



Universidade Federal do Ceará

Modelagem epidemiológica do COVID19 para o Estado do Ceará empregando o modelo SEIIR

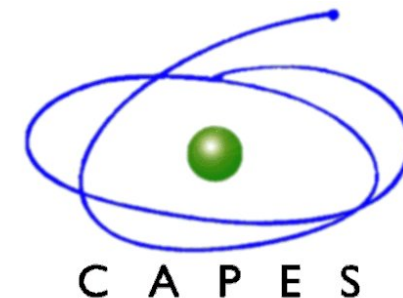
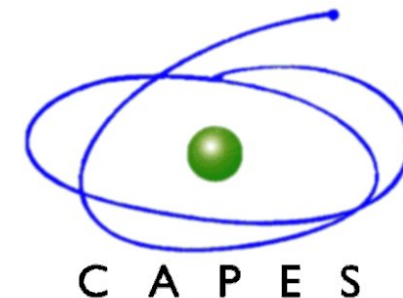
Equipe Cientista-Chefe de Dados (UFC & CAPP-IPECE):

José Soares de Andrade (UFC-Física)

Humberto Carmona (UFC-Física)

Rilder Pires (CAPP-IPECE-SEPLAG)

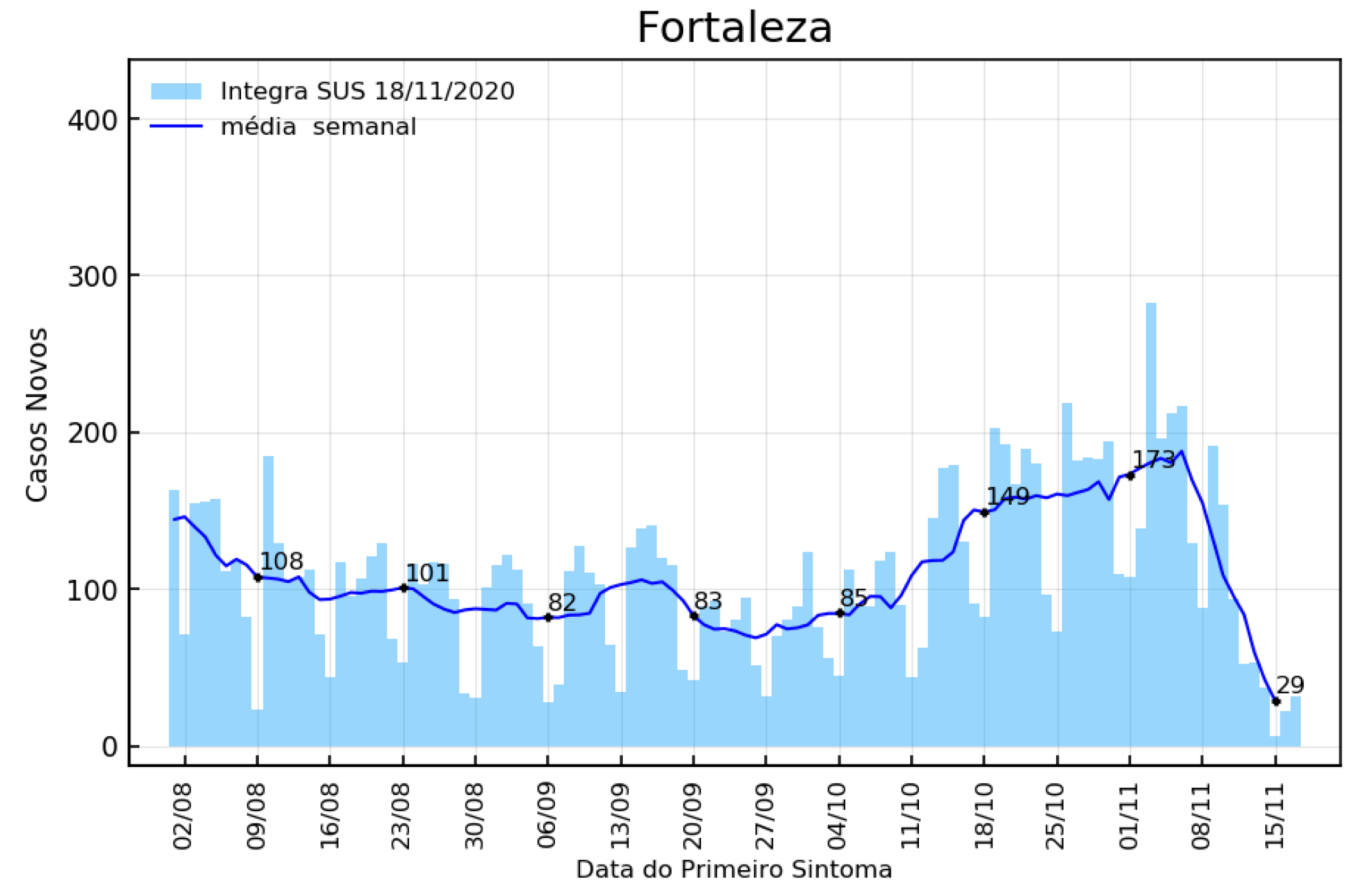
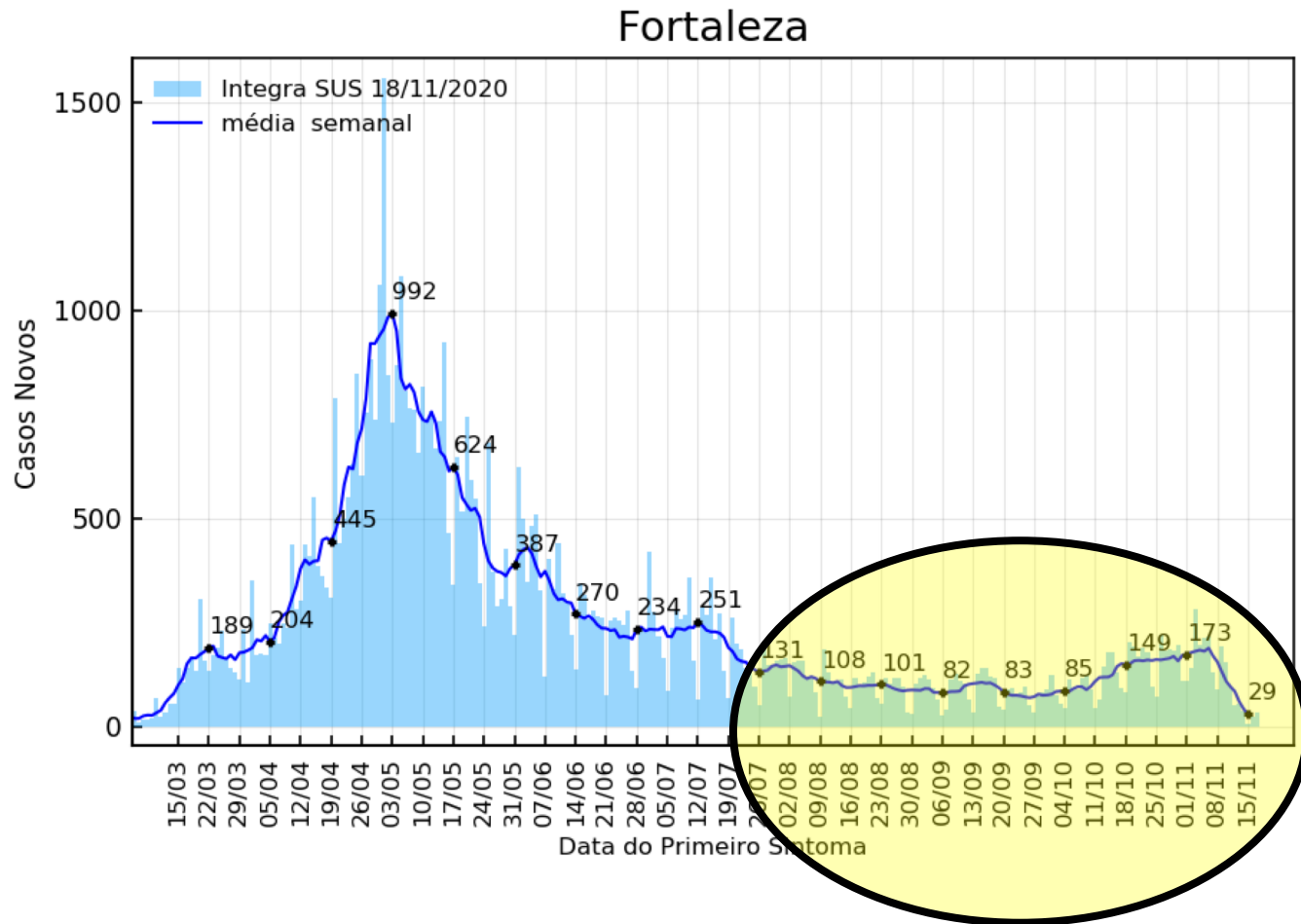
Saulo Reis (UFC-Física)



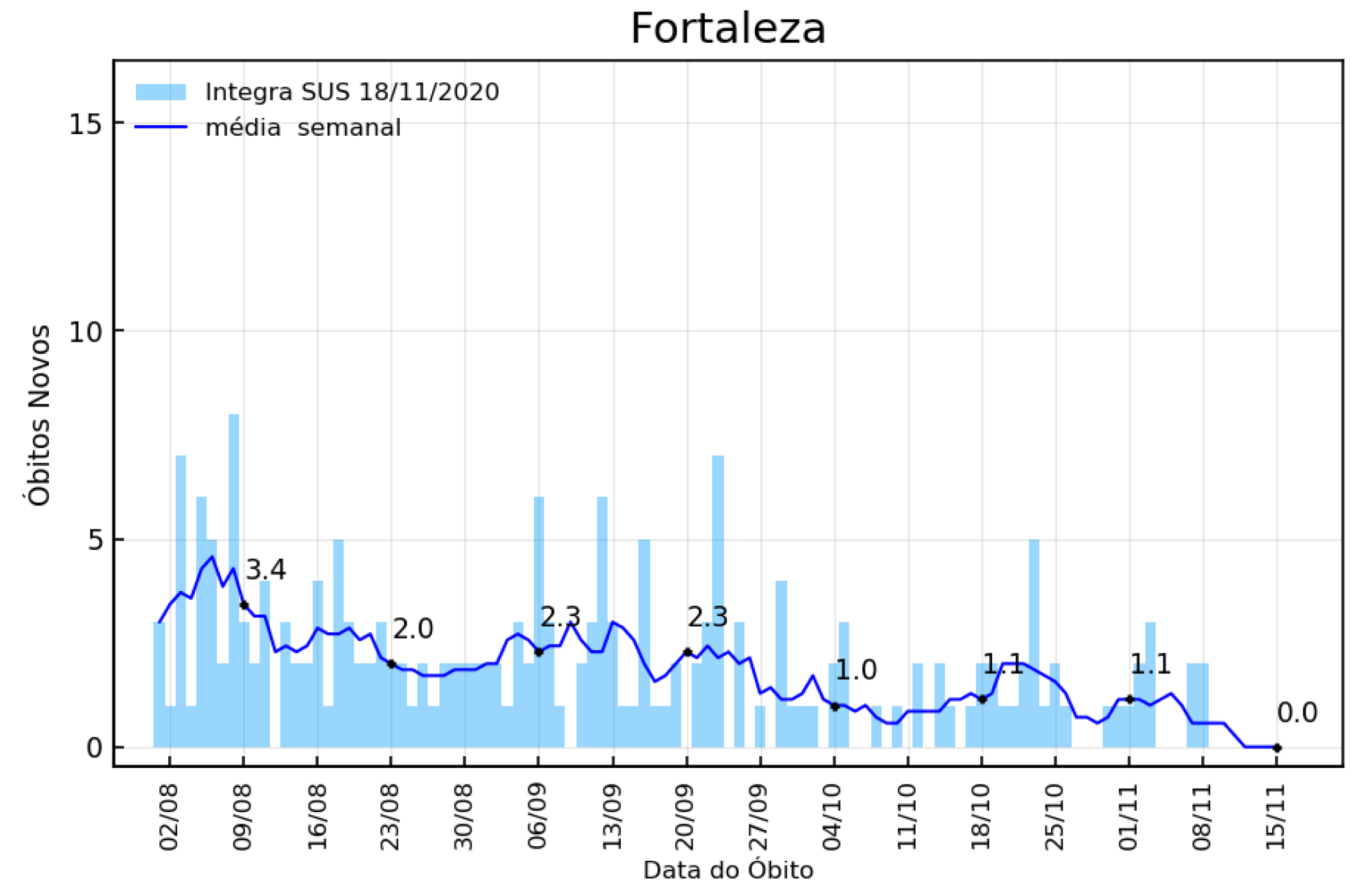
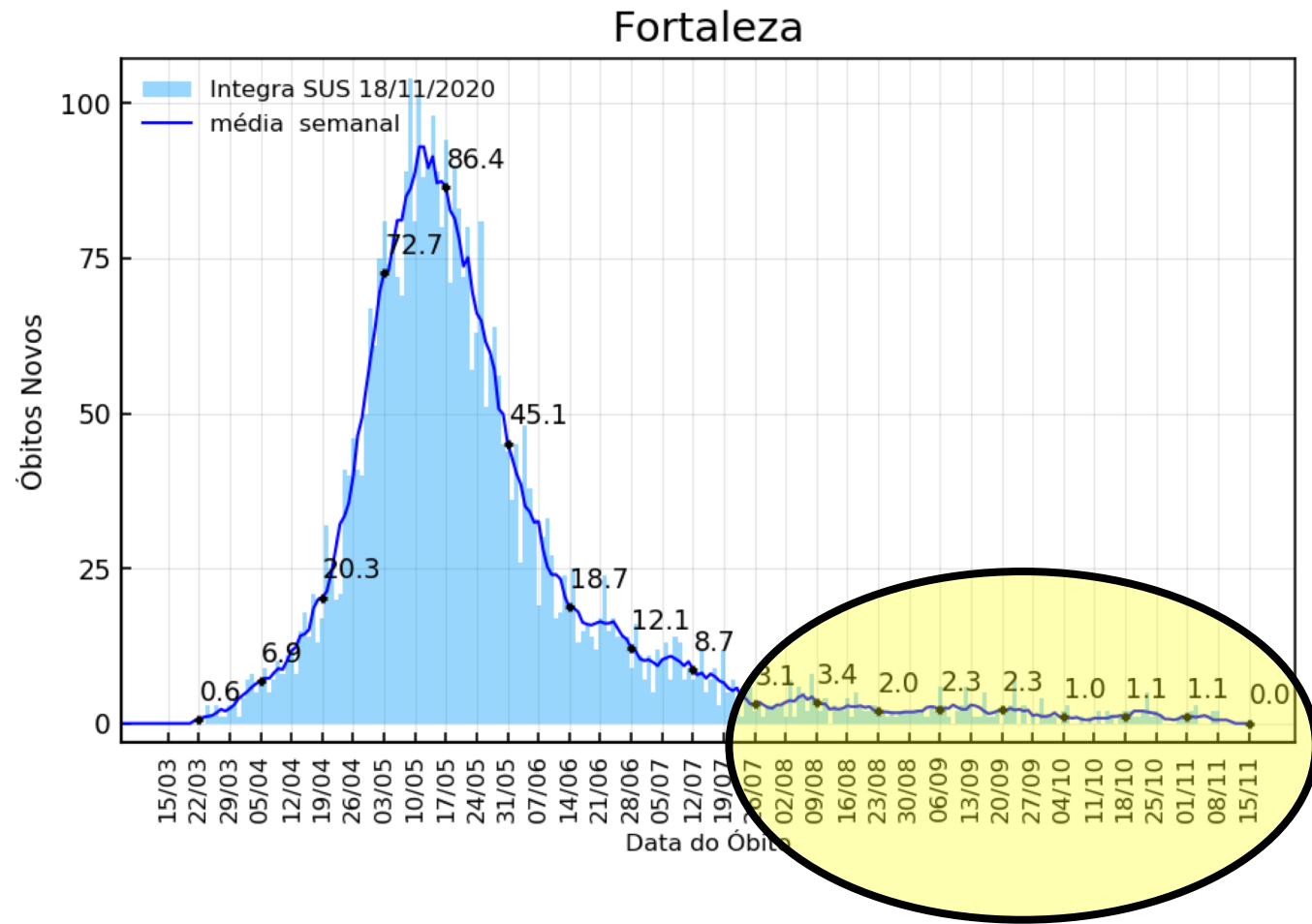
C A P E S

