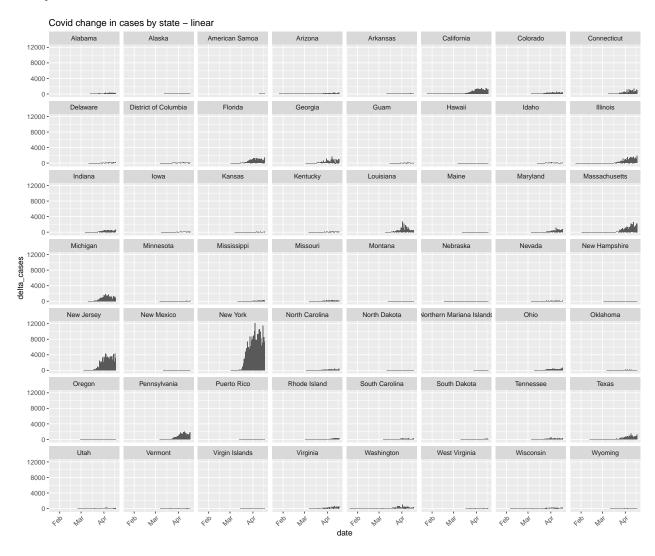
Change Analysis

Another experiment to look at rate of change. Idea here is to compare the reported change against the cumulative sum.

