



Universidade Federal do Ceará

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

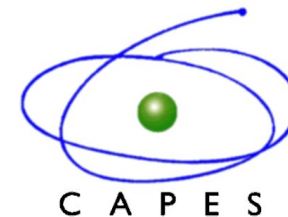
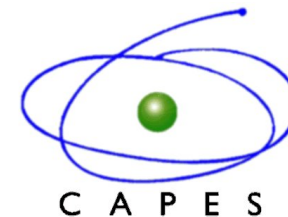
Equipe Cientista-Chefe de Dados (UFC & CAPP-IPECE):

José Soares de Andrade (UFC-Física)

Humberto Carmona (UFC-Física)

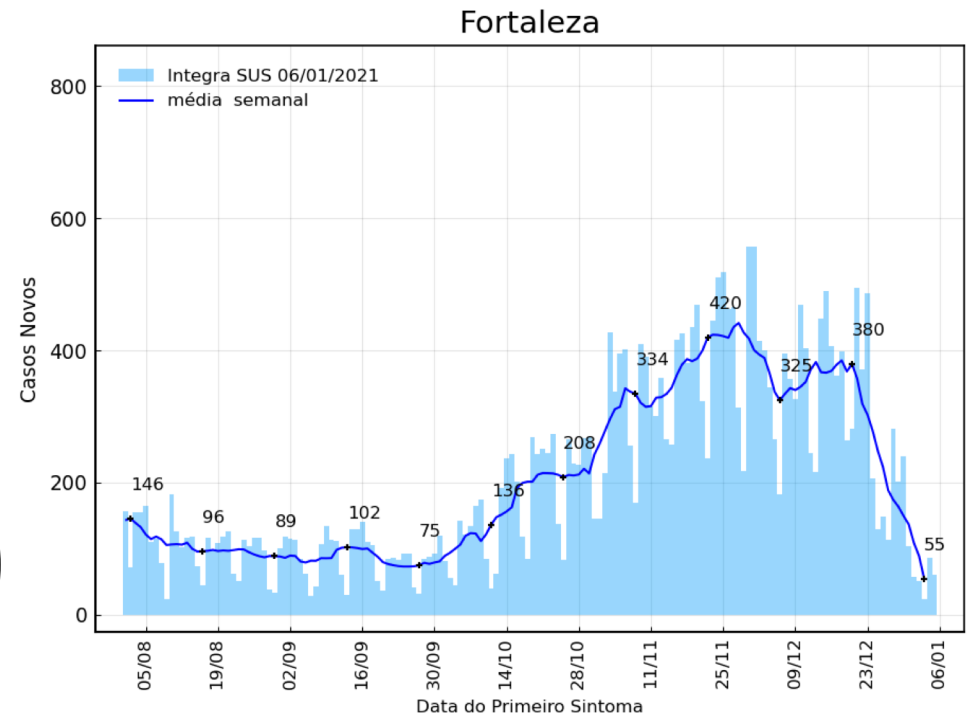
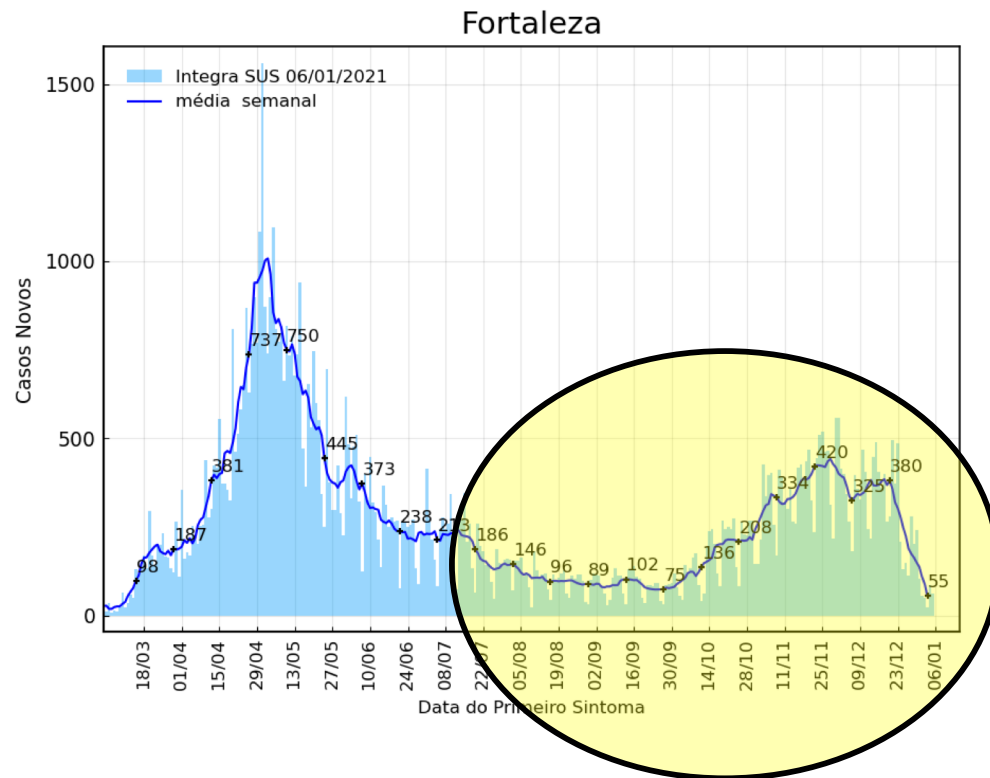
Rilder Pires (CAPP-IPECE-SEPLAG)

Saulo Reis (UFC-Física)

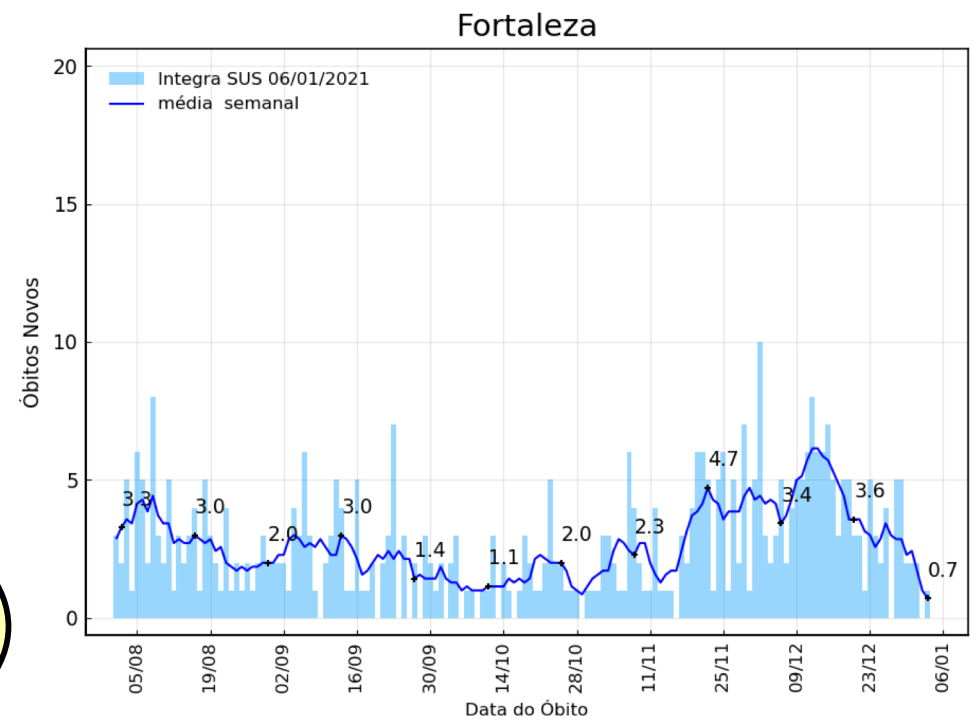
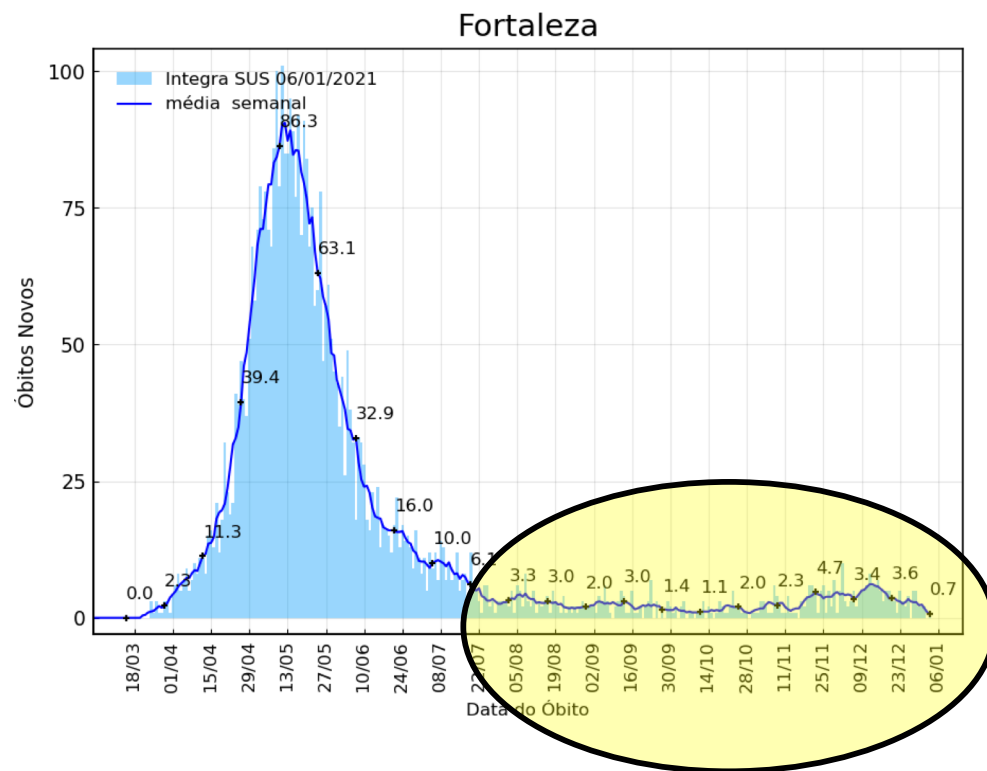


Fortaleza (capital)

