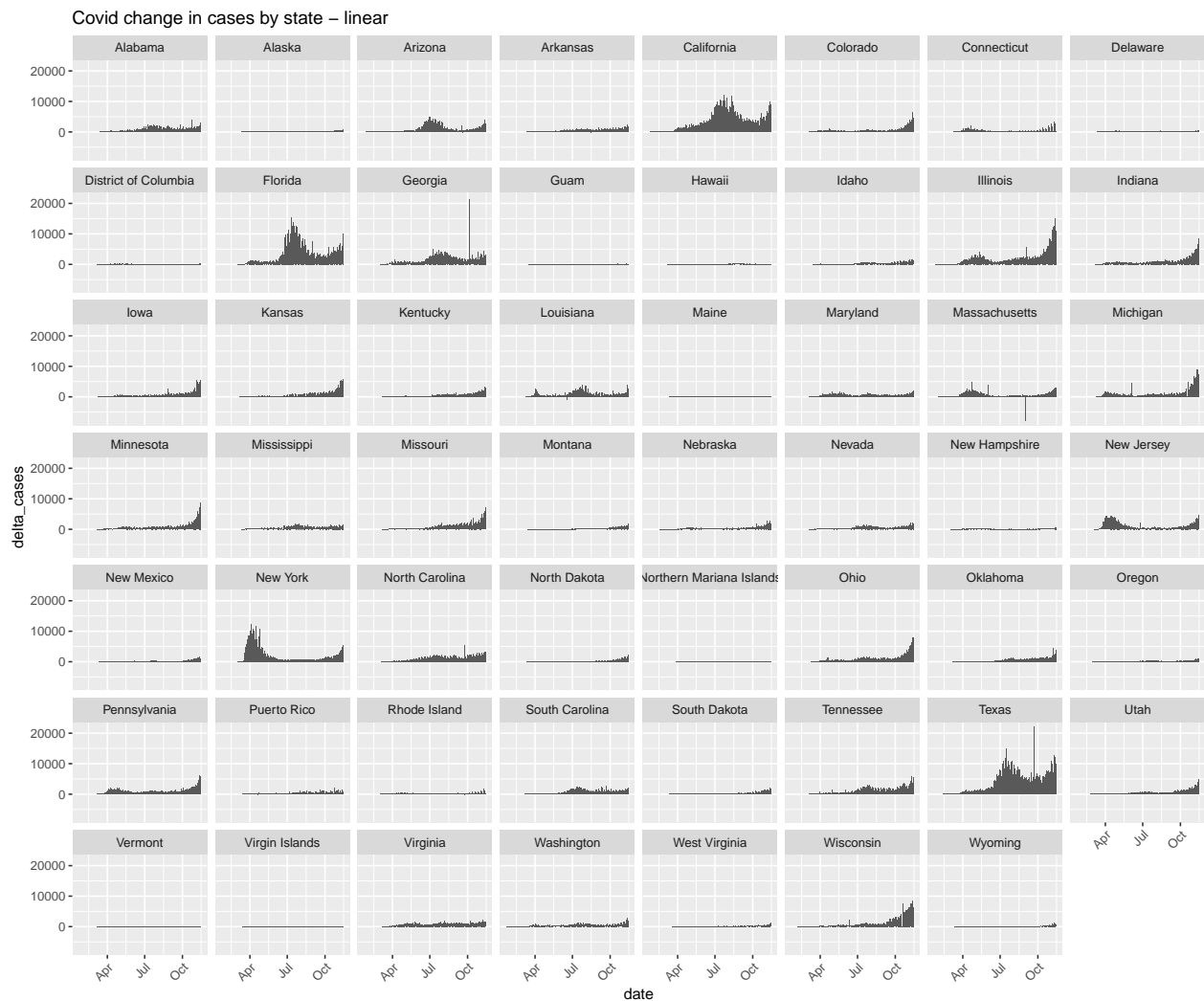# Change Analysis

Another experiment to look at rate of change. Idea here is to compare