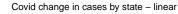
# Change Analysis

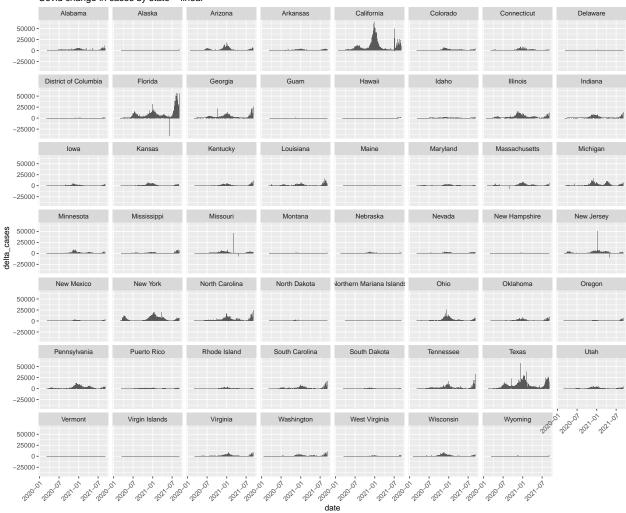
Another experiment to look at rate of change. Idea here is to compare the reported change against the cumulative sum.

Last date for states data is 2021-09-07

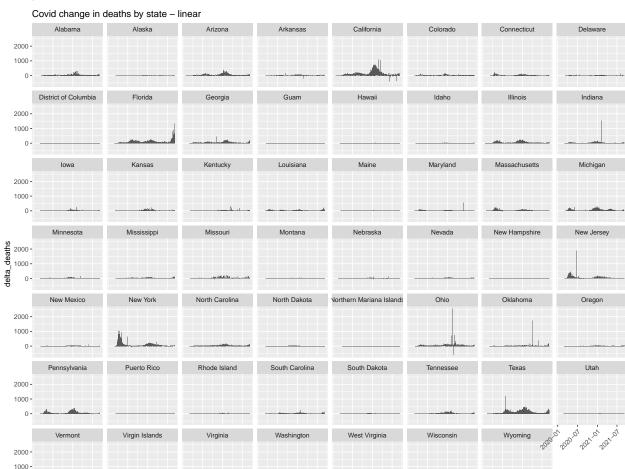
## Extract daily changes

#### Daily Cases





### Daily Deaths

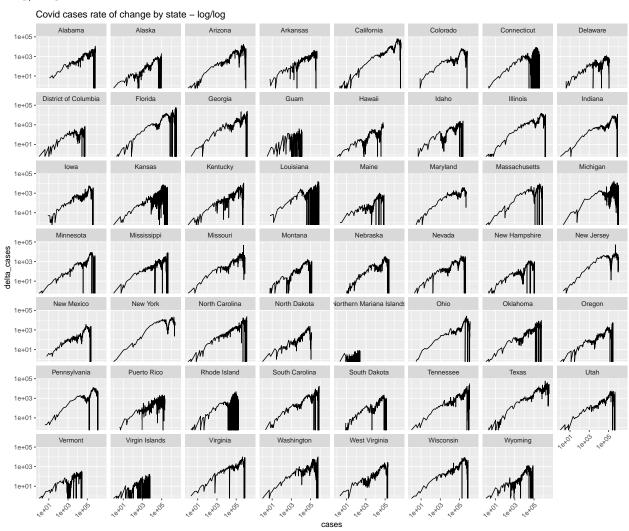


## Log of Change Over Cumulative Sum

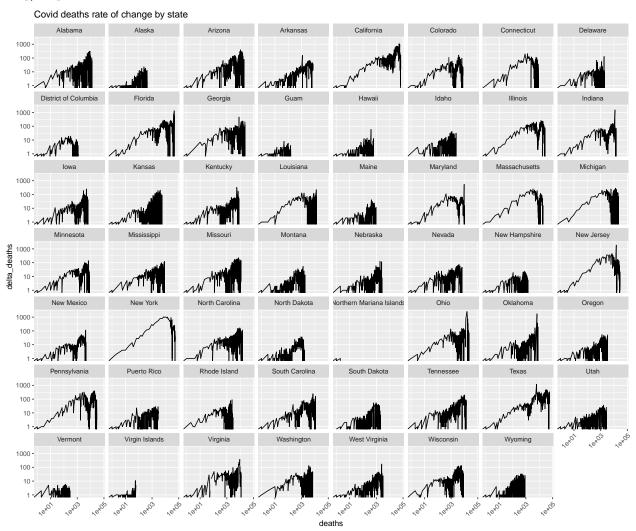
Linear values are skewed by higher-magnitude values, so use a log(10) on each axis. this better fits the exponential nature of the data anyway.

date

#### 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.

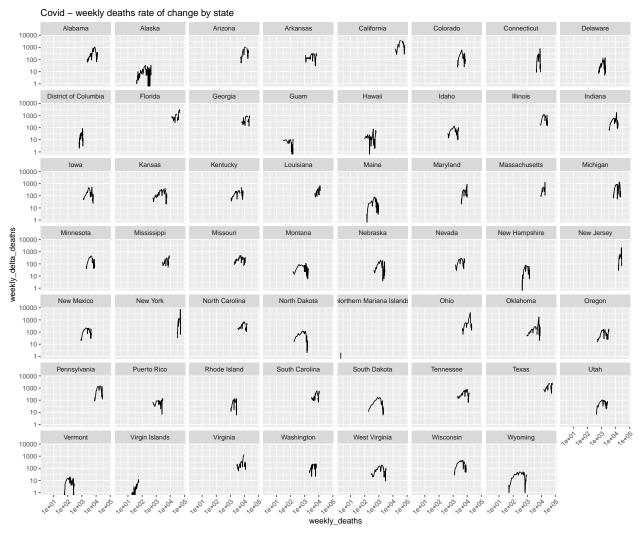
## `summarise()` regrouping output by 'state' (override with `.groups` argument)