Dados atualizados em 06/01/2021

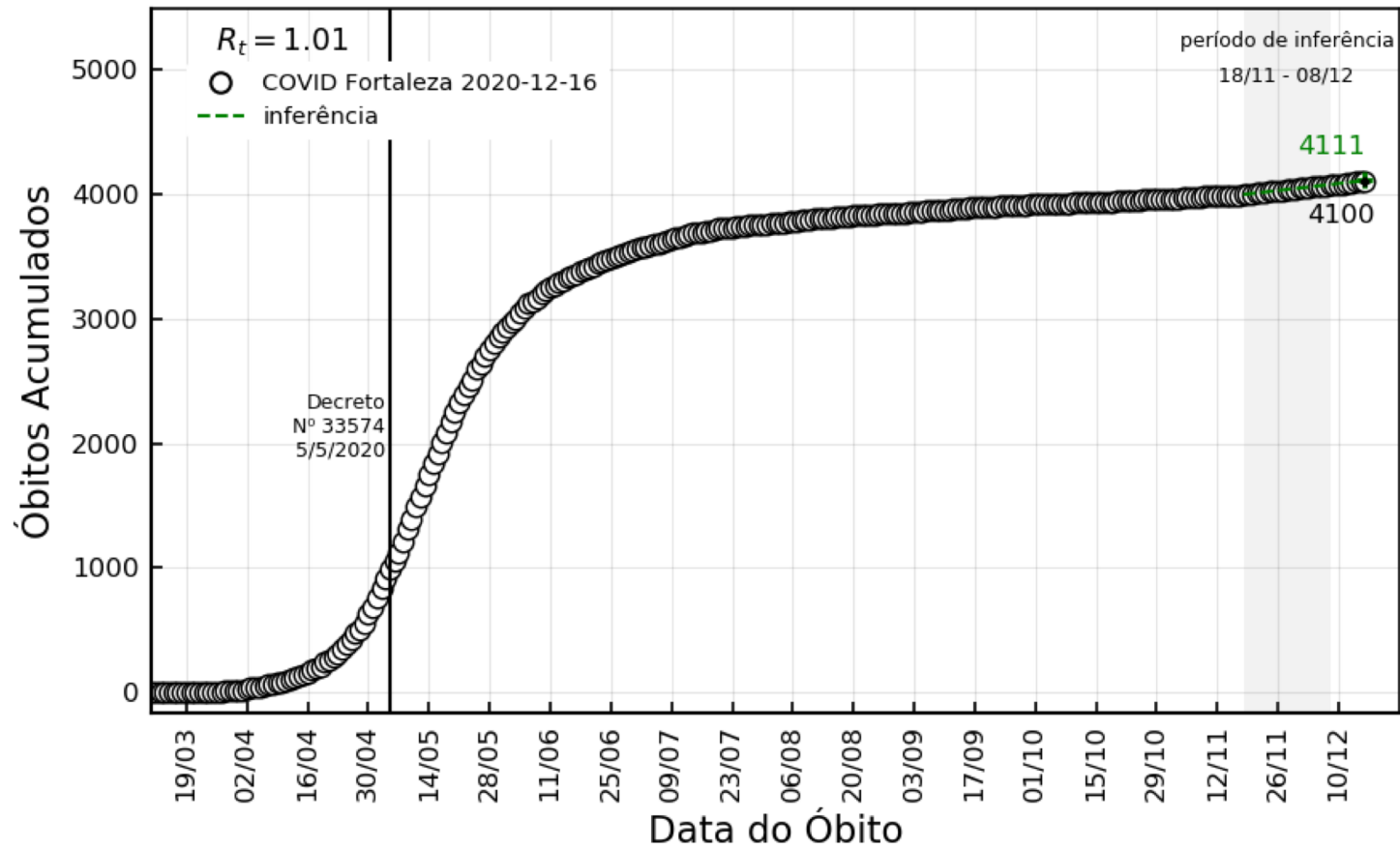


Dados atualizados em 06/01/2021

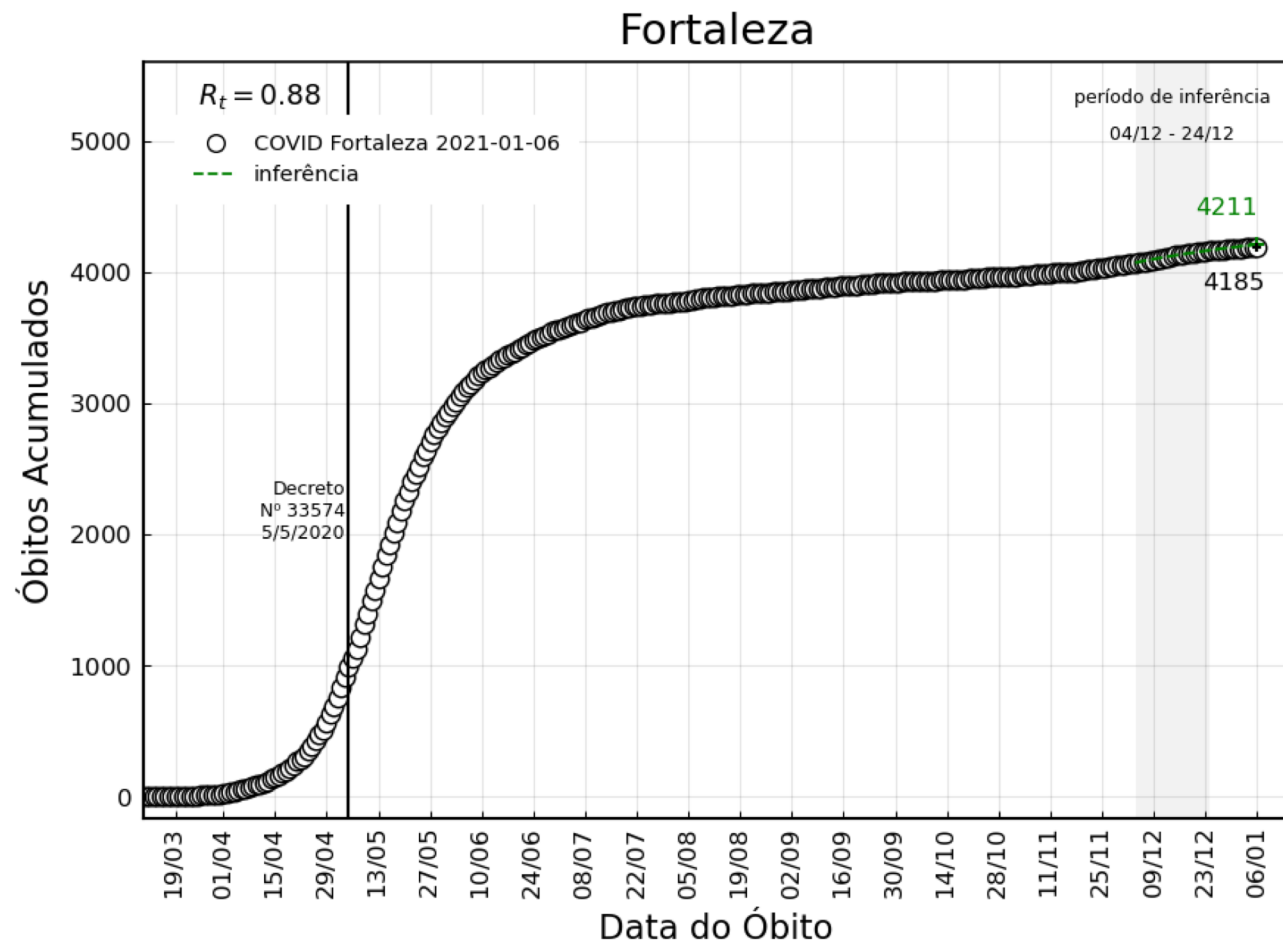


Inferência com Óbitos 16/12/2020

Fortaleza



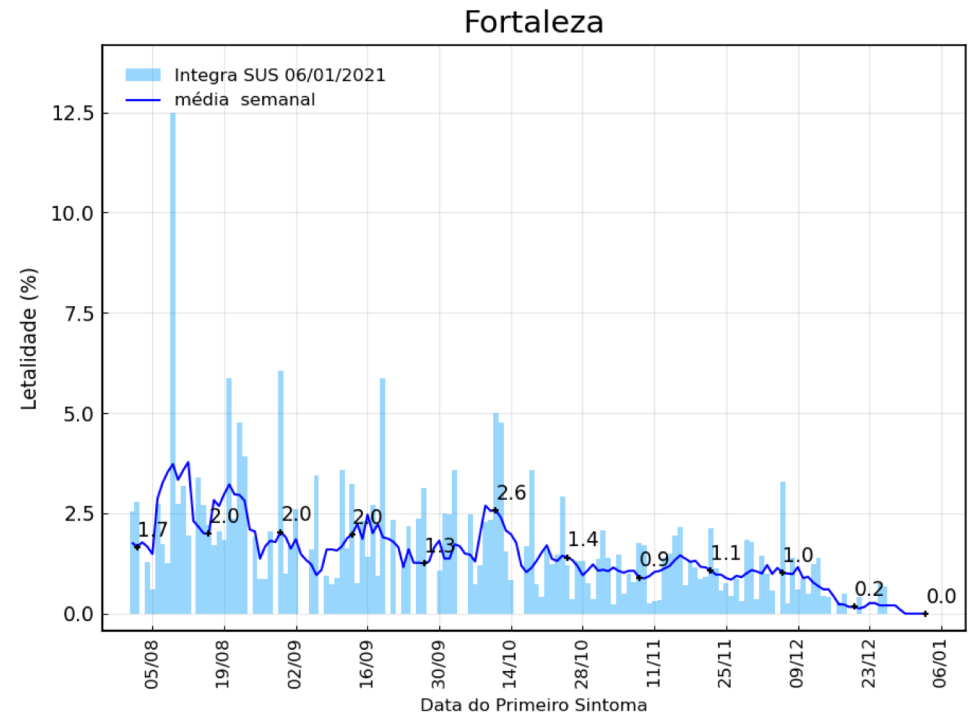
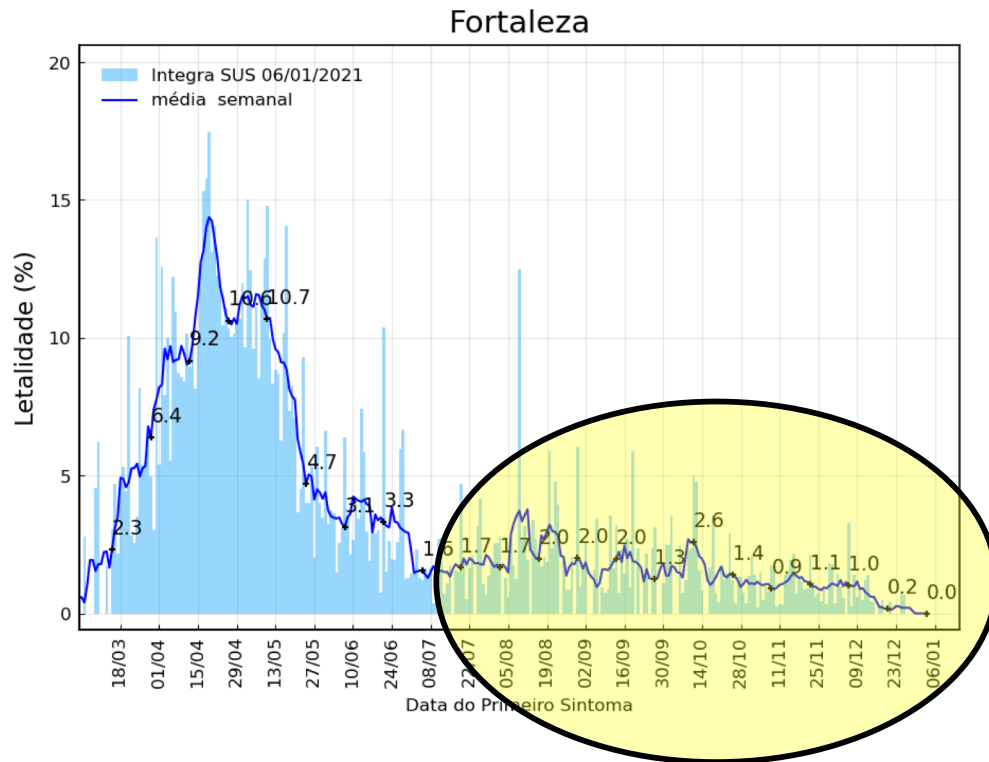
Inferência com Óbitos 06/01/2021