the reported change against the cumulative sum.
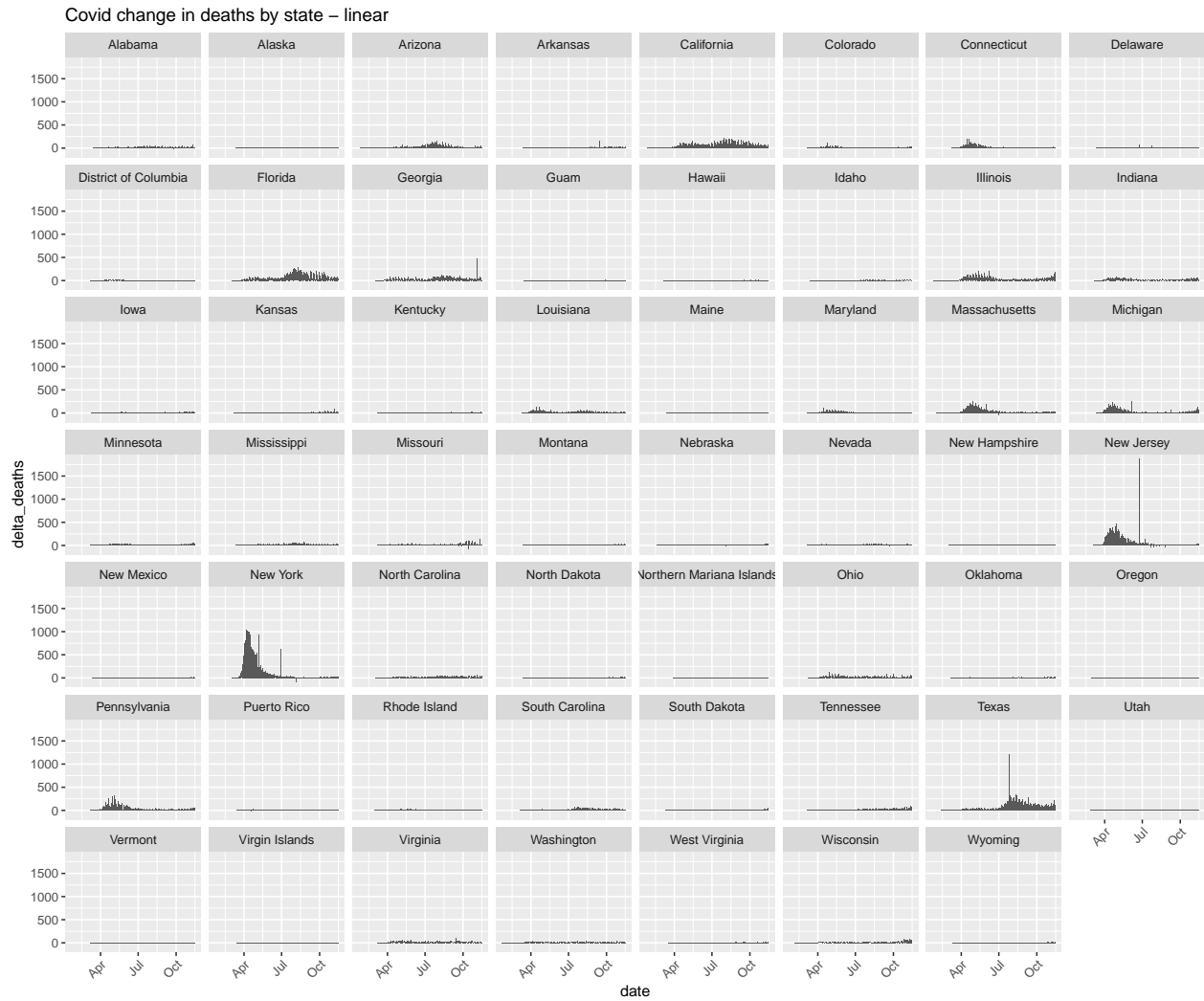
Last date for states data is 2020-11-15

