

In [1]:

```
1 import numpy as np
2 import pandas as pd
3 import matplotlib.pyplot as plt
4 import seaborn as sns
5 import plotly.express as px
6 import datetime
```

In [2]:

```
1 covid_data = pd.read_csv(r"E:\web scrappping\covid_19_india.csv")
```

In [3]: 1 covid_data

Out[3]:

	Sno	Date	Time	State/Union Territory	ConfirmedIndianNational	ConfirmedForeignNational	Cured	Deaths	Confirmed	
0	1	2020-01-30	6:00 PM	Kerala	1		0	0	1	
1	2	2020-01-31	6:00 PM	Kerala	1		0	0	1	
2	3	2020-02-01	6:00 PM	Kerala	2		0	0	2	
3	4	2020-02-02	6:00 PM	Kerala	3		0	0	3	
4	5	2020-02-03	6:00 PM	Kerala	3		0	0	3	
...	
16845	16846	2021-07-07	8:00 AM	Telangana	-		-	613124	3703	628282
16846	16847	2021-07-07	8:00 AM	Tripura	-		-	63964	701	68612
16847	16848	2021-07-07	8:00 AM	Uttarakhand	-		-	332006	7338	340882
16848	16849	2021-07-07	8:00 AM	Uttar Pradesh	-		-	1682130	22656	1706818
16849	16850	2021-07-07	8:00 AM	West Bengal	-		-	1472132	17834	1507241

16850 rows × 9 columns

In [4]: 1 covid_data.head(10)

Out[4]:

	Sno	Date	Time	State/UnionTerritory	ConfirmedIndianNational	ConfirmedForeignNational	Cured	Deaths	Confirmed
0	1	2020-01-30	6:00 PM	Kerala	1	0	0	0	1
1	2	2020-01-31	6:00 PM	Kerala	1	0	0	0	1
2	3	2020-02-01	6:00 PM	Kerala	2	0	0	0	2
3	4	2020-02-02	6:00 PM	Kerala	3	0	0	0	3
4	5	2020-02-03	6:00 PM	Kerala	3	0	0	0	3
5	6	2020-02-04	6:00 PM	Kerala	3	0	0	0	3
6	7	2020-02-05	6:00 PM	Kerala	3	0	0	0	3
7	8	2020-02-06	6:00 PM	Kerala	3	0	0	0	3
8	9	2020-02-07	6:00 PM	Kerala	3	0	0	0	3
9	10	2020-02-08	6:00 PM	Kerala	3	0	0	0	3

In [5]: 1 covid_data.describe()

Out[5]:

	Sno	Cured	Deaths	Confirmed
count	16850.000000	1.685000e+04	16850.000000	1.685000e+04
mean	8425.500000	2.360353e+05	3485.222552	2.583667e+05
std	4864.320353	5.225438e+05	9330.541749	5.672808e+05
min	1.000000	0.000000e+00	0.000000	0.000000e+00
25%	4213.250000	2.658500e+03	22.000000	3.644750e+03
50%	8425.500000	2.889500e+04	453.000000	3.336150e+04
75%	12637.750000	2.537510e+05	3071.250000	2.666530e+05
max	16850.000000	5.872268e+06	123531.000000	6.113335e+06

```
In [6]: 1 covid_data['Date'] = pd.to_datetime(covid_data['Date'],format = '%Y-%m-%d')
```

```
In [7]: 1 covid_data.drop(["Sno","Time","ConfirmedIndianNational","ConfirmedForeignNational"],inplace = True, axis = 1)
```

```
In [8]: 1 covid_data.head()
```

Out[8]:

	Date	State/UnionTerritory	Cured	Deaths	Confirmed
0	2020-01-30	Kerala	0	0	1
1	2020-01-31	Kerala	0	0	1
2	2020-02-01	Kerala	0	0	2
3	2020-02-02	Kerala	0	0	3
4	2020-02-03	Kerala	0	0	3

```
In [9]: 1 #Active cases data
2 covid_data['Active_Cases'] = covid_data['Confirmed'] - (covid_data['Cured'] + covid_data['Deaths'])
3 covid_data.tail(10)
```

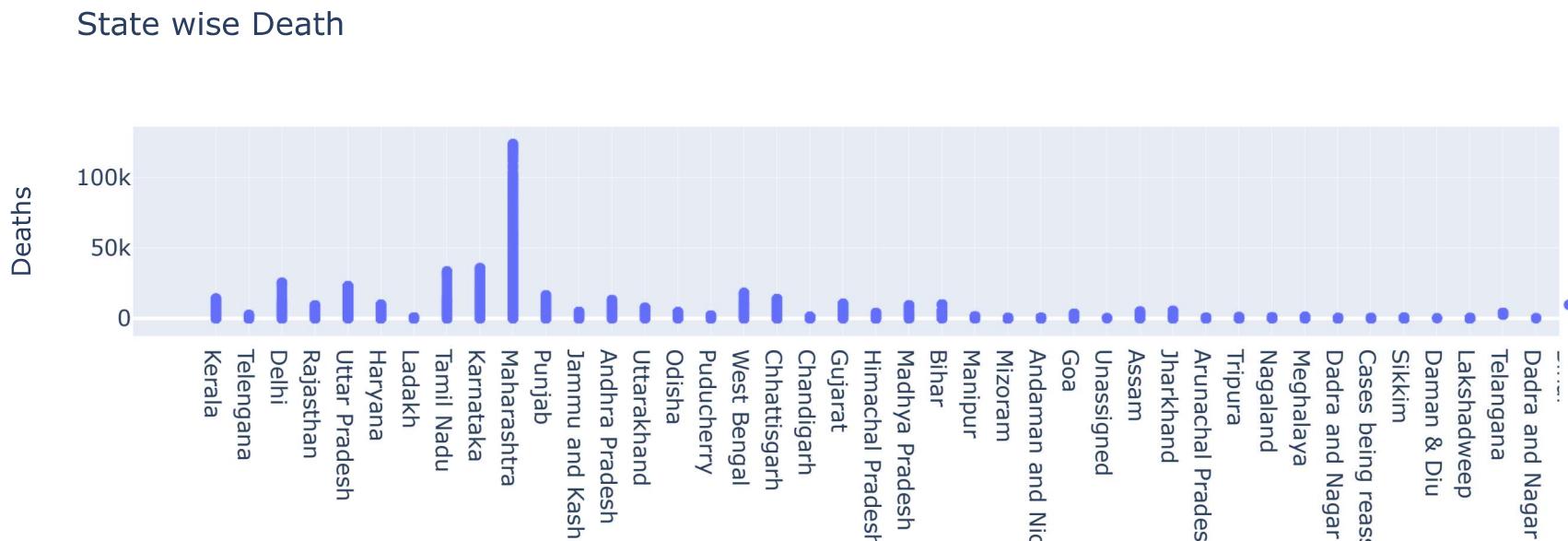
Out[9]:

	Date	State/UnionTerritory	Cured	Deaths	Confirmed	Active_Cases
16840	2021-07-07	Puducherry	114673	1763	118227	1791
16841	2021-07-07	Punjab	578590	16131	596736	2015
16842	2021-07-07	Rajasthan	942882	8942	952836	1012
16843	2021-07-07	Sikkim	19200	309	21403	1894
16844	2021-07-07	Tamil Nadu	2435872	33132	2503481	34477
16845	2021-07-07	Telangana	613124	3703	628282	11455
16846	2021-07-07	Tripura	63964	701	68612	3947
16847	2021-07-07	Uttarakhand	332006	7338	340882	1538
16848	2021-07-07	Uttar Pradesh	1682130	22656	1706818	2032
16849	2021-07-07	West Bengal	1472132	17834	1507241	17275

```
In [10]: 1 total_cases_overall=covid_data['Active_Cases'].sum()
2 print('Total number of Active cases in India is',total_cases_overall)
```

