DSC 465
HW3
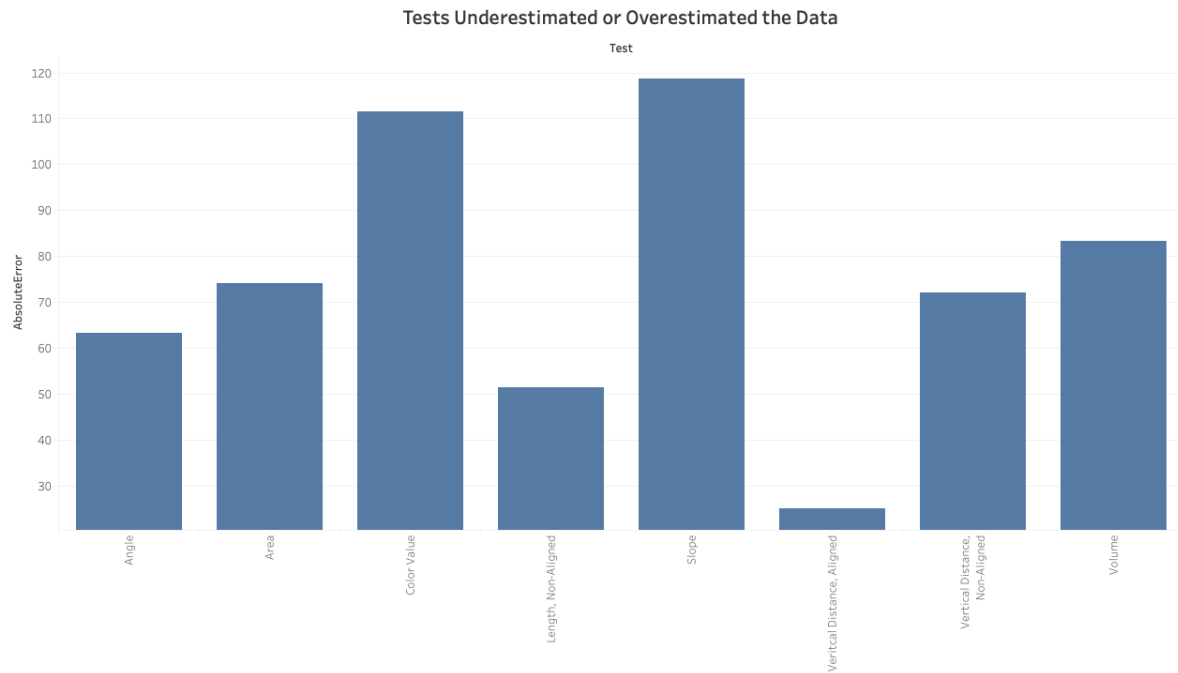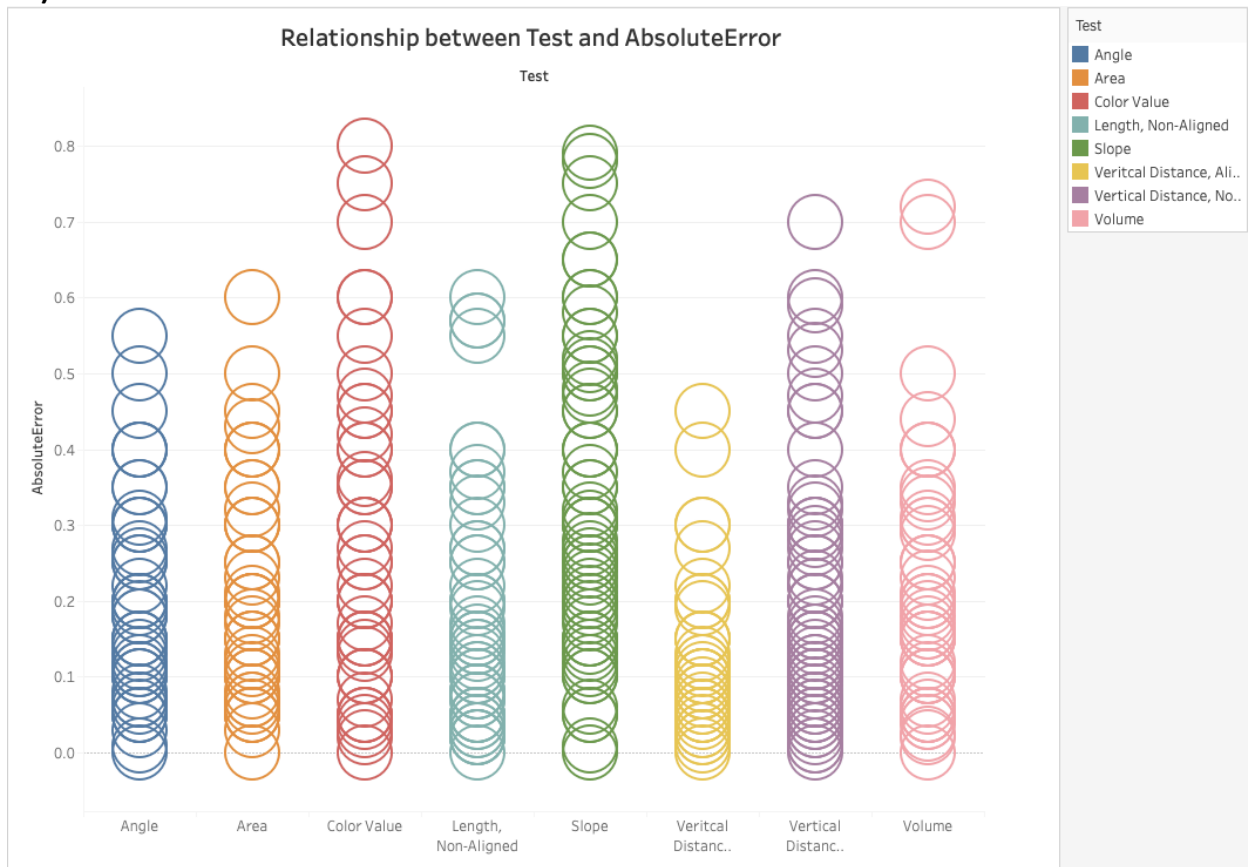**Ximan Liu**