## Extract daily changes

Daily Cases

Covid change in cases by state – linear

## Daily Deaths

Covid change in deaths by state – linear

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

Covid cases rate of change by state – log/log
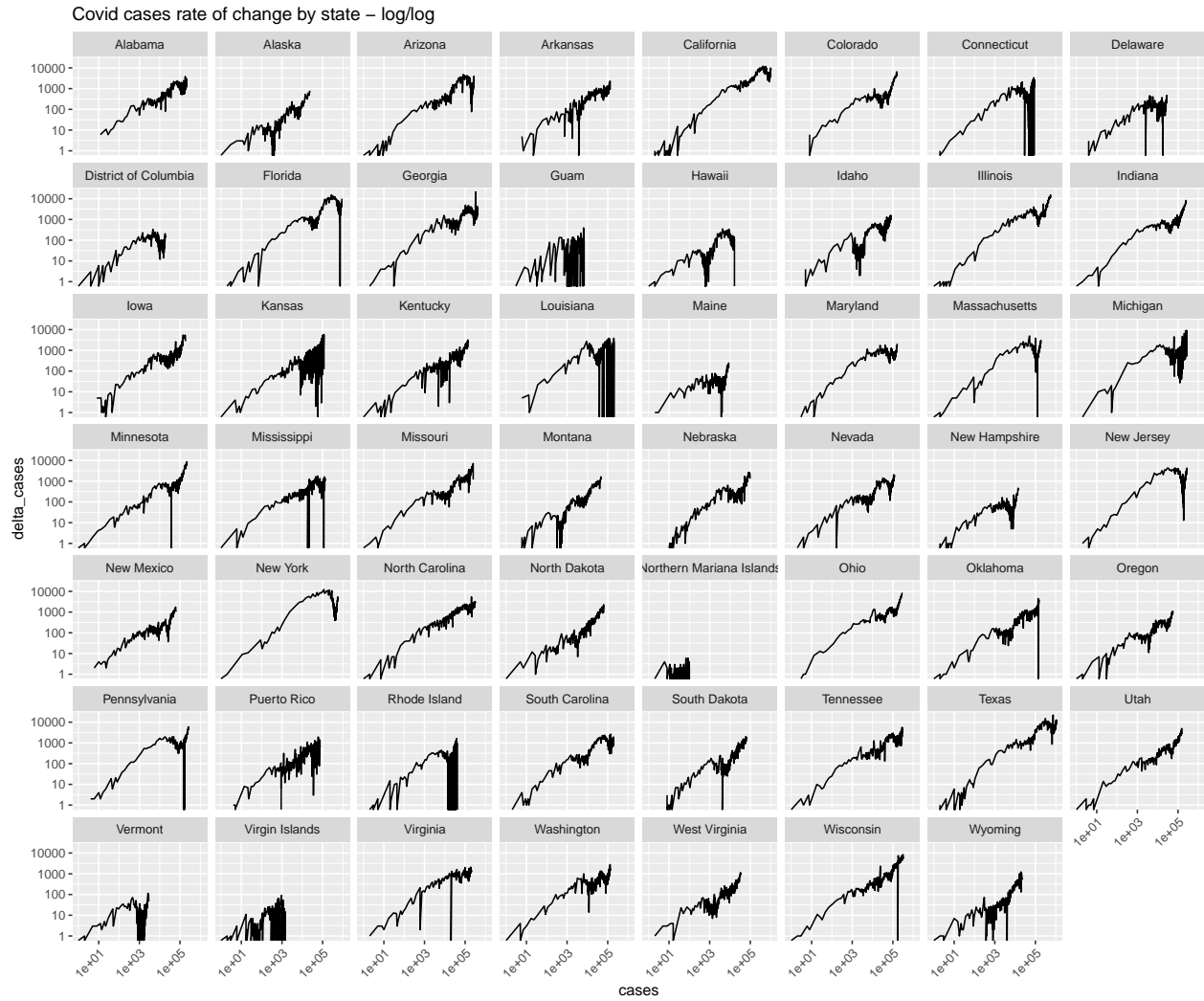
Log/Log of Deaths over Cumulative Sum

