

The background features a stylized illustration of an industrial landscape. On the left, there's a cluster of buildings, one with a prominent orange chimney emitting dark grey smoke. On the right, another building has a tall, thin orange chimney emitting a similar plume of smoke. The sky is light beige, and there are abstract shapes at the top: a large circular pattern of brownish-orange lines and two dark grey, blob-like shapes.

Analysis Air Quality

Data visualization Project

TEAM WORK

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INTRODUCTION



The dataset comprises air quality information from outdoor monitors across the USA , offering a detailed view of ozone concentration variations in different U.S. regions. It serves as a valuable resource for comprehending and examining environmental conditions and ozone level trends.

QUESTIONS

- Which city has the highest average AQI values?
- How many AQI are outliers?
- what is the relation between AQI and ozone level?
- What is the ozone levels compared between different State?



OUR DATA

Data Analytics

daily_ozone_2020 (1)

Search

Tables

- Abc Address
- CBSA Name
- City Name
- County Code
- County Name
- Date Local
- Date of Last Change
- Datum
- Event Type
- Local Site Name
- Method Code
- Method Name
- Parameter Code
- Parameter Name
- Pollutant Standard
- Sample Duration
- Site Num
- State Code
- State Name
- Units of Measure
- Measure Names
- 1st Max Hour

1st Max Hour

1st Max Value

AQI

Arithmetic Mean

Latitude

Longitude

Observation Count

Observation Percent

POC

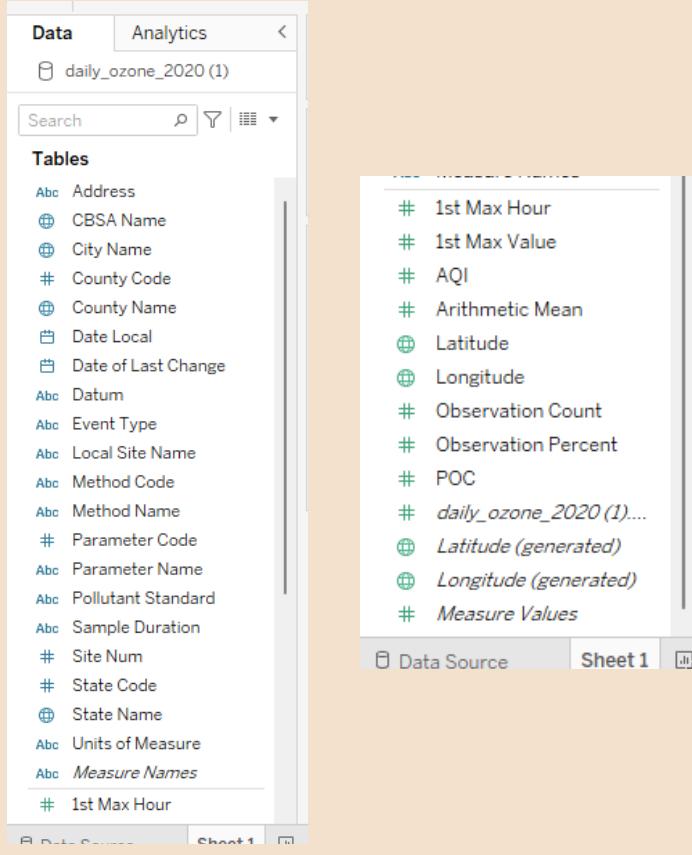
daily_ozone_2020 (1)...

Latitude (generated)

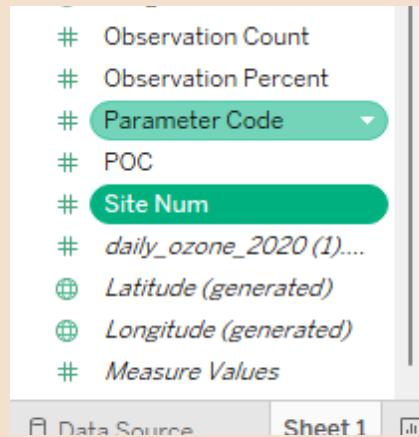
Longitude (generated)

Measure Values

Data Source Sheet 1

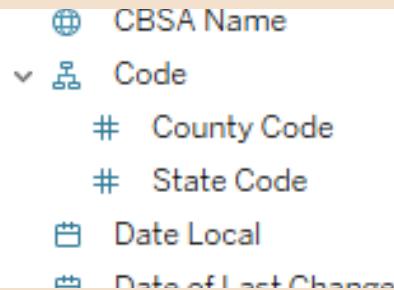
A screenshot of a data analysis software interface. On the left, a sidebar titled 'Data' shows a single dataset named 'daily_ozone_2020 (1)'. Below it is a search bar and a 'Tables' section listing various metadata fields such as Address, CBSA Name, City Name, etc. A secondary list of 'Measures' is displayed in a floating window, including 1st Max Hour, 1st Max Value, AQI, Arithmetic Mean, Latitude, Longitude, Observation Count, Observation Percent, POC, and Measure Names. At the bottom of the interface are tabs for 'Data Source' and 'Sheet 1'.

