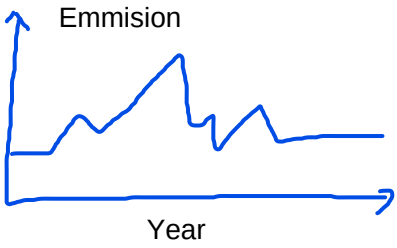
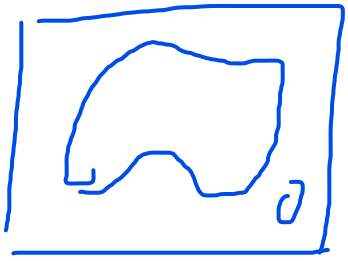
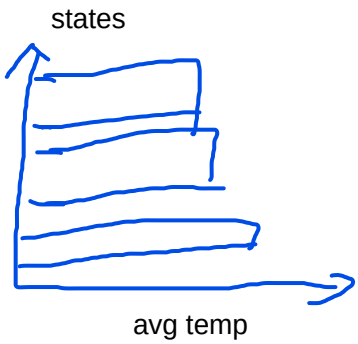
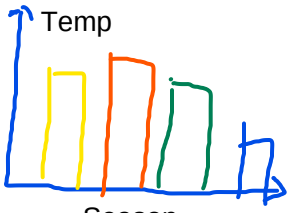
Ideas

Sheet 1 Name Yunhuai Yao Date



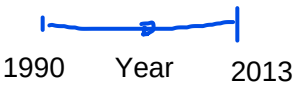






Filter

Fliter for users to select specific year of the data

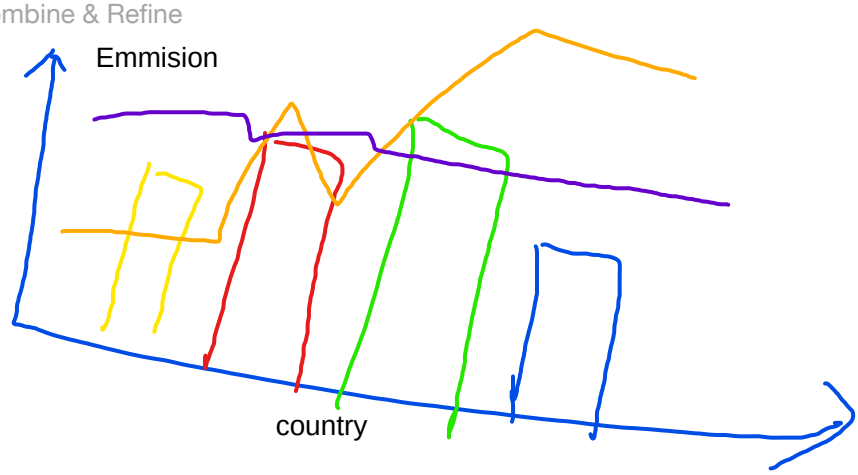


Categorise

Emmision: Charts and maps that focus on emmision by countries, years and other veriables.

Temperature: Charts and map that analyze the Australian data only for temperature.

Combine & Refine



Summarise and question

Does the visualization provide the relationship between emmision and annual local temperature?

Big Picture / Layout

Global map of emmission

Parti / Focus

A map that illustrates CO2 emissions across the globe over time. Users can interact with the map by selecting different years, observing how CO2 emission patterns change worldwide.

The visualization focuses on giving users an overview of global CO2 emissions trends, helping to identify regional patterns and significant contributors to global pollution over time. The emphasis is on year-over-year trends to show the progression of emissions and their geographical distribution.

Sheet 2,3,4 2

Name

Date

Title Global map of CO2 emmision

Description

A map that discribe the emmision of CO2 by the time

Components / Operations

Time Selection Slider: A slider allows users to adjust the year, dynamically updating the map to reflect CO2 emissions in the selected year.
Map Representation: Each country on the map is shaded according to the intensity of its CO2 emissions. The darker the shade, the higher the emissions.
Tooltip Interaction: Hovering over a country reveals specific data about CO2 emissions for that country and year.

