

CovidInCanadaAnalysis

May 7, 2020

1 AUTOMATIC

2020-04-03

1.1 CDF Fitting and testing rates

1.1.1 The Cruve for everywhere

1.1.2 Main calls

Last updated: 2020-05-07 00:15:30

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NOTE:

All of the following was data is from Health Canada.

The CDF fit is a logicitsts curve fit.

The PDF fit is a simple gaussian fit.

Day 0 is:

-> 31-01-2020 for Canada

-> 08-03-2020 for AB

-> 31-01-2020 for BC

-> 11-03-2020 for MN

-> 11-03-2020 for NB

-> 11-03-2020 for NL

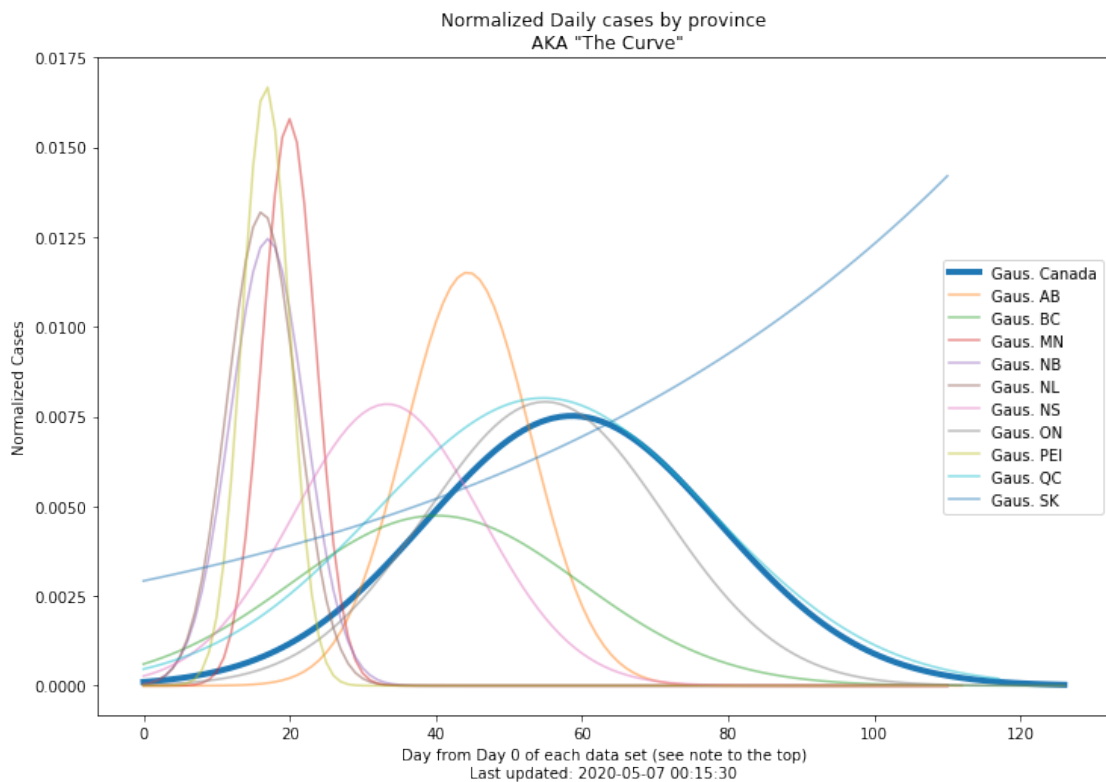
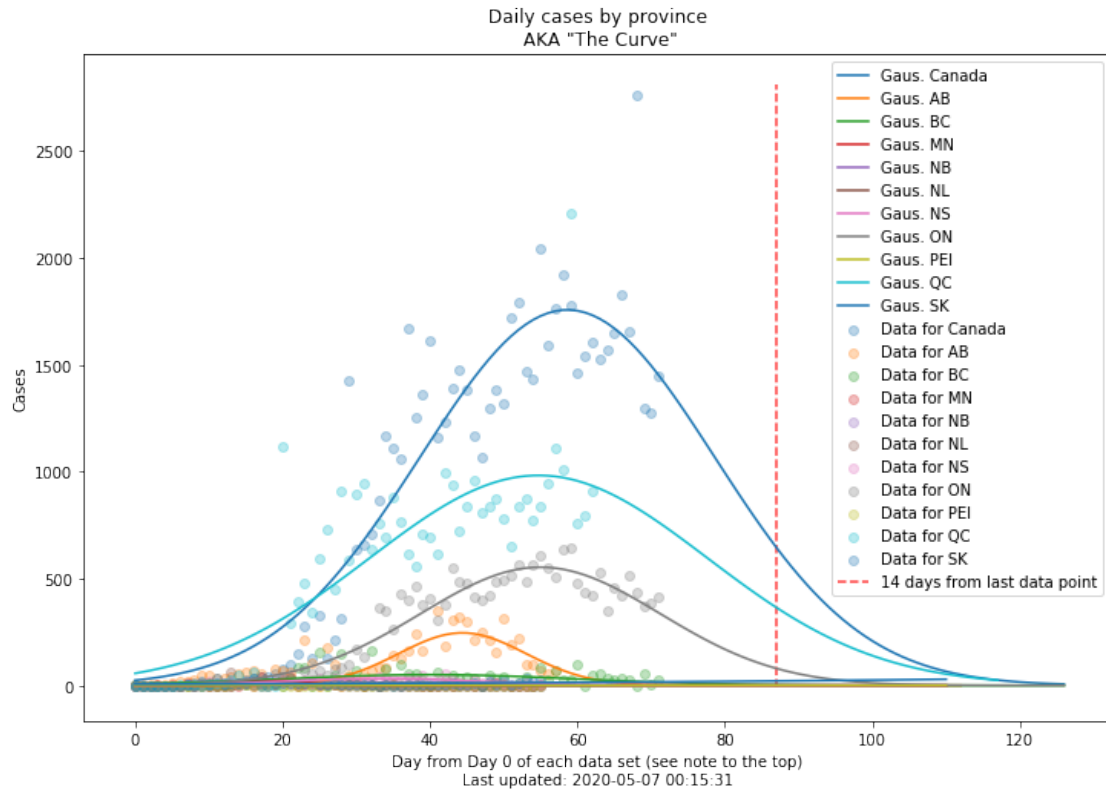
-> 11-03-2020 for NS

-> 31-01-2020 for ON

-> 11-03-2020 for PEI

-> 01-03-2020 for QC

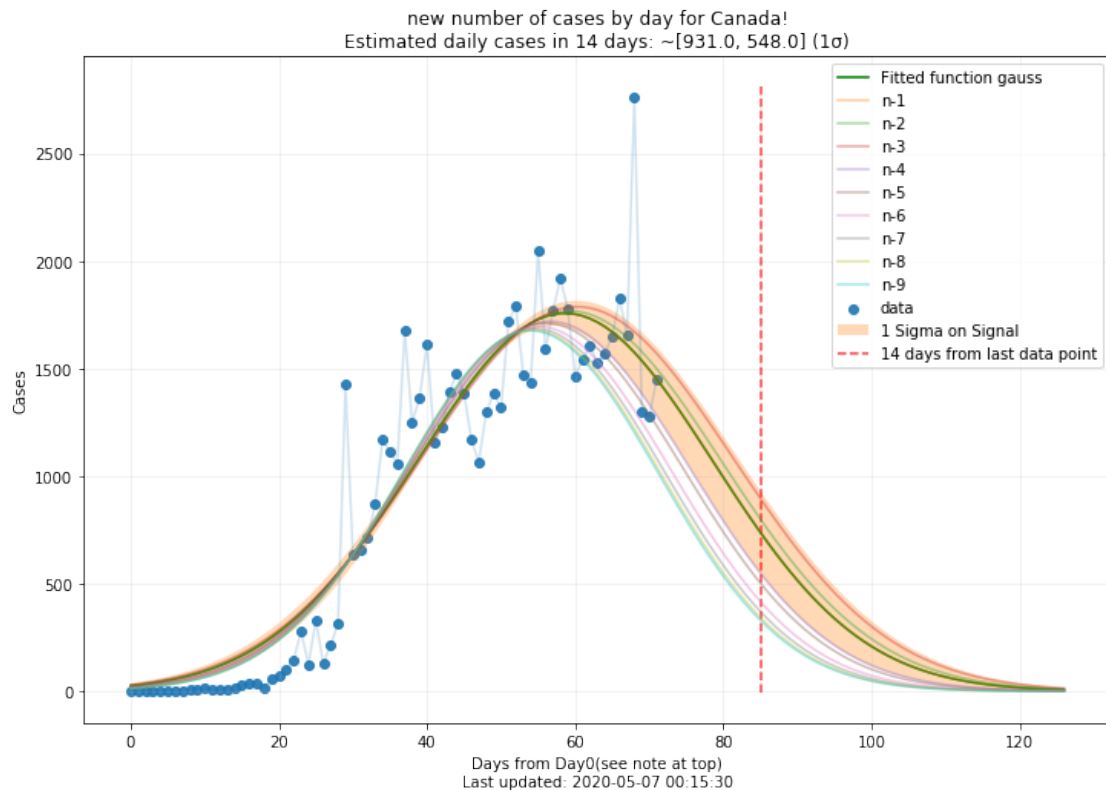
-> 11-03-2020 for SW



The plot above shows total cases normalized to 1 for each province

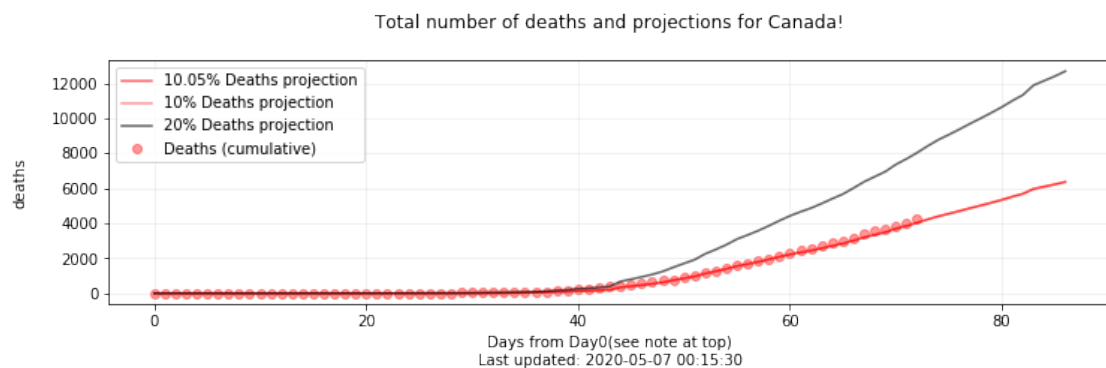
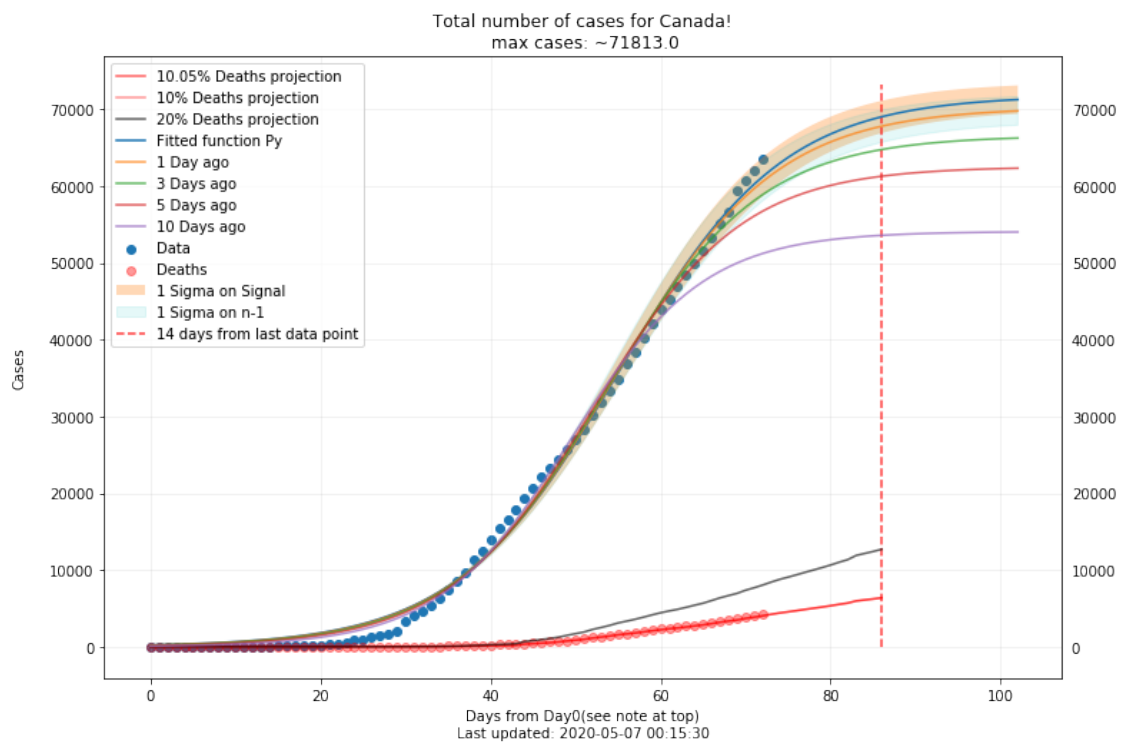
----- Canada-----

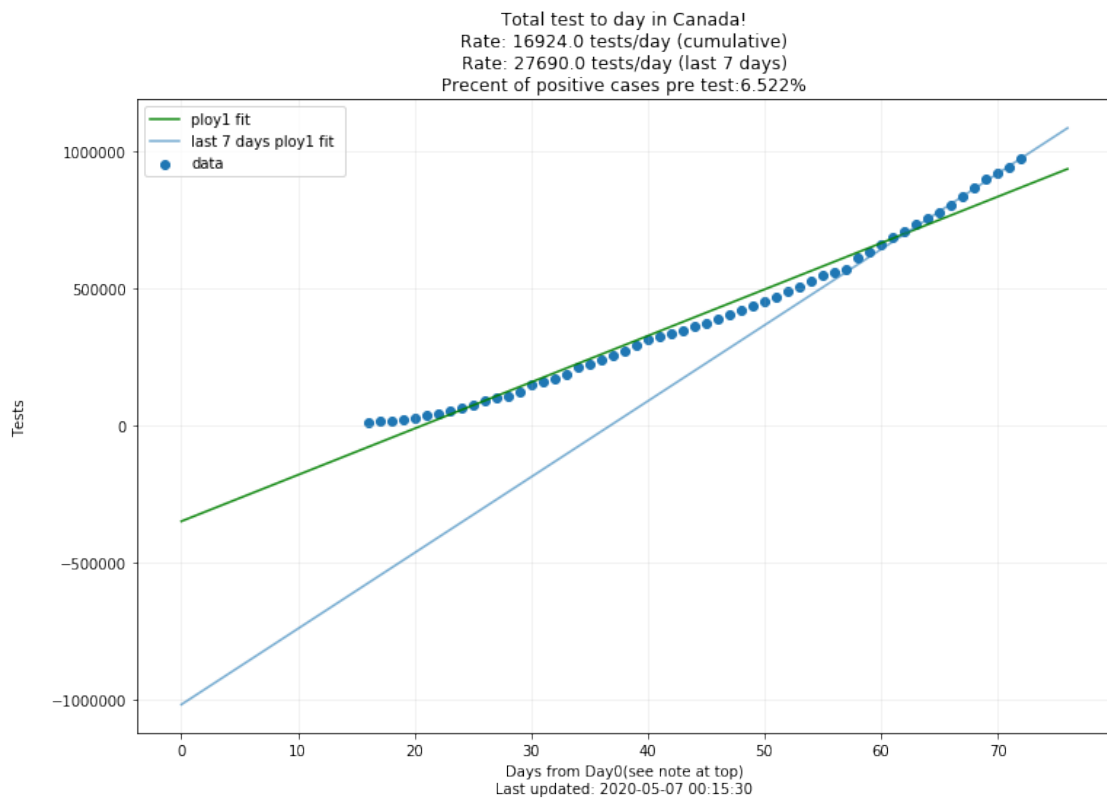
cases: [4.0000e+00 7.0000e+00 8.0000e+00 9.0000e+00 1.0000e+01 1.1000e+01
 1.2000e+01 1.3000e+01 1.5000e+01 2.4000e+01 3.3000e+01 4.5000e+01
 5.1000e+01 5.7000e+01 6.2000e+01 7.7000e+01 1.0300e+02 1.3800e+02
 1.7600e+02 1.9300e+02 2.4900e+02 3.2400e+02 4.2400e+02 5.6900e+02
 8.4600e+02 9.7100e+02 1.3020e+03 1.4300e+03 1.6460e+03 1.9590e+03
 3.3850e+03 4.0180e+03 4.6750e+03 5.3860e+03 6.2550e+03 7.4240e+03
 8.5360e+03 9.5950e+03 1.1268e+04 1.2519e+04 1.3882e+04 1.5496e+04
 1.6653e+04 1.7883e+04 1.9274e+04 2.0748e+04 2.2133e+04 2.3301e+04
 2.4365e+04 2.5663e+04 2.7046e+04 2.8364e+04 3.0081e+04 3.1872e+04
 3.3341e+04 3.4777e+04 3.6823e+04 3.8413e+04 4.0179e+04 4.2099e+04
 4.3877e+04 4.5341e+04 4.6884e+04 4.8489e+04 5.0015e+04 5.1587e+04
 5.3236e+04 5.5061e+04 5.6714e+04 5.9474e+04 6.0772e+04 6.2046e+04
 6.3496e+04]

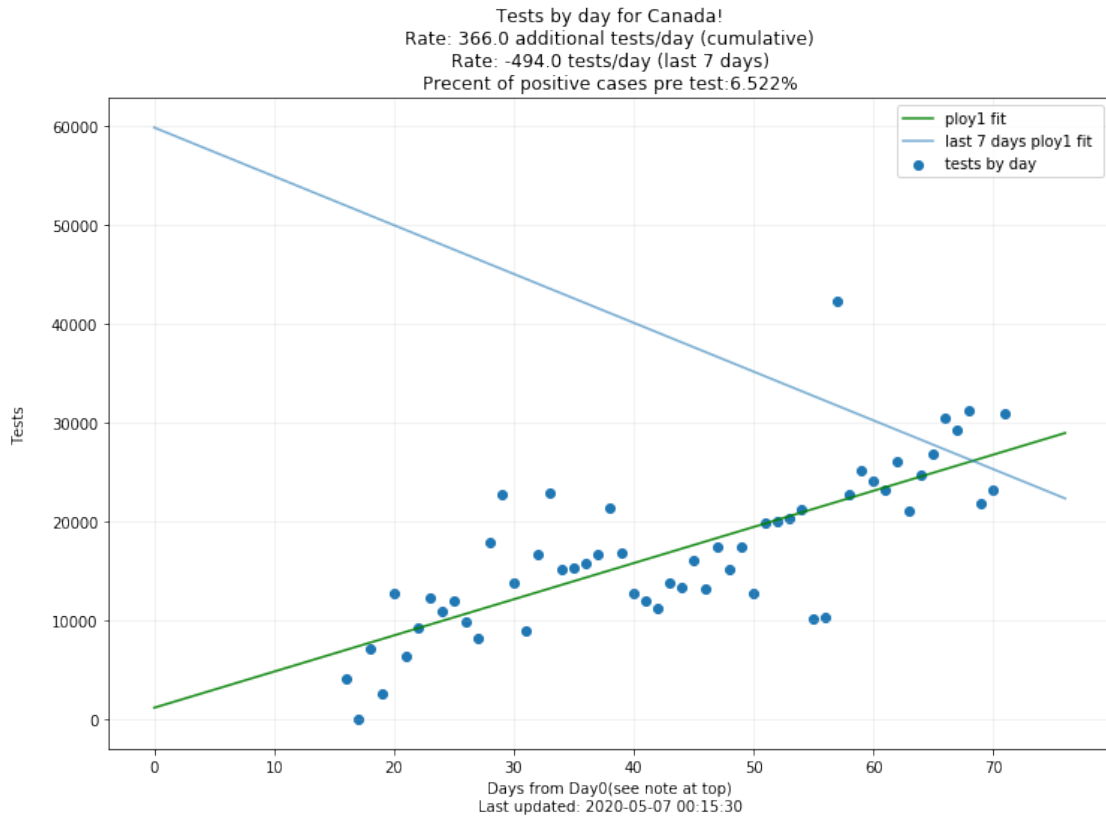


sigma+: 64624.0
n+1: 62129.0
Sigma-: 59629.0

params PY: [7.18125184e+04 1.04044860e-01 5.51344839e+01]
PY sigma: [1.74847753e+03 3.09604408e-03 5.99254899e-01]
max cases: 71813.0
infection point: 55.0
infection point date: 2020-03-26