TASK 1

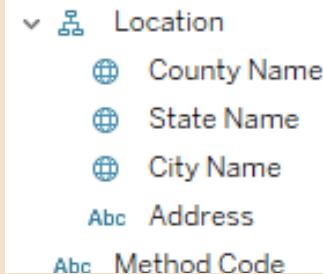


convert site num and
parameter code to
measure

TASK 1

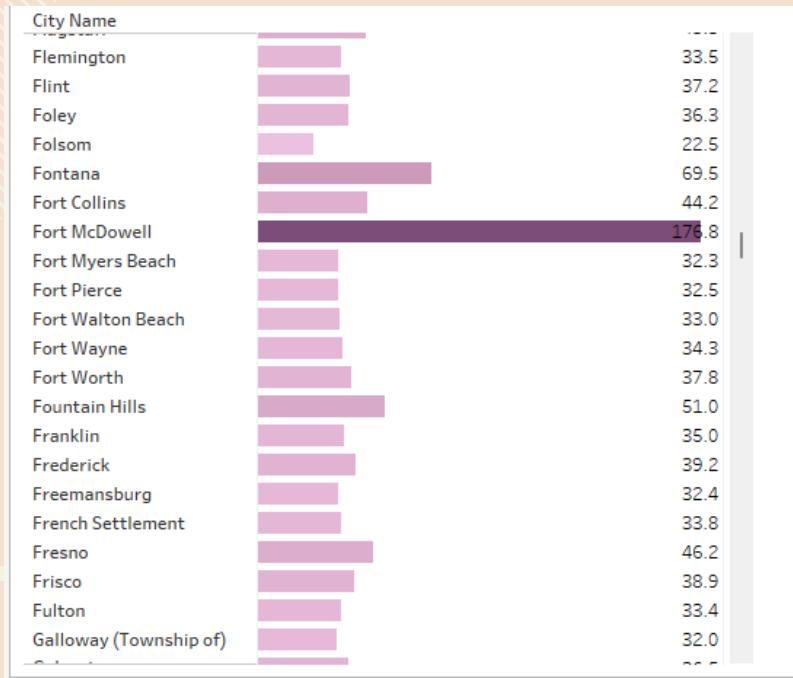


Hierarchy of Code which contain any country code and the state code



Hierarchy of Location which contain country Name ,State Name, City Name and address

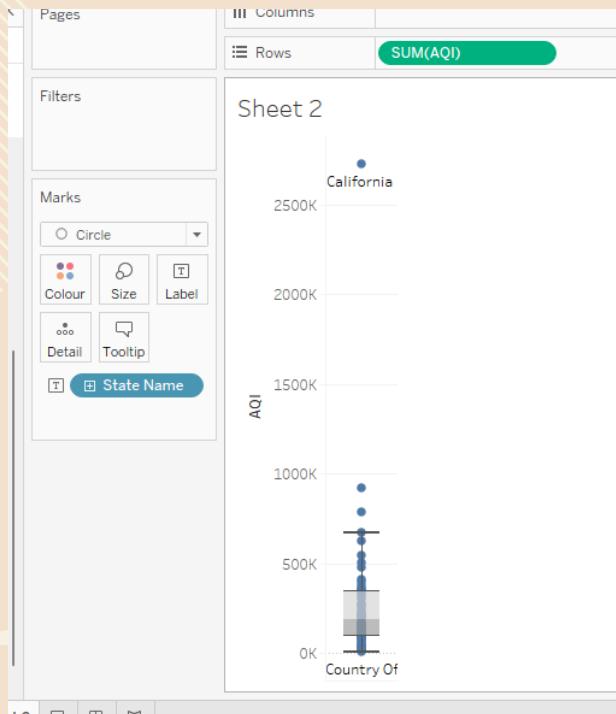
TASK 2- part 1



Which city has the highest average AQI values?

- City Name (categorical)
- We noticed that Fort McDowell Has the highest AQI with 179.8

TASK 2- part 1

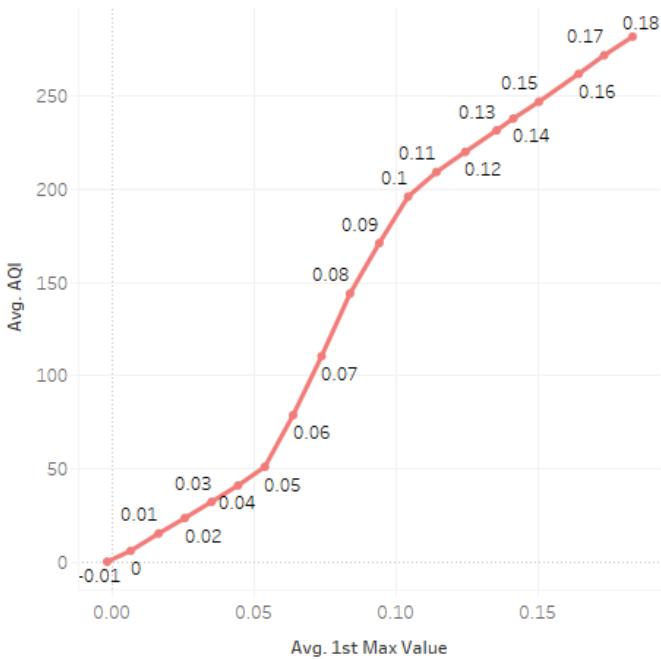


How many AQI are outliers?