Fortaleza (capital)

Dados atualizados em 18/11/2020

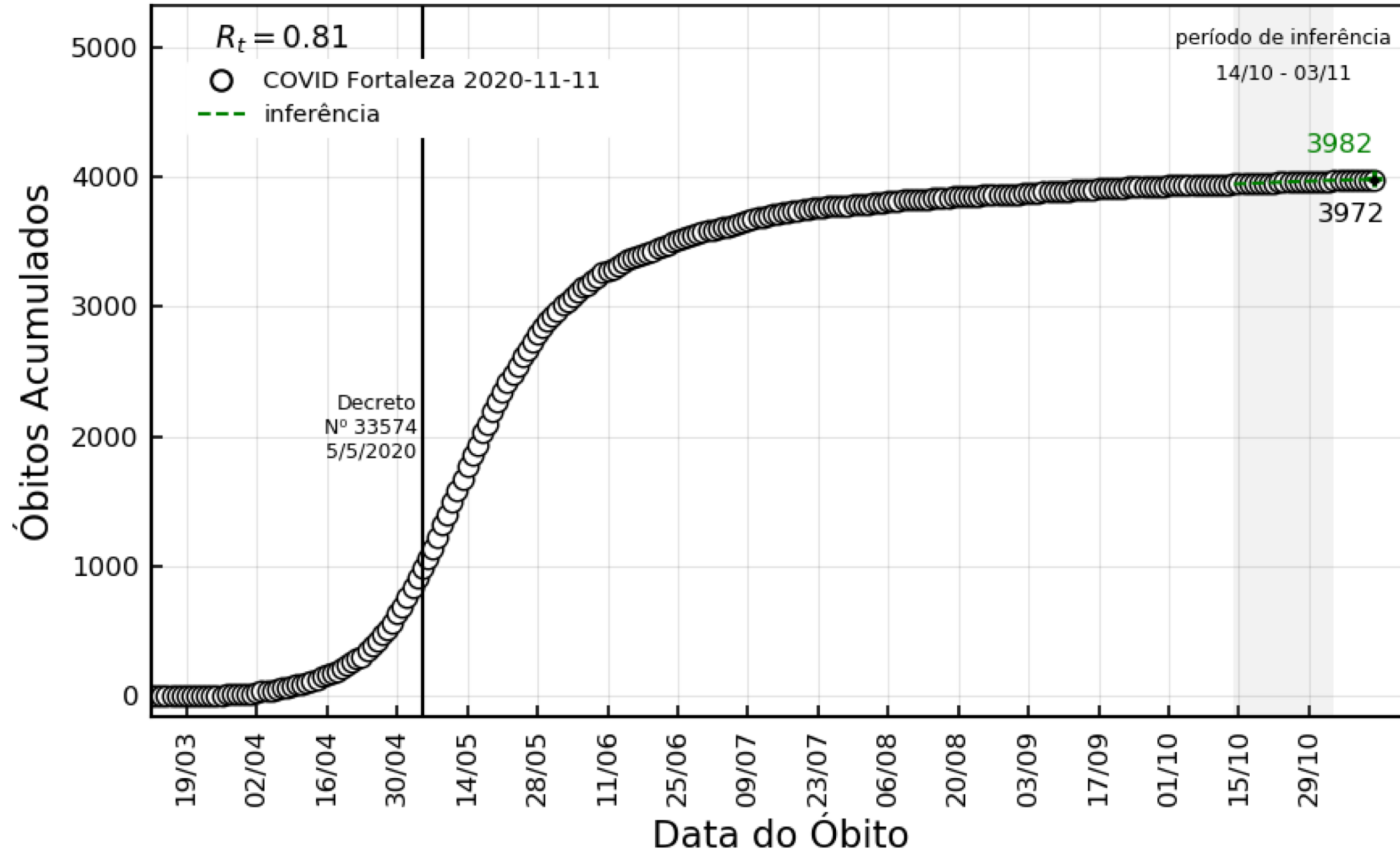


Dados atualizados em 18/11/2020



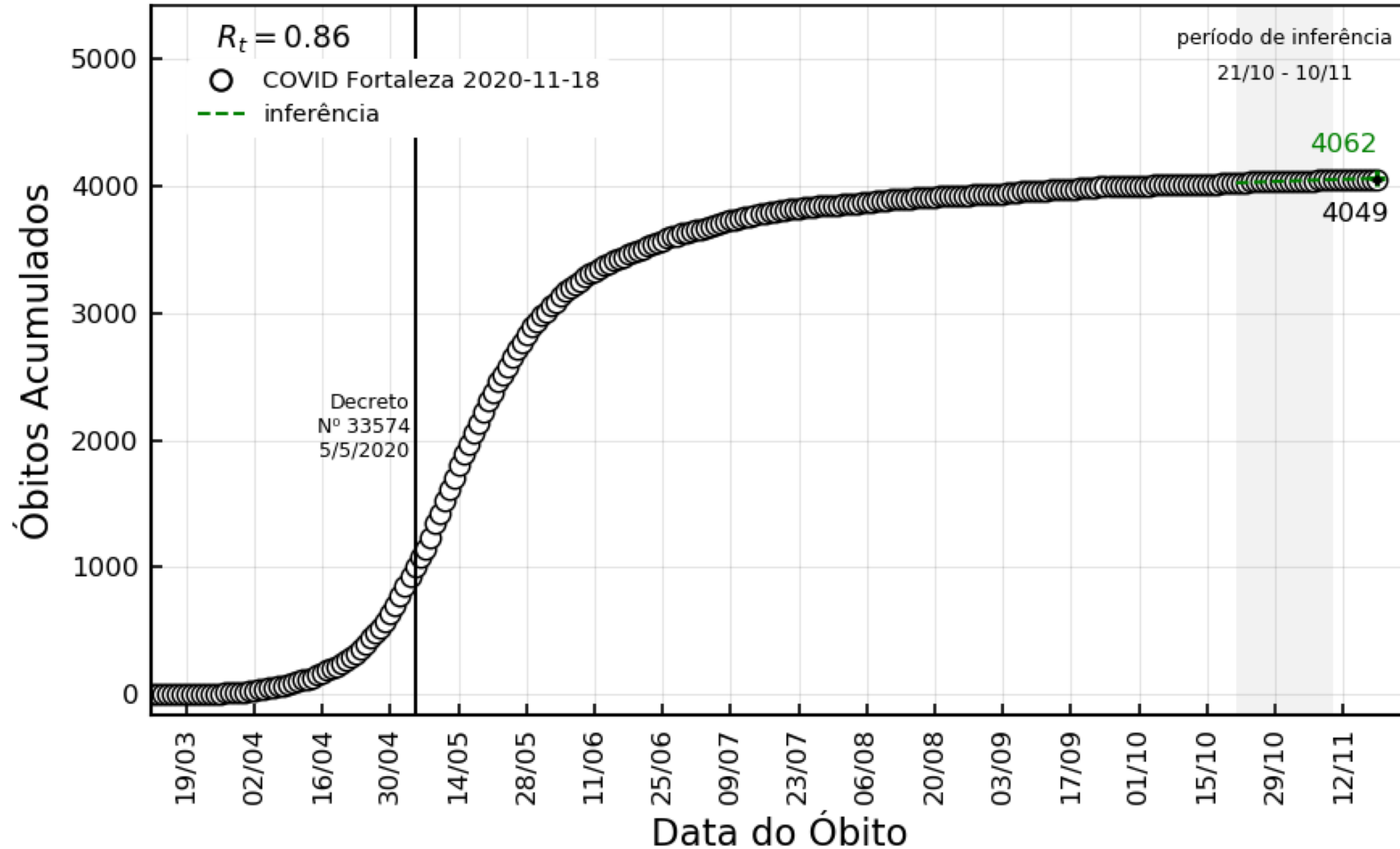
Inferência 11/11/2020

Fortaleza



Inferência 18/11/2020

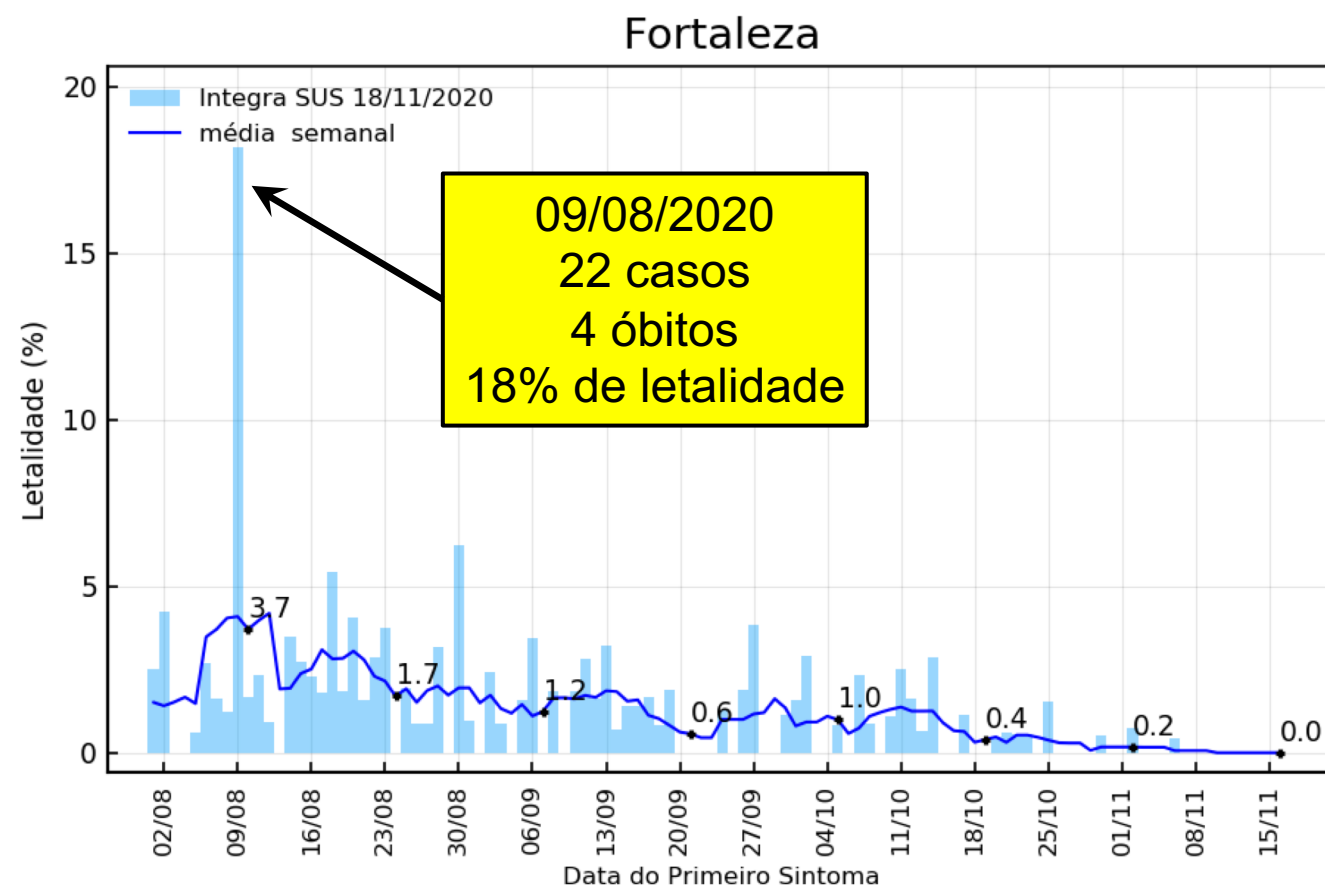
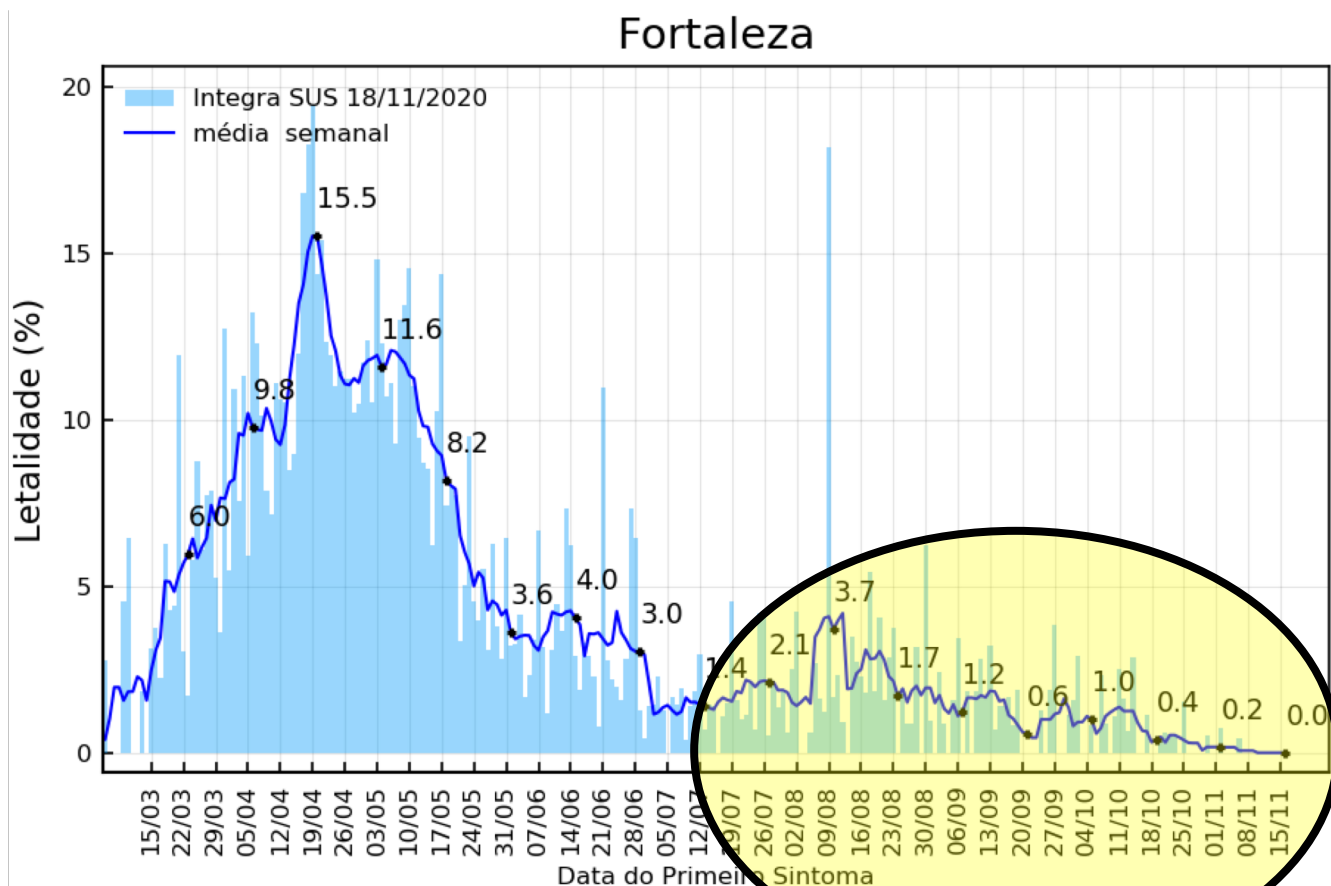
Fortaleza