Total number of Active cases in India is 317557938

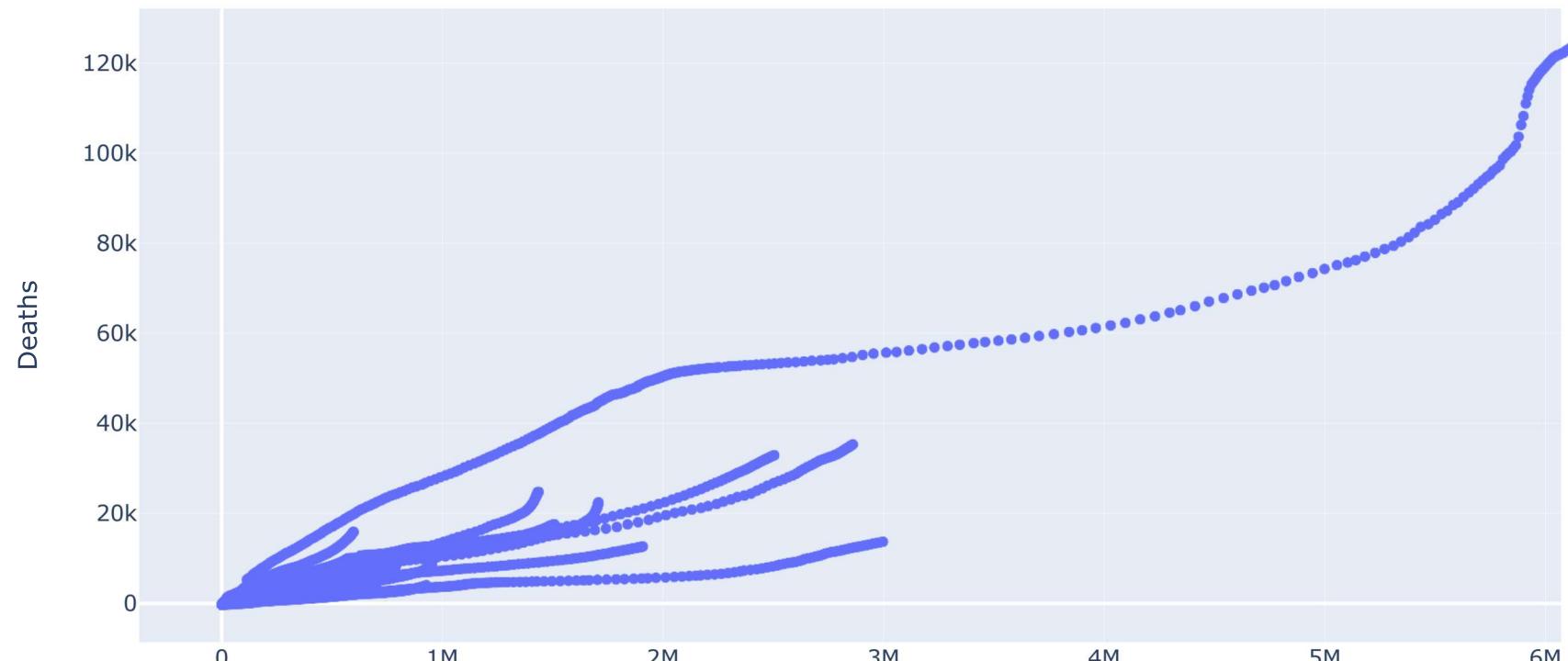
```
In [40]: 1 px.scatter(x='State/UnionTerritory',y='Deaths',title='State wise Death',data_frame=covid_data)
```



```
In [41]: 1 px.scatter(x='Confirmed',y='Deaths',title='Deaths according to confirmed cases',data_frame=covid_data)
```



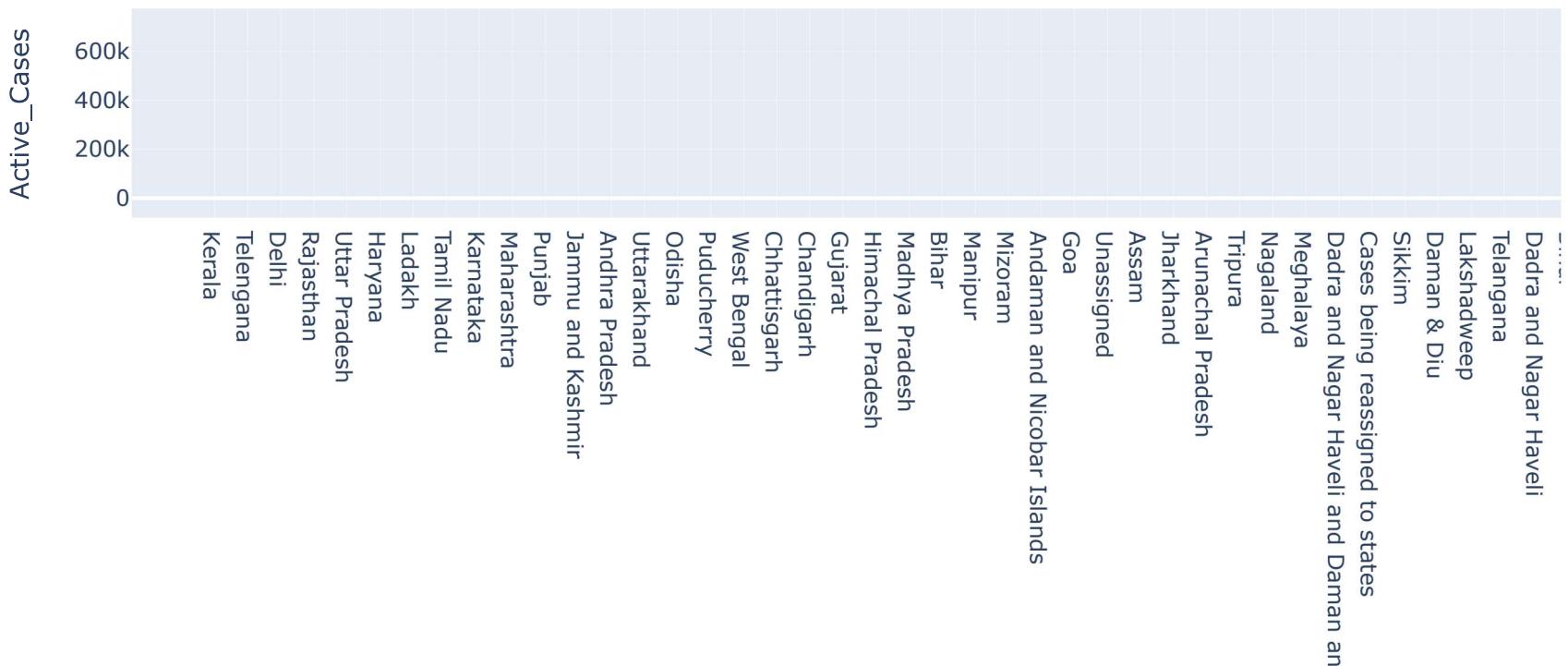
Deaths according to confirmed cases



```
In [13]: 1 px.scatter(x='State/UnionTerritory',y='Active_Cases',title='State wise Active cases',data_frame=covid_data)
```

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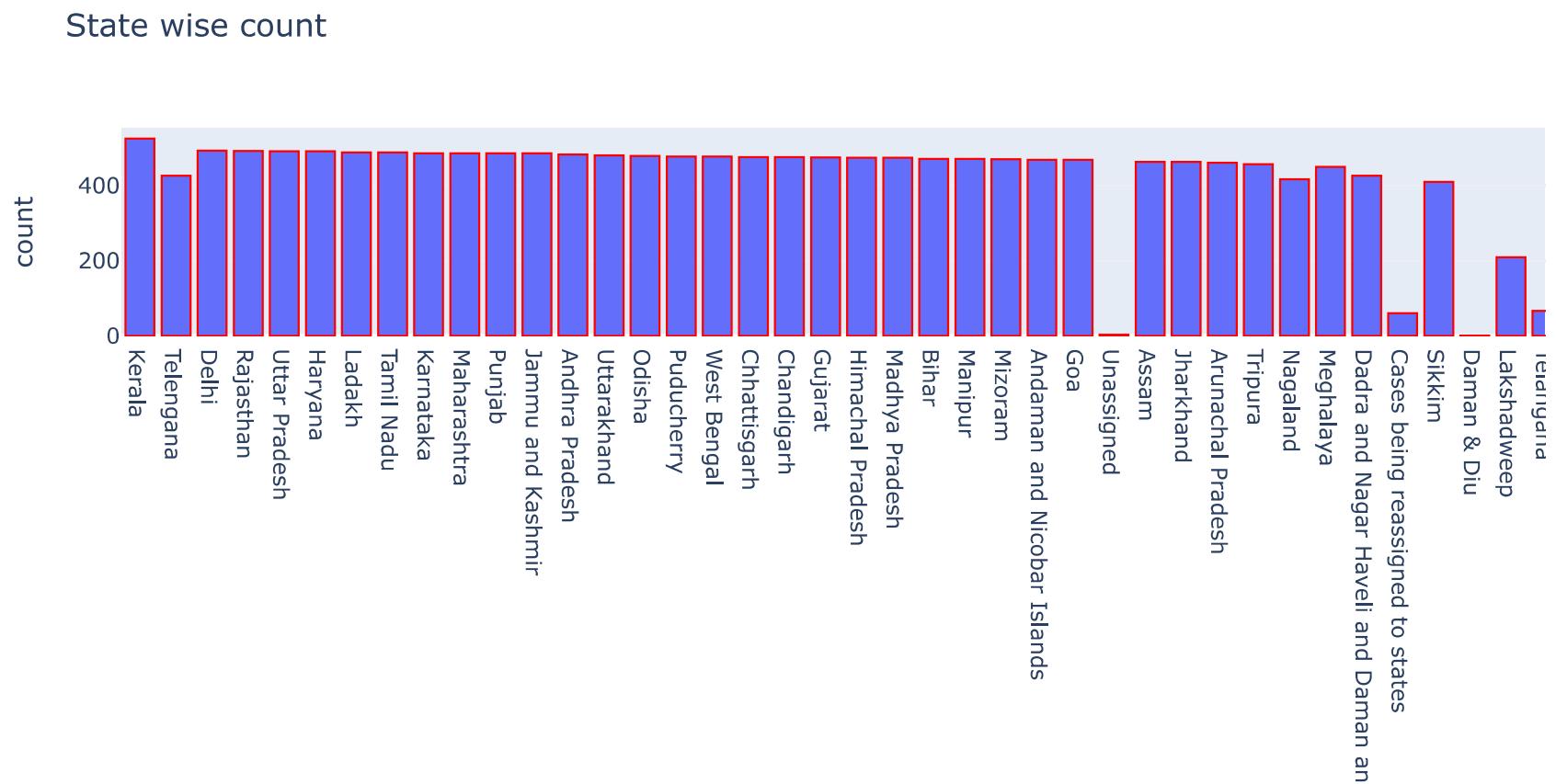
State wise Active cases



