

**Step 2-A:**

**Exploring Data**

# After this video you will be able to..

- Explain the importance of exploring data
- Identify methods to perform preliminary analysis of your data

Big Data Engineering

Computational Big Data Science

ACQUIRE

**PREPARE**

ANALYZE

REPORT

ACT

Step 2-A: Explore

Step 2-B: Pre-process





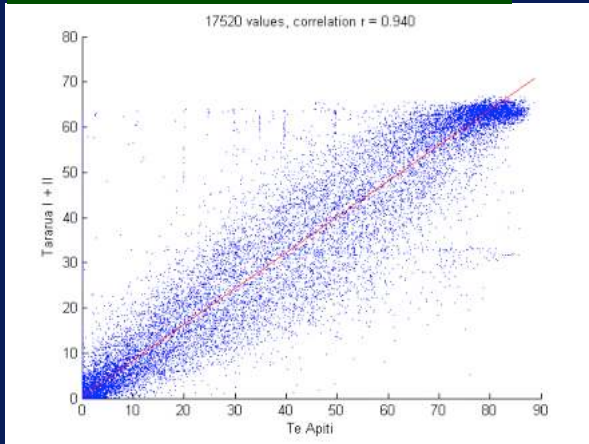
# Why Explore?

Goal: Understand your data



# Why Explore?

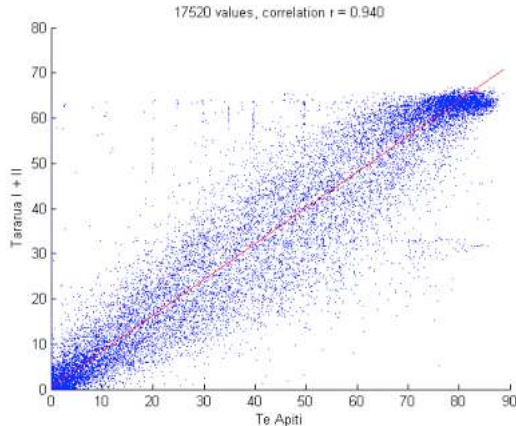
## Correlations



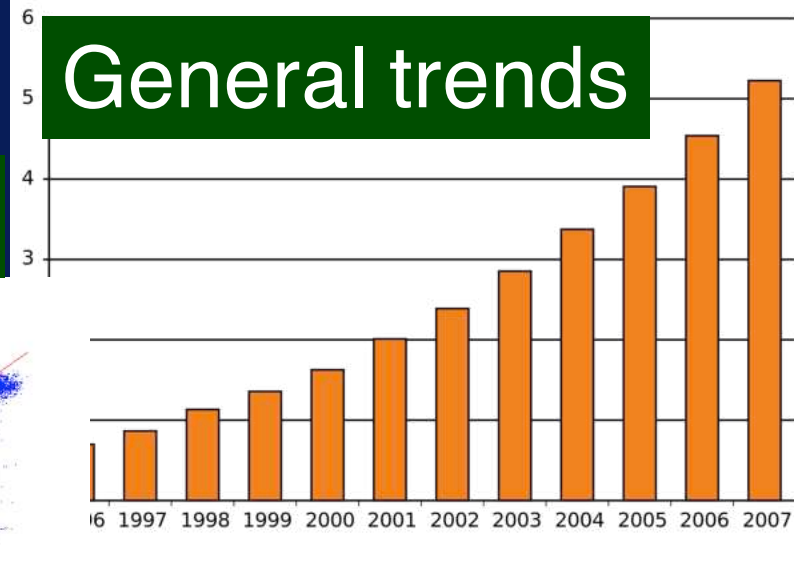