Letalidade

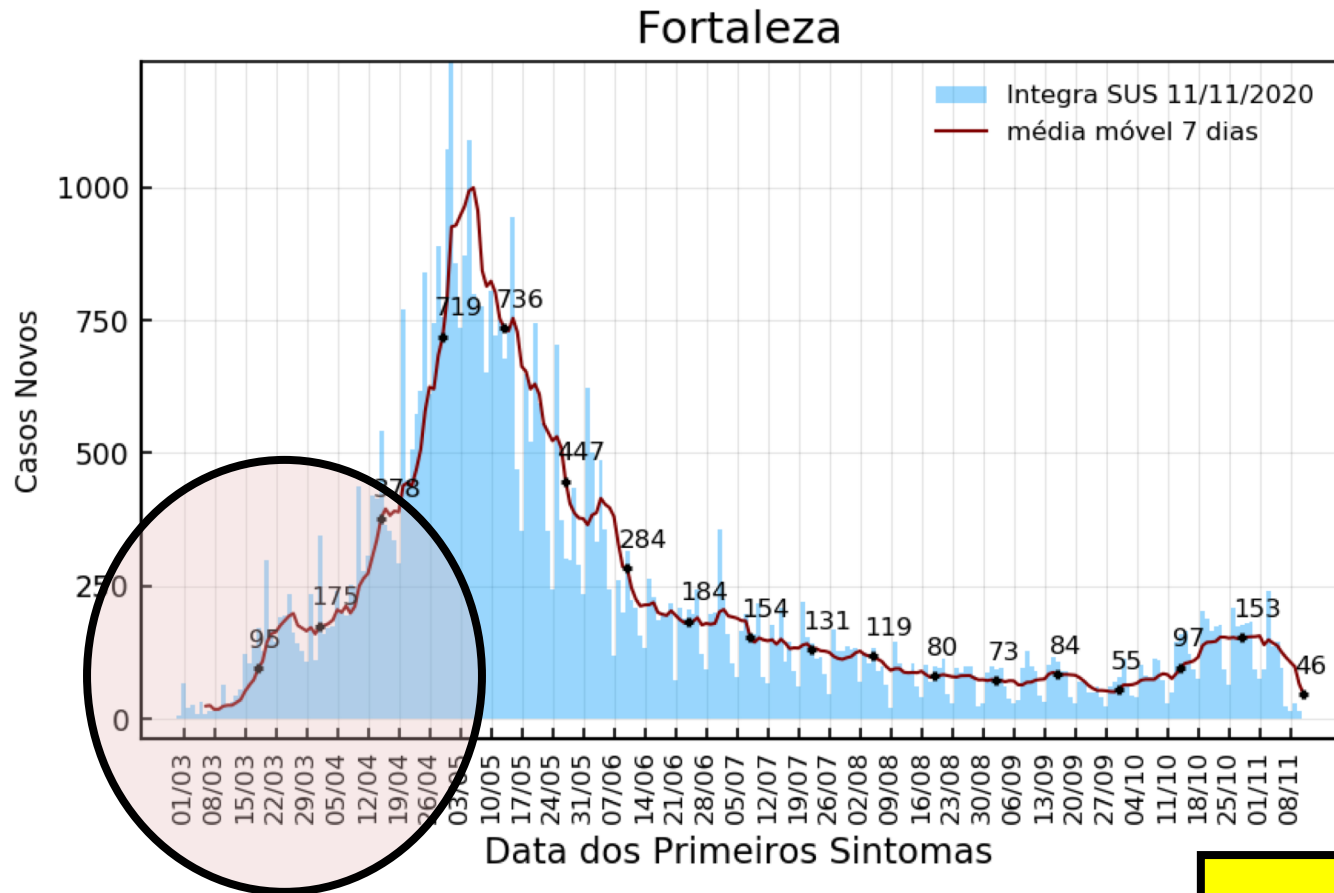
$$\text{Letalidade}(\%) = \frac{\# \text{ óbitos (dps)}}{\# \text{ casos (dps)}} \times 100$$

dps – data dos primeiros sintomas

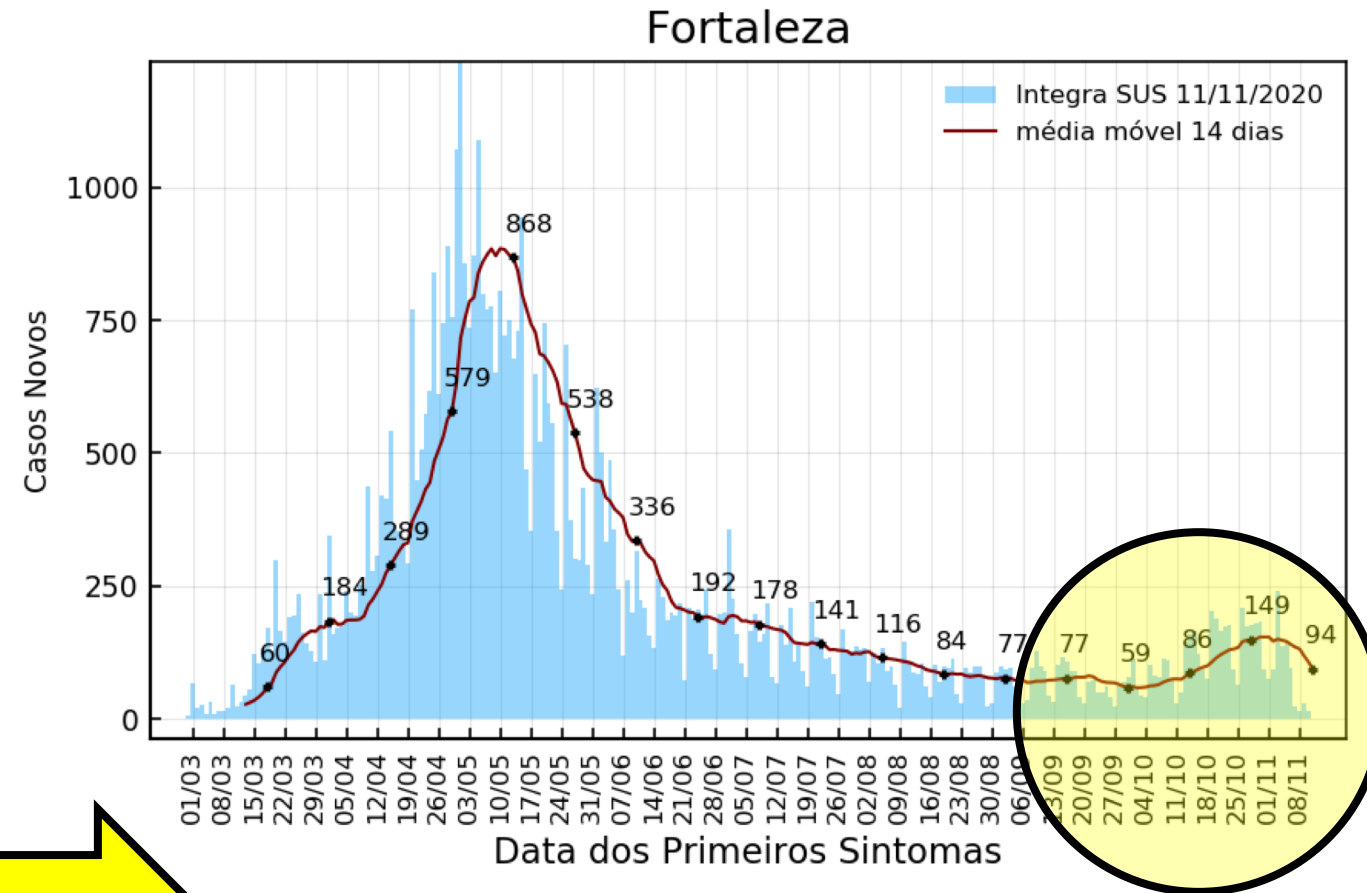


Tempo Característico de Duplicação de Casos (τ)

média móvel de 7 dias

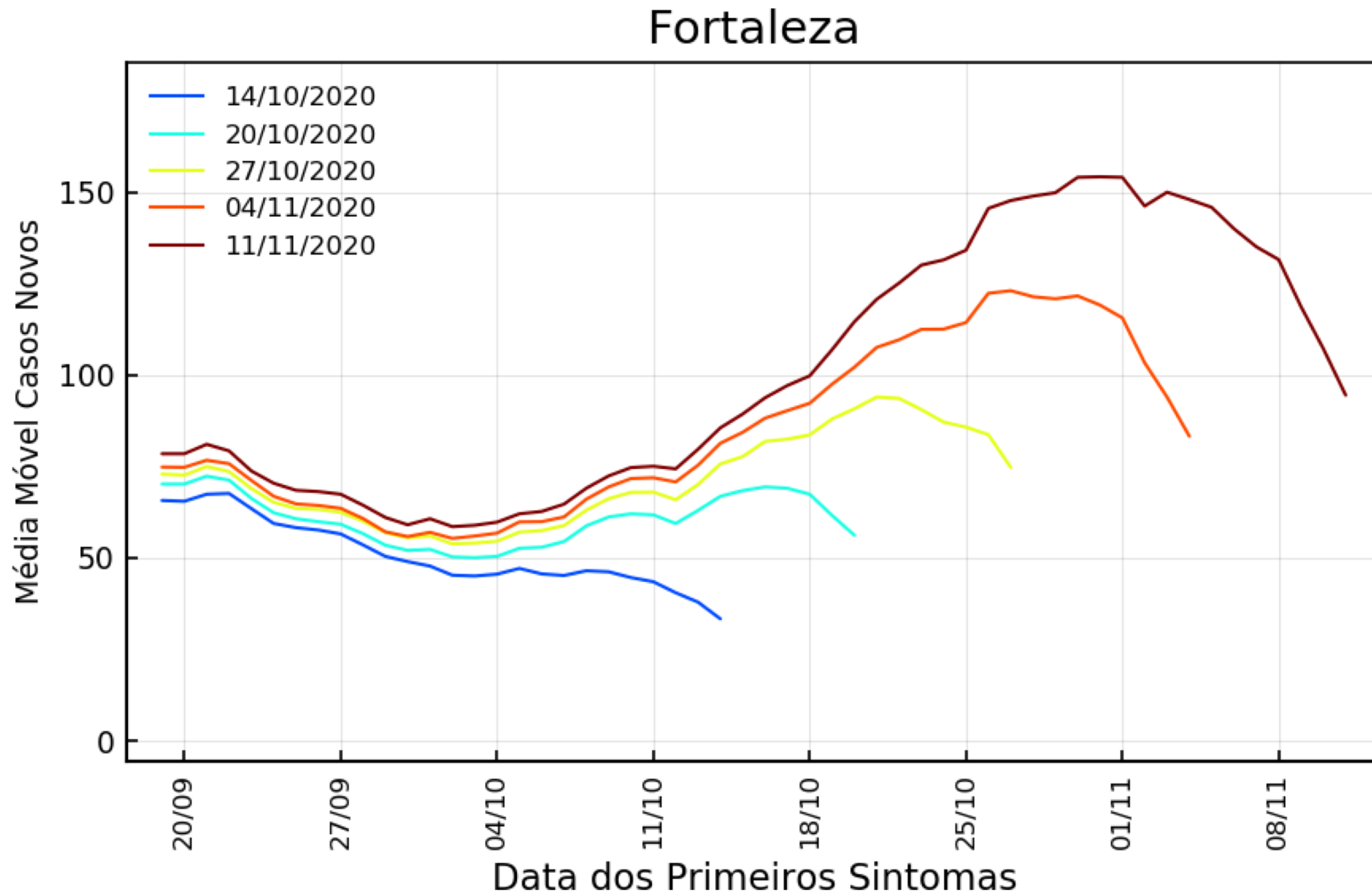


média móvel de 14 dias

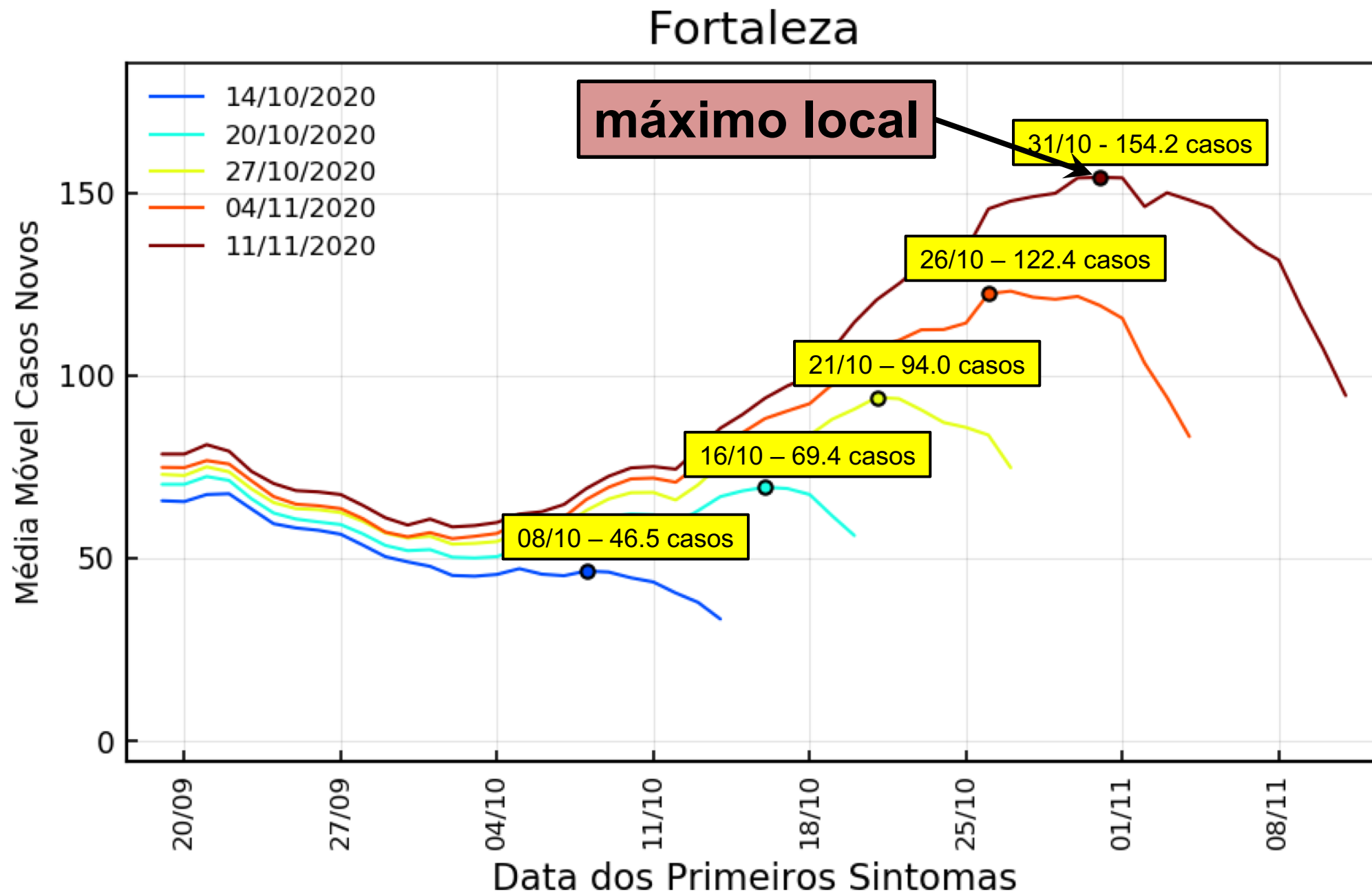


curva mais suave

Tempo Característico de Duplicação de Casos (τ)

