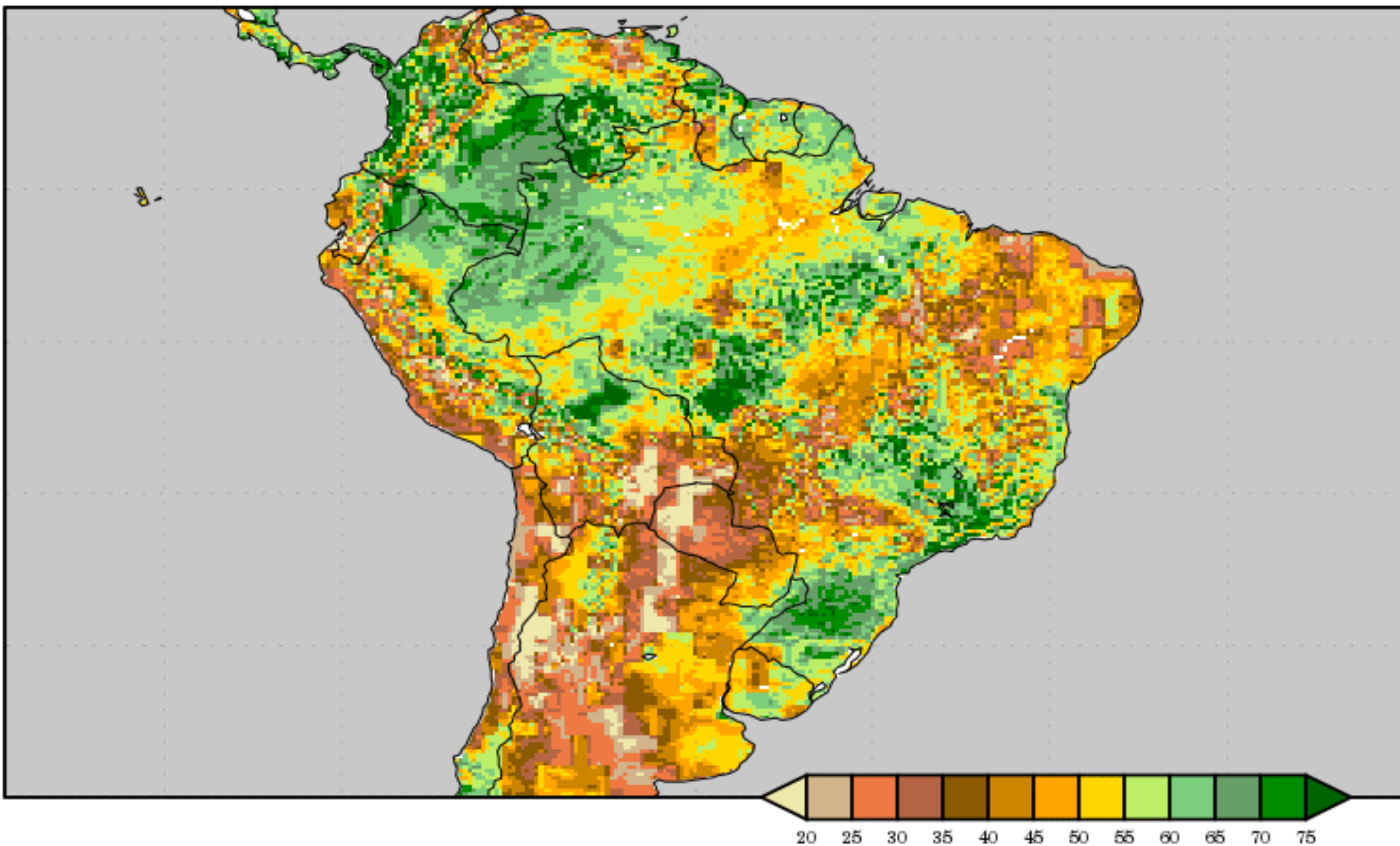
... (degrees C), 11/20, 2014



Initial Soil Moisture

Liquid Water in top 2 meters of soil

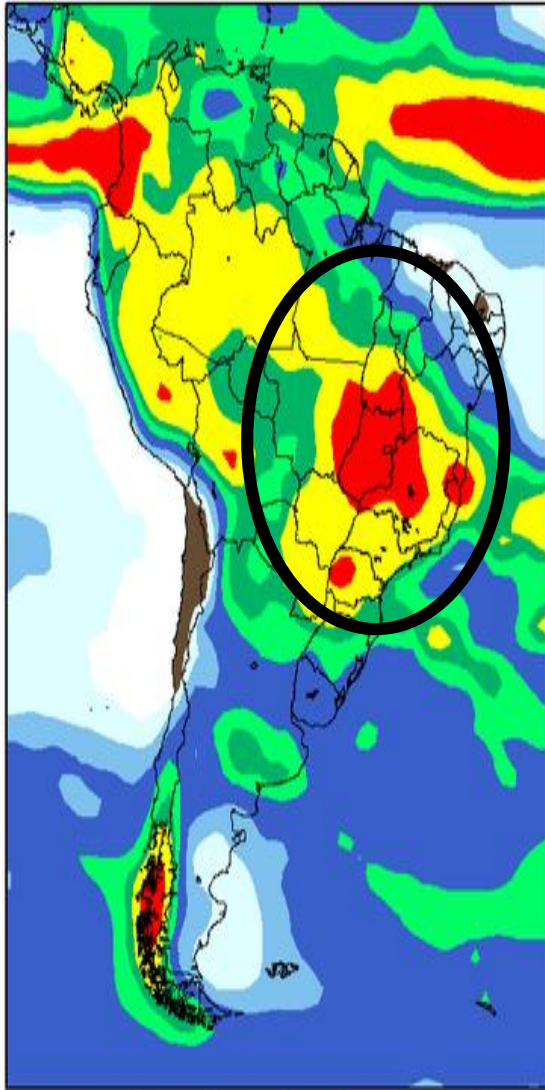
Valid time: Sun, 02 DEC 2018 at 00Z



Centro Europeu: Previsão de Chuva BRASIL

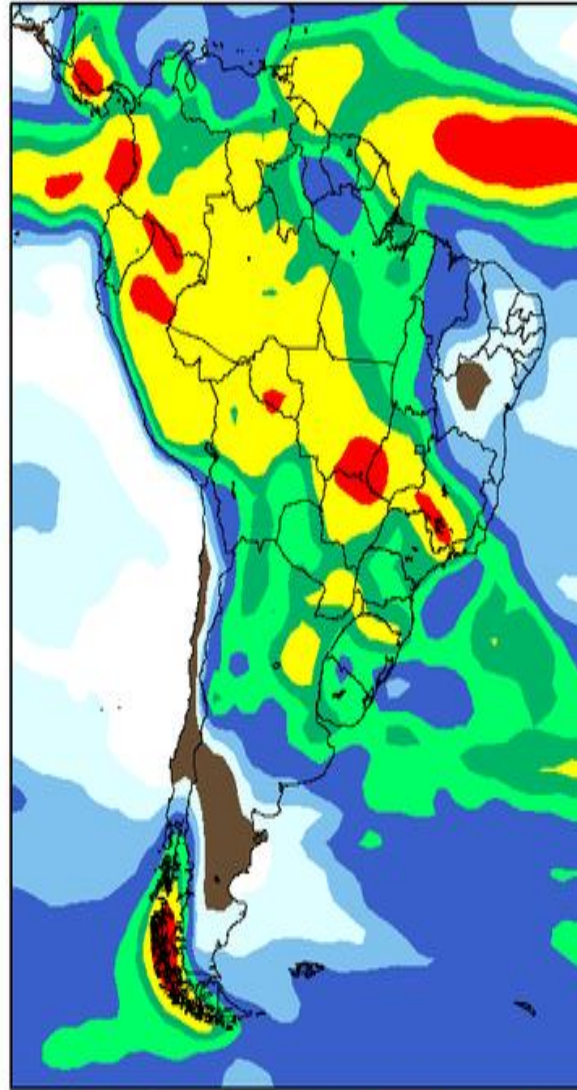


Precipitacao Mensal Acumulada 11/2018 (mm)
Rodada de: 11/2018 ECMWF - fmean



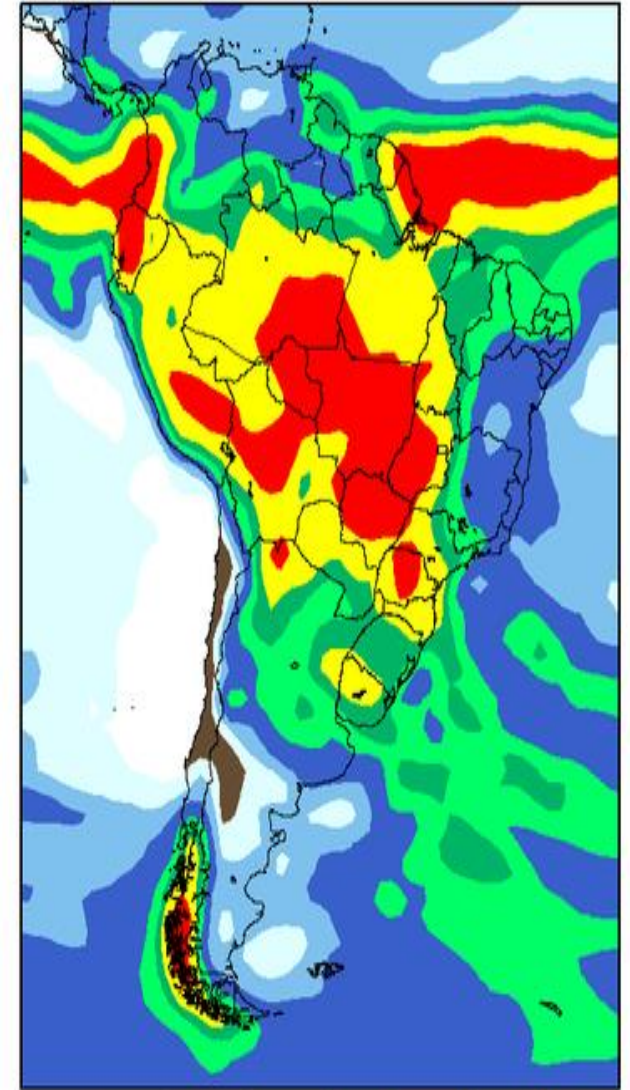
10 25 50 100 150 200 300

Precipitacao Mensal Acumulada 12/2018 (mm)
Rodada de: 11/2018 ECMWF - fmean



10 25 50 100 150 200 300

Precipitacao Mensal Acumulada 01/2019 (mm)
Rodada de: 11/2018 ECMWF - fmean

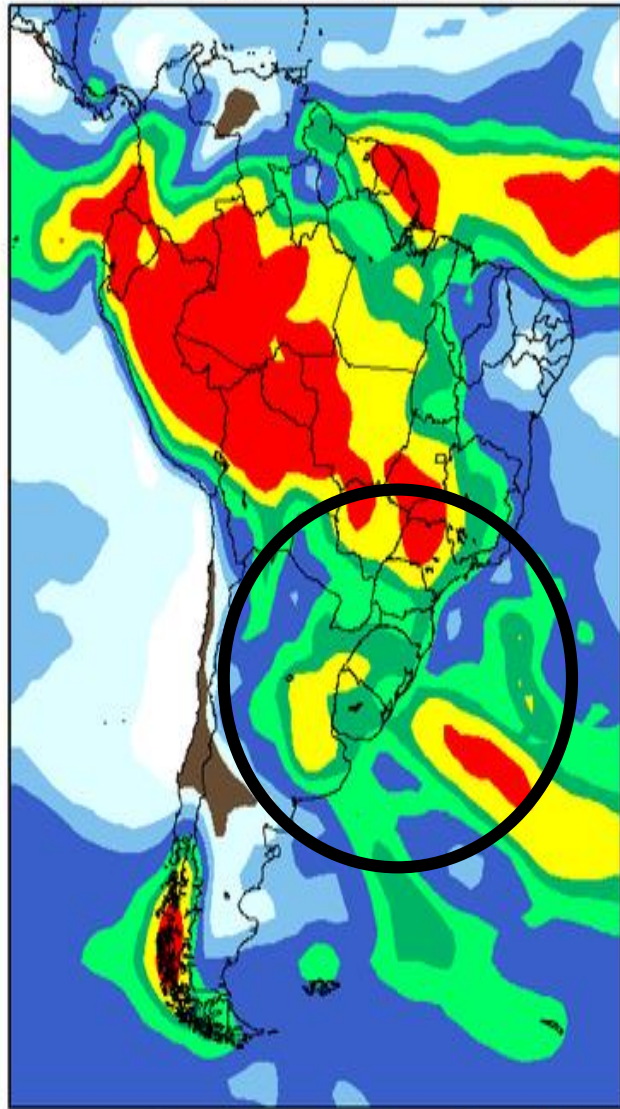


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Centro Europeu: Previsão de Chuva BRASIL

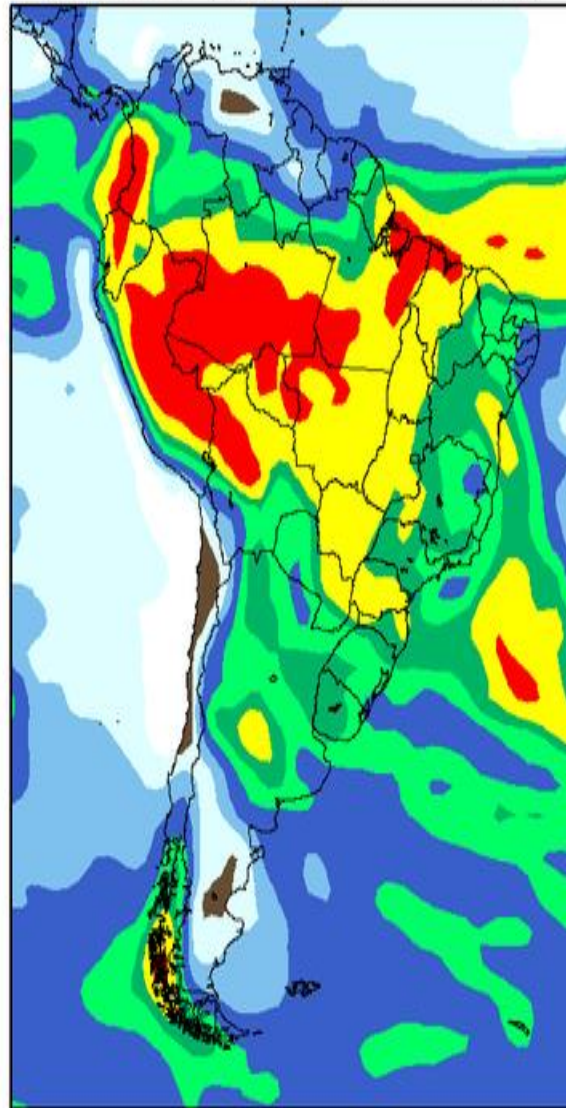


Precipitacao Mensal Acumulada 02/2019 (mm)
Rodada de: 11/2018 ECMWF - fcmean



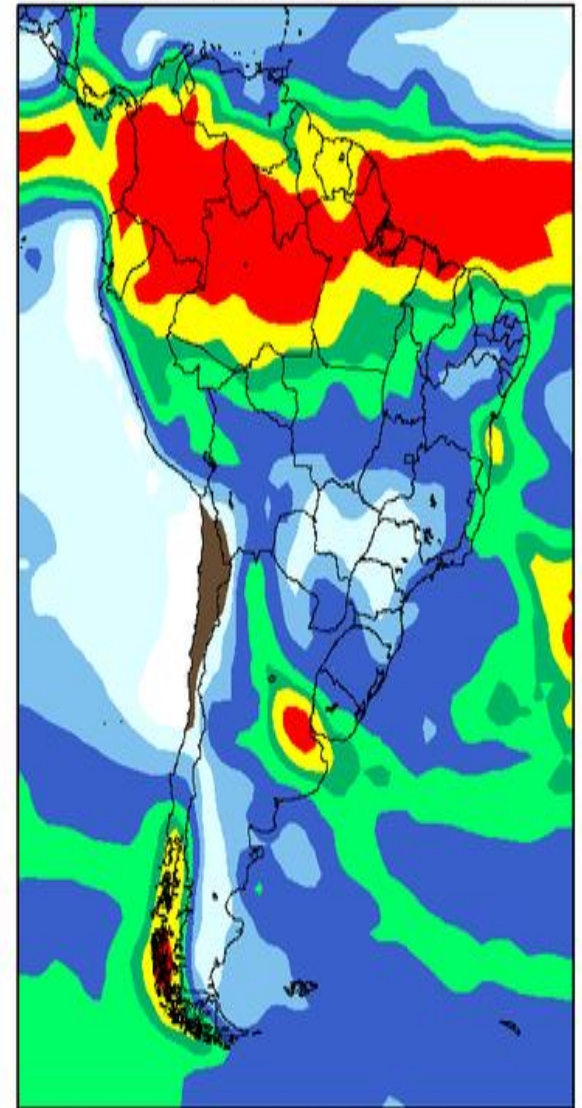
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Precipitacao Mensal Acumulada 03/2019 (mm)
Rodada de: 11/2018 ECMWF - fcmean



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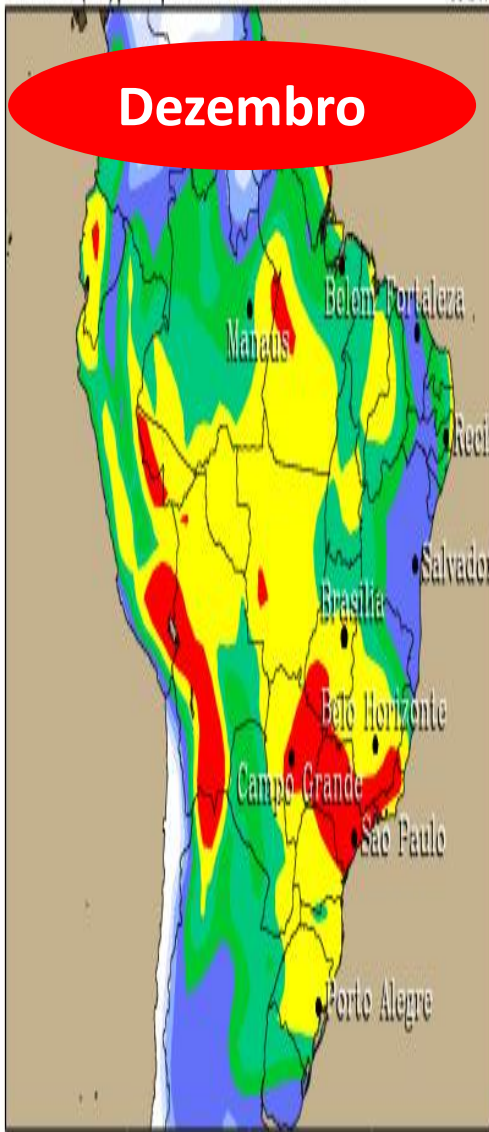
Precipitacao Mensal Acumulada 04/2019 (mm)
Rodada de: 11/2018 ECMWF - fcmean



