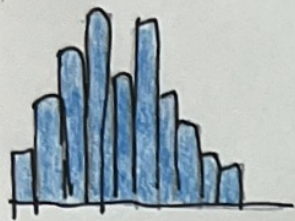


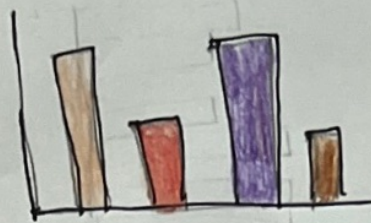
IDEAS ::



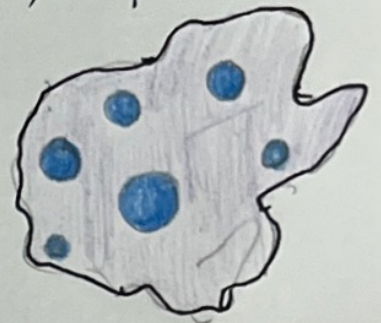
1) HISTOGRAM



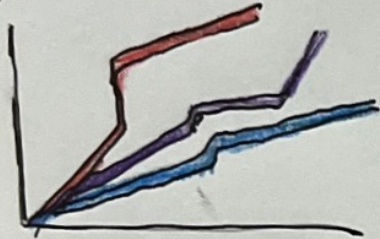
2) Bar chart



3) Proportional Map



4) Line chart



5) Donut Chart



6) Heat Map



7) Scatter plot



8) Lollipop Chart



9) Stacked Bar chart



Combine and Refine

Category 1: Water production
Shows water production in Malaysia

Category 2: Rainfall
Shows rainfall trends in Peninsular Malaysia

Category 3: Temperature and Humidity
Shows trends of them across Peninsular Malaysia

Question

Does rainfall relate to water production?

Does rainfall, temperature, humidity relate to each?

Filter

Proportional Map (It is used to depict the spatial distribution of quantitative data.)

Category

Time series

↓
line chart

Compare values across categories

Bar chart, Donut chart.

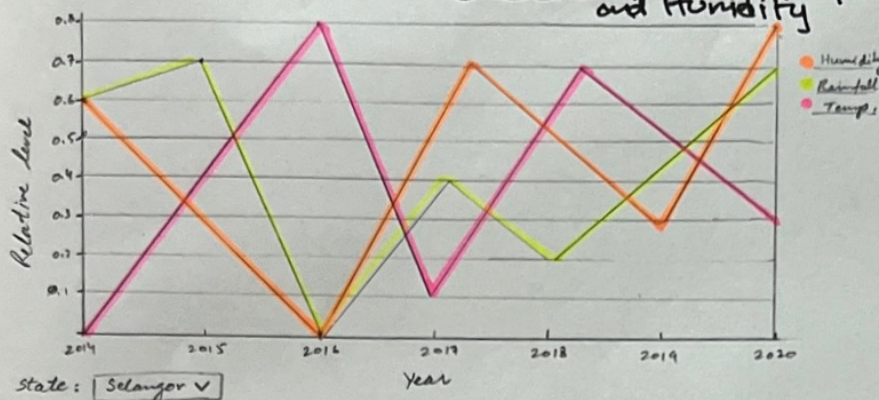
Distribution
Heat Map
(Markers).

LAYOUT

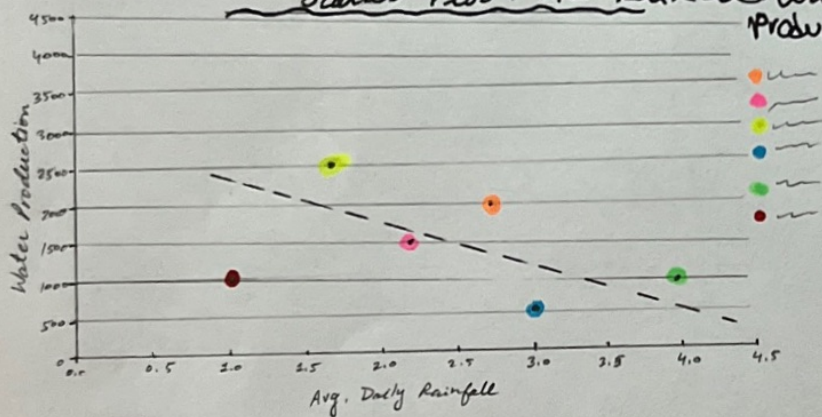
Rainfall Patterns alongside Water Production, Temperature and Humidity Trends in Peninsular Malaysia (2014-2020)