## Weekly Range of Change of Cases by State

Covid – weekly cases rate of change by state

	Alabama	Alaska	Arizona	Arkansas	California	Colorado	Connecticut	Delaware
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	lowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan
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	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey
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	New Mexico	New York	North Carolina	North Dakota	Northern Mariana Islands	Ohio	Oklahoma	Oregon
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	Pennsylvania	Puerto Rico	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah
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	Vermont	Virgin Islands	Virginia	Washington	West Virginia	Wisconsin	Wyoming	or exo, exo, exo, ex
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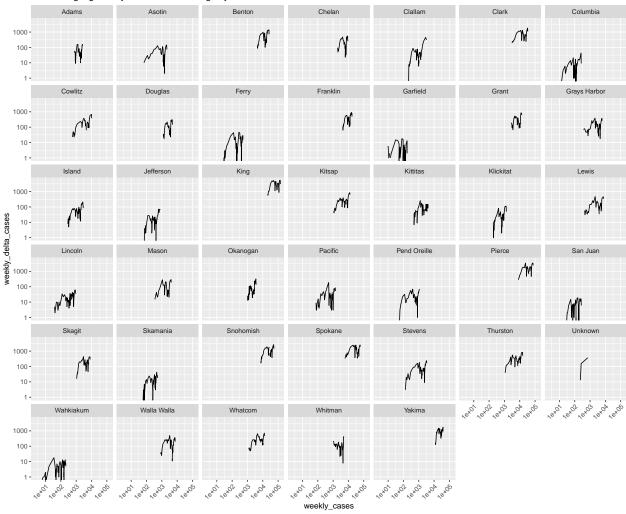
#### Weekly Range of Change of Deaths by State

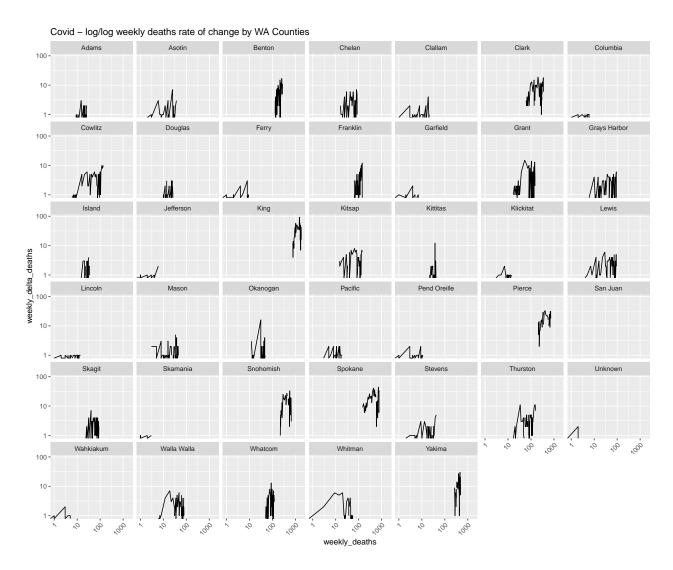


#### Washington Counties

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







## California Counties

## `summarise()` regrouping output by 'county' (override with `.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	Fresno	Glenn	Humboldt	Imperial	Inyo	Kern	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 Obisp
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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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Ventura	Yolo	Yuba	Jeron Jeros Jeros	"exo" "exos "exop	ready ready reads	retor retos retos	NexON NexOS NexO
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	El Dorado  Lake  Modoc  Riverside  San Mateo  Ventura	El Dorado Fresno  Al Lake Lassen  Modoc Mono  Riverside Sacramento  San Mateo Santa Barbara  Al Sonoma Stanislaus  Ventura Yolo	El Dorado Fresno Glenn  Al A	El Dorado Fresno Glenn Humboldt  A  Lake Lassen Los Angeles Madera  M  Modoc Mono Monterey Napa  Riverside Sacramento San Benito San Bernardino  San Mateo Santa Barbara Santa Clara Santa Cruz  Sonoma Stanislaus Sutter Tehama  Ventura Yolo Yuba Riverside Sacramento Yuba Riverside Santa Cruz	El Dorado Fresno Glenn Humboldt Imperial  Lake Lassen Los Angeles Madera Marin  Modoc Mono Monterey Napa Nevada  Riverside Sacramento San Benito San Bernardino San Diego  San Mateo Santa Barbara Santa Clara Santa Cruz Shasta  Sonoma Stanislaus Sutter Tehama Trinity  Ventura Yolo Yuba Resch Res	El Dorado Fresno Glenn Humboldt Imperial Inyo  M M M M M M M M M M M M M M M M M M M	El Dorado Fresno Gilenn Humboldt Imperial Inyo Kern  M M M M M M M M M M M M M M M M M M

