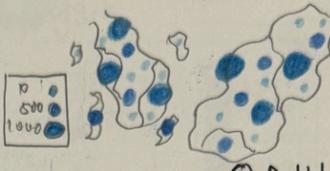


## Sheet 1 : Brainstorm IDEAS

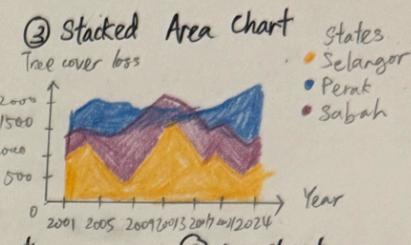
① Choropleth map



② Dot Distribution Map



③ Stacked Area chart



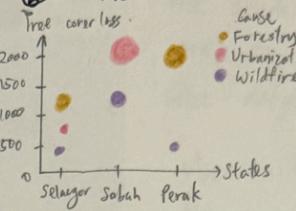
④ Time series line chart



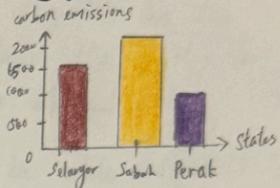
⑤ Sankey Diagram



⑥ Bubble chart



⑦ Bar chart



⑧ Stacked Bar chart



⑨ Donut chart



## FILTER

⑦ The carbon emission from deforestation can be communicated in a more dynamic way than a bar chart, such like a sankey diagram in ⑤.

⑨ The donut chart does not provide much clarity due to its highly abstract form which is less effective at showing precise comparisons between categories.

## CATEGORIZE

- Tree cover loss map : ①, ②
- Tree cover loss over time : ③, ④
- Causes of deforestation over tree cover loss : ⑥, ⑧
- carbon emissions from deforestation : ⑤

## COMBINE AND REFINING

- Both chart ③ and ④ shows the tree cover loss over time. However, the stacked area chart can make it difficult to discern individual trends, as the cumulative areas might block the changes in smaller categories. Therefore chart ④ will be used to display the data more clearly, allowing for a better view of how the data changes over time.
- Both ⑥ and ⑧ shows the cause of deforestation in relation to tree cover loss. The stacked bar chart might limit how much data can be displayed in terms of scale and comparisons when dealing with multiple categories and varying magnitudes. Therefore chart ⑥ will be used.

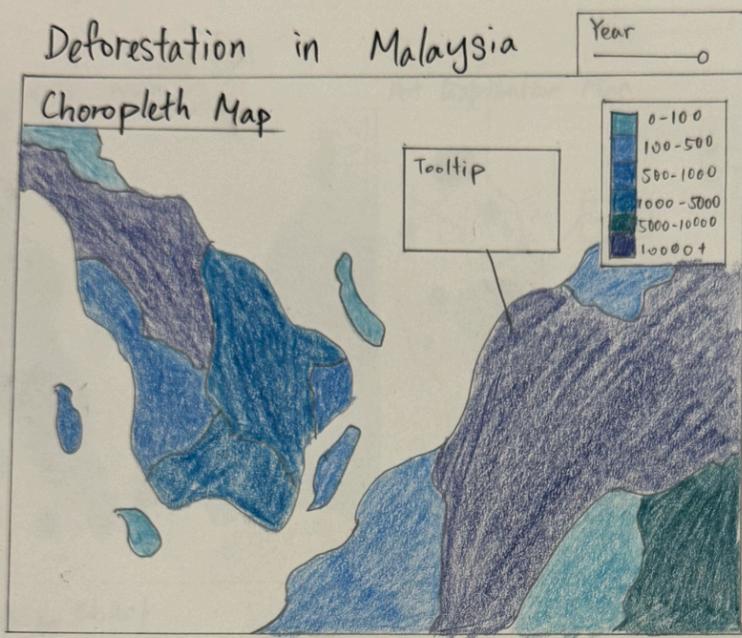
## QUESTIONS

- Is it simple to compare between different causes using bubble size?
- Are the colour choices effective in highlighting important aspects of the data?
- Would it help to combine certain elements into one chart, or can i simplify certain elements?