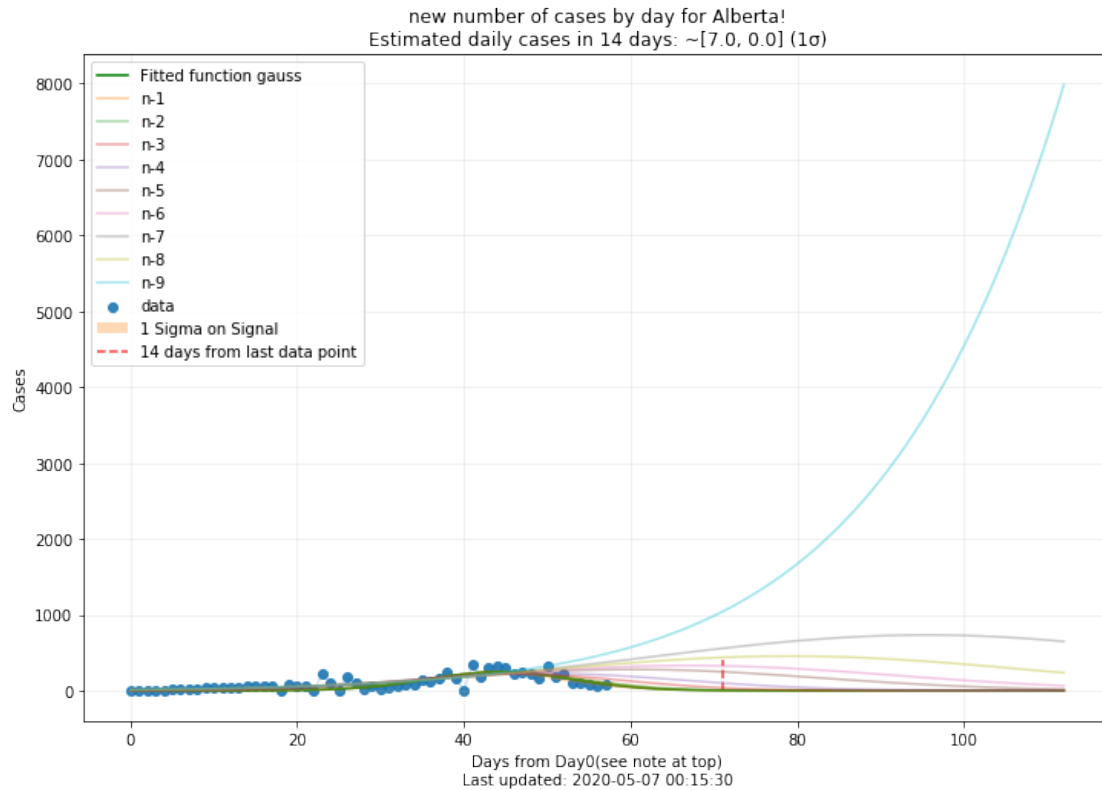




Percent of positive cases pre test: 6.522 %
 10.052495308677166

----- Alberta-----

cases: [1.000e+00 7.000e+00 1.400e+01 1.900e+01 2.300e+01 2.900e+01 3.900e+01
 5.600e+01 7.400e+01 9.700e+01 1.460e+02 1.950e+02 2.260e+02 2.590e+02
 3.010e+02 3.580e+02 4.190e+02 4.860e+02 5.420e+02 5.420e+02 6.210e+02
 6.900e+02 7.540e+02 7.540e+02 9.680e+02 1.075e+03 1.075e+03 1.250e+03
 1.348e+03 1.373e+03 1.423e+03 1.451e+03 1.500e+03 1.569e+03 1.651e+03
 1.732e+03 1.870e+03 1.996e+03 2.158e+03 2.397e+03 2.562e+03 2.562e+03
 2.908e+03 3.095e+03 3.401e+03 3.720e+03 4.017e+03 4.233e+03 4.480e+03
 4.696e+03 4.850e+03 5.165e+03 5.355e+03 5.573e+03 5.670e+03 5.766e+03
 5.836e+03 5.893e+03 5.963e+03]



sigma+: 7050.0

n+1: 6451.0

Sigma-: 5874.0

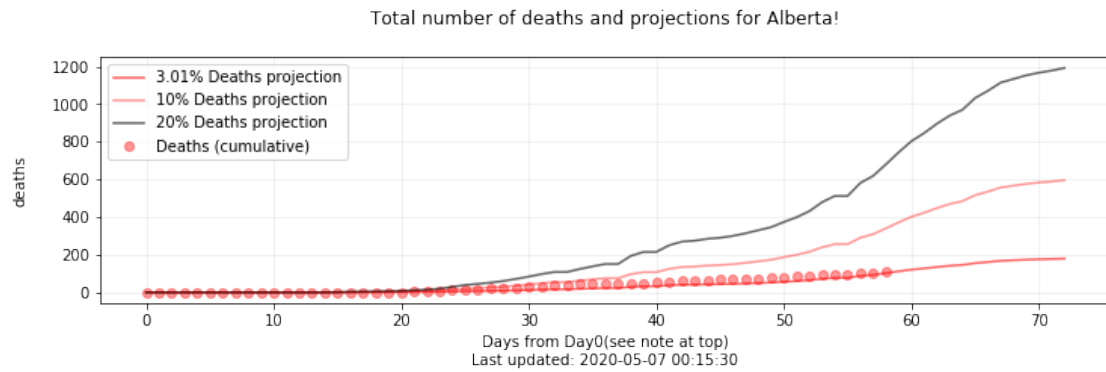
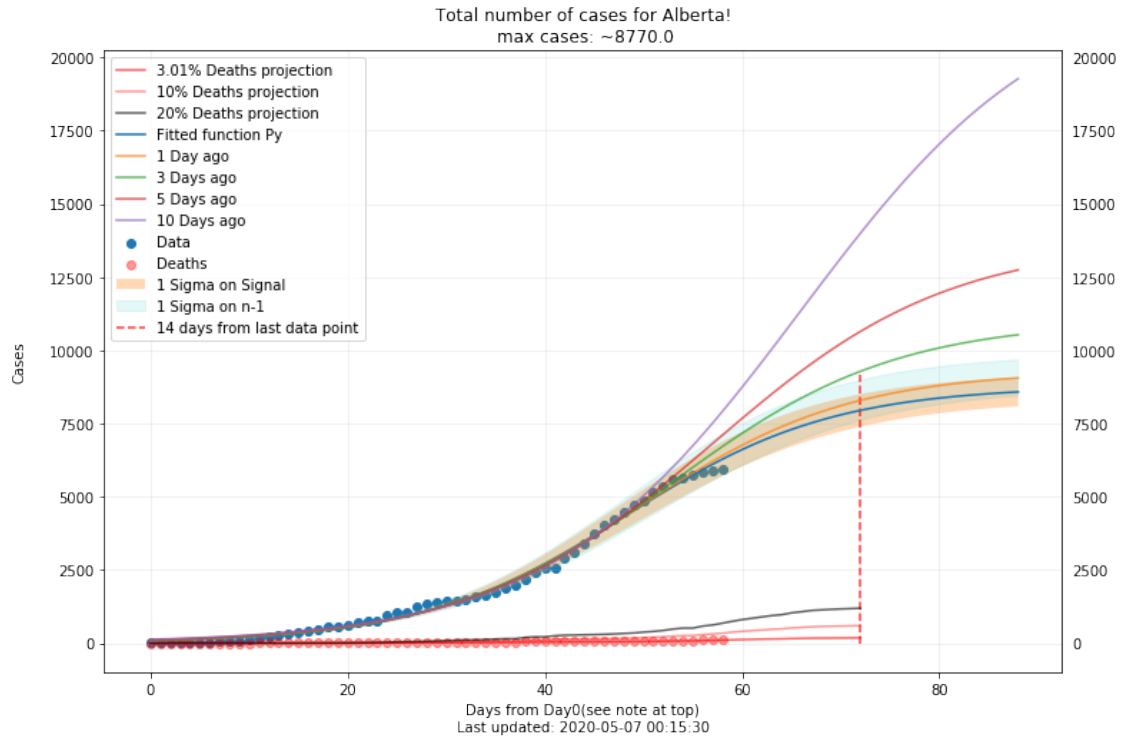
params PY: [8.77047669e+03 9.60206484e-02 4.83490722e+01]

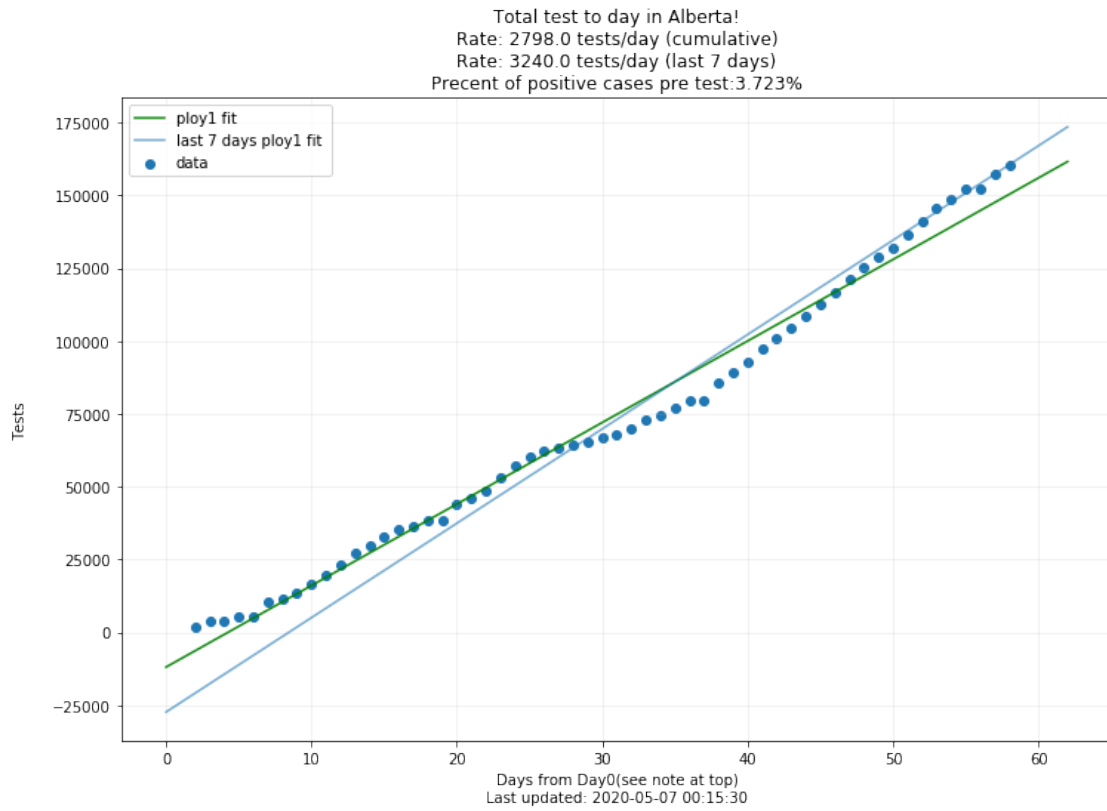
PY sigma: [4.48193377e+02 3.67986837e-03 1.17490179e+00]

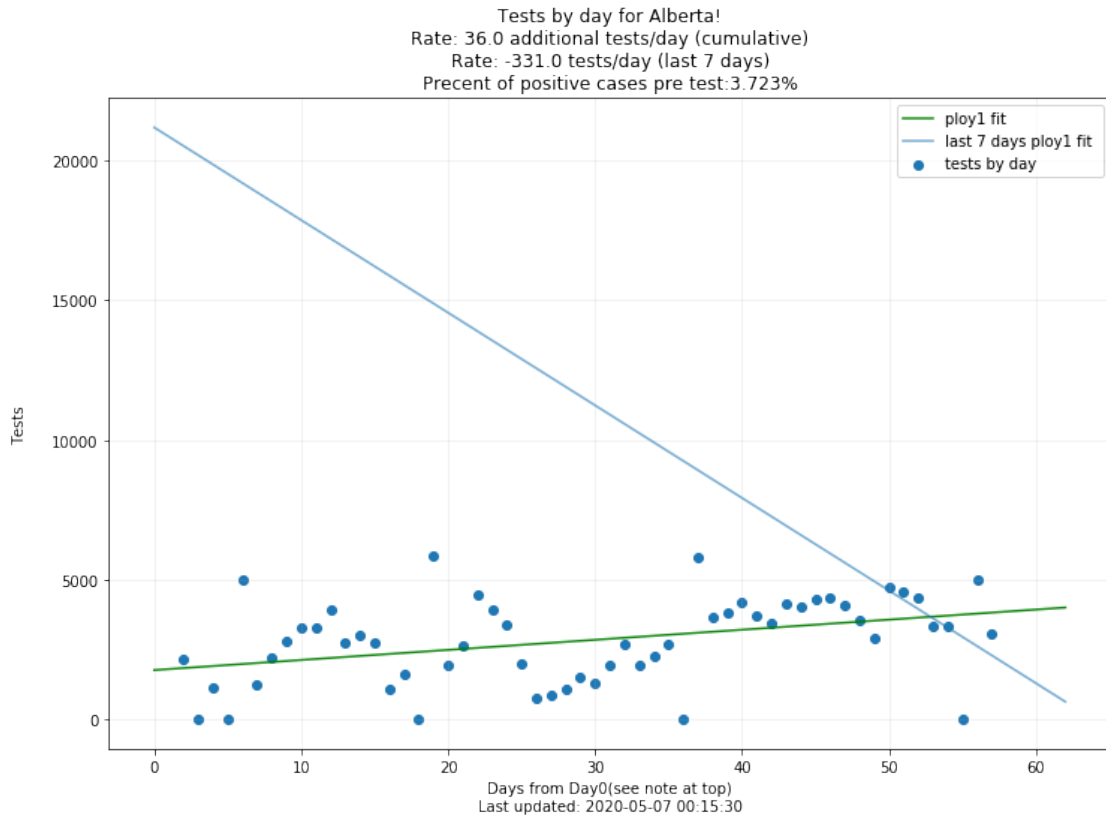
max cases: 8770.0

infection point: 48.0

infection point date: 2020-03-19



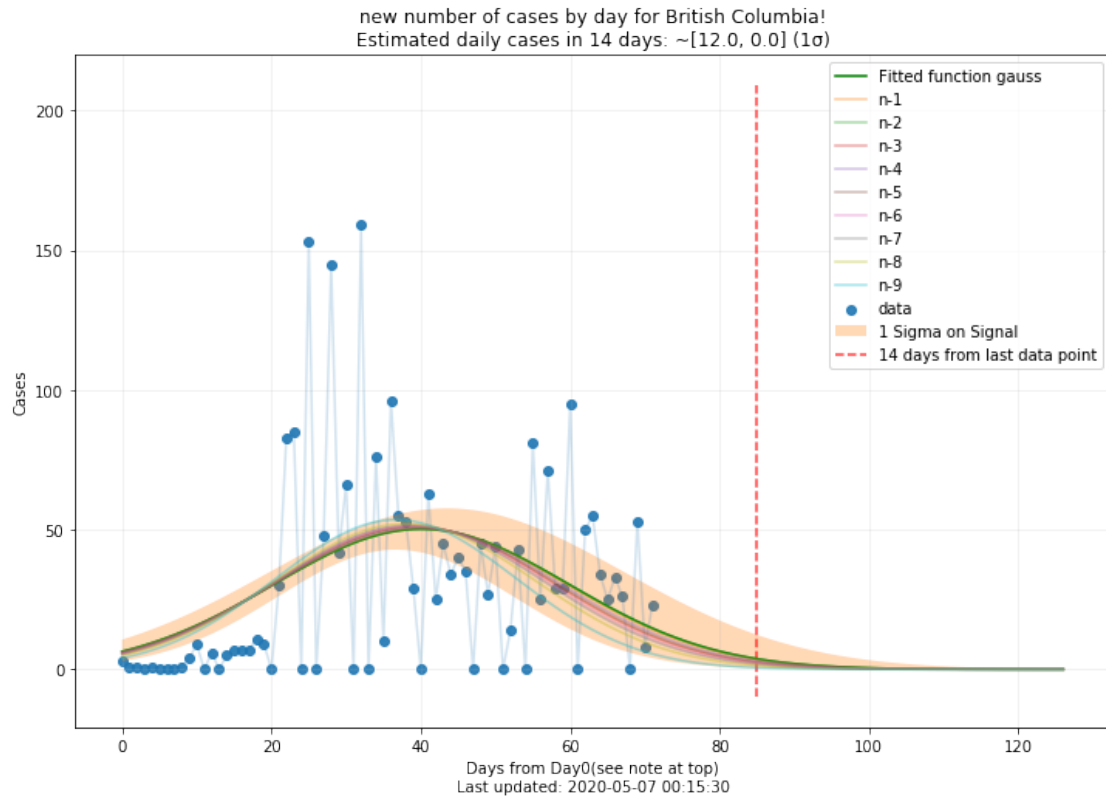




Percent of positive cases pre test: 3.723 %
 3.010752688172043

----- British Columbia-----

cases: [1.000e+00 4.000e+00 5.000e+00 6.000e+00 6.000e+00 7.000e+00 7.000e+00
 7.000e+00 7.000e+00 8.000e+00 1.200e+01 2.100e+01 2.100e+01 2.700e+01
 2.700e+01 3.200e+01 3.900e+01 4.600e+01 5.300e+01 6.400e+01 7.300e+01
 7.300e+01 1.030e+02 1.860e+02 2.710e+02 2.710e+02 4.240e+02 4.240e+02
 4.720e+02 6.170e+02 6.590e+02 7.250e+02 7.250e+02 8.840e+02 8.840e+02
 9.600e+02 9.700e+02 1.066e+03 1.121e+03 1.174e+03 1.203e+03 1.203e+03
 1.266e+03 1.291e+03 1.336e+03 1.370e+03 1.410e+03 1.445e+03 1.445e+03
 1.490e+03 1.517e+03 1.561e+03 1.561e+03 1.575e+03 1.618e+03 1.618e+03
 1.699e+03 1.724e+03 1.795e+03 1.824e+03 1.853e+03 1.948e+03 1.948e+03
 1.998e+03 2.053e+03 2.087e+03 2.112e+03 2.145e+03 2.171e+03 2.171e+03
 2.224e+03 2.232e+03 2.255e+03]