# Why Explore?

## Correlations



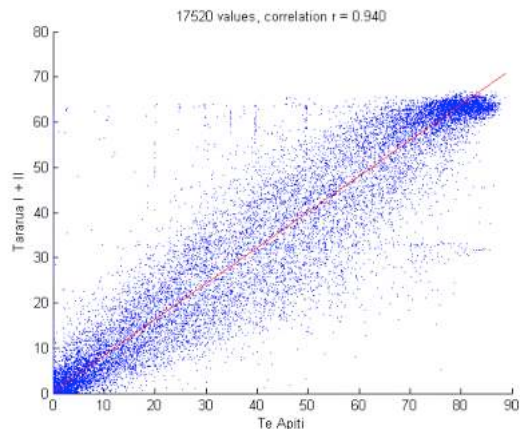
## General trends



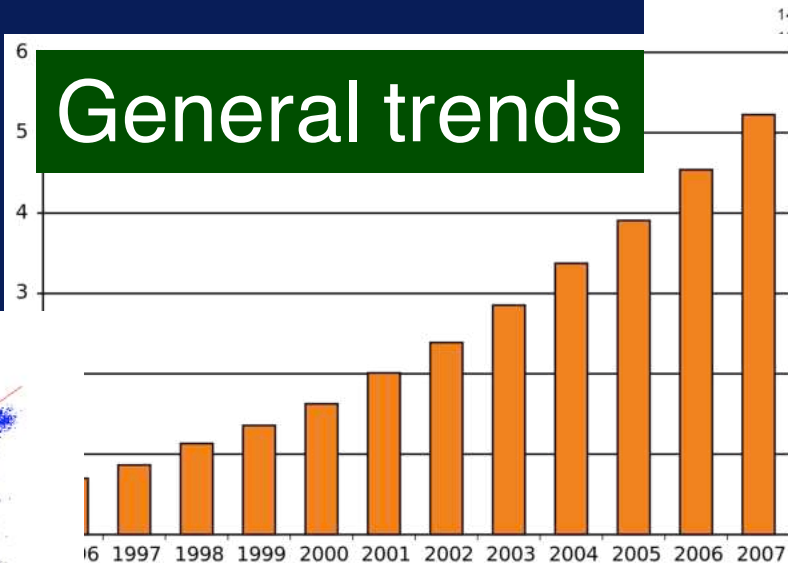


# Why Explore?

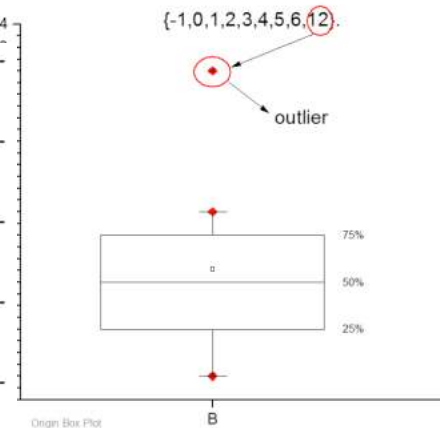
## Correlations



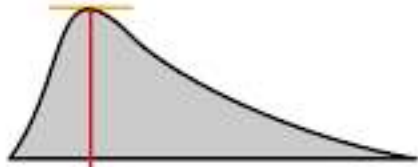
## General trends



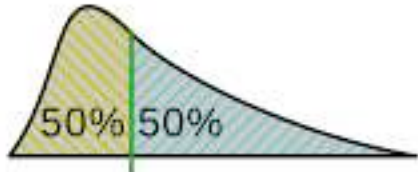
## Outliers



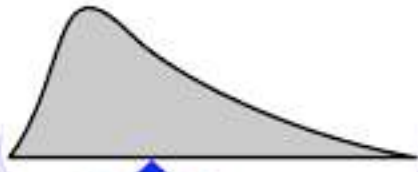
# Describe Your Data



mode



median



mean

Mean	Median
Mode	Range

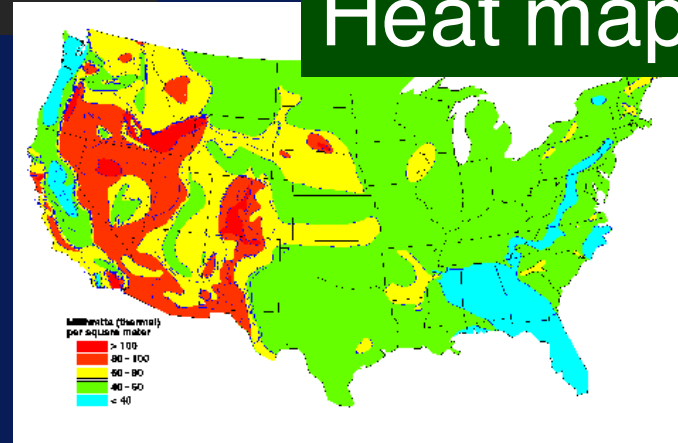
*Statistics*



