# 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 2020-04-20

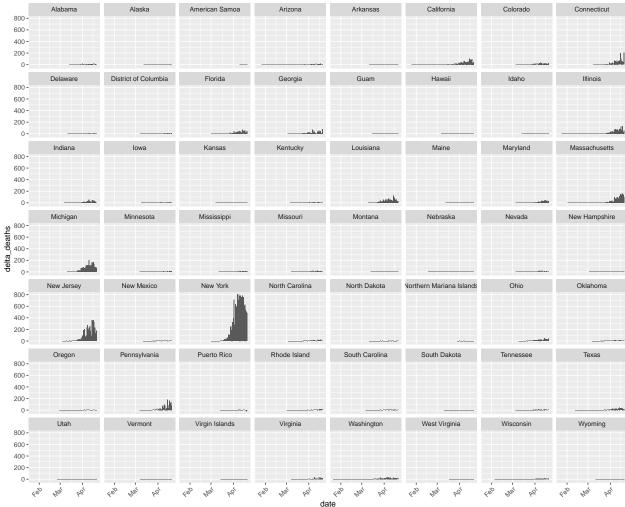
## Extract daily changes

#### Daily Cases

Covid change in cases by state - linear 12000 8000 -4000 -District of Columbia Idaho 12000 4000 -0 -12000 -8000 -4000 -0-New Hampshire 12000 -8000 -4000 -North Carolina North Dakota 12000 8000 -4000 -0 -Puerto Rico 12000 -8000 -4000 -12000 -4000 -

#### Daily Deaths

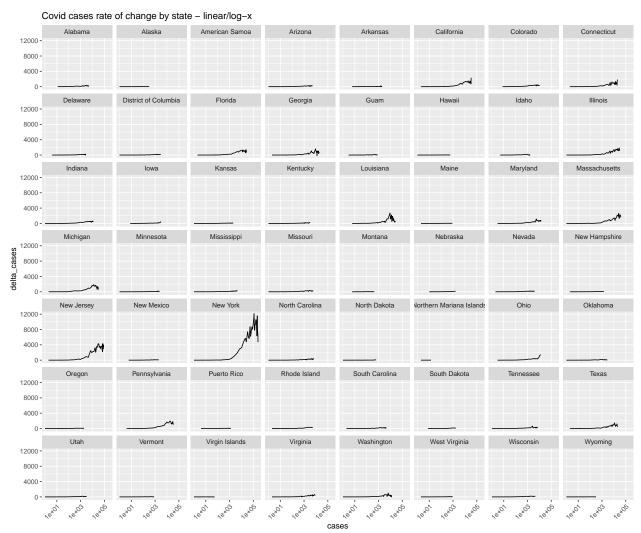




## Change over Cumulative Sum

### Change in Cases over Cumulative Sum

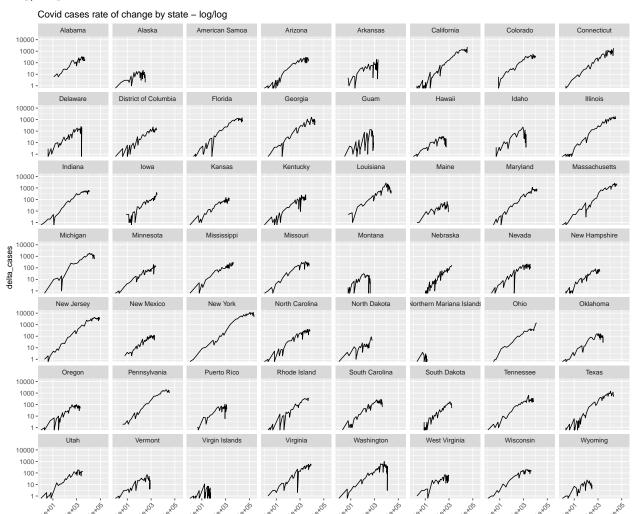
Use the log of the cumulative sum to better scale the values.



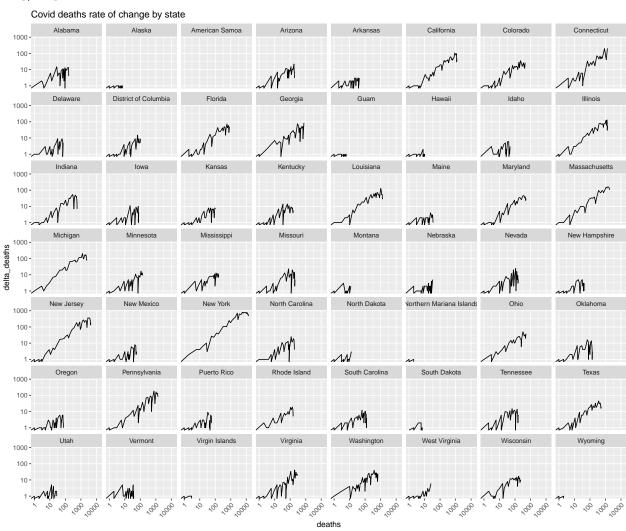
## Log of Change Over Cumulative Sum

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

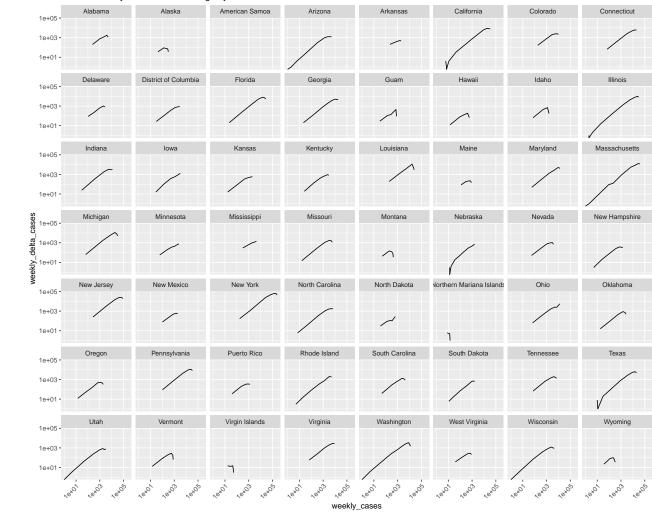


## Weekly Rate of Changes

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

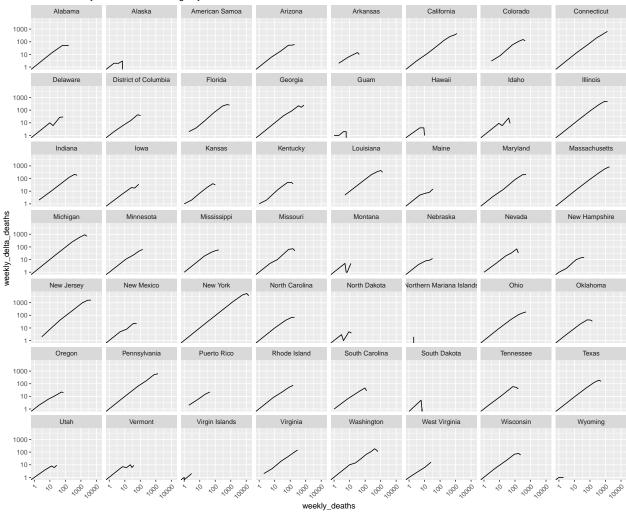
#### Weekly Range of Change of Cases by State

Covid – weekly cases rate of change by state



#### Weekly Range of Change of Deaths by State

Covid – weekly deaths rate of change by state



## Washington Counties