sigma+: 2162.0

n+1: 2103.0

Sigma-: 2040.0

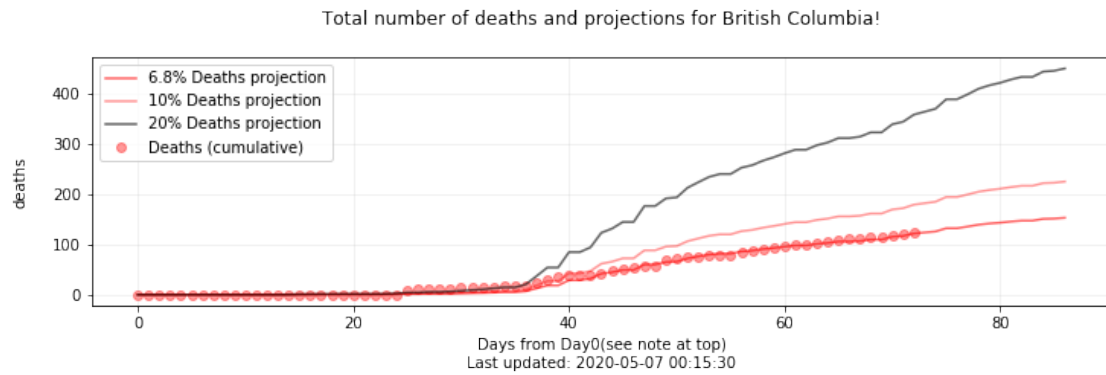
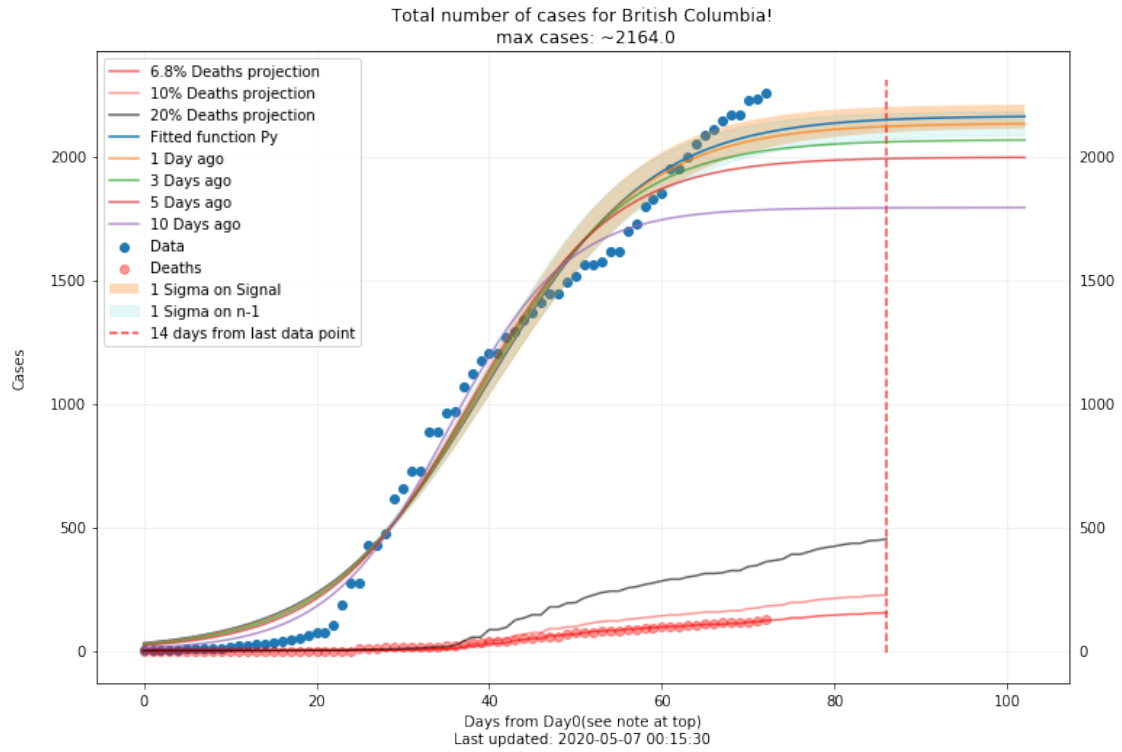
params PY: [2.16374867e+03 1.06622563e-01 3.98290278e+01]

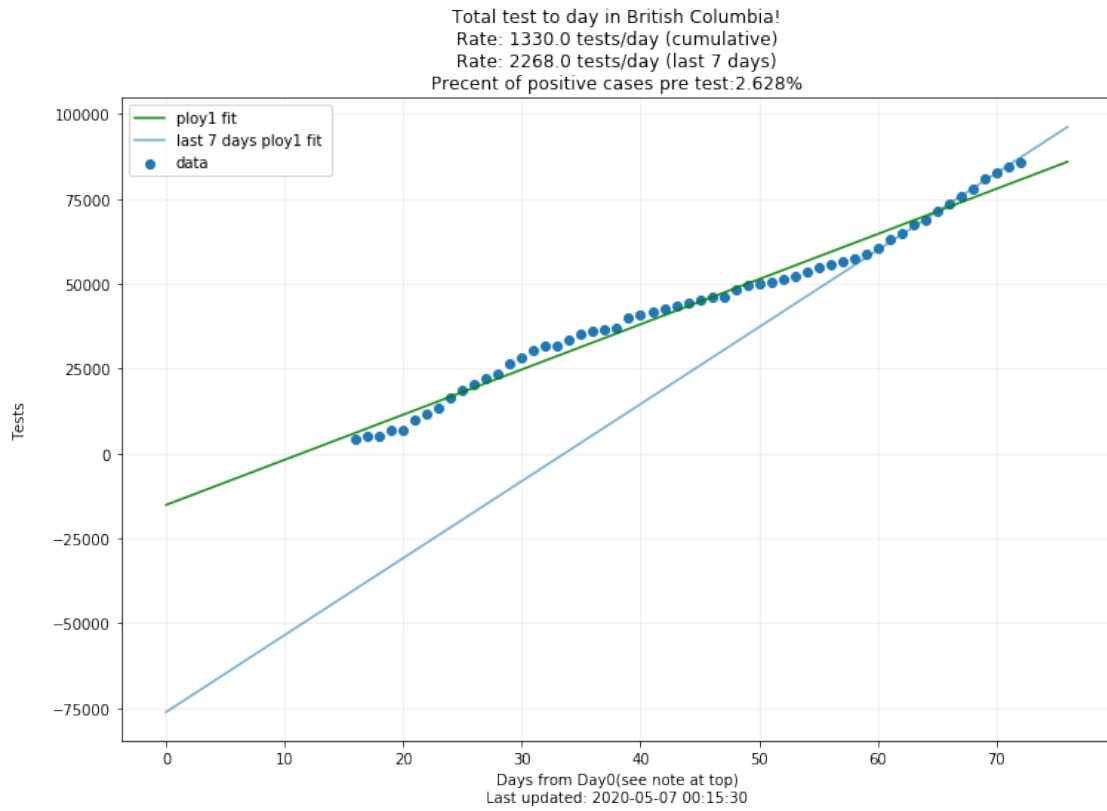
PY sigma: [4.69147517e+01 5.60607278e-03 6.84924968e-01]

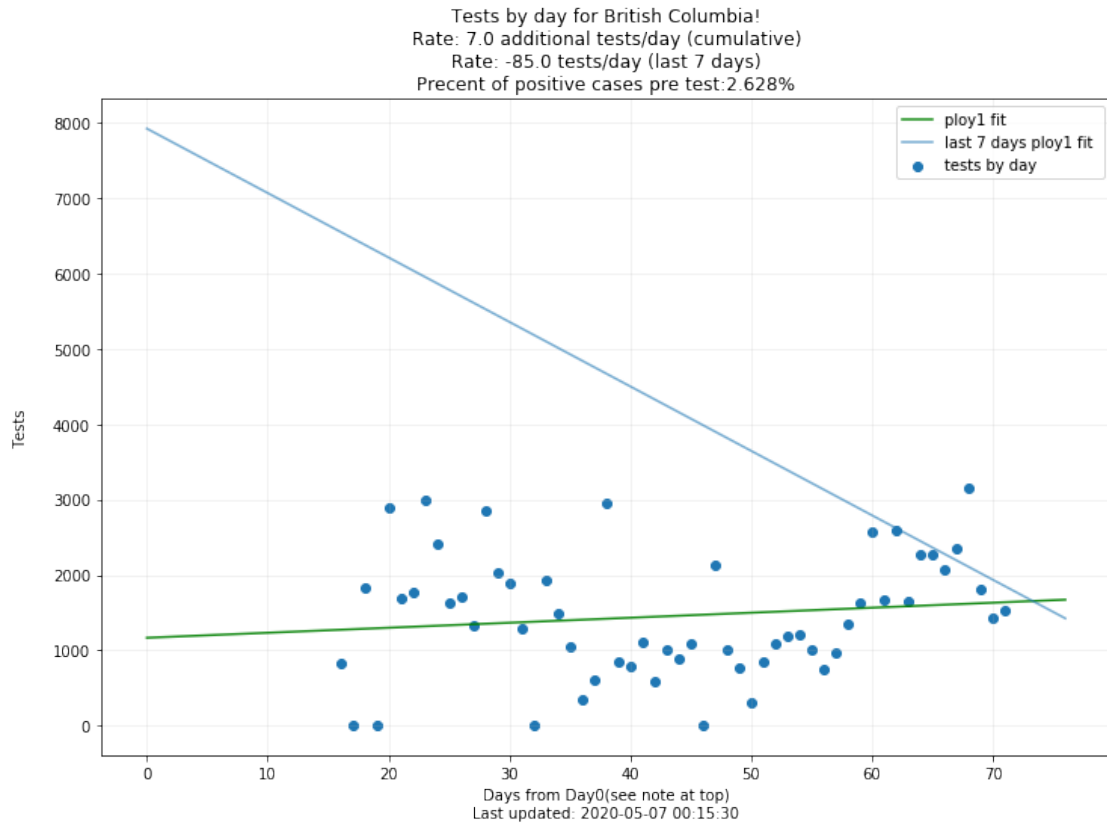
max cases: 2164.0

infection point: 40.0

infection point date: 2020-03-11

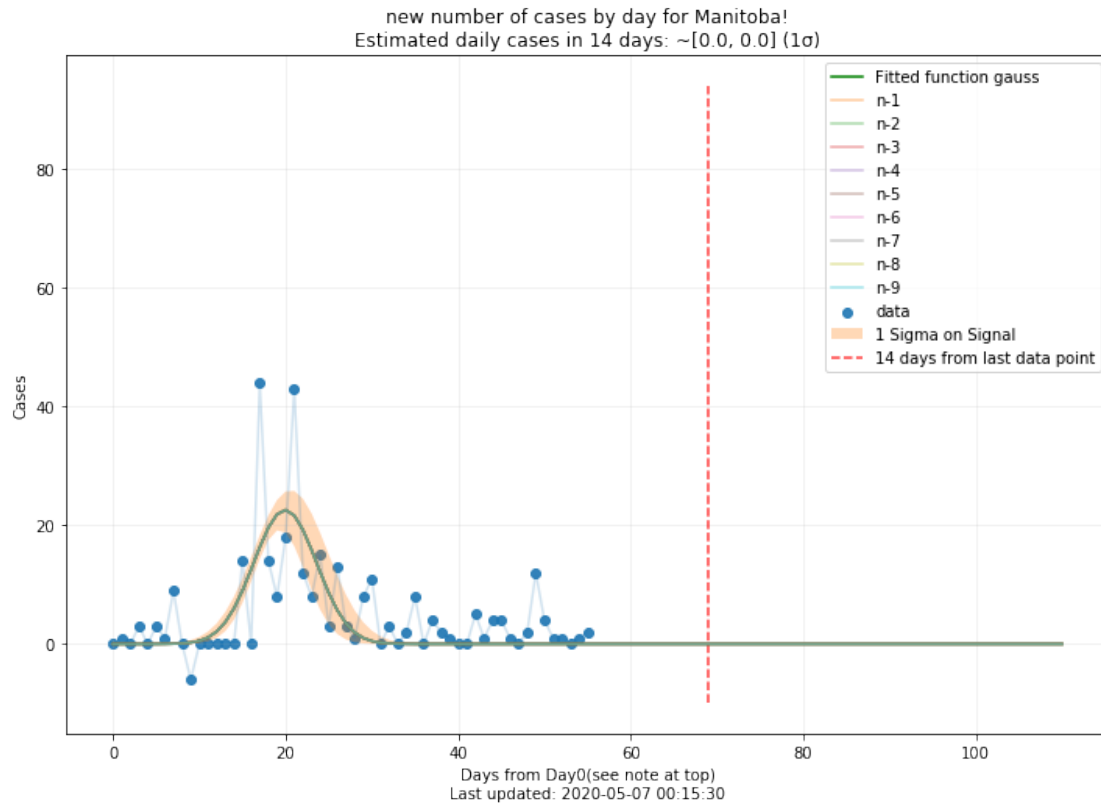






Percent of positive cases pre test: 2.628 %
6.798245614035088

----- Manitoba-----
cases: [0. 0. 1. 1. 4. 4. 7. 8. 17. 17. 11. 11. 11. 11.
11. 11. 25. 25. 69. 83. 91. 109. 152. 164. 172. 187. 190. 203.
206. 207. 215. 226. 226. 229. 229. 231. 239. 239. 243. 245. 246. 246.
246. 251. 252. 256. 260. 261. 261. 263. 275. 279. 280. 281. 281. 282.
284.]



sigma+: 262.0

n+1: 259.0

Sigma-: 256.0

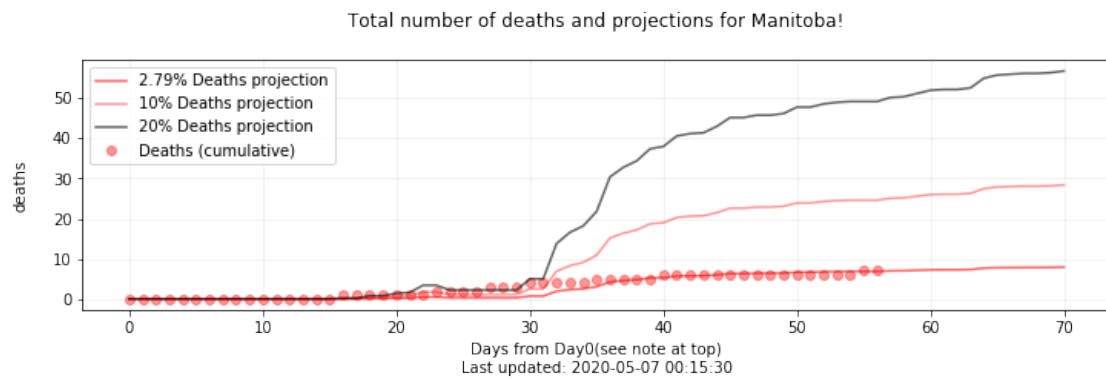
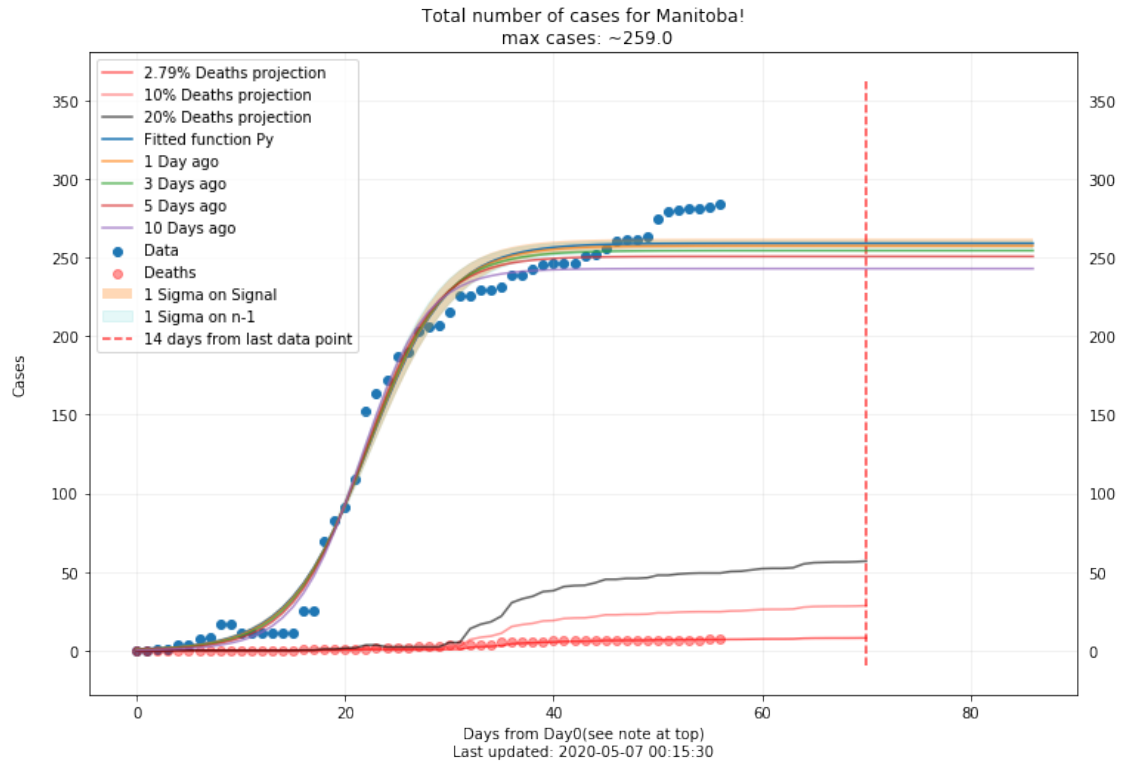
params PY: [258.97290766 0.25942876 22.25370651]

PY sigma: [3.00336427 0.0164024 0.28401201]