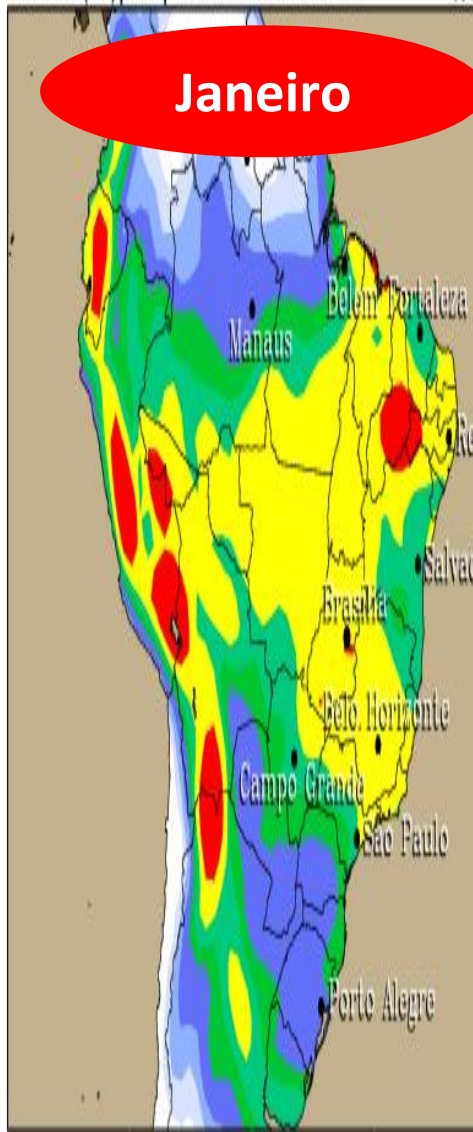
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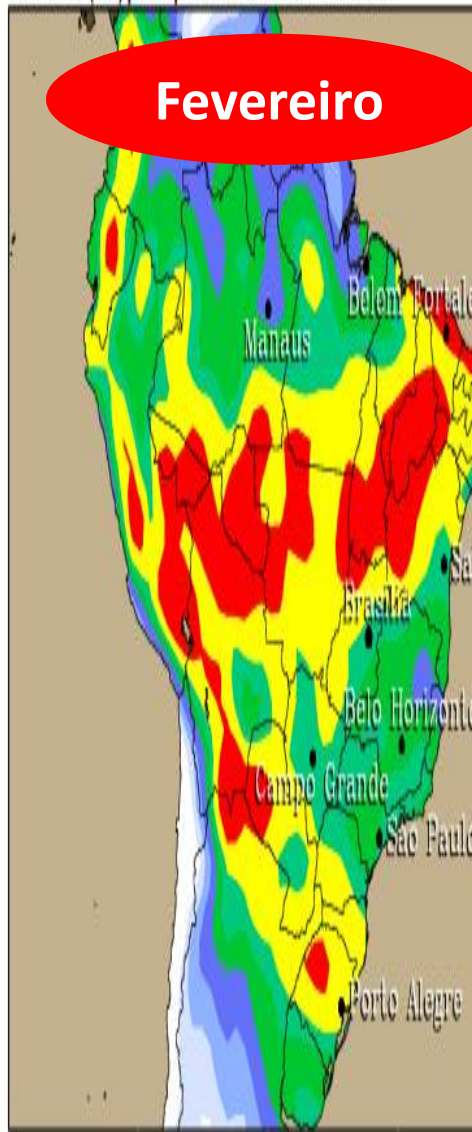
Prec ACUM (mm) para o período 01/01/2019 a 31/01/2019 CFSv2



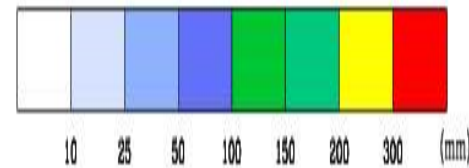
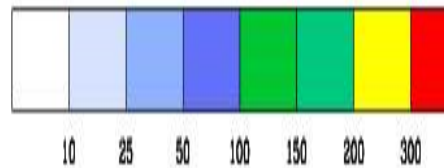
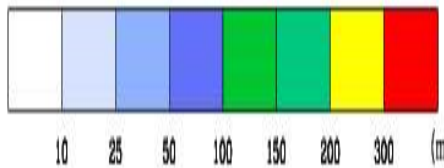
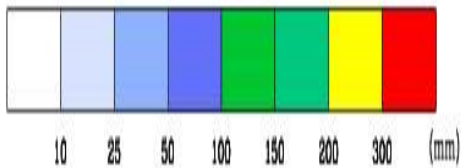
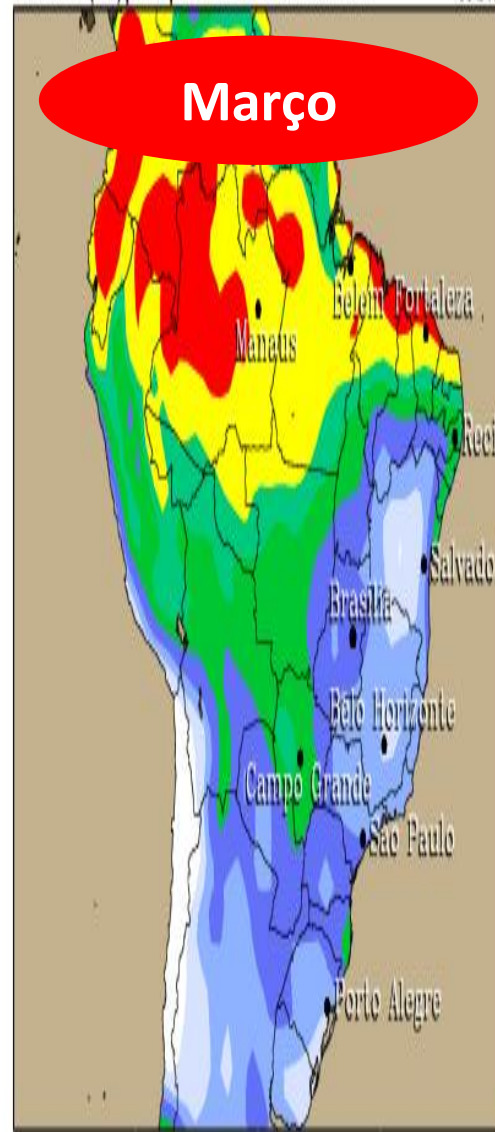
Prec ACUM (mm) para o período 01/02/2019 a 28/02/2019 CFSv2



Prec ACUM (mm) para o período 01/03/2019 a 31/03/2019 CFSv2



Prec ACUM (mm) para o período 01/04/2019 a 30/04/2019 CFSv2



Fonte CFSv2/NOAA - Simulação do dia 01/12/2018

Fonte CFSv2/NOAA - Simulação do dia 01/12/2018

Fonte CFSv2/NOAA - Simulação do dia 01/12/2018

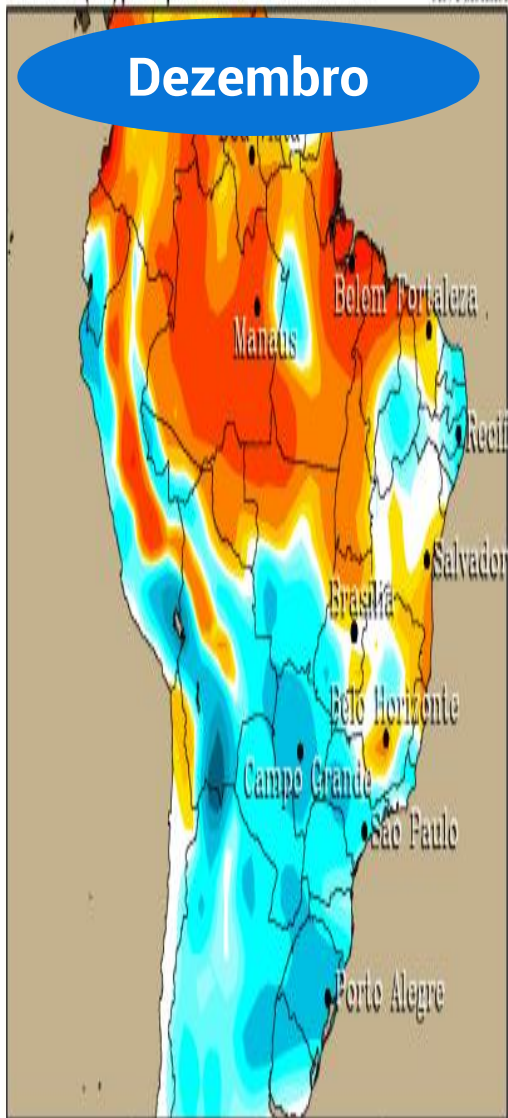
Fonte CFSv2/NOAA - Simulação do dia 01/12/2018

Previsão Anomalia Chuva Mensal (CFSv2)

Prec ACUM (mm) para o período 01/01/2019 a 31/01/2019

ANOMALIA

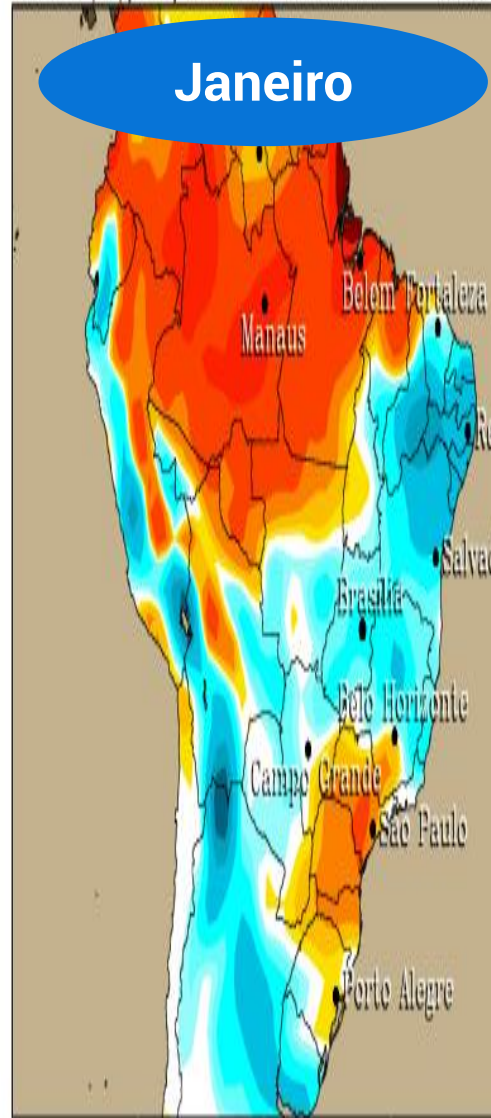
Dezembro



Prec ACUM (mm) para o período 01/02/2019 a 28/02/2019

ANOMALIA

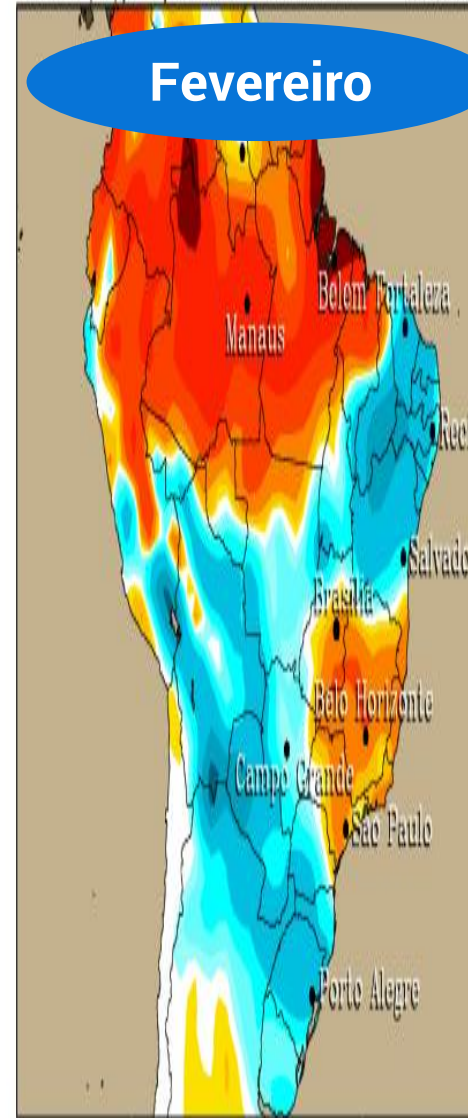
Janeiro



Prec ACUM (mm) para o período 01/03/2019 a 31/03/2019

ANOMALIA

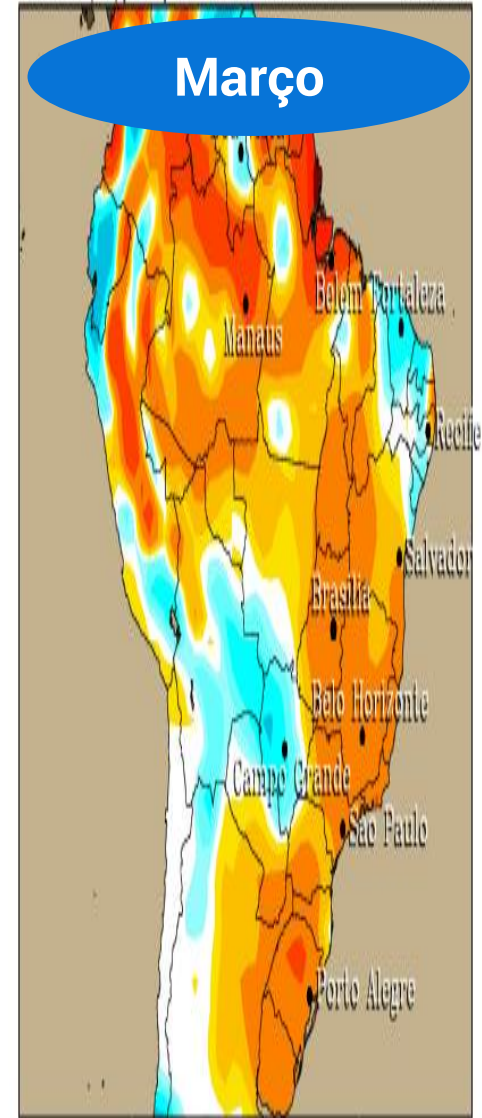
Fevereiro



Prec ACUM (mm) para o período 01/04/2019 a 30/04/2019

ANOMALIA

Março



-300 -200 -100 -50 -25 -10 10 25 50 100 200 300 (mm)

Fonte: CFSv2/NOAA - Simulação do dia 01/12/2018



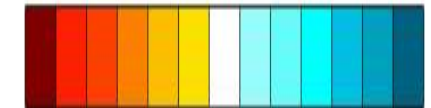
-300 -200 -100 -50 -25 -10 10 25 50 100 200 300 (mm)

Fonte: CFSv2/NOAA - Simulação do dia 01/12/2018



-300 -200 -100 -50 -25 -10 10 25 50 100 200 300 (mm)

Fonte: CFSv2/NOAA - Simulação do dia 01/12/2018

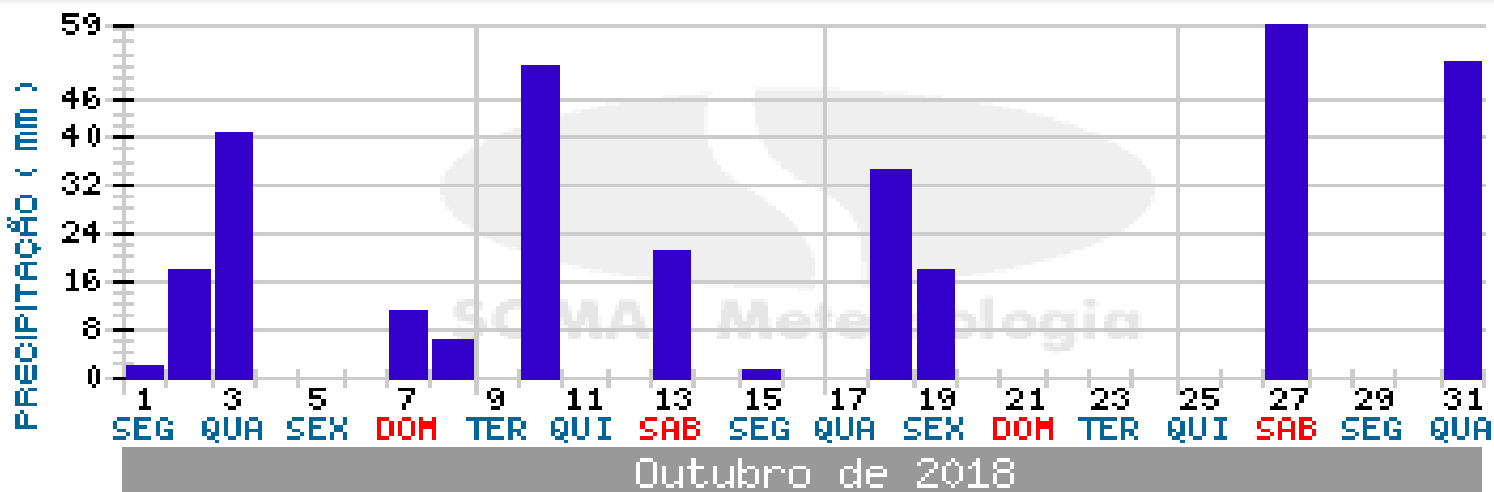


-300 -200 -100 -50 -25 -10 10 25 50 100 200 300 (mm)

Fonte: CFSv2/NOAA - Simulação do dia 01/12/2018

PASSO FUNDO – RS: CHUVA últimos 2 meses

Chuva acumulada em Passo Fundo-RS (Estação INMET)



ACUMULADO

317mm

DESVIO

41 %

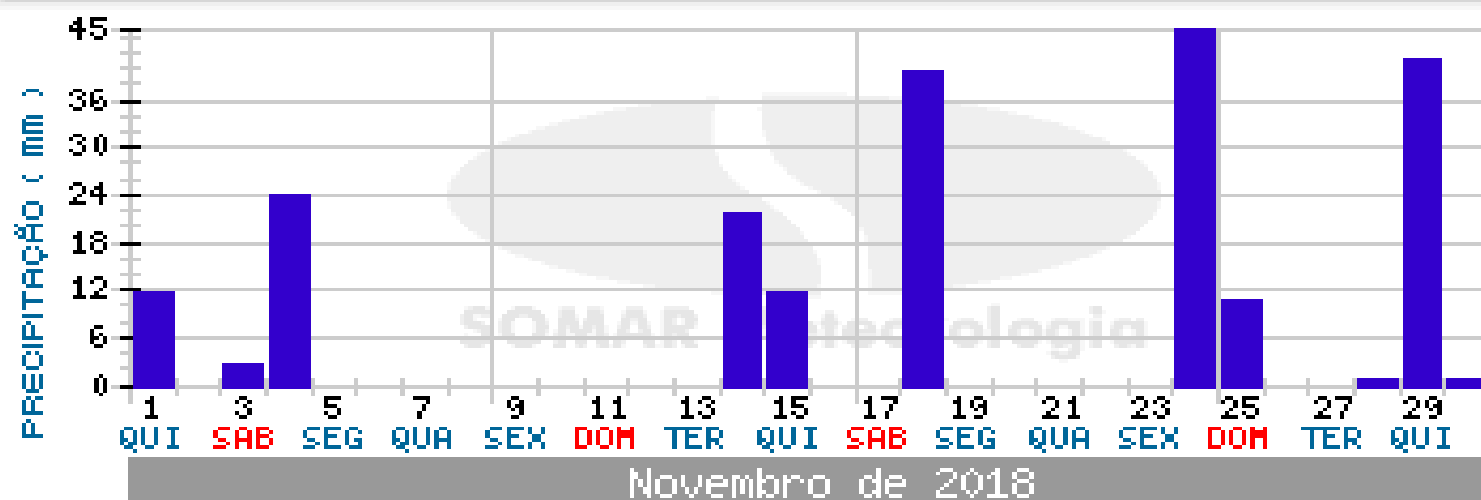
MÉDIA CLIMATOLÓGICA

225 mm

TOTAL DIAS COM CHUVA

12 dias

Chuva acumulada em Passo Fundo-RS (Estação INMET)