Letalidade

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

dps – data dos primeiros sintomas



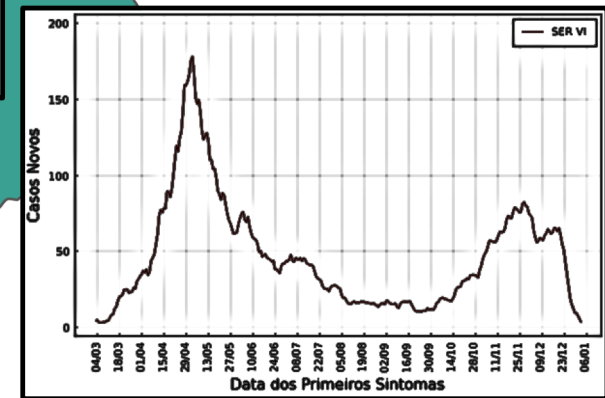
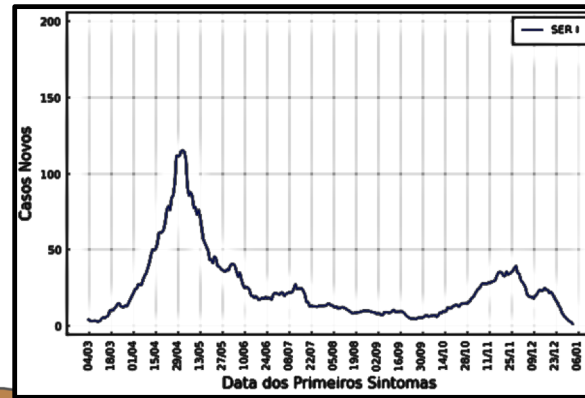
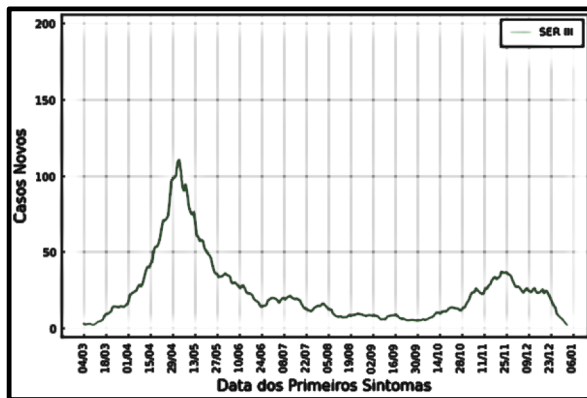
Fortaleza & Regiões

REGIONAL	POPULAÇÃO
SER I	396135
SER II	395593
SER III	379246
SER IV	310568
SER V	553642
SER VI	573205

População de Fortaleza = 2.608.389 habitantes

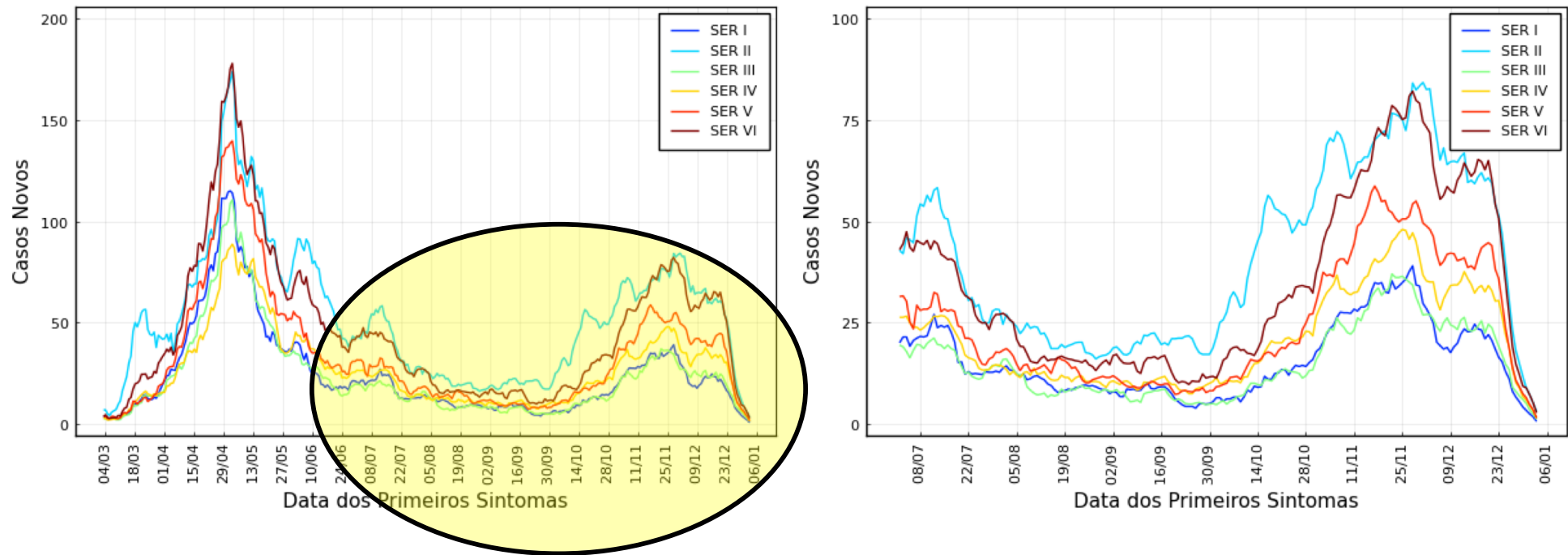
Evolução da Epidemia em Fortaleza por Regionais

Casos & Data Primeiros Sintomas



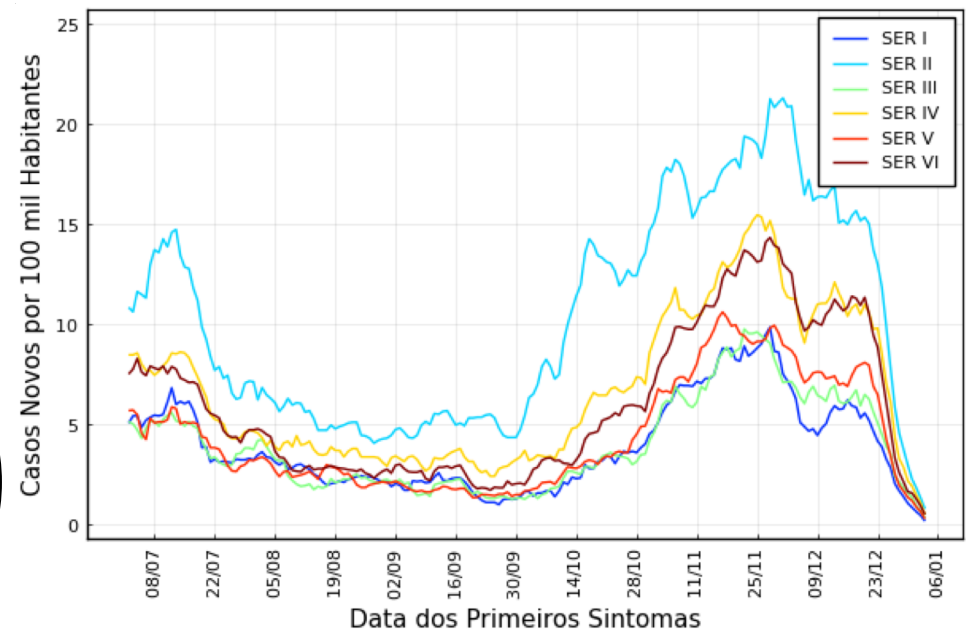
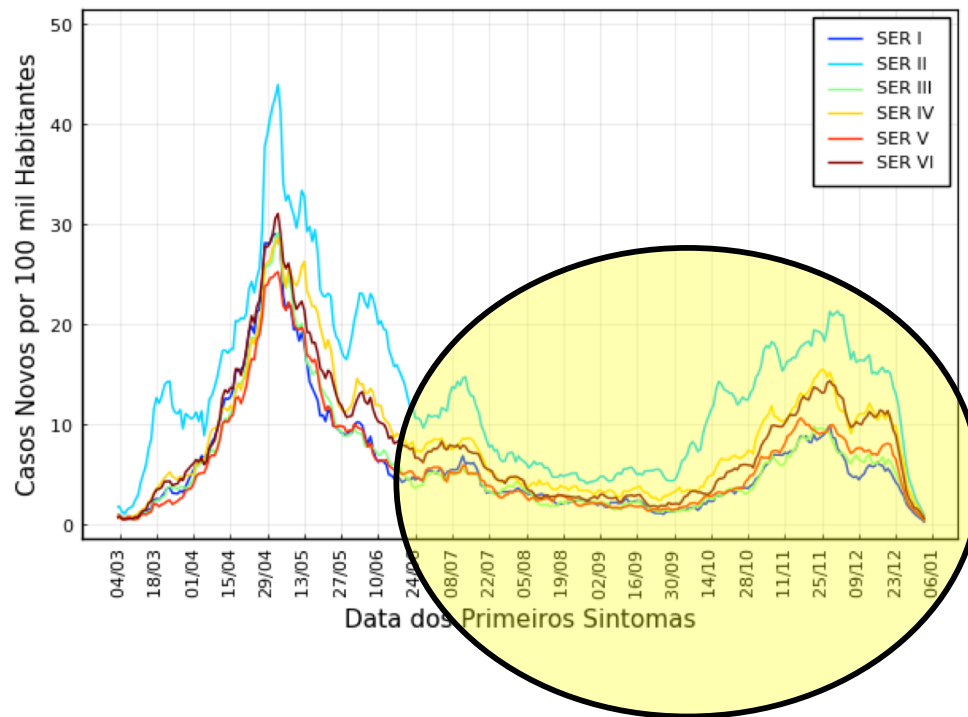
Evolução da Epidemia em Fortaleza por Regionais