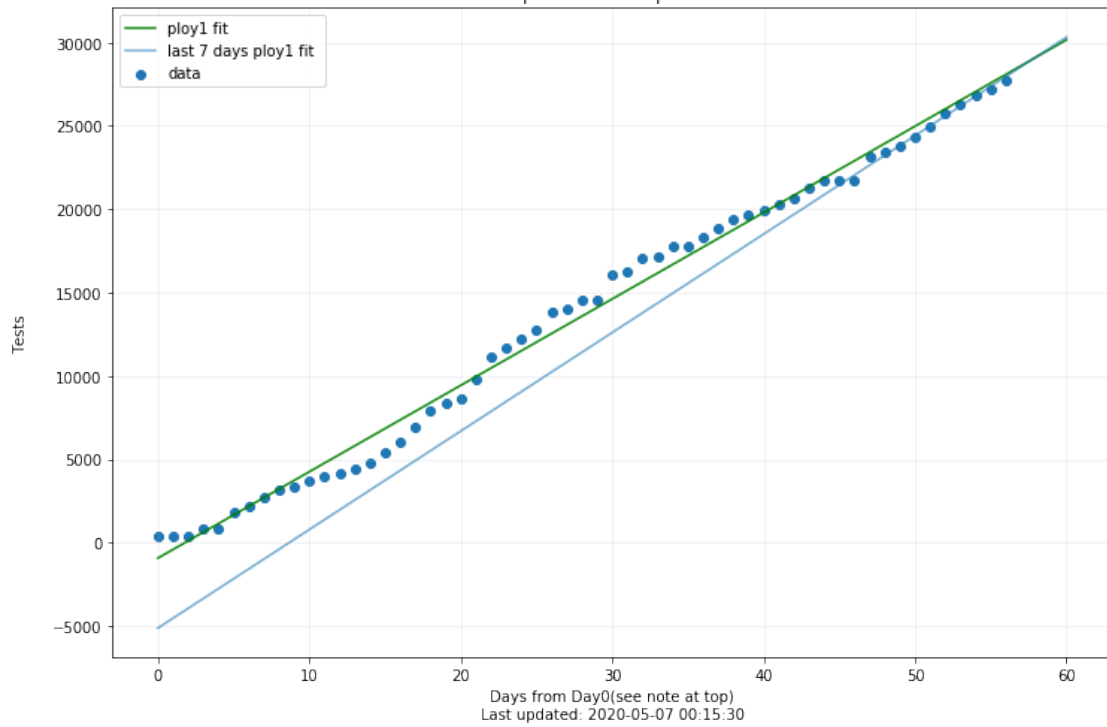
max cases: 259.0

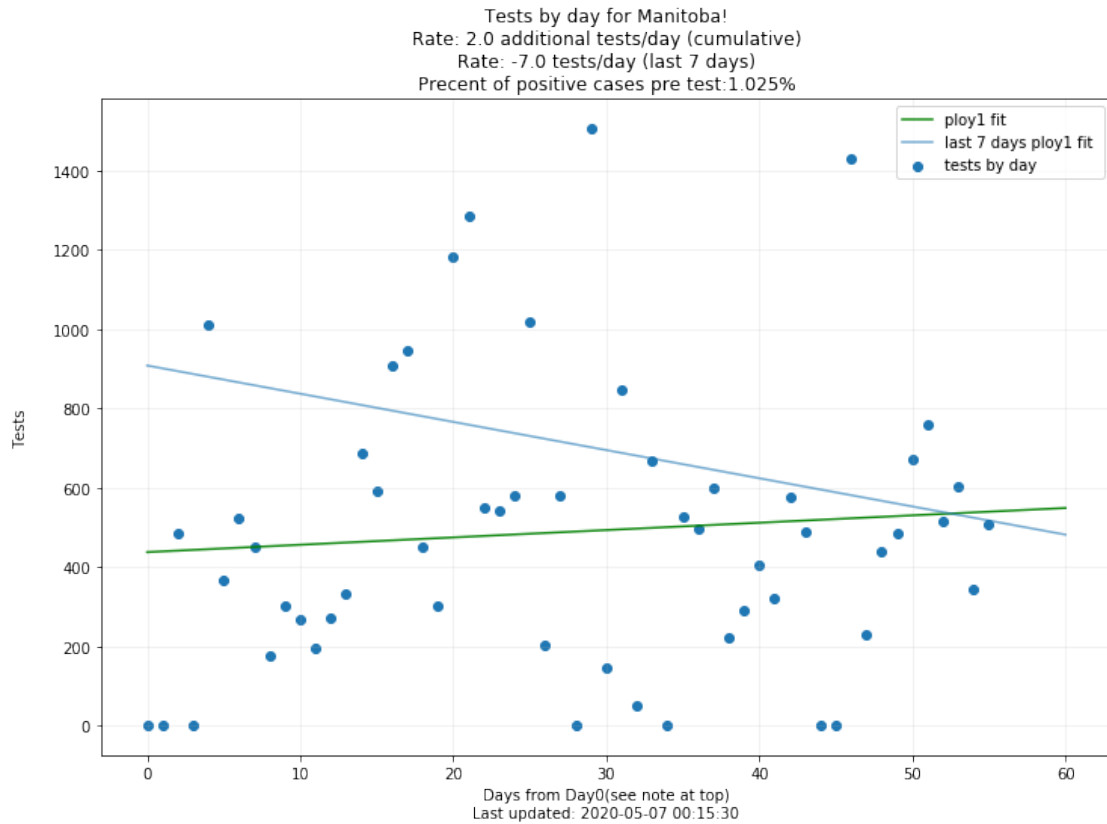
infection point: 22.0

infection point date: 2020-02-22



Total test to day in Manitoba!
Rate: 518.0 tests/day (cumulative)
Rate: 591.0 tests/day (last 7 days)
Percent of positive cases pre test: 1.025%

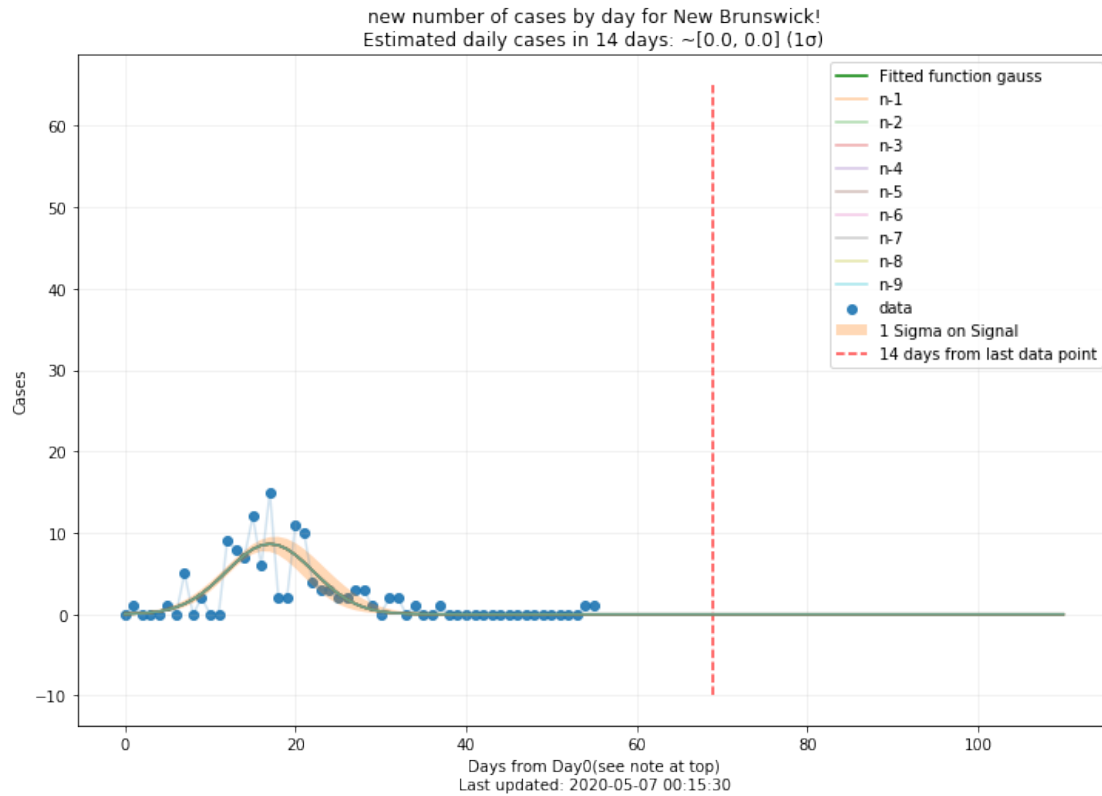




Percent of positive cases pre test: 1.025 %
2.788844621513944

----- New Brunswick-----

cases: [0. 0. 1. 1. 1. 1. 2. 2. 7. 7. 9. 9. 9. 18.
26. 33. 45. 51. 66. 68. 70. 81. 91. 95. 98. 101. 103. 105.
108. 111. 112. 112. 114. 116. 116. 117. 117. 117. 118. 118. 118. 118.
118. 118. 118. 118. 118. 118. 118. 118. 118. 118. 118. 118. 119.
120.]



sigma+: 118.0

n+1: 117.0

Sigma-: 117.0

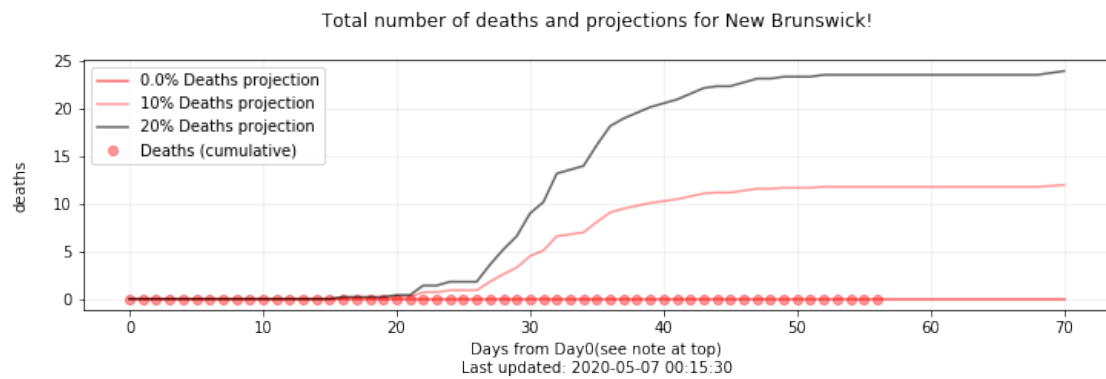
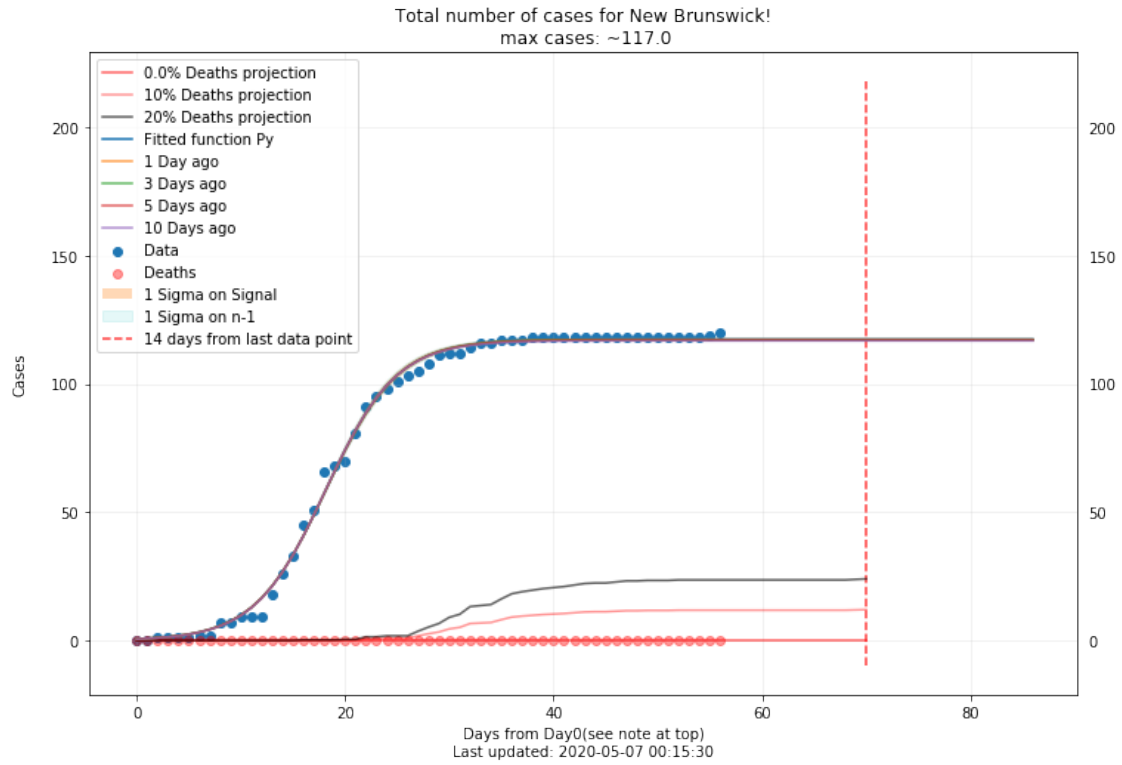
params PY: [117.38765691 0.29268046 18.15811381]

PY sigma: [0.4683145 0.00744268 0.1004898]

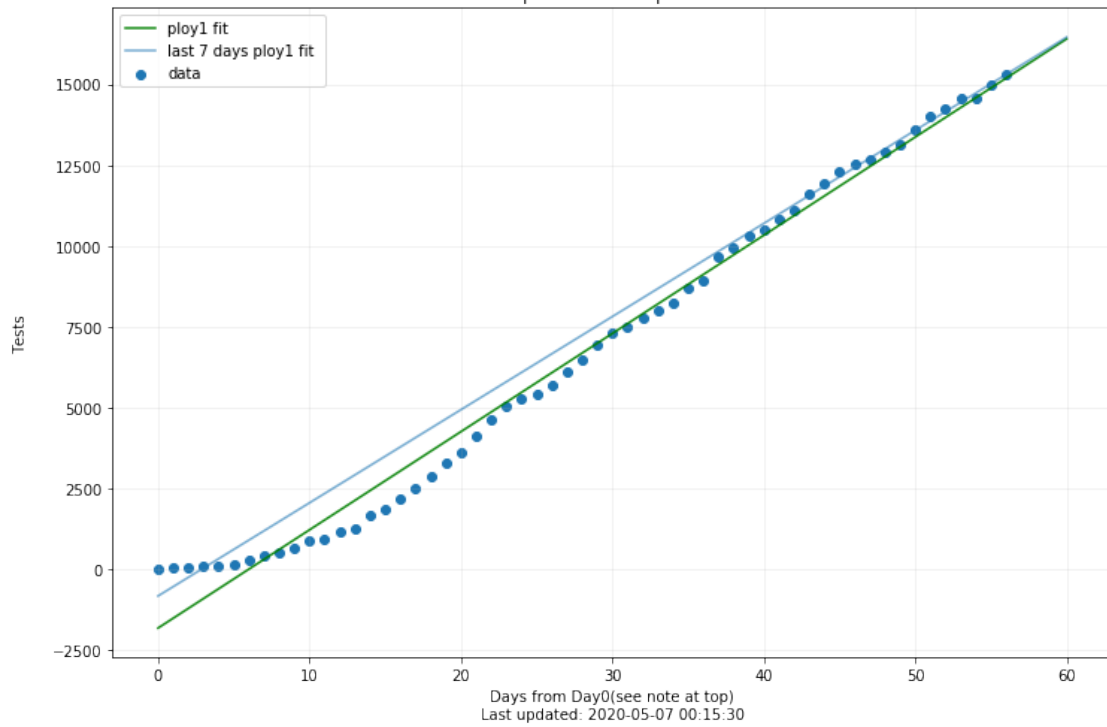
max cases: 117.0

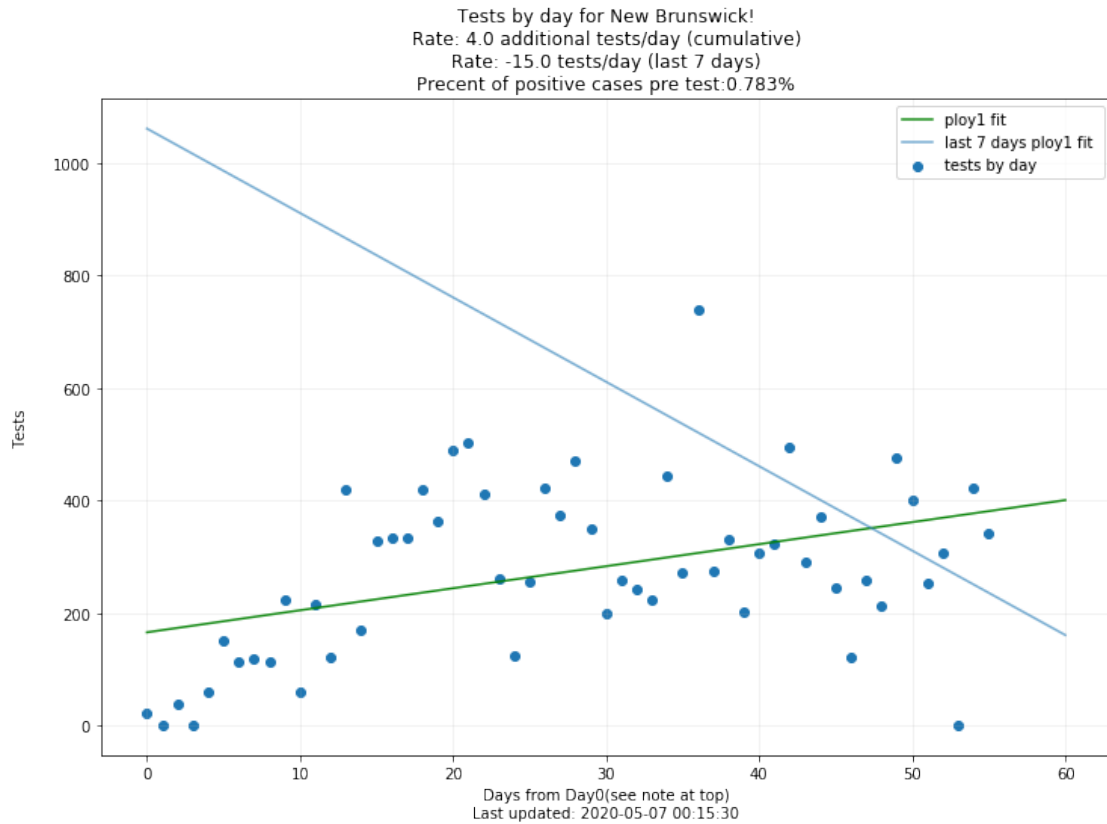
infection point: 18.0

infection point date: 2020-02-18



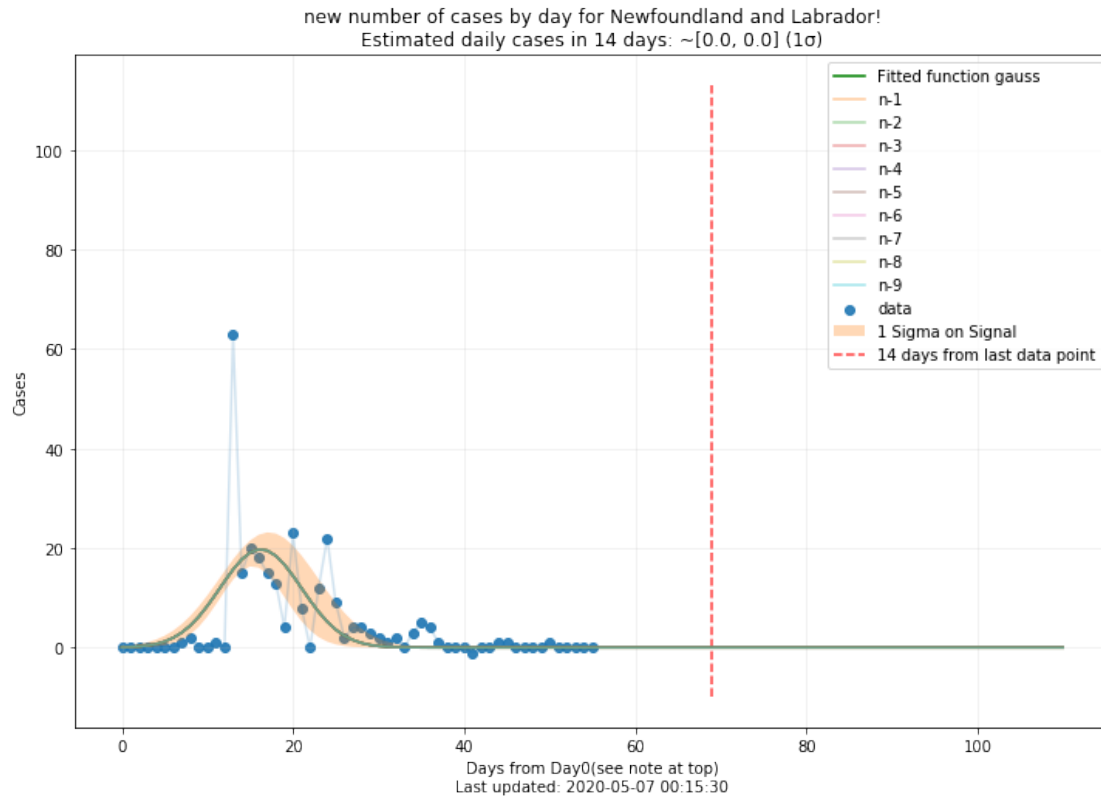
Total test to day in New Brunswick!
Rate: 304.0 tests/day (cumulative)
Rate: 288.0 tests/day (last 7 days)
Percent of positive cases pre test: 0.783%





Percent of positive cases pre test: 0.783 %
0.0

----- Newfoundland and Labrador-----
cases: [0. 0. 0. 0. 0. 0. 0. 0. 1. 3. 3. 3. 4. 4.
67. 82. 102. 120. 135. 148. 152. 175. 183. 183. 195. 217. 226. 228.
232. 236. 239. 241. 242. 244. 244. 247. 252. 256. 257. 257. 257. 257.
256. 256. 256. 257. 258. 258. 258. 258. 258. 259. 259. 259. 259. 259.
259.]