ACUMULADO

212mm

DESVIO

34 %

MÉDIA CLIMATOLÓGICA

158.8 mm

TOTAL DIAS COM CHUVA

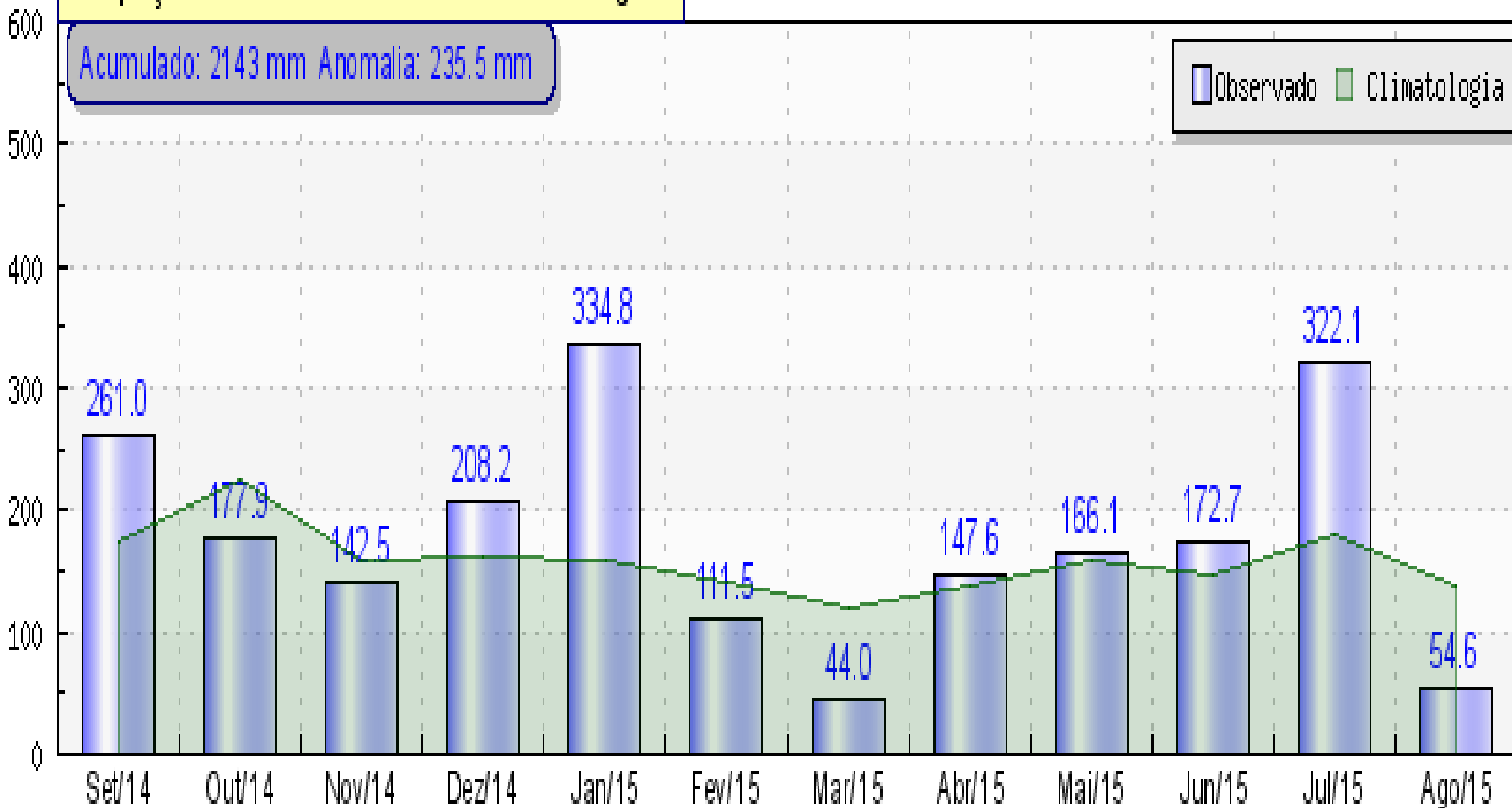
11 dias



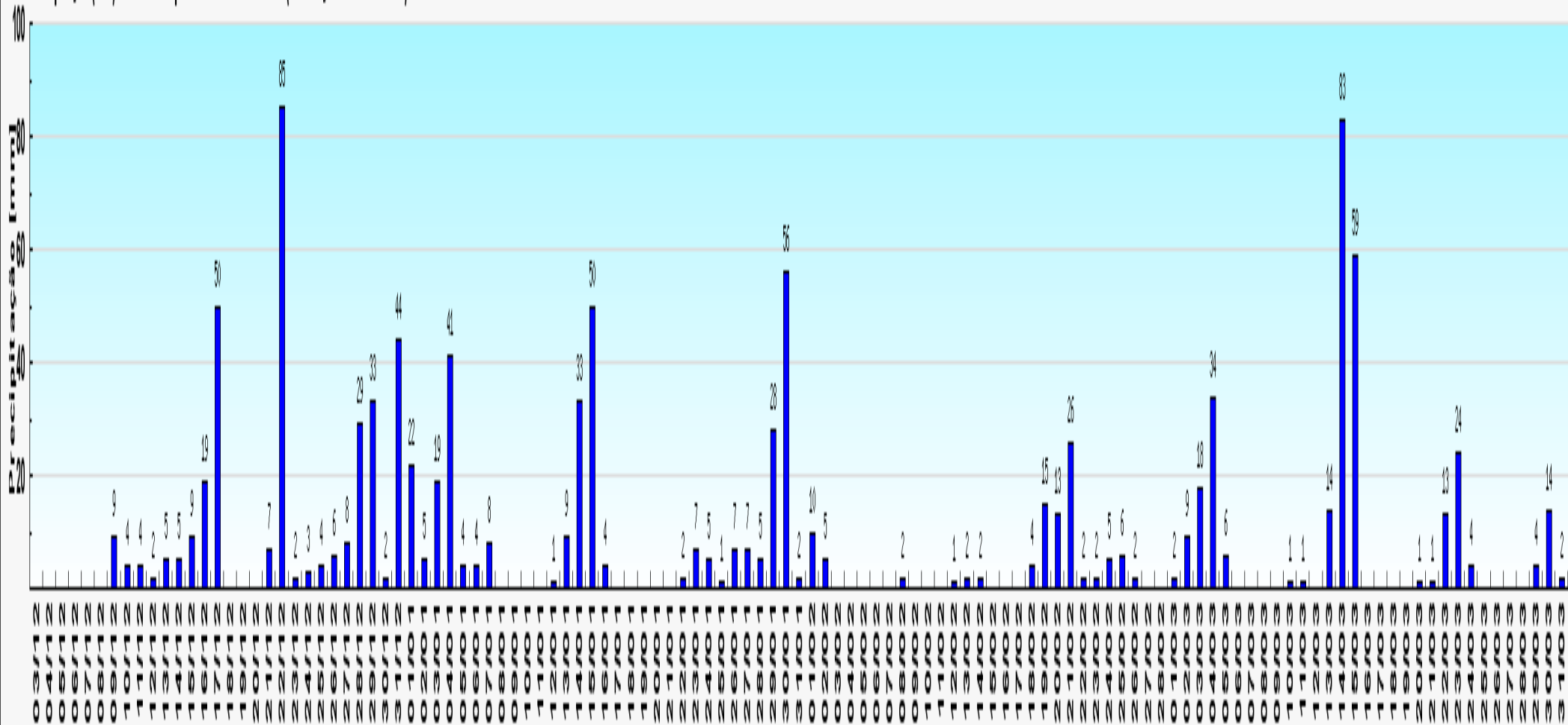
Precipitação Observada em Passo Fundo-RS de Set/14 à Ago/15

Acumulado: 2143 mm Anomalia: 235.5 mm

Observado Climatologia



Precipitação (mm) Acumulada para Passo Fundo - RS (Simulação de 01/12/2018)



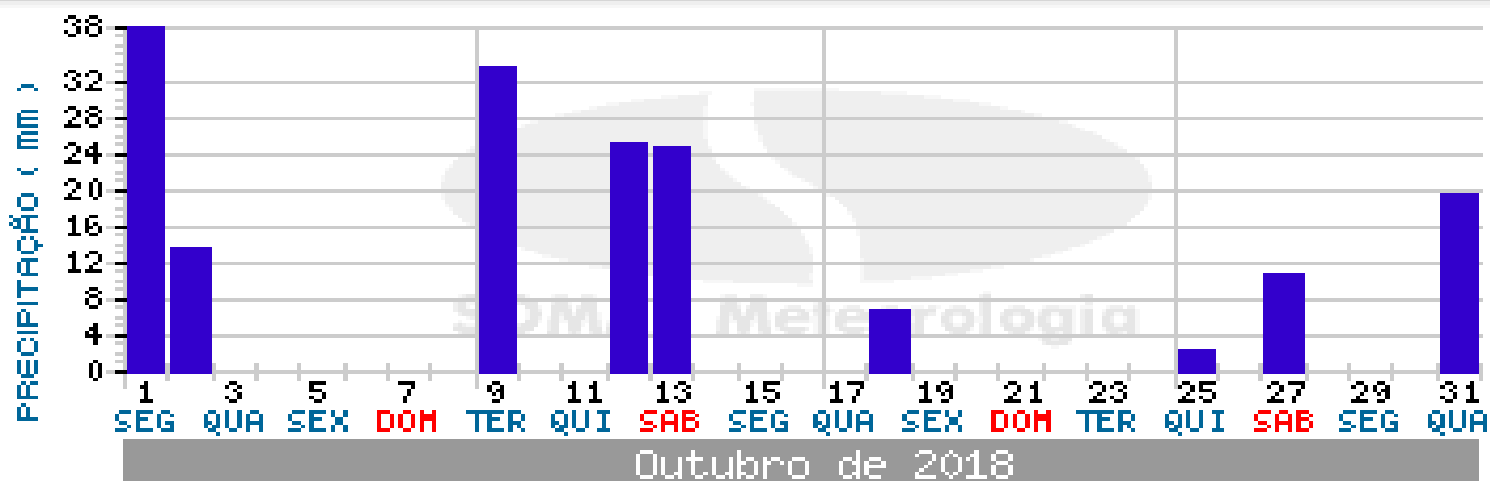
Janeiro

Fonte: CFSR/NOAH - Análise: Somar Meteorologia



DOM PEDRITO – RS: CHUVA últimos 2 meses

Chuva acumulada em Dom Pedrito-RS (Estação INHET)



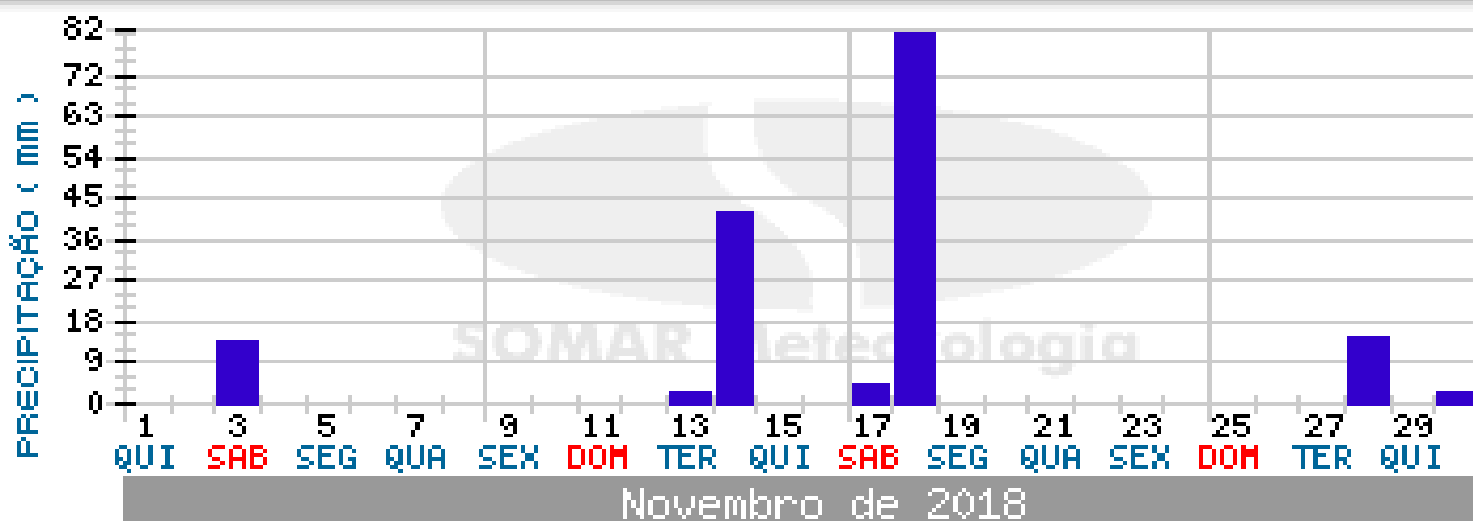
ACUMULADO
174.3mm

DESVIO
30 %

MÉDIA CLIMATOLÓGICA
134.4 mm

TOTAL DIAS COM CHUVA
9 dias

Chuva acumulada em Dom Pedrito-RS (Estação INHET)



ACUMULADO
162mm

DESVIO
31 %

MÉDIA CLIMATOLÓGICA
123.4 mm

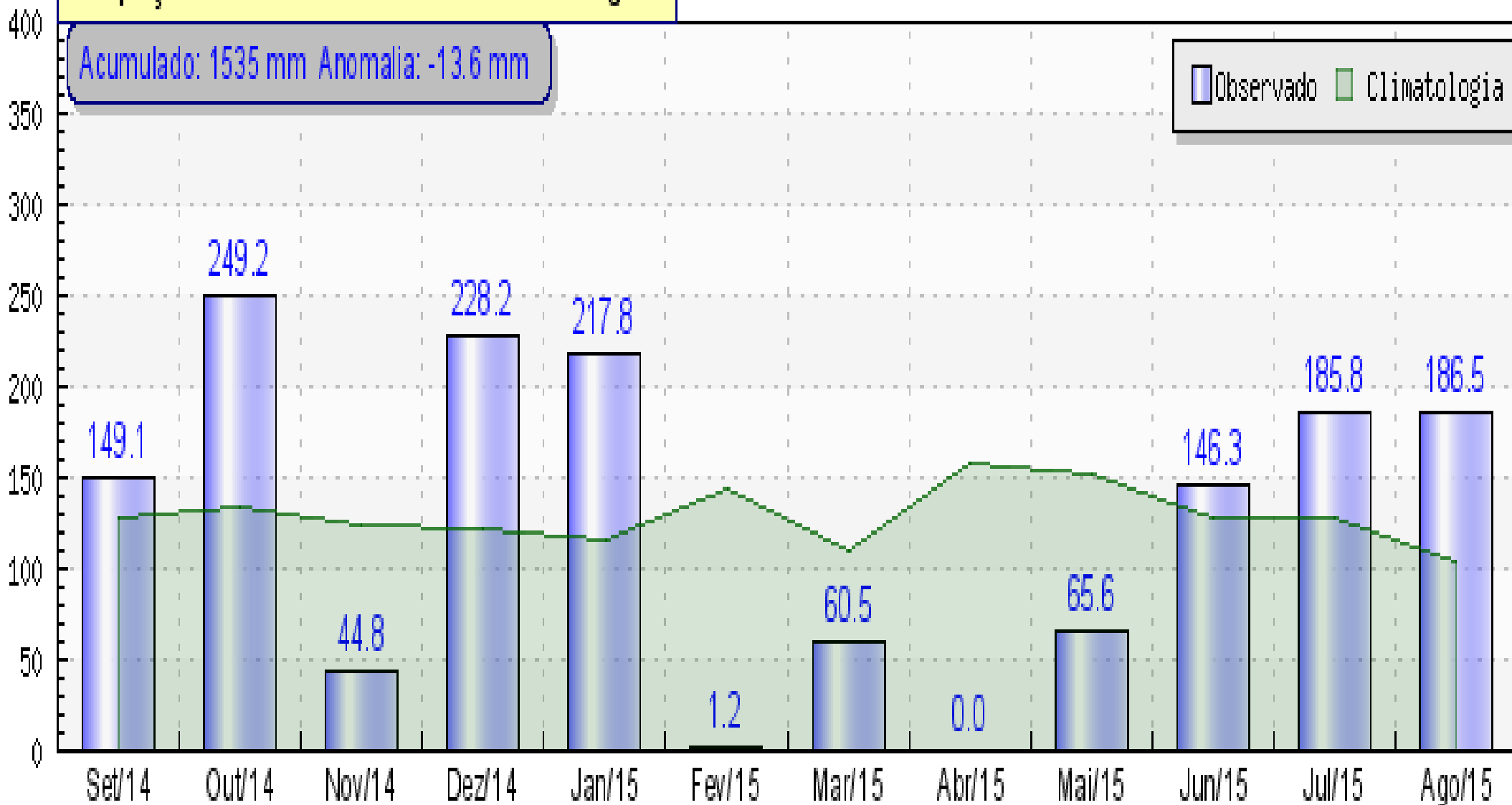
TOTAL DIAS COM CHUVA
7 dias



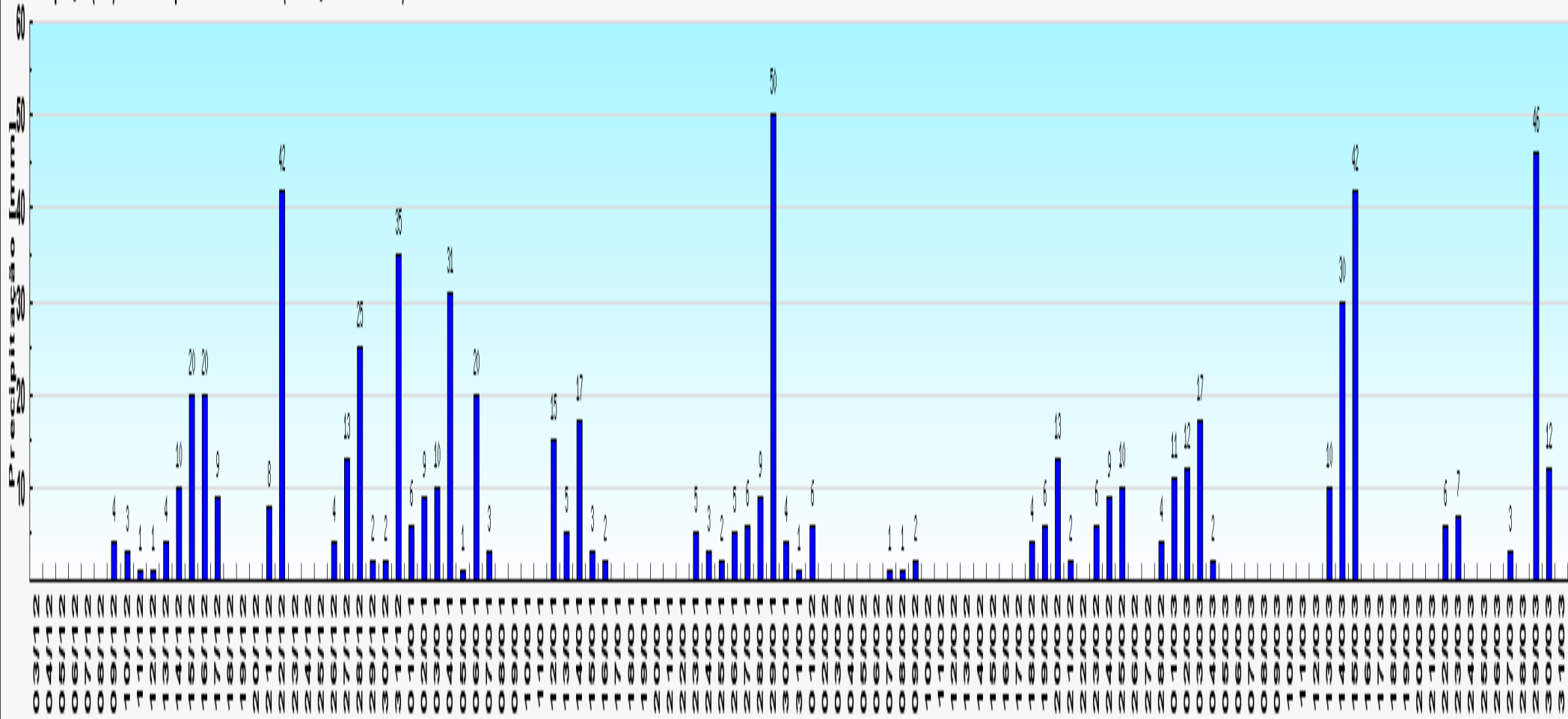
DOM PEDRITO- RS: CHUVA 2014 x 2015

Precipitação Observada em Dom Pedrito-RS de Set/14 à Ago/15

Acumulado: 1535 mm Anomalia: -13.6 mm



Precipitação (mm) Acumulada para Dom Pedrito - RS (Simulação de 01/12/2018)



