

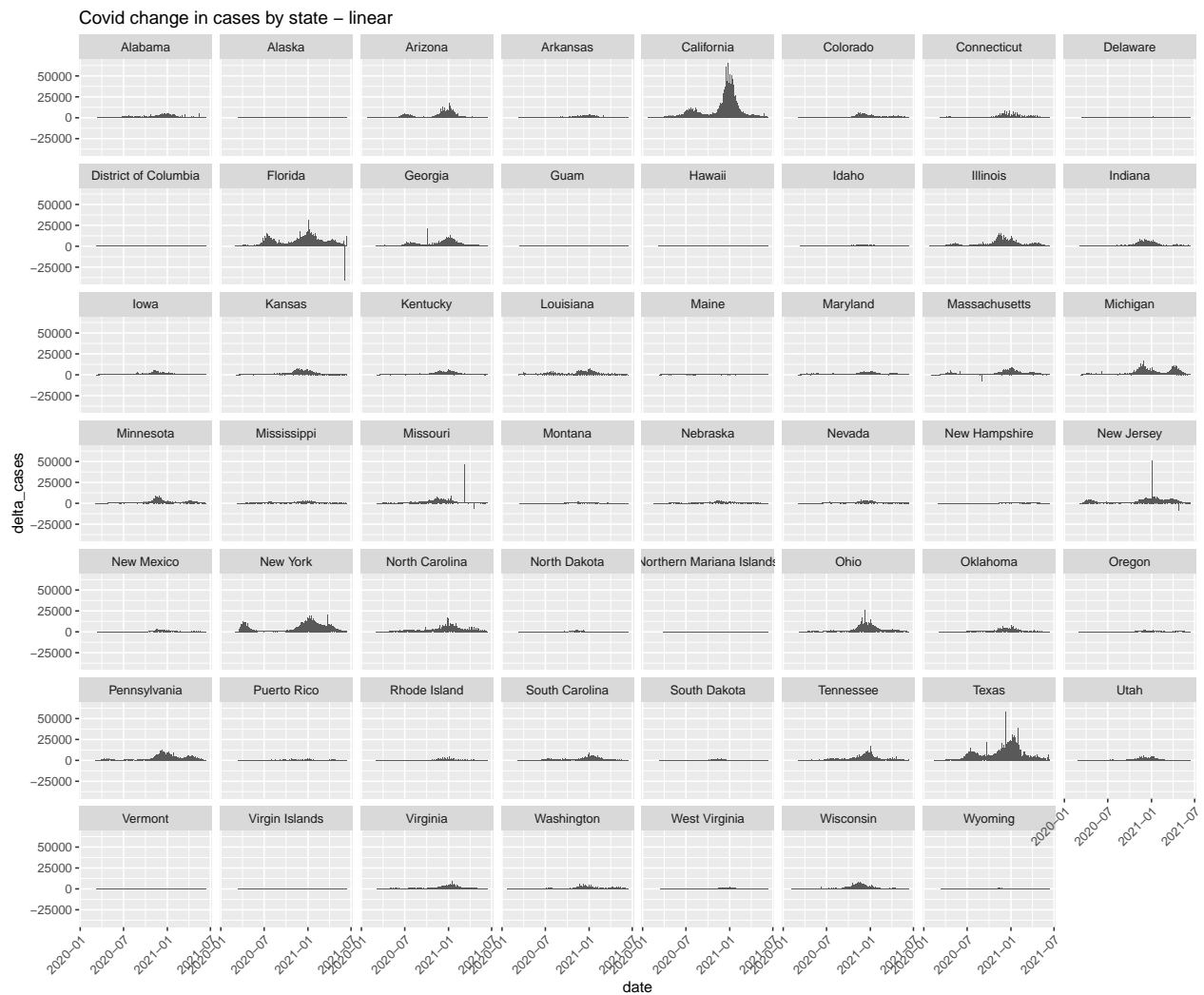
# Change Analysis

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

