

# covid

2023-06-25

###US\_cases

## # A tibble: 3,819,906 x 6

##	Admin2	Province_State	Country_Region	Combined_Key	date	cases
##	<chr>	<chr>	<chr>	<chr>	<date>	<dbl>
##	1 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-22	0
##	2 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-23	0
##	3 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-24	0
##	4 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-25	0
##	5 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-26	0
##	6 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-27	0
##	7 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-28	0
##	8 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-29	0
##	9 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-30	0
##	10 Autauga	Alabama	US	Autauga, Alabama, US	2020-01-31	0

## # i 3,819,896 more rows

###US\_deaths

## # A tibble: 3,819,906 x 7

##	Admin2	Province_State	Country_Region	Combined_Key	Population	date
##	<chr>	<chr>	<chr>	<chr>	<dbl>	<date>
##	1 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-22
##	2 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-23
##	3 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-24
##	4 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-25
##	5 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-26
##	6 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-27
##	7 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-28
##	8 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-29
##	9 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-30
##	10 Autauga	Alabama	US	Autauga, Alabama~	55869	2020-01-31

## # i 3,819,896 more rows

## # i 1 more variable: deaths <dbl>

###US

## # A tibble: 3,819,906 x 8

##	Admin2	Province_State	Country_Region	Combined_Key	date	cases	Population
##	<chr>	<chr>	<chr>	<chr>	<date>	<dbl>	<dbl>
##	1 Autau~	Alabama	US	Autauga, Al~	2020-01-22	0	55869
##	2 Autau~	Alabama	US	Autauga, Al~	2020-01-23	0	55869
##	3 Autau~	Alabama	US	Autauga, Al~	2020-01-24	0	55869

```
## 4 Autau~ Alabama      US      Autauga, Al~ 2020-01-25      0      55869
## 5 Autau~ Alabama      US      Autauga, Al~ 2020-01-26      0      55869
## 6 Autau~ Alabama      US      Autauga, Al~ 2020-01-27      0      55869
## 7 Autau~ Alabama      US      Autauga, Al~ 2020-01-28      0      55869
## 8 Autau~ Alabama      US      Autauga, Al~ 2020-01-29      0      55869
## 9 Autau~ Alabama      US      Autauga, Al~ 2020-01-30      0      55869
## 10 Autau~ Alabama     US      Autauga, Al~ 2020-01-31      0      55869
## # i 3,819,896 more rows
## # i 1 more variable: deaths <dbl>
```