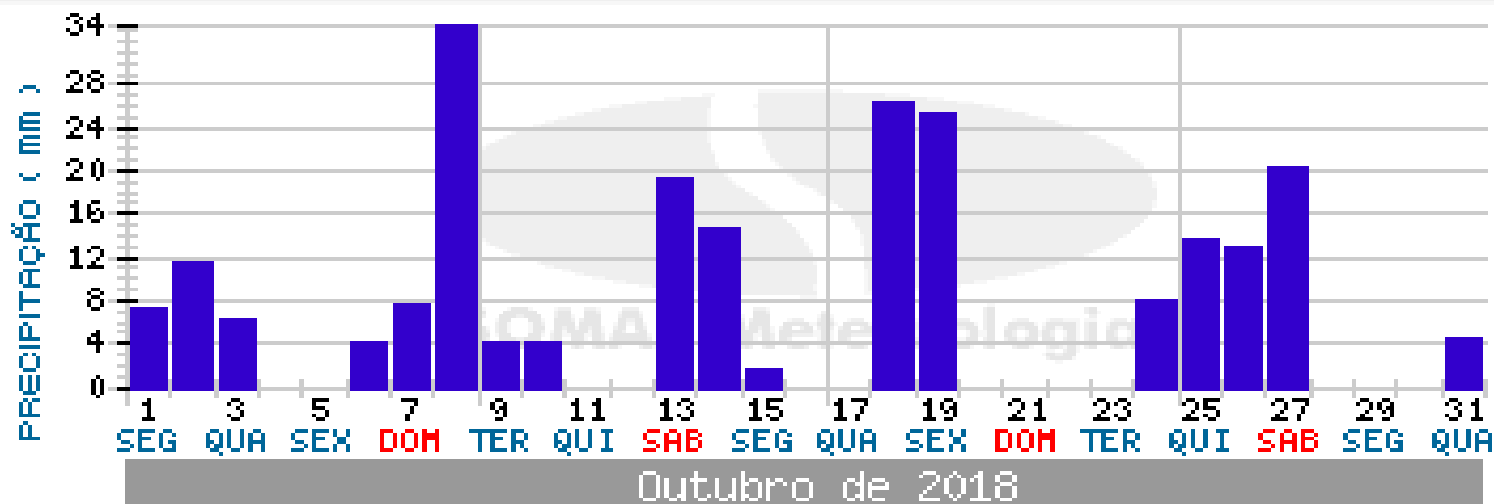
Janeiro

Fonte: DFS/2/INM - Análise: Somar Meteorologia



CASCAVEL - PR: CHUVA últimos 2 meses

Chuva acumulada em Cascavel-PR (Dados Interpolados)



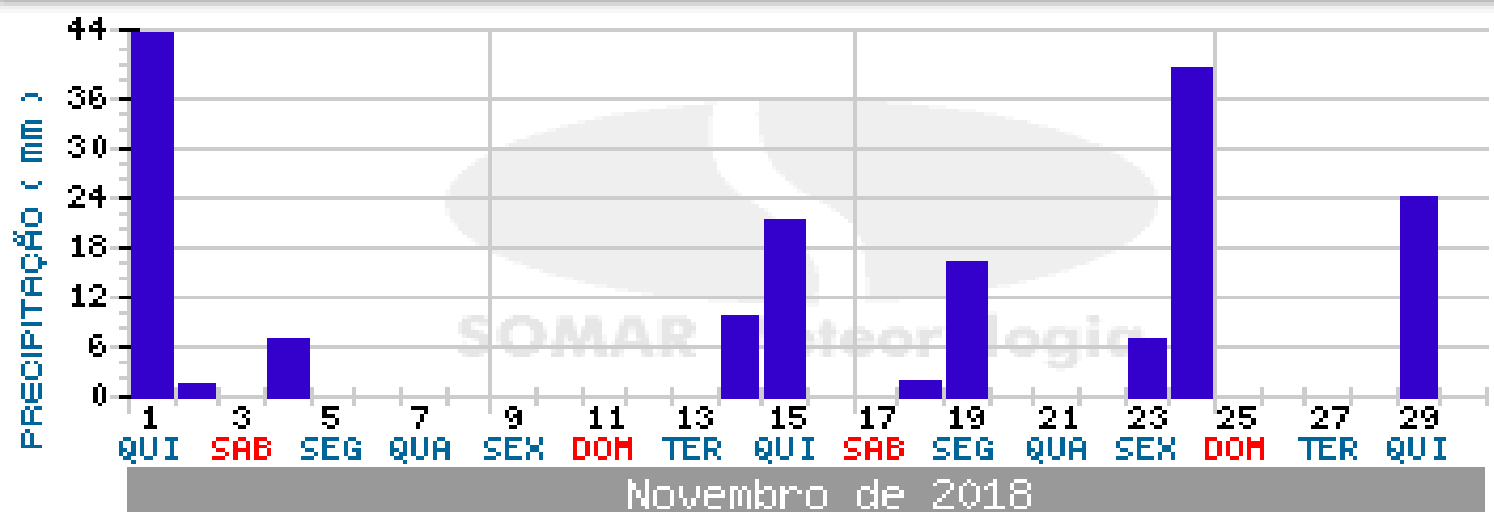
ACUMULADO
227.9mm

DESVIO
17 %

MÉDIA CLIMATOLÓGICA
194.4 mm

TOTAL DIAS COM CHUVA
18 dias

Chuva acumulada em Cascavel-PR (Dados Interpolados)



ACUMULADO
172.1mm

DESVIO
31 %

MÉDIA CLIMATOLÓGICA
131.7 mm

TOTAL DIAS COM CHUVA
10 dias

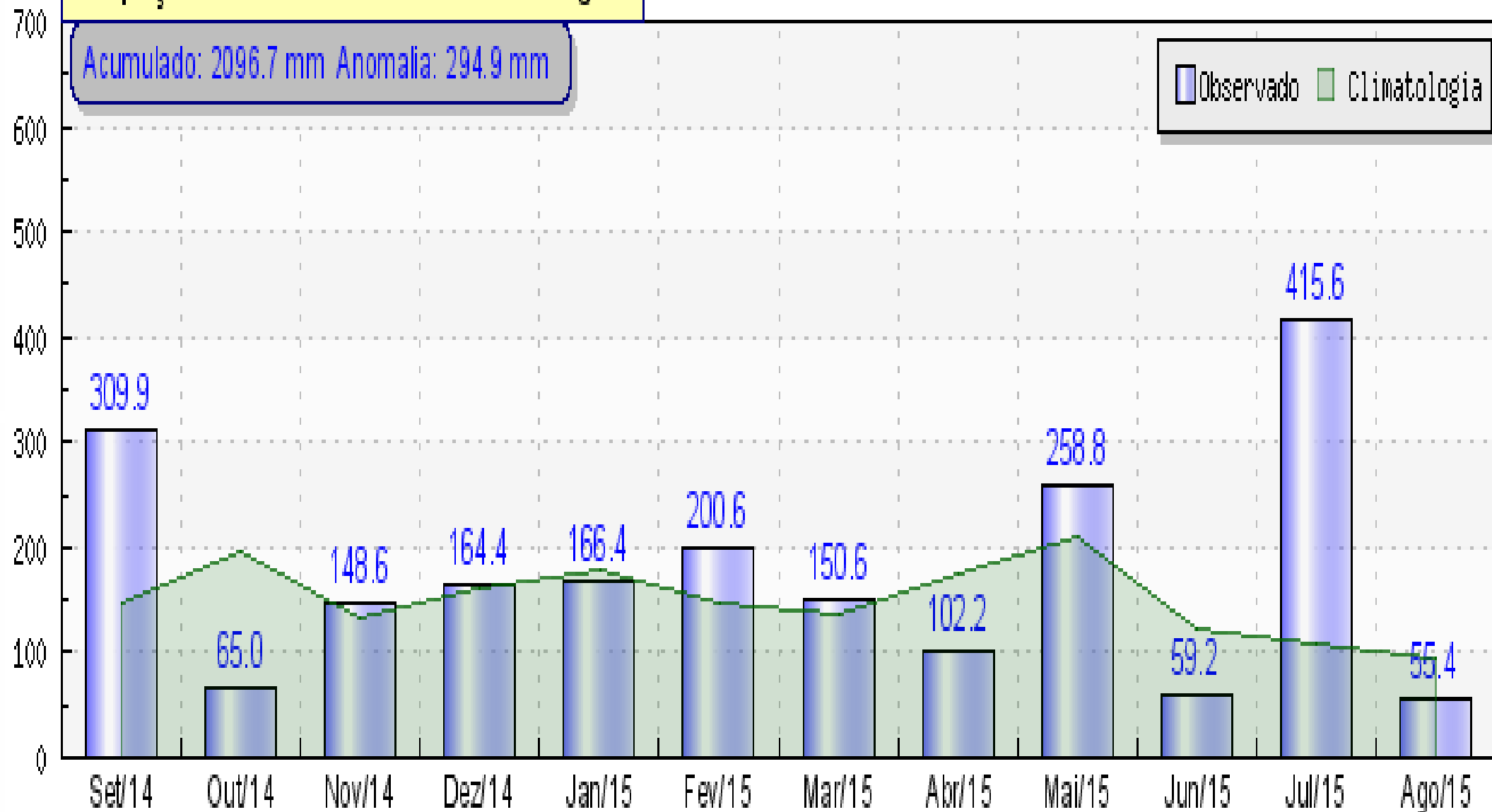


CASCAVEL - PR: CHUVA 2014 x 2015

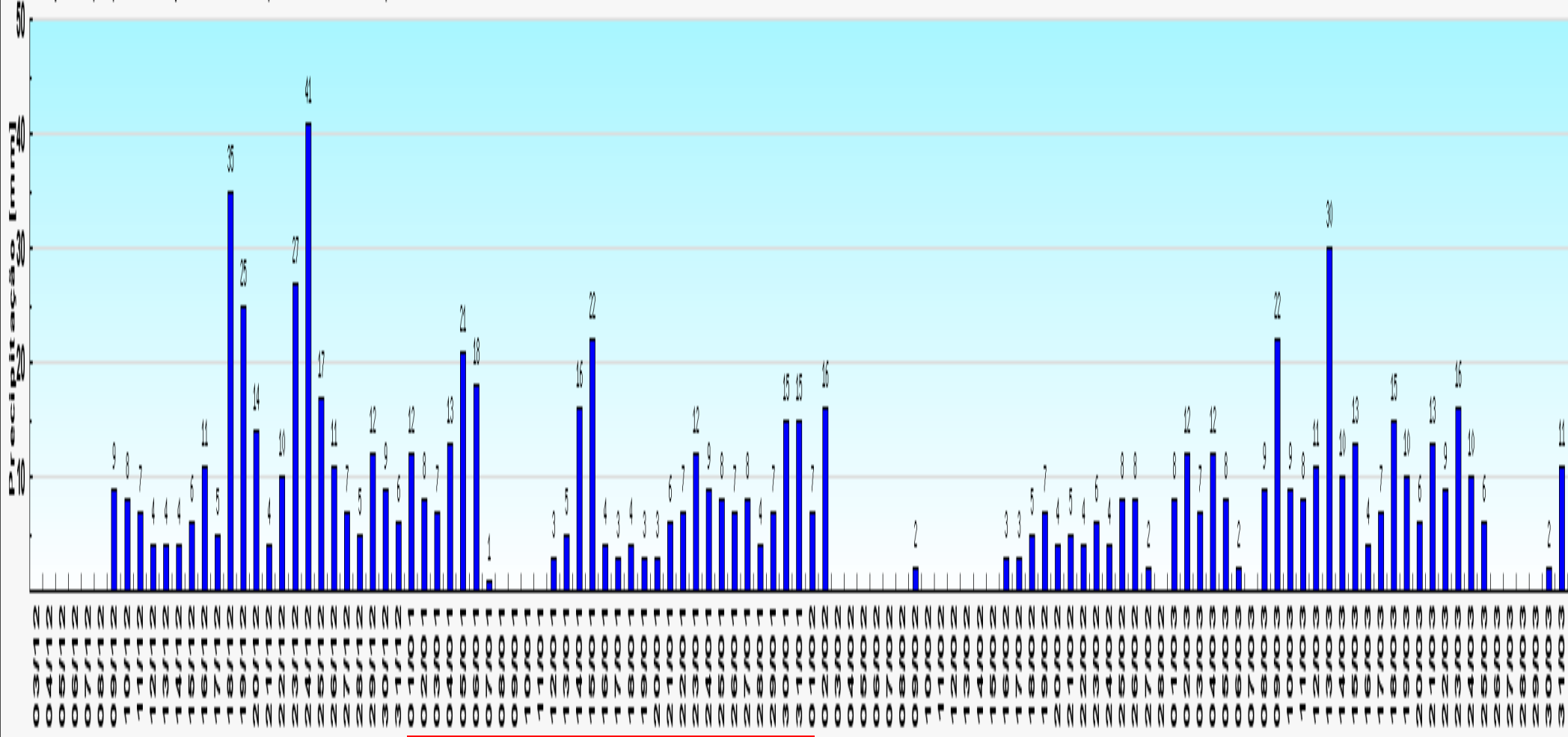
Precipitação Observada em Cascavel-PR de Set/14 à Ago/15

Acumulado: 2096.7 mm Anomalia: 294.9 mm

Observado Climatologia



Precipitação (mm) Acumulada para Cascavel - PR (Simulação de 01/12/2018)

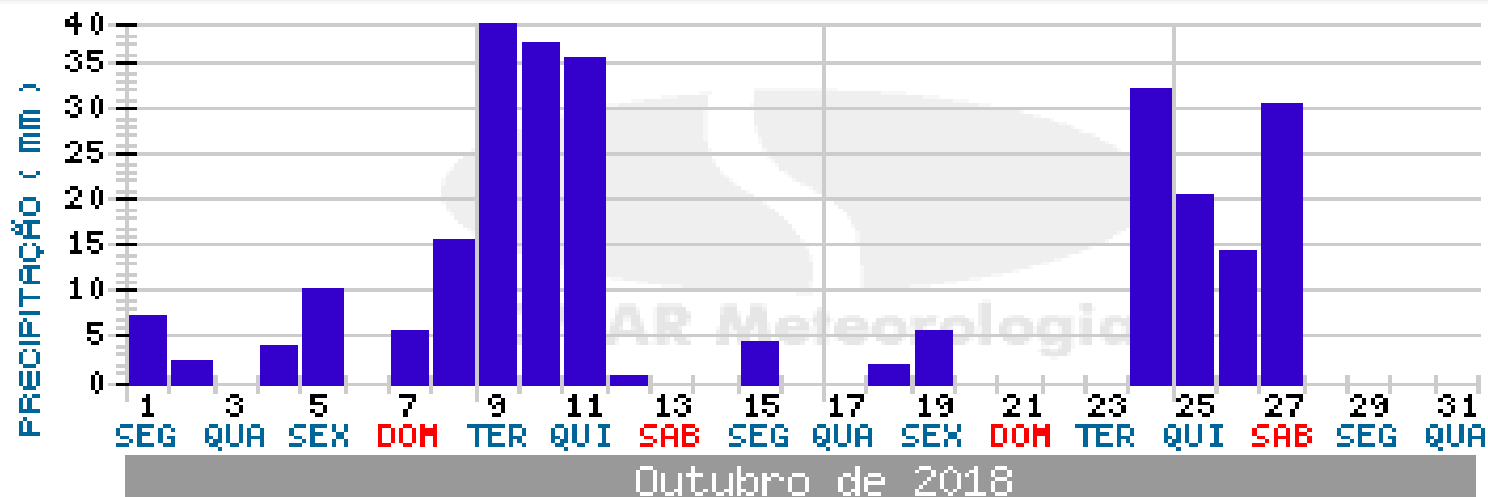


Janeiro

Fonte: CFSv2/NOAH - Análise: Somar Meteorologia



Chuva acumulada em Dourados-MS (Estação INMET)



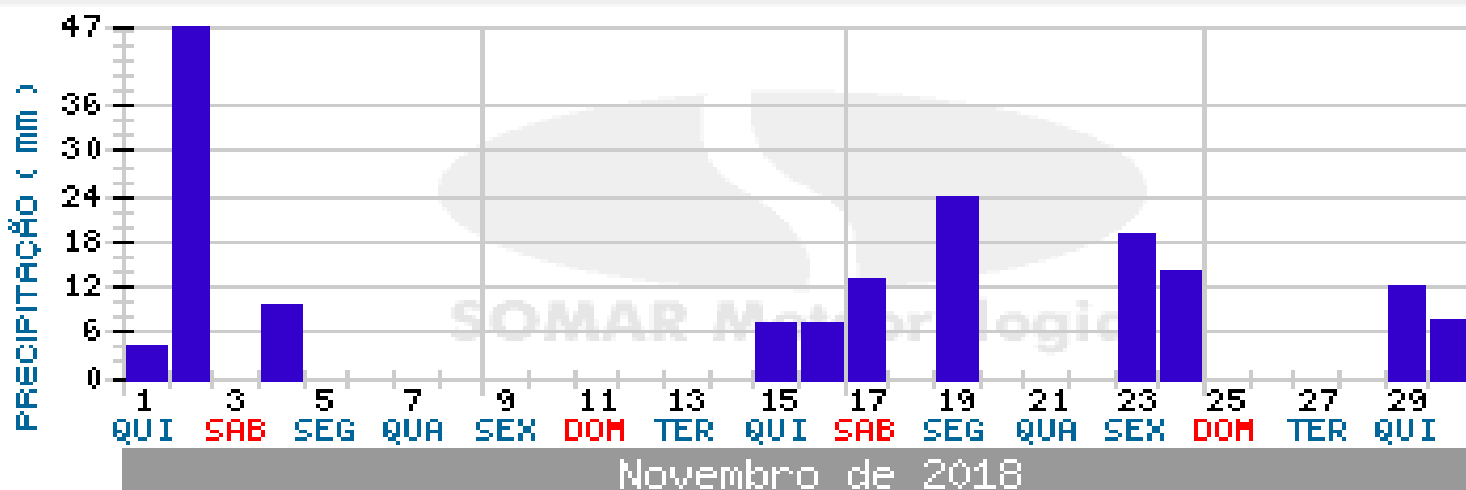
ACUMULADO
269.7mm

DESVIO
76 %

MÉDIA CLIMATOLÓGICA
153.2 mm

TOTAL DIAS COM CHUVA
17 dias

Chuva acumulada em Dourados-MS (Estação INMET)