In []:

1

```
In [14]: 1 fig = px.histogram(x='State/UnionTerritory',data_frame=covid_data,title='State wise count')
2 fig.update_traces(marker_line_width=1,marker_line_color="red")
```



```
In [15]: 1 Total_active_cases=covid_data.groupby('State/UnionTerritory')[['Active_Cases']].sum().sort_values(ascending=False)
```

In [16]: 1 Total_active_cases

Out[16]:

Active_Cases**State/UnionTerritory**

Maharashtra	75789031
Karnataka	37129391
Kerala	31863648
Tamil Nadu	21030571
Andhra Pradesh	18243068
Uttar Pradesh	16966587
West Bengal	11311169
Rajasthan	10525506
Chhattisgarh	9997112
Delhi	8843231
Gujarat	8695673
Odisha	7823459
Madhya Pradesh	7115506
Haryana	6231667
Bihar	5993878
Assam	5947569
Punjab	5674068
Telengana	4923974
Jammu and Kashmir	3918197
Uttarakhand	3766496
Jharkhand	3318288
Telangana	2399625
Himachal Pradesh	1997450
Goa	1717664

Active_Cases

State/UnionTerritory	
Puducherry	1232089
Manipur	898600
Tripura	794043
Chandigarh	592166
Meghalaya	548223
Arunachal Pradesh	428502
Nagaland	421508
Cases being reassigned to states	345565
Sikkim	290090
Mizoram	282487
Ladakh	246508
Dadra and Nagar Haveli and Daman and Diu	94986
Lakshadweep	87569
Andaman and Nicobar Islands	62689
Bihar****	9560
Dadra and Nagar Haveli	362
Unassigned	161
Daman & Diu	2

```
In [17]: 1 Total_active_cases.style.background_gradient(cmap='Reds')
```

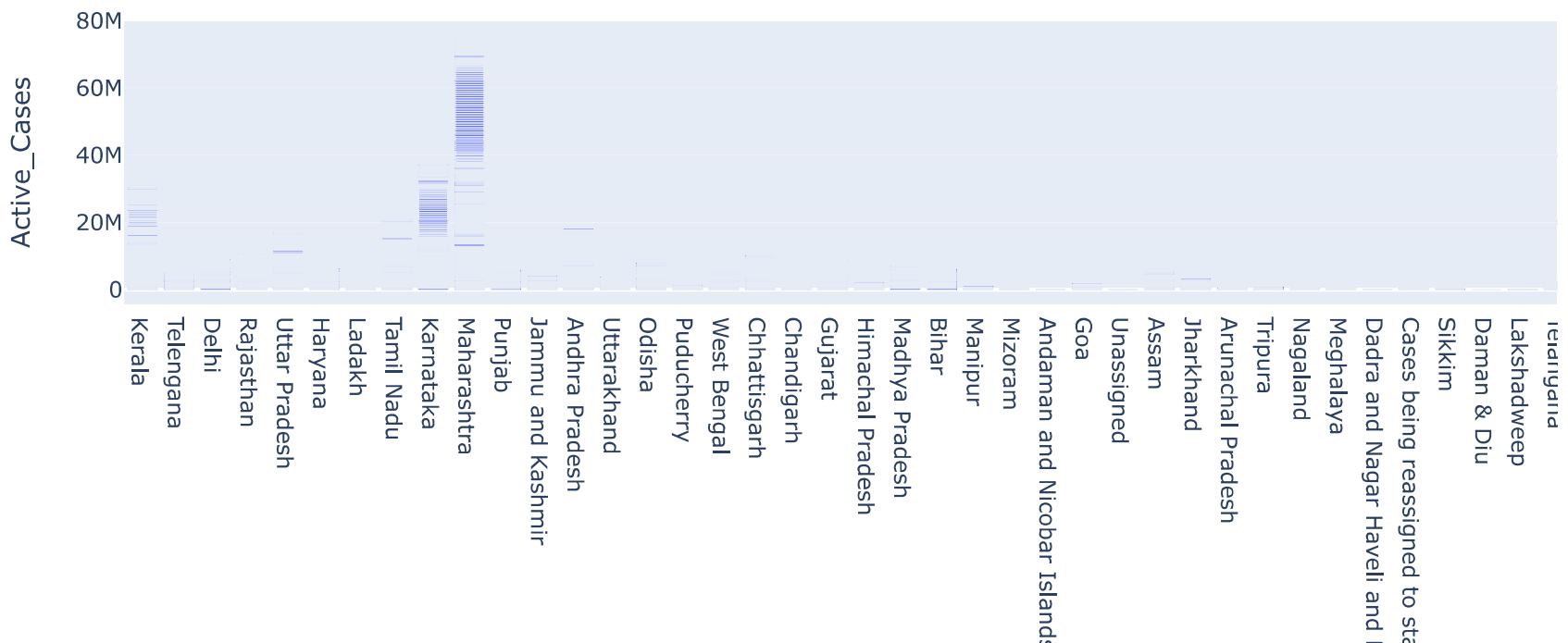
Out[17]:

Active_Cases	
State/UnionTerritory	
Maharashtra	75789031
Karnataka	37129391
Kerala	31863648
Tamil Nadu	21030571
Andhra Pradesh	18243068
Uttar Pradesh	16966587
West Bengal	11311169
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Assam	5947569
Punjab	5674068
Telengana	4923974
Jammu and Kashmir	3918197
Uttarakhand	3766496
Jharkhand	3318288
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Goa	1717664

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Bihar****	9560
Dadra and Nagar Haveli	362
Unassigned	161
Daman & Diu	2

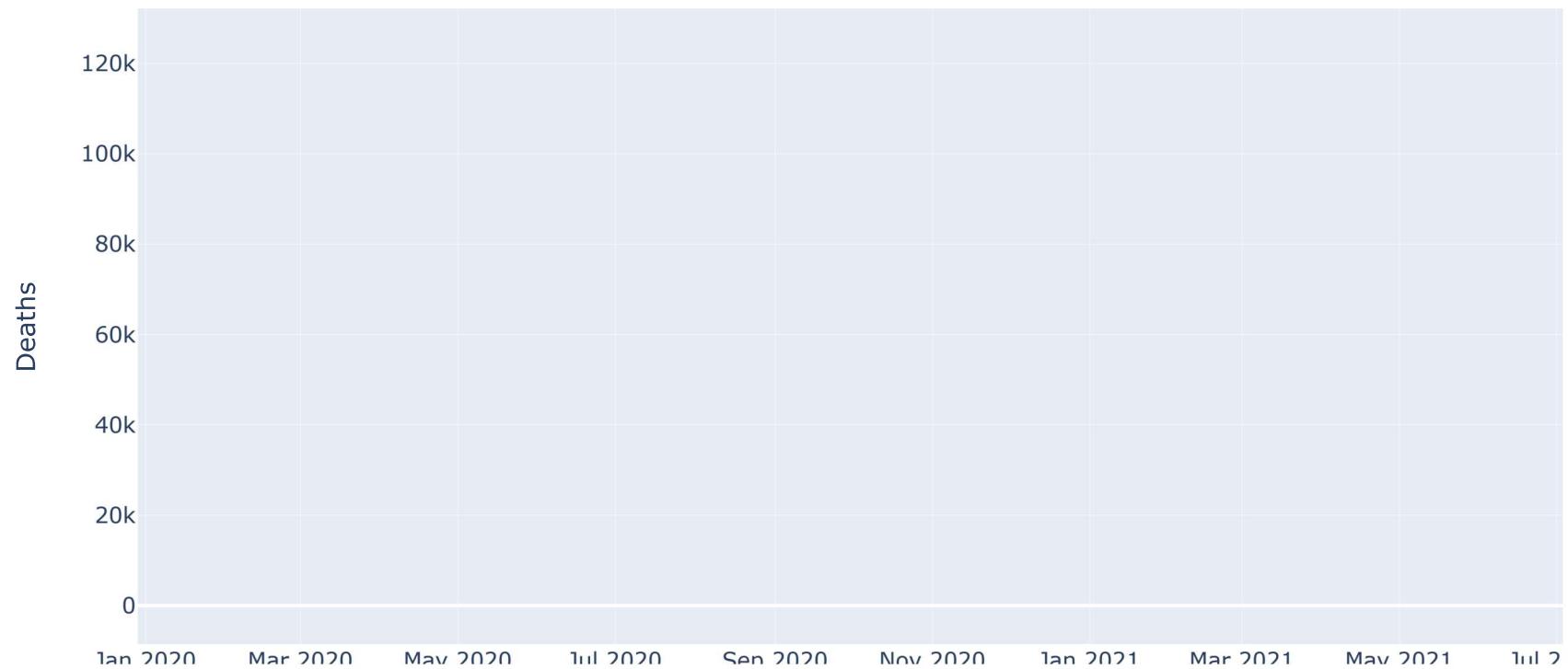
```
In [18]: 1 px.bar(covid_data,x='State/UnionTerritory',y='Active_Cases')
```



```
In [19]: 1 px.scatter(x='Date',y='Deaths',title='Deaths according to confirmed cases',data_frame=covid_data)
```