Casos Novos & Data dos Primeiros Sintomas



Evolução da Epidemia em Fortaleza por Regionais

Casos Novos por 100 mil habitantes & Data dos Primeiros Sintomas



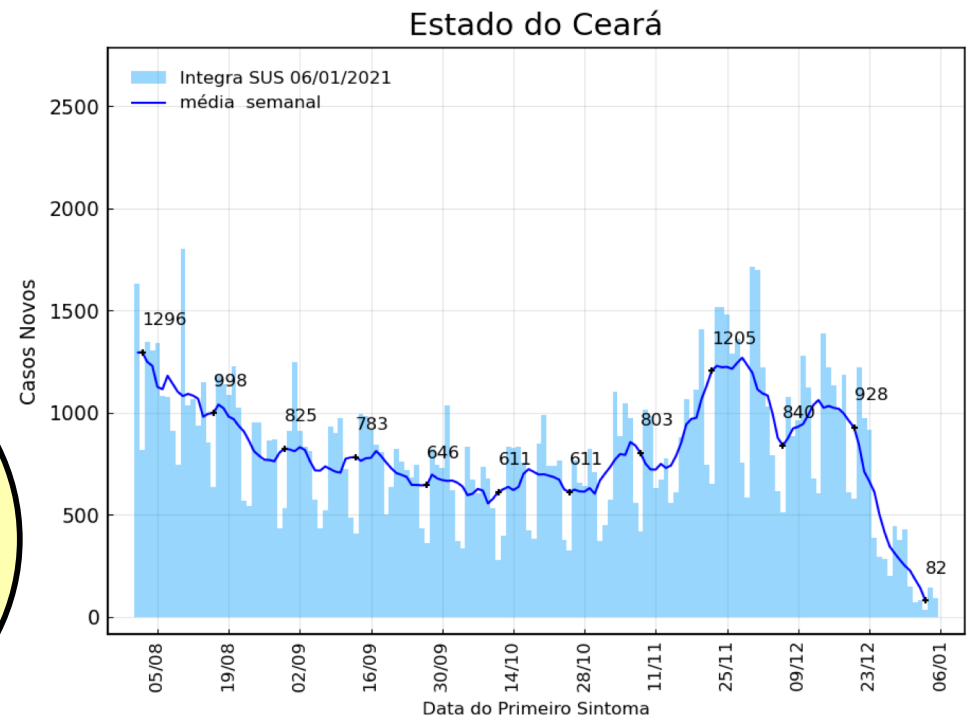
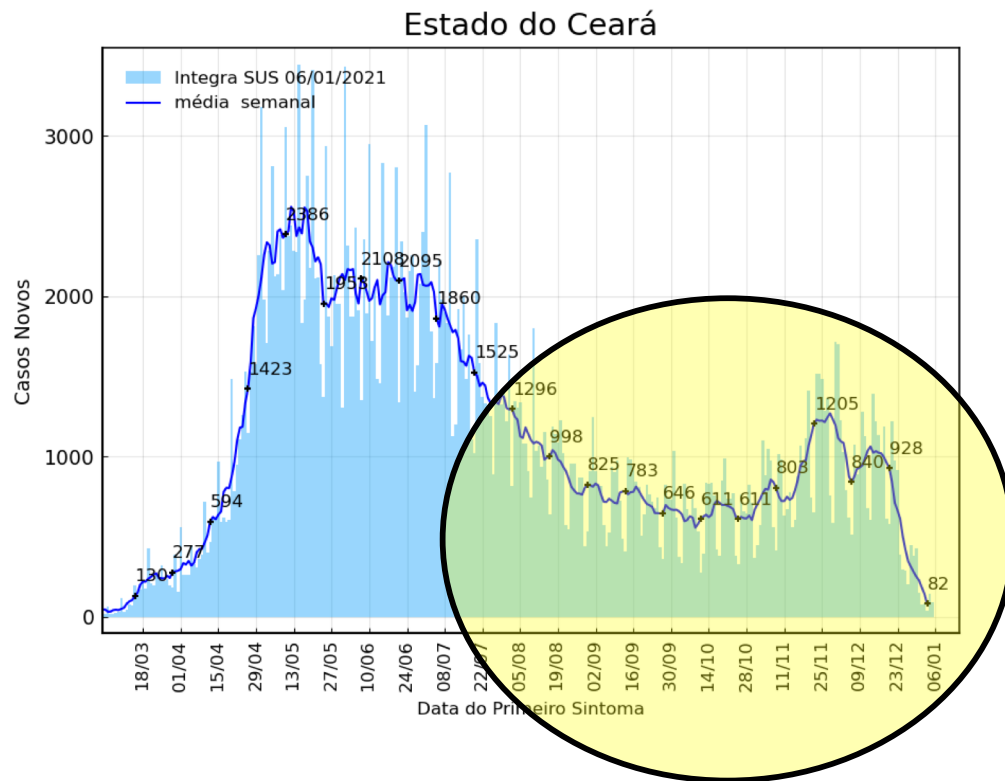
Ceará & Regiões