# Visualize Your Data

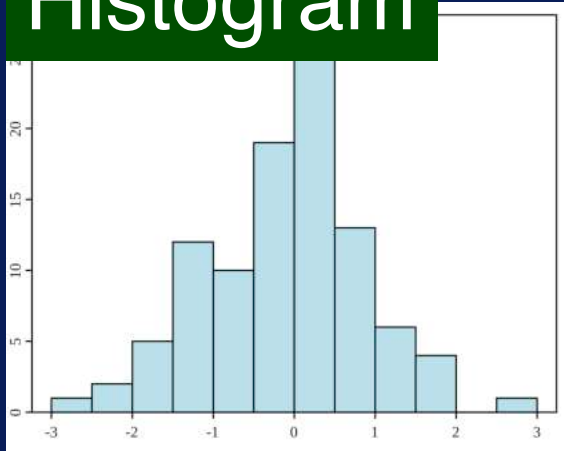
# Visualize Your Data

Heat maps

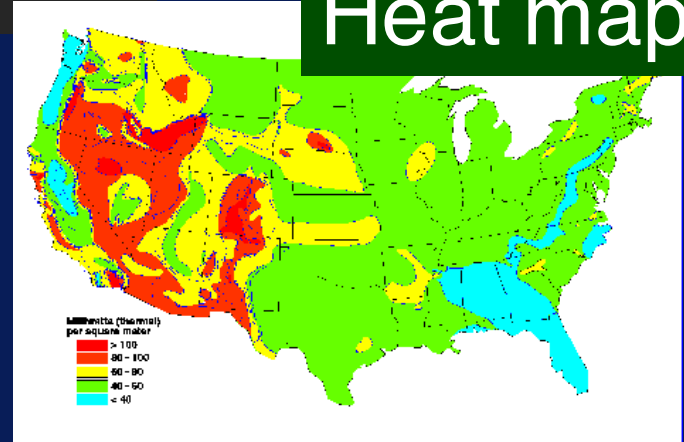


# Visualize Your Data

## Histogram

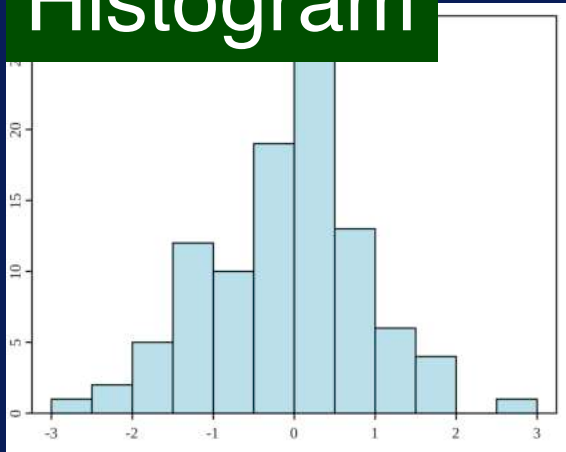


## Heat maps

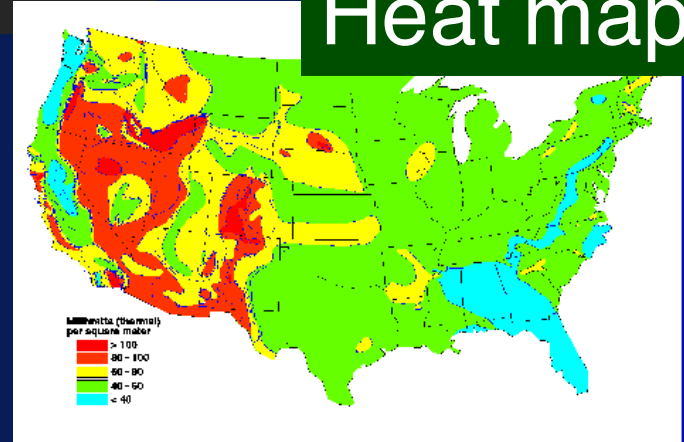


# Visualize Your Data

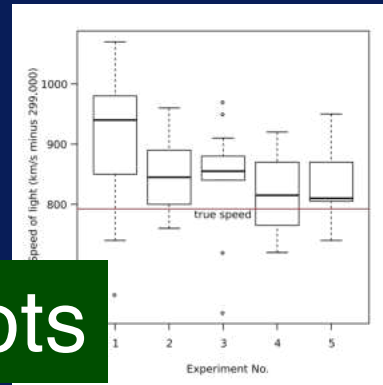
## Histogram



## Heat maps

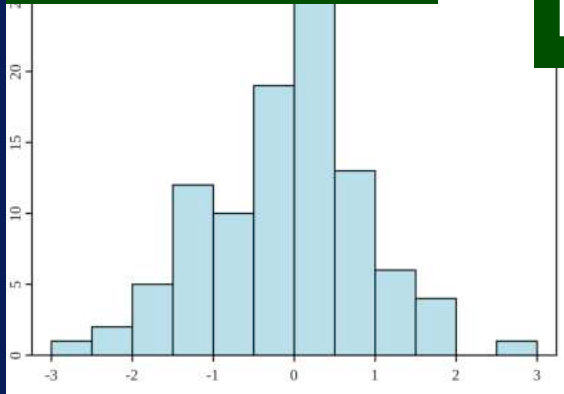


## Boxplots

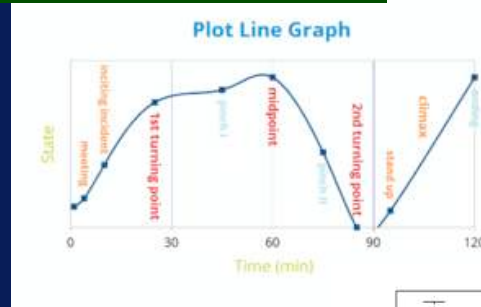


# Visualize Your Data

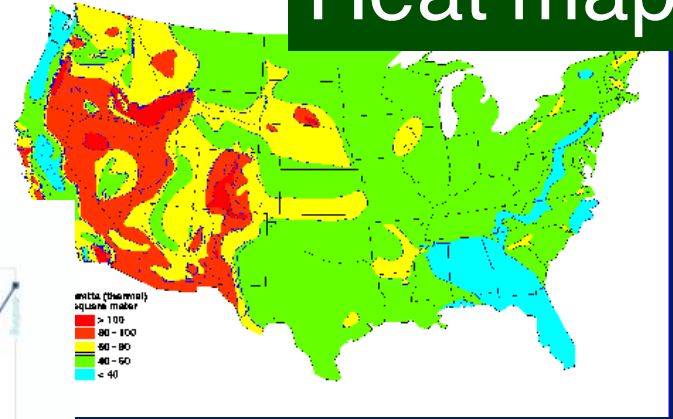