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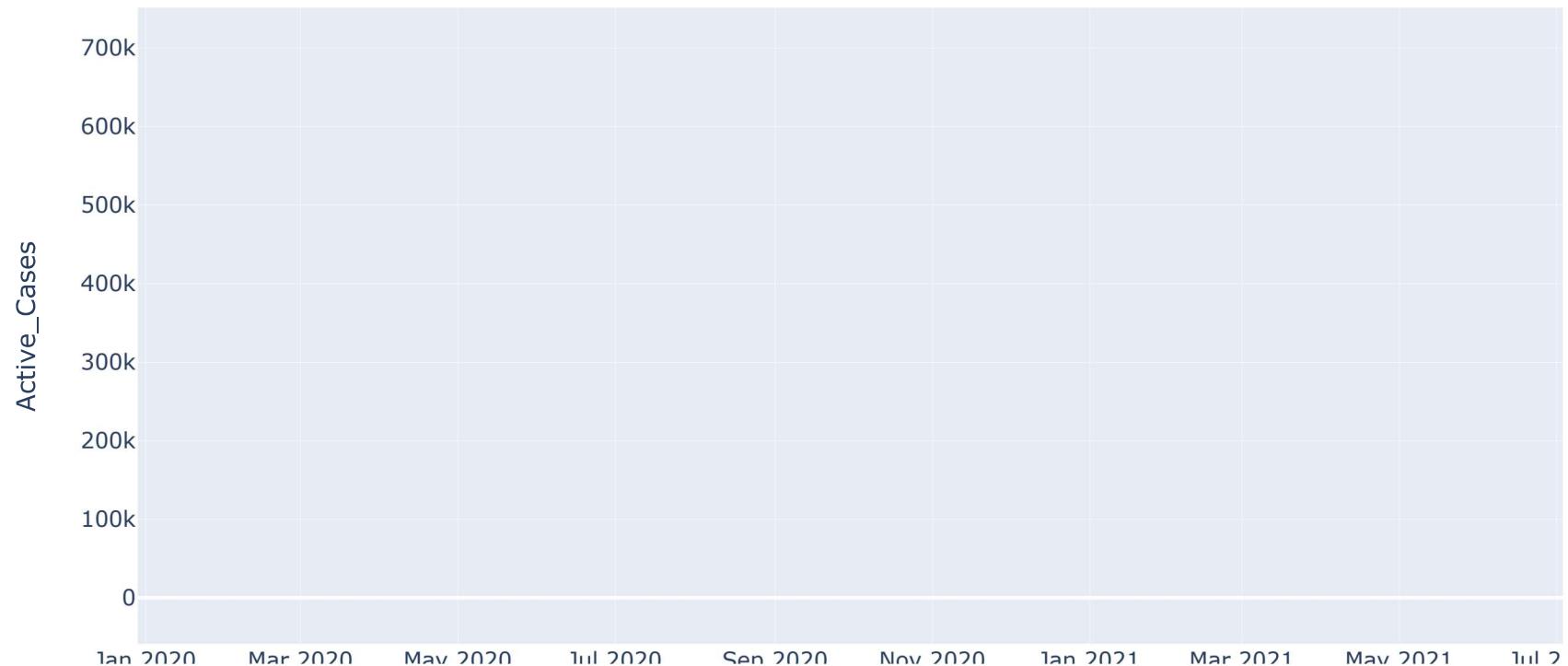
Deaths according to confirmed cases



```
In [20]: 1 px.scatter(x='Date',y='Active_Cases',title='Active Cases according to Date',data_frame=covid_data)
```