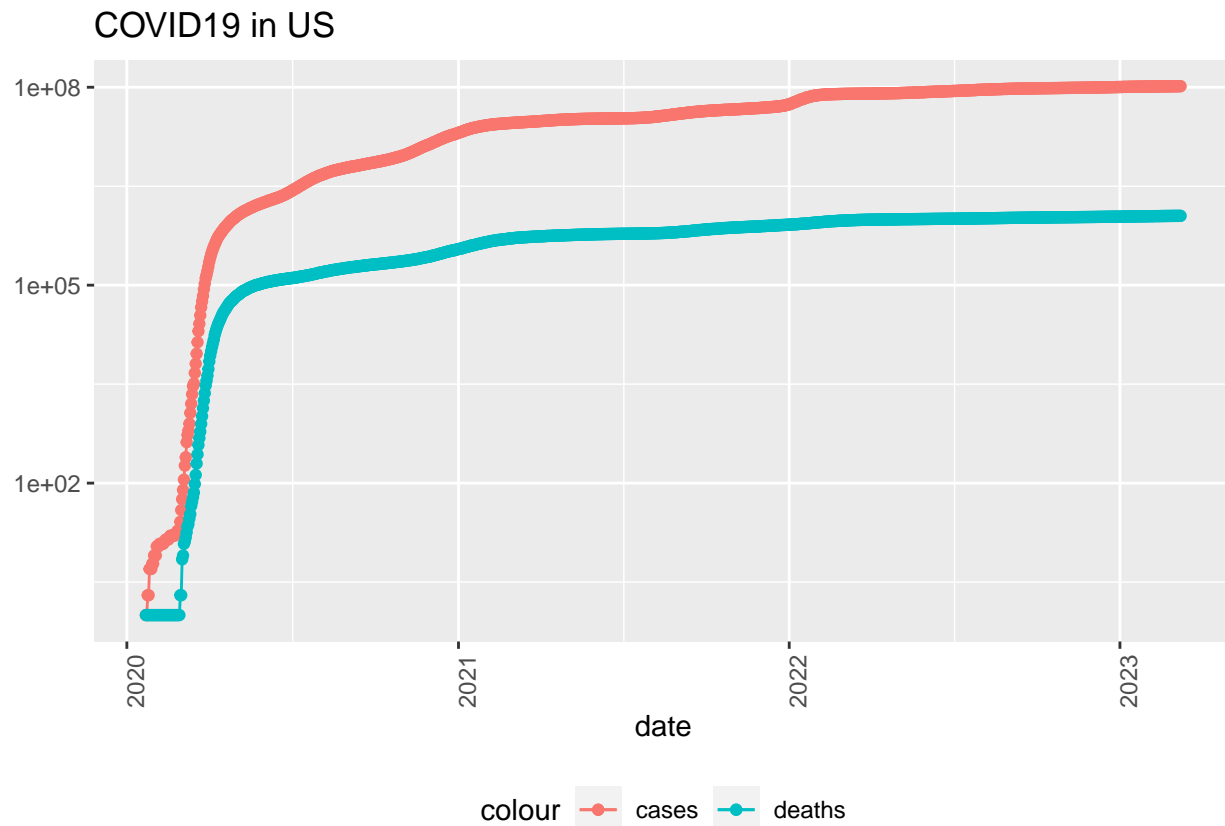
##Global

```
## # A tibble: 306,827 x 7
##   Province_State Country_Region date      cases deaths Population Combined_Key
##   <chr>          <chr>      <date>    <dbl>  <dbl>      <dbl> <chr>
## 1 <NA>          Afghanistan 2020-02-24      5      0    38928341 Afghanistan
## 2 <NA>          Afghanistan 2020-02-25      5      0    38928341 Afghanistan
## 3 <NA>          Afghanistan 2020-02-26      5      0    38928341 Afghanistan
## 4 <NA>          Afghanistan 2020-02-27      5      0    38928341 Afghanistan
## 5 <NA>          Afghanistan 2020-02-28      5      0    38928341 Afghanistan
## 6 <NA>          Afghanistan 2020-02-29      5      0    38928341 Afghanistan
## 7 <NA>          Afghanistan 2020-03-01      5      0    38928341 Afghanistan
## 8 <NA>          Afghanistan 2020-03-02      5      0    38928341 Afghanistan
## 9 <NA>          Afghanistan 2020-03-03      5      0    38928341 Afghanistan
## 10 <NA>         Afghanistan 2020-03-04      5      0    38928341 Afghanistan
## # i 306,817 more rows
```

###US\_totals

```
## # A tibble: 1,143 x 6
##   Country_Region date      cases deaths deaths_per_mill Population
##   <chr>          <date>    <dbl>  <dbl>      <dbl>      <dbl>
## 1 US            2020-01-22      1      1          0.00300  332875137
## 2 US            2020-01-23      1      1          0.00300  332875137
## 3 US            2020-01-24      2      1          0.00300  332875137
## 4 US            2020-01-25      2      1          0.00300  332875137
## 5 US            2020-01-26      5      1          0.00300  332875137
## 6 US            2020-01-27      5      1          0.00300  332875137
## 7 US            2020-01-28      5      1          0.00300  332875137
## 8 US            2020-01-29      6      1          0.00300  332875137
## 9 US            2020-01-30      6      1          0.00300  332875137
## 10 US           2020-01-31      8      1          0.00300  332875137
## # i 1,133 more rows
```