- **AQI (Continuous)**
We noticed that there 3 outliers in
this state TEXAS, CALIFORNIA
CALIFORNIA.ARIZONA

TASK 2- part 2

Sheet 3

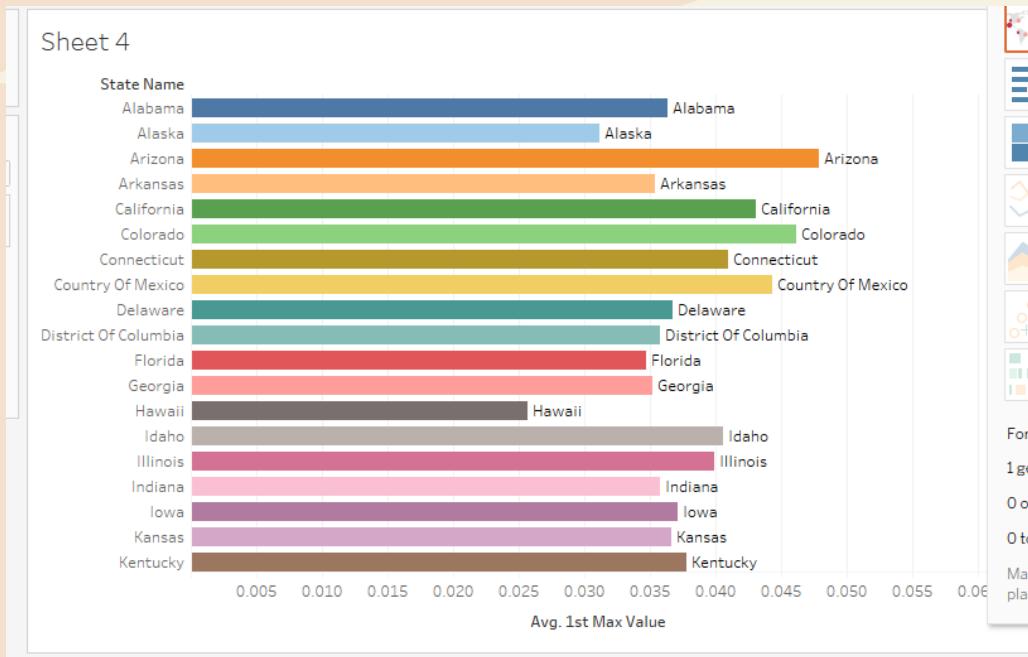


**what is the relation
between AQI and
ozone level?**

- **AQI (Continuous)**
- **1 st Max value (continuous)**

We noticed that there is a relation ,if ozone level increases then AQI increased

TASK 2- part 3

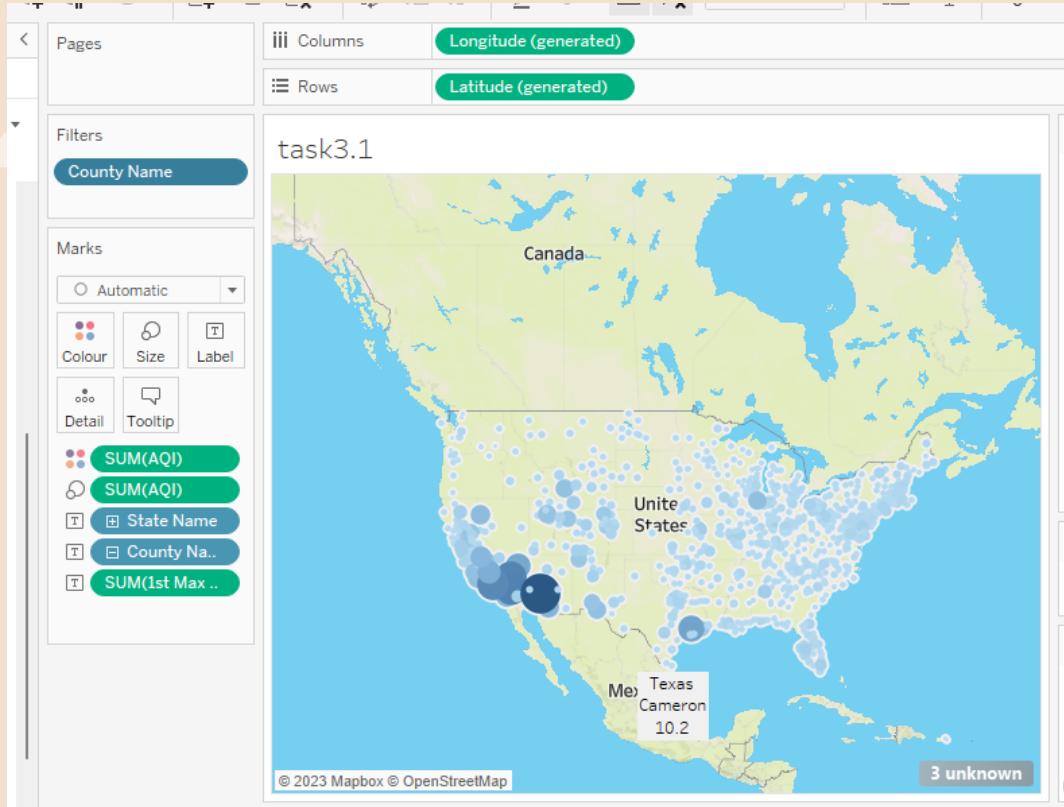


What is the ozone levels compared between different State?