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

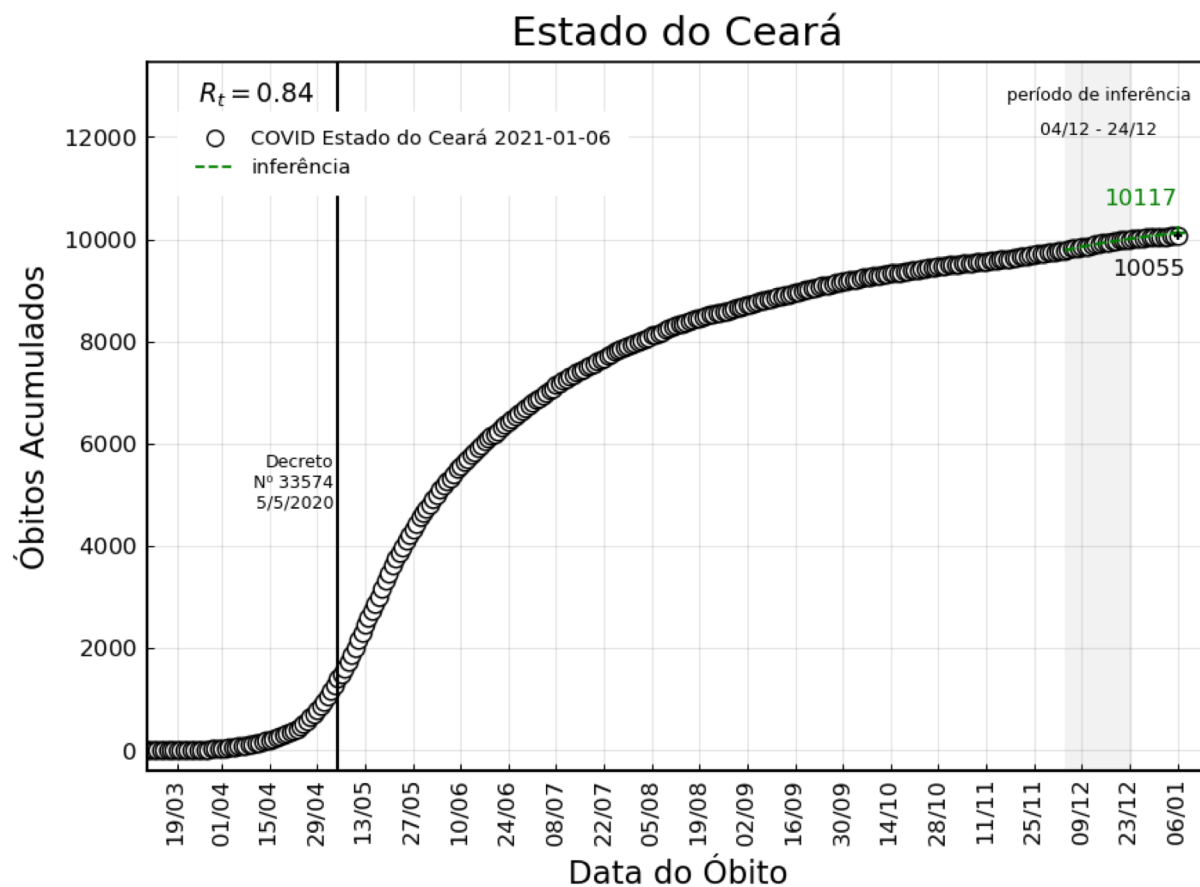
Estado do Ceará

Dados atualizados em 06/01/2021



Dados atualizados em 06/01/2021

Inferência com Óbitos

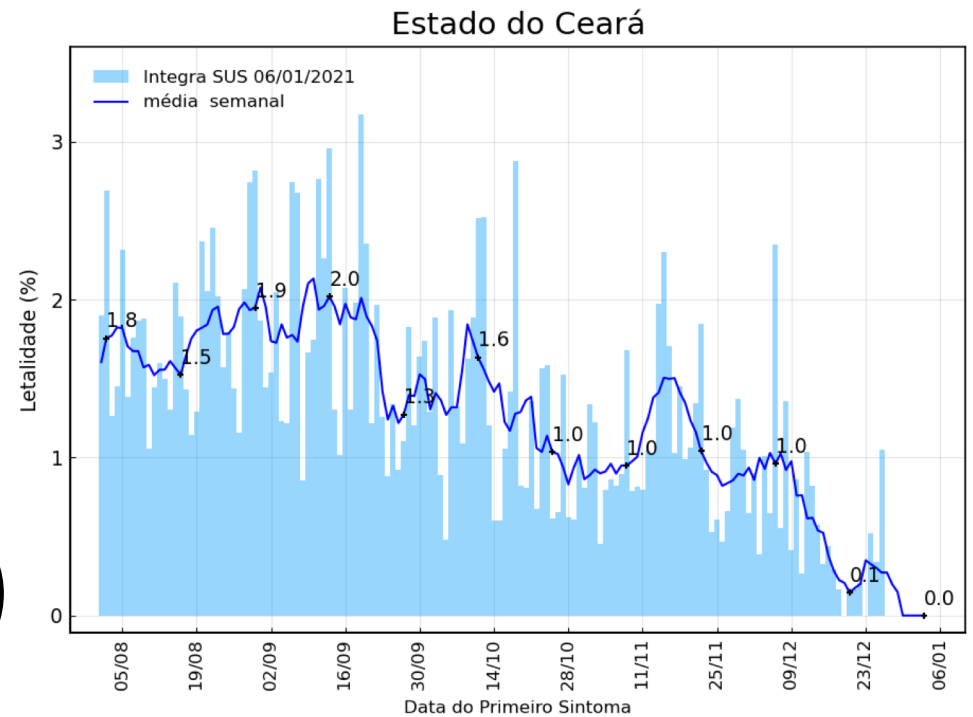
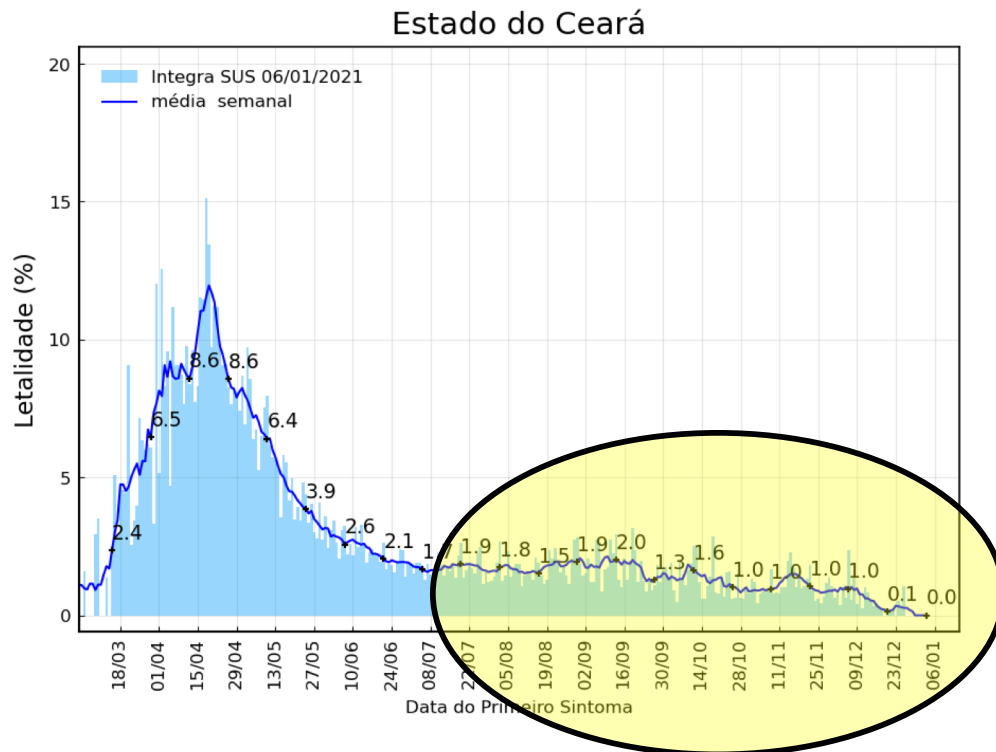


Janela de Inferência	R_t
16/09 – 08/10	0.63
23/09 – 15/10	0.67
30/09 – 22/10	0.69
07/10 – 29/10	0.68
14/10 – 03/11	0.67
21/10 – 10/11	0.62
28/10 – 17/11	0.62
04/11 – 24/11	0.71
11/11 – 01/12	0.86
18/11 – 08/12	0.97
04/12 – 24/12	0.84

Letalidade

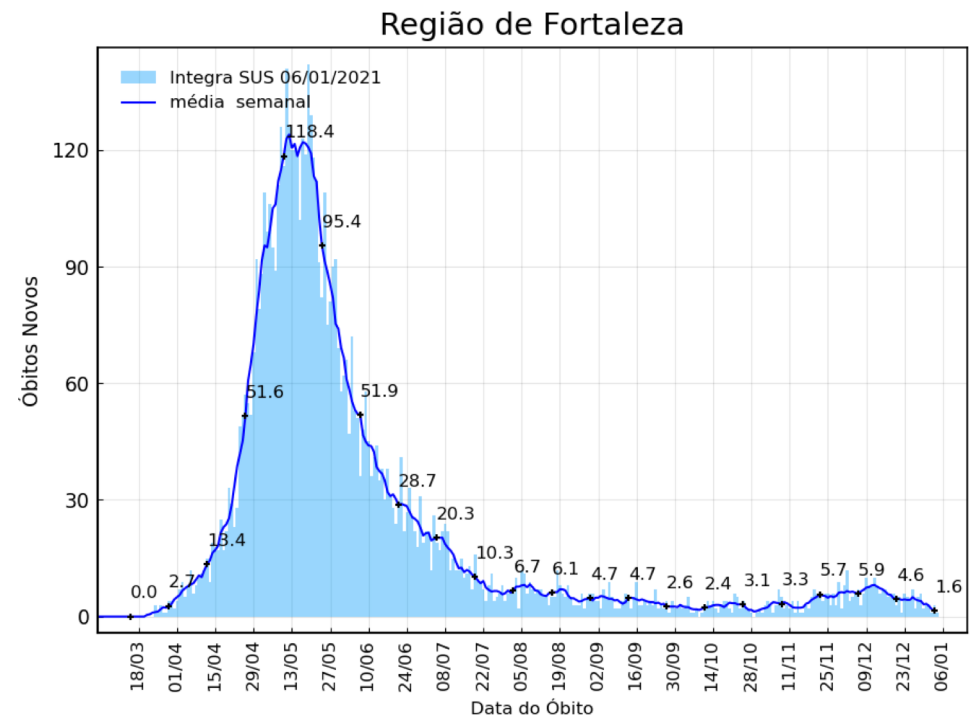
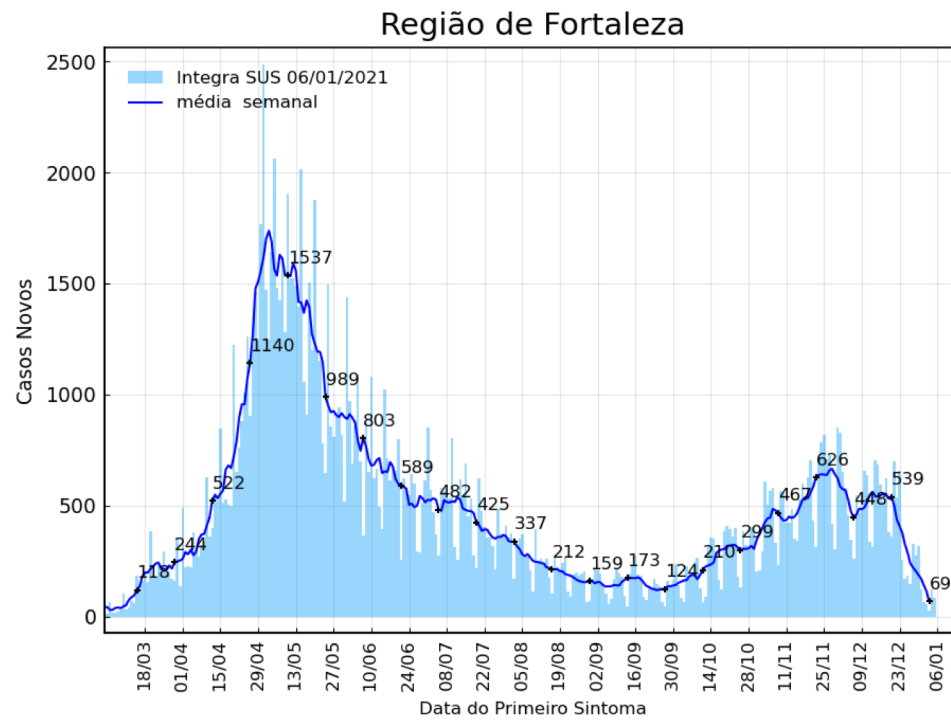
$$\text{Letalidade}(\%) = \frac{\# \text{ óbitos } (dps)}{\# \text{ casos } (dps)} \times 100$$