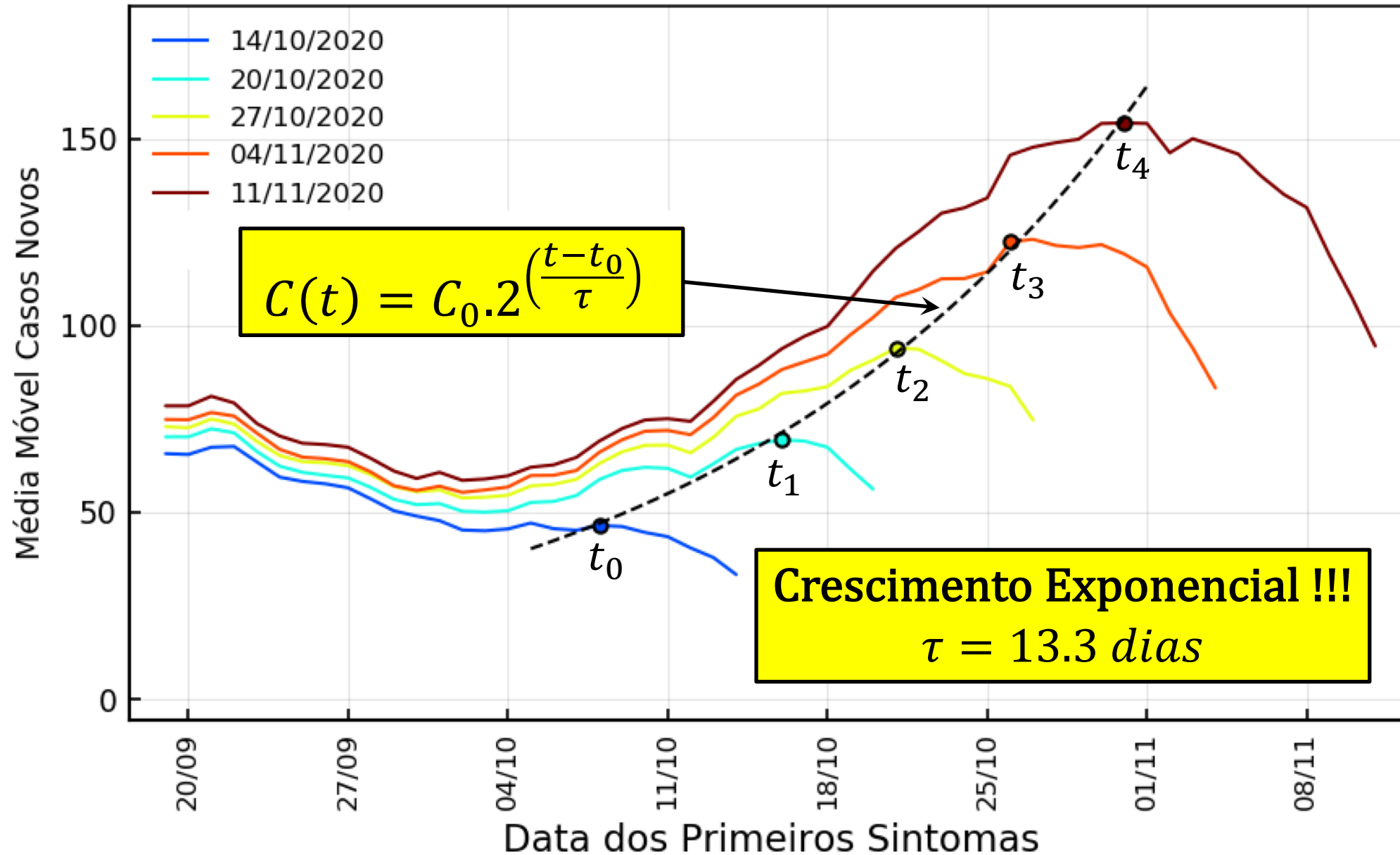


Tempo Característico de Duplicação de Casos (τ)



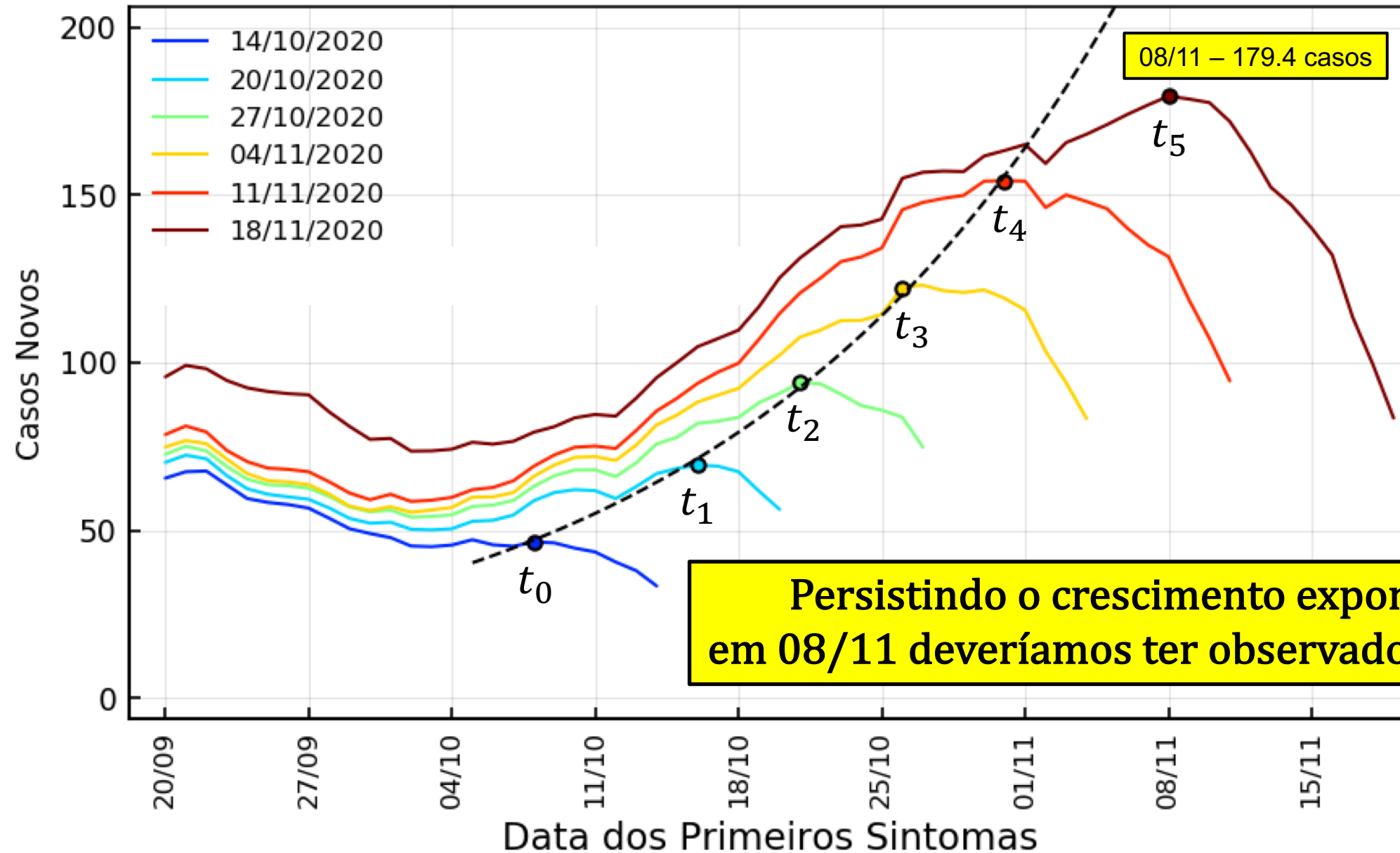
Tempo Característico de Duplicação de Casos (τ) Atualização 11/11/2020

Fortaleza



Tempo Característico de Duplicação de Casos (τ) Atualização 18/11/2020

Fortaleza



Persistindo o crescimento exponencial,
em 08/11 deveríamos ter observado 237 casos.

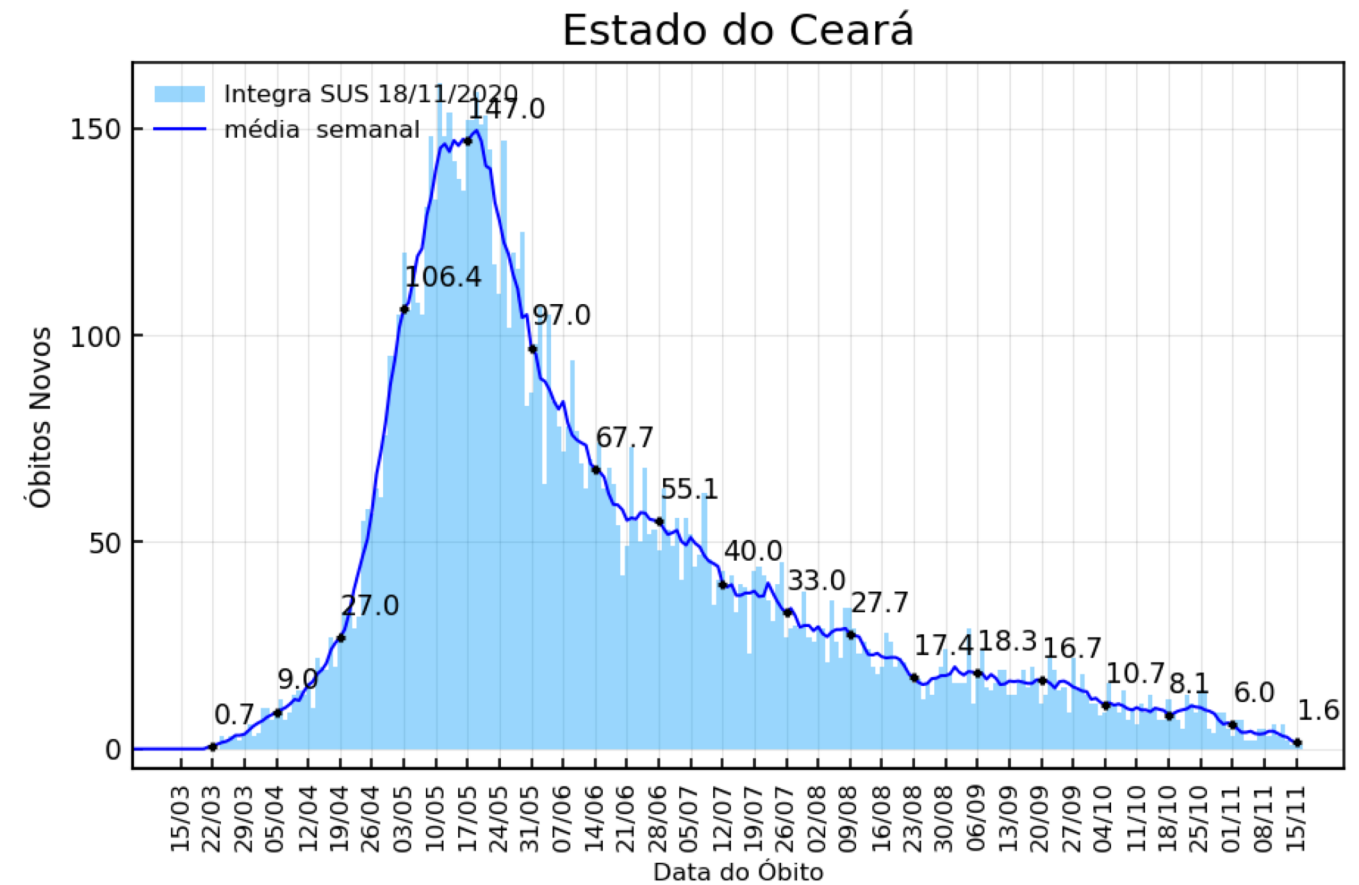
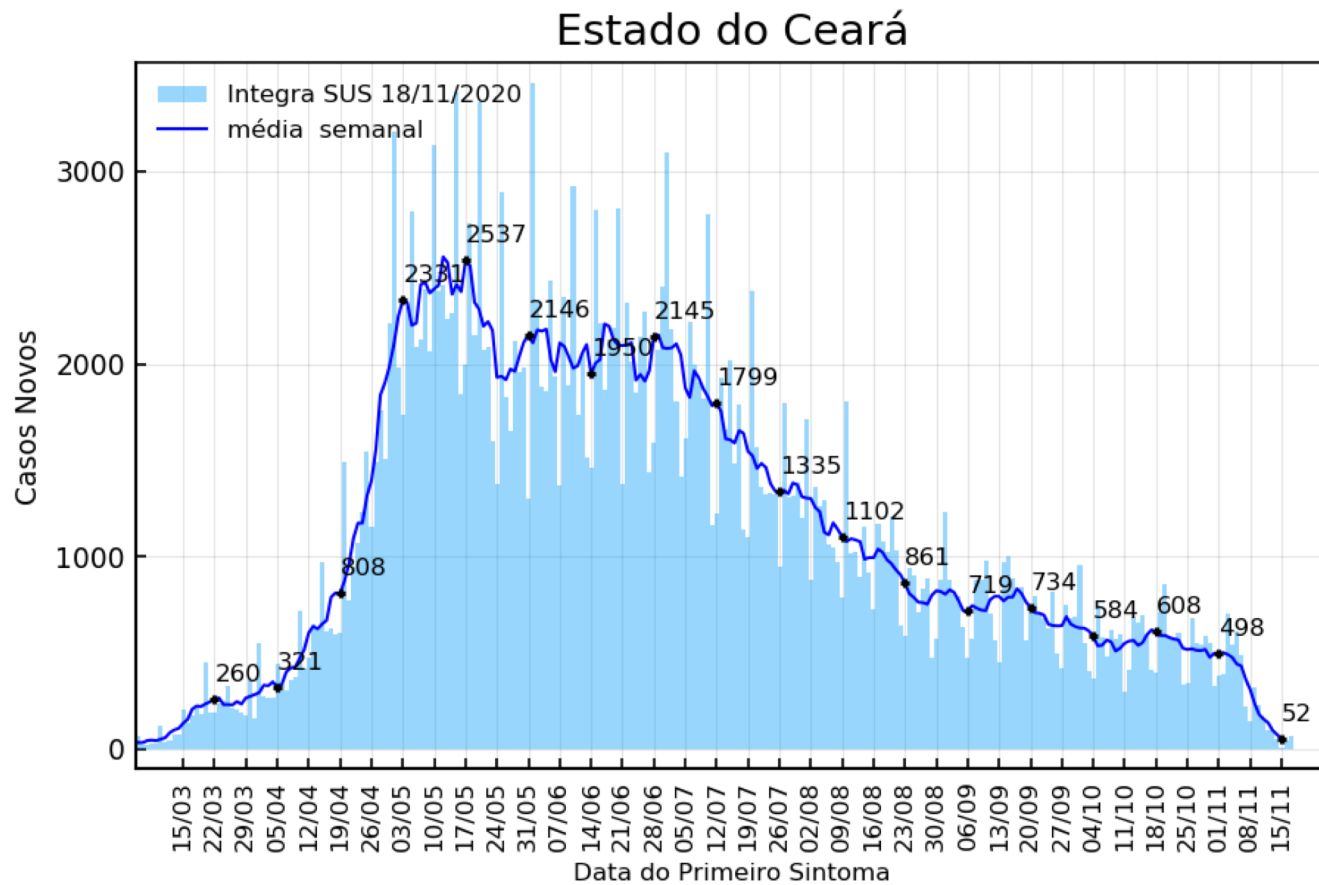
Ceará & Regiões