Line Chart:

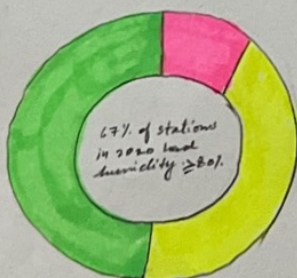
seeing patterns for Rain, Temp and Humidity



Scatter Plot: Checking relationship b/w Rain and Water Production



Donut:



Humidity band
 • > 80%
 • 75-80%
 • 25-70%

checking which stations belongs to which Humidity bands. (stations are among the states)

Focus:

- explaining relationships between rainfall humidity, and water production across Peninsular Malaysia (2014-2020)
- Show climate balance and variation across years and states
- Donut chart shows propolion of humidity level
- line chart shows yearly climate variation
- scatter plot highlights correlation between rainfall and water production

Title: Rainfall patterns alongside Water Production, Temperature and humidity trends in Peninsular Malaysia (2014-2020)

Author: Nashmia Shalceel

Date: 21-10-2025

Sheet: 2

Table: 5 Sheet design.

Operations:

Interactive filter: Year and State dropdown update all three visuals.

Color scheme: different colors represent different attributes.

line chart is normalised 0-1 scale to compare all variables on the same trend line.

Discussion:

The three charts together show how climatic elements interact not just Individually but as a system

Donut chart is useful for understanding atmospheric moisture

line chart helps in understand inverse relationship

scatter plot also helps in analyzing correlation between attributes

Design balance: minimal clutter, simple color mapping, consistent legend

LAYOUT

Rainfall patterns alongside water production, Temperature and Humidity Trends in Peninsular Malaysia (2014-2020)

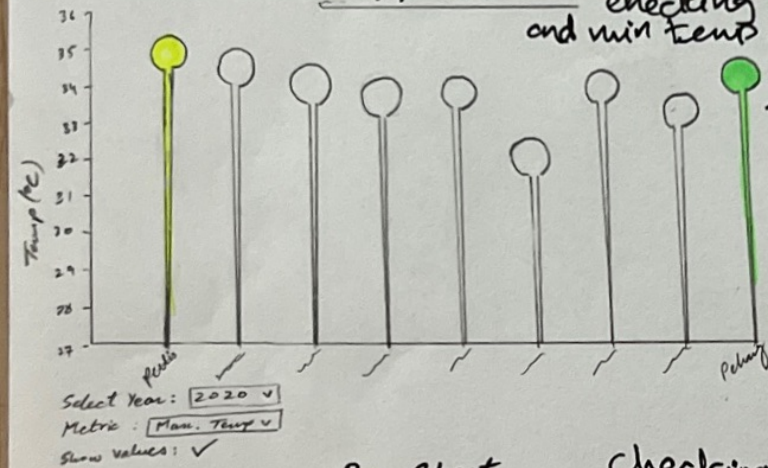
Choropleth Map:



Rainfall patterns through states and years and checking intensity through color

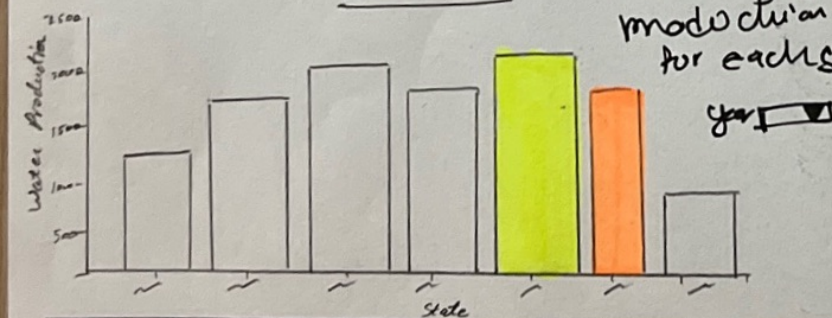
Lollipop Chart:

checking max and min temp for each state



Bar Chart

checking water production for each state



Focus ::

- Showing spatial and quantitative differences in Peninsular Malaysia climate and water patterns.
- Choropleth Map highlights average rainfall intensity by state, identifying wet and dry states
- Lollipop chart compares minimum and maximum temperature
- Bar chart displays total water production by state,
- Gives us a overview of rainfall temp, water

Title: Rainfall patterns alongside water production, Temperature and Humidity Trends in Peninsular Malaysia (2014-2020).