dps – data dos primeiros sintomas

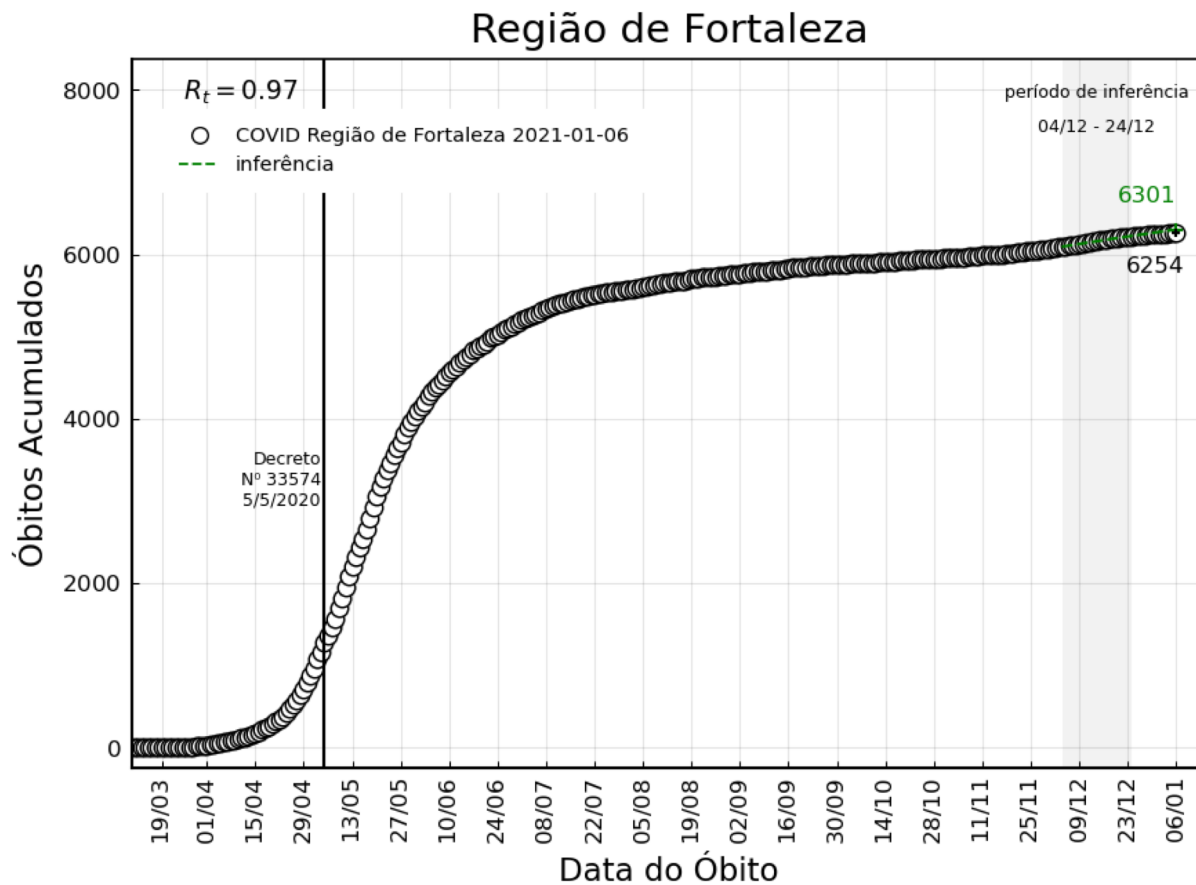


Região Fortaleza

Dados atualizados em 06/01/2021



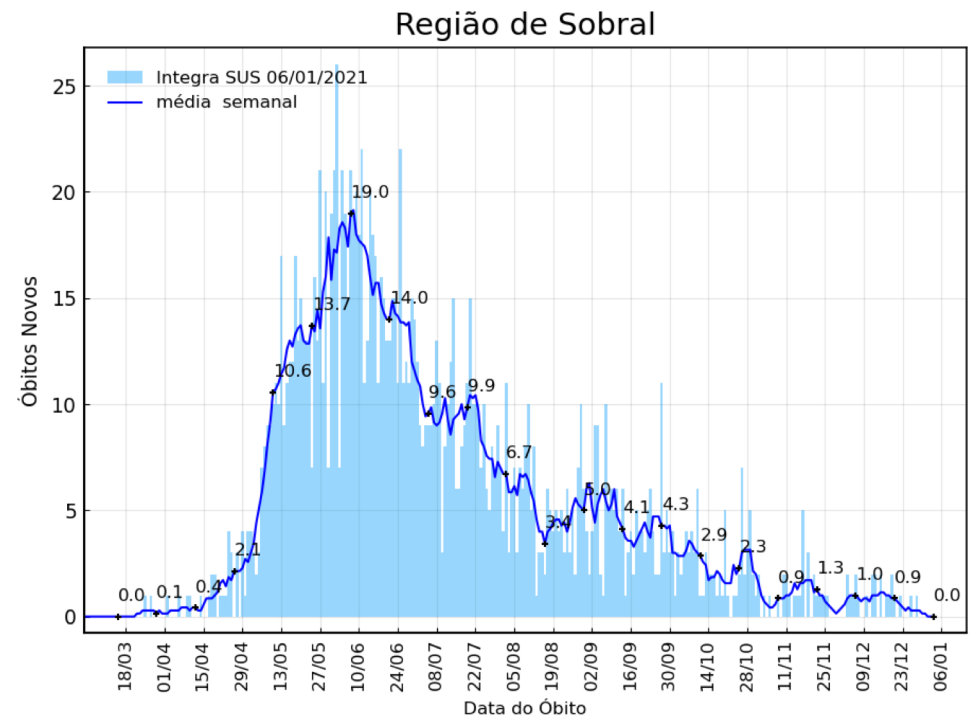
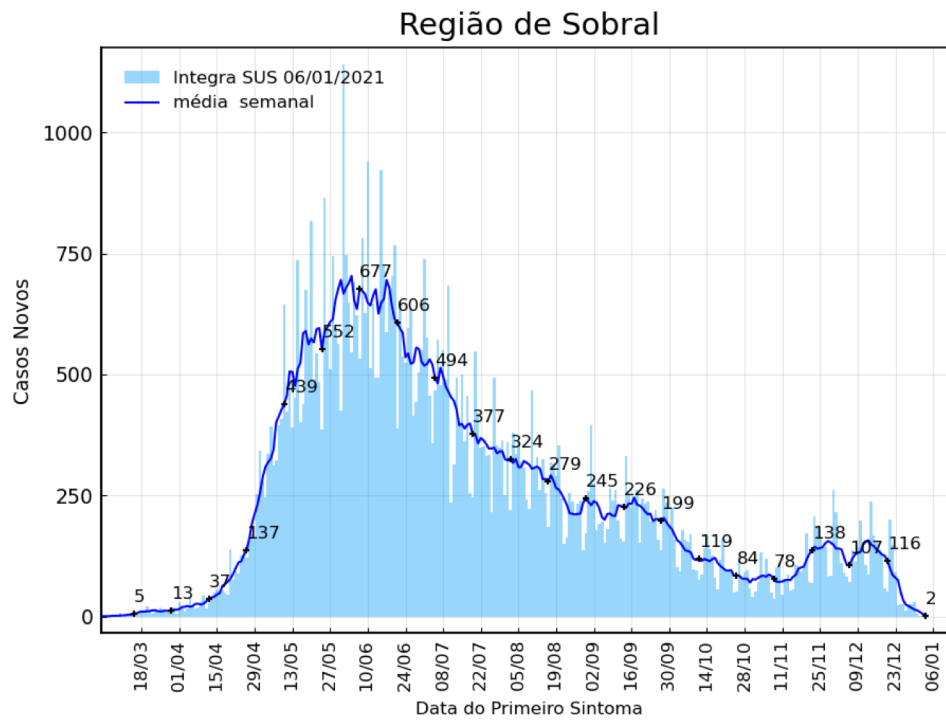
Dados atualizados em 06/01/2021



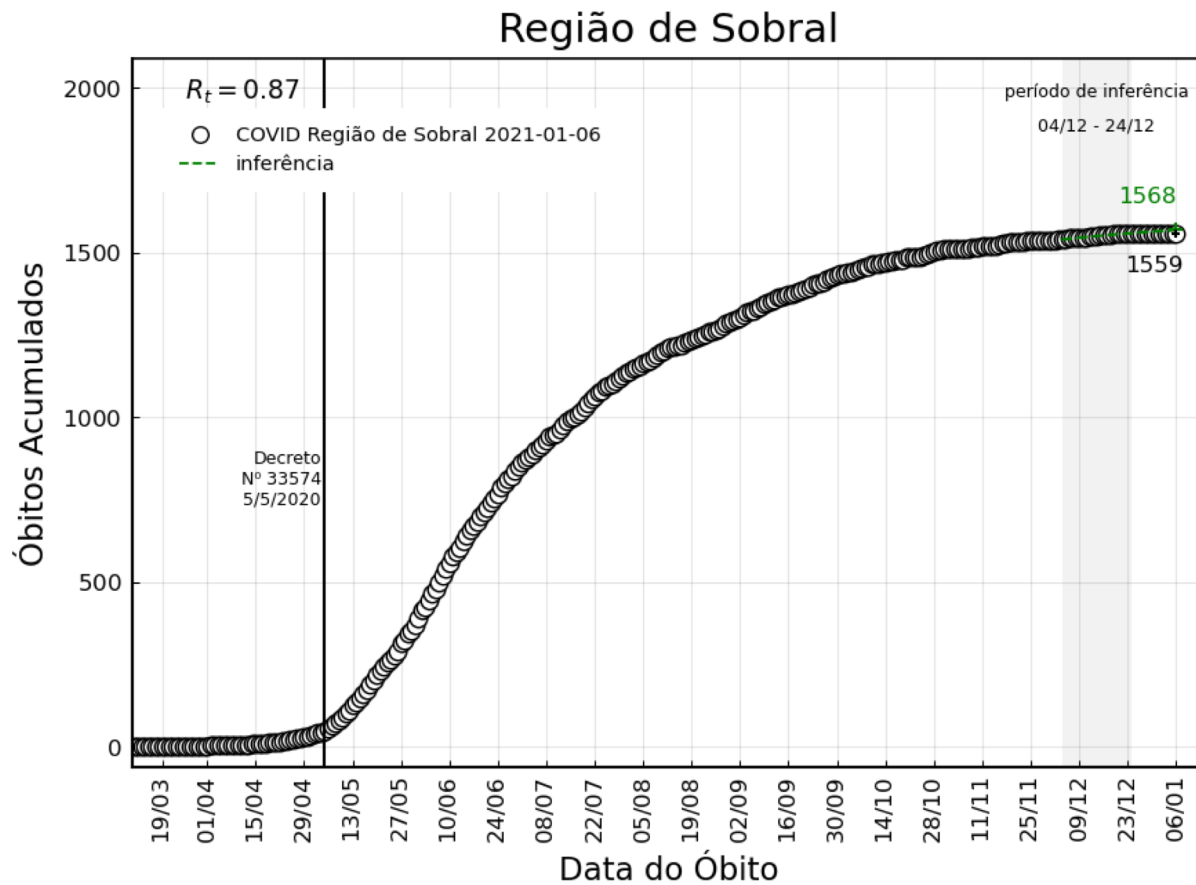
Janela de Inferência	R_t
09/09 – 01/10	0.75
16/09 – 08/10	0.75
23/09 – 15/10	0.76
30/09 – 22/10	0.77
07/10 – 29/10	0.72
14/10 – 03/11	0.72
21/10 -10/11	0.76
28/10 – 17/11	0.91
04/11 – 24/11	0.97
11/11 – 01/12	1.17
18/11 – 08/12	1.05
04/12 – 24/12	0.97

Região Sobral

Dados atualizados em 06/01/2021



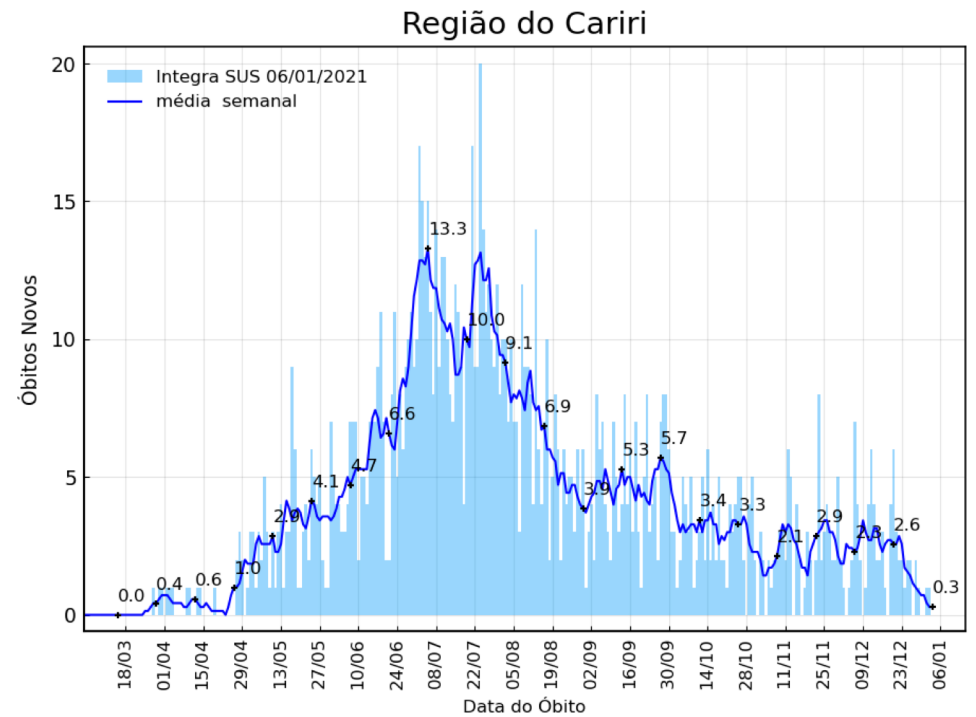
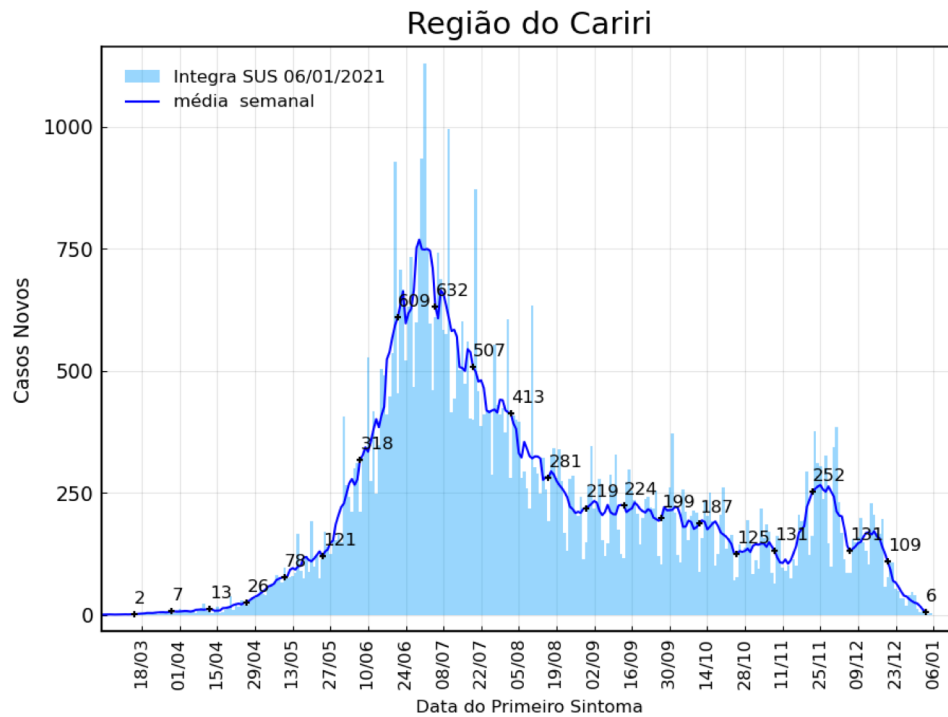
Dados atualizados em 06/01/2021



