# Change Analysis

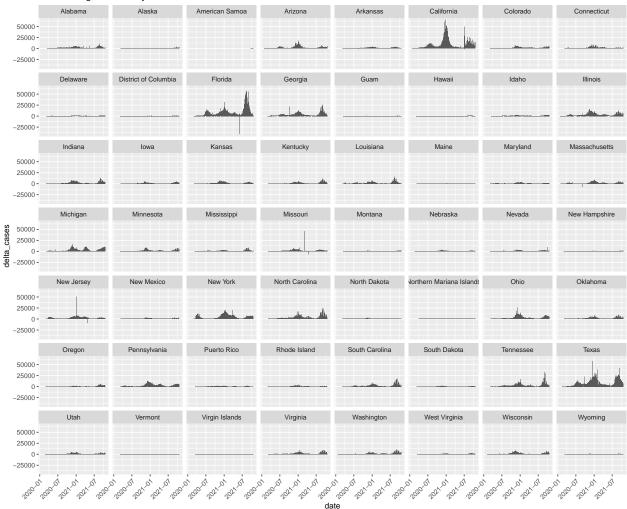
Another experiment to look at rate of change. Idea here is to compare the reported change against the cumulative sum.

Last date for states data is 2021-10-22

# Extract daily changes

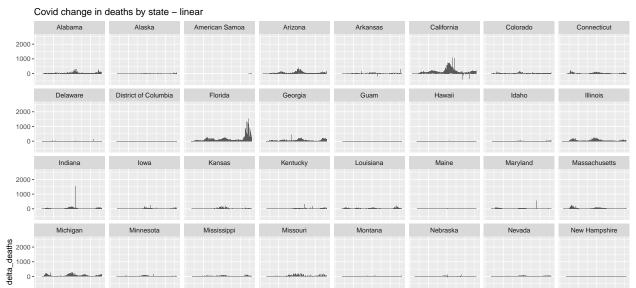
## Daily Cases

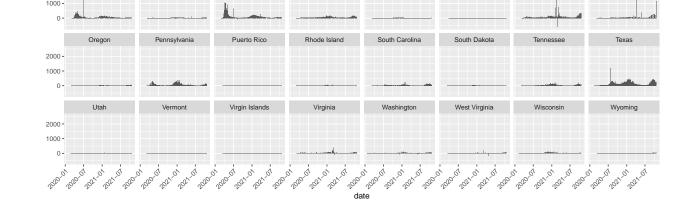
Covid change in cases by state - linear



## Daily Deaths

2000 -