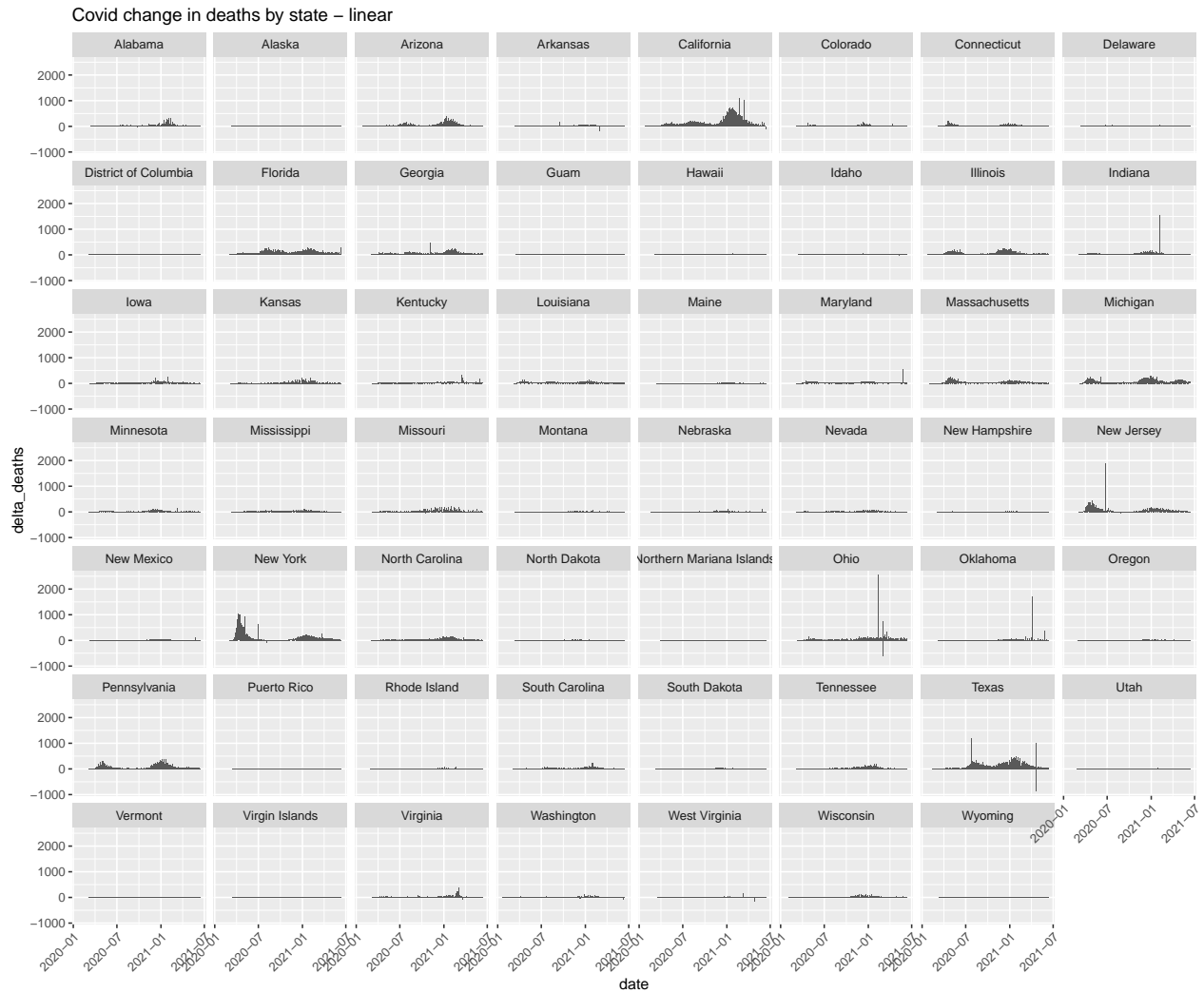
Last date for states data is 2021-06-12

## Extract daily changes

### Daily Cases