1a)

The recommended graphical method which exposes the probability of under/overestimated data is the bar chart.
For people who underestimate the data, it happens to the error of "vertical distance, aligned".
For people who overestimate the data, it seems like "slope" and "color value".

1b)

The scatterplot graph demonstrates the relationship between Absolute Error and Test. Color matches different Tests with different shades. And yes, all the Tests have the noticeable clumping of responses for Absolute Error below 0.3. The lower the clumper.

1c)
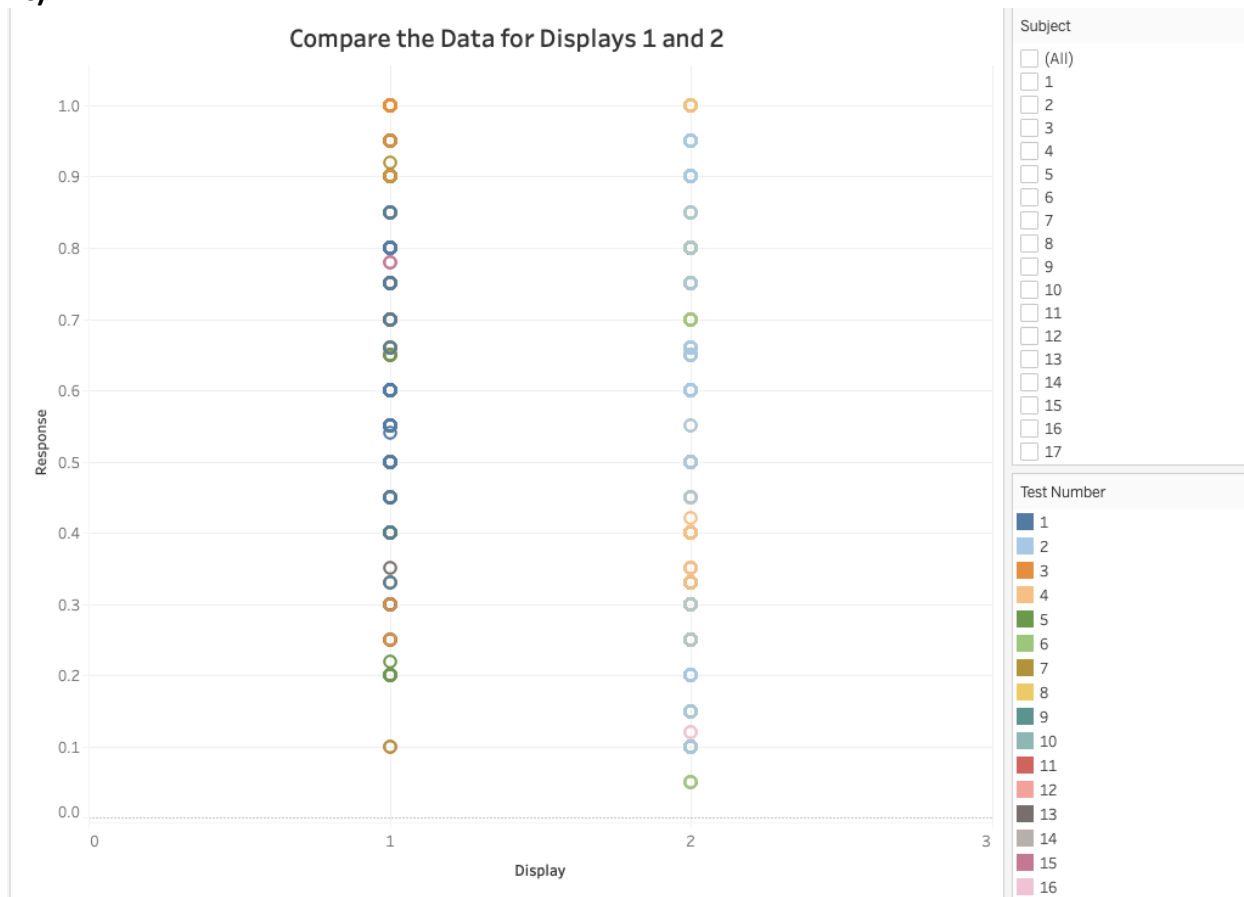
The response pattern in Display 1 tends to be more grouped together. And the response pattern in Display 2 tends to be more scattered.
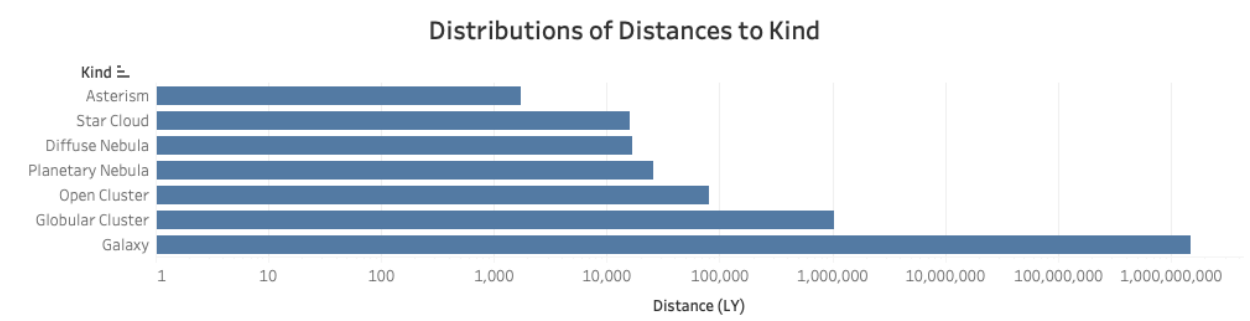In a word, the participants got better after having done it once.