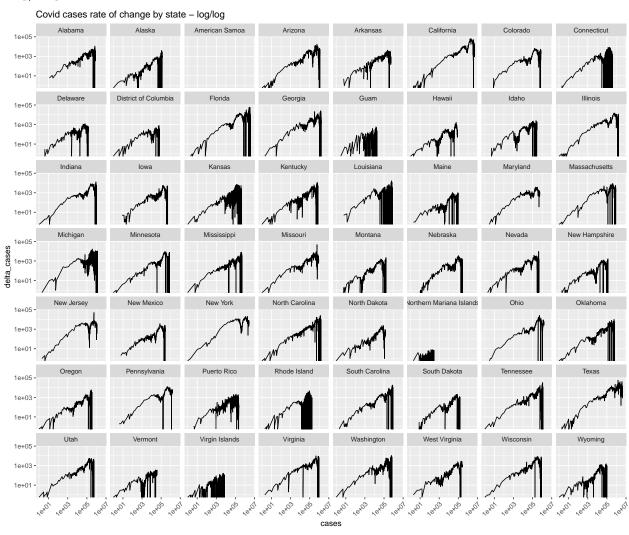


Oklahoma

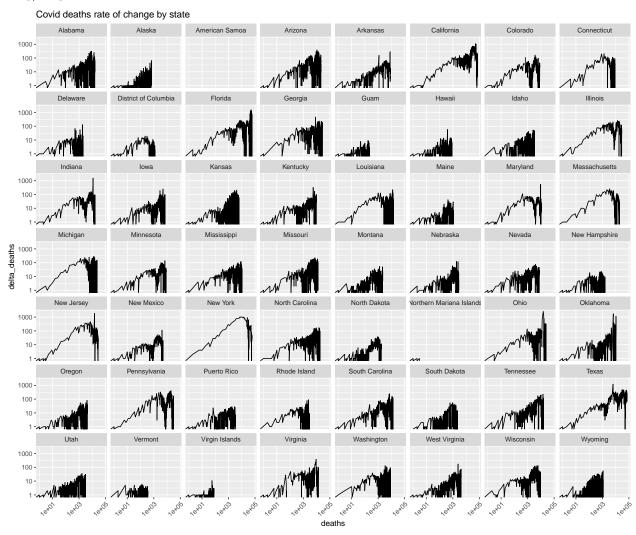
# Log of Change Over Cumulative Sum

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



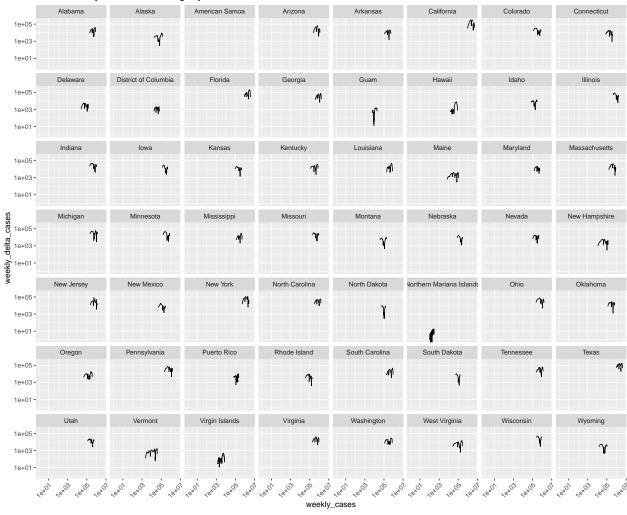
# Weekly Rate of Changes

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

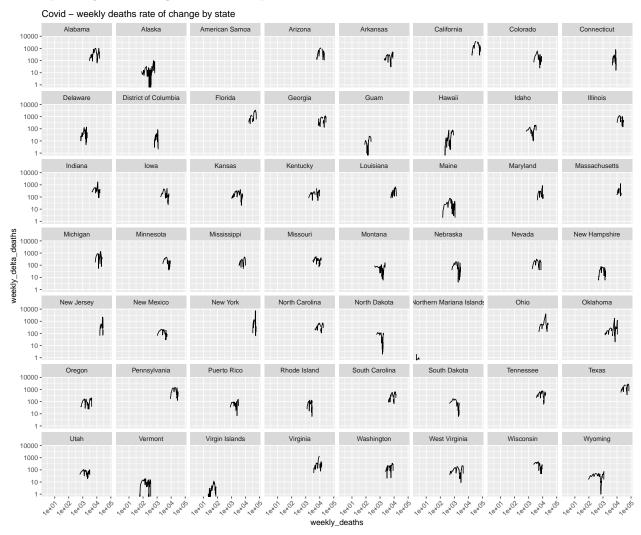
## `summarise()` has grouped output by 'state'. You can override using the `.groups` argument.