## LAYOUT

### Deforestation in Malaysia

#### Choropleth Map



Year  
—○—

#### INFO

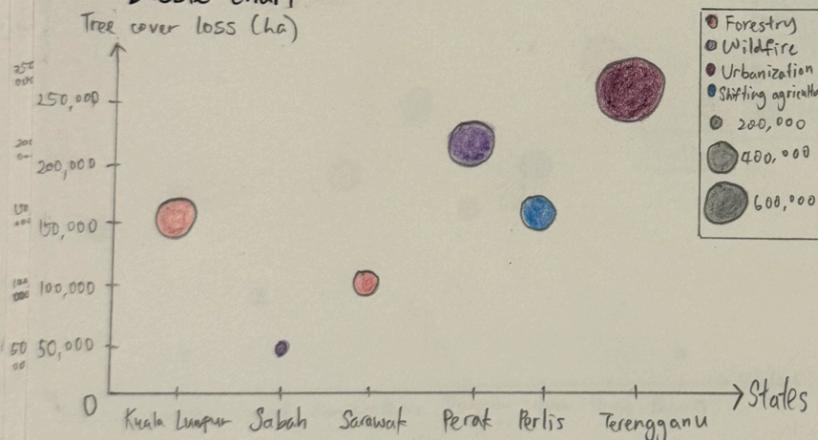
Title: Deforestation in Malaysia

Author: Leong Xin Ru

Date: 17/10/2024

Sheet: 2

#### Bubble Chart



#### OPERATIONS

- User will be able to click on the shaded regions on the map to show the tooltip for the details of the data.
- User will be able to select the year of the data shown on the year selector.

#### DISCUSSION

- Is the choropleth map useful at showing the data of deforestation?
- Are the colours visually appealing?
- Can more data be visualised?

#### FOCUS

Tooltip

There will be how many hectares of tree cover loss in the tooltip with the state name.

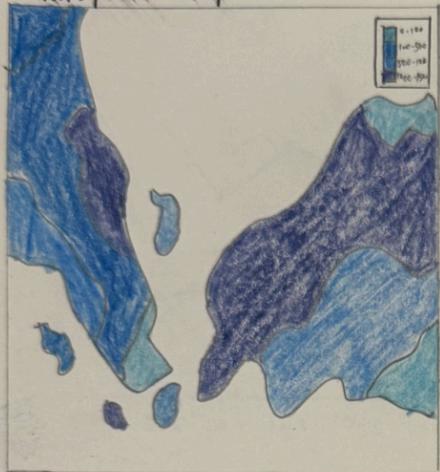
Year  
—○—

There will be a slider for Year selection.

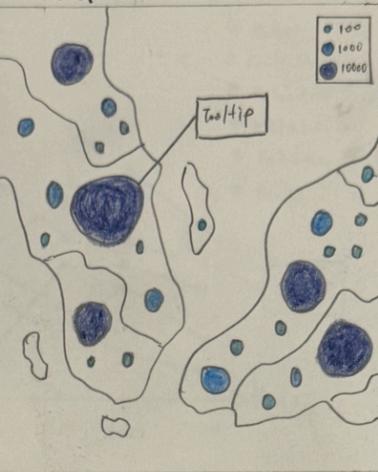
## LAYOUT

### Deforestation in Malaysia

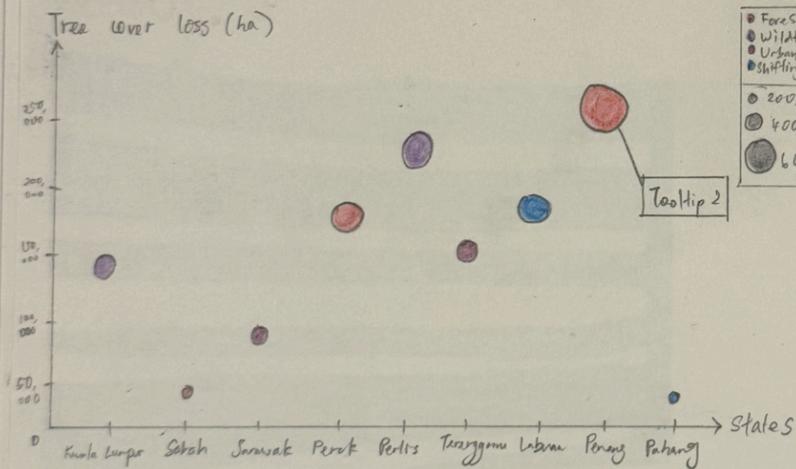
Choropleth Map



Dot Distribution Map



Bubble chart



## FOCUS

Tooltip

The tooltip on the dot distribution map will show the state and the specific city with how many hectares of tree cover loss of the deforestation according to the year selected.