1d)
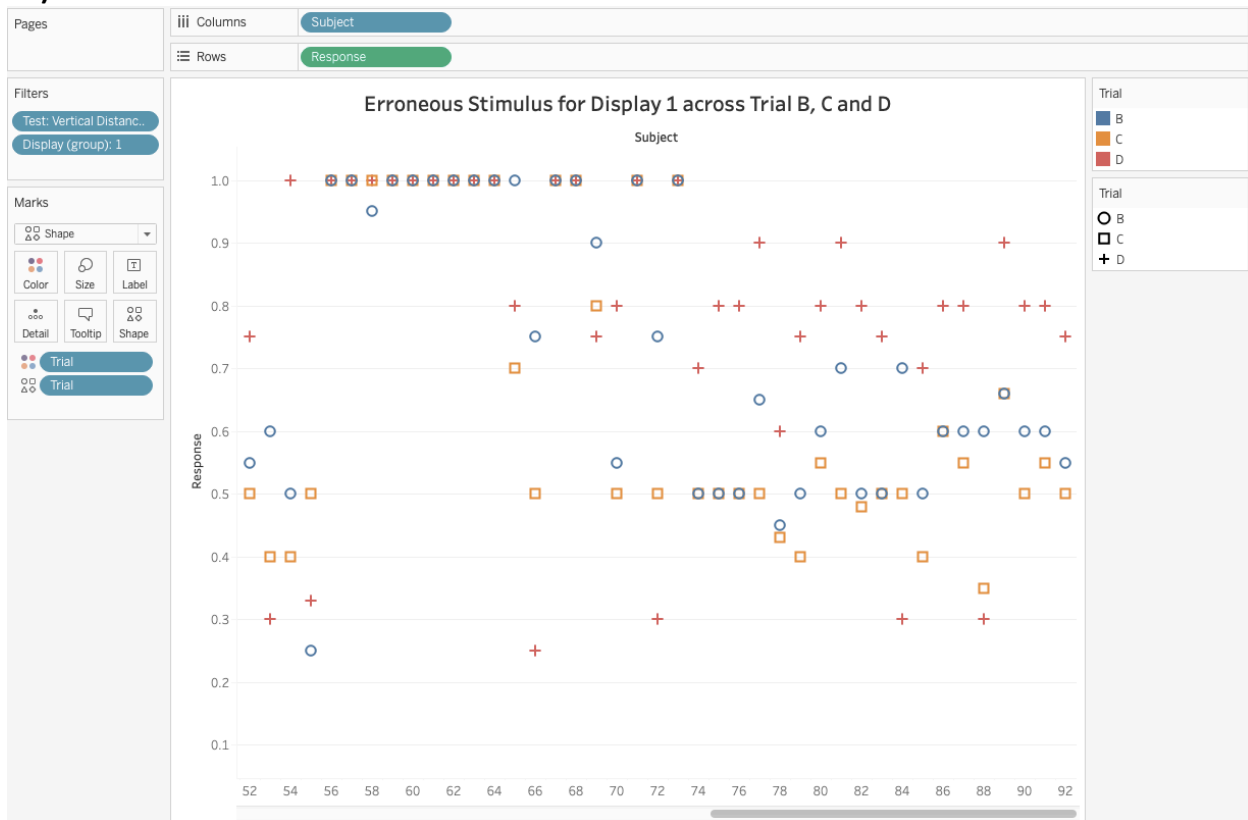
The graph demonstrates the erroneous stimulus for display 1 across Trail B, C and D. The overlapping plots