Pro & Cons

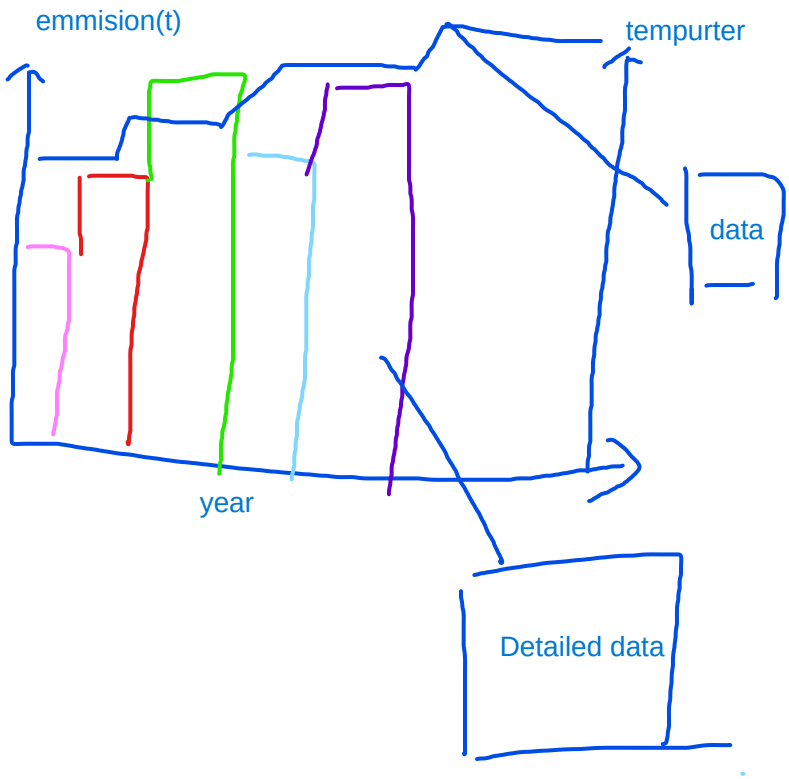
Pros:

Provides a clear, visual comparison of CO2 emissions by country.
The interactive time slider offers an intuitive way to track emissions over time.
Hover interaction enriches the user experience by offering detailed country-specific data.

Cons:

The map can become cluttered, especially for smaller countries with high emissions, making them harder to distinguish.
Only providing data up to a specific year could leave users wanting more current information, depending on when it is used.

Big Picture / Layout



Parti / Focus

This visualization aims to provide a clear comparison between global CO2 emissions and average temperatures in different regions. By aligning both sets of data on a single interface, it allows users to identify correlations and trends between emissions and temperature changes over time.

Sheet 2,3,4

Name

Date

Title

Description

A line graph representing global CO2 emissions over time paired with a bar chart displaying the average temperature of different regions for comparison.

Components / Operations

Time Selector: A time slider allows users to choose the year, dynamically updating both the CO2 emissions and temperature data.
Line Chart: The CO2 emissions are shown in a line chart, displaying how emissions change over time for various countries.
Bar Chart: The average temperature is represented in a bar chart, showing how temperatures differ across regions in the selected year.
Interactive Features: Users can hover over the charts to see exact values for emissions and temperature in each region and year.

Pro & Cons

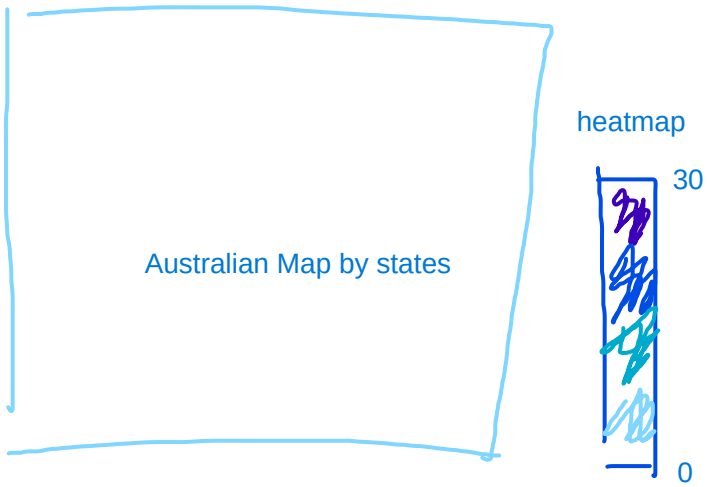
Pros:

Offers a dual perspective by integrating both CO2 emissions and temperature data in one visualization.
Interactivity enhances user experience, offering detailed insights on hover for specific regions and years.
The time slider provides dynamic updates for better understanding of trends over time.

Cons:

May become visually complex due to the combination of two different data sets on the same interface.
The scale of CO2 emissions may overshadow smaller fluctuations in temperature data, potentially requiring careful balance in design.

Big Picture / Layout



Sheet 2,3,4

Name

Date

Title

Description

A heatmap of Australia by state, representing the average annual temperature. The map is controlled by a sliding bar that allows users to adjust the year being displayed, offering a dynamic view of temperature changes over time.