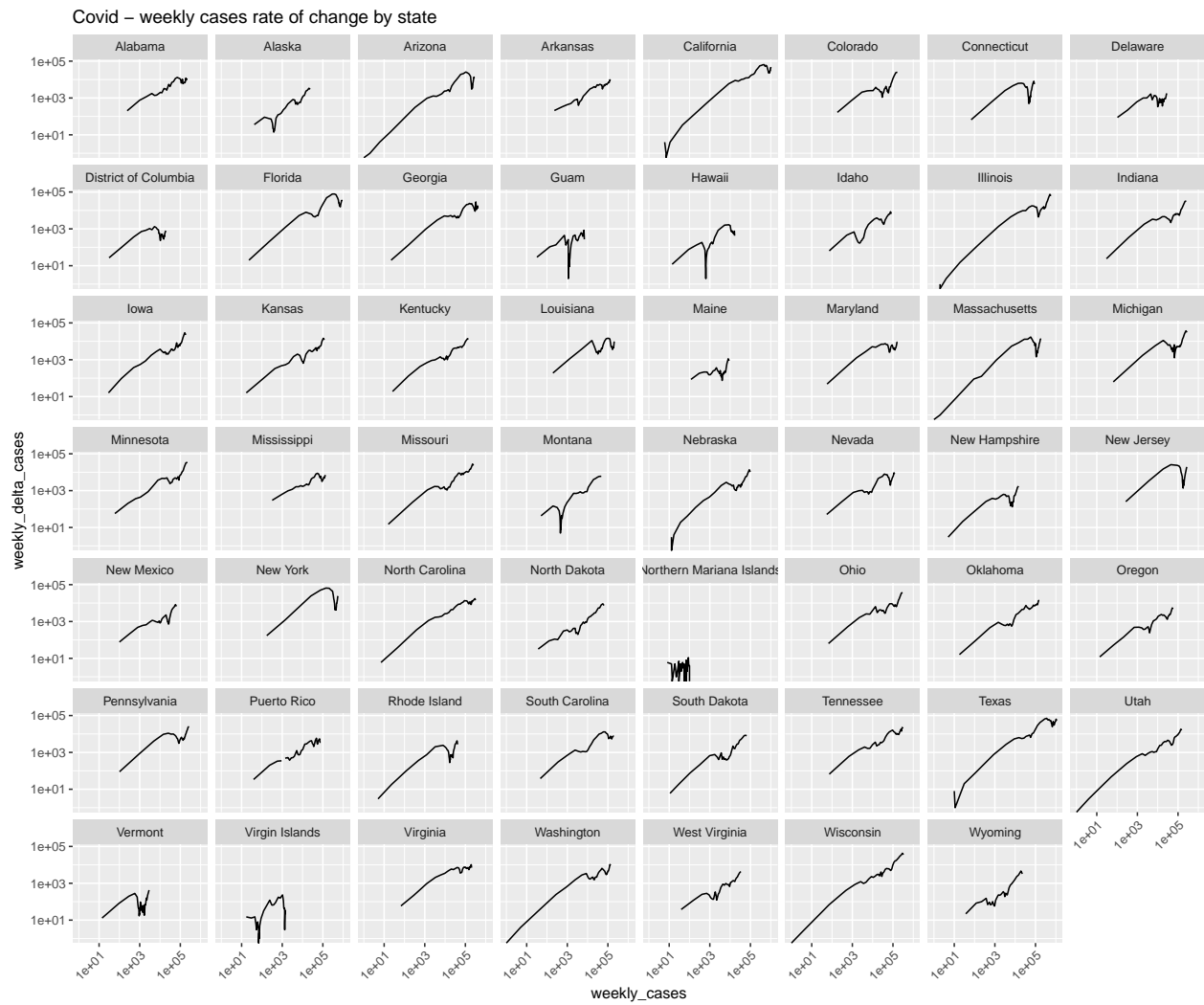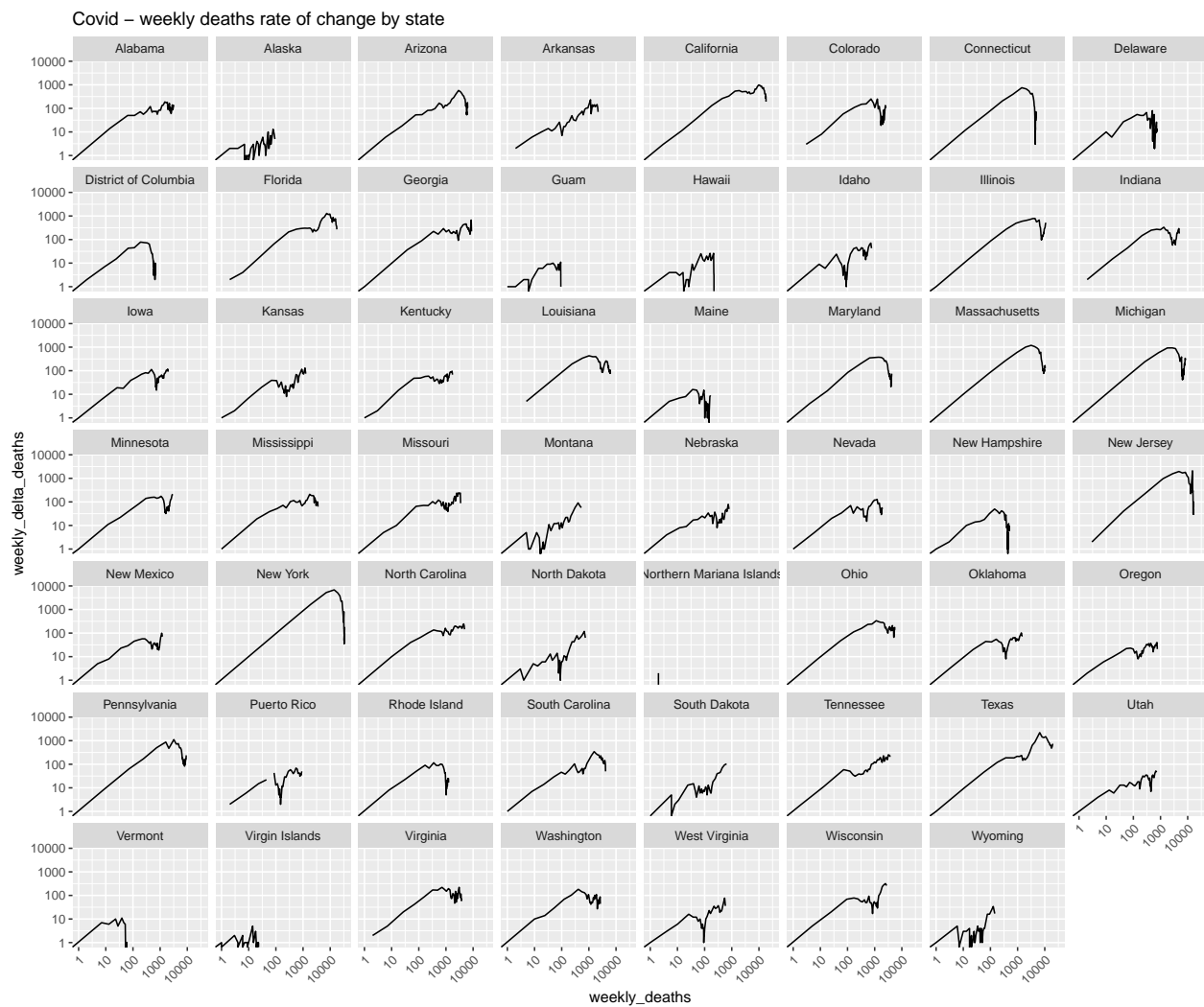Covid deaths