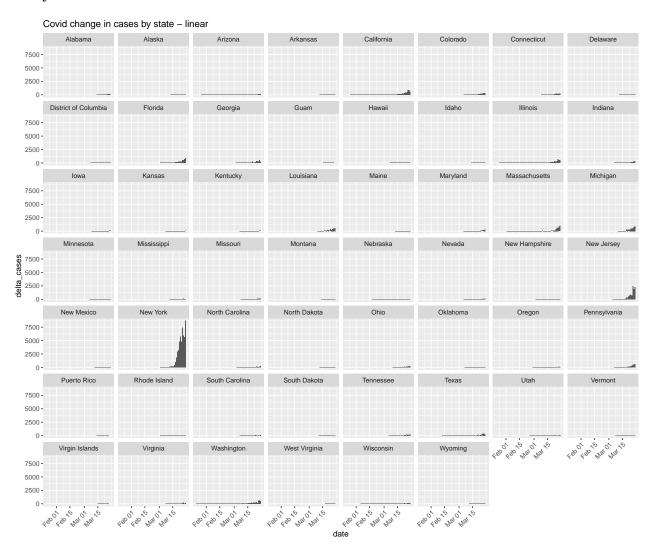
# Change Analysis

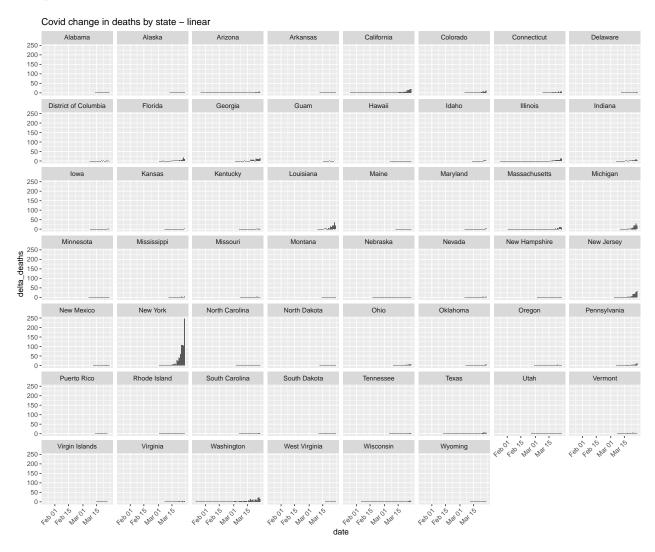
Another experiment to look at rate of change. Idea here is to compare the reported change against the cumulative sum.

### Extract daily changes

#### Daily Cases



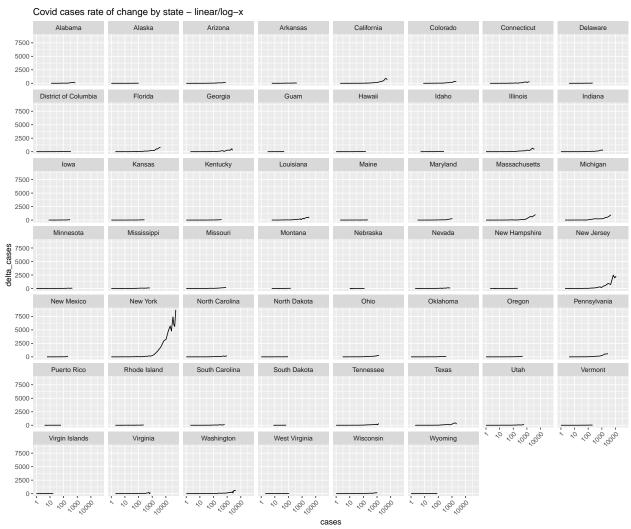
#### Daily Deaths



#### Change over Cumulative Sum

#### Change in Cases over Cumulative Sum

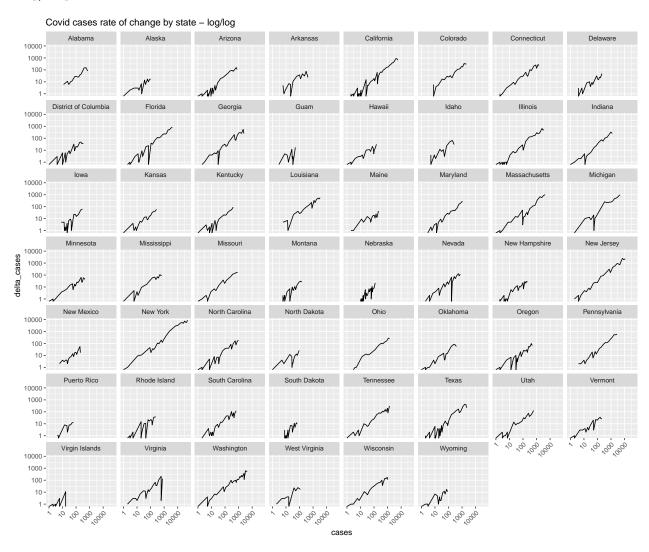
Use the log of the cumulative sum to better scale the values.



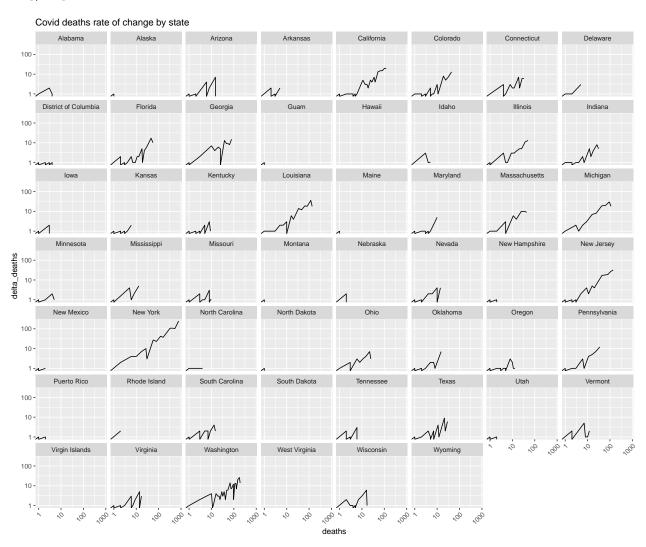
## Log of Change Over Cumulative Sum

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 Colorado Alabama Arizona Arkansas California Connecticut Delaware 10000 -1000 -100 -10 -Indiana District of Columbia Florida Georgia 10000 -1000 -100 -10 -1-Louisiana Kentucky Maine Maryland Michigan Kansas Massachusetts 10000 -1000 -100 -10-Minnesota Mississippi Missouri Montana Nebraska Nevada New Hampshire New Jersey weekly\_delta\_cases 10000 -1000 -100 -10-1-North Carolina North Dakota Oklahoma Oregon Pennsylvania 10000 -1000 -100 -10-Puerto Rico South Carolina South Dakota Utah Rhode Island Texas Vermont 10000 -1000 -100 -10-1 -Virginia Washington West Virginia Wisconsin Wyoming 10000 -1000 -100 -10 -0,00,00,00 weekly\_cases

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