show the responses of B, C and D. From 56 – 74 subject, is the most noticeable stimuli among B, C and D.
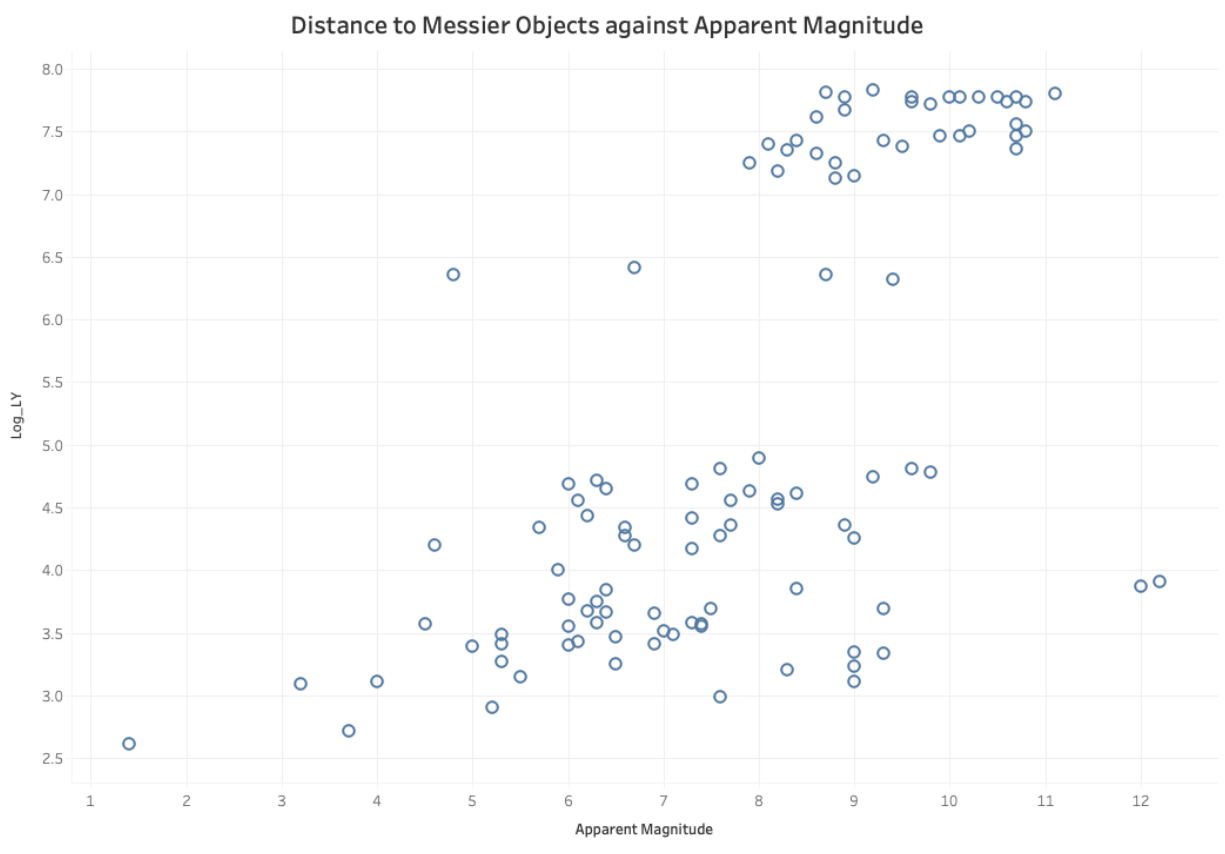
2a)