rate of change by state
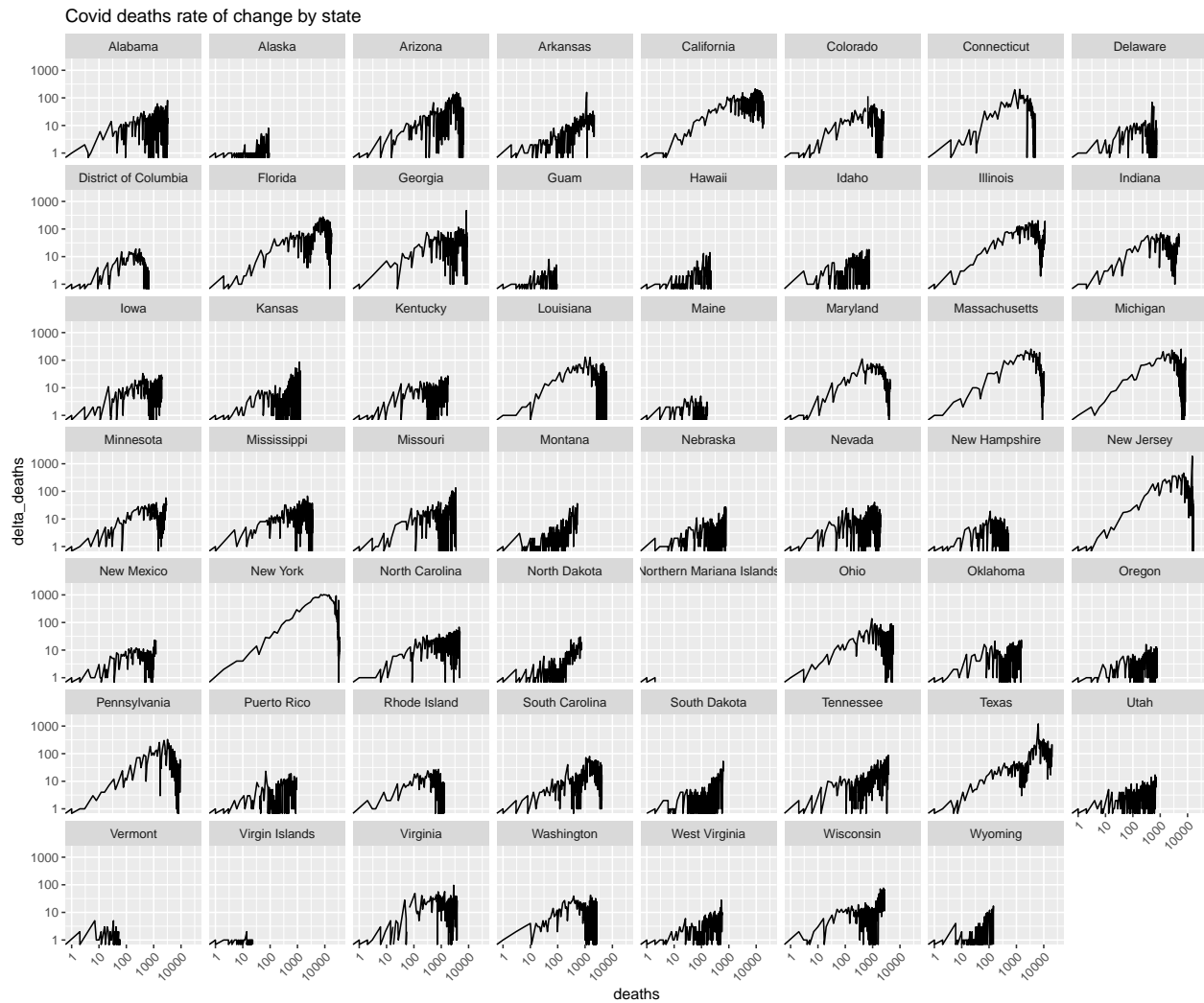
Weekly Rate of Changes