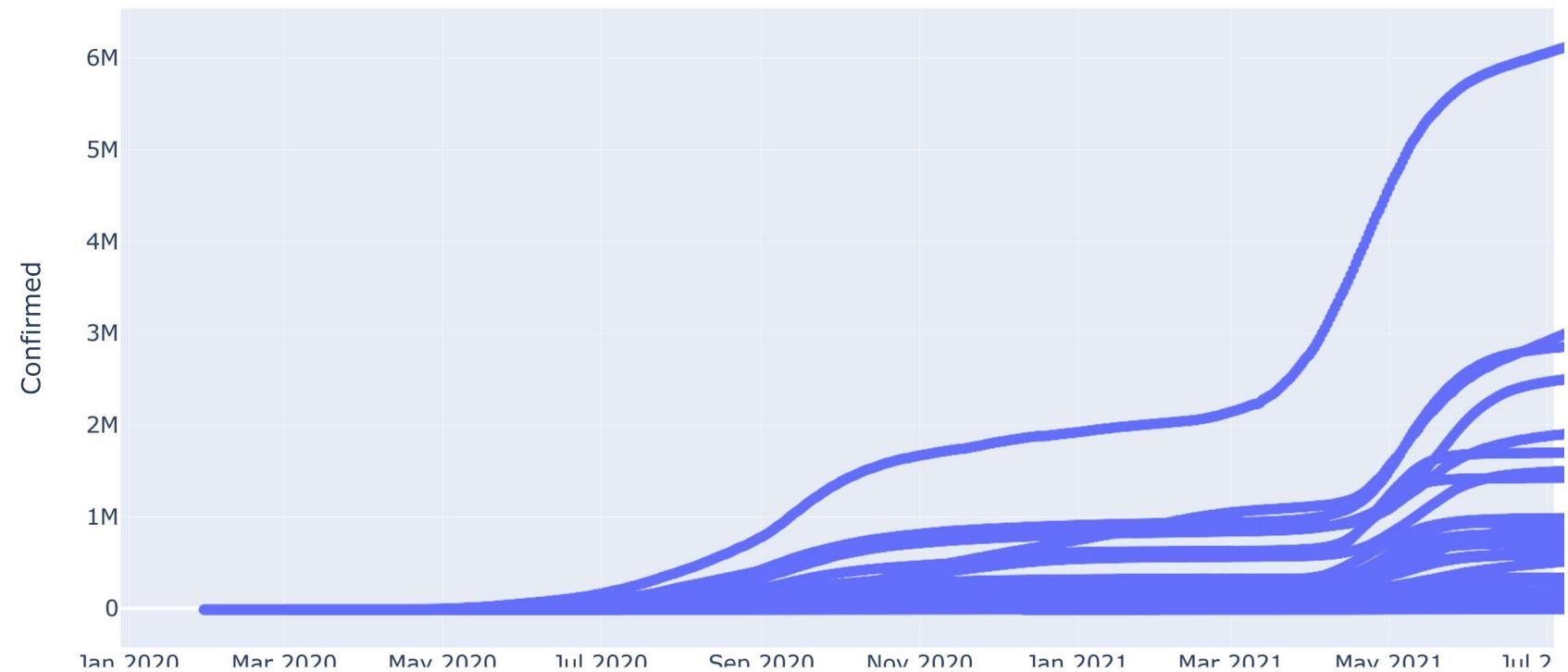
🕒

Active Cases according to Date



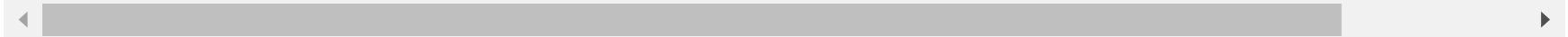
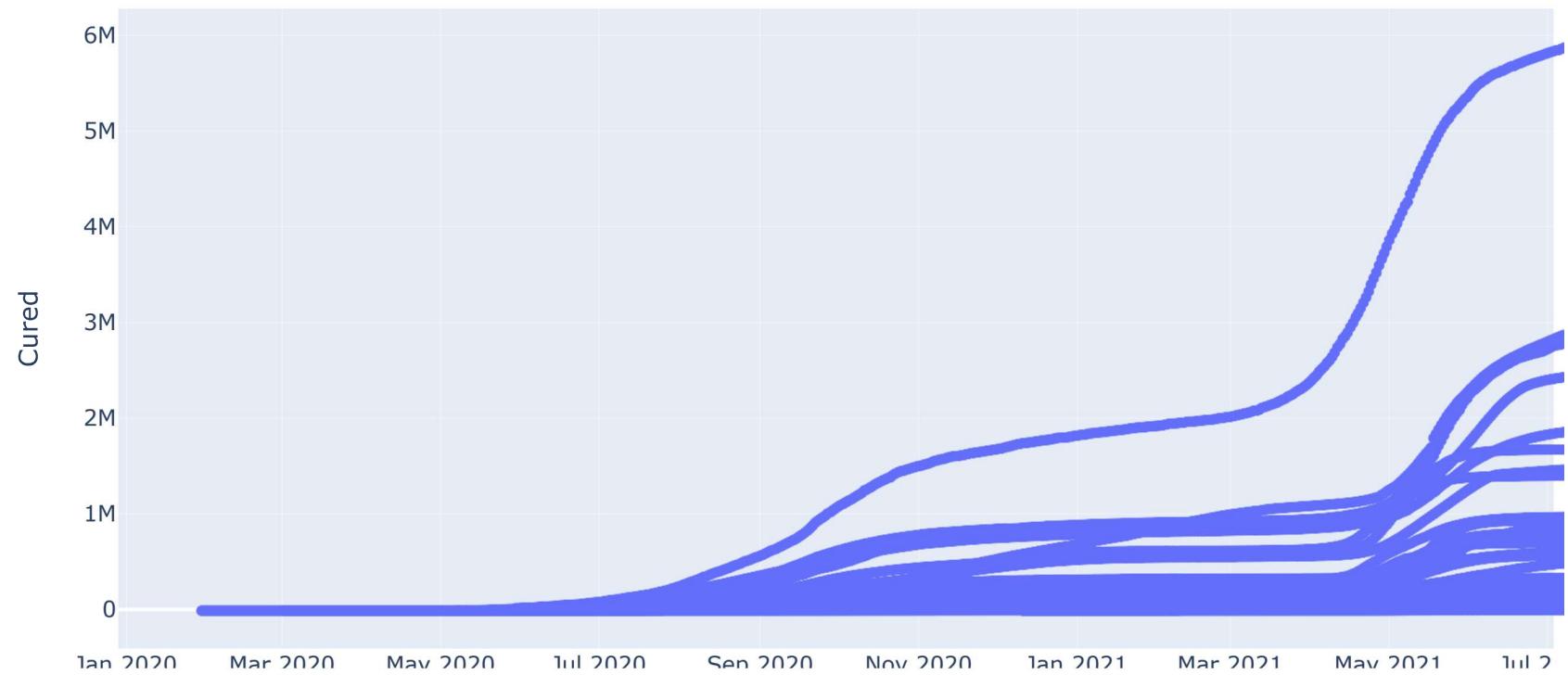
```
In [21]: 1 px.scatter(x='Date',y='Confirmed',title='Confirmed cases according to Date',data_frame=covid_data)
```

Confirmed cases according to Date



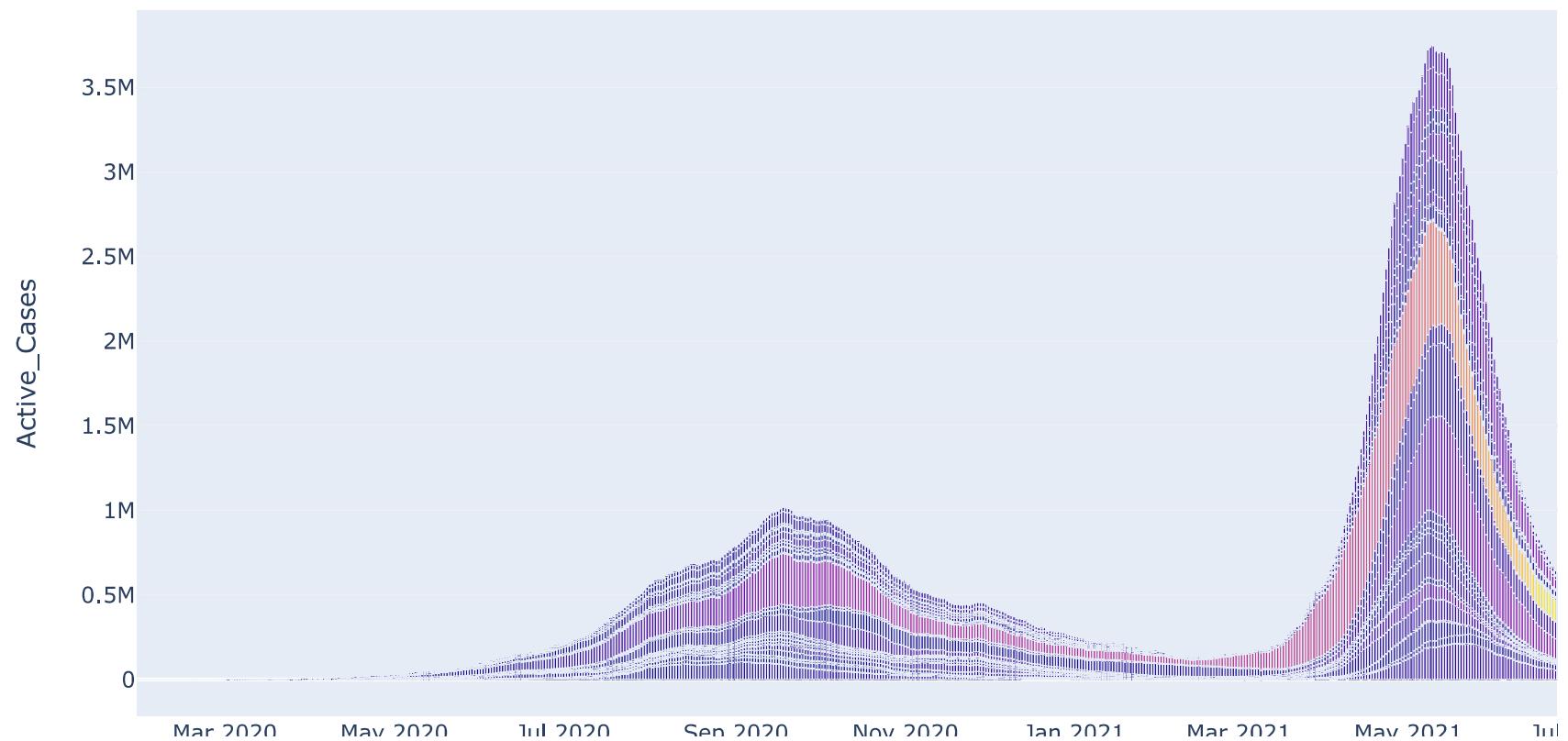
```
In [22]: 1 px.scatter(x='Date',y='Cured',title='cured according to Date',data_frame=covid_data)
```

cured according to Date

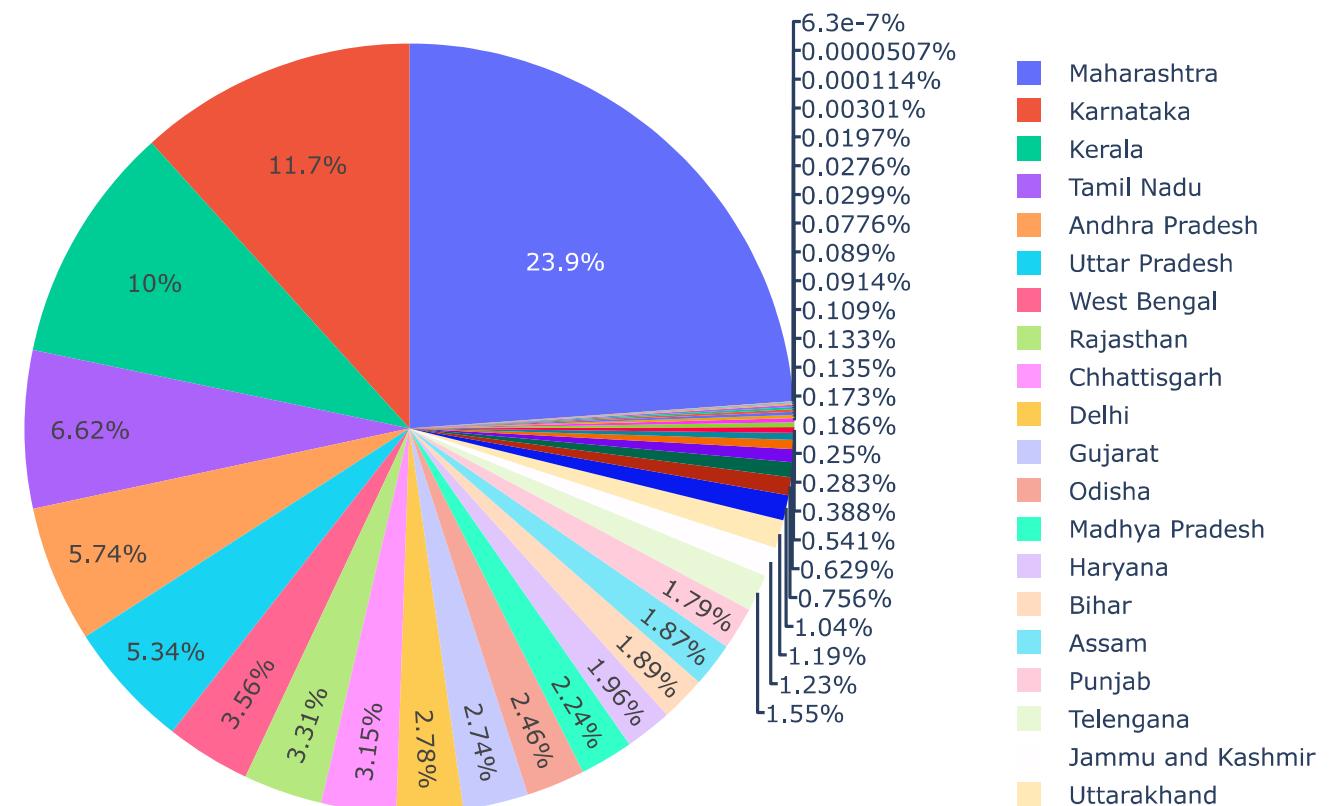


In [23]:

```
1 fig=px.bar(covid_data,x='Date',y='Active_Cases',color='Deaths')
2 fig.show()
```