Year against the Messier Number
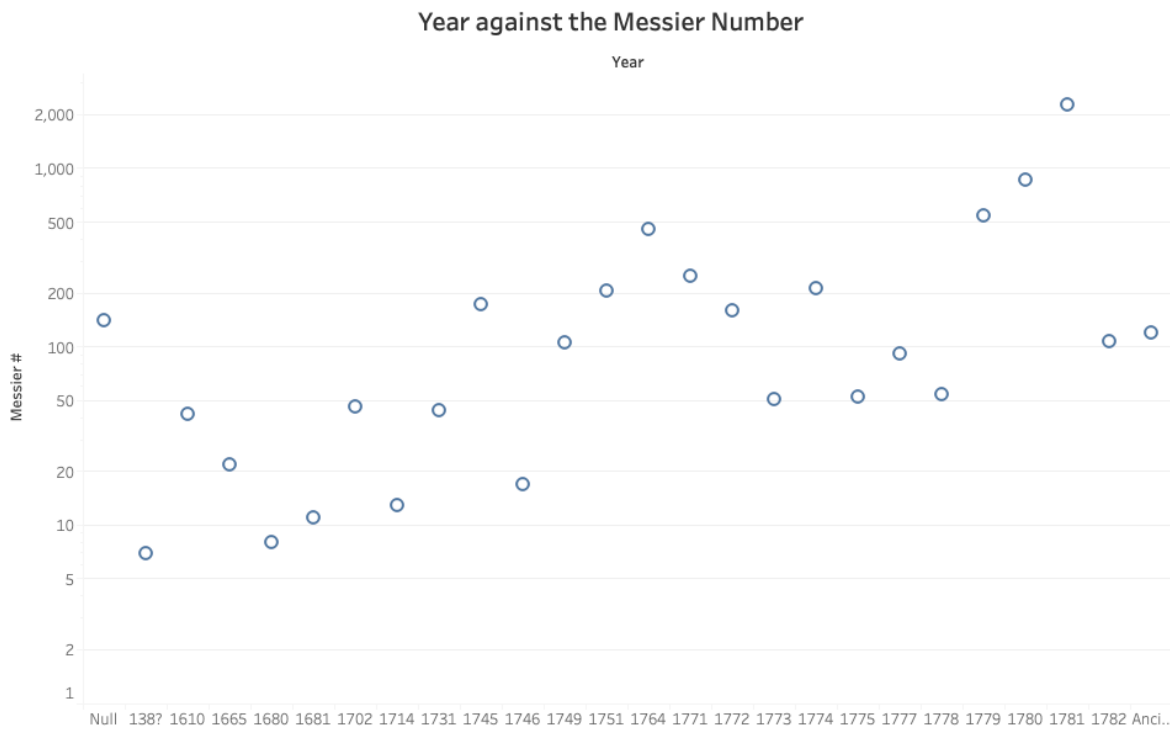
With the order of Messier's list, there is a pattern during a comparison between the Messier