## Histogram



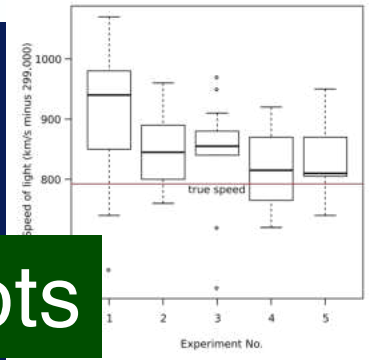
## Line graphs



## Heat maps

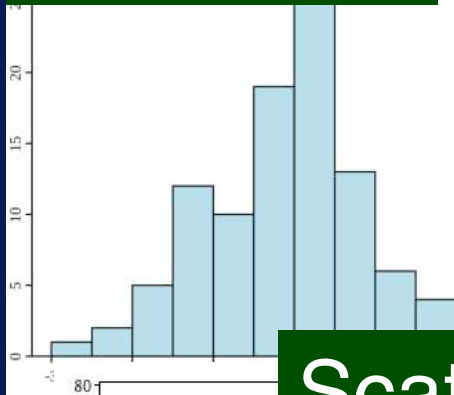


## Boxplots



# Visualize Your Data

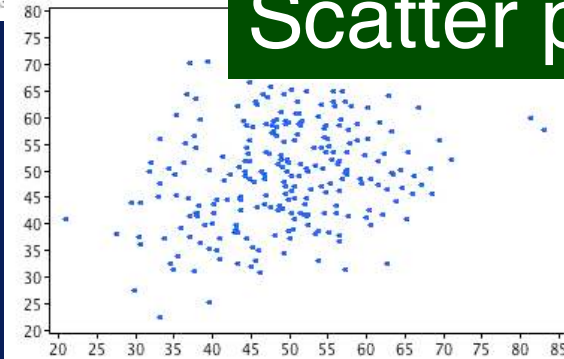
Histogram



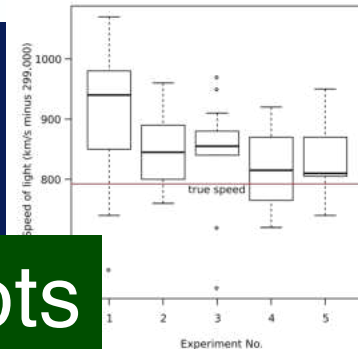
Line graphs



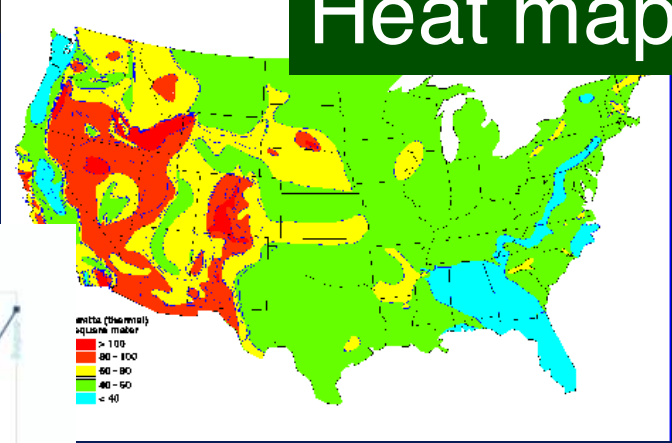
Scatter plots



Boxplots



Heat maps



**Data  
Exploration**



```
graph LR; A[Data Exploration] --> B[Data Understanding]; B --> C[Informed Analysis]
```

**Data  
Understanding**

**Informed  
Analysis**