Author Naufusia Shalceel

Date: 21-10-2025

Sheet: 3

Task: 5 sheet design.

OPERATIONS ::

- Interactive drop down select year to update all three visuals simultaneously.
- Map shows rainfall using color intensity, darker = wetter
- Lollipop chart toggles between minimum and maximum temp values for each state
- Bar chart - height encodes total water production by highlighting least and highest

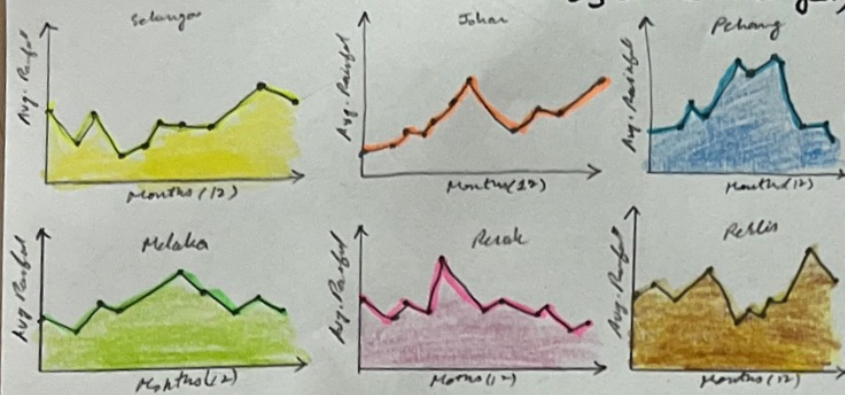
Discussion ::

- The three visualisations together explain how climate and output differ across space
- The map offers immediate geospatial insight thus users can compare rainfall easily
- The lollipop chart simplifies dual metric temperature comparison
- Bar chart makes analysis of quantitative output easy.
 - Design ensures clarity with minimal guidelines, readable legends, consistent alignment.

LAYOUT

Rainfall Patterns alongside water Production, Temperature and Humidity Trends in Peninsular Malaysia

Line Area Chart: (Monthly Rainfall By State and year)

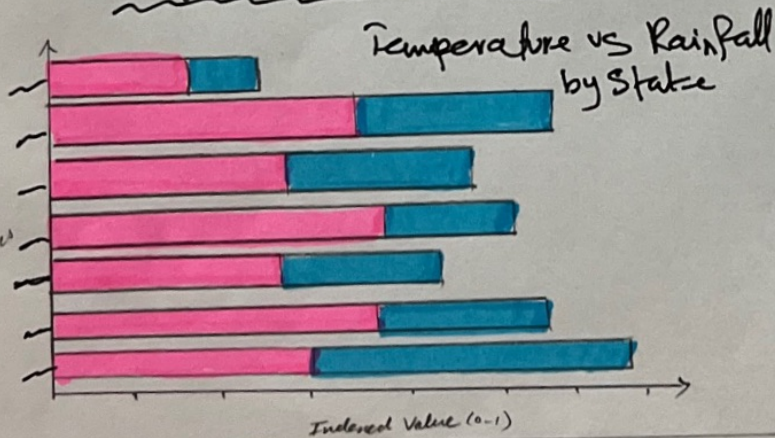


Pie Chart



Humidity share by State.

Horizontal Stacked Bar Chart



Title: Rainfall Patterns alongside water Production, Temperature and Humidity Trends in Peninsular Malaysia

Author: Nashmia Shaukeel

Date: 21-10-2025

Sheet: 4

Task: Data Proposal (5 sheets)

OPERATIONS:

Interactive dropdowns for year and variable selection (year).