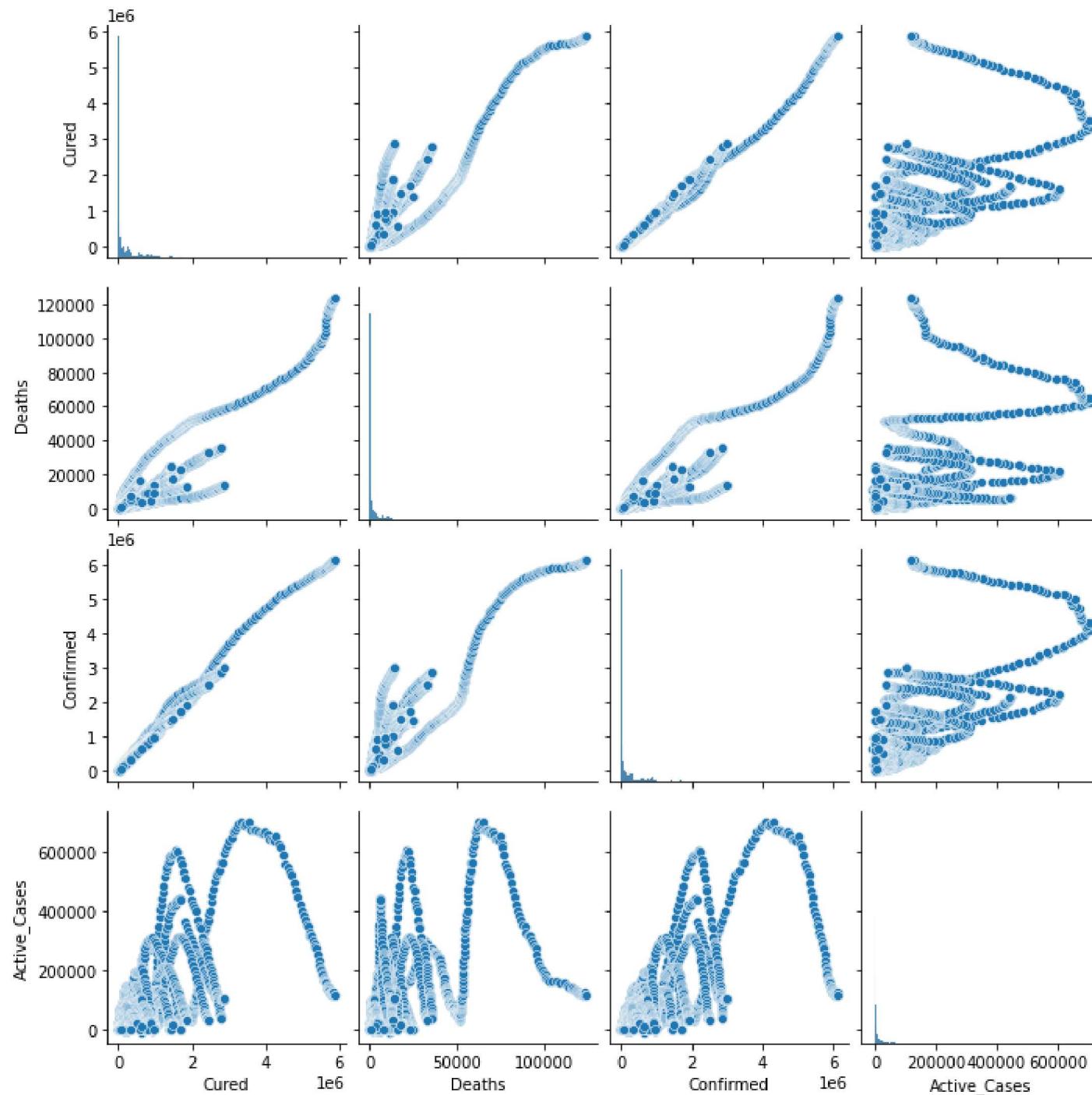


```
In [24]: 1 px.pie(names='State/UnionTerritory',values='Active_Cases',data_frame=covid_data)
```



```
In [25]: 1 sns.pairplot(covid_data)
```

```
Out[25]: <seaborn.axisgrid.PairGrid at 0x227c62c7730>
```



Maharashtra Data

```
In [26]: 1 Data_mh=pd.DataFrame(covid_data,columns=['Date','Maharashtra','cured','Deaths','Confirmed'])
```

```
In [27]: 1 Data_mh
```

Out[27]:

	Date	Maharashtra	cured	Deaths	Confirmed
0	2020-01-30	NaN	NaN	0	1
1	2020-01-31	NaN	NaN	0	1
2	2020-02-01	NaN	NaN	0	2
3	2020-02-02	NaN	NaN	0	3
4	2020-02-03	NaN	NaN	0	3
...
16845	2021-07-07	NaN	NaN	3703	628282
16846	2021-07-07	NaN	NaN	701	68612
16847	2021-07-07	NaN	NaN	7338	340882
16848	2021-07-07	NaN	NaN	22656	1706818
16849	2021-07-07	NaN	NaN	17834	1507241

16850 rows × 5 columns

```
In [28]: 1 Data2 = Data_mh.fillna(0)
```

In [29]: 1 Data2

Out[29]:

	Date	Maharashtra	cured	Deaths	Confirmed
0	2020-01-30	0.0	0.0	0	1
1	2020-01-31	0.0	0.0	0	1
2	2020-02-01	0.0	0.0	0	2
3	2020-02-02	0.0	0.0	0	3
4	2020-02-03	0.0	0.0	0	3
...
16845	2021-07-07	0.0	0.0	3703	628282
16846	2021-07-07	0.0	0.0	701	68612
16847	2021-07-07	0.0	0.0	7338	340882
16848	2021-07-07	0.0	0.0	22656	1706818
16849	2021-07-07	0.0	0.0	17834	1507241

16850 rows × 5 columns

In [30]: 1 Data2.tail(10)

Out[30]:

	Date	Maharashtra	cured	Deaths	Confirmed
16840	2021-07-07		0.0	0.0	1763
16841	2021-07-07		0.0	0.0	16131
16842	2021-07-07		0.0	0.0	8942
16843	2021-07-07		0.0	0.0	309
16844	2021-07-07		0.0	0.0	33132
16845	2021-07-07		0.0	0.0	3703
16846	2021-07-07		0.0	0.0	701
16847	2021-07-07		0.0	0.0	7338
16848	2021-07-07		0.0	0.0	22656
16849	2021-07-07		0.0	0.0	17834

In [31]: 1 Data2.describe()

Out[31]:

	Maharashtra	cured	Deaths	Confirmed
count	16850.0	16850.0	16850.000000	1.685000e+04
mean	0.0	0.0	3485.222552	2.583667e+05
std	0.0	0.0	9330.541749	5.672808e+05
min	0.0	0.0	0.000000	0.000000e+00
25%	0.0	0.0	22.000000	3.644750e+03
50%	0.0	0.0	453.000000	3.336150e+04
75%	0.0	0.0	3071.250000	2.666530e+05
max	0.0	0.0	123531.000000	6.113335e+06

```
In [32]: 1 Data2['Active_Cases'] = Data2['Confirmed'] - (Data2['cured'] + Data2['Deaths'])  
2 Data2.tail()
```

Out[32]:

	Date	Maharashtra	cured	Deaths	Confirmed	Active_Cases
16845	2021-07-07		0.0	0.0	3703	628282
16846	2021-07-07		0.0	0.0	701	68612
16847	2021-07-07		0.0	0.0	7338	340882
16848	2021-07-07		0.0	0.0	22656	1706818
16849	2021-07-07		0.0	0.0	17834	1489407.0

```
In [33]: 1 total_cases_overall=Data2['Active_Cases'].sum()  
2 print('Total number of Active cases in Maharashtra is',total_cases_overall)
```