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

```
## `summarise()` regrouping output by 'state' (override with `.groups` argument)
```
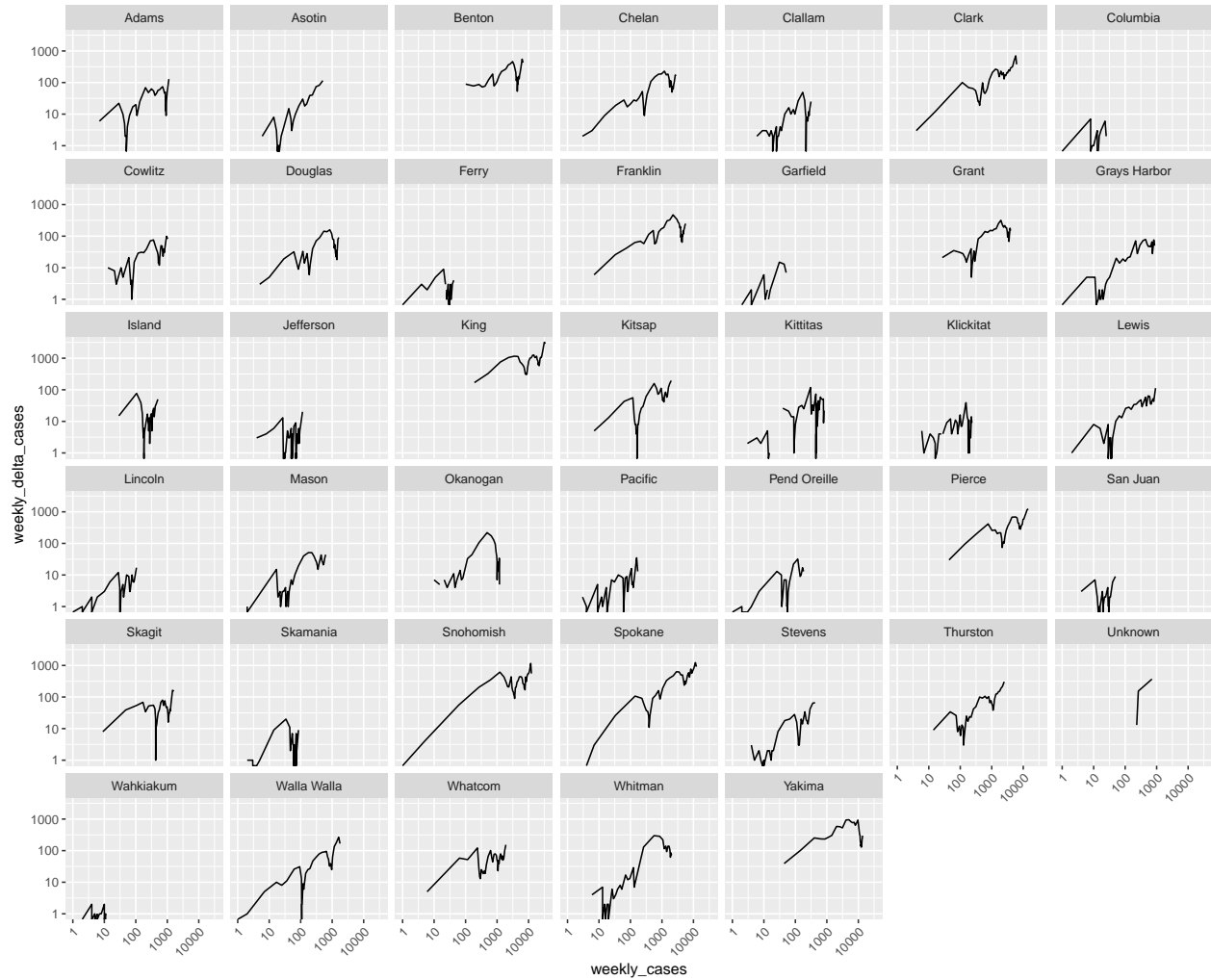
Weekly Range of Change of Cases by State