Components / Operations

Heatmap: Visualizes temperature data for each Australian state, with colors representing temperature ranges from cooler to hotter (0-30°C).
Year Selection Slider: A sliding bar is used to select a specific year between 1990 and 2012. As the year is adjusted, the heatmap updates to reflect the temperature for that year.
Tooltip: Users can hover over states to see detailed temperature values for the selected year.

Parti / Focus

The primary focus is to provide a clear geographic representation of how average temperatures vary across Australian states over time. This allows users to explore how different regions experience temperature fluctuations, and how these changes evolve throughout the years.

Pro & Cons

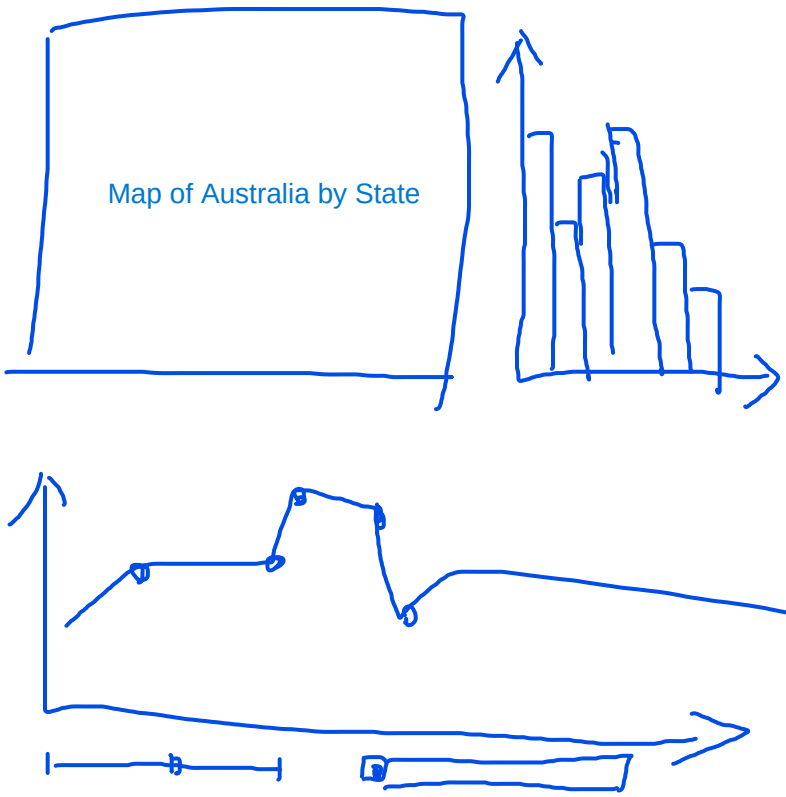
Pros:

Interactive element with the sliding bar makes the visualization engaging and allows users to see trends over time.
The heatmap provides a quick and intuitive way to assess temperature differences across states.
Simple and focused on one data set, avoiding overwhelming the user with too much information.

Cons:

Limited to temperature data without showing potential correlations or causes (e.g., CO2 emissions, global warming).
The sliding bar may require careful balance and refinement to ensure smooth usability across a large date range.

Big Picture / Layout



Parti / Focus

The main focus of this visualization is to provide an integrated analysis of how climate change and environmental factors like temperature shifts are related to CO2 emissions. By presenting both temperature and emissions data over time, users can explore the potential connections between warming trends and environmental policies.

Sheet 5

Name

Date

Title

Description

A combine of an interactive map of Australia's average annual temperatures by state with a line chart depicting Australia's CO2 emissions over the same period.

Components / Operations

Heatmap of Australia by state: The map can show the average temperature per state, with a sliding bar to change the year being displayed (1990-2012). The color intensity varies based on temperature, giving a quick visual understanding of regional temperature variations.

Bar Chart of average temperature by state: The bar chart could provide a comparative view of which regions have consistently higher or lower temperatures. A drop box can change the max/min or average temperature to present

Line Chart for CO2 Emissions: A line chart able to display Australia's CO2 emissions from the range of the years. Each data point represents the total emissions for that year, showing fluctuations over time.

Details

Heatmap: The heatmap uses a color gradient to show temperature variations across Australia's states, ranging from cooler tones for lower temperatures to warmer tones for higher ones.
Bar Chart: The bar chart ranks the states based on the temperature over the years, offering a clear comparison of temperature distribution across the regions.
Line Chart: The line chart tracks CO2 emissions over time, with key data points marked for user interaction.
Dynamic Interactions: Users can adjust the year and get immediate updates to both the temperature map and the bar chart, as well as explore detailed information by the drop down tick box for the detailed temperature by states.