sigma+: 256.0

n+1: 254.0

Sigma-: 252.0

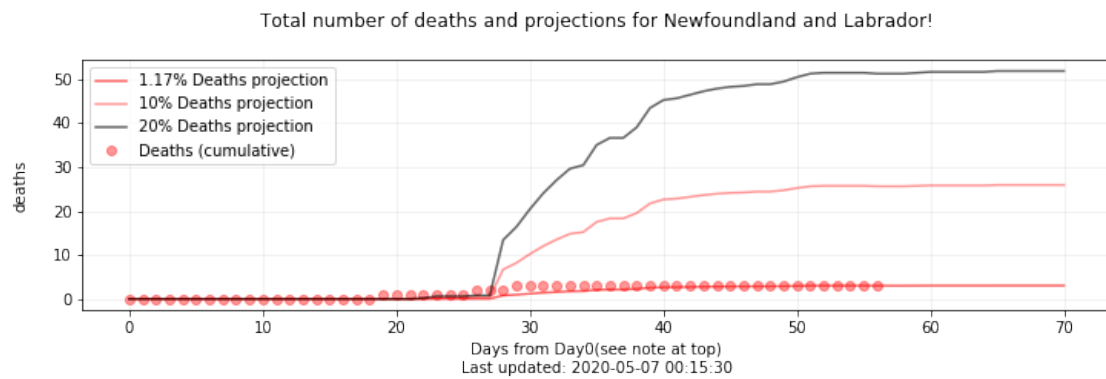
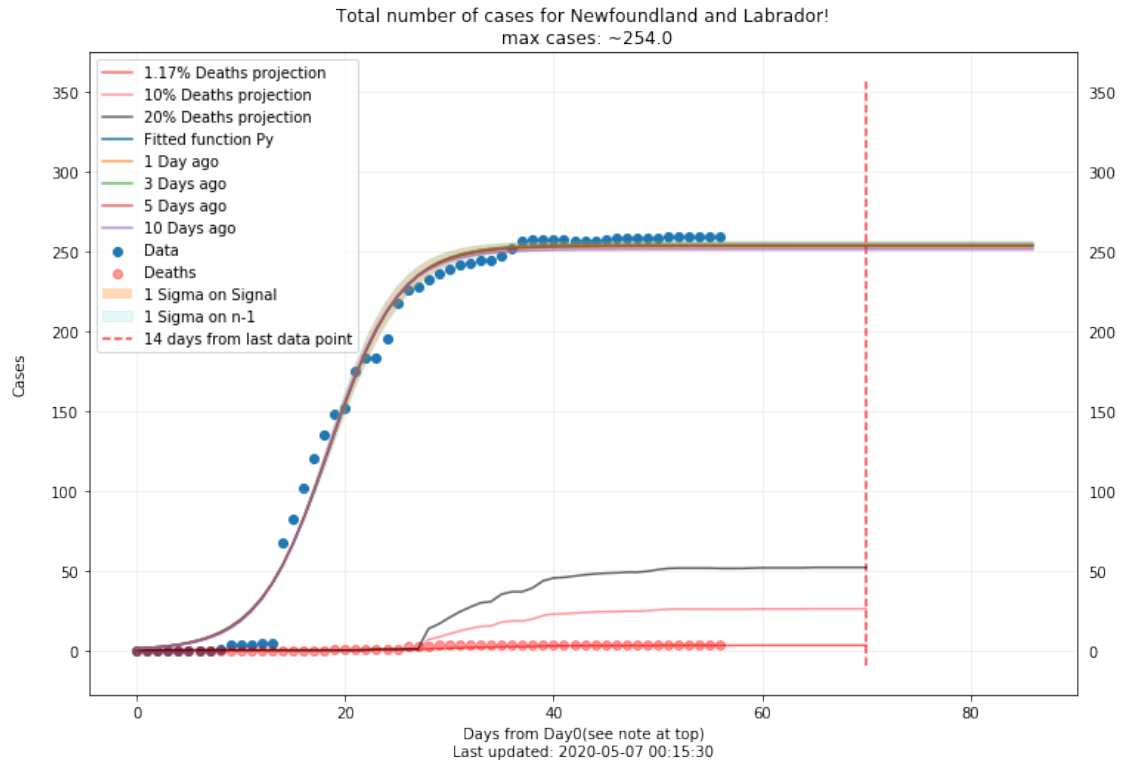
params PY: [254.05616868 0.29445615 18.50491996]

PY sigma: [2.1657562 0.01596657 0.21303412]

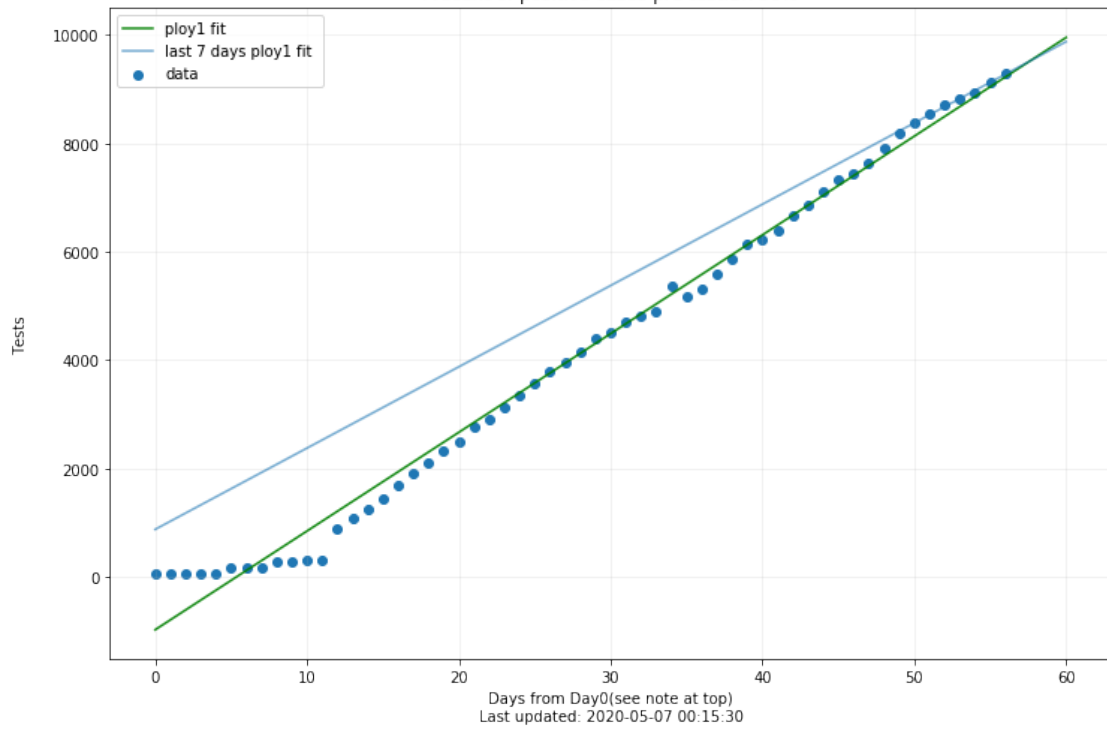
max cases: 254.0

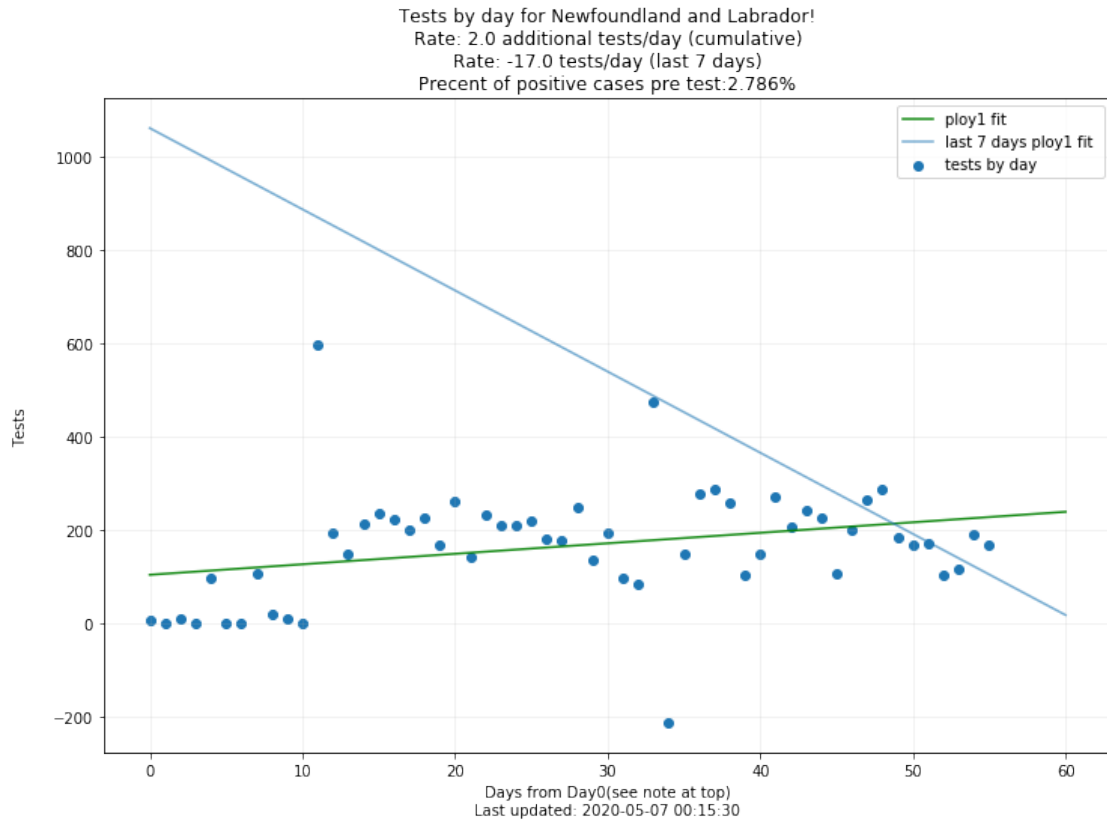
infection point: 19.0

infection point date: 2020-02-19



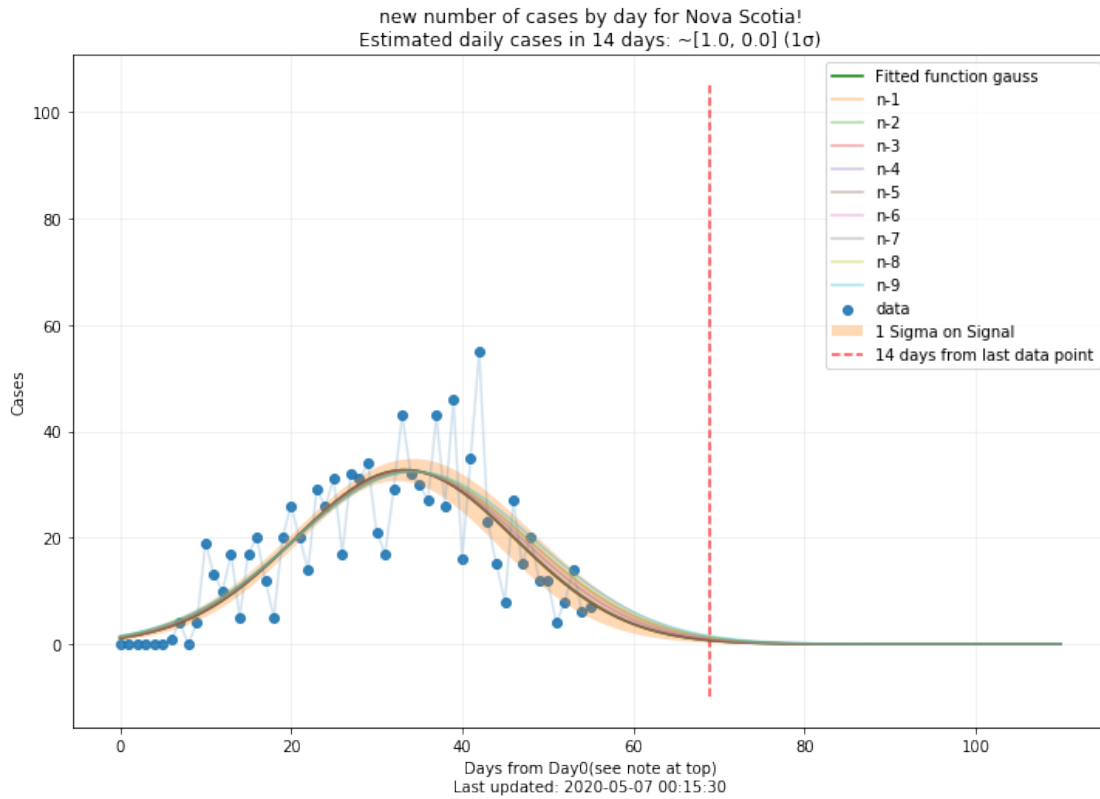
Total test to day in Newfoundland and Labrador!
Rate: 182.0 tests/day (cumulative)
Rate: 150.0 tests/day (last 7 days)
Percent of positive cases pre test: 2.786%





Percent of positive cases pre test: 2.786 %
 1.171875

----- Nova Scotia-----
 cases: [0. 0. 0. 0. 0. 0. 0. 1. 5. 5. 9. 28. 41. 51.
 68. 73. 90. 110. 122. 127. 147. 173. 193. 207. 236. 262. 293. 310.
 342. 373. 407. 428. 445. 474. 517. 549. 579. 606. 649. 675. 721. 737.
 772. 827. 850. 865. 873. 900. 915. 935. 947. 959. 963. 971. 985. 991.
 998.]



sigma+: 1022.0

n+1: 1008.0

Sigma-: 995.0

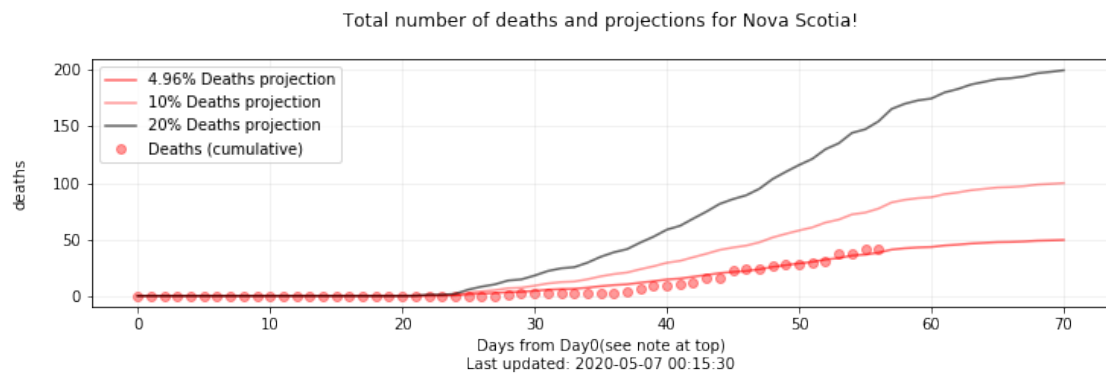
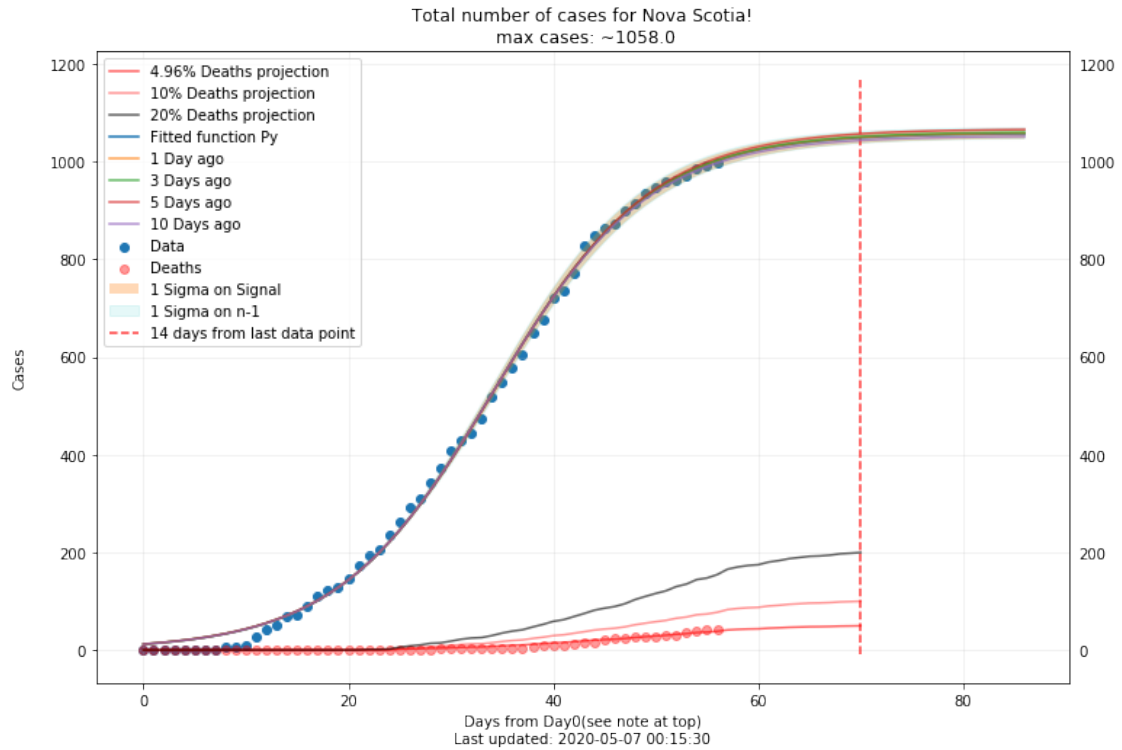
params PY: [1.05836023e+03 1.31330289e-01 3.41271532e+01]

PY sigma: [1.00341408e+01 2.51585095e-03 2.22521639e-01]