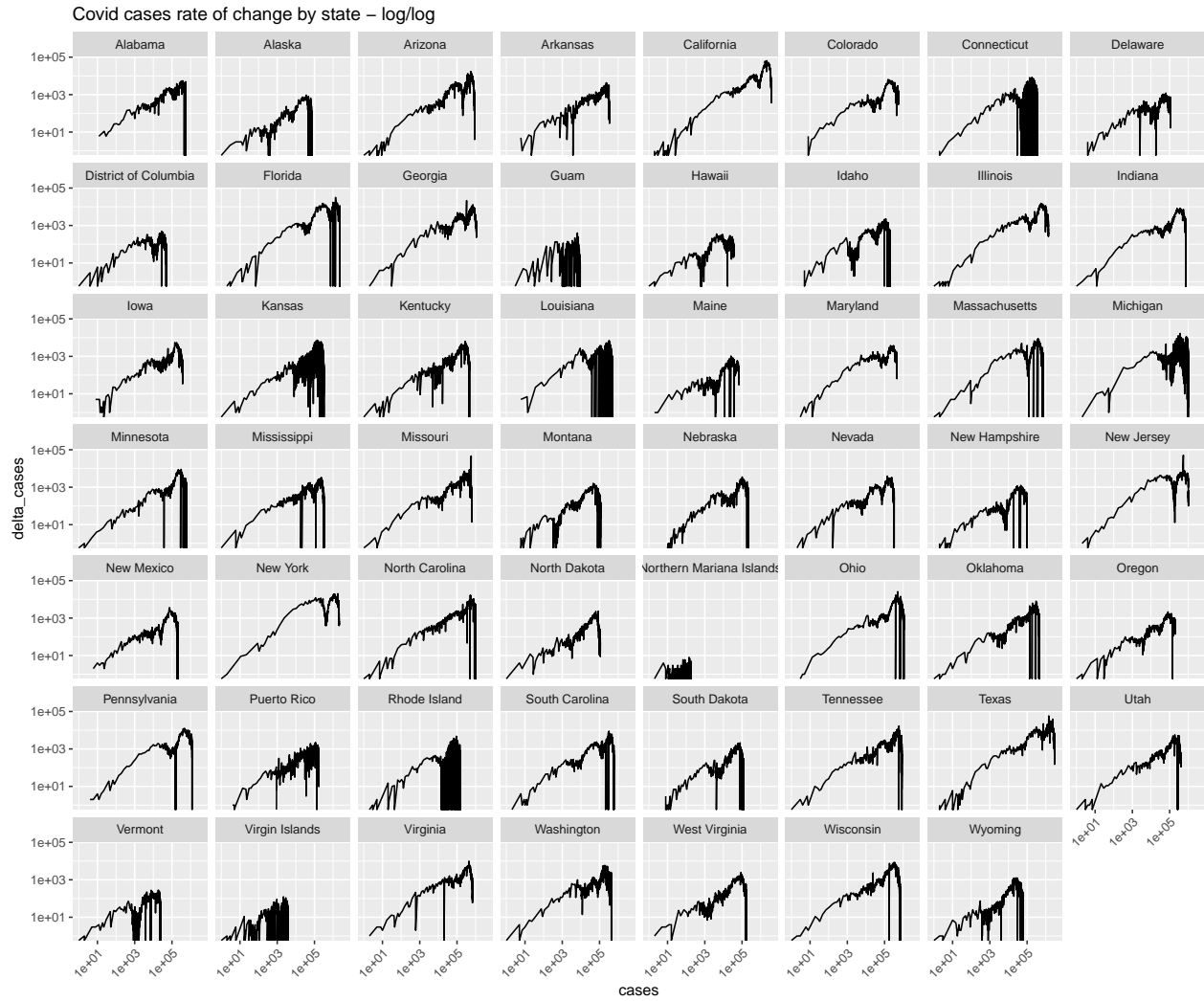
## Daily Deaths



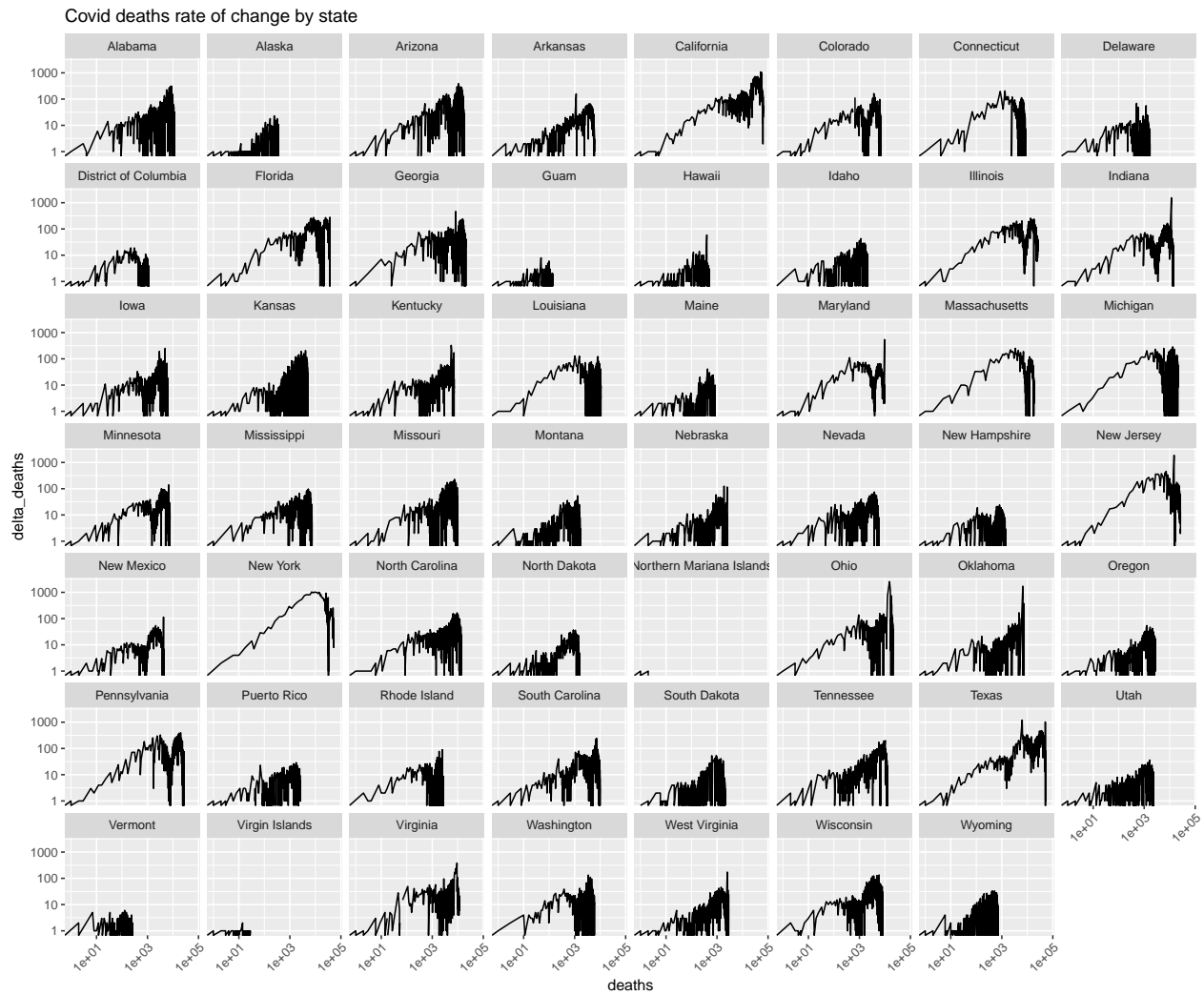
## Log of Change Over Cumulative Sum