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
28/10 – 17/11	0.83
04/11 – 24/11	0.85
11/11 – 01/12	0.89
18/11 – 08/12	0.88
04/12 – 24/12	0.87

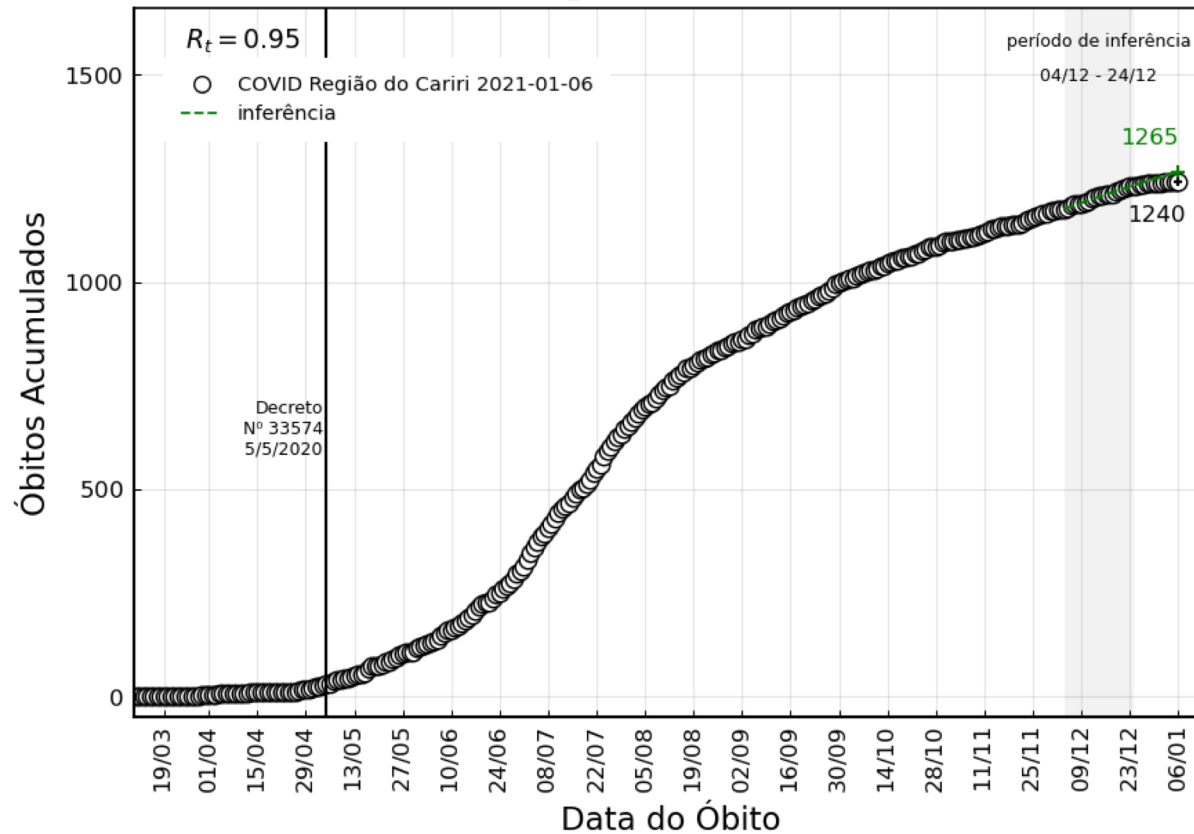
Região Cariri

Dados atualizados em 06/01/2021



Dados atualizados em 06/01/2021

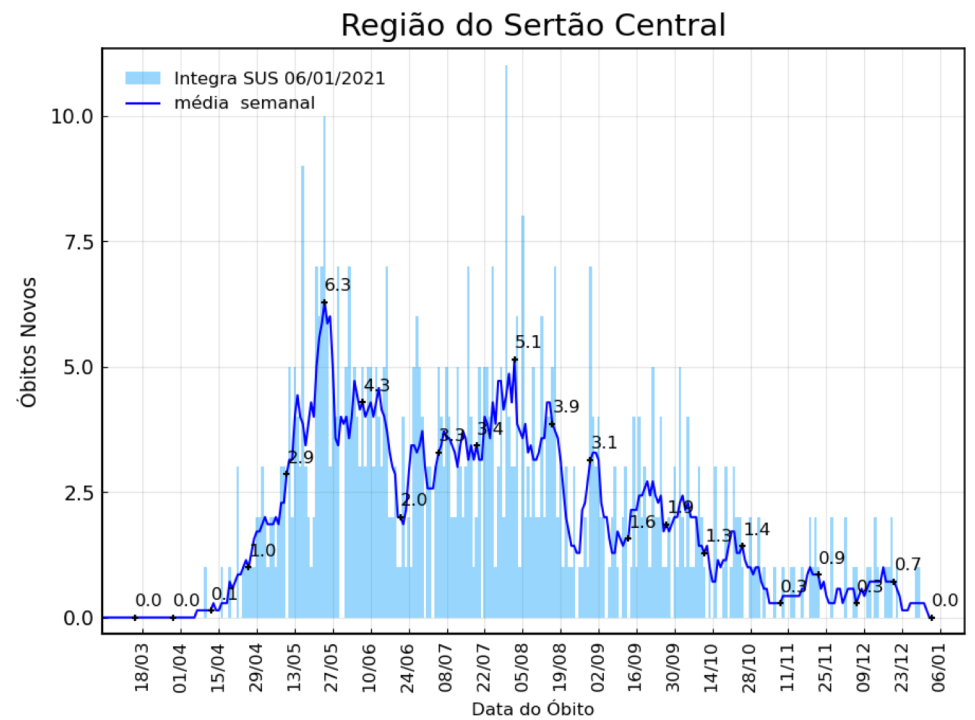
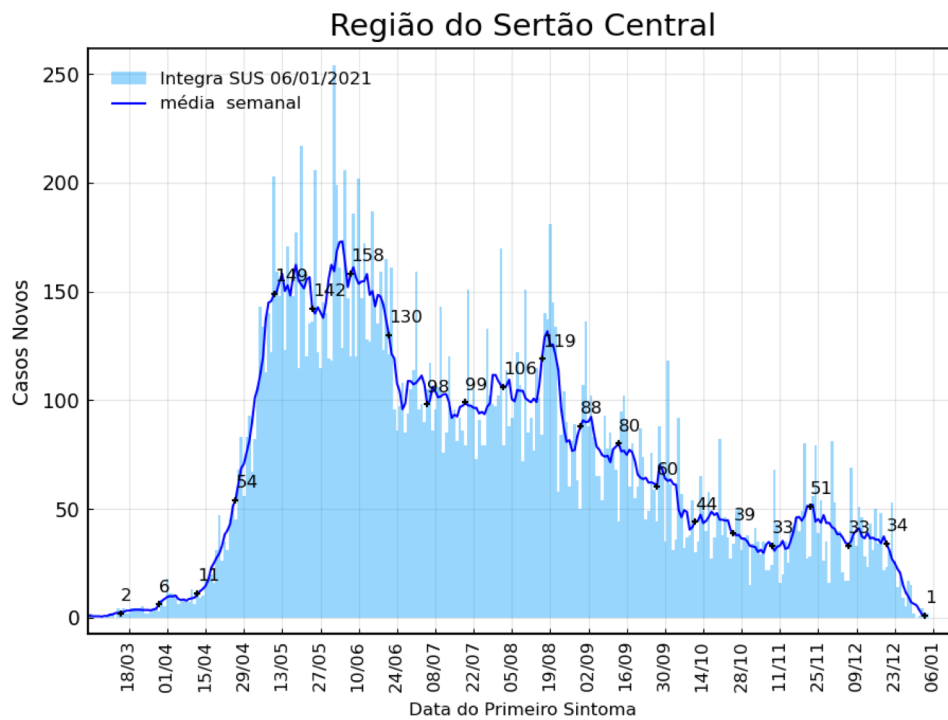
Região do Cariri



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
12/10 – 11/11	0.78
19/10 – 18/11	0.81
26/10 – 25/11	0.86
02/11 – 02/12	1.00
04/12 – 24/12	0.95

