

# DATA VISUALIZATION

IT IS NEEDED TO SEE

- TRENDS
- PATTERNS
- INSIGHTS
- ANOMALIES

THESE ARE REPRESENTED IN THE FORM OF CHARTS

# CHARTS

A CHART IS A PICTURE DRAWN IN A PLANE THAT CONSISTS OF X AND Y COORDINATES

A PICTURE DEPICTS MORE THAN 100 WORDS

CHARTS CAN BE USED TO REPRESENT THE DATA IN VARIOUS FORMS

# FORMS OF CHARTS

# COMPARISON CHARTS

## USED TO REPRESENT

- TIME-BASED DATA
- CATEGORIZED DATA

## TYPES

- BAR CHARTS
- GROUPED BAR CHARTS
- BUBBLE CHARTS
- RADAR CHARTS
- HORIZONTAL BAR CHARTS

# TREND CHARTS

## USED TO REPRESENT

- TIME DIMENSION DATA
- TRACK CHANGES OVER PERIOD OF TIME
- SHOWS DISTRIBUTION OF CONTINUOUS VARIABLES

## TYPES

- LINE CHARTS
- AREA CHARTS
- STREAM CHARTS
- HISTOGRAM
- BOXPLOT

# PART OF WHOLE CHARTS

## USED TO REPRESENT

- PERCENTAGES
- INNER SUBDIVISION OF A VALUE AMONG DIFFERENT CATEGORIES OF GROUPS
- ABSOLUTE VALUES

## TYPES

- PIE CHARTS
- STACKED BAR CHARTS
- STACKED AREA CHARTS
- TREE MAP
- GAUGE CHARTS
- METER CHARTS
- WAFFLE PLOTS

# CORRELATION CHARTS

## **USED TO REPRESENT**

- CORRELATION BETWEEN TWO OR MORE INDICATORS AND HOW THEY AFFECT EACH OTHER

## **TYPES**

- SCATTER PLOT
- HEAT MAP
- PARALLEL COORDINATES CHART

# RELATIONSHIPS AND CONNECTIONS CHARTS

## USED TO REPRESENT

- HIERARCHIES
- ROLE OF AN ELEMENT WITHIN AN ECOSYSTEM
- INNER NATURE OF A SUBJECT IN DIFFERENT PHASES AND STATES OF A PROCESS
- ALLUVIAL DIAGRAM
- TREE DIAGRAM



# MAPS

## USED TO

- COMMUNICATE GEOLOCATED INFORMATION

## TYPES

- CHOROPLETH
- PROPORTIONAL SYMBOL
- CONNECTING LINES

# TOOLS FOR DATA VISUALIZATION

- R

USES 2 LIBRARIES

1. GGPLOT

2. QPLOT

- PYTHON

1. MATPLOTLIB