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

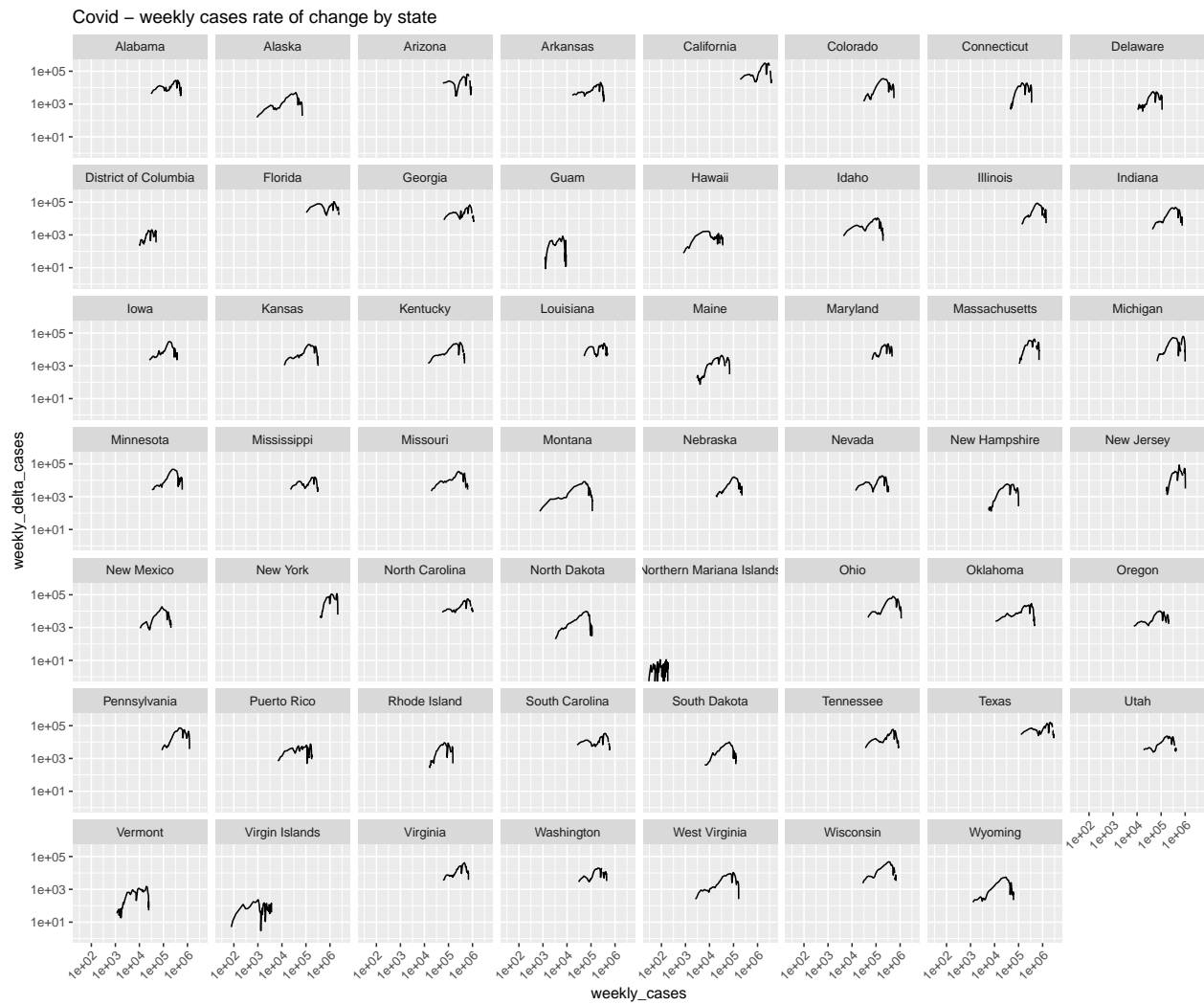


## Weekly Rate of Changes