- **State Name (Categorical)**
- **1 st Max value (continuous)**

We have noticed that there are differences in ozone levels among state

TASK 3



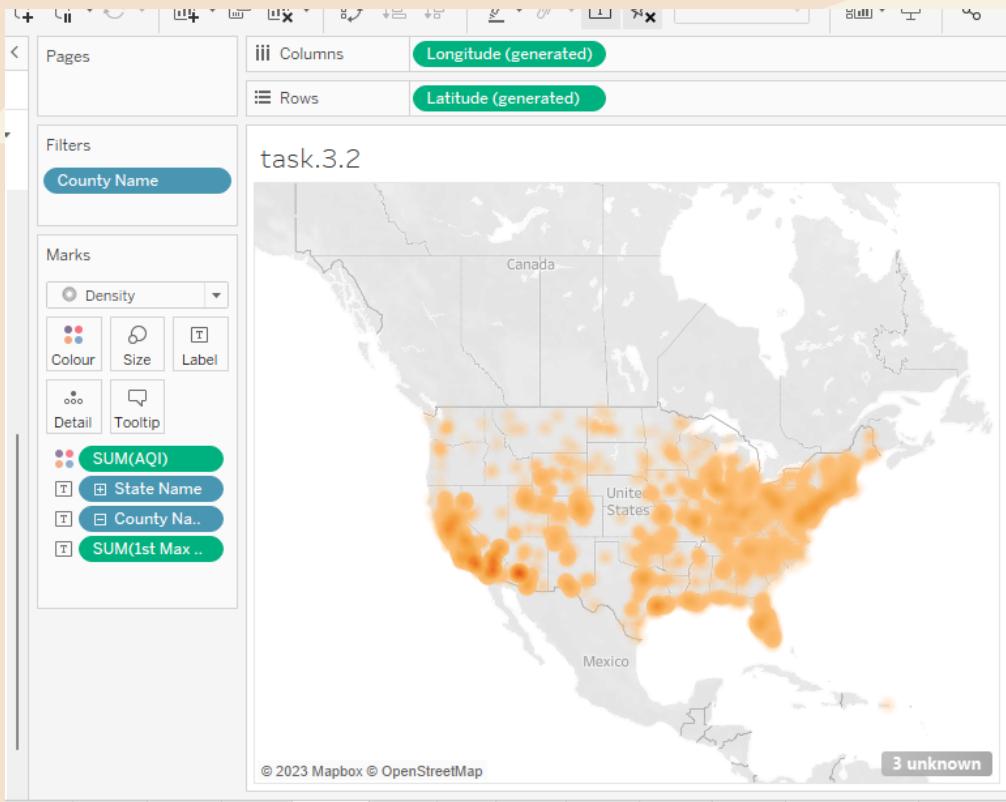
Analyze sum of AQI by country name

using point maps with outdoors background

using different size and color

The map shows us the name of the country and state

TASK 3



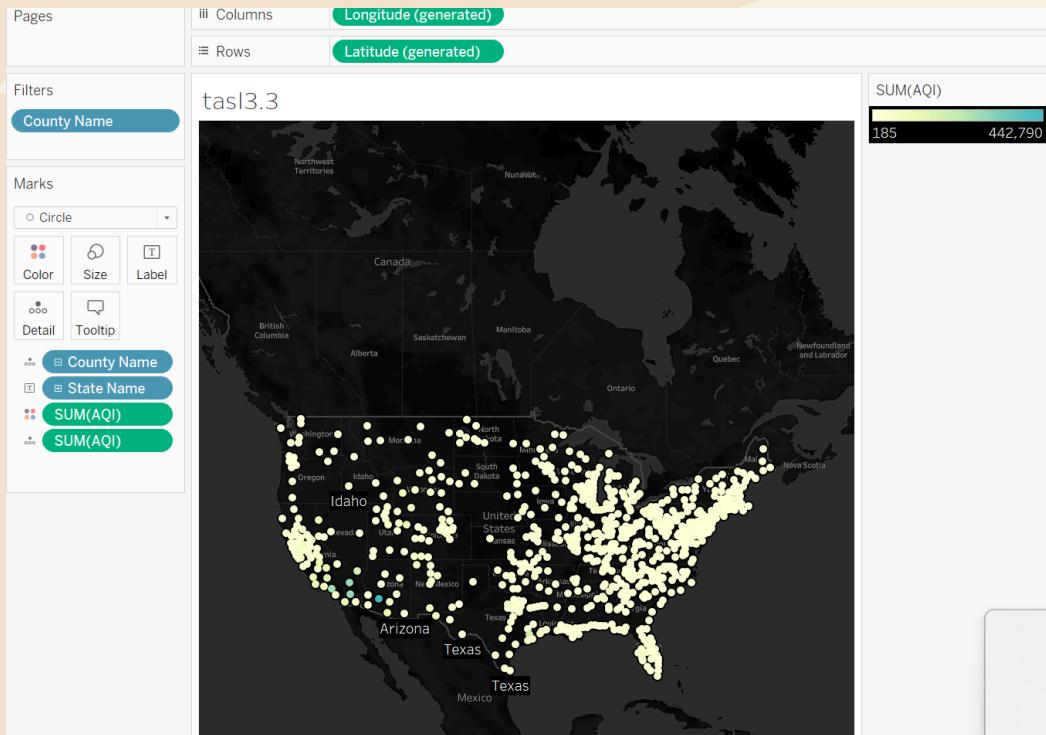
Analyze sum AQI by country name

using Density maps with light background

using different size and color

The map shows us the name of the state

TASK 3



Analyze sum AQI by country name

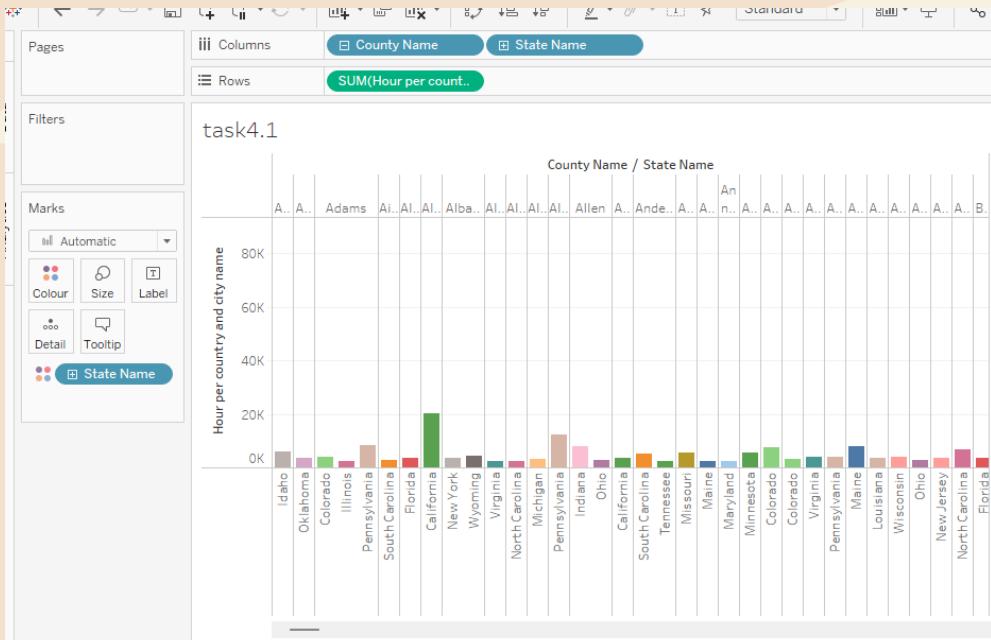
using dark Background maps Layers
using different size and color
showing streets and country name
,state name

TASK 3-part 2

We used four visual attributes in these visualizations
which is :