Number and Year. The Messier Number seems to continue increasing over time.
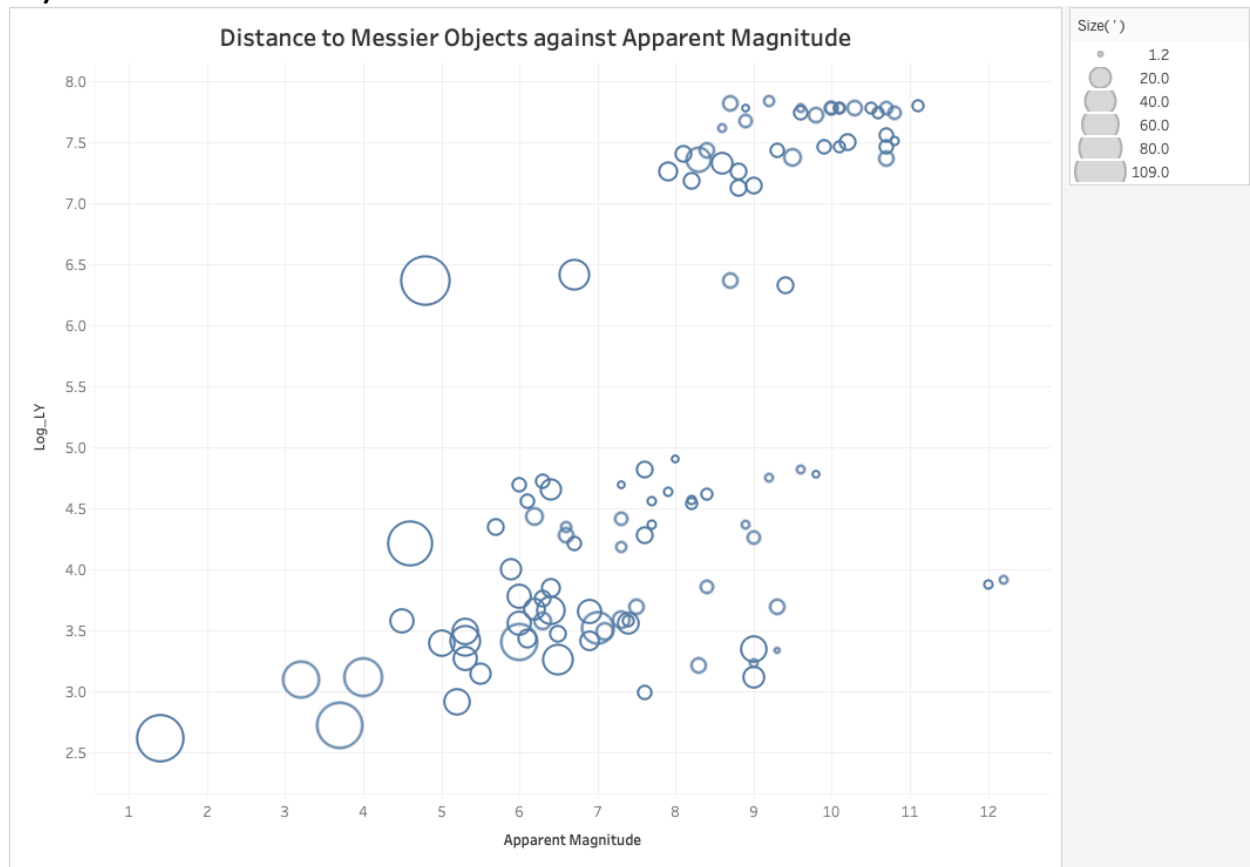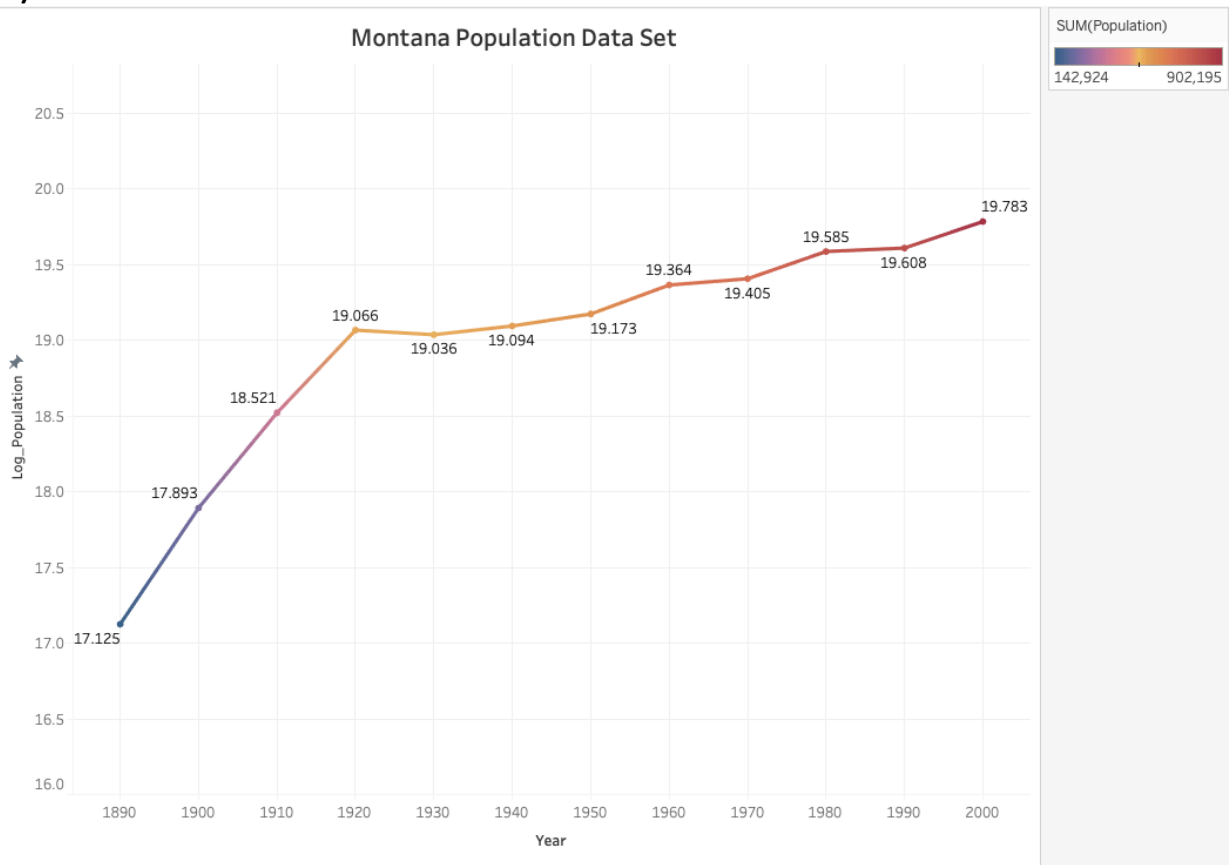
2b)