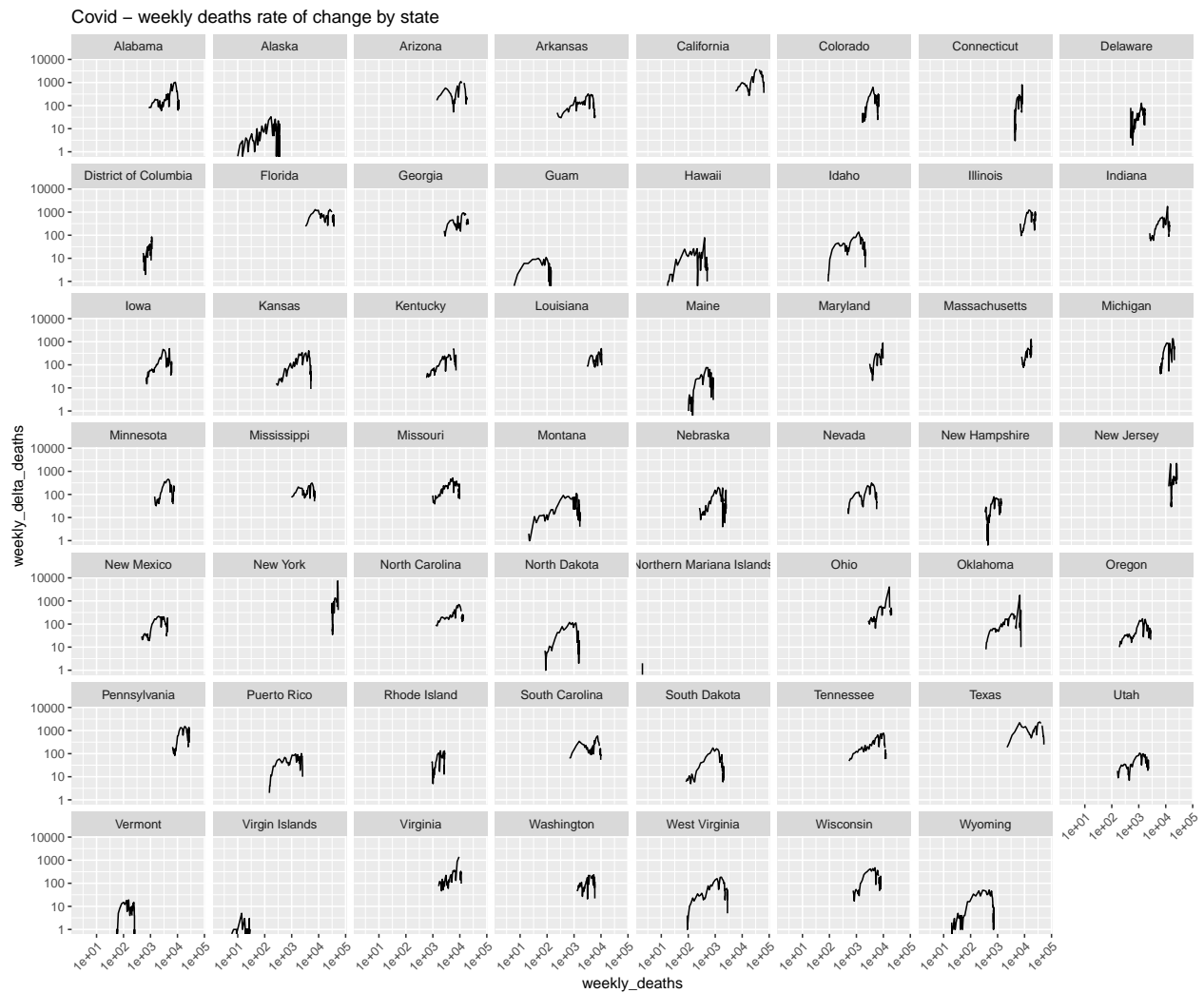
In order to smooth out the curves in the previous graphs, look at them on a weekly basis.