1. Country Name
2. State Name
3. AQI
4. 1st Max Value

TASK 4-part 1

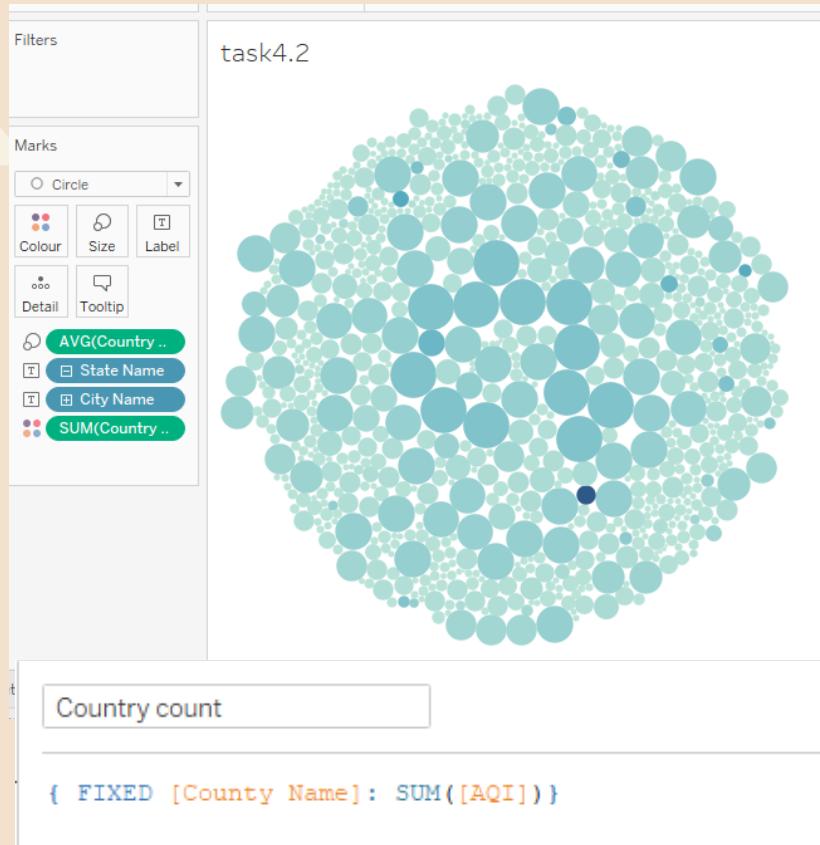


we create include LOD expression
to compute the sum of 1st Max
Hour per City name and per
Country name

me
dar
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ure

```
Hour per country and city name
{ INCLUDE [County Name], [City Name]:SUM([1st Max Hour]) }
```