###Visualization of US\_totals



```
###US totals new cases
```

```
## Warning in self$trans$transform(x): NaNs produced
```

```
## Warning: Transformation introduced infinite values in continuous y-axis
```

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```

```
## Warning: Transformation introduced infinite values in continuous y-axis
```

```
## Warning: Removed 1 row containing missing values ('geom_line()').
```

```
## Warning: Removed 2 rows containing missing values ('geom_point()').
```

```
## Warning: Removed 1 row containing missing values ('geom_line()').
```

```
## Warning: Removed 4 rows containing missing values ('geom_point()').
```

## COVID19 in US



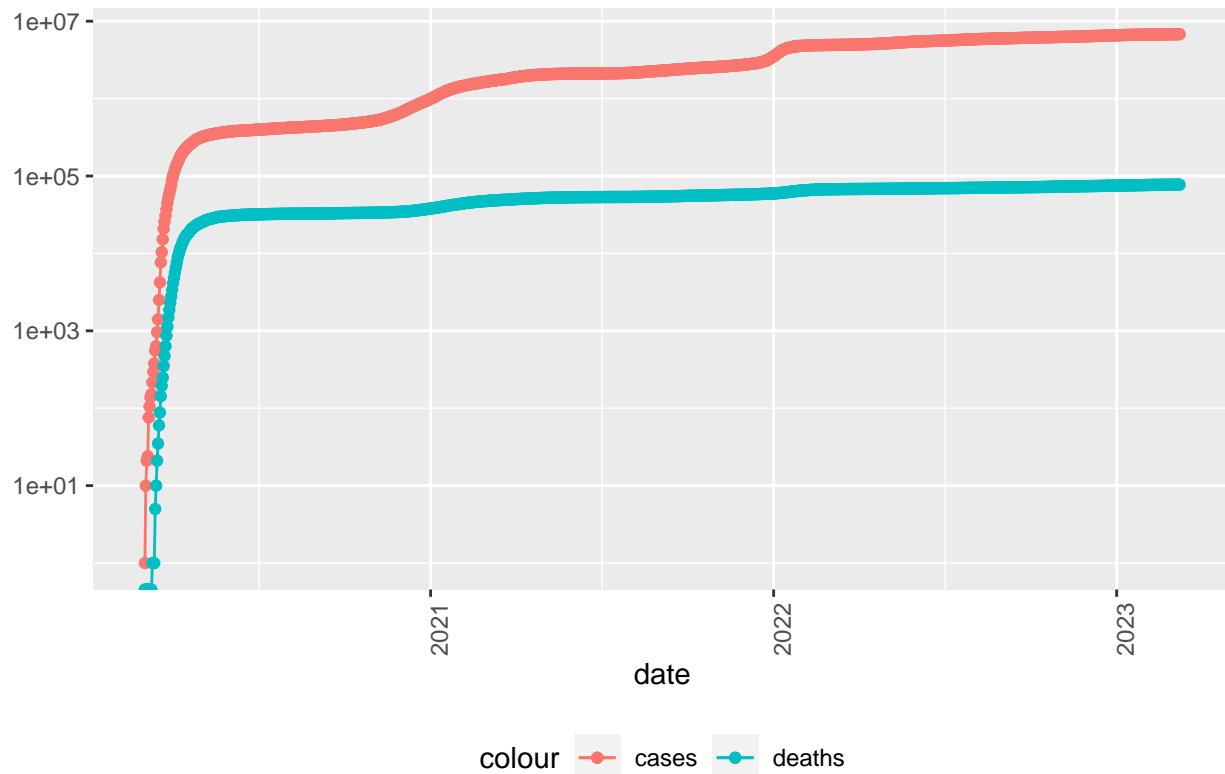
```
###US_by_state
```

```
## # A tibble: 66,294 x 7
##   Province_State Country_Region date      cases deaths deaths_per_mill
##   <chr>          <chr>      <date>    <dbl>  <dbl>         <dbl>
## 1 Alabama      US        2020-01-22      0      0             0
## 2 Alabama      US        2020-01-23      0      0             0
## 3 Alabama      US        2020-01-24      0      0             0
## 4 Alabama      US        2020-01-25      0      0             0
## 5 Alabama      US        2020-01-26      0      0             0
## 6 Alabama      US        2020-01-27      0      0             0
## 7 Alabama      US        2020-01-28      0      0             0
## 8 Alabama      US        2020-01-29      0      0             0
## 9 Alabama      US        2020-01-30      0      0             0
## 10 Alabama     US        2020-01-31      0      0             0
## # i 66,284 more rows
## # i 1 more variable: Population <dbl>
```

```
###Visualization of state
```

```
## Warning: Transformation introduced infinite values in continuous y-axis
## Transformation introduced infinite values in continuous y-axis
```