Distributions of Distances to Kind

2c)

Distance to Messier Objects against Apparent Magnitude

Log base 10.

2d)

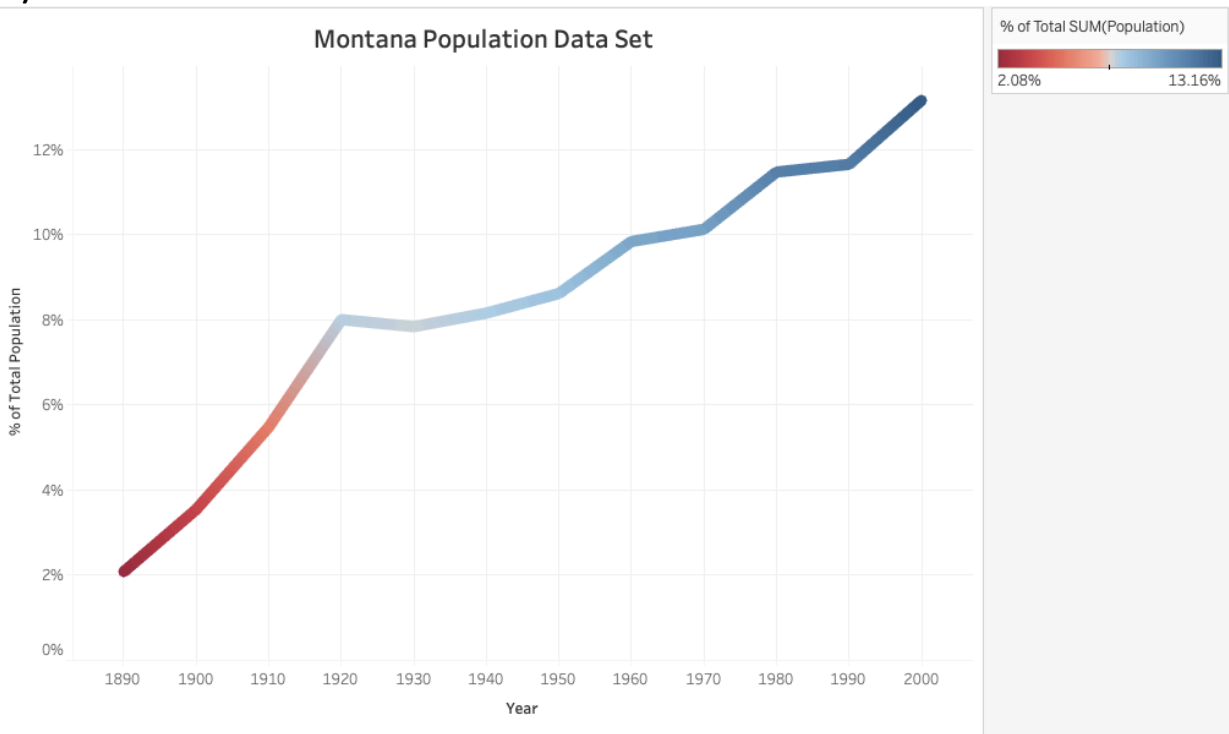Distance to Messier Objects against Apparent Magnitude

Log base 10.

3a)

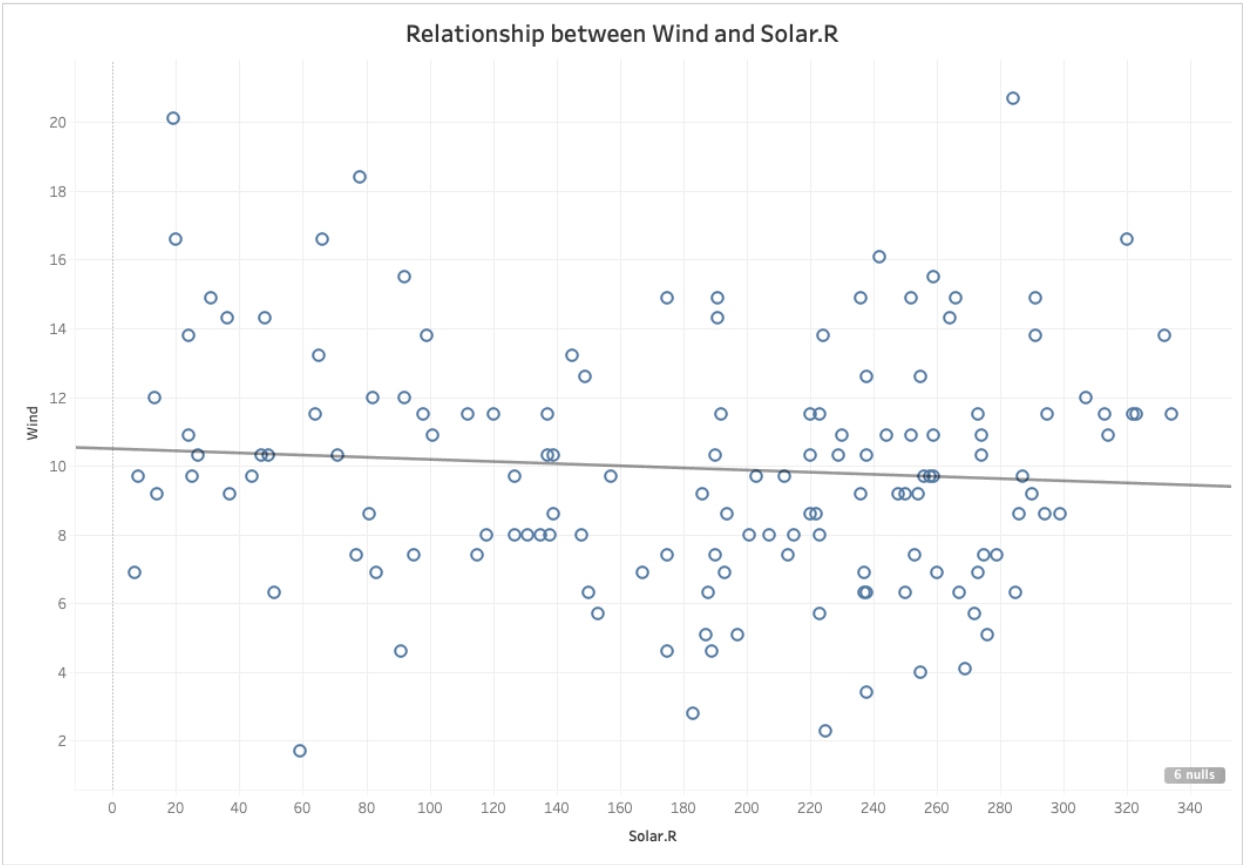Log base 2. The population doubled almost 3 times.