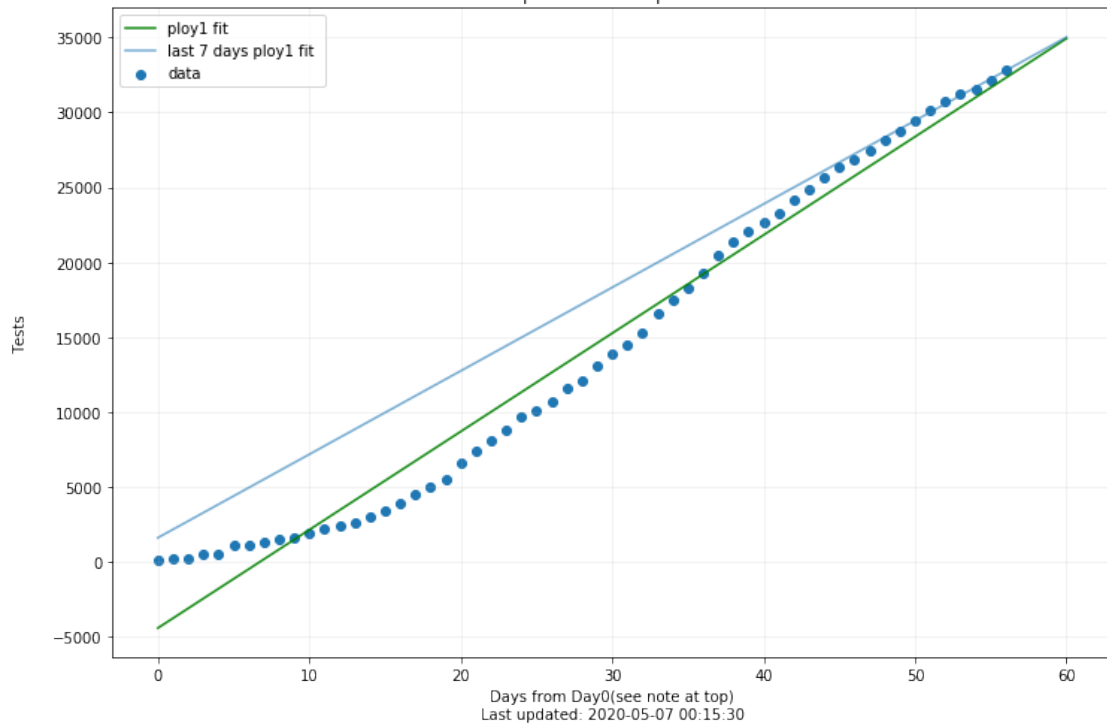
max cases: 1058.0

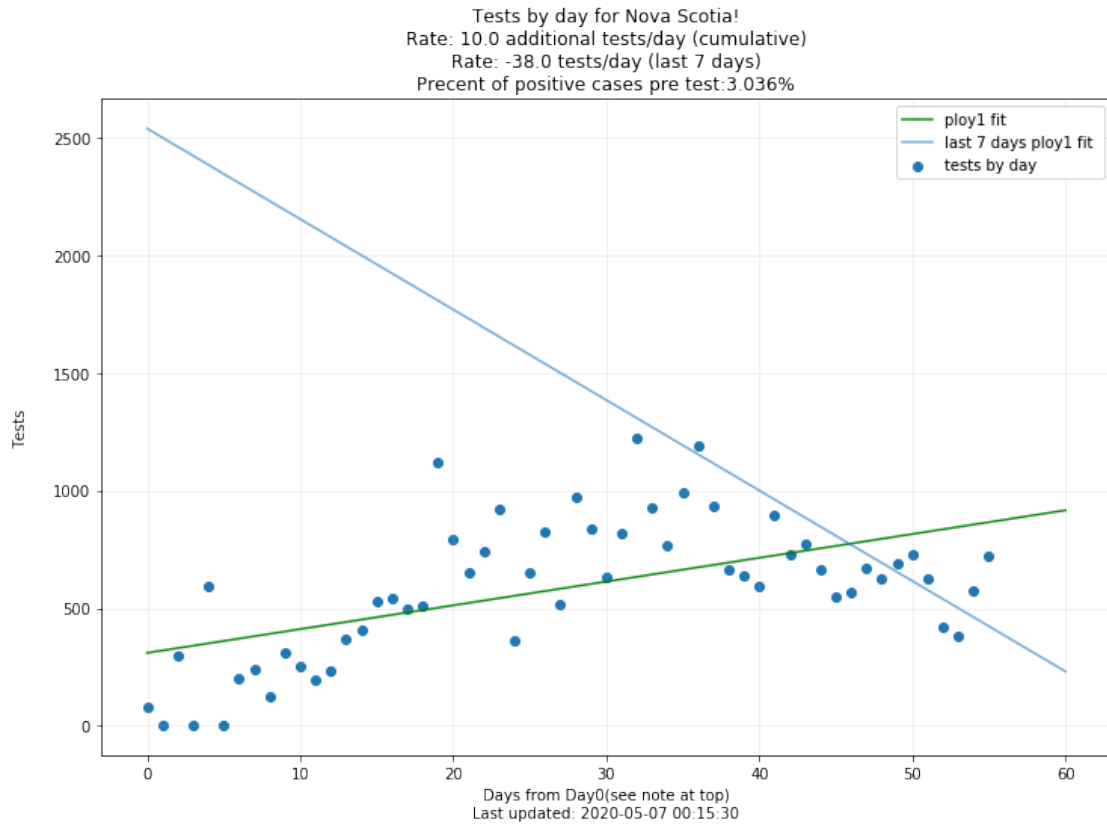
infection point: 34.0

infection point date: 2020-03-05



Total test to day in Nova Scotia!
Rate: 656.0 tests/day (cumulative)
Rate: 557.0 tests/day (last 7 days)
Percent of positive cases pre test: 3.036%

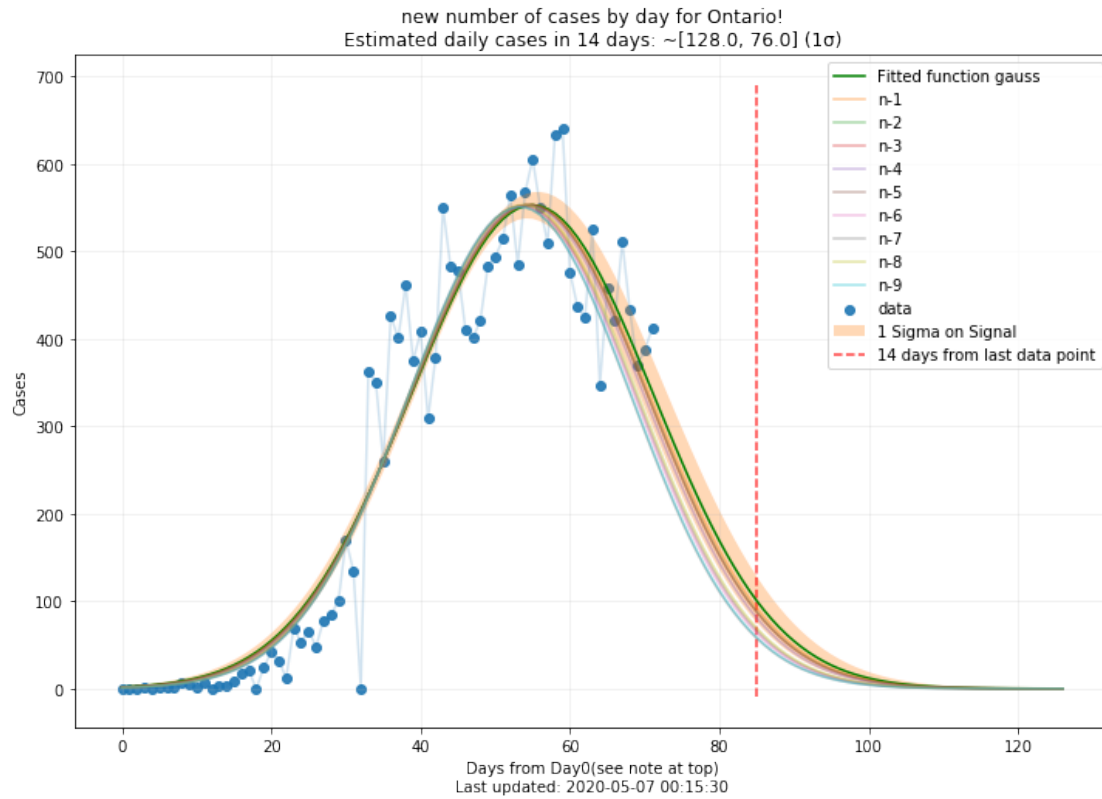




Percent of positive cases pre test: 3.036 %
4.957678355501813

----- Ontario-----

cases: [3.0000e+00 3.0000e+00 3.0000e+00 3.0000e+00 4.0000e+00 4.0000e+00
5.0000e+00 6.0000e+00 8.0000e+00 1.5000e+01 2.0000e+01 2.2000e+01
2.8000e+01 2.8000e+01 3.1000e+01 3.4000e+01 4.2000e+01 5.9000e+01
7.9000e+01 7.9000e+01 1.0300e+02 1.4500e+02 1.7700e+02 1.8900e+02
2.5800e+02 3.1100e+02 3.7700e+02 4.2500e+02 5.0300e+02 5.8800e+02
6.8800e+02 8.5800e+02 9.9300e+02 9.9300e+02 1.3550e+03 1.7060e+03
1.9660e+03 2.3920e+03 2.7930e+03 3.2550e+03 3.6300e+03 4.0380e+03
4.3470e+03 4.7260e+03 5.2760e+03 5.7590e+03 6.2370e+03 6.6480e+03
7.0490e+03 7.4700e+03 7.9530e+03 8.4470e+03 8.9610e+03 9.5250e+03
1.0010e+04 1.0578e+04 1.1184e+04 1.1735e+04 1.2245e+04 1.2879e+04
1.3519e+04 1.3995e+04 1.4432e+04 1.4856e+04 1.5381e+04 1.5728e+04
1.6187e+04 1.6608e+04 1.7119e+04 1.7553e+04 1.7923e+04 1.8310e+04
1.8722e+04]



sigma+: 18833.0

n+1: 18417.0

Sigma-: 17998.0

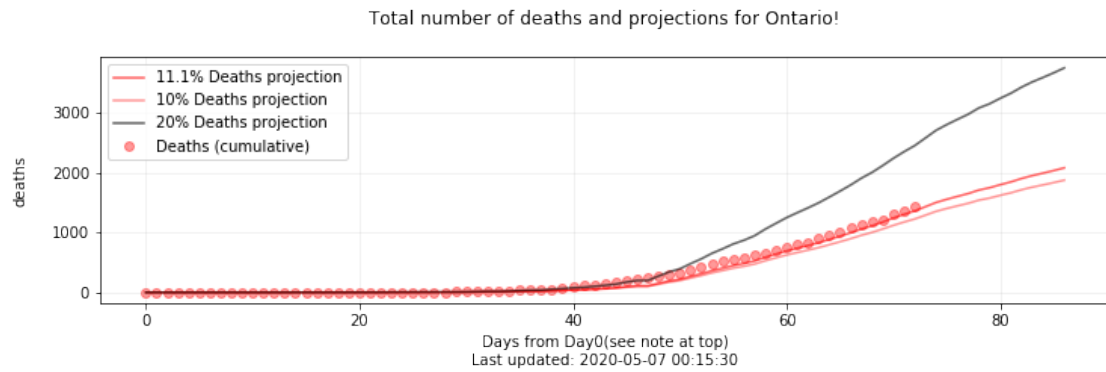
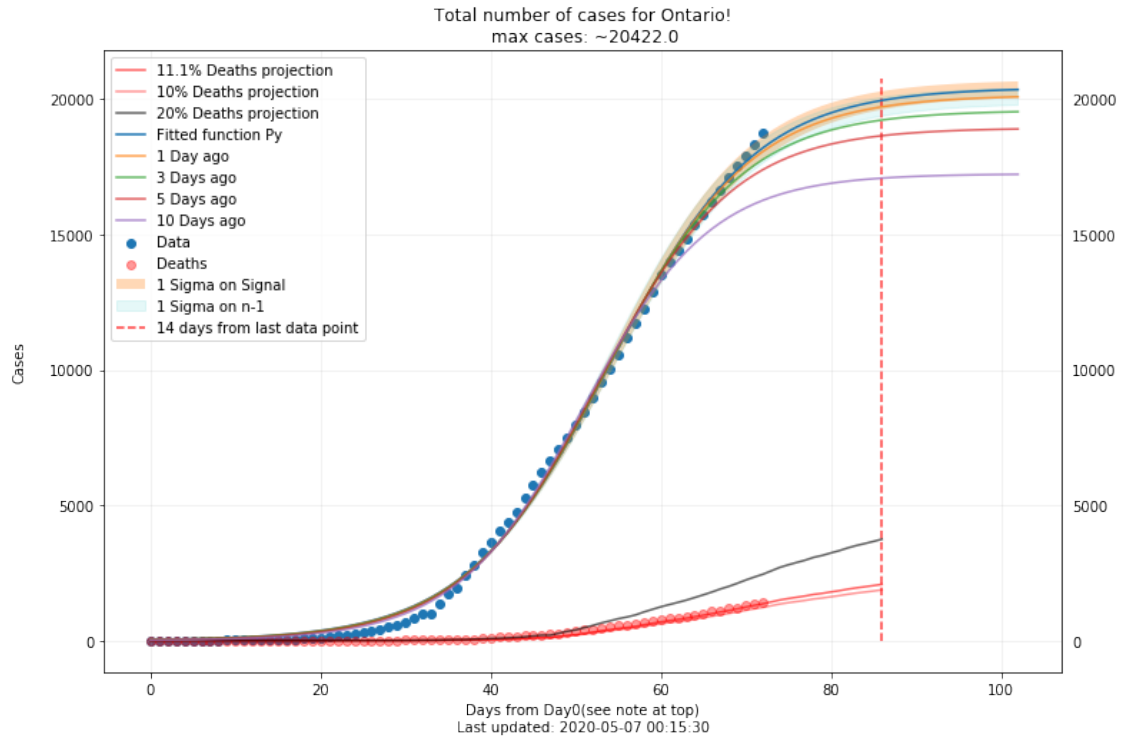
params PY: [2.04220665e+04 1.17091826e-01 5.40609410e+01]

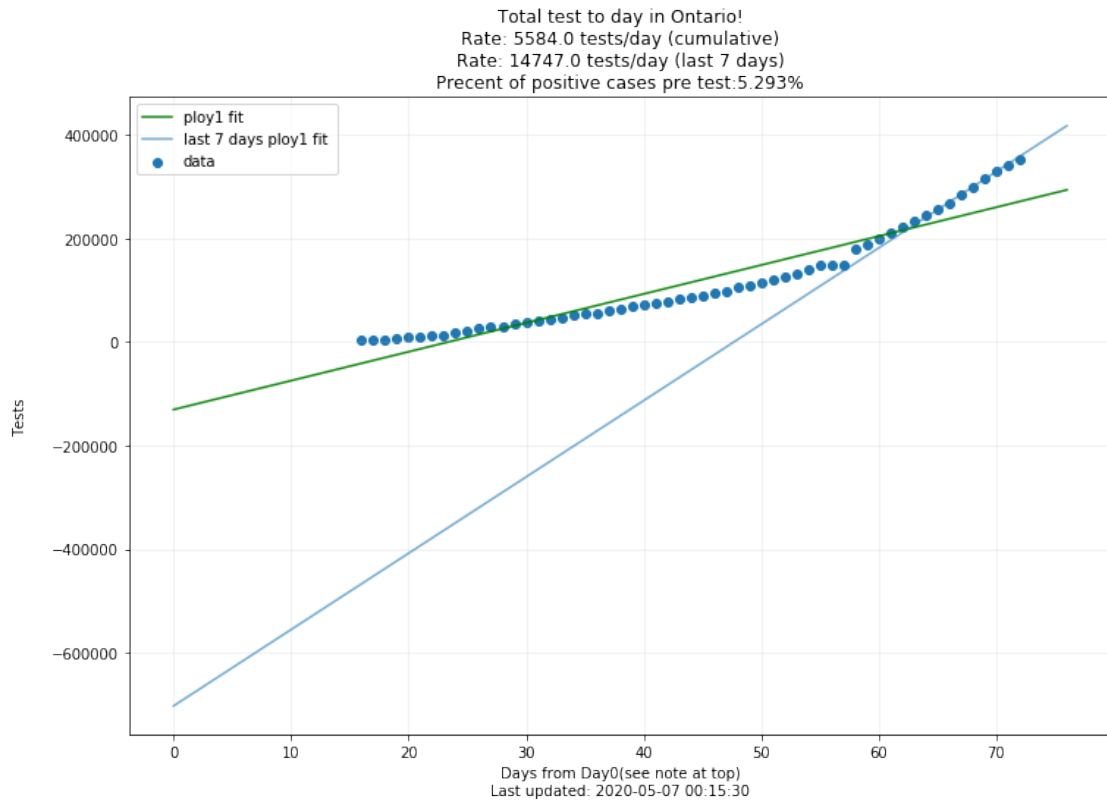
PY sigma: [2.92177182e+02 2.43924358e-03 3.31822471e-01]

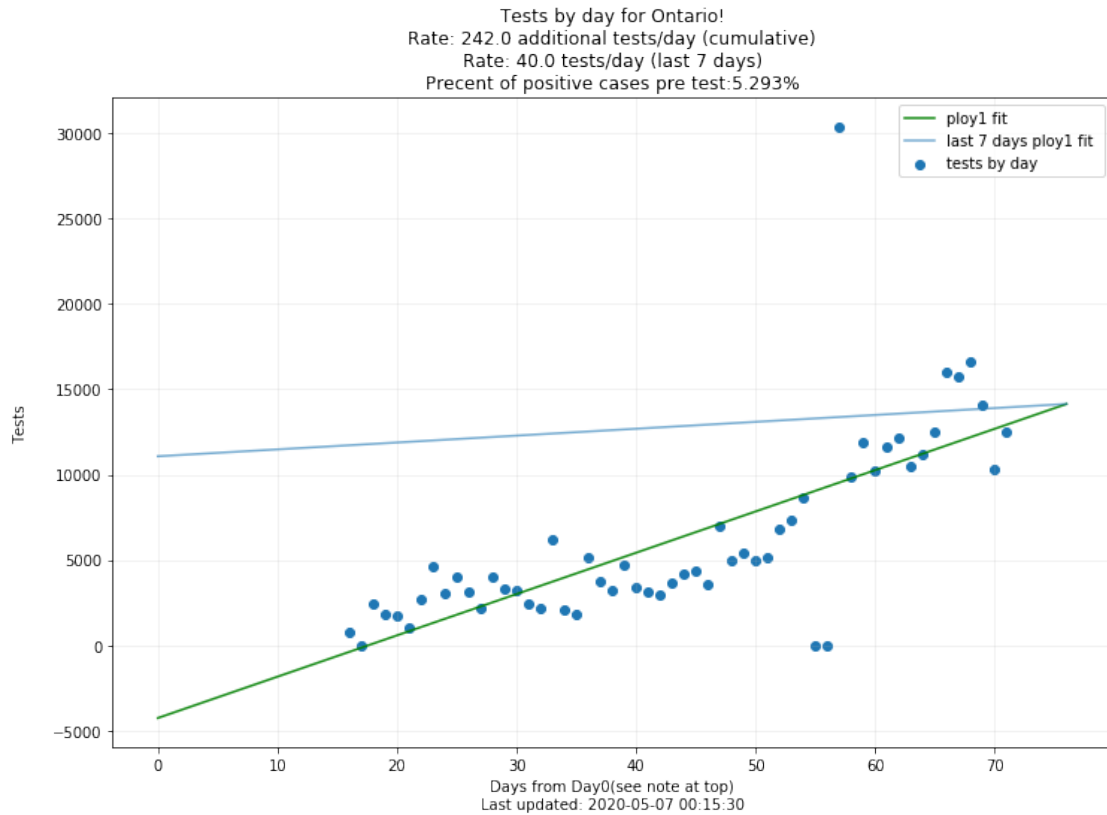
max cases: 20422.0

infection point: 54.0

infection point date: 2020-03-25



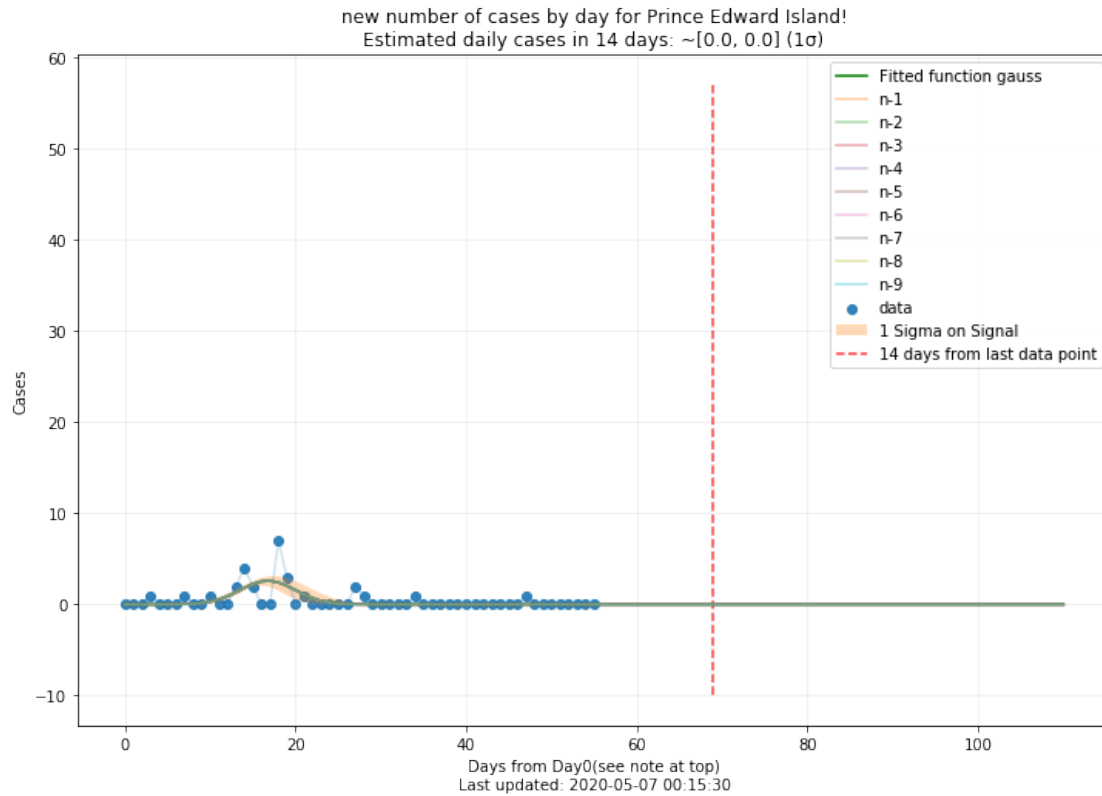




Percent of positive cases pre test: 5.293 %
 11.095581955120739

----- Prince Edward Island-----

```
cases: [ 0.  0.  0.  0.  1.  1.  1.  1.  2.  2.  2.  3.  3.  3.  5.  9. 11. 11.
 11. 18. 21. 21. 22. 22. 22. 22. 22. 22. 24. 25. 25. 25. 25. 25. 25. 26.
 26. 26. 26. 26. 26. 26. 26. 26. 26. 26. 26. 26. 27. 27. 27. 27. 27. 27.
 27. 27. 27.]
```