## COVID19 in USNew York



###New cases

```
## # A tibble: 66,294 x 9
##   Province_State Country_Region date      cases deaths deaths_per_mill
##   <chr>           <chr>      <date>    <dbl>  <dbl>      <dbl>
## 1 Alabama        US        2020-01-22      0      0          0
## 2 Alabama        US        2020-01-23      0      0          0
## 3 Alabama        US        2020-01-24      0      0          0
## 4 Alabama        US        2020-01-25      0      0          0
## 5 Alabama        US        2020-01-26      0      0          0
## 6 Alabama        US        2020-01-27      0      0          0
## 7 Alabama        US        2020-01-28      0      0          0
## 8 Alabama        US        2020-01-29      0      0          0
## 9 Alabama        US        2020-01-30      0      0          0
## 10 Alabama       US        2020-01-31      0      0          0
## # i 66,284 more rows
## # i 3 more variables: Population <dbl>, new_cases <dbl>, new_deaths <dbl>

## Warning: Transformation introduced infinite values in continuous y-axis
## Transformation introduced infinite values in continuous y-axis

## Warning in self$trans$transform(x): NaNs produced

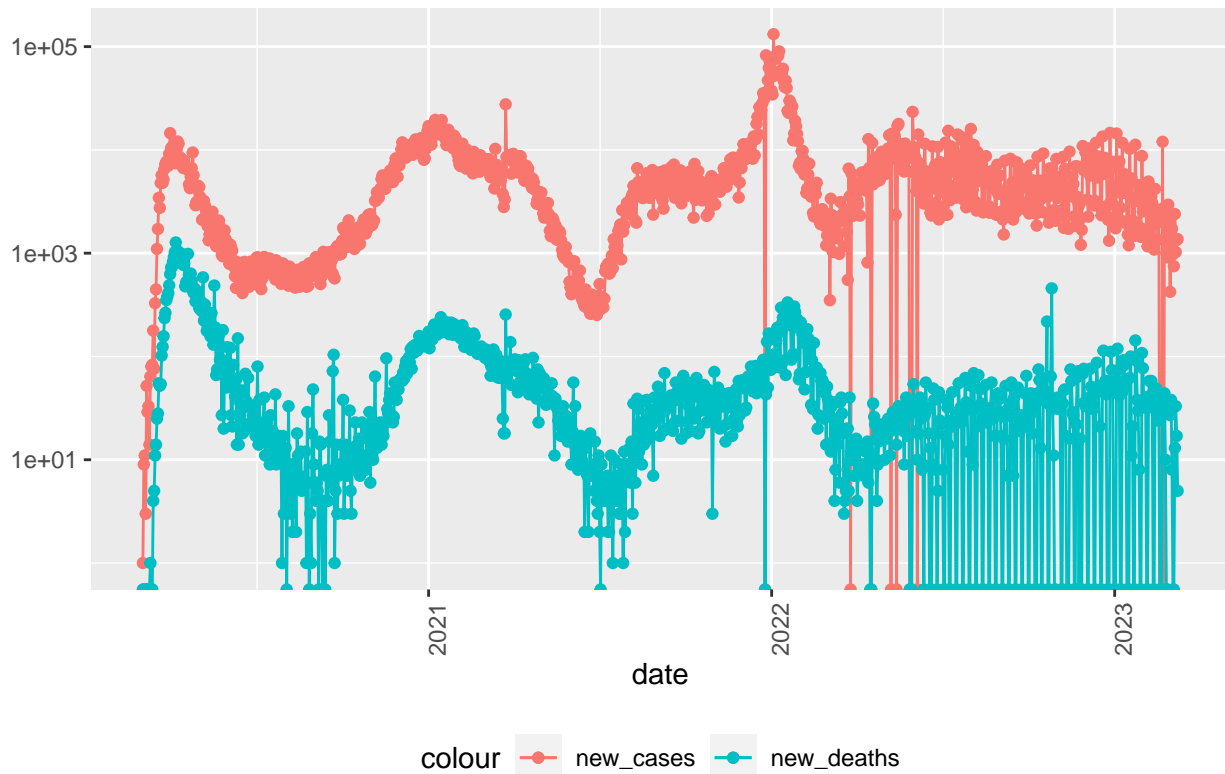
## Warning: Transformation introduced infinite values in continuous y-axis

## Warning in self$trans$transform(x): NaNs produced
```

```
## Warning: Transformation introduced infinite values in continuous y-axis
```

```
## Warning: Removed 8 rows containing missing values ('geom_point()').
```