REGIÃO	POPULAÇÃO (IBGE 2020)
Fortaleza	4.817.822
Sobral	1.643.656
Cariri	1.523.245
Sertão Central	652.591
Litoral Leste/Jaguaribe	549.789

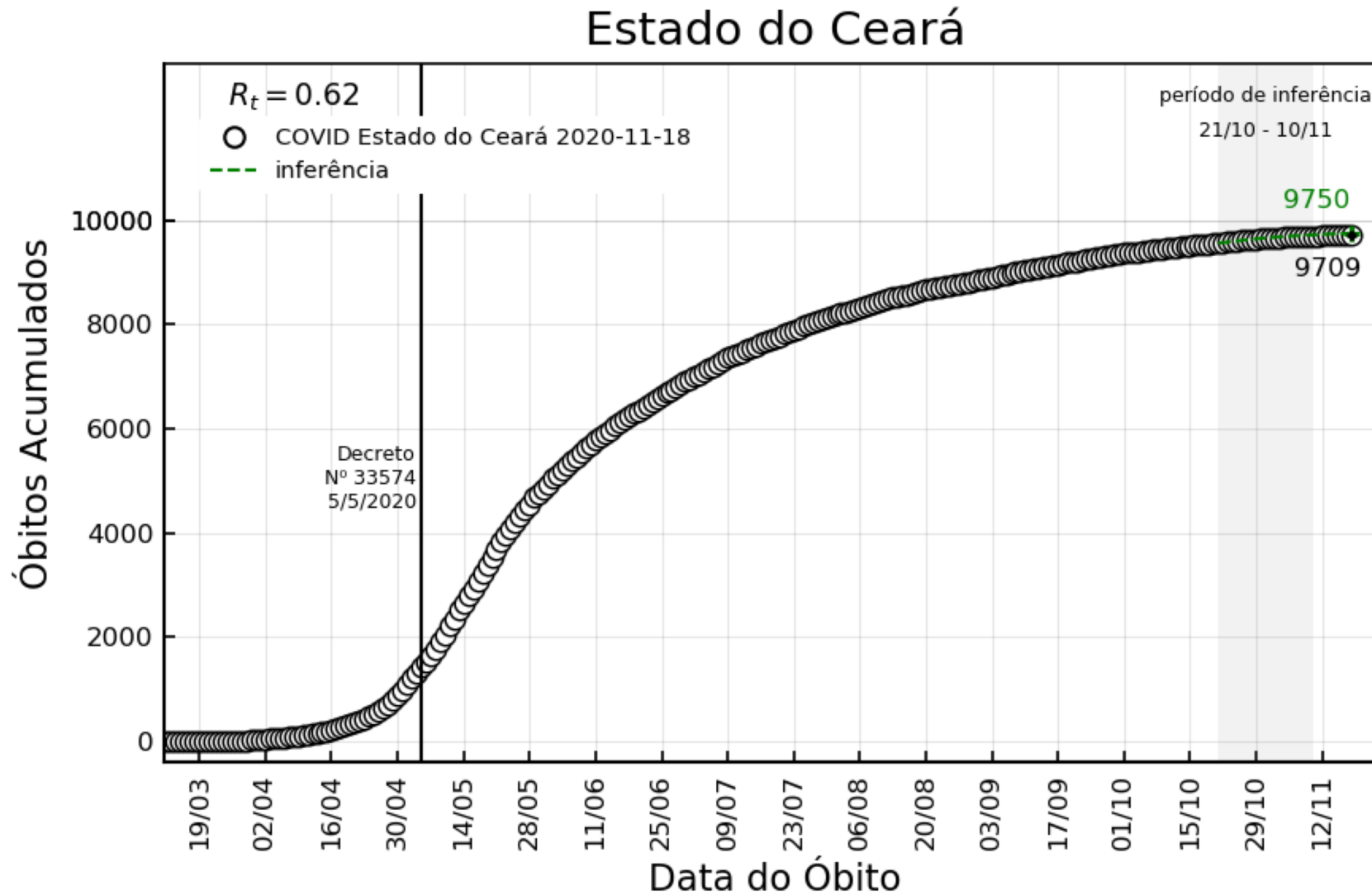
População do Ceará = 9.187.103 habitantes

Estado do Ceará

Dados atualizados em 18/11/2020



Dados atualizados em 18/11/2020

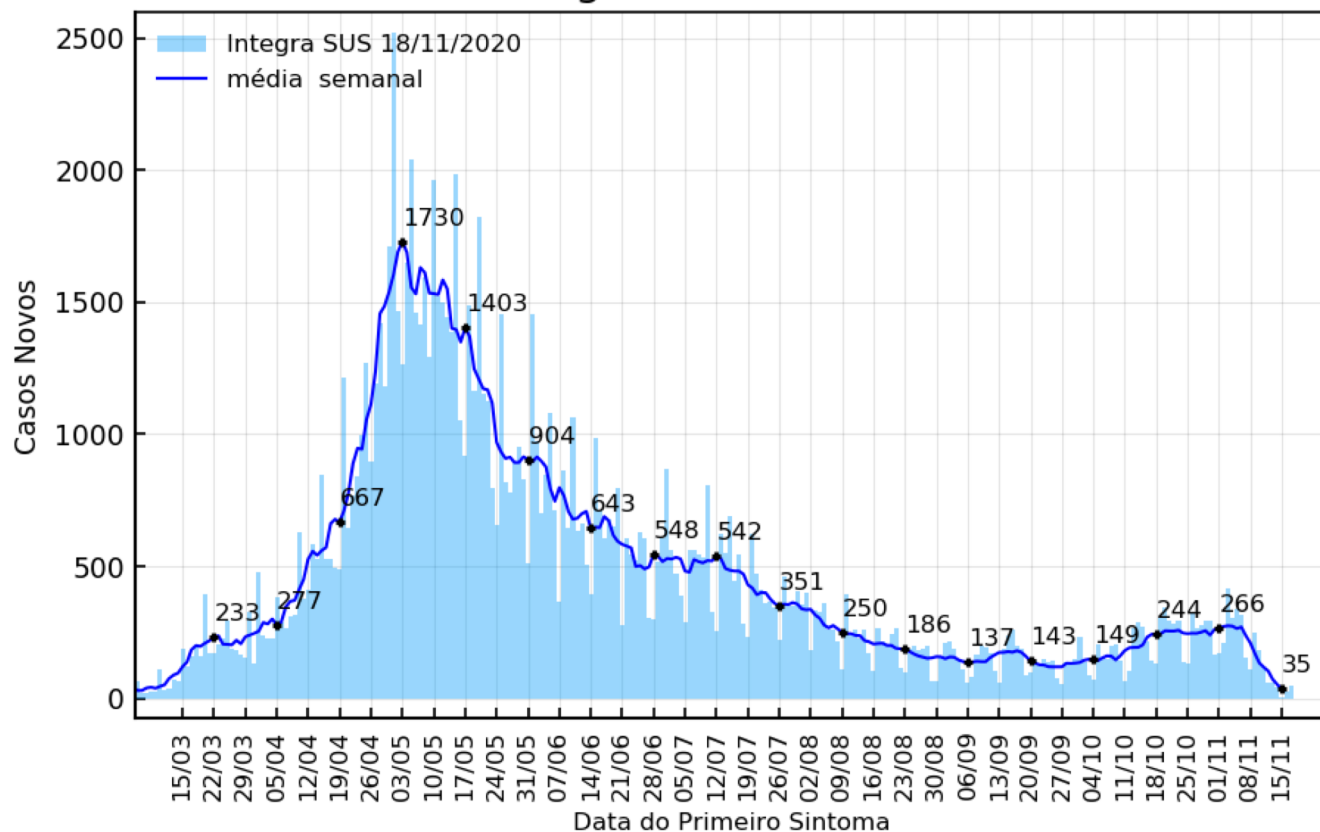


Janela de Inferência	R_t
16/09 – 08/10	0.63
23/09 – 15/10	0.67
30/09 – 22/10	0.69
07/10 – 29/10	0.68
14/10 – 03/11	0.67
21/10 – 10/11	0.62