Hover Interaction for all visuals to show values

Annotation to highlight important information

Shaded area indicates rainfall volume

Pie slice represent percentage share of humidity

height of stacked bar chart shows combined intensity.

Discussion:

The combination provides a complete view of Malaysia's seasonal and climatic

- Line-area chart effectively shows rainfall fluctuation over months

- Pie chart summarises total humidity distribution

- Stacked bar chart bridges temperature rainfall comparison

- The set helps identify regional climate imbalances, cross variable contrasts

- clear legends helps with readability.

Focus:

Focus on showing monthly climate ~~water~~ variation and inter-state humidity-temperature-rainfall balance

line-area chart visualises rainfall seasonality, showing wet peaks during months.

Pie chart displays overall humidity share by state

Stacked bar chart compares temperature vs rainfall for all states in one view.

LAYOUT

Rainfall patterns alongside water production, temperature and humidity trends in Peninsular Malaysia (2014-2020).

Title: Rainfall patterns alongside water production, temperature and humidity trends in Peninsular Malaysia (2014-2020).

Author: Najmiah Shaleel

Date: 21-10-2025

Sheet: 5

Table: 5 sheets design

OPERATIONS:

Interactive dropdown for year, state.

Annotations for most important information

Tool tips for values across idioms.

Color intensity for Map and Calendar Heat Map to show increasing value through color.

Discussion:

Map supplies geographic context quickly shows east-west and coast tied to monsoon exposure
Line area and heat maps captures seasonal and daily rhythms

Lollipop gives a clear view of temperature spread.

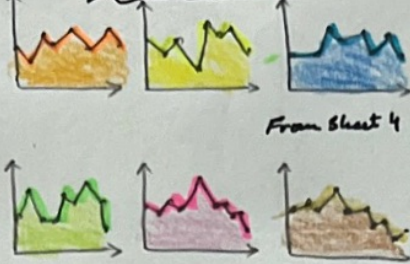
Bar isolates production capacity
Indexed lines link variables over time often revealing inverse relationship

Donut summarizes composition
Coherent design: Shaded filter unfired legends, minimal clutter short annotations.

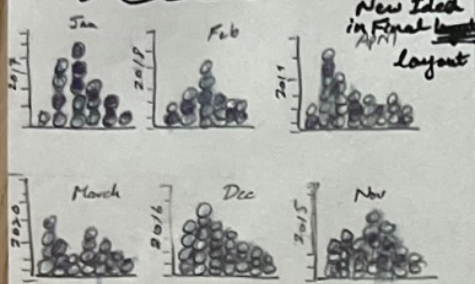
Choropleth Map



Line Area Chart



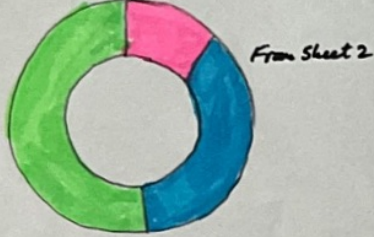
Calendar Heat Map



Lollipop Chart



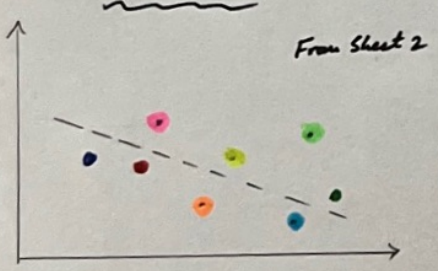
Donut



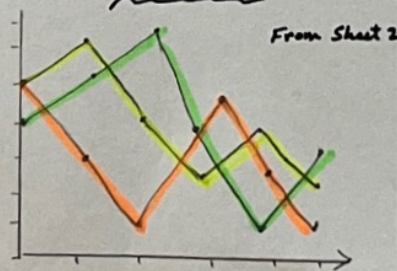
Bar Chart



Scatter Plot



Line Chart



Focus:

Overall show how rainfall, temperature, humidity, and water production vary by state and time and how they relate

Donut chart is humidity composition

Bar chart: total state water production

Line chart: rainfall, temperature, humidity patterns.

Lollipop chart: state comparison of min vs max temp

Calendar Heatmap: daily rainfall frequency

Choropleth Map: spatial patterns of average daily rainfall

Line-Area: Monthly rainfall seasonalities