TASK 4-part 2



circle plot

The bigger the circle , the higher
the count

TASK 4 -part 3

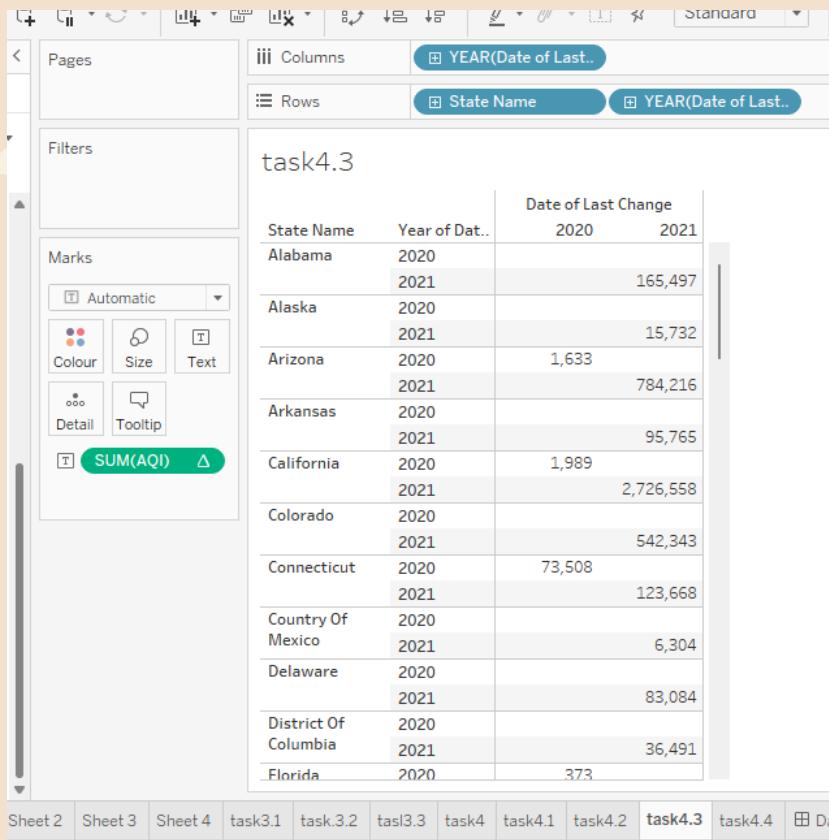


table calcultion

TASK 4 -part 4

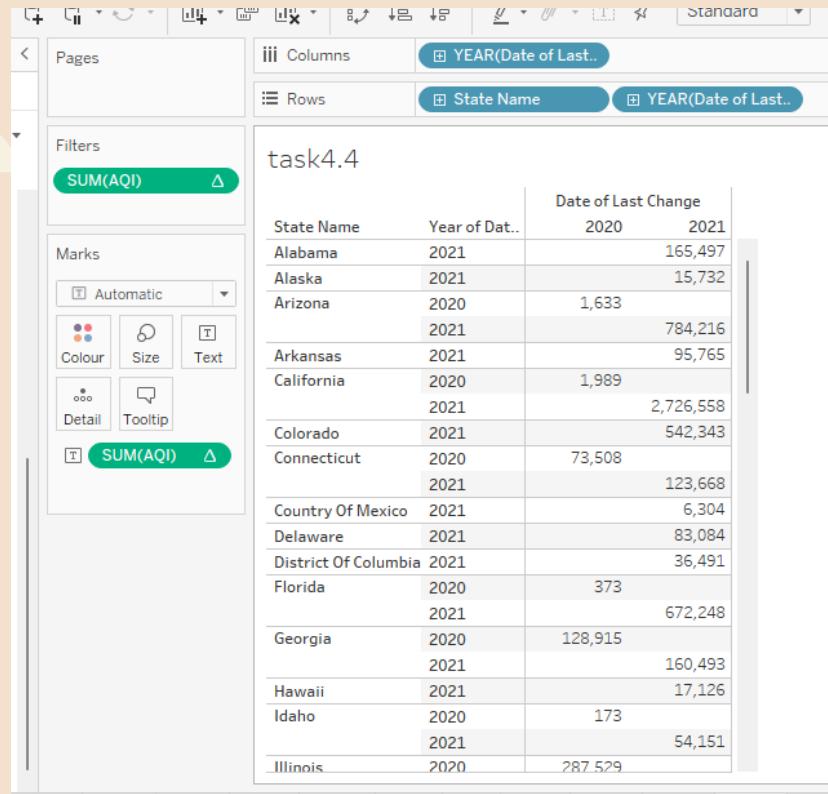
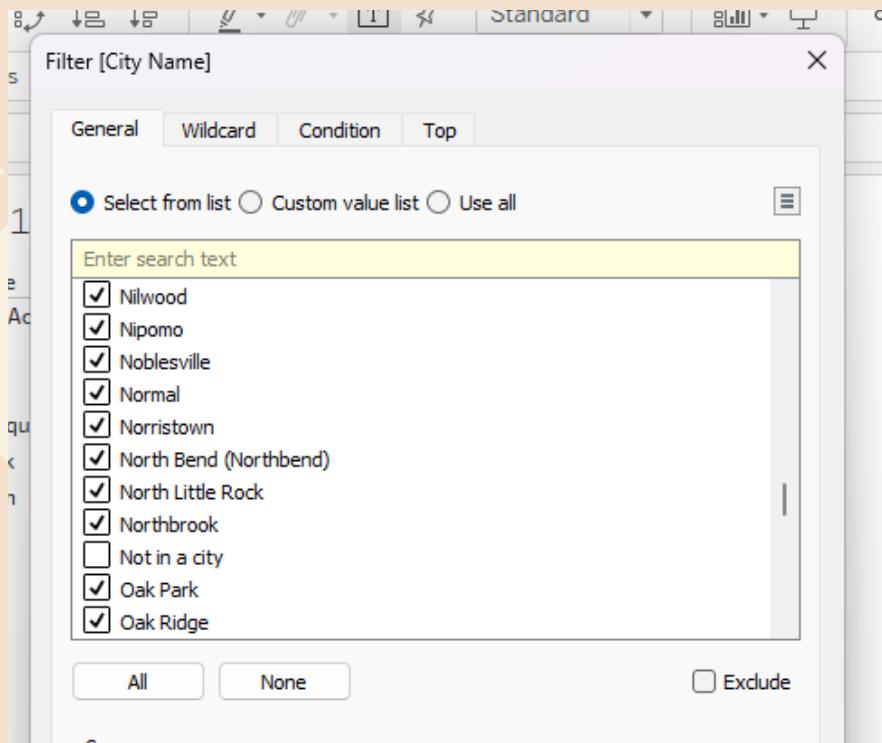