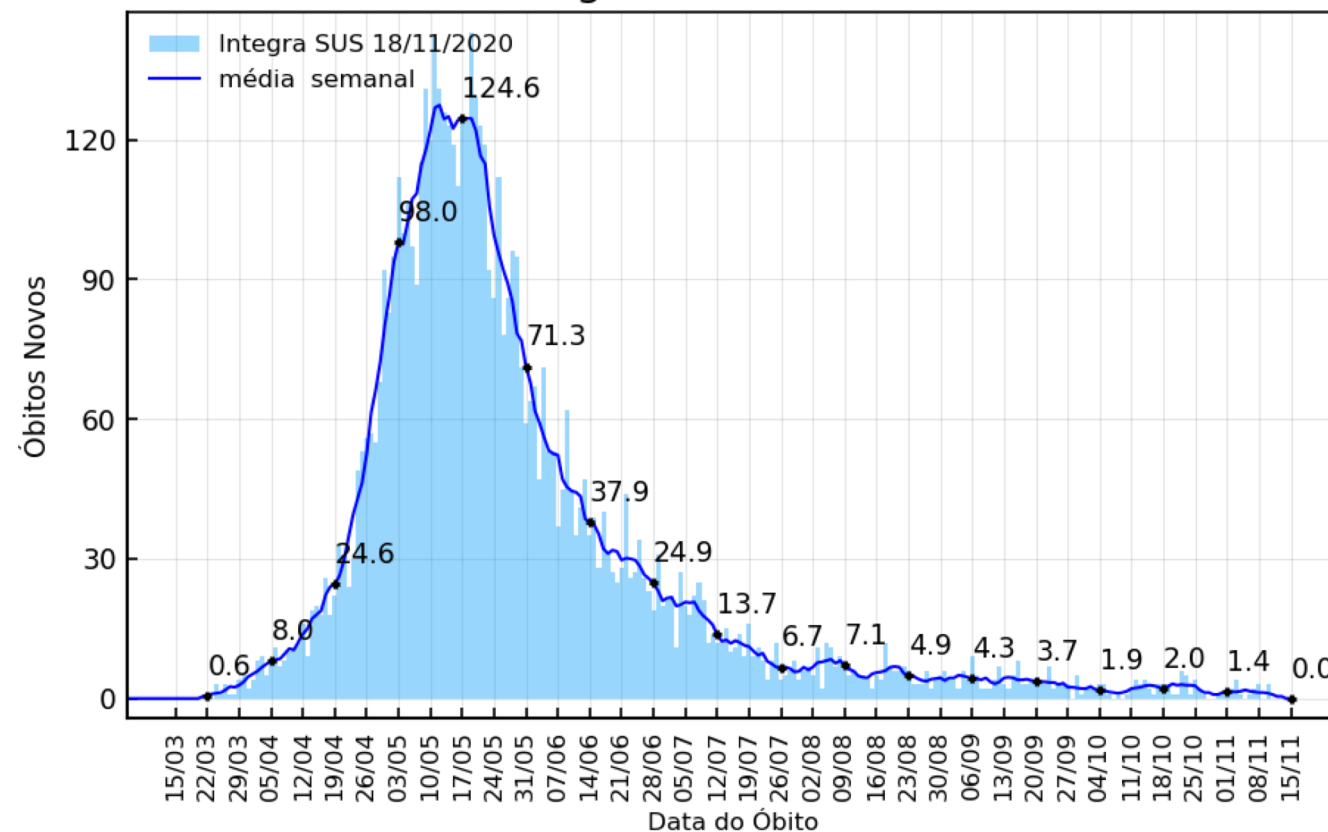
Região Fortaleza

Dados atualizados em 18/11/2020

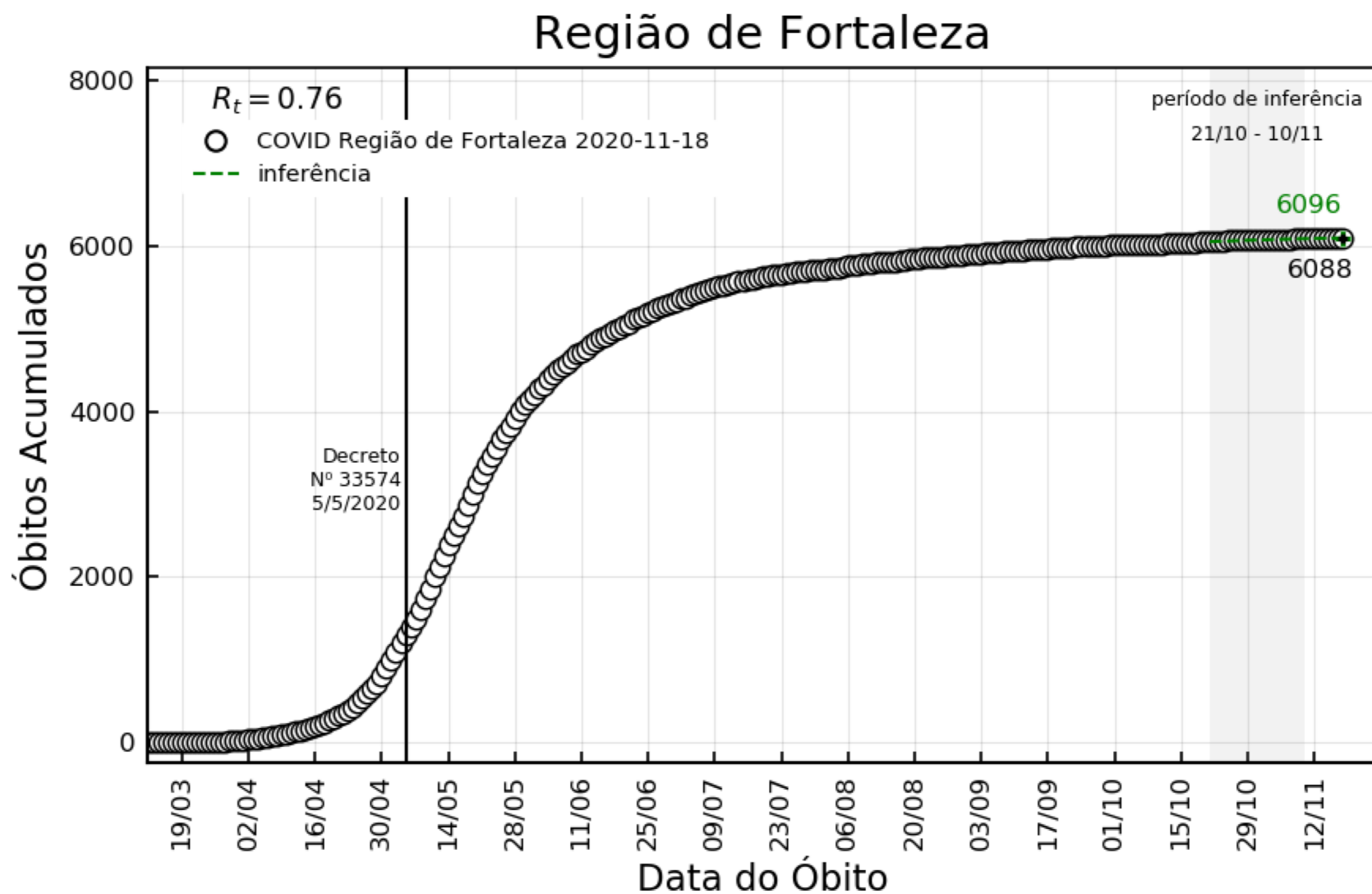
Região de Fortaleza



Região de Fortaleza



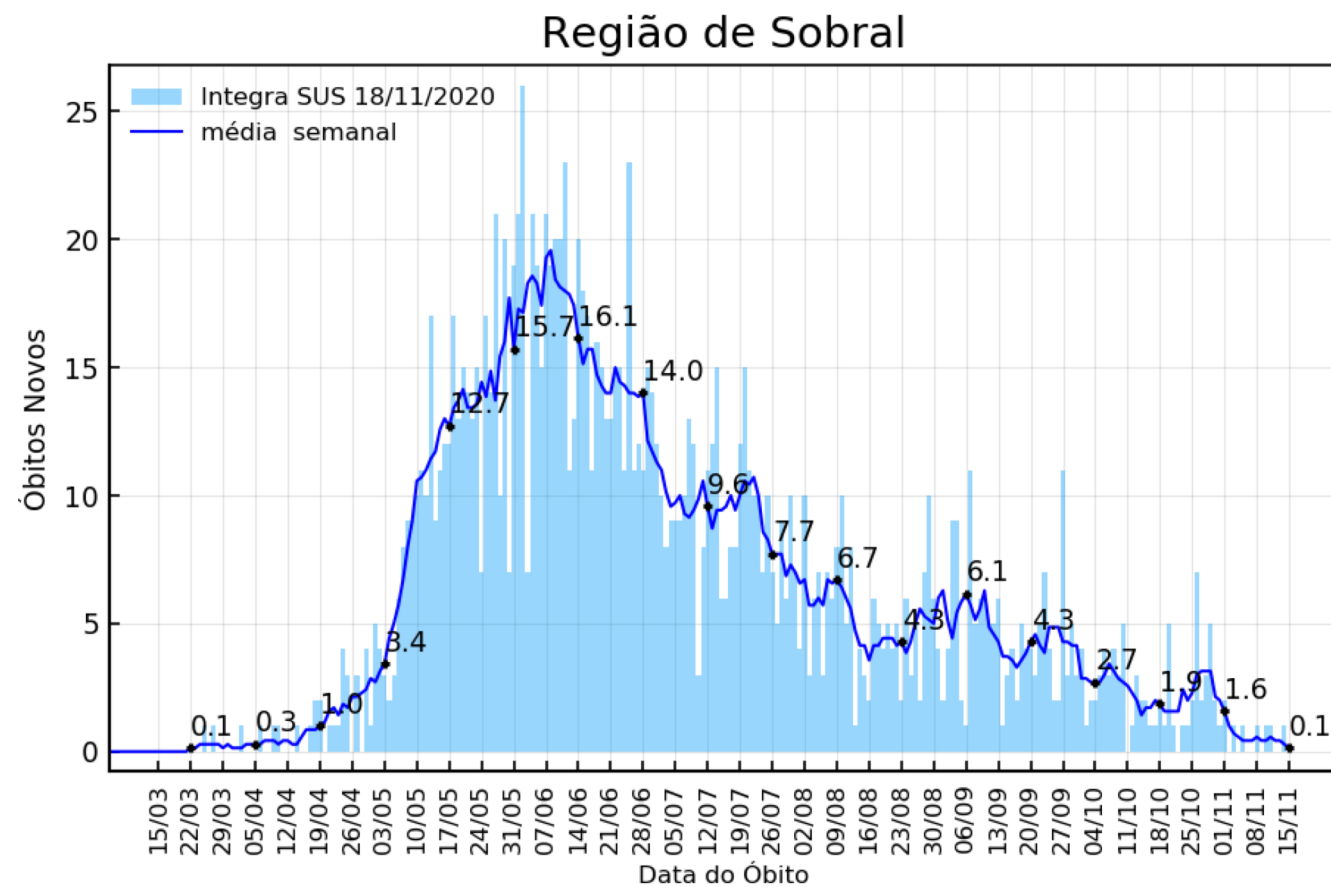
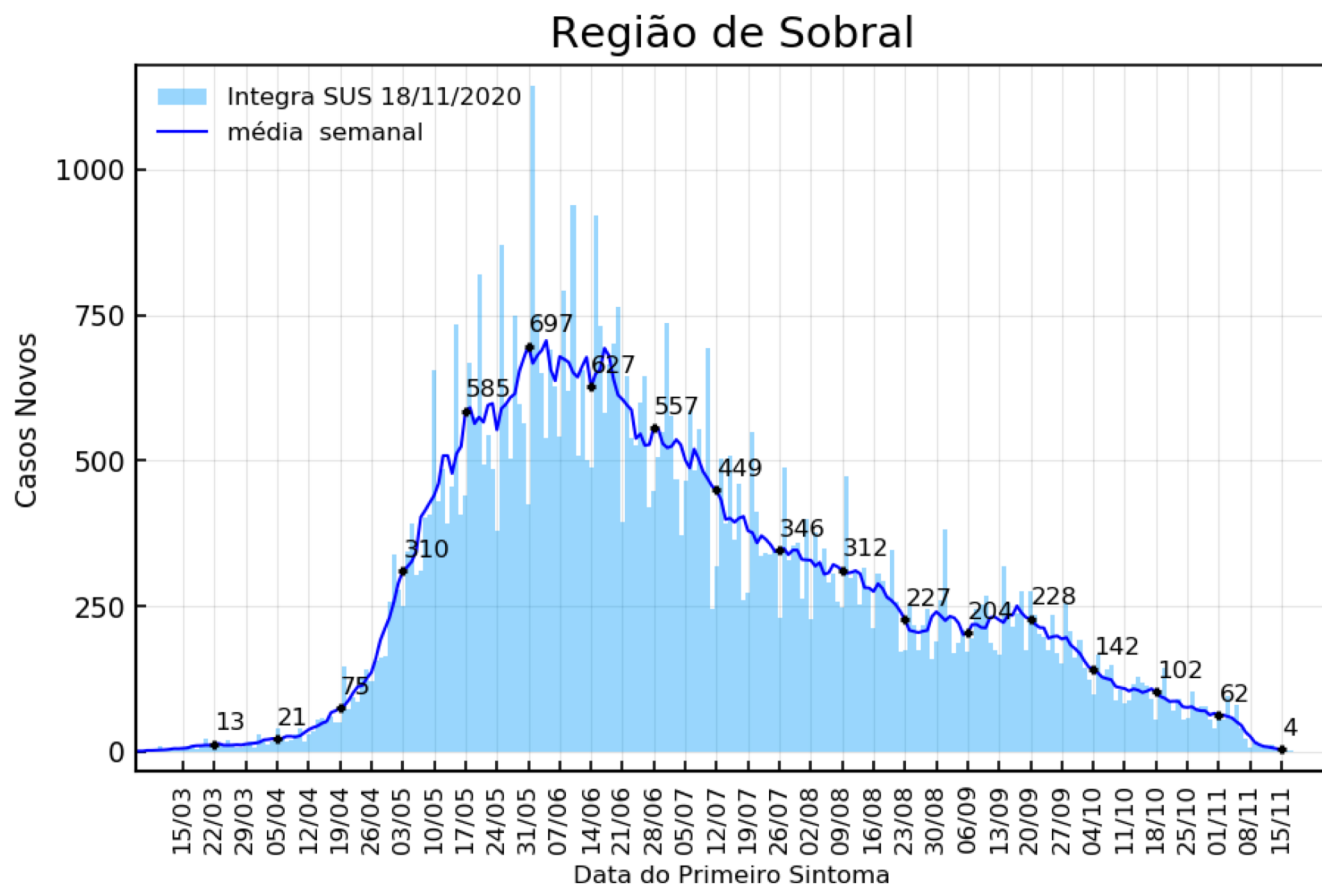
Dados atualizados em 18/11/2020



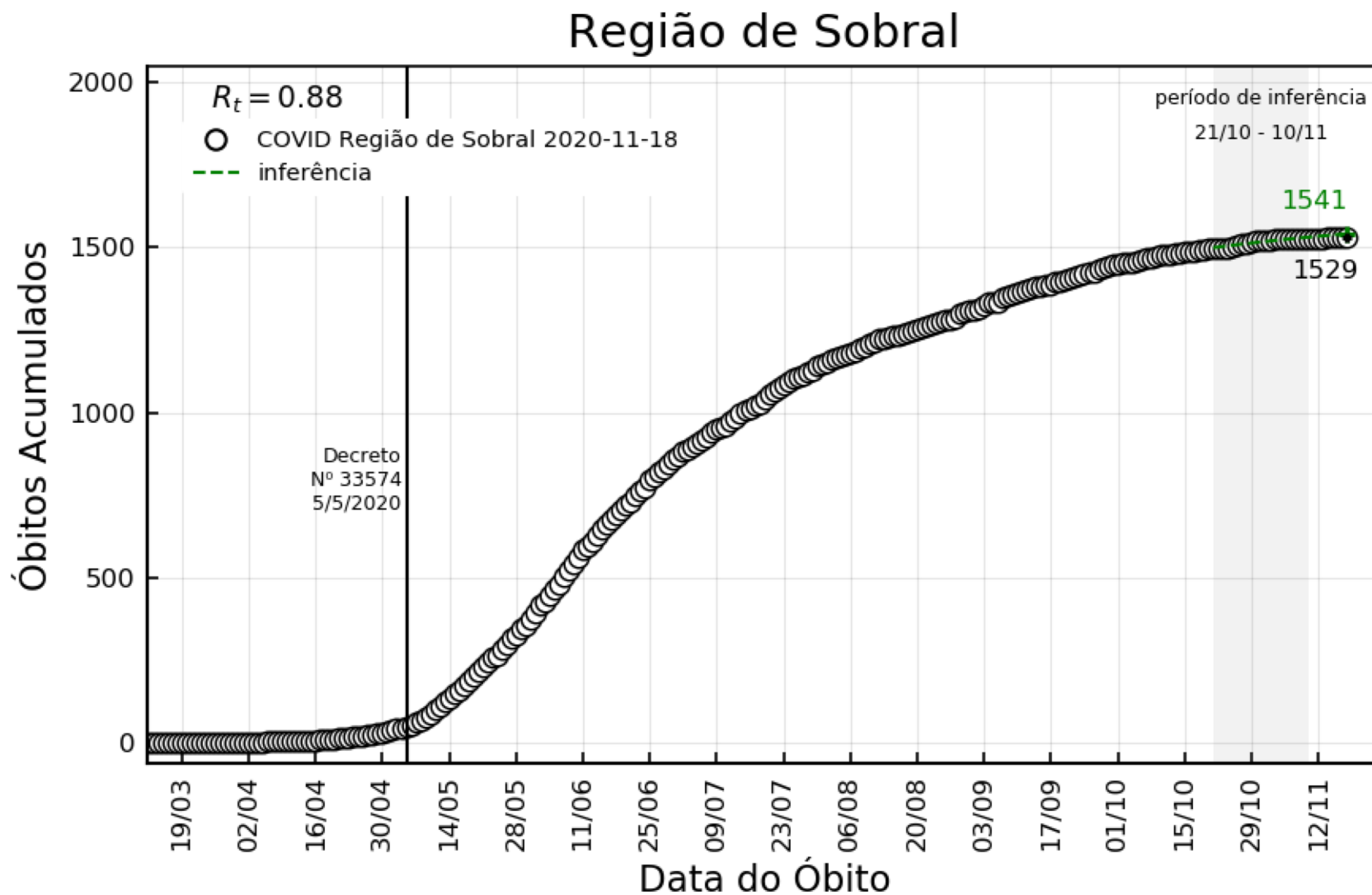
Janela de Inferência	R_t
09/09 – 01/10	0.75
16/09 – 08/10	0.75
23/09 – 15/10	0.76
30/09 – 22/10	0.77
07/10 – 29/10	0.72
14/10 – 03/11	0.72
21/10 -10/11	0.76