## ``summarise()`` has grouped output by 'state'. You can override using the ``groups`` argument.

## Weekly Range of Change of Cases by State



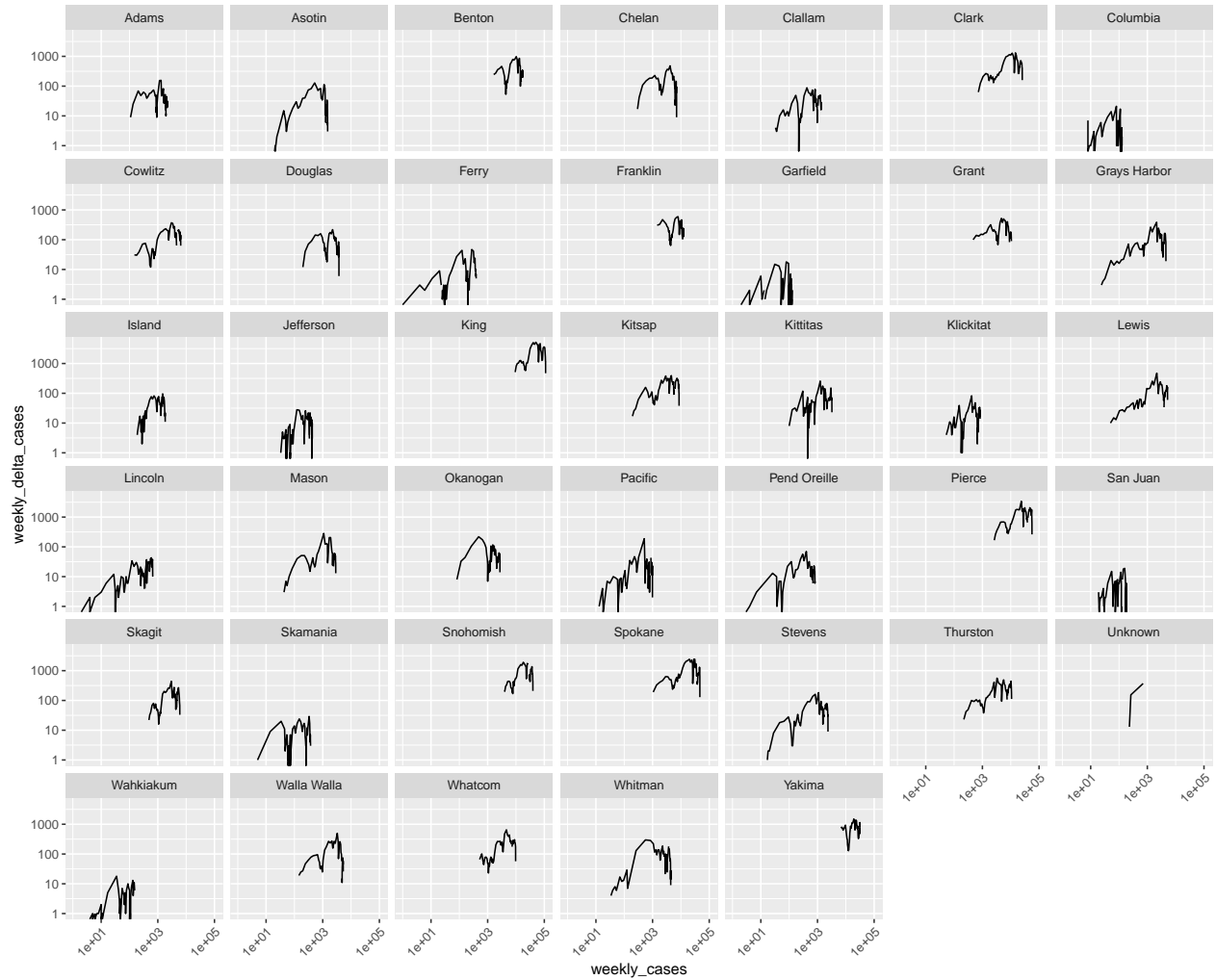
## Weekly Range of Change of Deaths by State