sigma+: 26.0

n+1: 26.0

Sigma-: 26.0

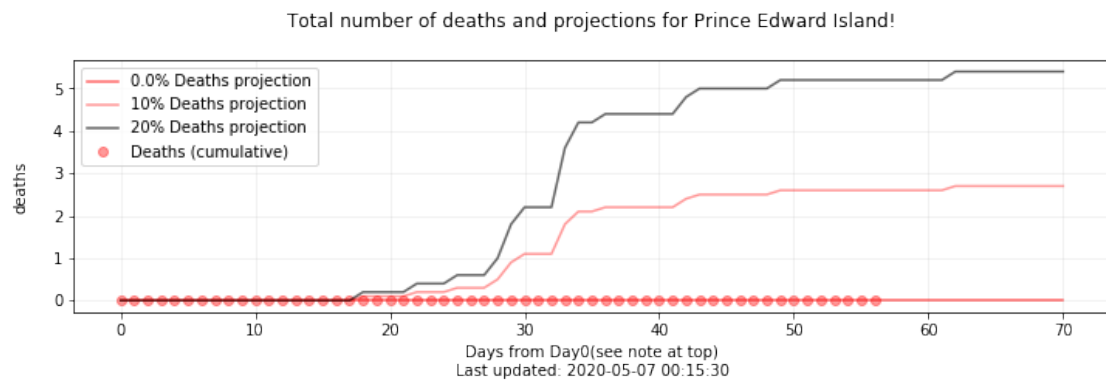
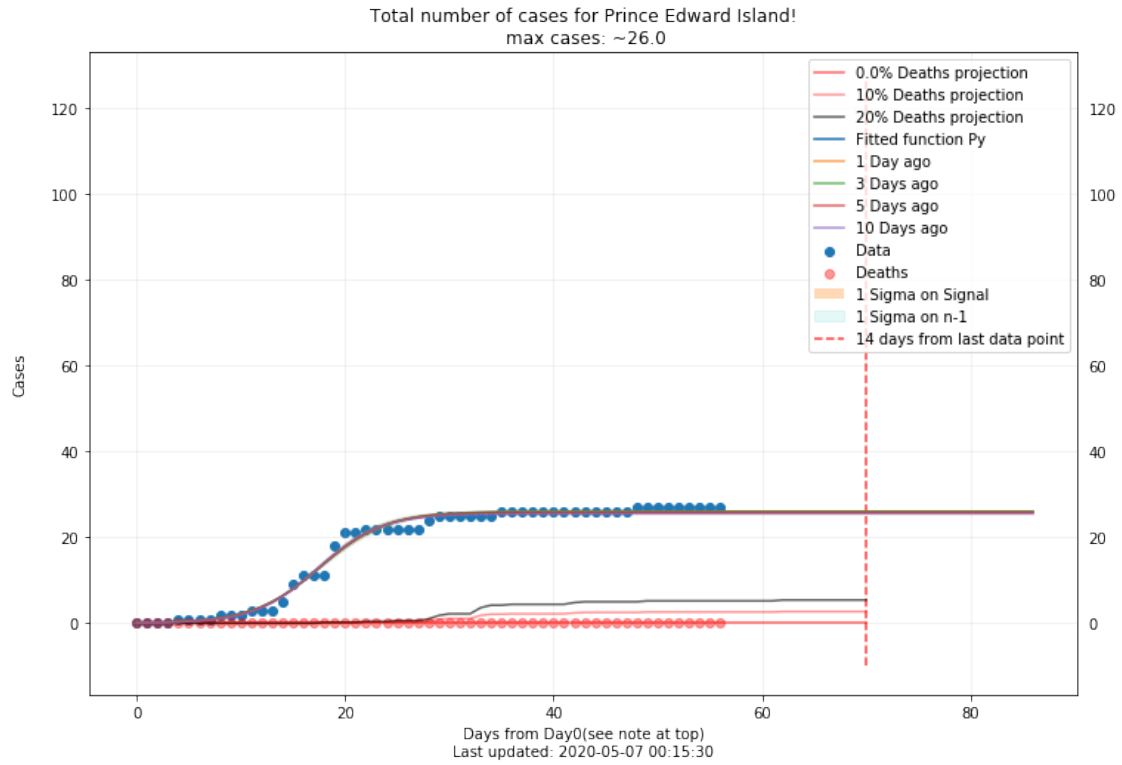
params PY: [26.02519809 0.31587428 17.56164274]

PY sigma: [0.21439108 0.01757613 0.20338194]

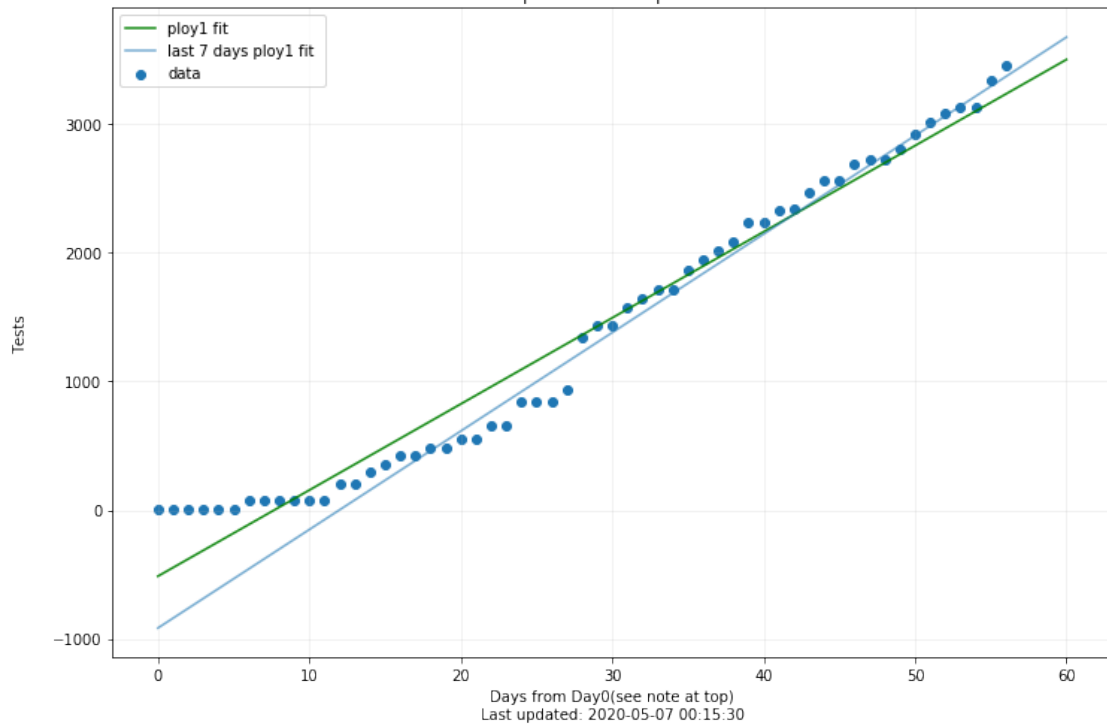
max cases: 26.0

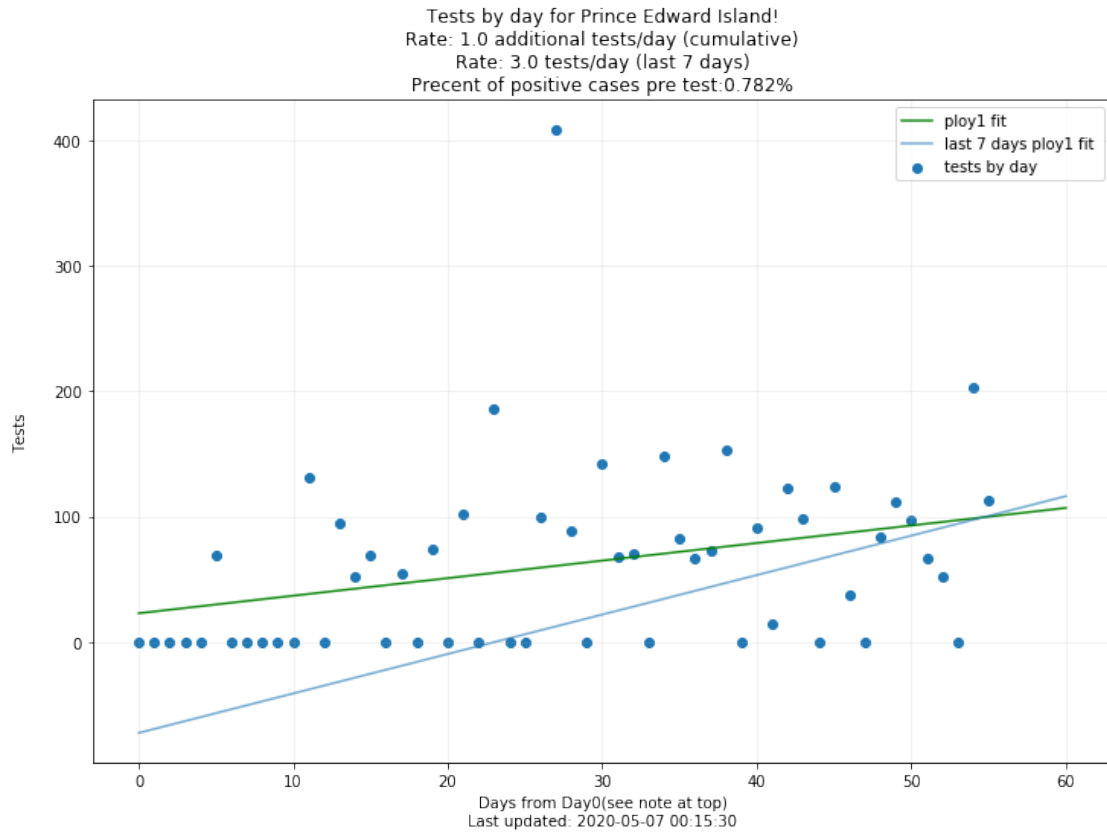
infection point: 18.0

infection point date: 2020-02-18



Total test to day in Prince Edward Island!
Rate: 67.0 tests/day (cumulative)
Rate: 77.0 tests/day (last 7 days)
Percent of positive cases pre test: 0.782%

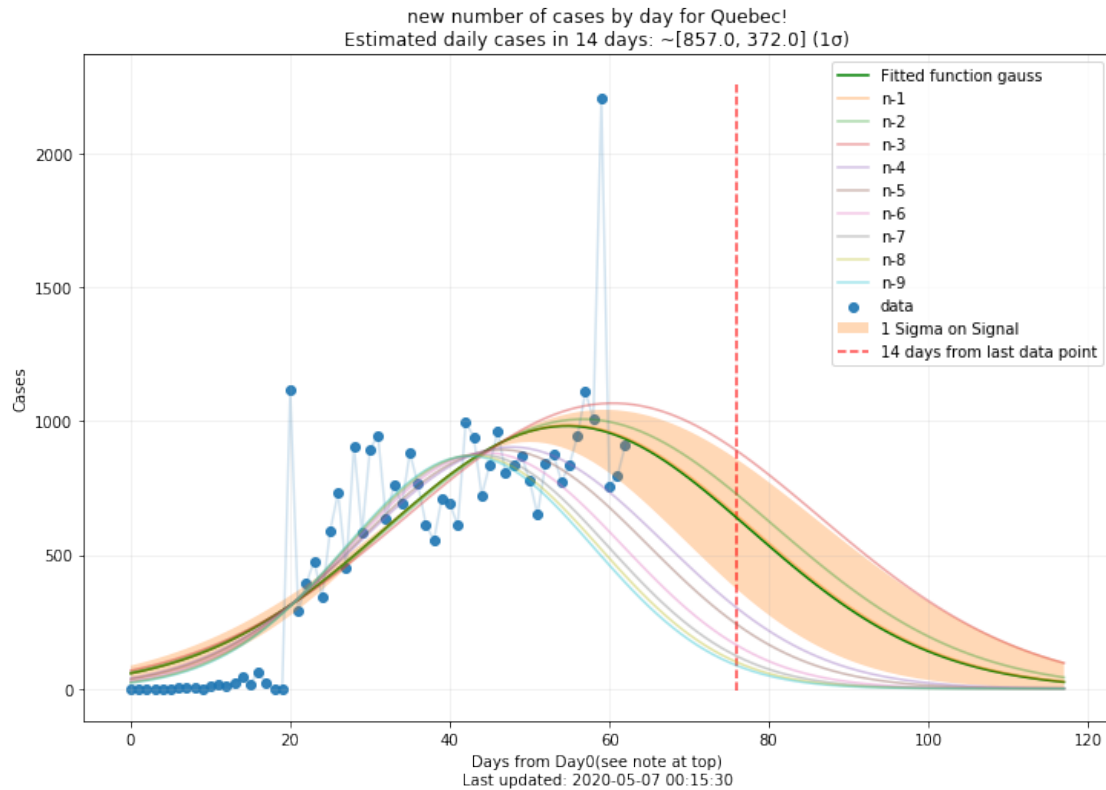




Percent of positive cases pre test: 0.782 %
0.0

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cases: [1.0000e+00 1.0000e+00 2.0000e+00 2.0000e+00 2.0000e+00 3.0000e+00
4.0000e+00 7.0000e+00 1.3000e+01 1.7000e+01 1.7000e+01 2.4000e+01
3.9000e+01 5.0000e+01 7.4000e+01 1.2100e+02 1.3900e+02 2.0200e+02
2.2100e+02 2.2100e+02 2.2100e+02 1.3390e+03 1.6290e+03 2.0210e+03
2.4980e+03 2.8400e+03 3.4300e+03 4.1620e+03 4.6110e+03 5.5180e+03
6.1010e+03 6.9970e+03 7.9440e+03 8.5800e+03 9.3400e+03 1.0031e+04
1.0912e+04 1.1677e+04 1.2292e+04 1.2846e+04 1.3557e+04 1.4248e+04
1.4860e+04 1.5857e+04 1.6798e+04 1.7521e+04 1.8357e+04 1.9319e+04
2.0126e+04 2.0965e+04 2.1838e+04 2.2616e+04 2.3267e+04 2.4107e+04
2.4982e+04 2.5757e+04 2.6594e+04 2.7538e+04 2.8648e+04 2.9656e+04
3.1865e+04 3.2623e+04 3.3417e+04 3.4327e+04]



sigma+: 34867.0

n+1: 32919.0

Sigma-: 30968.0

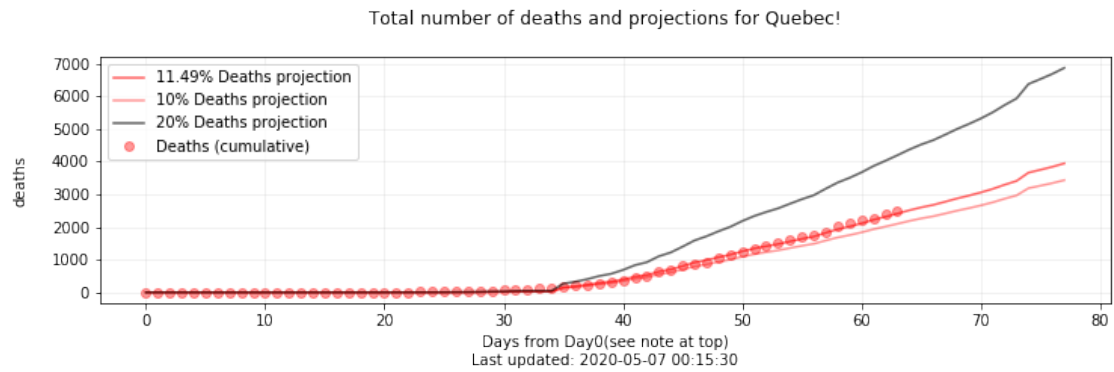
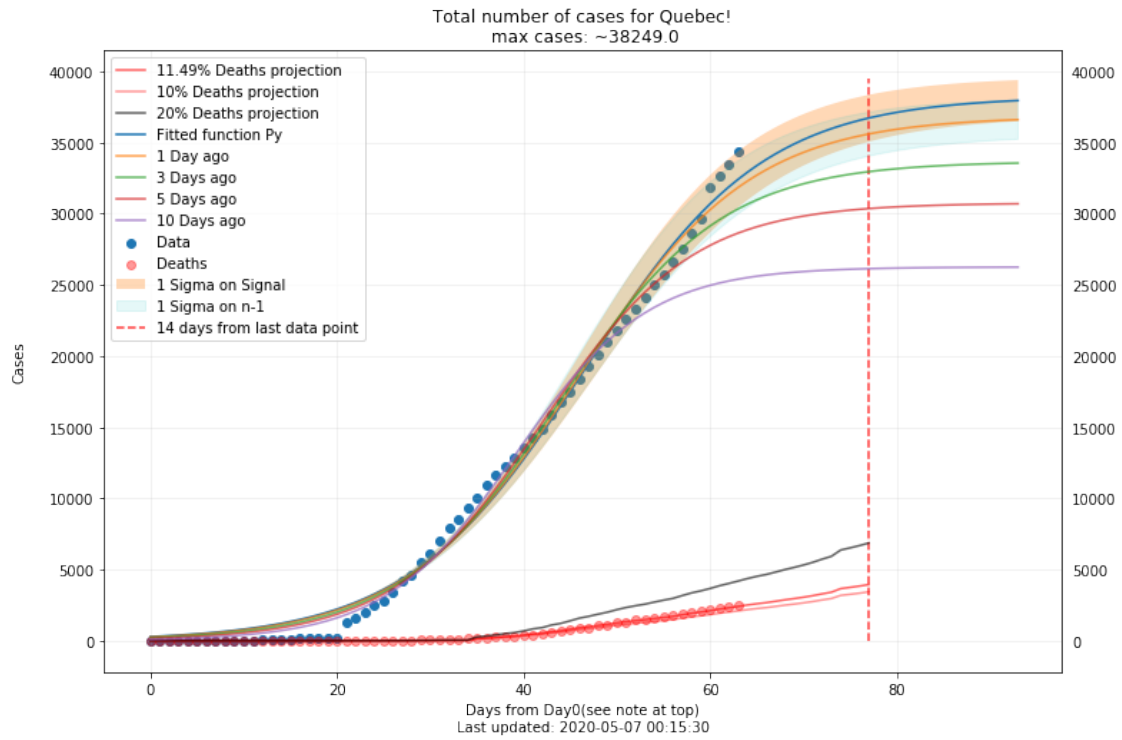
params PY: [3.82489801e+04 1.04735317e-01 4.66165647e+01]