Região Sobral

Dados atualizados em 18/11/2020



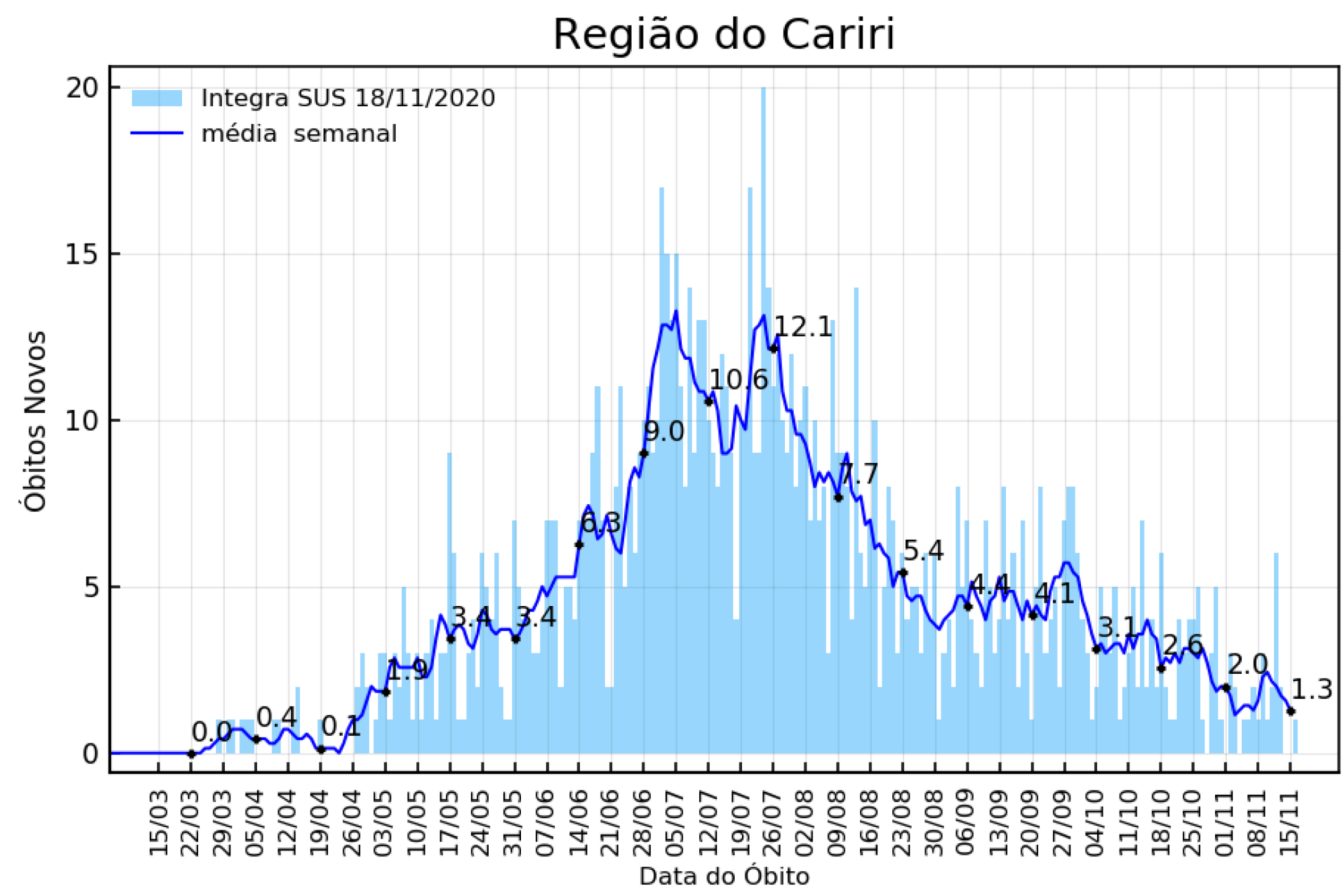
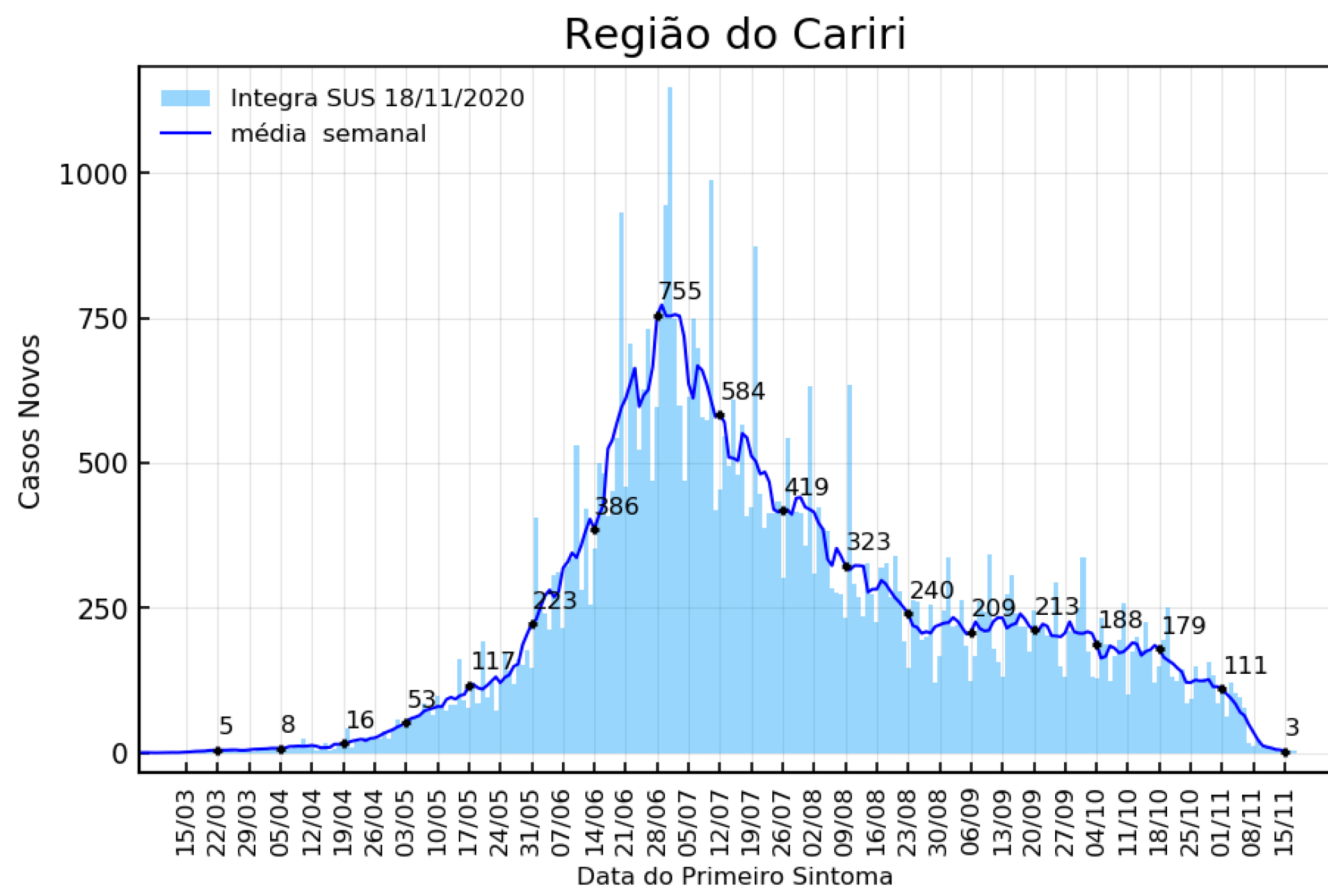
Dados atualizados em 18/11/2020



Janela de Inferência	R_t
09/09 – 01/10	0.97
16/09 – 08/10	0.84
23/09 – 15/10	0.84
30/09 – 22/10	0.71
07/10 – 29/10	0.84
14/10 – 03/11	0.90
21/10 – 10/11	0.88

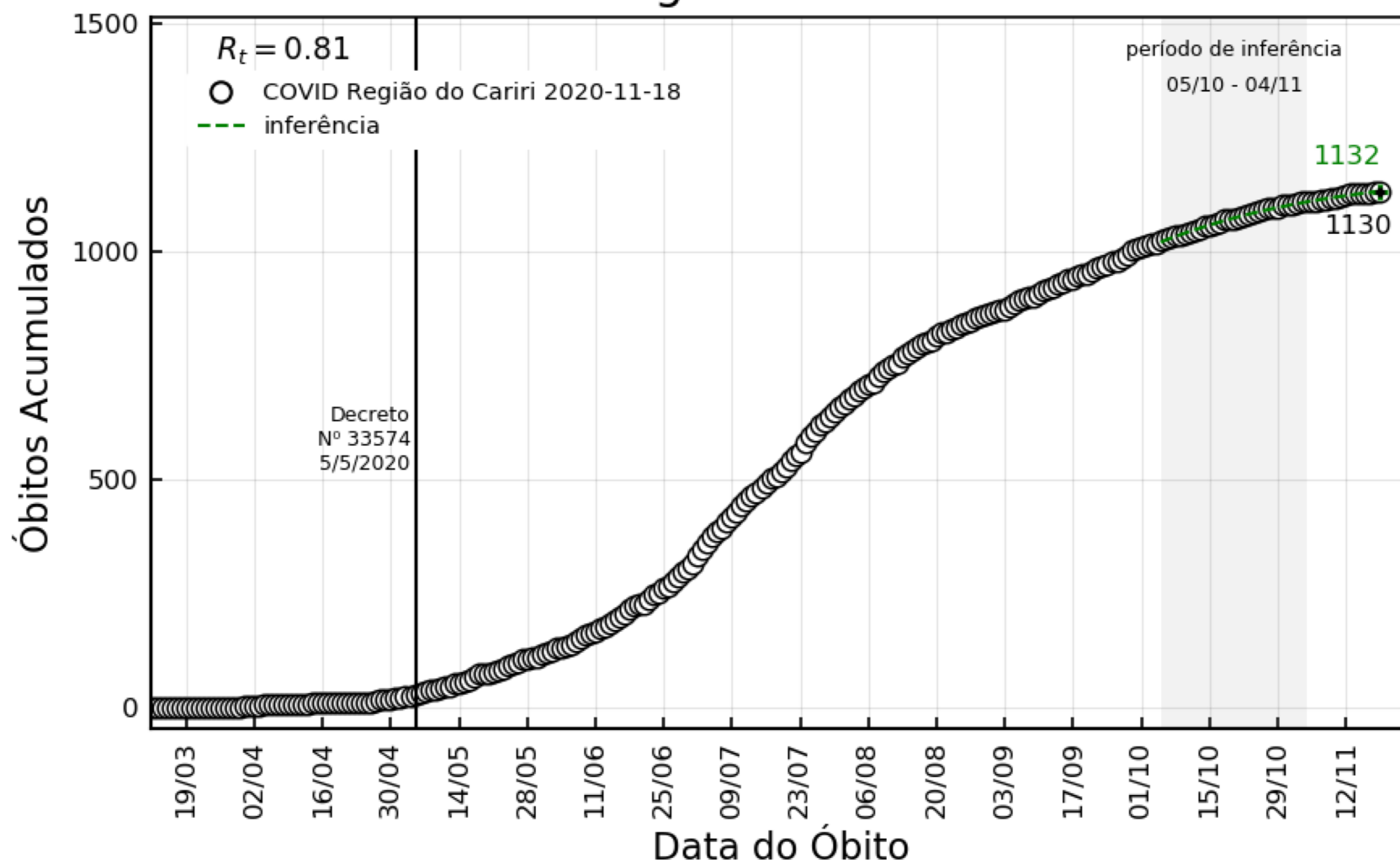
Região Cariri

Dados atualizados em 18/11/2020



Dados atualizados em 18/11/2020

Região do Cariri

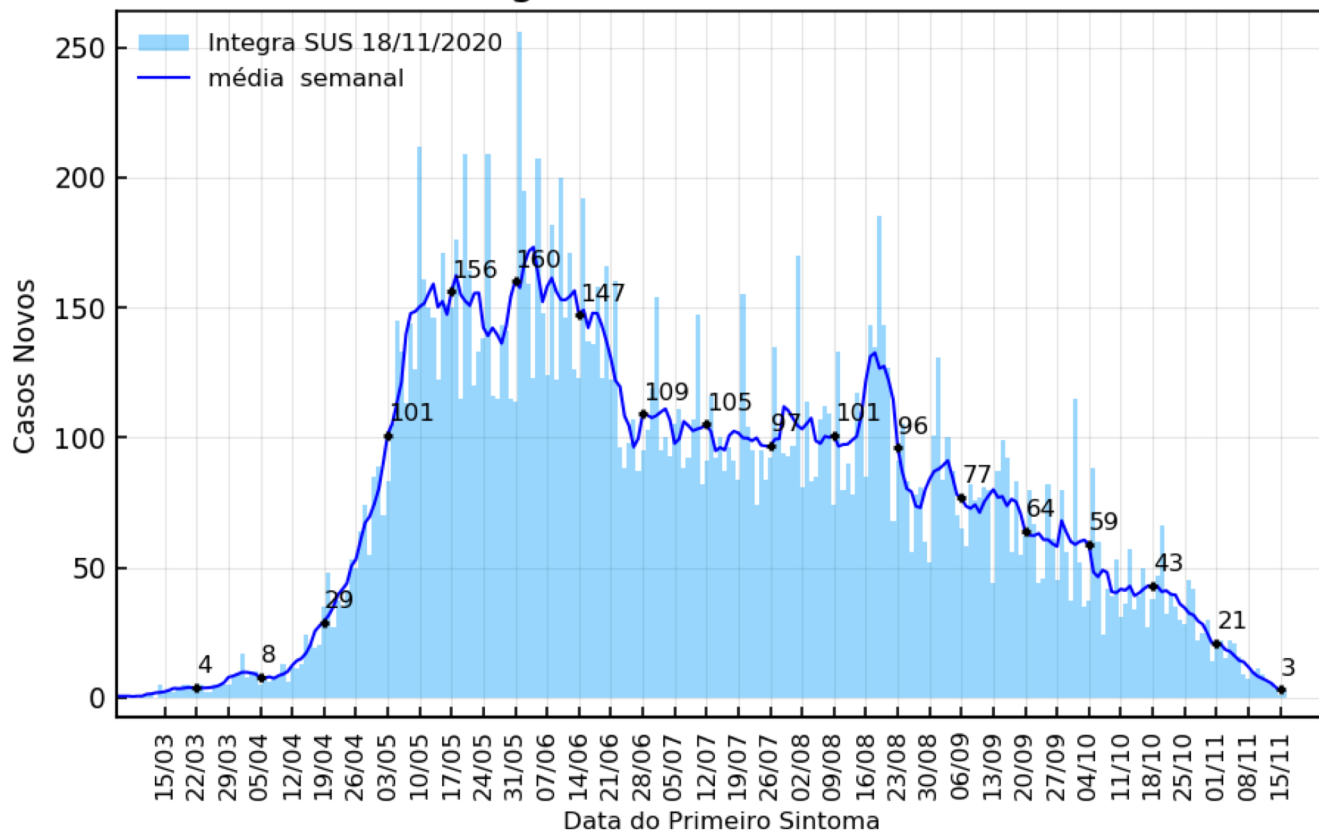


Janela de Inferência	R_t
07/09 – 07/10	1.07
14/09 – 14/10	0.86
21/09 – 21/10	0.86
28/09 – 28/10	0.80
05/10 – 04/11	0.81