Tooltip 2

The tooltip on the bubble chart will show the details of which state/region is it, the tree cover loss hectares and the cause.

## INFO

Title: Deforestation in Malaysia

Author: Leong Xin Ru

Date: 1/10/2024

Sheet: 3

## OPERATIONS

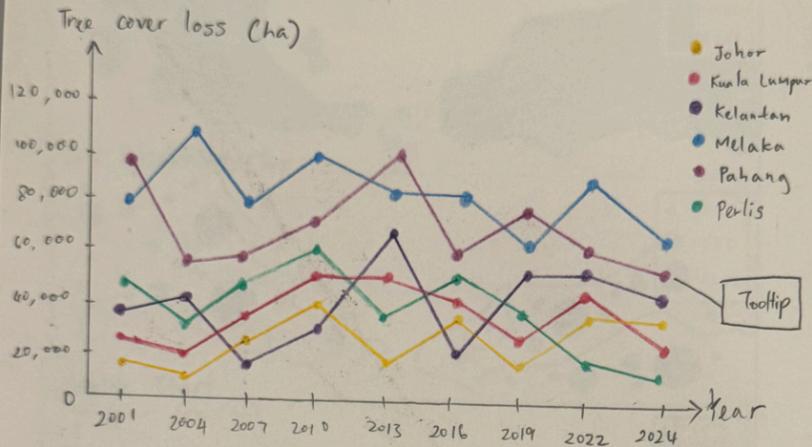
- Users can click on the dots on the dot distribution map to see more details of the certain area of the deforestation.
- Users can click on the circles on the bubble chart to see more details of the certain circle selected.

## DISCUSSION

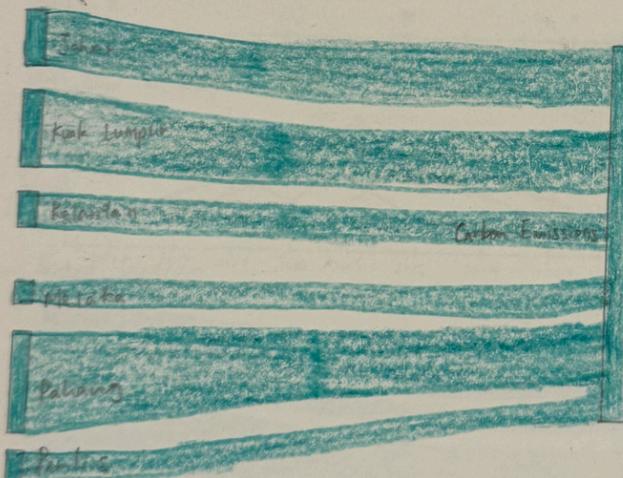
- Can the users see the data of deforestation over the years easily?
- Should there be a time series chart for better visualisation of the data?
- Can the user see the impact deforestation has?

## LAYOUT

### Deforestation in Malaysia Time Series Line Chart



### Sankey Diagram



### FOCUS

Tooltip — The tooltip for the line chart will show the details about the year, tree cover loss in hectares, state and the cause of loss in forest area.

## INFO

Title: Deforestation in Malaysia  
Author: Leong Xin Ru  
Date: 2/10/2024  
Sheet: 4

## OPERATIONS

- Users will be able to hover over the points on the line chart to show the tooltip to gain more details about the data.

- Users will be able to hover over the flow of the sankey diagram to highlight the area of the selected state/region to see the flow more clearly.