ACUMULADO
166.7mm

DESVIO
16 %

MÉDIA CLIMATOLÓGICA
143.2 mm

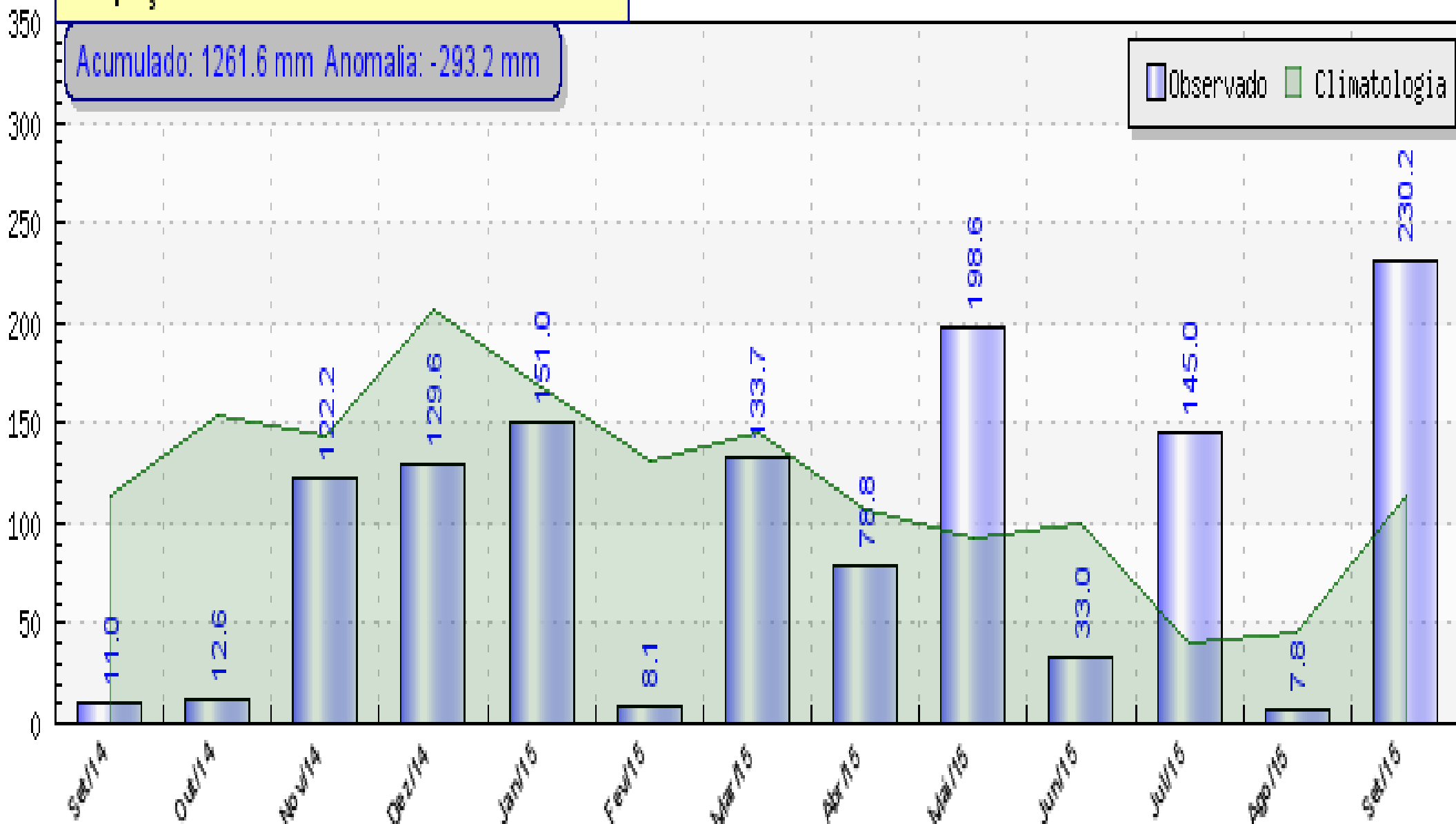
TOTAL DIAS COM CHUVA
11 dias



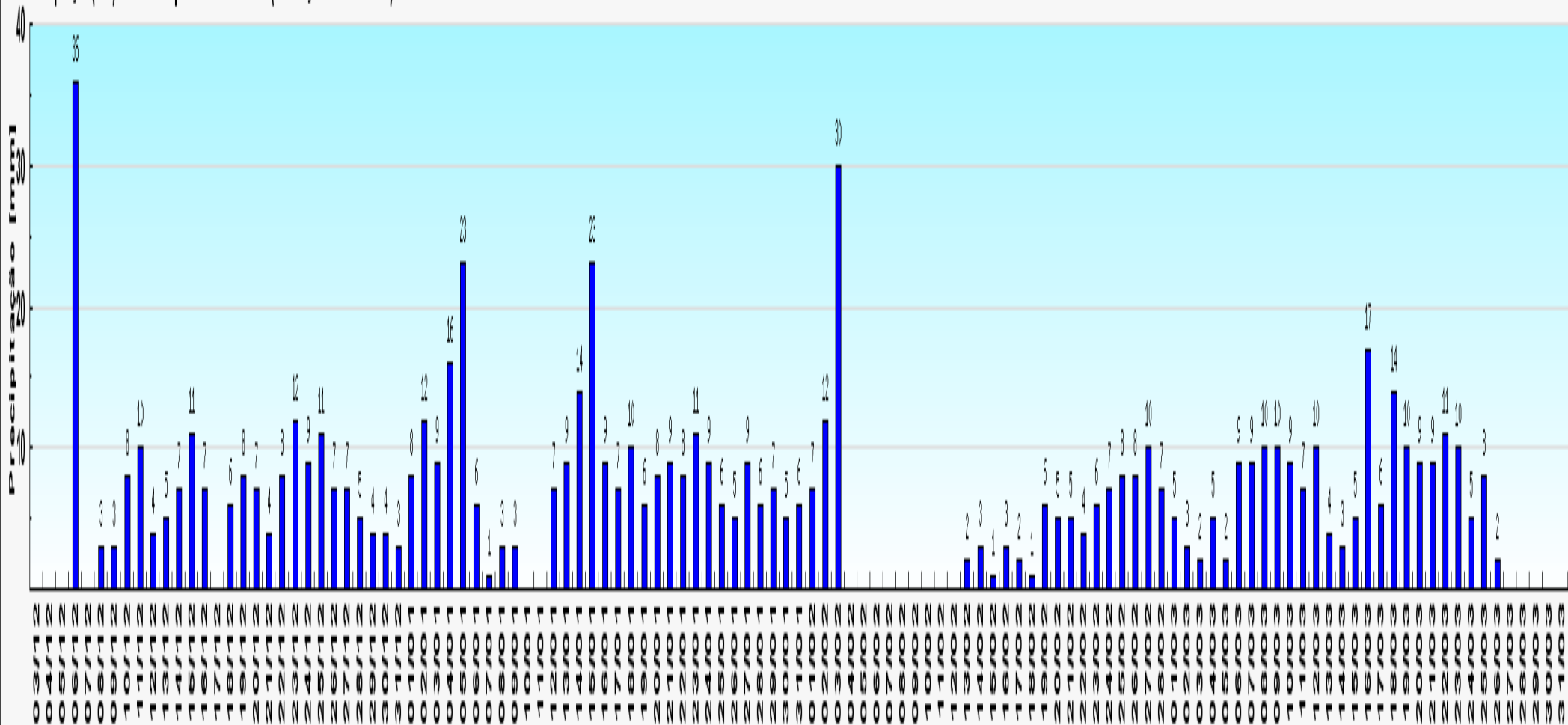
DOURADOS - MS: CHUVA 2014 x 2015

Precipitação Observada em Dourados-MS de Set/14 à Set/15

Acumulado: 1261.6 mm Anomalia: -293.2 mm



Precipitação (mm) Acumulada para Dourados - MS (Simulação de 01/12/2018)

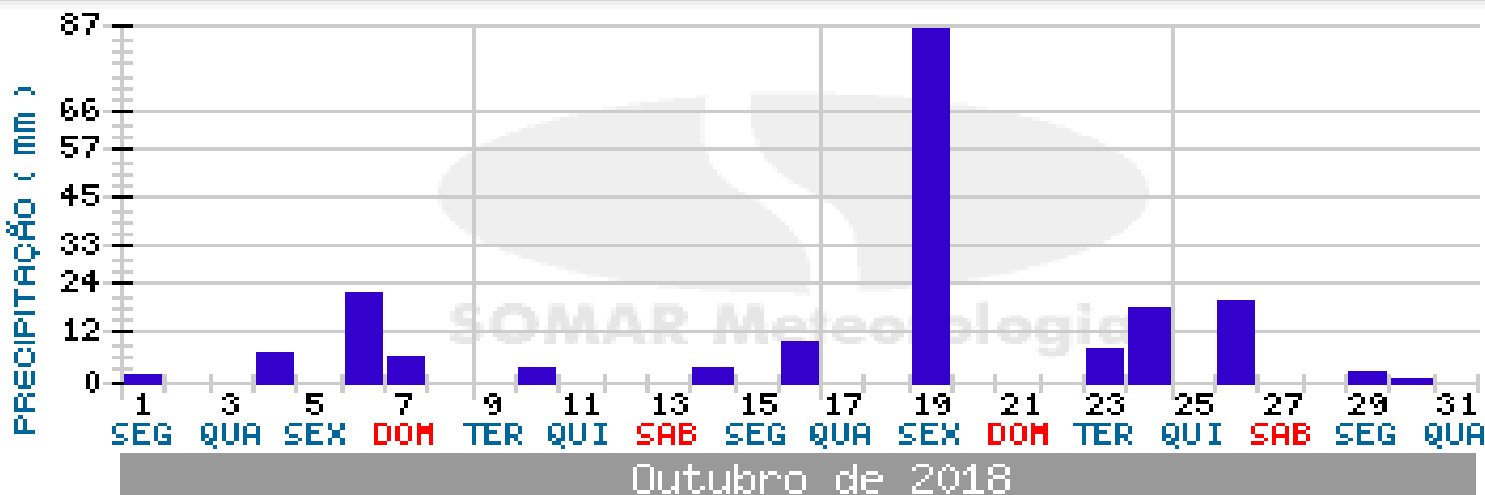


Janeiro

Fonte: DFSO/INM - Análise: Somar Meteorologia



Chuva acumulada em Rio Verde-GO (Estação INMET)



ACUMULADO

192mm

DESVIO

41 %

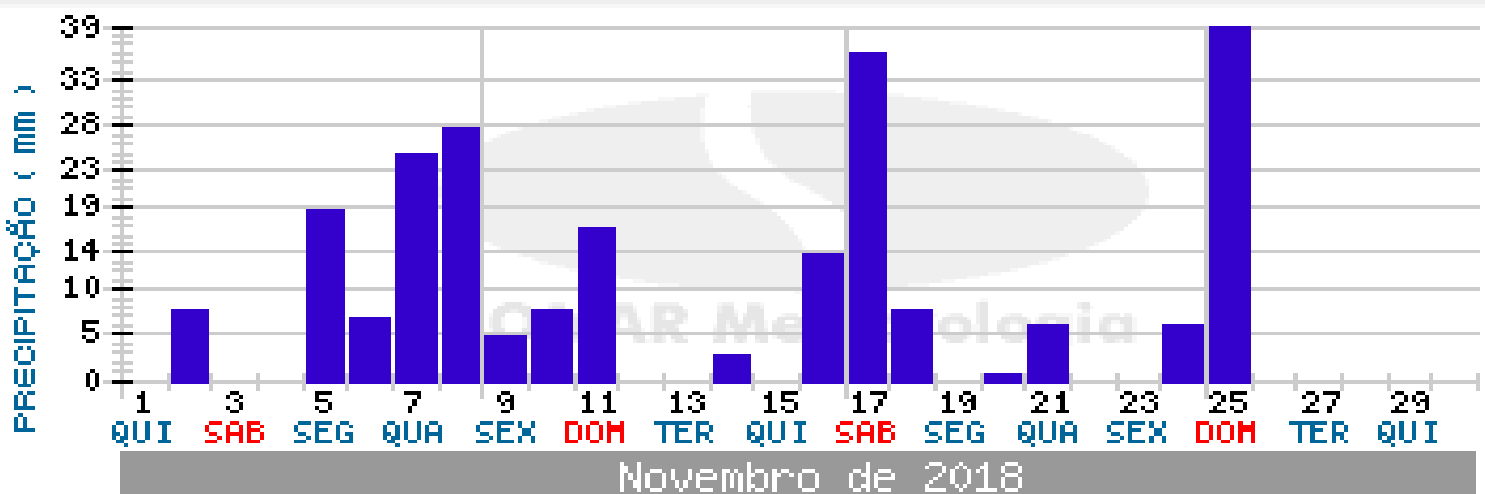
MÉDIA CLIMATOLÓGICA

136.2 mm

TOTAL DIAS COM CHUVA

13 dias

Chuva acumulada em Rio Verde-GO (Estação INMET)



ACUMULADO

230mm

DESVIO

-4 %

MÉDIA CLIMATOLÓGICA

239 mm

TOTAL DIAS COM CHUVA

16 dias

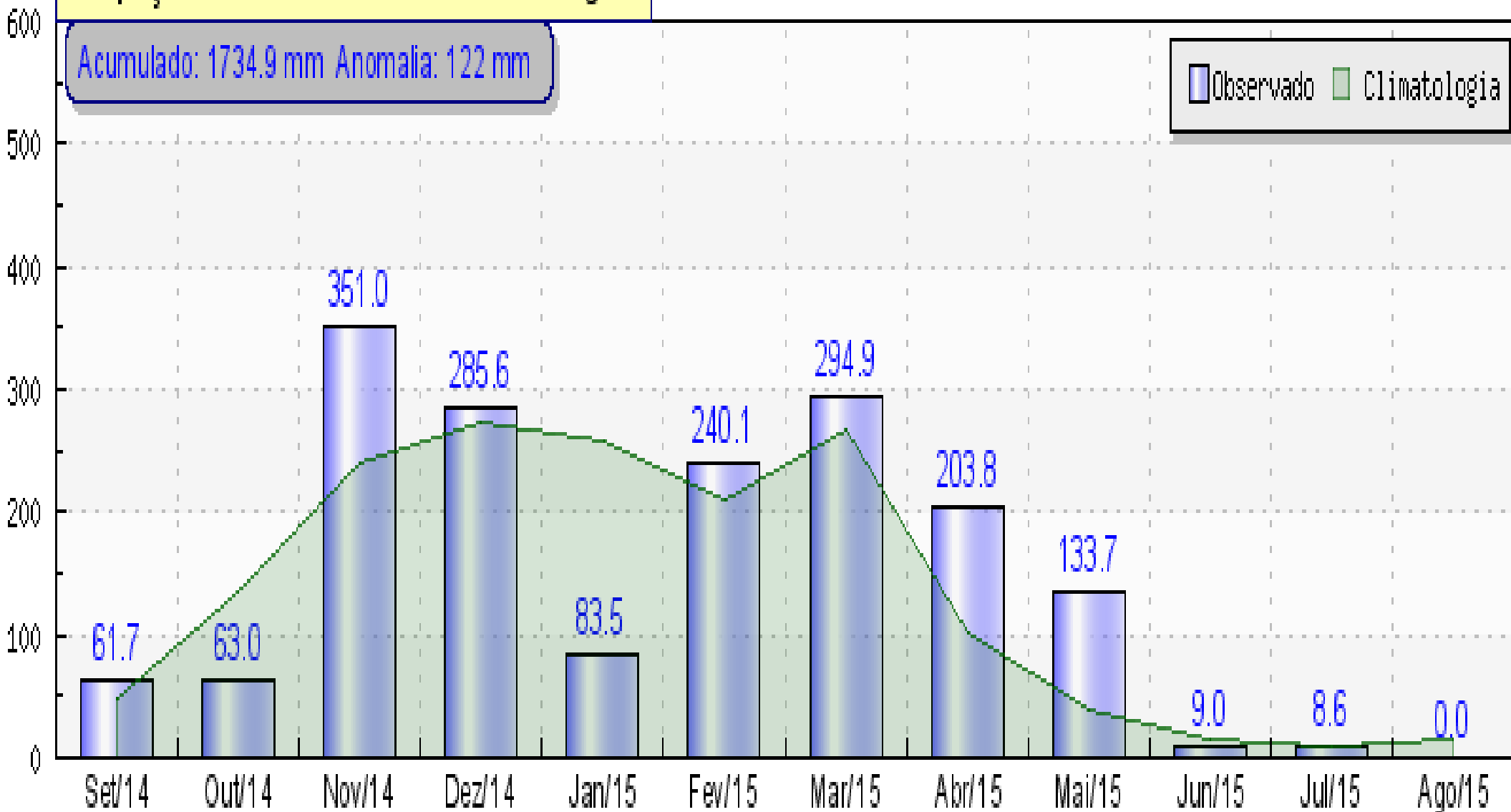


RIO VERDE - GO: CHUVA 2014 x 2015

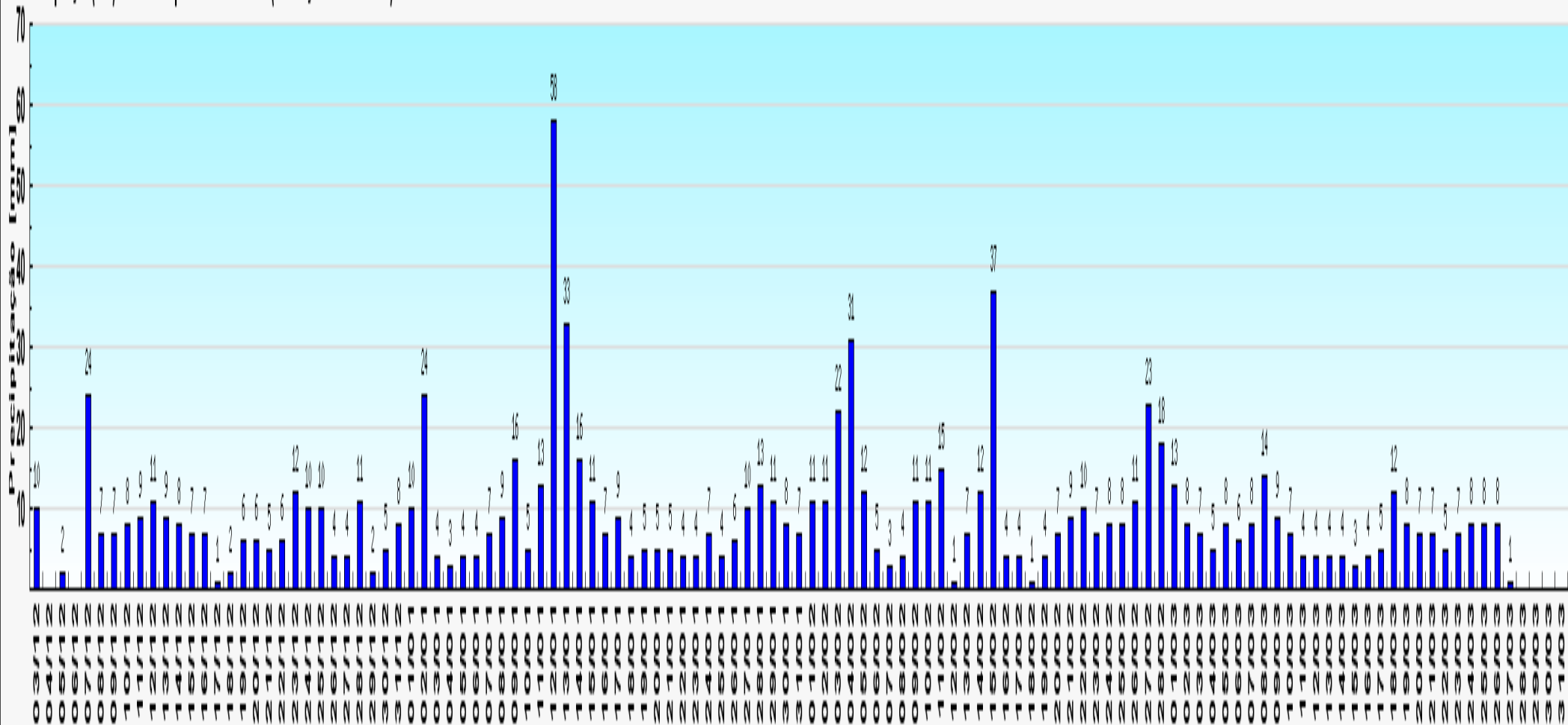
Precipitação Observada em Rio Verde-GO de Set/14 à Ago/15

Acumulado: 1734.9 mm Anomalia: 122 mm

Observado Climatologia



Precipitação (mm) Acumulada para Rio Verde - GO (Simulação de 01/12/2018)