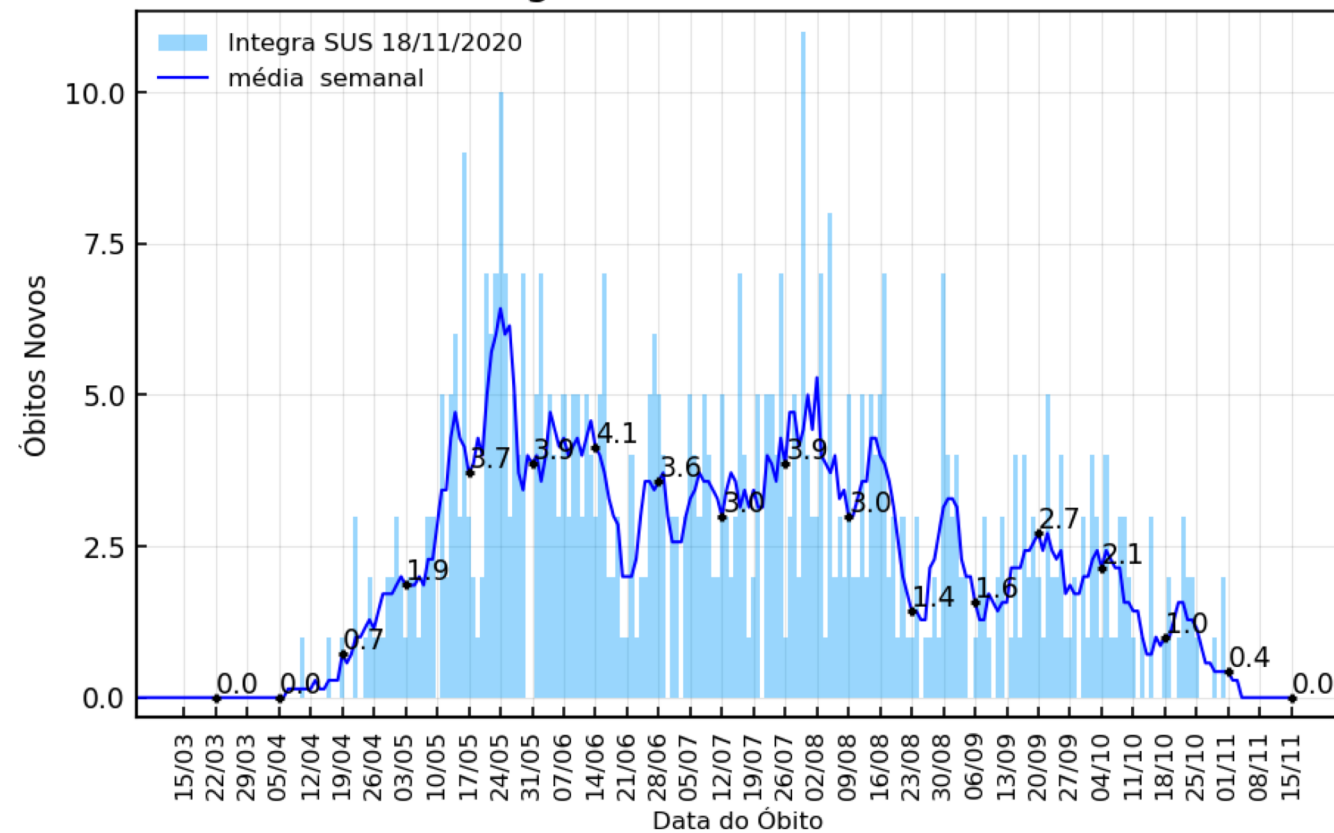
Região Sertão Central

Dados atualizados em 18/11/2020

Região do Sertão Central

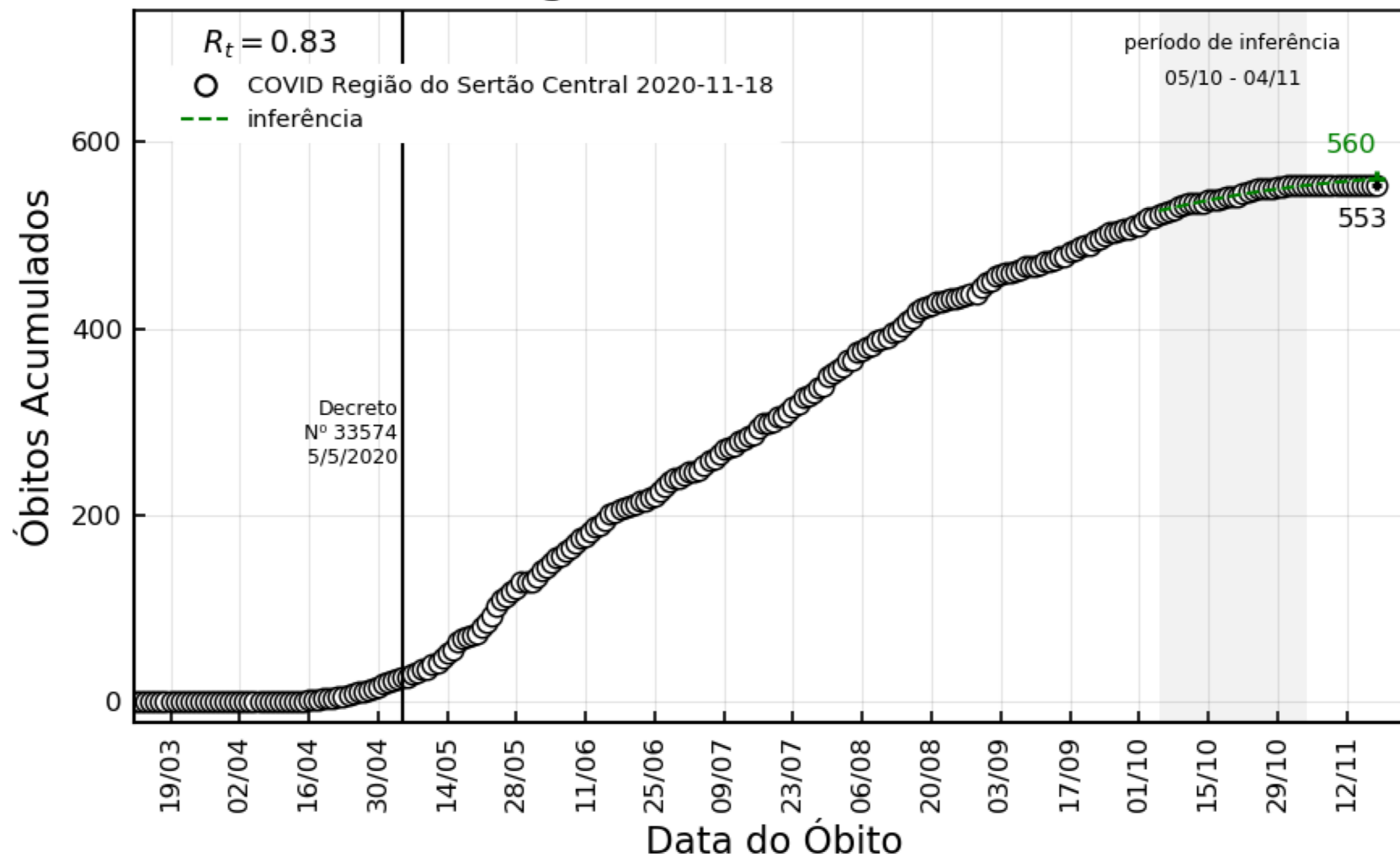


Região do Sertão Central



Dados atualizados em 18/11/2020

Região do Sertão Central

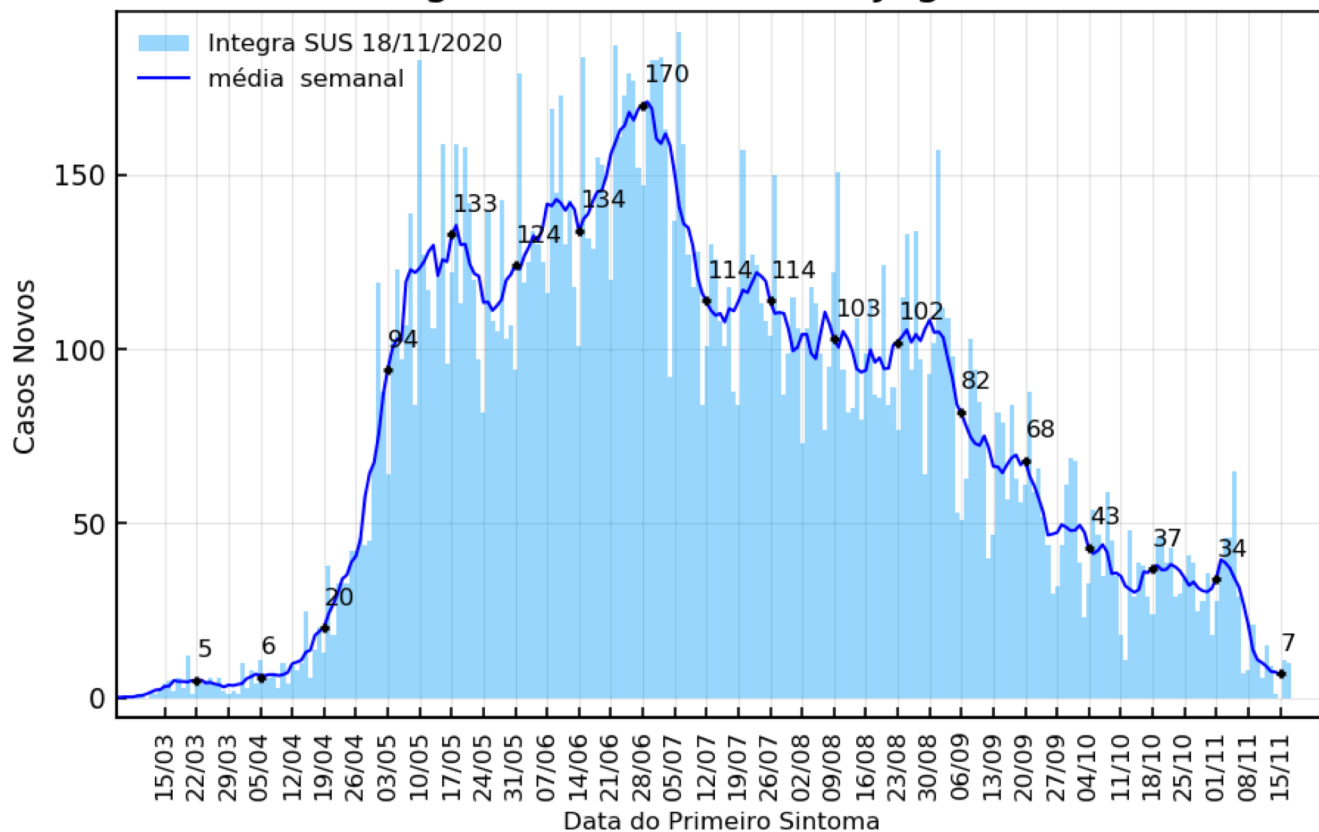


Janela de Inferência	R_t
30/08 – 29/09	0.84
07/09 – 07/10	0.91
14/09 – 14/10	0.78
21/09 – 21/10	0.75
28/09 – 28/10	0.87
05/10 – 04/11	0.83

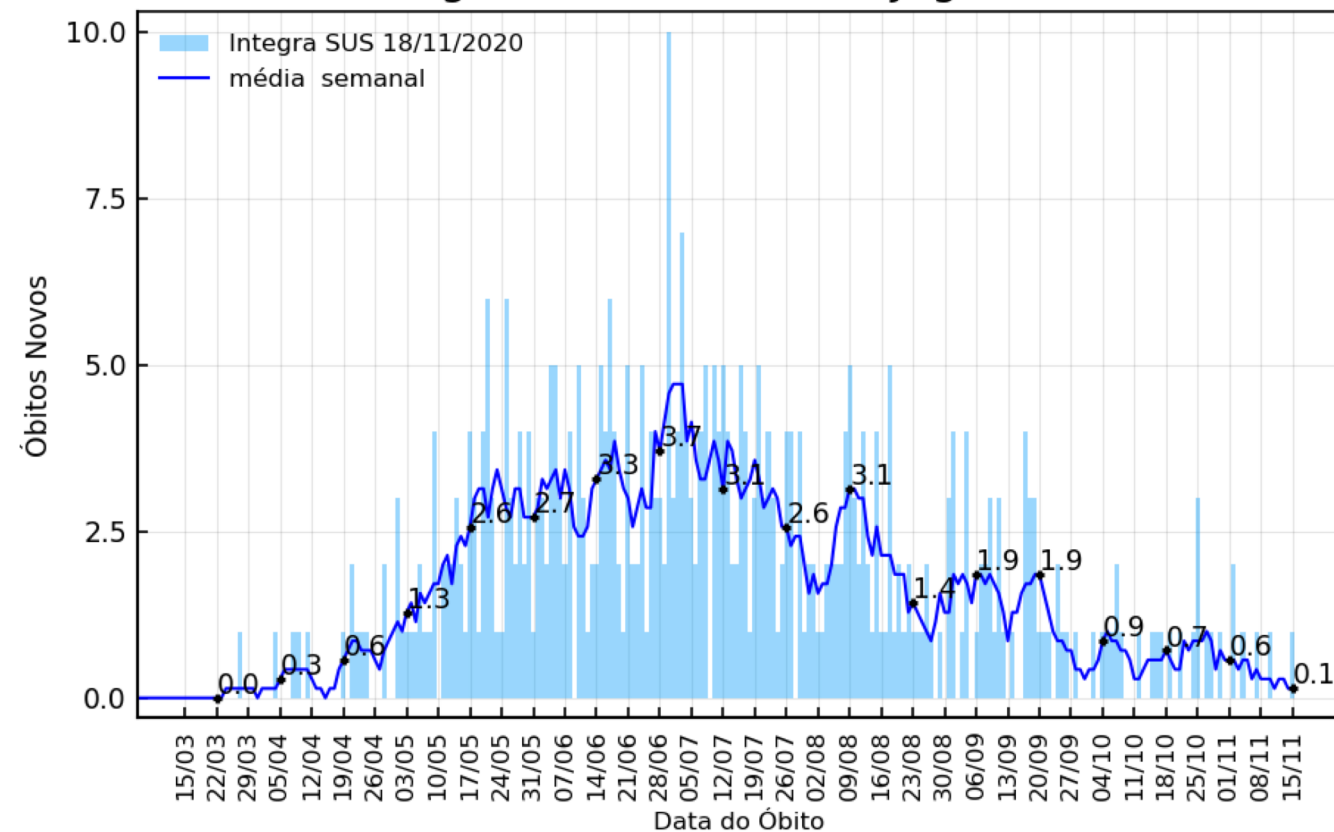
Região Litoral Leste/Jaguaribe

Dados atualizados em 18/11/2020

Região do Litoral Leste/Jaguaribe

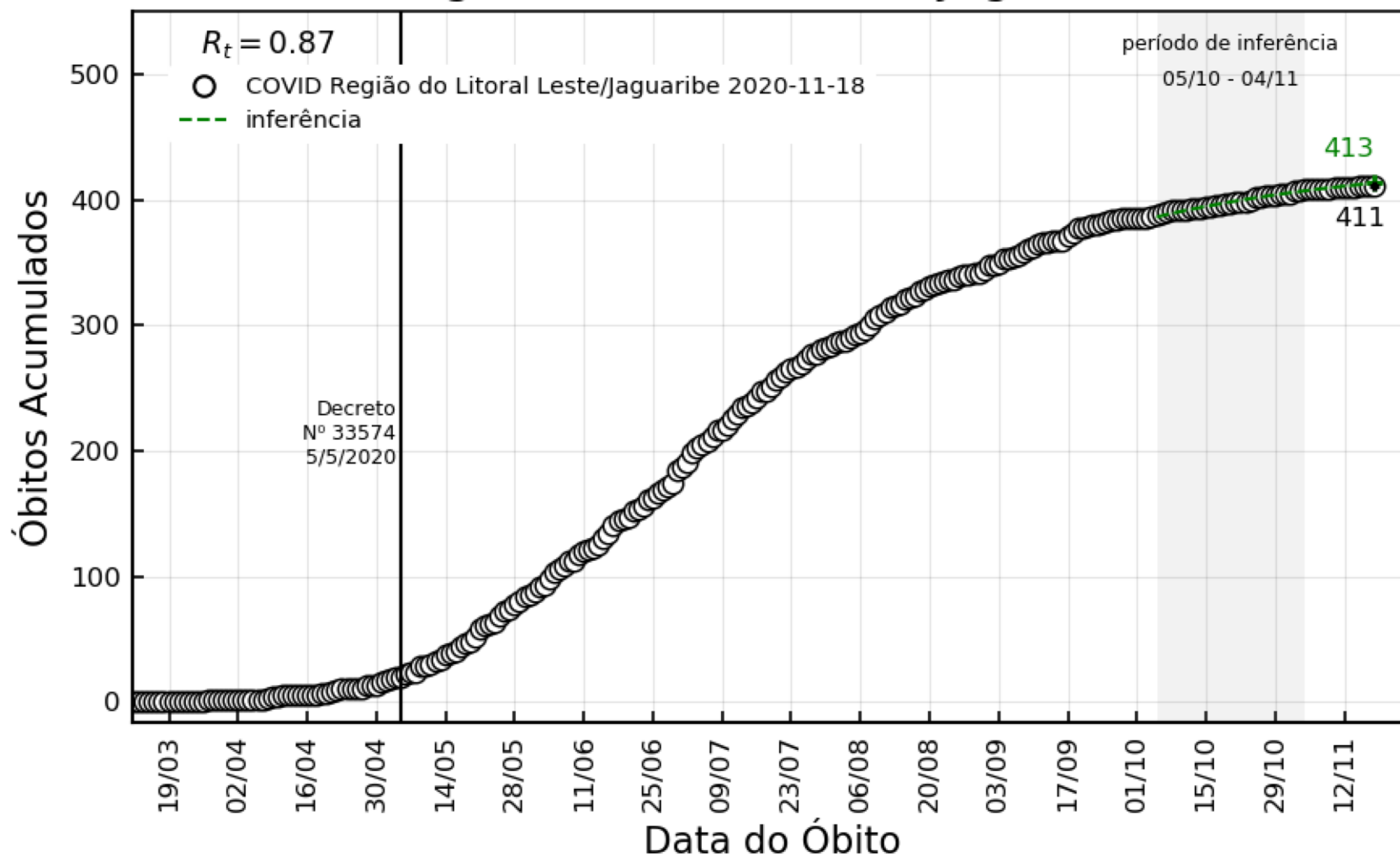


Região do Litoral Leste/Jaguaribe



Dados atualizados em 18/11/2020

Região do Litoral Leste/Jaguaribe



Janela de Inferência	R_t
07/09 – 07/10	0.82
14/09 – 14/10	0.86
21/09 – 21/10	0.92
28/09 – 28/10	0.81
05/10 – 04/11	0.87