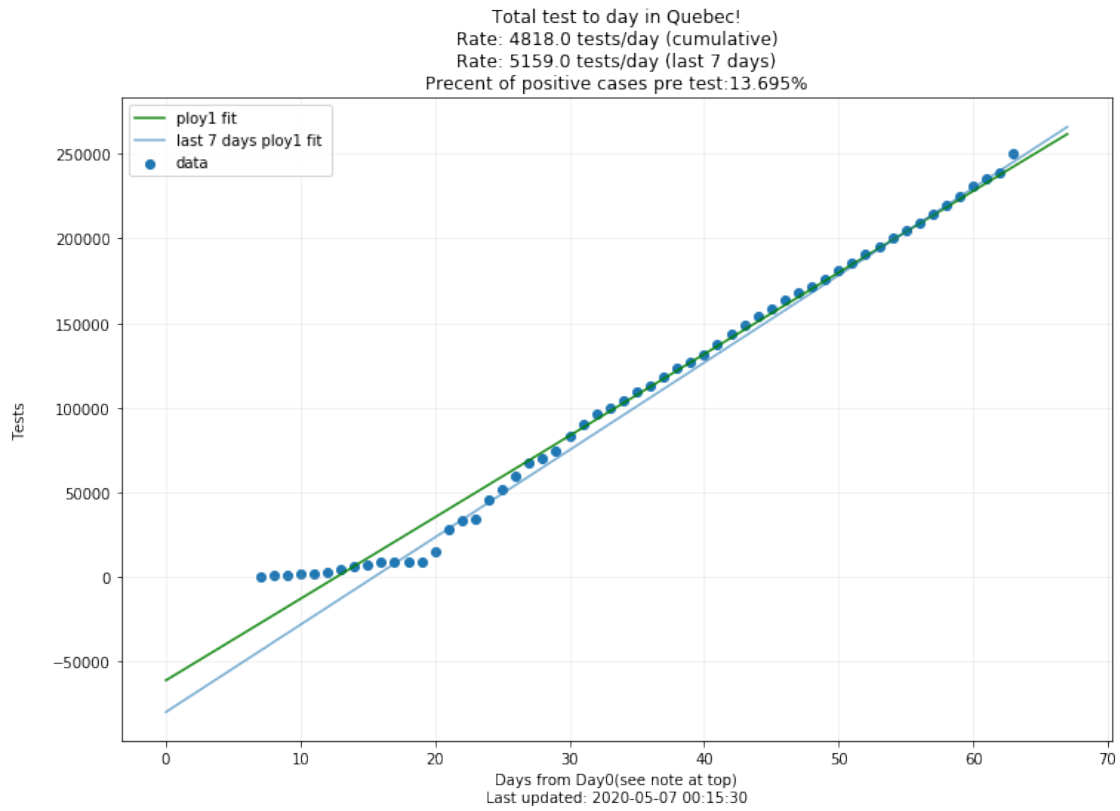
PY sigma: [1.36706859e+03 4.49014924e-03 8.68015920e-01]

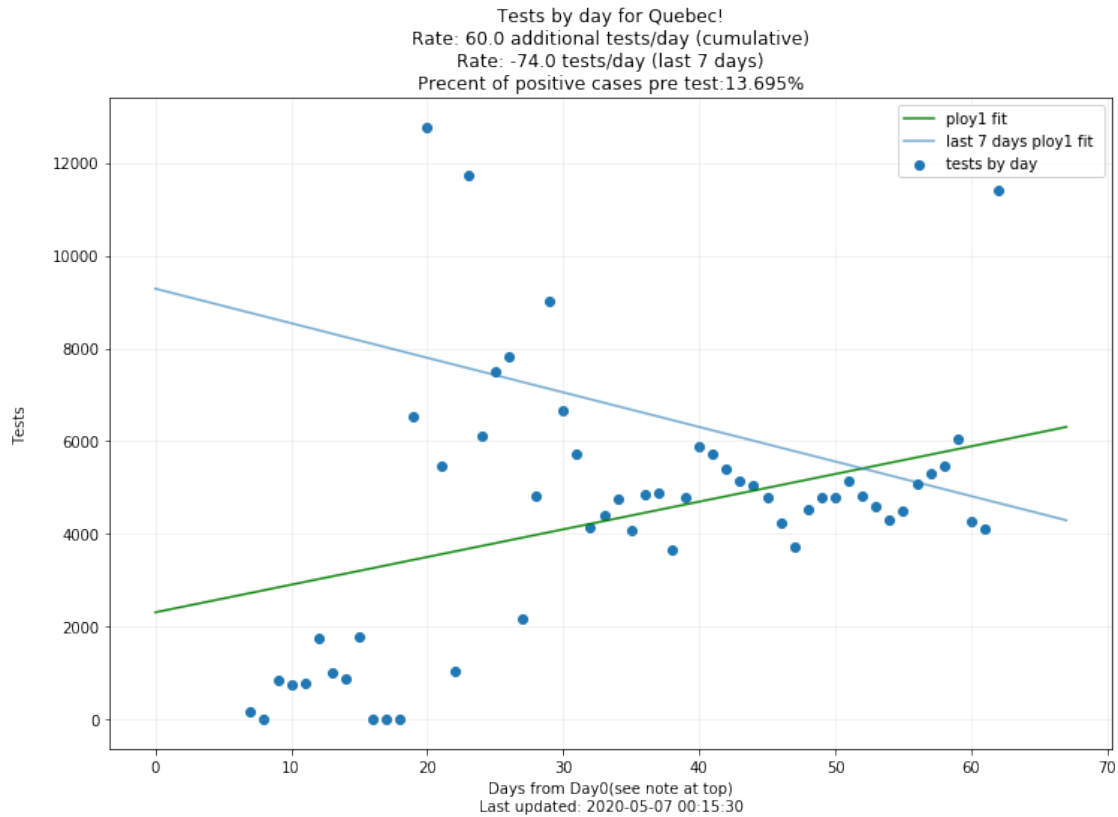
max cases: 38249.0

infection point: 47.0

infection point date: 2020-03-18



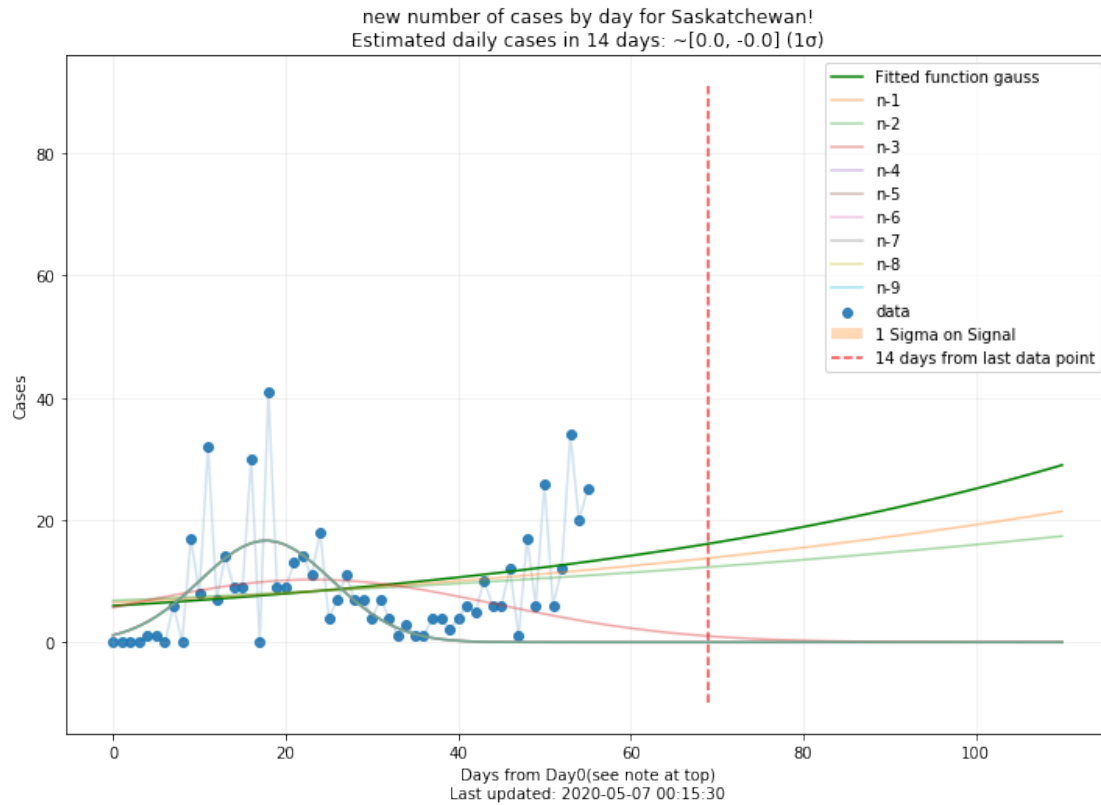




Percent of positive cases pre test: 13.695 %
 11.493726531733675

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```
cases: [ 0.  0.  0.  0.  0.  1.  2.  2.  8.  8. 25. 33. 65. 72.
        86. 95. 104. 134. 134. 175. 184. 193. 206. 220. 231. 249. 253. 260.
        271. 278. 285. 289. 296. 300. 301. 304. 305. 306. 310. 314. 316. 320.
        326. 331. 341. 347. 353. 365. 366. 383. 389. 415. 421. 433. 467. 487.
        512.]
```



sigma+: 420.0

n+1: 404.0

Sigma-: 386.0

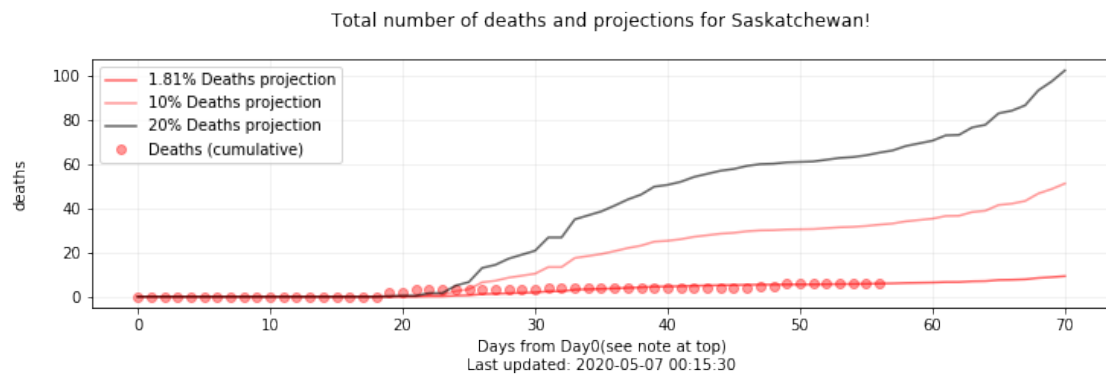
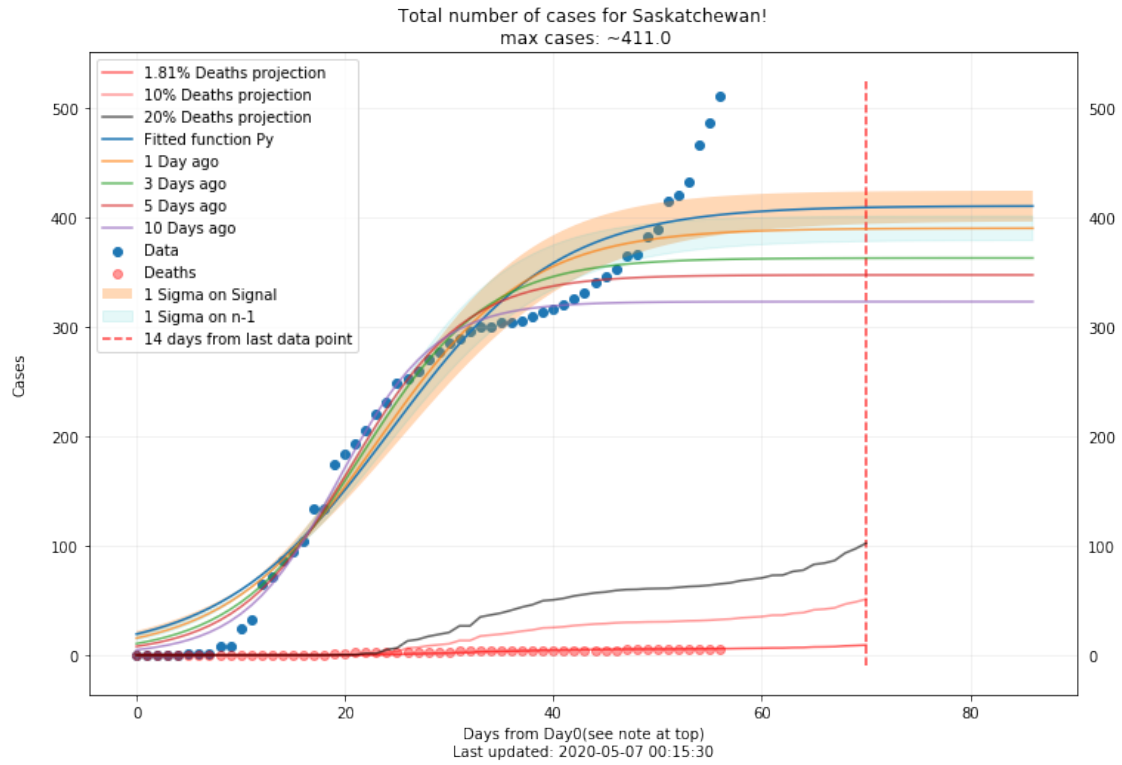
params PY: [4.10984787e+02 1.23344095e-01 2.43898467e+01]

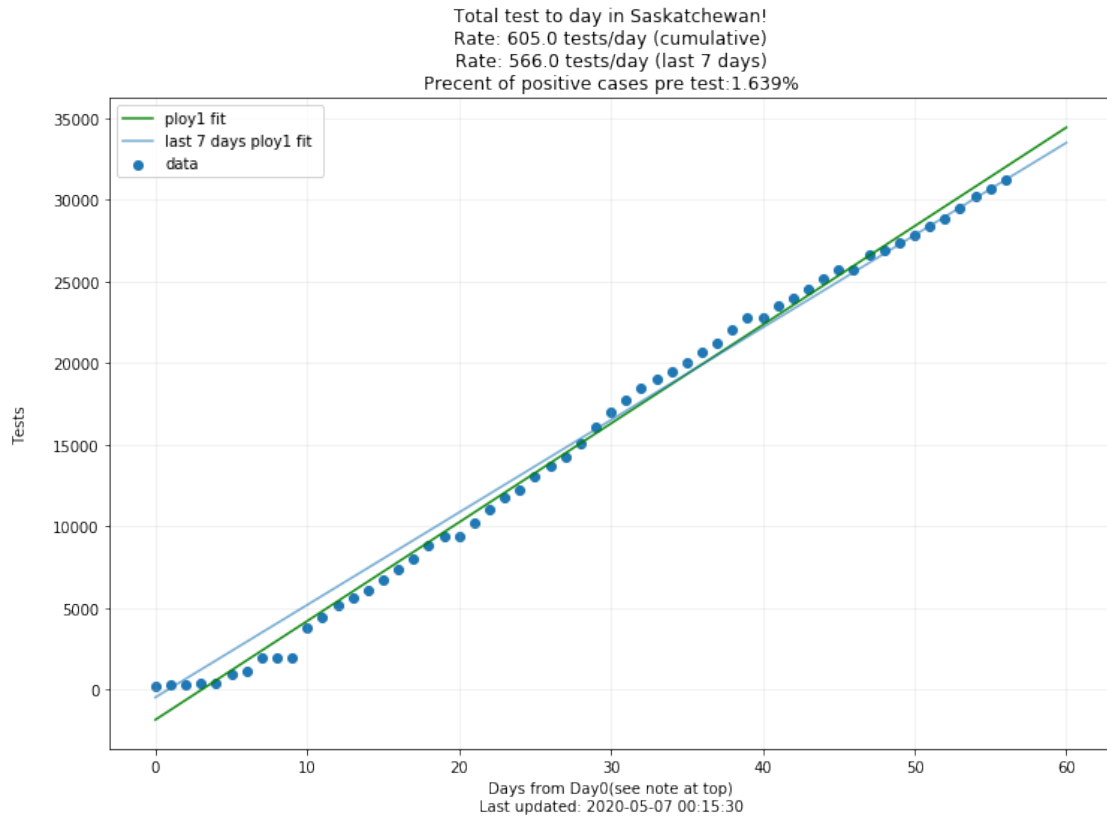
PY sigma: [1.38821016e+01 1.18240640e-02 9.86156768e-01]

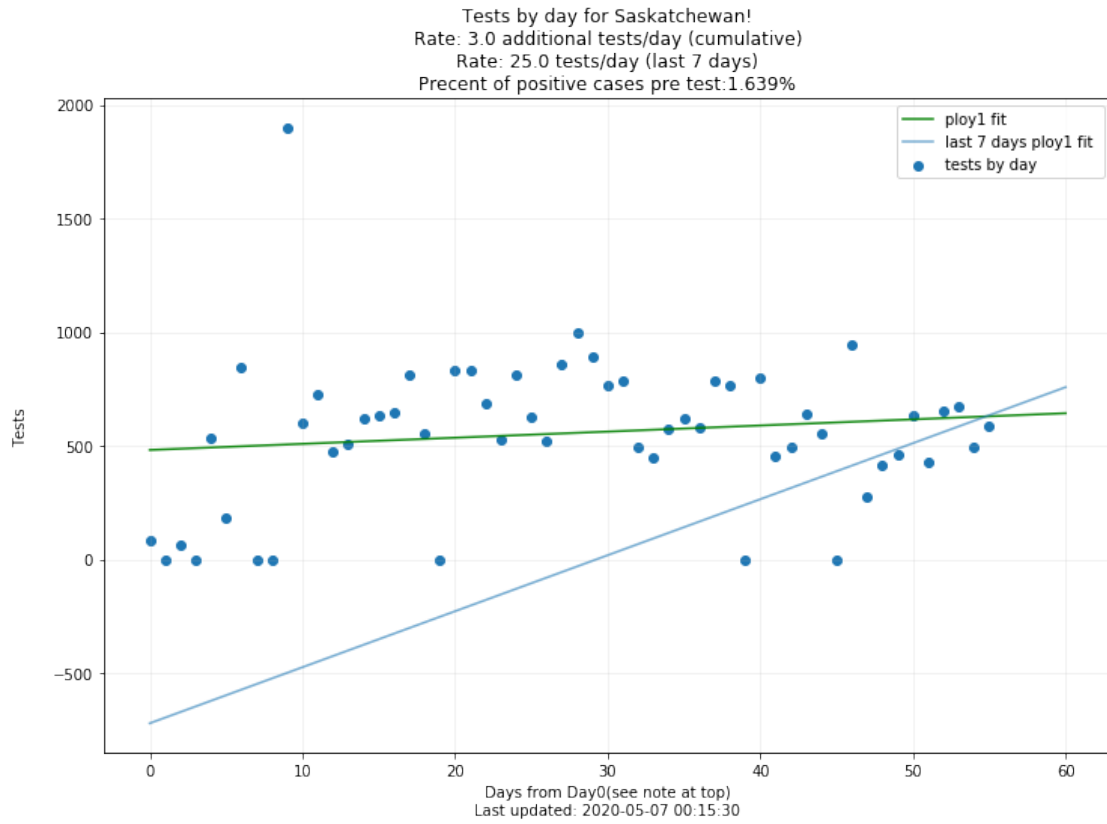
max cases: 411.0

infection point: 24.0

infection point date: 2020-02-24







Percent of positive cases pre test: 1.639 %

1.812688821752266