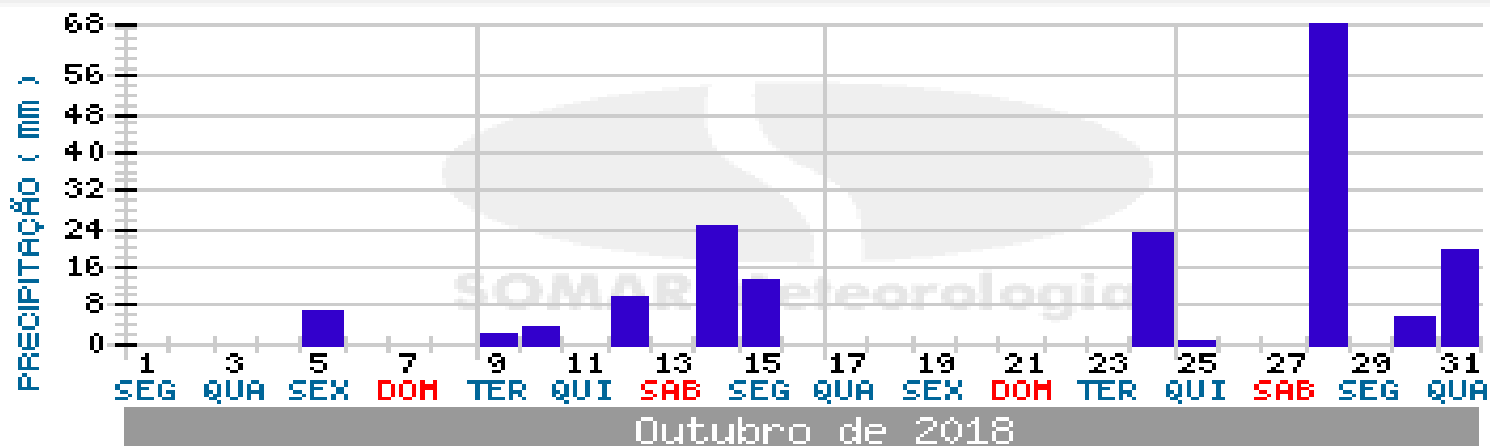
Janeiro

Fonte: DFS/2/INM - Análise: Somar Meteorologia



SORRISO - MT: CHUVA últimos 2 meses

Chuva acumulada em Sorriso-MT (Estação INMET)



ACUMULADO

178mm

DESVIO

4 %

MÉDIA CLIMATOLÓGICA

170.6 mm

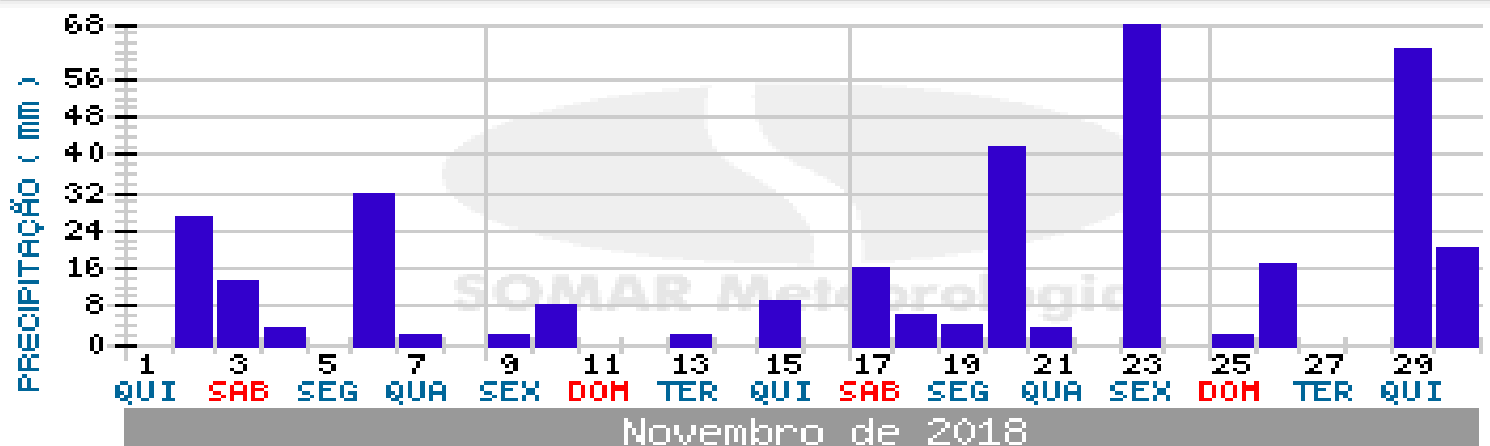
TOTAL DIAS COM CHUVA

11 dias



SOMAR METEOROLOGIA. TODOS OS DIREITOS RESERVADOS

Chuva acumulada em Sorriso-MT (Estação INMET)



ACUMULADO

343mm

DESVIO

42 %

MÉDIA CLIMATOLÓGICA

241.9 mm

TOTAL DIAS COM CHUVA

19 dias



SOMAR METEOROLOGIA. TODOS OS DIREITOS RESERVADOS

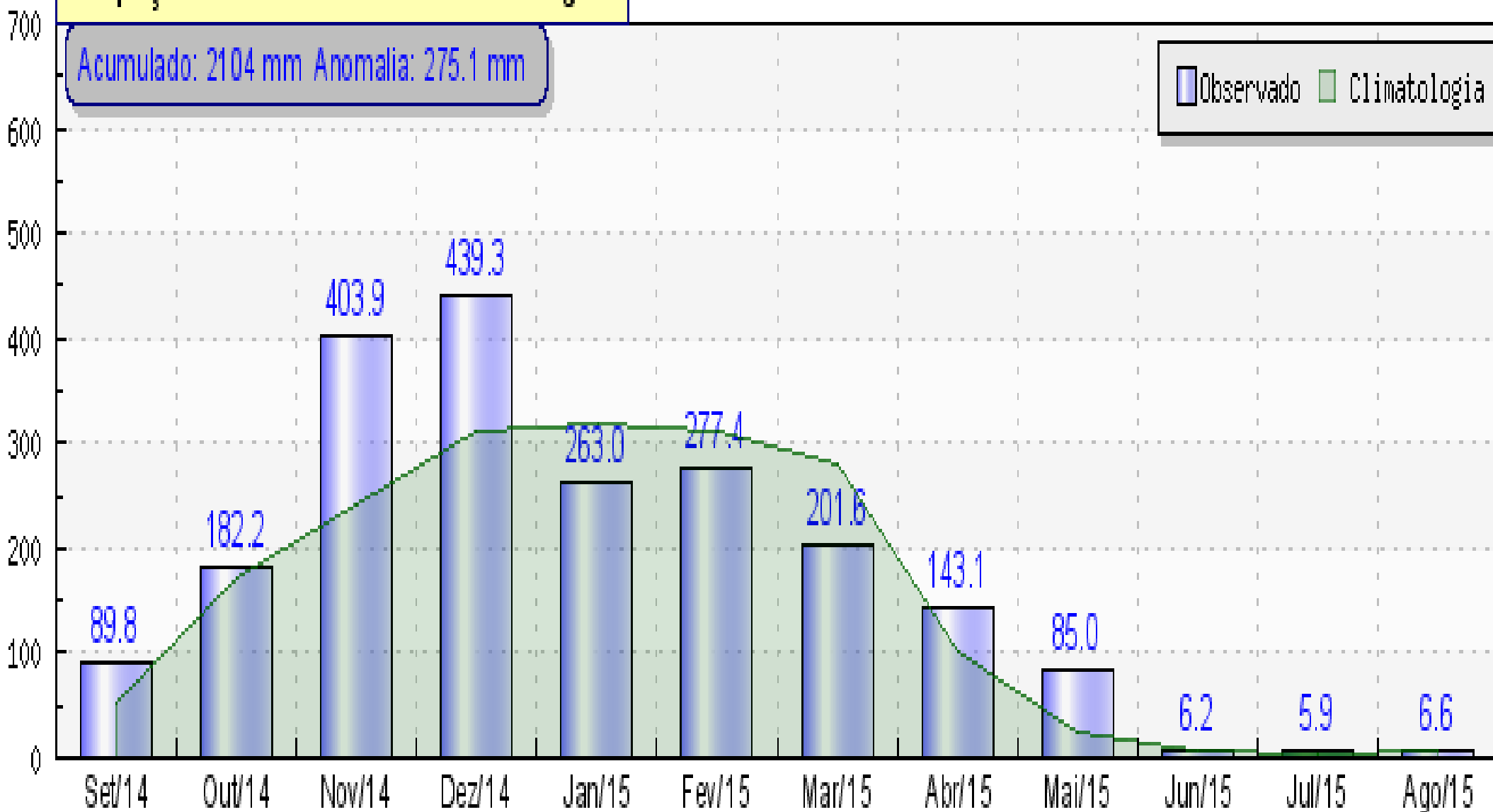


SORRISO - MT: CHUVA 2014 x 2015

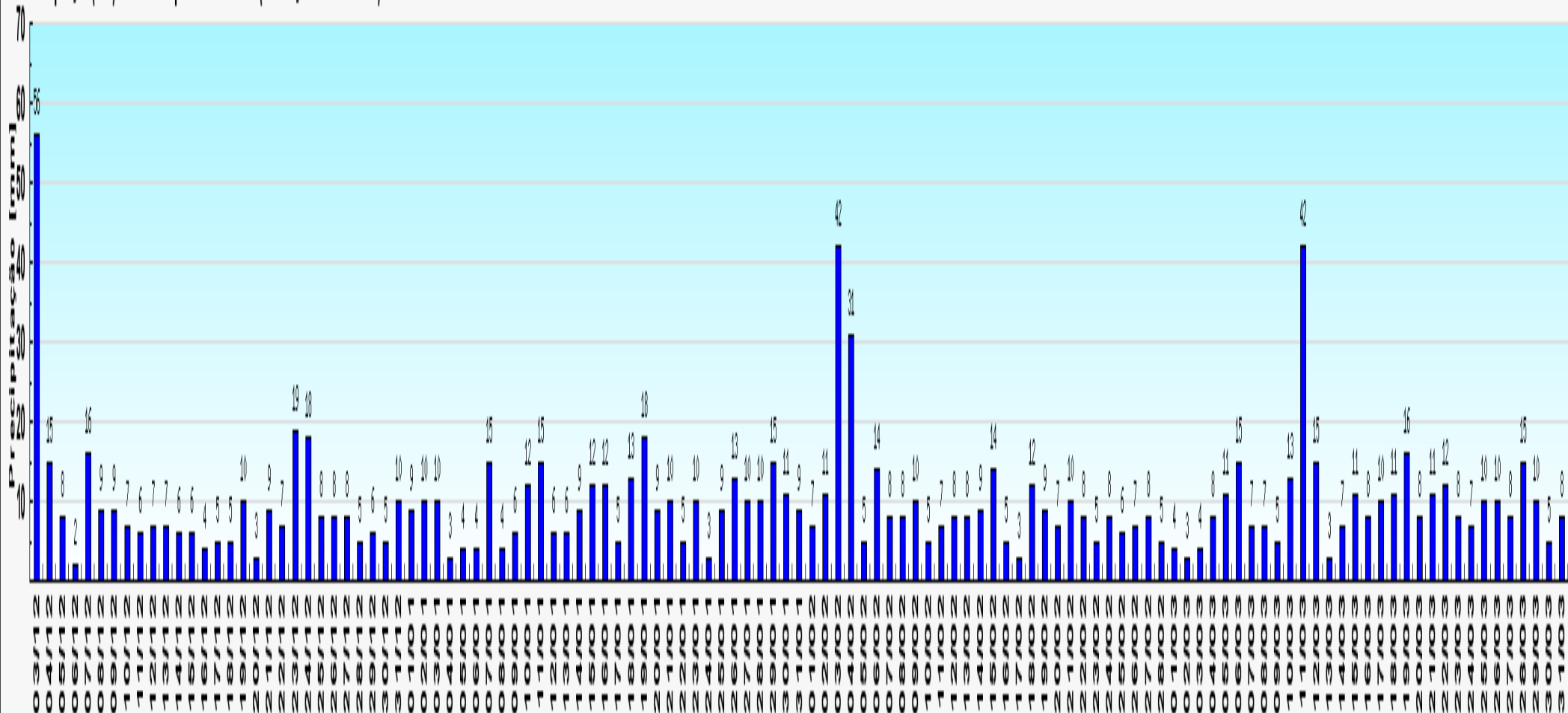
Precipitação Observada em Sorriso-MT de Set/14 à Ago/15

Acumulado: 2104 mm Anomalia: 275.1 mm

Observado Climatologia



Precipitação (mm) Acumulada para Sorriso - MT (Simulação de 01/12/2018)



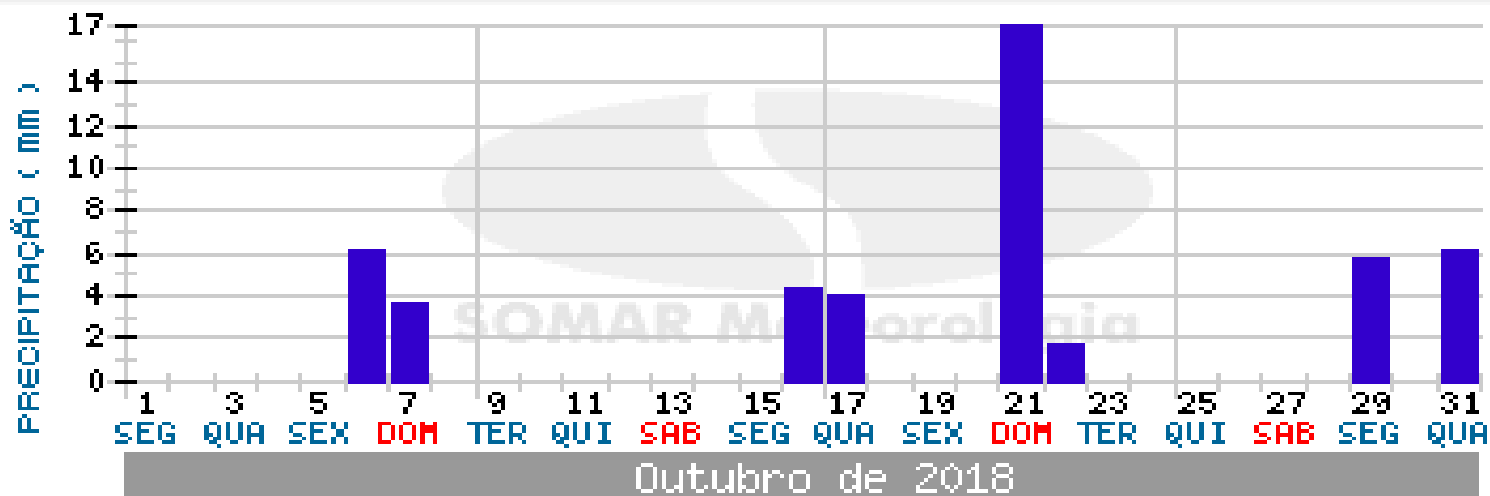
Janeiro

Fonte: DFS/2/NOAA - Análise: Somar Meteorologia



LEM - BA: CHUVA últimos 2 meses

Chuva acumulada em Luis Eduardo Magalhaes-BA (Estação INMET)



ACUMULADO

49mm

DESVIO

-50 %

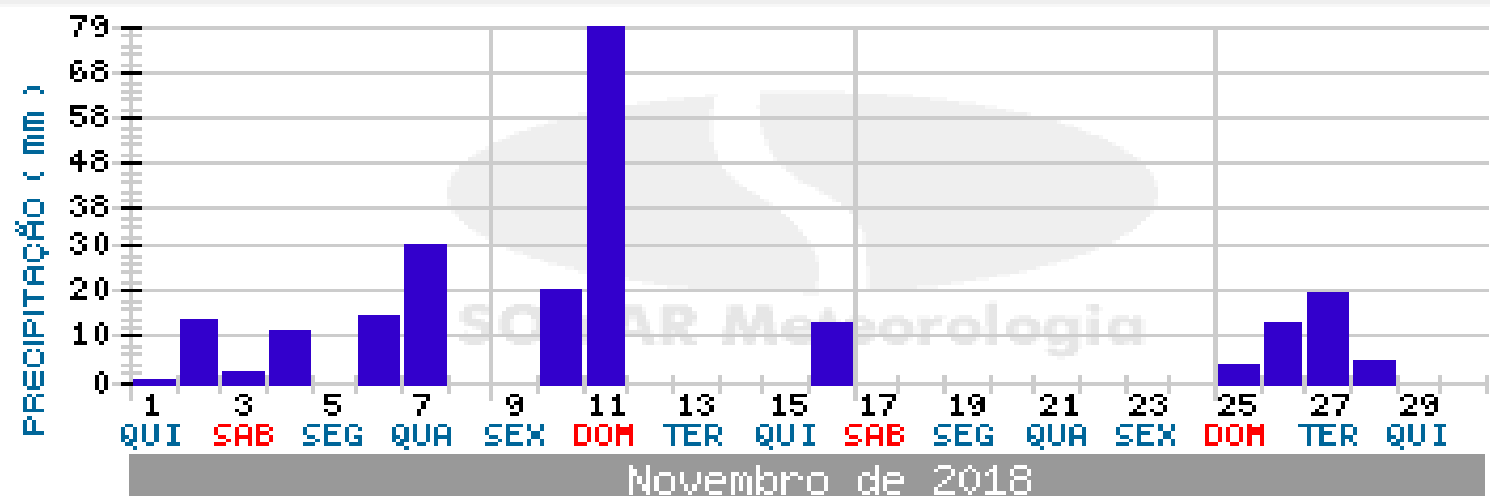
MÉDIA CLIMATOLÓGICA

98.1 mm

TOTAL DIAS COM CHUVA

8 dias

Chuva acumulada em Luis Eduardo Magalhaes-BA (Estação INMET)