3b)

The percentage rate of change in the population increased over the years. 1890 – 1920 had the greatest increase in population %-wise.
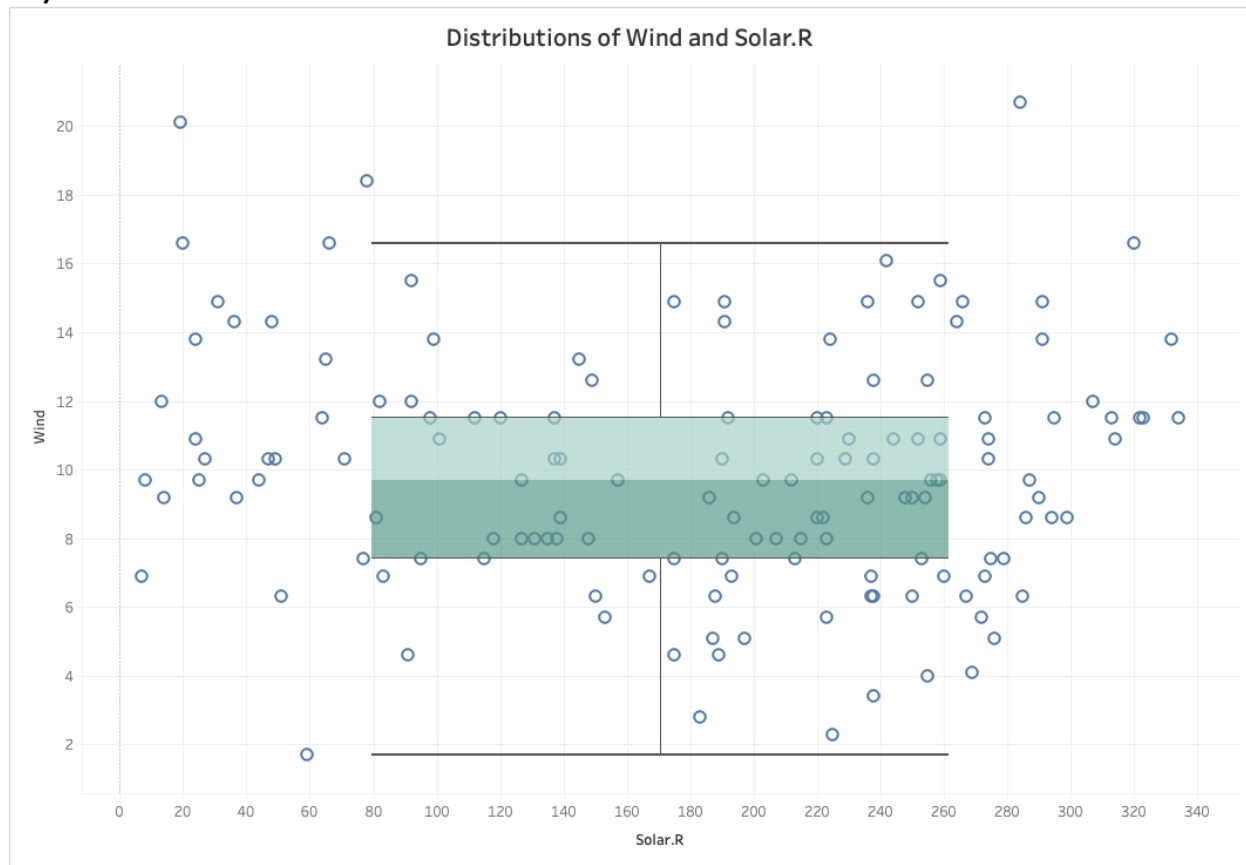
3c)
1890 – 1920 was the population percentage increase greater than 15%.

4a)

Relationship between Wind and Solar.R

4b)

Distributions of Wind and Solar.R

4c)

4d)