Total number of Active cases in Maharashtra is 4294752074.0

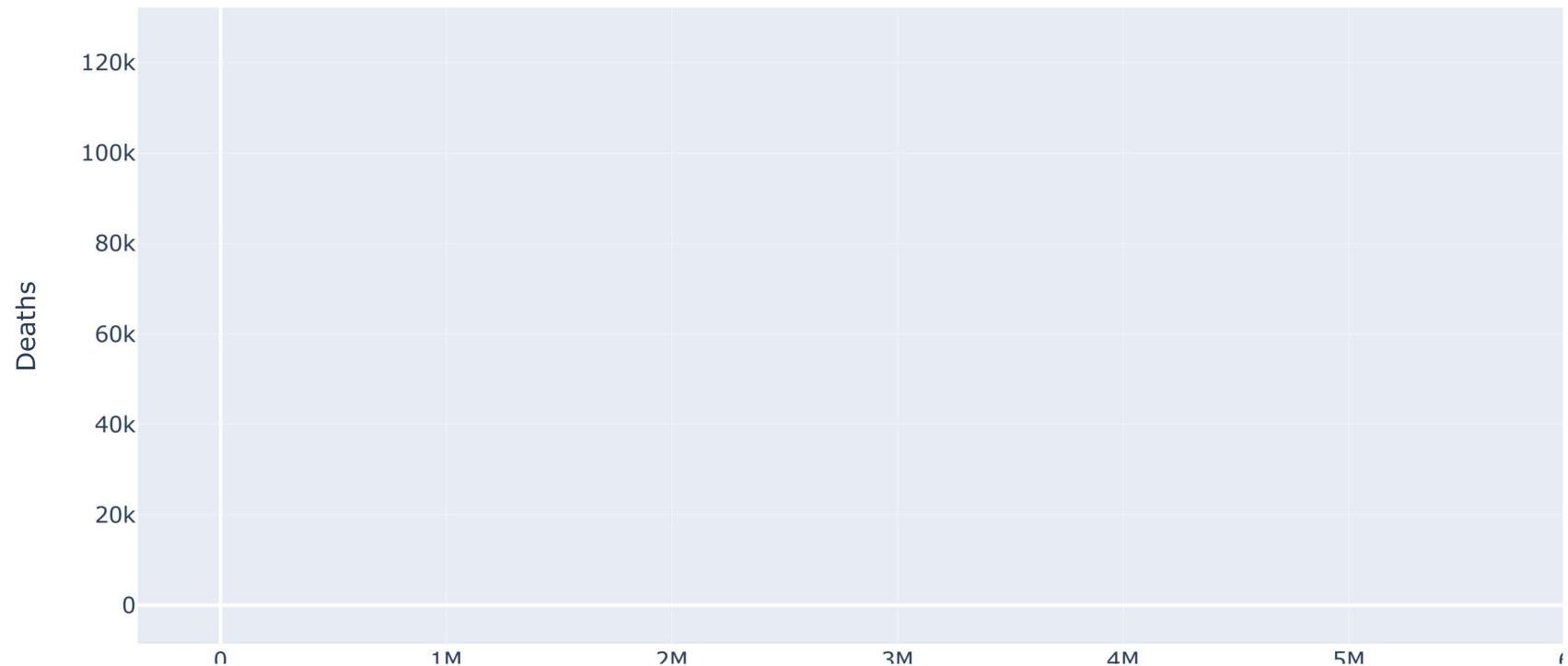
In []:

1

```
In [34]: 1 px.scatter(x='Active_Cases',y='Deaths',title='Deaths according to Active Cases',data_frame=Data2)
```

⊗

Deaths according to Active Cases

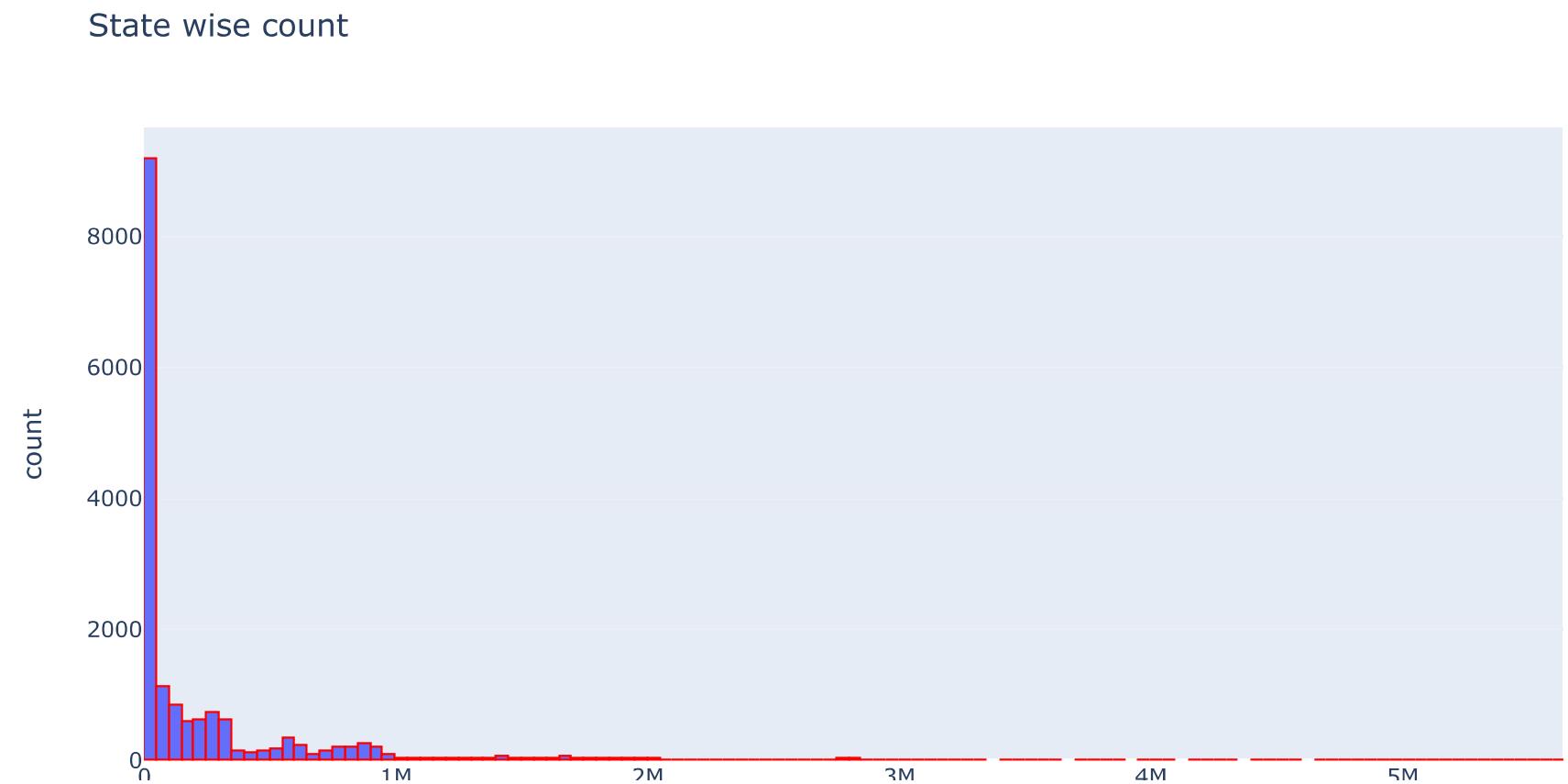


```
In [35]: 1 px.scatter(x='Confirmed',y='Deaths',title='Deaths according to confirmed cases',data_frame=Data2)
```

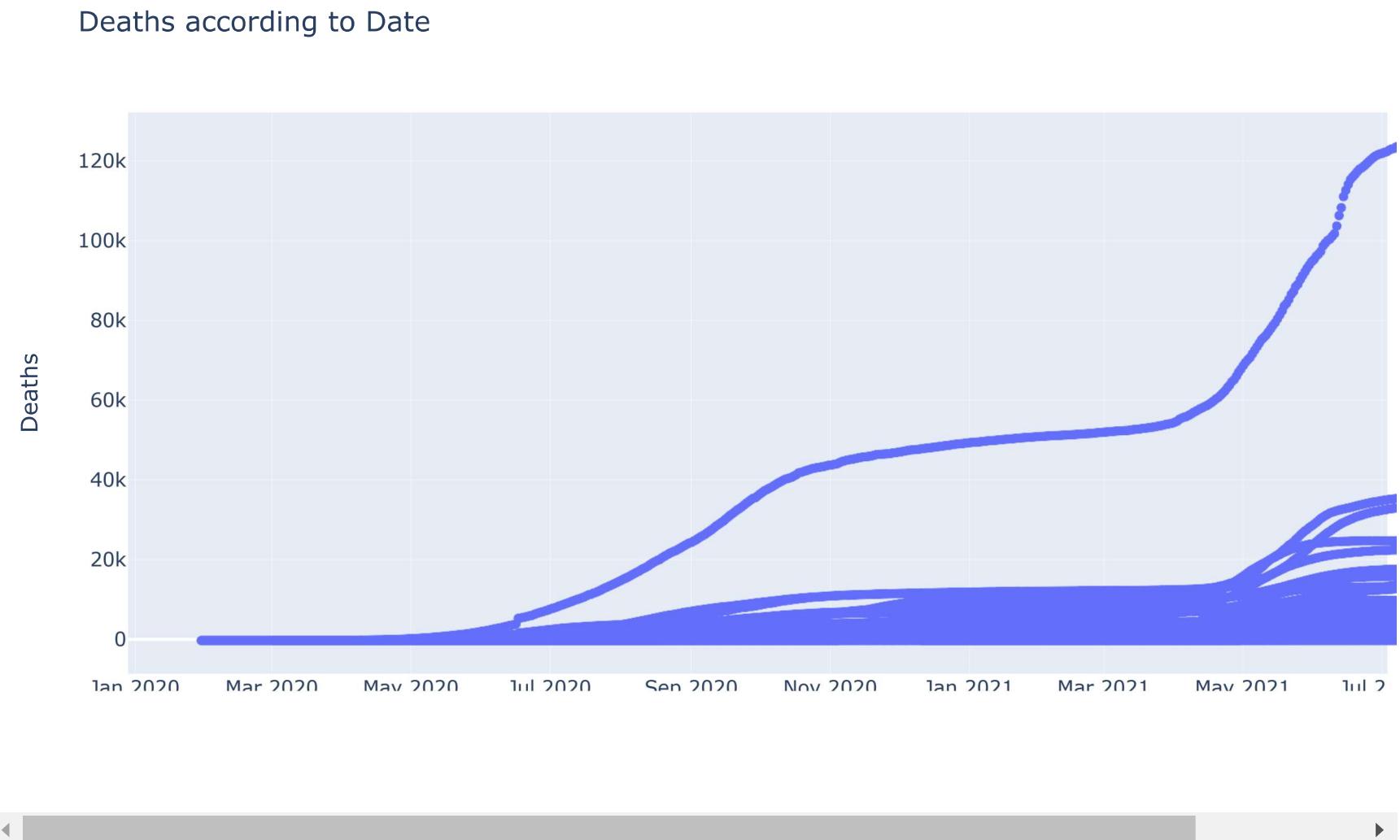


```
In [ ]:
```

```
In [36]:  
1 fig = px.histogram(x='Active_Cases',data_frame=Data2,title='State wise count')  
2 fig.update_traces(marker_line_width=1,marker_line_color="red")
```