ACUMULADO

228.8mm

DESVIO

11 %

MÉDIA CLIMATOLÓGICA

206.1 mm

TOTAL DIAS COM CHUVA

13 dias

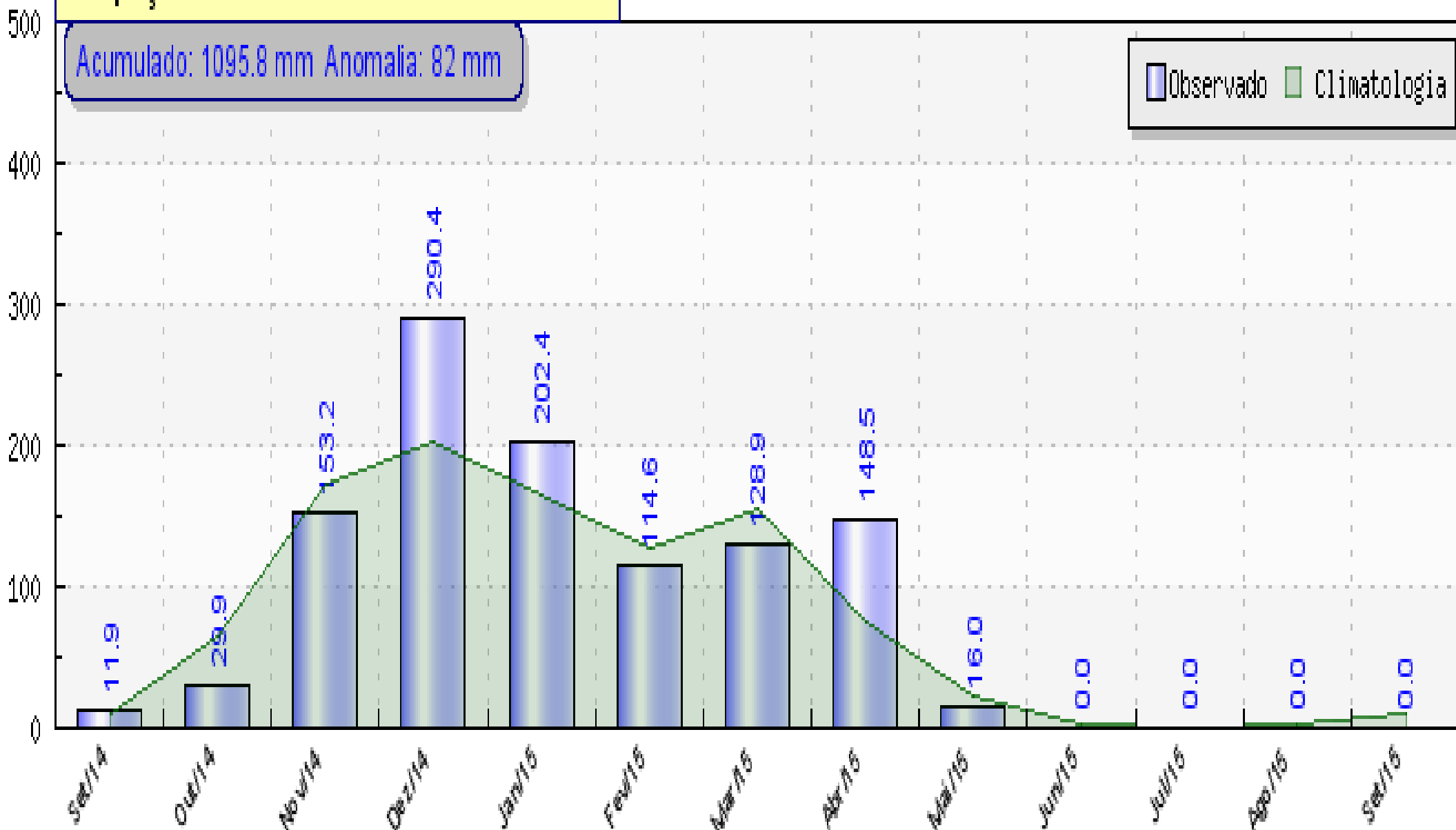


BARREIRAS - BA : CHUVA 2014 x 2015

Precipitação Observada em Barreiras-BA de Set/14 à Set/15

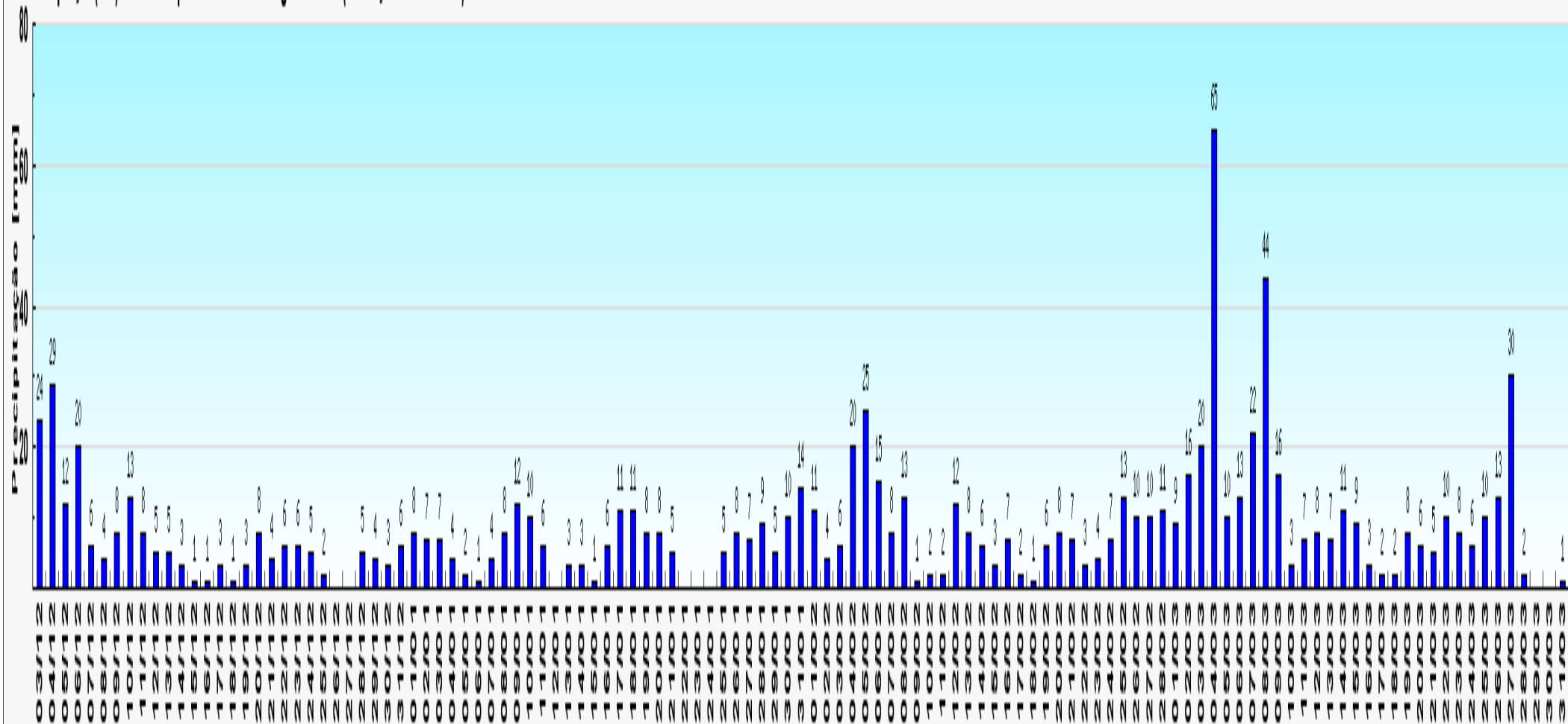
Acumulado: 1095.8 mm Anomalia: 82 mm

Observado Climatologia



LEM - BA : CHUVA dezembro a março/2019

Precipitação (mm) Acumulada para Luis Eduardo Magalhães - BA (Simulação de 01/12/2018)



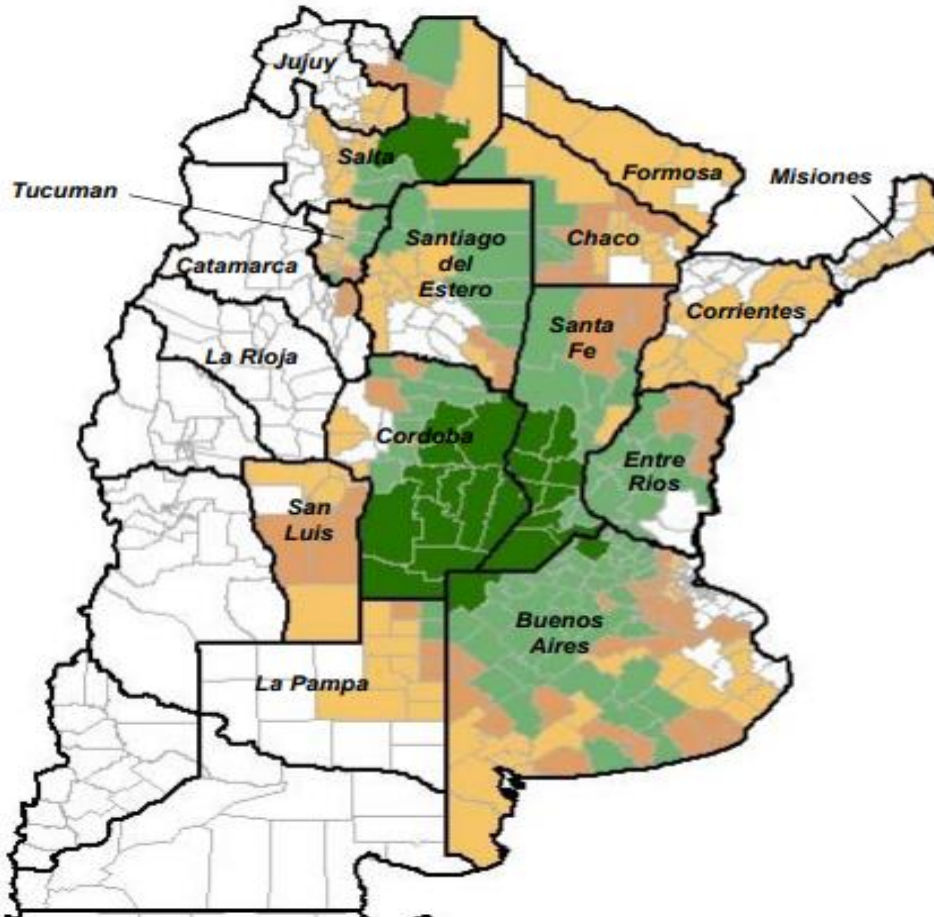
Janeiro

Fonte: CFSv2/NOAA - Análise: Somar Meteorologia



SAFRA ARGENTINA 2019

Argentina Soybeans

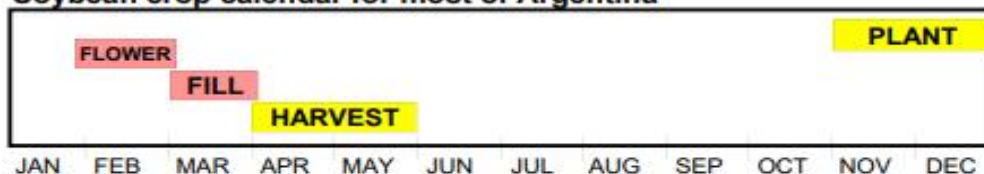


*** State-Level Production (as % of total)**

Cordoba	29
Buenos Aires	27
Santa Fe	24
Entre Rios	7
Santiago del Estero	4
Salta	3
Chaco	3
Tucuman	2
La Pampa	1
Other States	~1

*** 2005/06 to 2009/10 Average**
Source: SAGPyA

Soybean crop calendar for most of Argentina



Soybean Production
***Average (2005/06-09/10)**

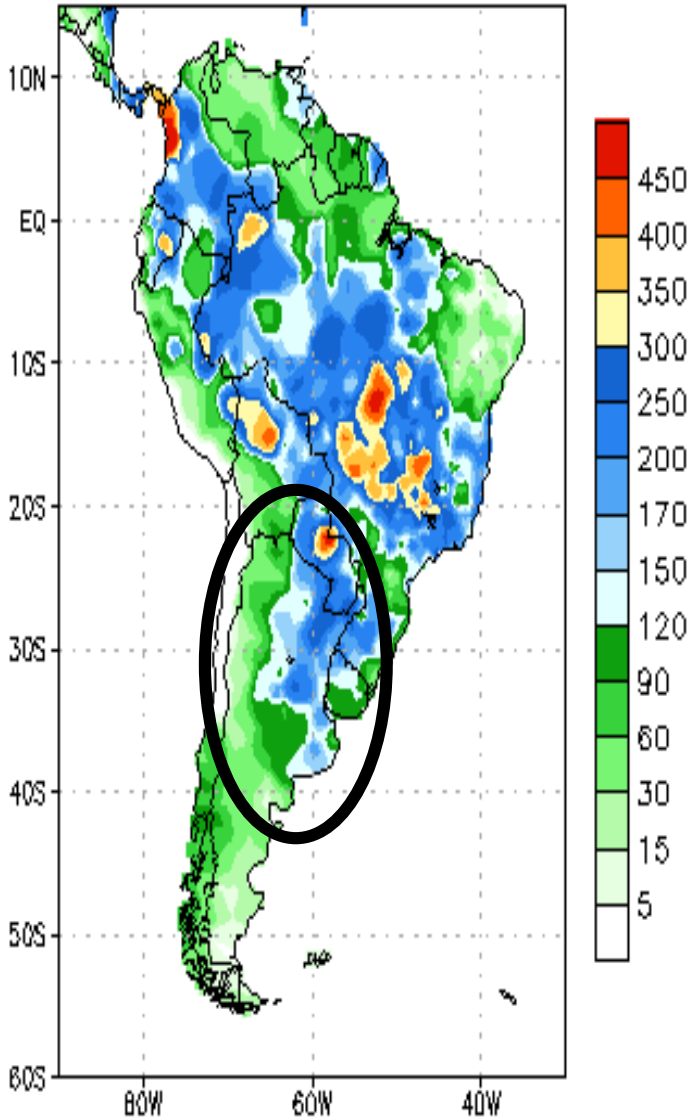


*Source: SAGPyA

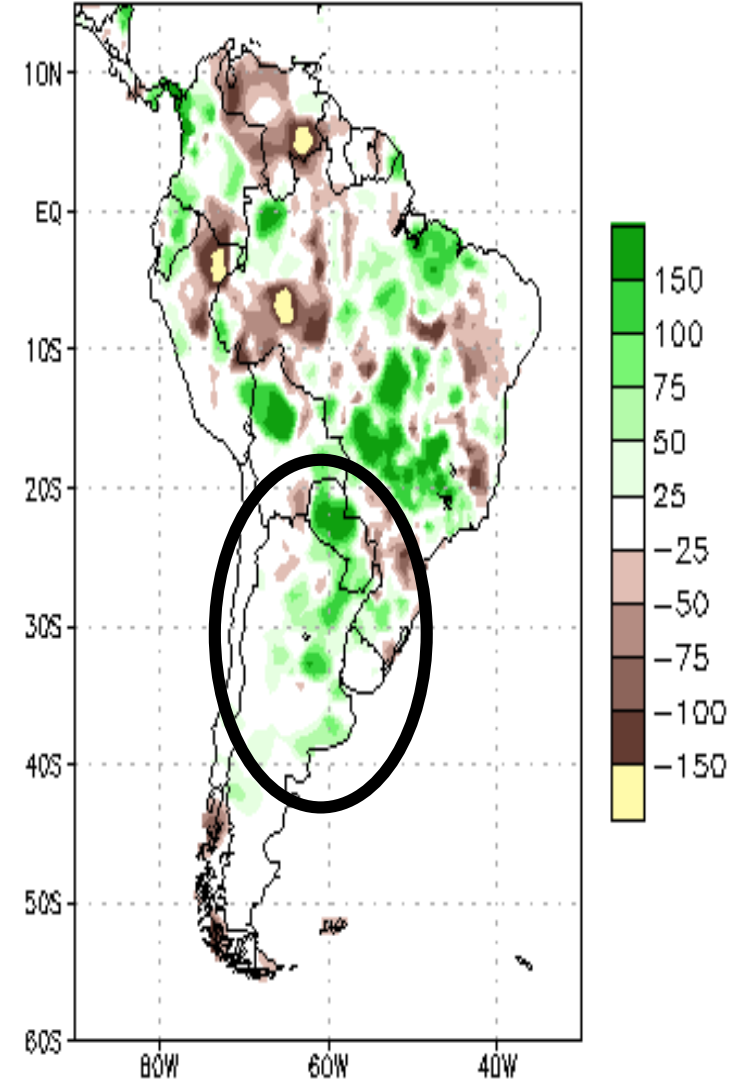


SAFRA ARGENTINA: Chuva últimos 30 dias

Accumulated Precip (mm) 02NOV2018-01DEC2018



Prpc Anomalies (mm) 02NOV2018-01DEC2018



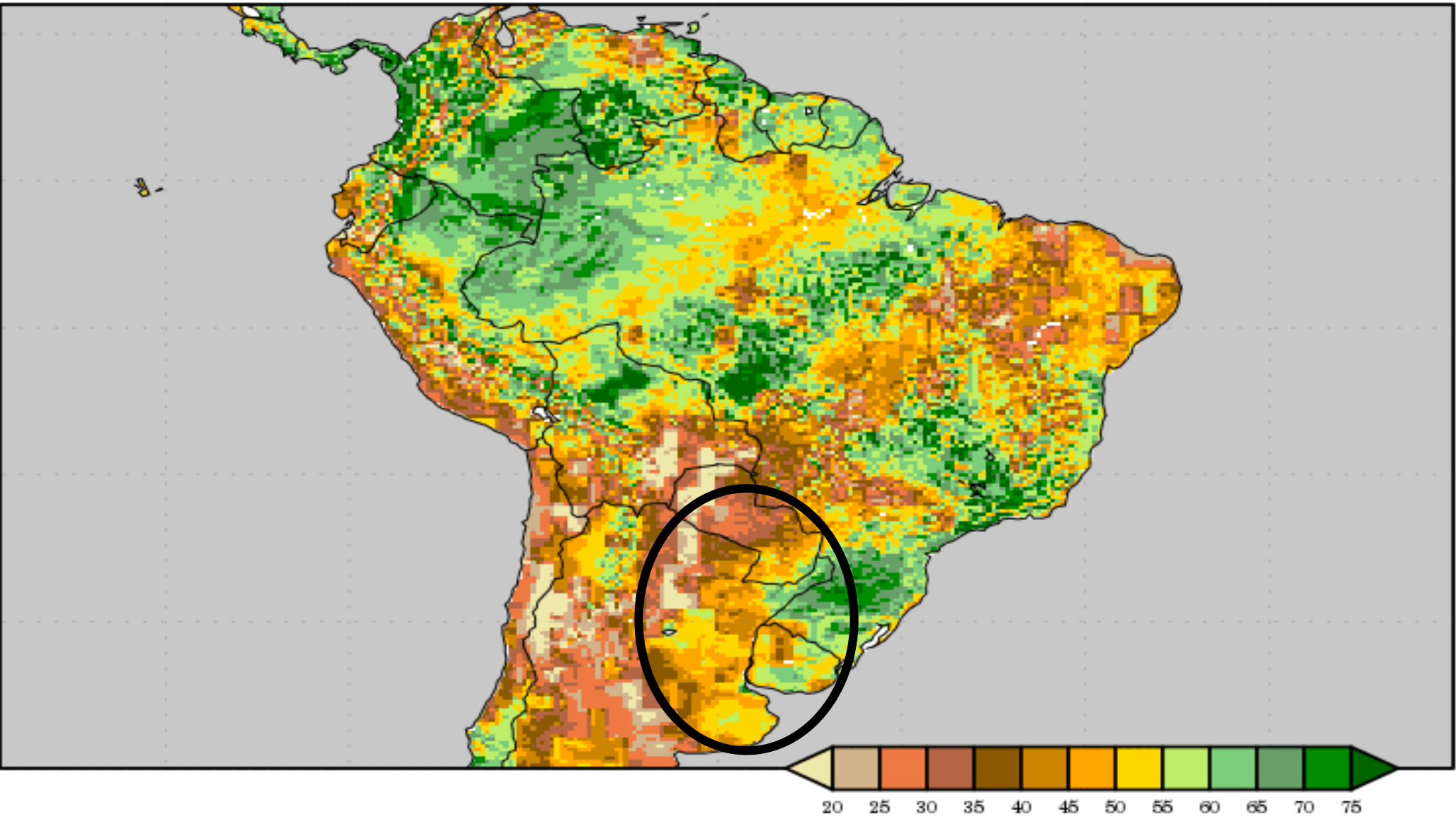
Data Source: CPC Unified (gauge-based & 0.5x0.5 deg resolution) Precipitation Analysis Climatology (1981-2010)