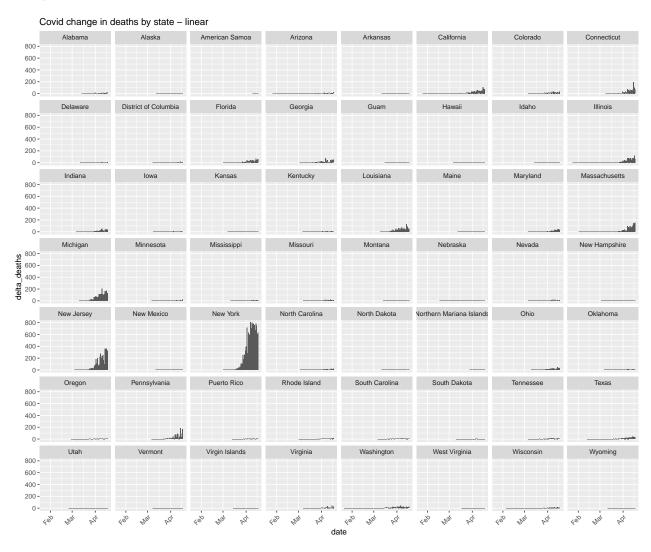
Last date for states data is 2020-04-17

Extract daily changes

Daily Cases



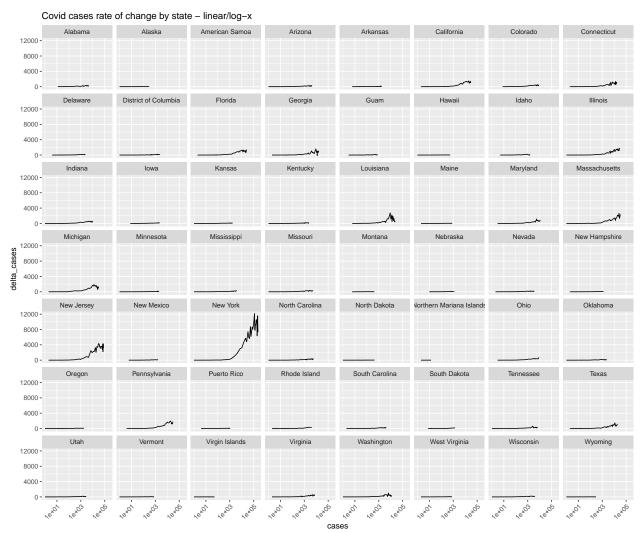
Daily Deaths



Change over Cumulative Sum

Change in Cases over Cumulative Sum

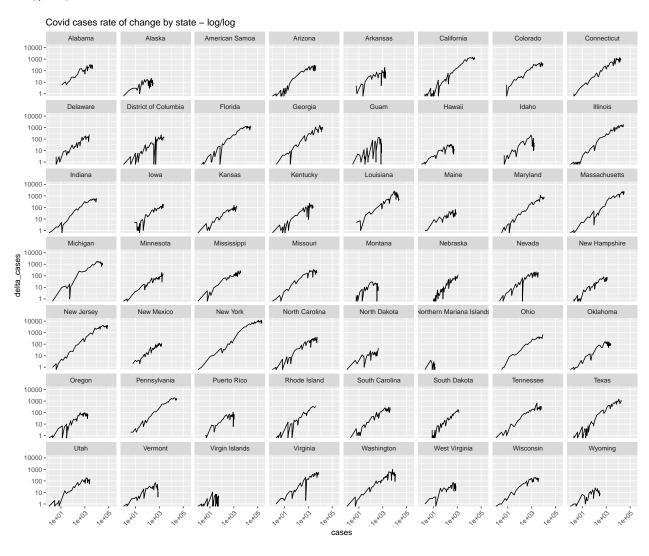
Use the log of the cumulative sum to better scale the values.



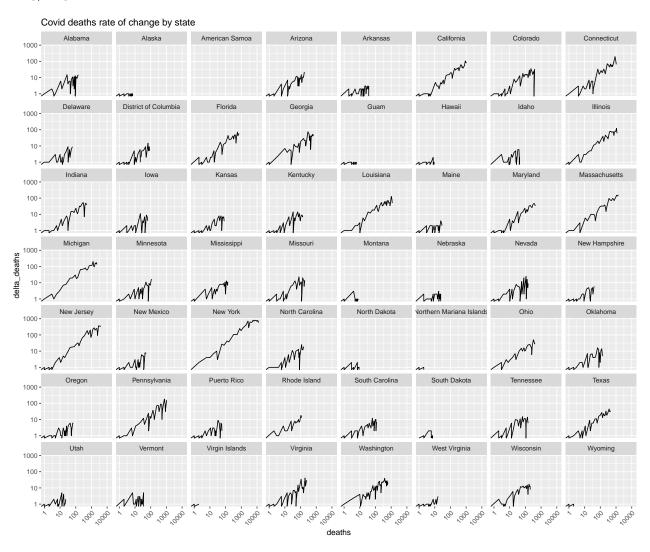
Log of Change Over Cumulative Sum

Linear values are skewed by higher-magnitude values, so use a log(10) on each axis. this better fits the exponential nature of the data anyway.

Log/Log of Cases Over Cumulative Sum



Log/Log of Deaths over Cumulative Sum



Weekly Rate of Changes

In order to smooth out the curves in the previous graphs, look at them on a weekly basis.

Weekly Range of Change of Cases by State

Covid - weekly cases rate of change by state California Colorado Alabama Alaska American Samoa Arizona Arkansas Connecticut 1e+05 -1e+03 -1e+01 -District of Columbia Florida Georgia 1e+05 -1e+03 -1e+01 -Louisiana Maine Indiana Kentucky Maryland 1e+05 -1e+03 -1e+01 -Michigan Minnesota Mississippi Missouri Montana Nebraska Nevada New Hampshire weekly_delta_cases 1e+05 -1e+03 -1e+01 **-**North Dakota New York North Carolina Northern Mariana Islands Oklahoma 1e+05 -1e+03 -1e+01 -Oregon Puerto Rico South Carolina South Dakota Rhode Island Pennsylvania 1e+05 -1e+03 -1e+01 -Utah Virgin Islands Virginia Washington West Virginia Wisconsin Wyoming 1e+05 -1e+03 -1e+01 weekly_cases

Weekly Range of Change of Deaths by State

Covid - weekly deaths rate of change by state California Alabama American Samoa Alaska Arizona Colorado Connecticut 1000 -100 -10-District of Columbia Florida Georgia Guam Idaho 1000 -100 -10-Indiana Maine Iowa Kentucky Louisiana Maryland Massachusetts Kansas 1000 -100 -10weekly_delta_deaths Michigan Minnesota Mississippi Missouri Montana New Hampshire 1000 -100 -10 -North Carolina North Dakota Ohio Oklahoma New Jersey New Mexico New York Northern Mariana Islands 1000 -100 -10-Pennsylvania Puerto Rico Rhode Island South Carolina Texas Oregon South Dakota 1000 -100 -10-Virgin Islands Virginia Washington West Virginia Wyoming 1000 -100 -

Washington Counties