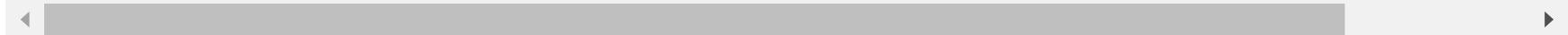
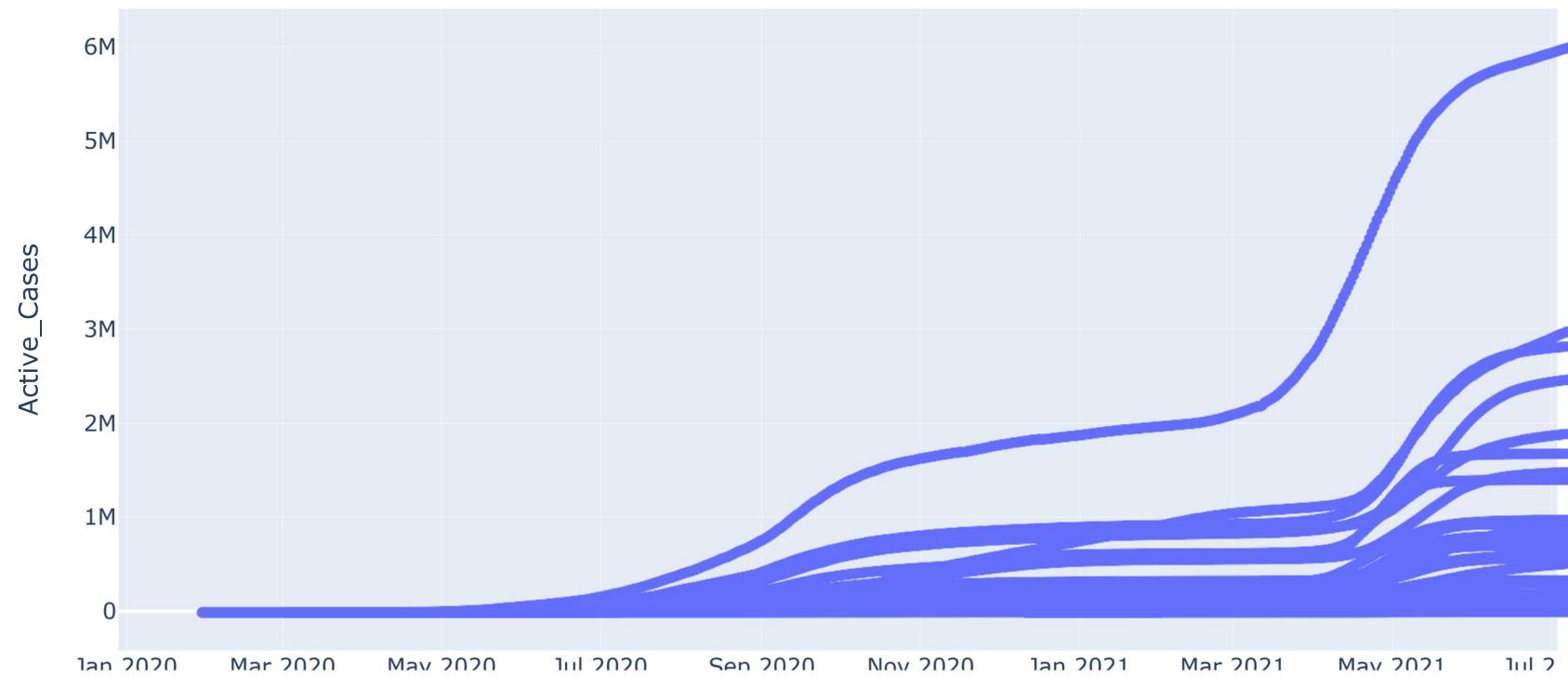


```
In [37]: 1 px.scatter(x='Date',y='Deaths',title='Deaths according to Date',data_frame=Data2)
```



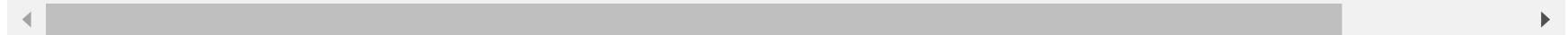
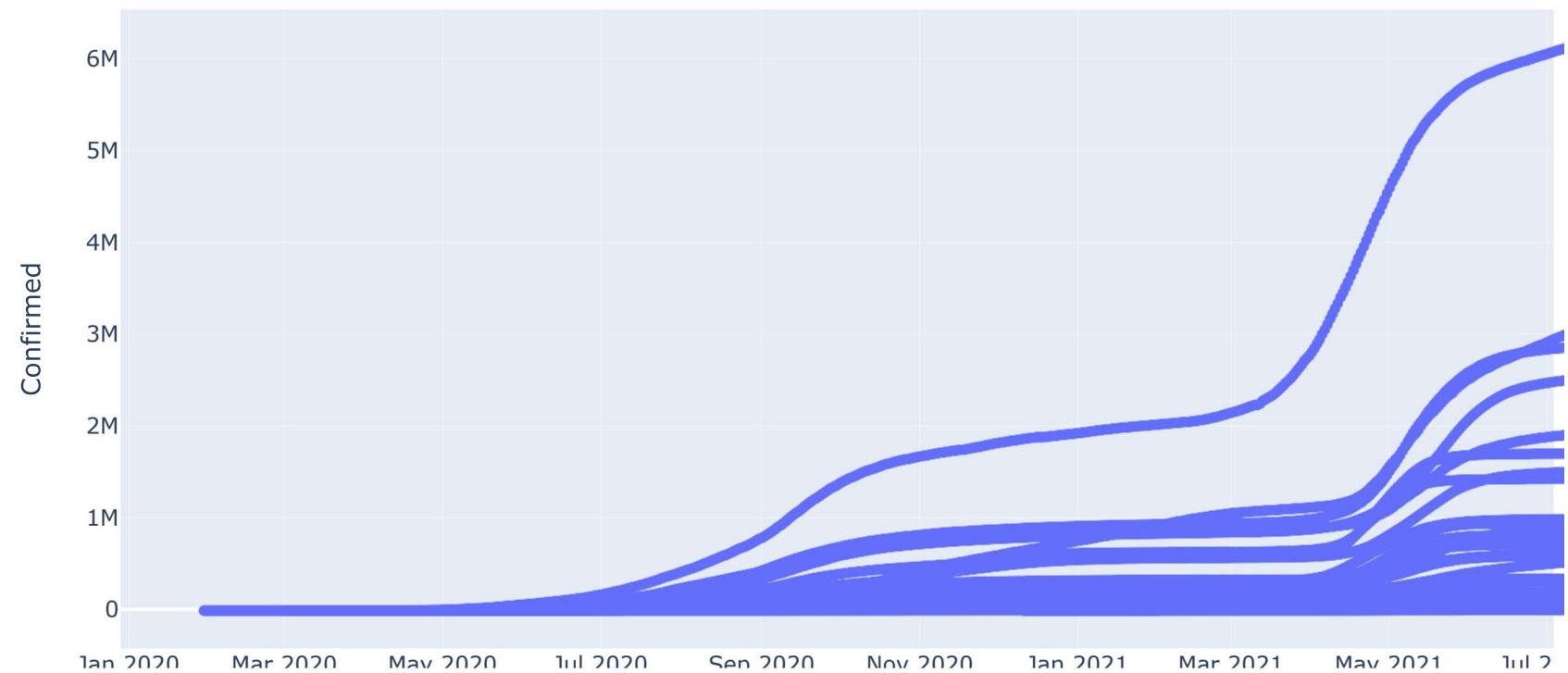
```
In [38]: 1 px.scatter(x='Date',y='Active_Cases',title='Active_Cases according to Date',data_frame=Data2)
```

Active_Cases according to Date



```
In [39]: 1 px.scatter(x='Date',y='Confirmed',title='Confirmed according to Date',data_frame=Data2)
```

Confirmed according to Date



```
In [ ]:
```

```
1
```