Initial Soil Moisture

Liquid Water in top 2 meters of soil

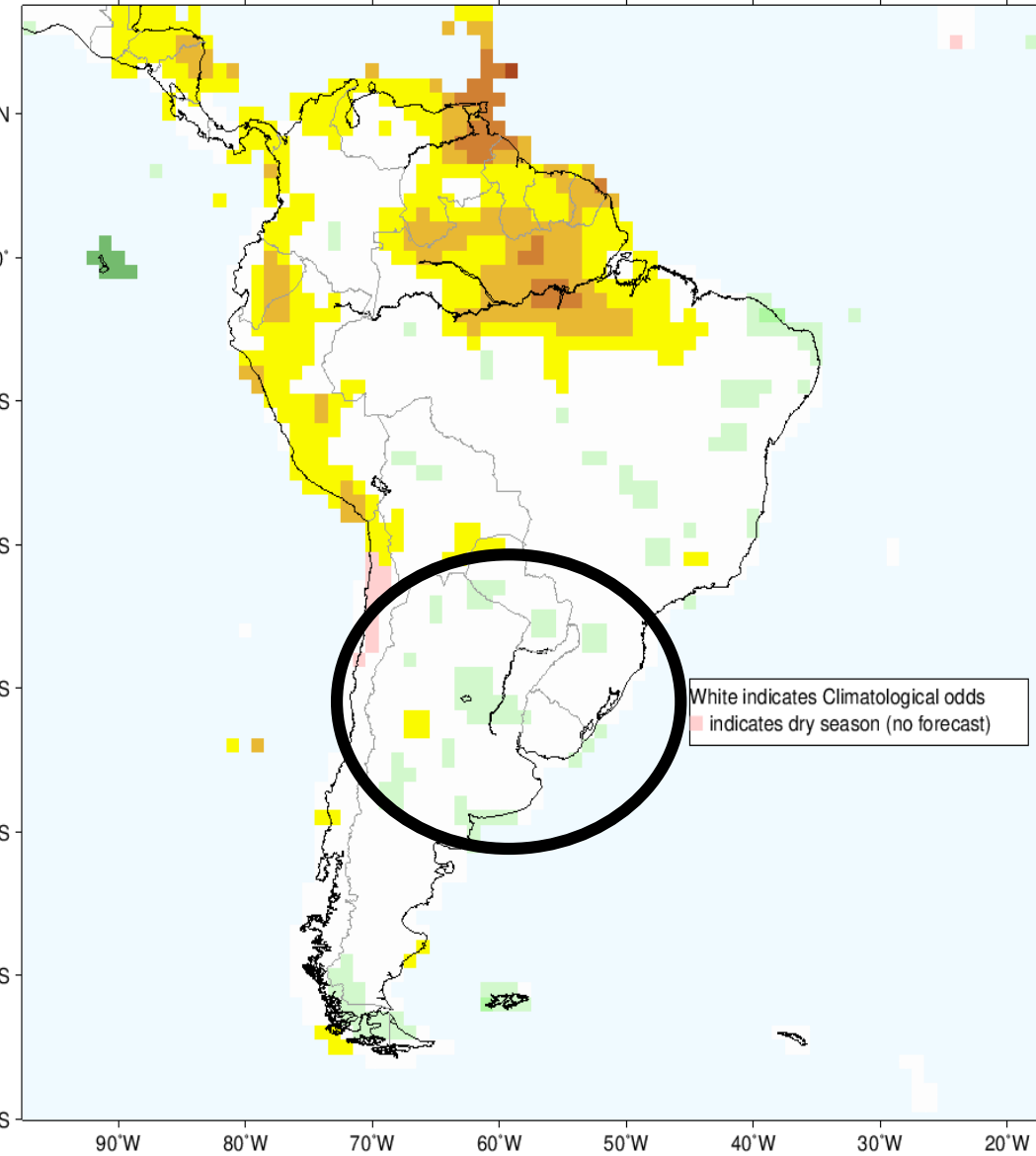
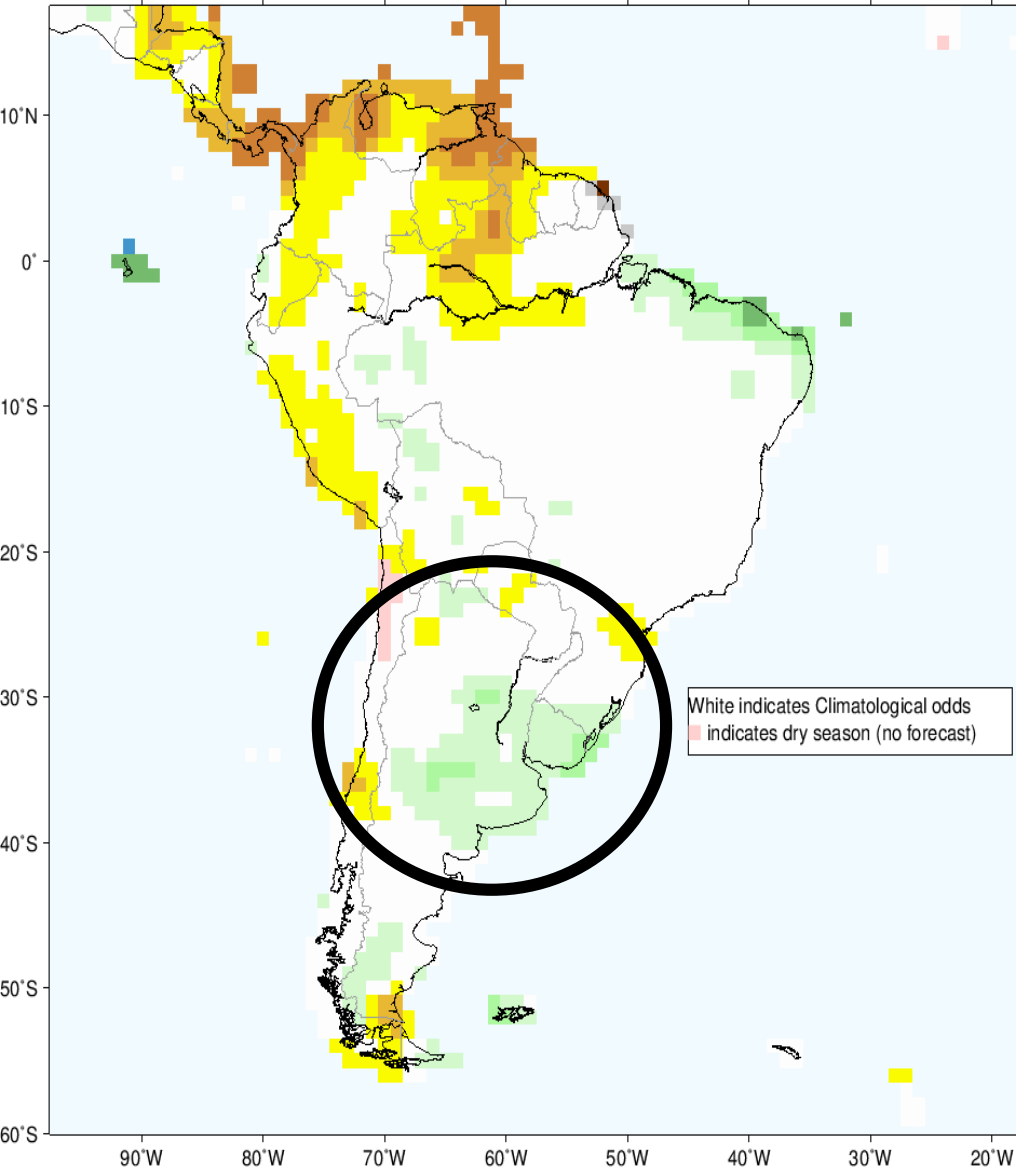
Valid time: Sun, 02 DEC 2018 at 00Z



SAFRA ARGENTINA 2019: Previsão de Chuva

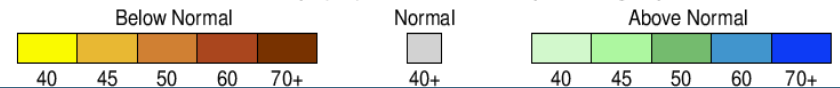
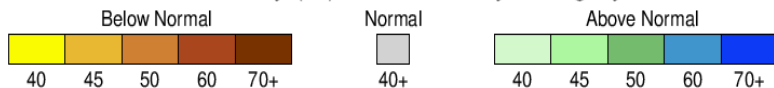
IRI Multi-Model Probability Forecast for Precipitation for December-January-February 2019, Issued November 2018

IRI Multi-Model Probability Forecast for Precipitation for January-February-March 2019, Issued November 2018



Probability (%) of Most Likely Category

Probability (%) of Most Likely Category



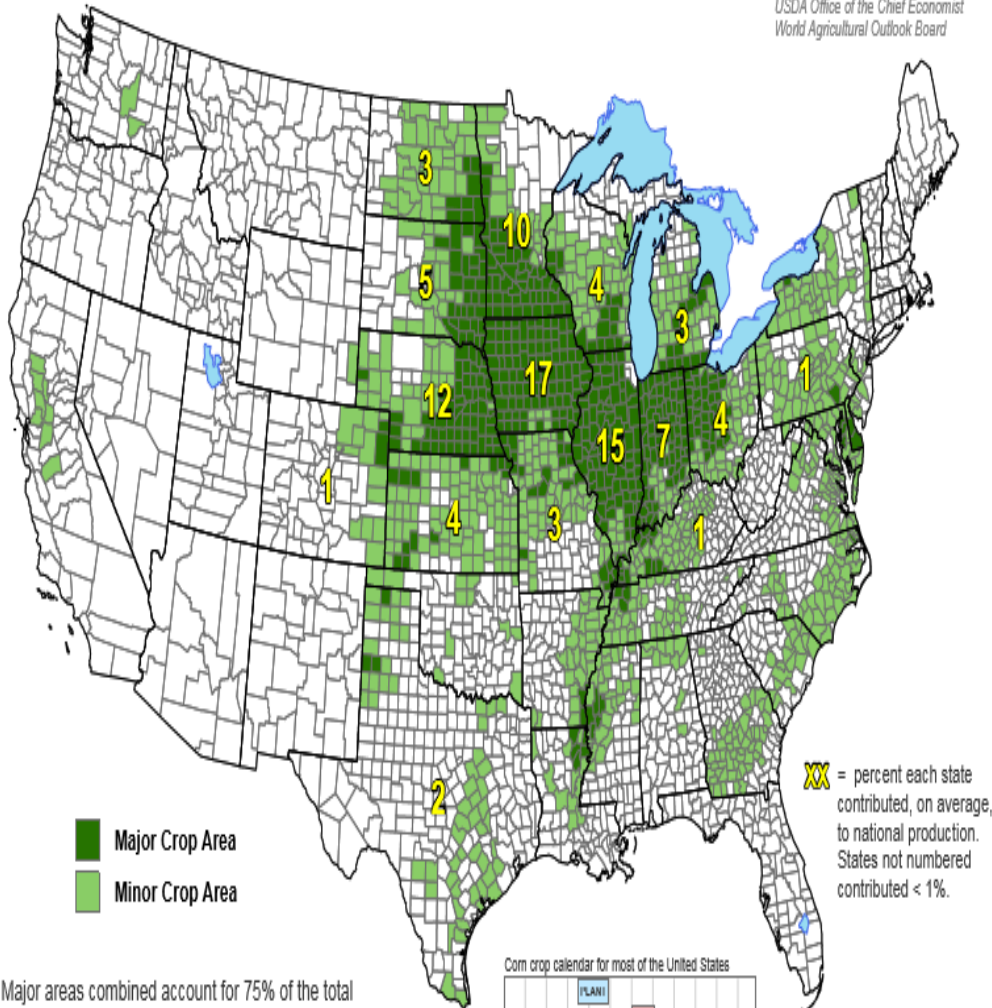
- Boa condição de umidade no solo para plantio. Indicativo de El Niño favorece lavouras de SOJA e MILHO, pois reduz risco de estiagem prolongada. Portanto, cenário climático diferente da safra passada que sofreu os efeitos (seca) de um La Niña.
- Atentar apenas para as condições de temperaturas mais altas (ondas de calor) no verão. Assim como, para o risco de excesso de chuva no período da colheita, especialmente entre maio e junho.
- Retarda a chegada do frio no outono. Tendência de inverno mais ameno.

EUA: Área de Produção

United States: Corn



*This product was prepared by the
USDA Office of the Chief Economist
World Agricultural Outlook Board*



■ Major Crop Area
■ Minor Crop Area

XX = percent each state contributed, on average, to national production. States not numbered contributed < 1%.

Corn crop calendar for most of the United States



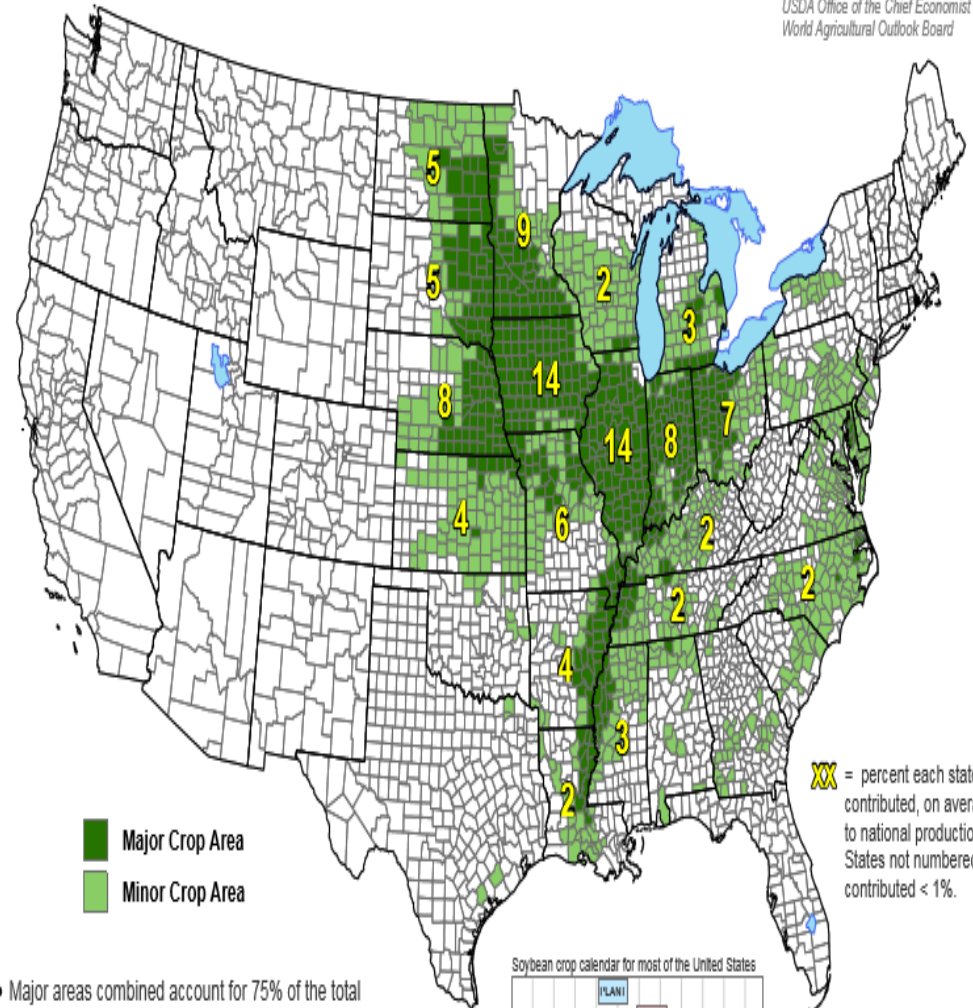
The crop calendar was developed using NASS crop progress data from 2010-2014. This calendar illustrates, on average, the dates when national progress advanced from 10 to 90 percent.

- Major areas combined account for 75% of the total national production.
- Major and minor areas combined account for 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS survey data from 2010 to 2014.

United States: Soybeans



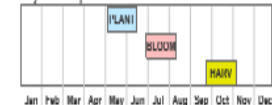
*This product was prepared by the
USDA Office of the Chief Economist
World Agricultural Outlook Board*



■ Major Crop Area
■ Minor Crop Area

XX = percent each state contributed, on average, to national production. States not numbered contributed < 1%.

Soybean crop calendar for most of the United States



The crop calendar was developed using NASS crop progress data from 2010-2014. This calendar illustrates, on average, the dates when national progress advanced from 10 to 90 percent.

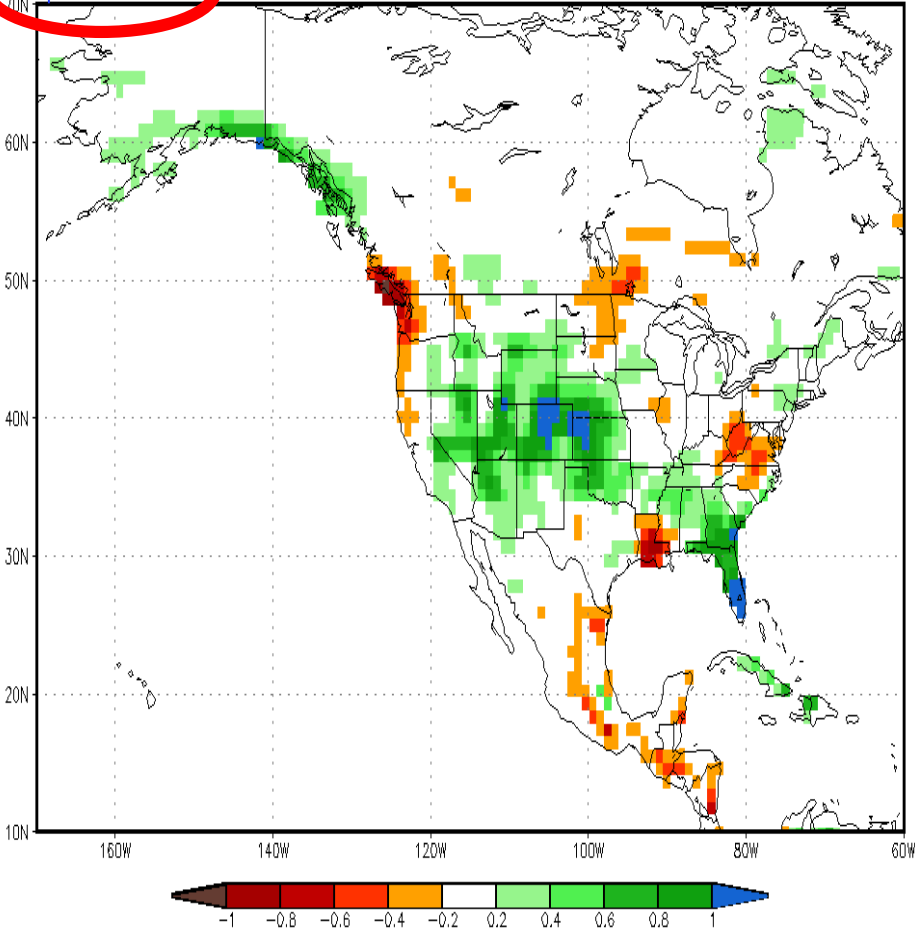
- Major areas combined account for 75% of the total national production.
- Major and minor areas combined account for 99% of the total national production.
- Major and minor areas and state production percentages are derived from NASS survey data from 2010 to 2014.

CFSv2 monthly Prec anomalies (mm/day)



Initial conditions: 6Nov2018–15Nov2018

Apr 2019

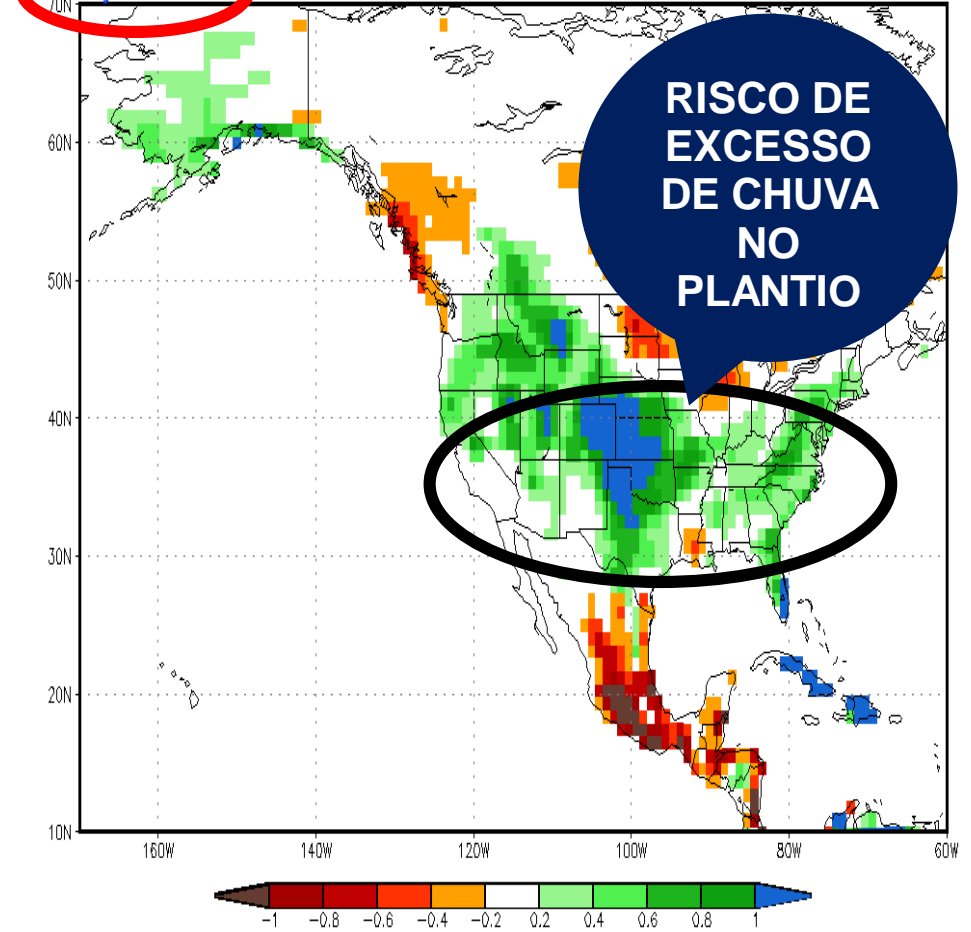


CFSv2 monthly Prec anomalies (mm/day)



Initial conditions: 6Nov2018–15Nov2018

May 2019



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Sócio Diretor

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Celular: (11)99653-5566

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É BEM MELHOR SABER!