## COVID19 in USNew York



```
###Lowest deaths per cases
```

```
## # A tibble: 10 x 6
##   Province_State deaths cases population cases_per_thou deaths_per_thou
##   <chr>          <dbl> <dbl>      <dbl>          <dbl>          <dbl>
## 1 American Samoa      34 8.32e3    55641          150.           0.611
## 2 Northern Mariana Isl~  41 1.37e4    55144          248.           0.744
## 3 Virgin Islands     130 2.48e4   107268          231.           1.21
## 4 Hawaii             1841 3.81e5   1415872          269.           1.30
## 5 Vermont              929 1.53e5    623989          245.           1.49
## 6 Puerto Rico         5823 1.10e6   3754939          293.           1.55
## 7 Utah                 5298 1.09e6   3205958          340.           1.65
## 8 Alaska              1486 3.08e5    740995          415.           2.01
## 9 District of Columbia  1432 1.78e5    705749          252.           2.03
## 10 Washington         15683 1.93e6   7614893          253.           2.06
```

```
###Highest deaths per cases
```

```
## # A tibble: 10 x 6
##   Province_State deaths cases population cases_per_thou deaths_per_thou
##   <chr>          <dbl> <dbl>      <dbl>          <dbl>          <dbl>
```

## 1 Arizona	33102	2443514	7278717	336.	4.55
## 2 Oklahoma	17972	1290929	3956971	326.	4.54
## 3 Mississippi	13370	990756	2976149	333.	4.49
## 4 West Virginia	7960	642760	1792147	359.	4.44
## 5 New Mexico	9061	670929	2096829	320.	4.32
## 6 Arkansas	13020	1006883	3017804	334.	4.31
## 7 Alabama	21032	1644533	4903185	335.	4.29
## 8 Tennessee	29263	2515130	6829174	368.	4.28
## 9 Michigan	42205	3064125	9986857	307.	4.23
## 10 Kentucky	18130	1718471	4467673	385.	4.06

###linear model

```
##
## Call:
## lm(formula = deaths_per_thou ~ cases_per_thou, data = US_state_totals)
##
## Residuals:
```

##	Min	1Q	Median	3Q	Max
##	-2.3352	-0.5978	0.1491	0.6535	1.2086

```
##
## Coefficients:
```

##		Estimate	Std. Error	t value	Pr(> t )
##	(Intercept)	-0.36167	0.72480	-0.499	0.62
##	cases_per_thou	0.01133	0.00232	4.881	9.76e-06 ***

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.8615 on 54 degrees of freedom
## Multiple R-squared:  0.3061, Adjusted R-squared:  0.2933
## F-statistic: 23.82 on 1 and 54 DF,  p-value: 9.763e-06
```