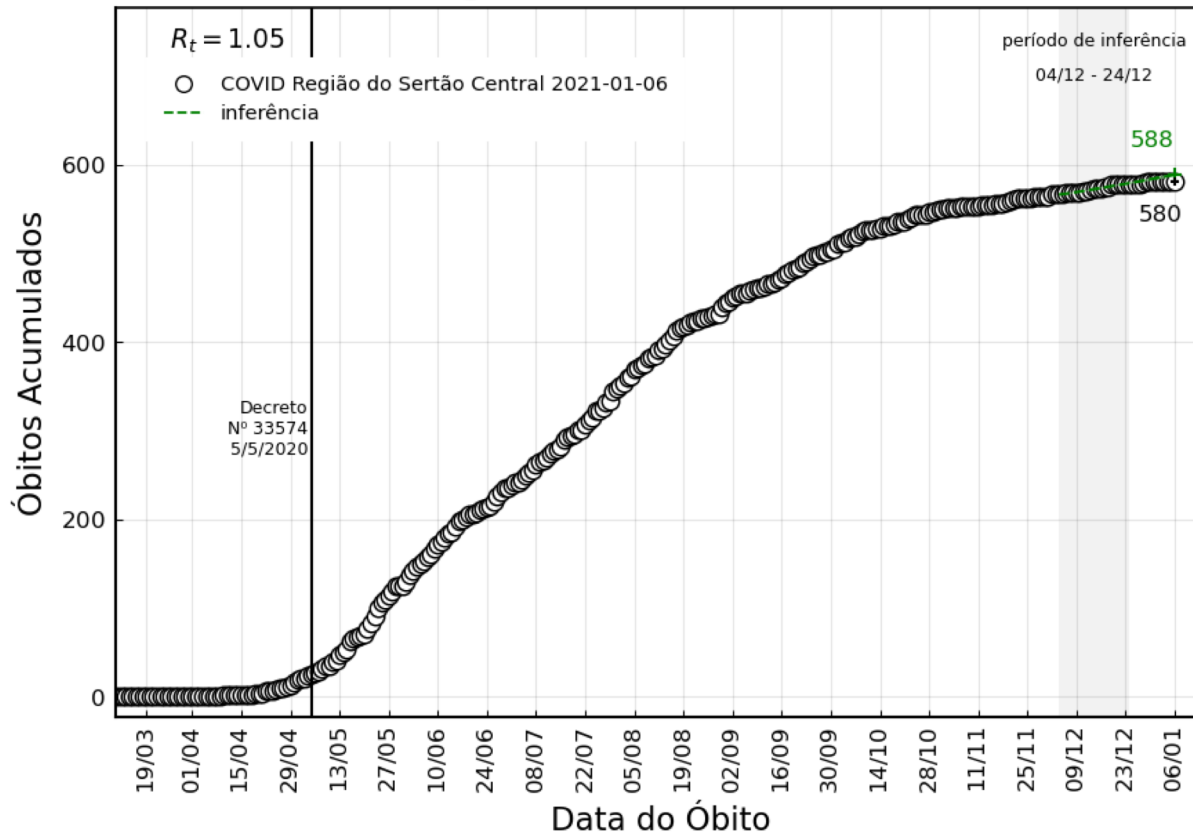
Região Sertão Central

Dados atualizados em 06/01/2021



Dados atualizados em 06/01/2021

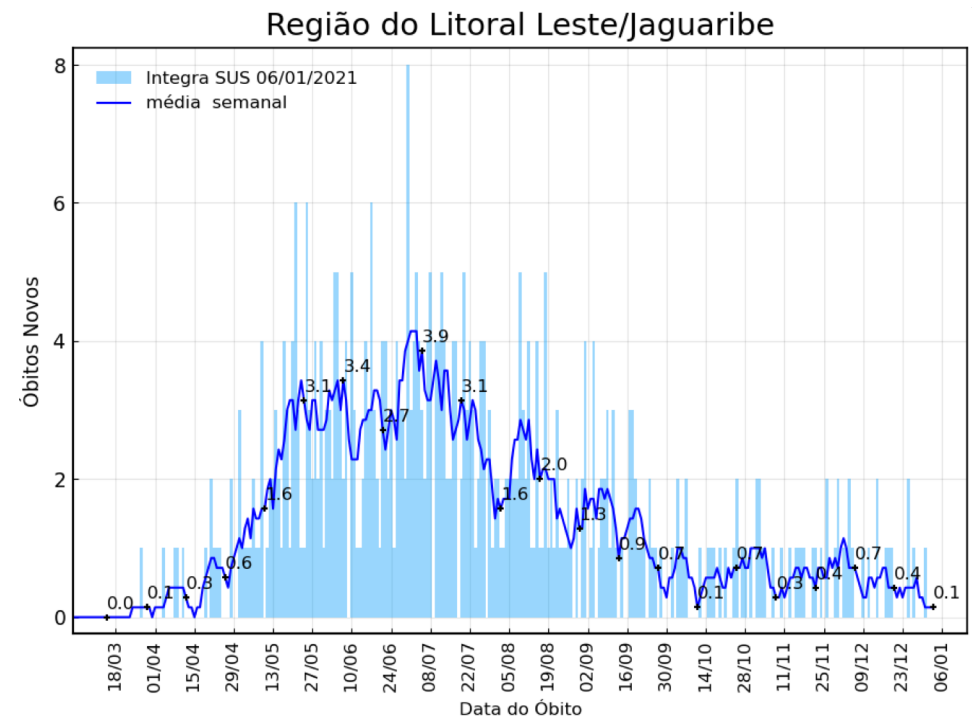
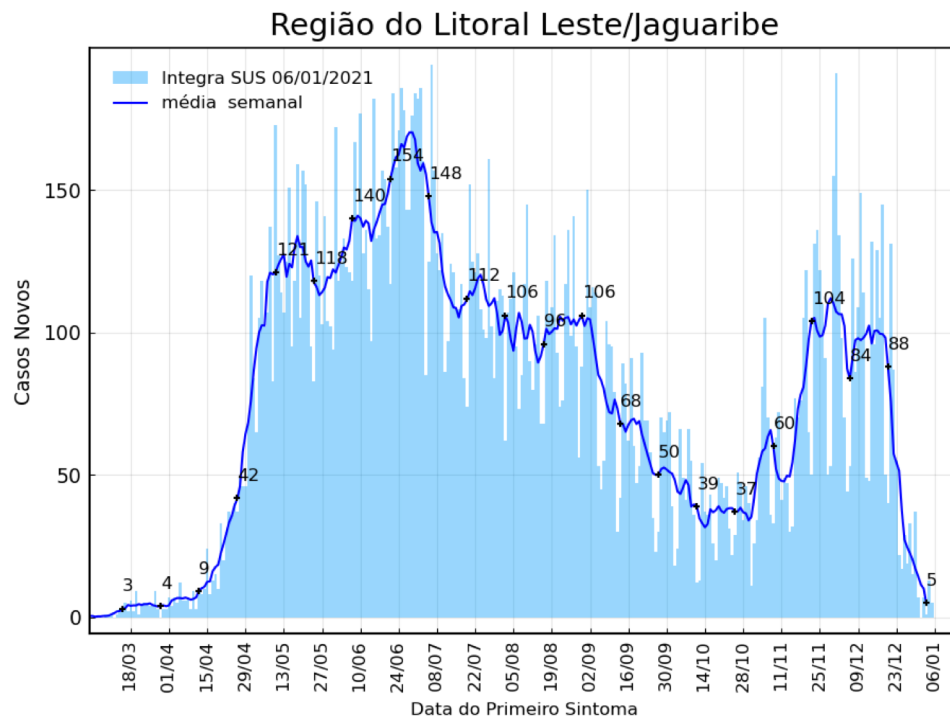
Região do Sertão Central



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
12/10 – 11/11	0.78
19/10 – 18/11	0.75
26/10 – 25/11	0.69
02/11 – 02/12	1.07
04/12 – 24/12	1.05

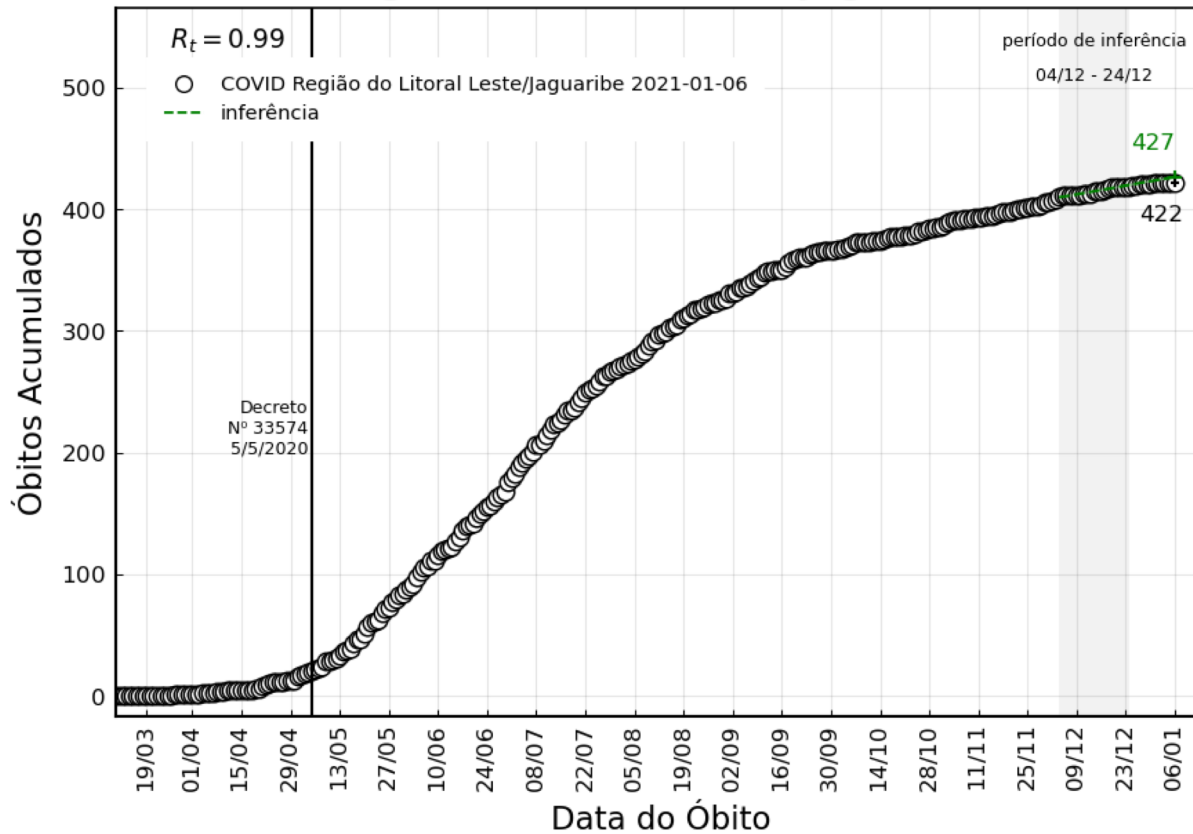
Região Litoral Leste/Jaguaribe

Dados atualizados em 06/01/2021



Dados atualizados em 06/01/2021

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
12/10 – 11/11	0.88
19/10 – 18/11	0.90
26/10 – 25/11	0.86
02/11 – 02/12	0.99
04/12 – 24/12	0.99