Covid – weekly cases rate of change by state

weekly_delta_cases

weekly_cases

Weekly Range of Change of Deaths by State

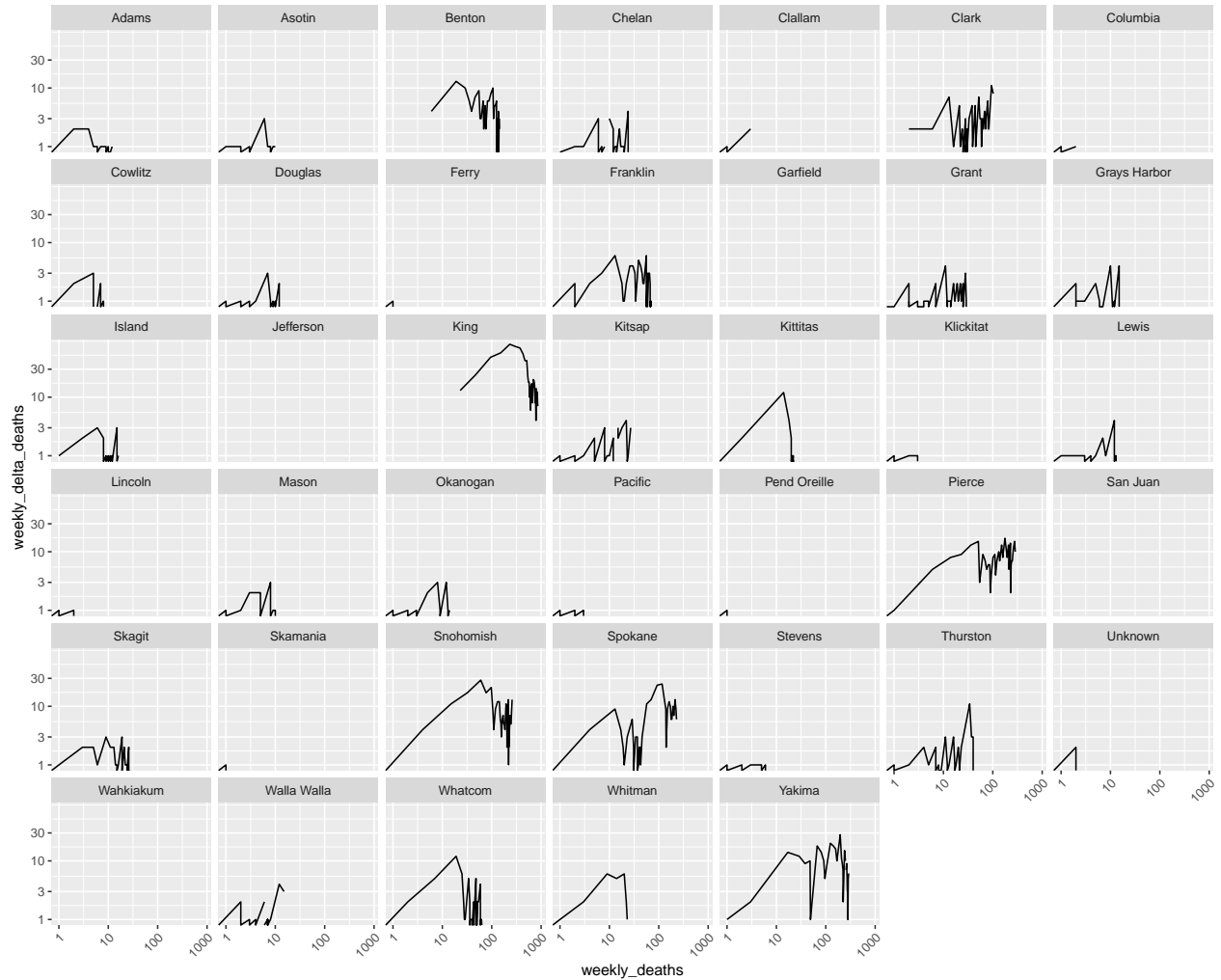Covid – weekly deaths rate of change by state