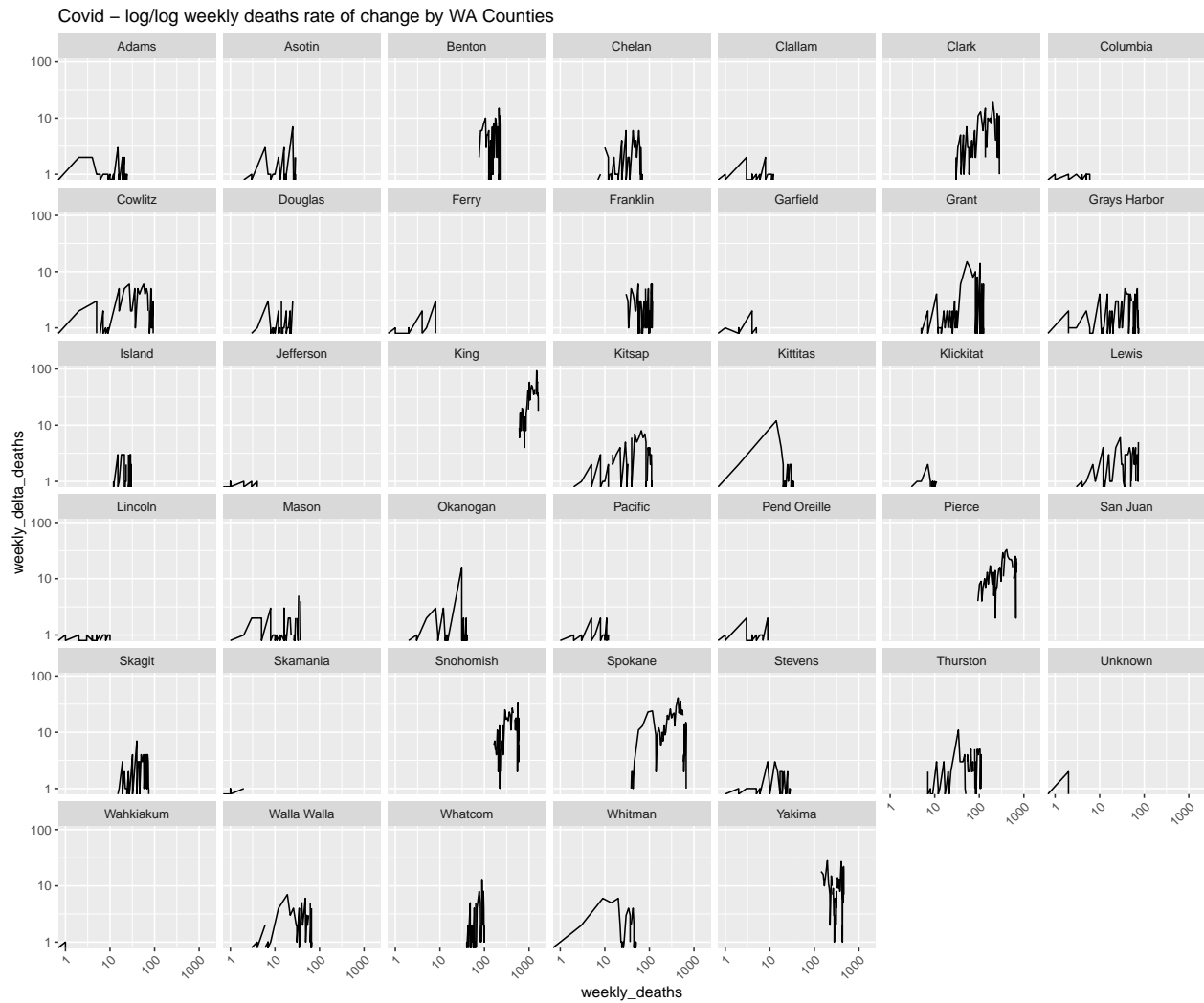


## Washington Counties

## ``summarise()`` has grouped output by 'county'. You can override using the ``.groups`` argument.

Covid – log/log weekly cases rate of change by WA Counties



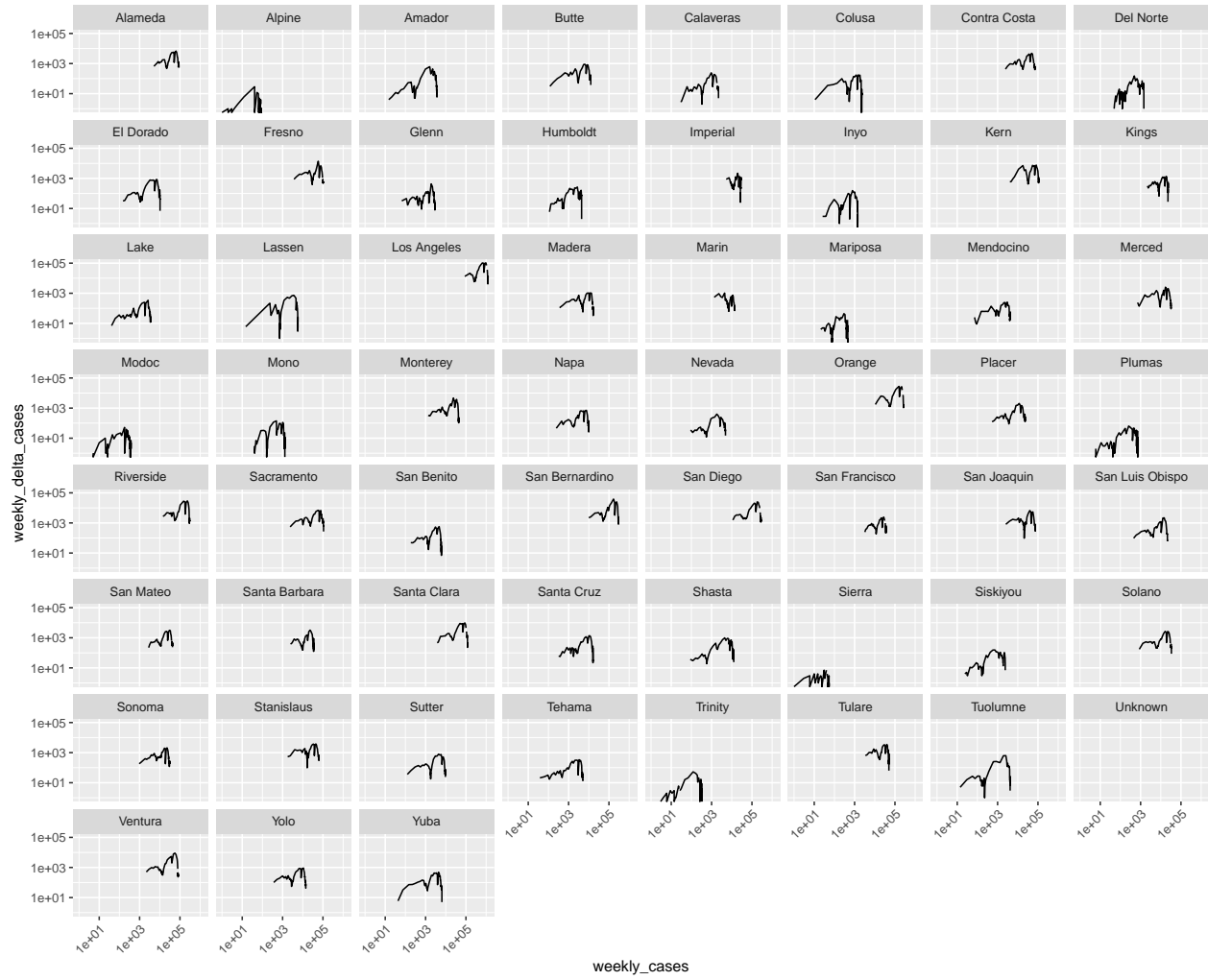


## California Counties

## ``summarise()`` has grouped output by 'county'. You can override using the ``.groups`` argument.



Covid – log/log weekly cases rate of change by CA Counties



Covid – log/log weekly deaths rate of change by CA Counties