## Weekly Range of Change of Cases by State

Covid – weekly cases rate of change by state



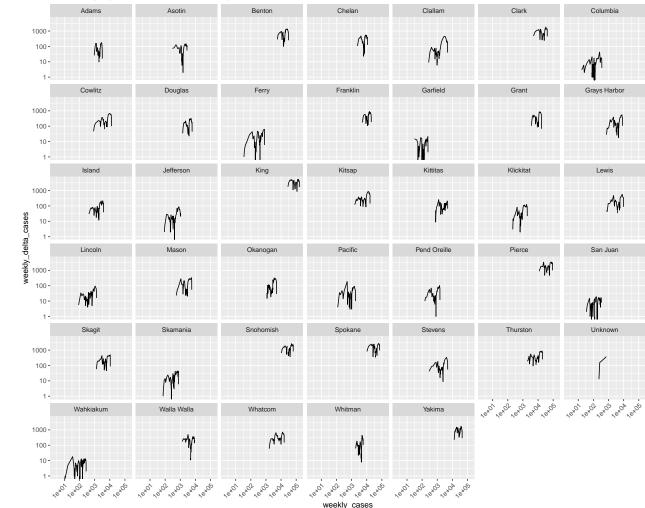
## Weekly Range of Change of Deaths by State

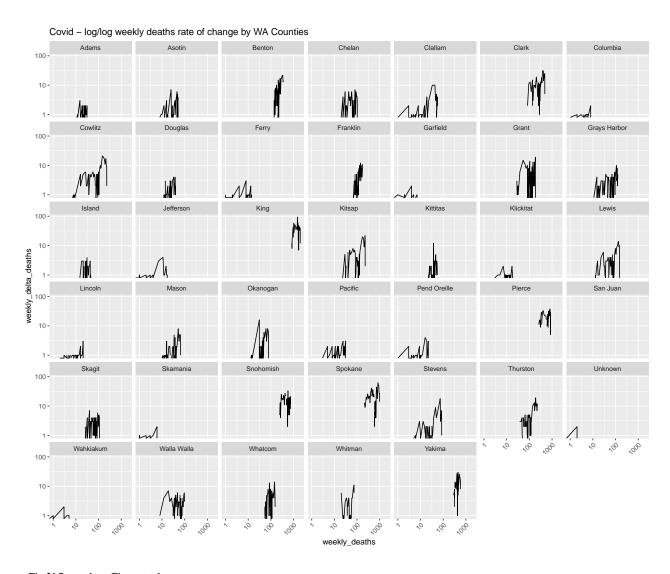


# Washington Counties

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

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



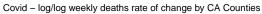


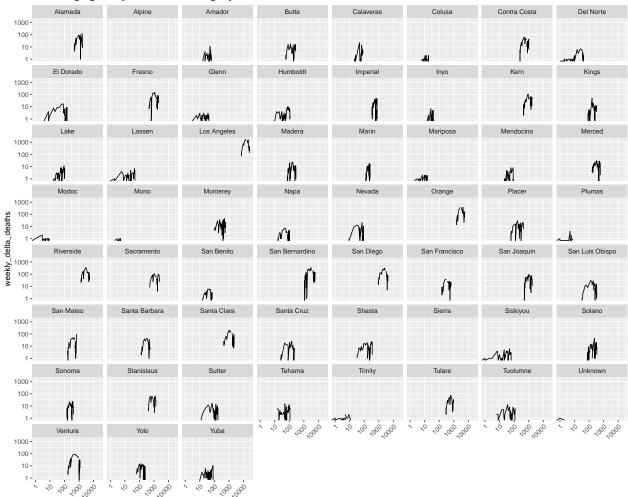
# California Counties

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

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

Alameda	Alpine	Amador	Butte	Calaveras	Colusa	Contra Costa	Del Norte
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El Dorado		Glenn	Humboldt	Imperial	Inyo		Kings
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Lake	Lassen	Los Angeles	Madera	Marin	Mariposa	Mendocino	Merced
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Modoc	Mono	Monterey	Napa	Nevada	Orange	Placer	Plumas
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Riverside	Sacramento	San Benito	San Bernardino	San Diego	San Francisco	San Joaquin	San Luis Obis
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San Mateo	Santa Barbara	Santa Clara	Santa Cruz	Shasta	Sierra	Siskiyou	Solano
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Sonoma	Stanislaus	Sutter	Tehama	Trinity	Tulare	Tuolumne	Unknown
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weekly\_deaths