Washington Counties

```
## `summarise()` regrouping output by 'county' (override with `.groups` argument)
```

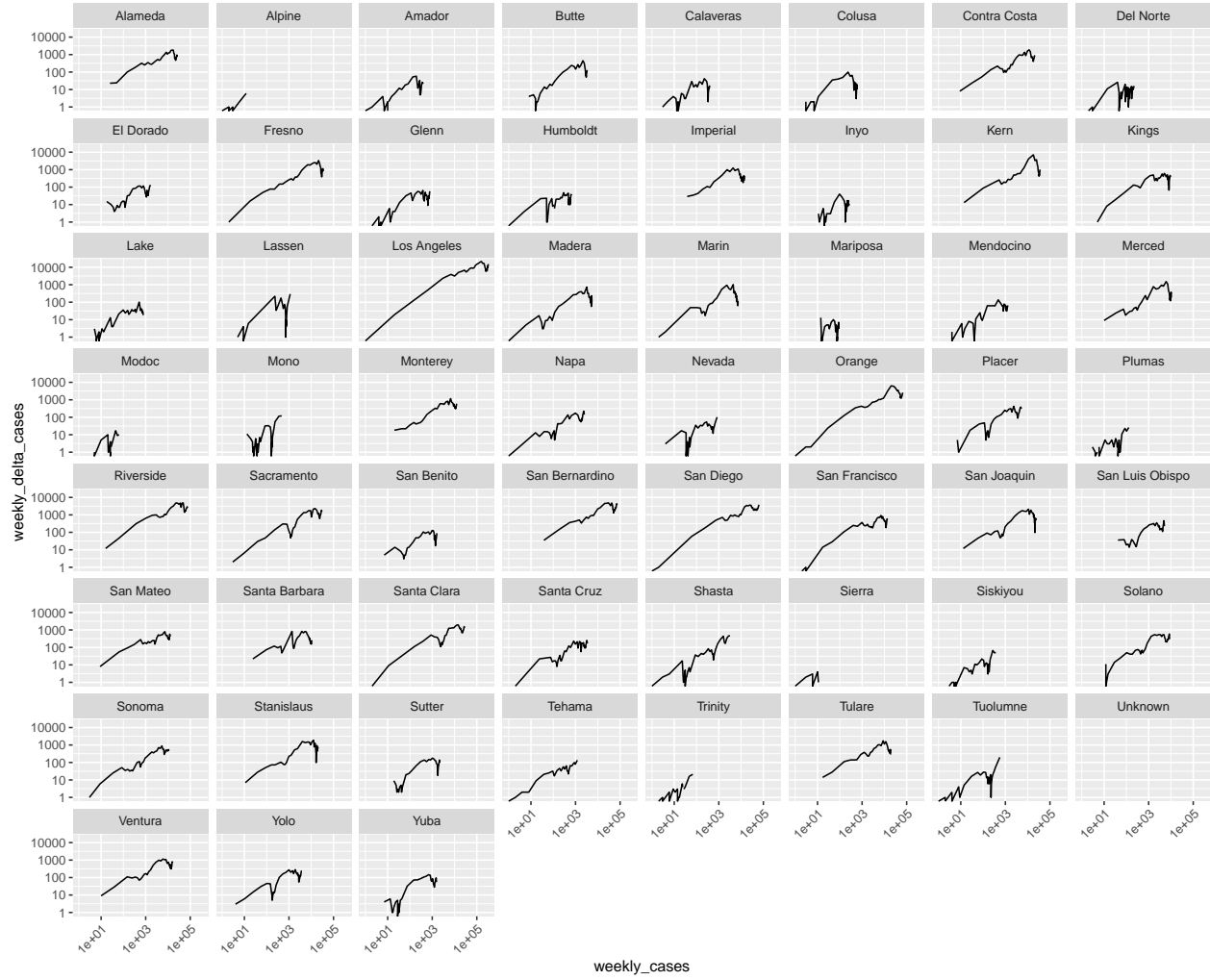Covid – log/log weekly cases rate of change by WA Counties

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

California Counties

```
## `summarise()` regrouping output by 'county' (override with `.groups` argument)
```

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

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

weekly_delta_deaths

weekly_deaths