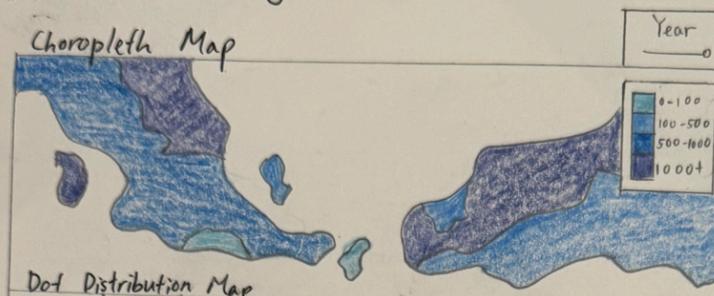
## DISCUSSIONS

- Maybe a map is still needed to visualise the deforestation more clearly?
- The time series line chart will clearly show the user the deforestation of Malaysia over the years clearly.

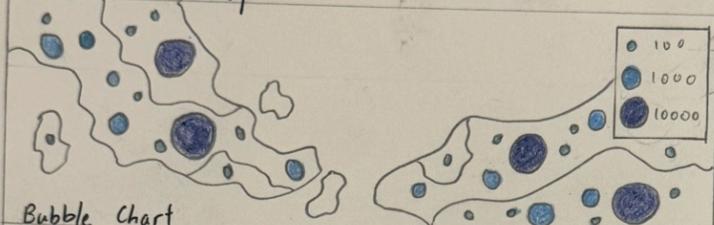
## LAYOUT

Deforestation in Malaysia

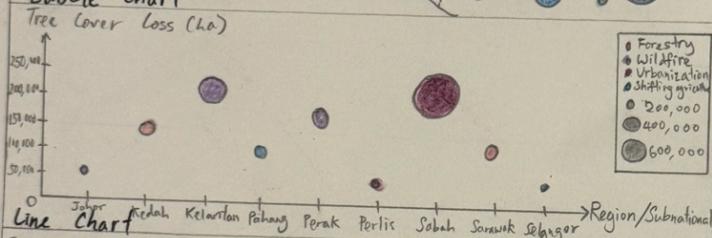
### Choropleth Map



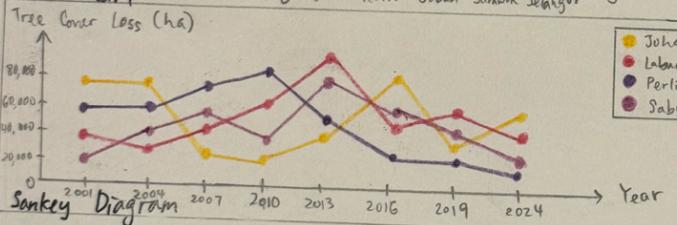
### Dot Distribution Map



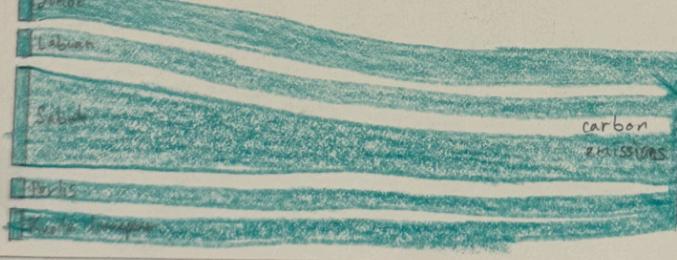
### Bubble Chart



### Line Chart



### Sankey Diagram



## FOCUS

- The line chart will show the details of each region tree cover loss with the causes when hovers over the points.
- The maps will have a darker colour when it has high tree cover loss and lighter when it has low tree cover loss.

## INFO

Title: Deforestation in Malaysia

Author: Leong Xin Ru

Date: 2/10/2024

Sheet: 5

## OPERATIONS

- A year selector that will still be at the top right corner of the screen even when scrolling.
- Tooltips will be displayed when user clicks or hovers over the visualisation.

## DETAILS

### DATASET

- A dataset from Global Forest Watch that includes all tree cover loss and causes information with carbon emissions from deforestation.

### DEPENDENCIES

- Sheet 3 and 4

### ESTIMATES

- Cost = NIL

- Software :

- ↳ VSCode

- ↳ Github

- Languages :

- ↳ HTML

- ↳ CSS

- ↳ JS (VegaLite)

1/10/2024 :

Inspected, filtered and cleaned dataset.

1/10/2024 to 2/10/2024 :

Sketched and finalised design of visualisation.