table calculation with filter

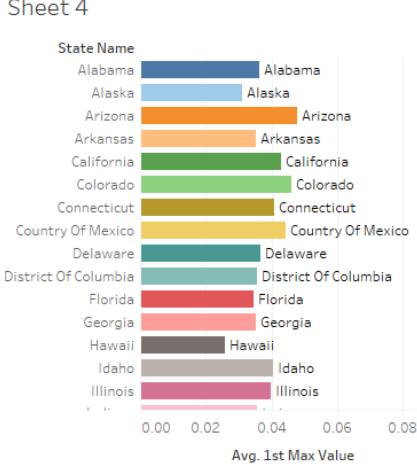
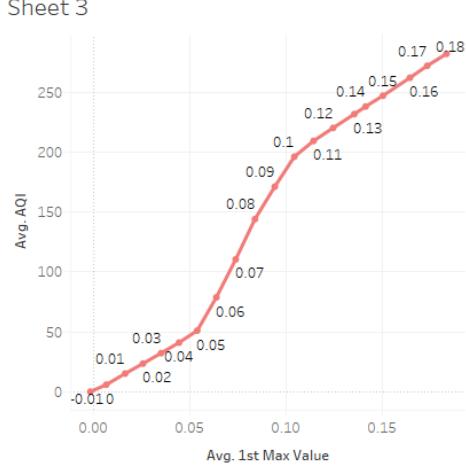
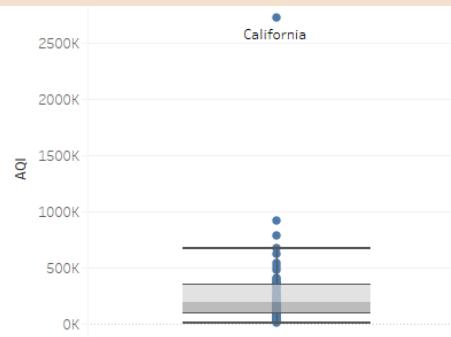
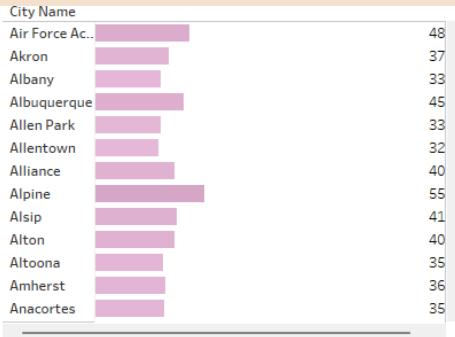
TASK 4 -part 4



Other filter that been used

we used filter in city name to exclude 'Not a city'

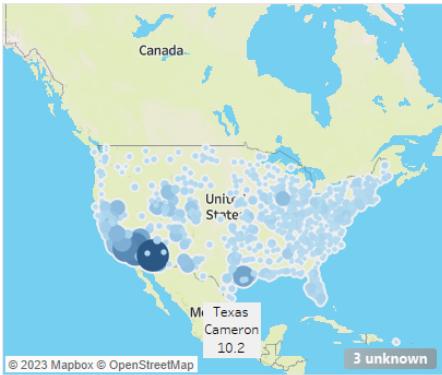
TASK 4-part 5



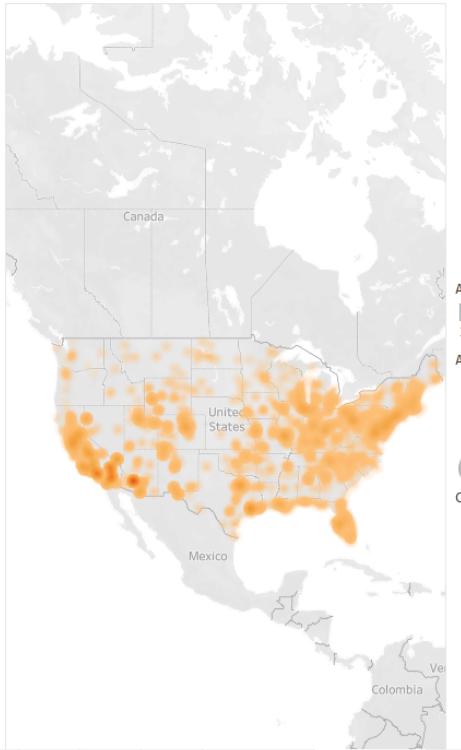
Dashboard for task2

TASK 4-part 5

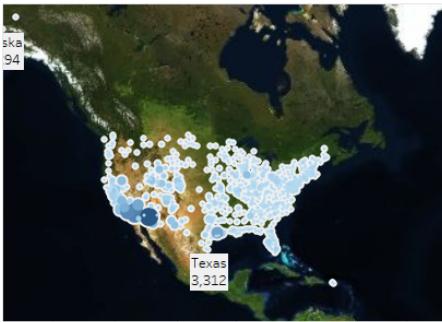
task3.1



task.3.2



tasl3.3



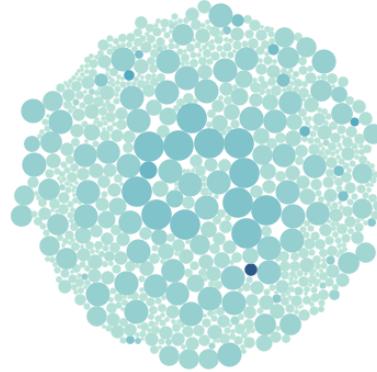
Dashboard for task3

TASK 4-part 5

task4.3

State Name	Year of Dat..	Date of Last Change	
		2020	2021
Alabama	2020		
	2021		165,497
Alaska	2020		
	2021		15,732
Arizona	2020	1,633	
	2021		784,216
Arkansas	2020		
	2021		95,765
California	2020	1,989	
	2021		2,726,558
Colorado	2020		
	2021		542,343
Connecticut	2020	73,508	
	2021		123,668
Country Of	2020		

task4.2



Dashboard for task4

task4.4

State Name	Year of Dat..	Date of Last Change	
		2020	2021
Alabama	2021		165,497
	2021		15,732
Arizona	2020	1,633	
	2021		784,216
Arkansas	2021		95,765
California	2020	1,989	
	2021		2,726,558
Colorado	2021		542,343
	2020	73,508	
Connecticut	2021		123,668
	2021		6,304
Country Of Mexico	2021		
Delaware	2021		83,084
District Of Columbia	2021		36,191

THANK YOU FOR
YOUR TIME

