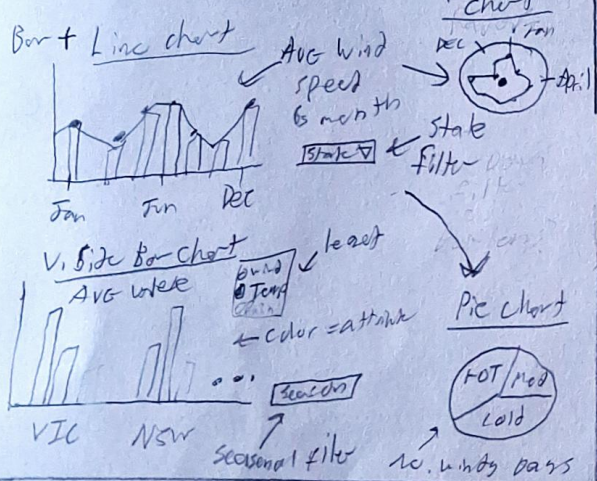
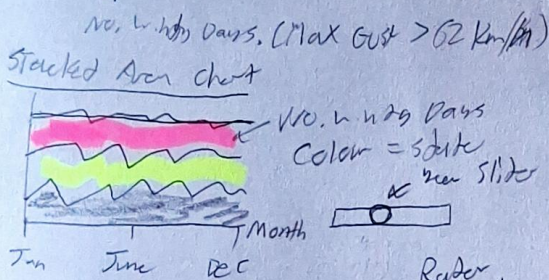
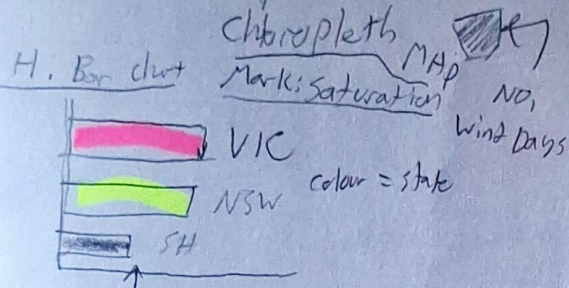
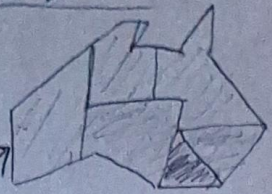


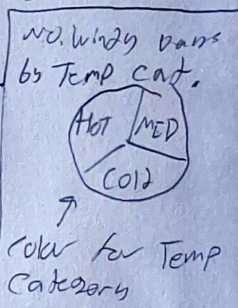
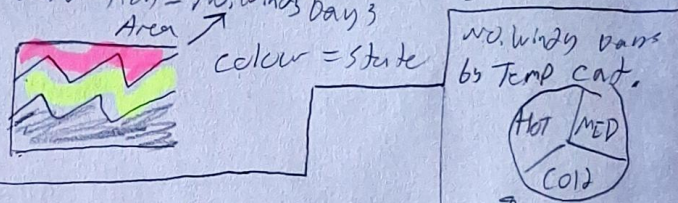
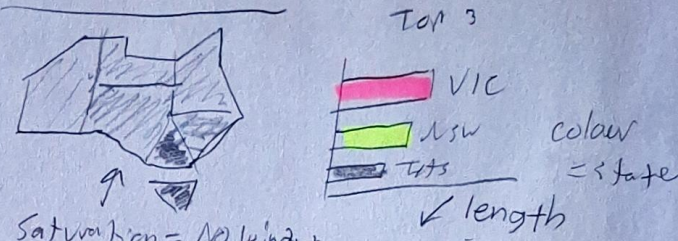
# IDEAS



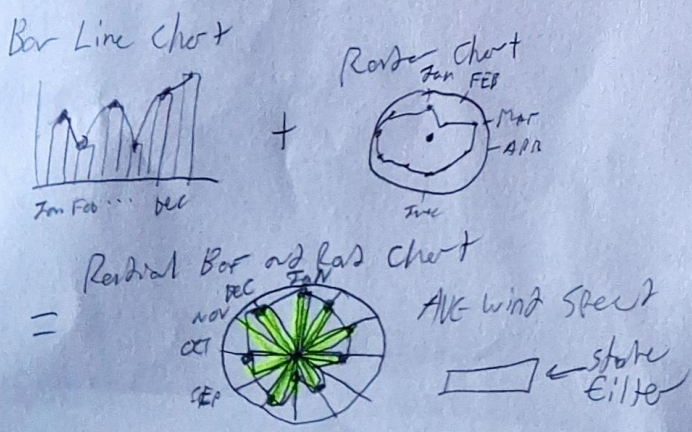
# FILTER

- Line Chart + Bar Chart, - Relatively uninspired chart visually, doesn't seem appropriate for weather data.
- Too much ink not enough data
- Radar chart - Thematically good, not enough ink, will potentially look empty if values are similar.

# CATEGORIZE



# COMBINE + REFINE



# QUESTIONS

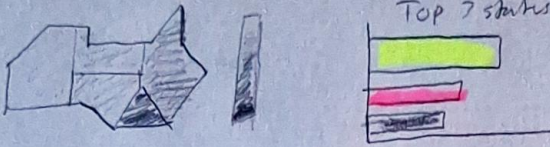
- 1) Is this Implementation do-able in VEGA-like  
↳ Difficult?
- 2) Is the Visualisation both Thematic and informative
- 3) Is there information overlap in the graphs.



# LAYOUT

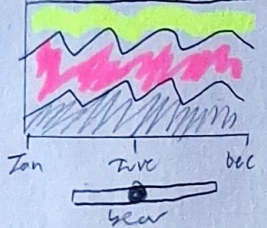
## Dangerous Winds

Introduction Text

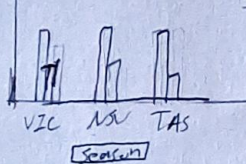


Text Discussing the above results and what we want to know.

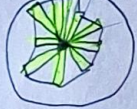
NO. Windy Days



Temp vs Wind AVG

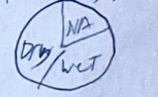


Wind Speed by month

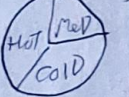


Analysis and conclusion text.

Rainy Windy Days



Temp Windy Day



Title: Dangerous Winds and Weather

Author: Julian Foote

Date: 4/10/2025

Sheet: 2

Task: Design an informative data visualisation exploring wind data.

## OPERATIONS

### Filters

- Year slider
  - ↳ stacked Area chart
- Seasons dropdown
  - ↳ Select between the 4 Seasons
  - ↳ side by side bar chart
- State dropdown
  - ↳ Radial chart + Pie chart
  - ↳ List top 3 states by windy days

### Tool Tips

- Shows numbers and labels

FOCUS Finding out which state experiences the most wind hazards and potentially why.

1) Top 3 states by hazardous winds, max gust > 62 kmph

- Chiknopleth map → saturation
- Bar chart → bar length
- stacked Area chart → Area

2) Relationship with other weather

- side by side bar → Wind vs Temp
- Wind speed AVG Radial chart
- Proportional Pie chart (Rain and Temp)

## DISCUSSIONS

### Pros:

- easy Top to Bottom left to right reading
- A lot of encoded information
- Variety of Graphs

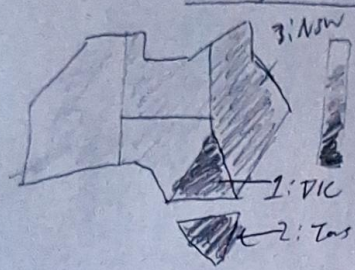
### Cons:

- Graph layout might not make sense
- Too many Graphs



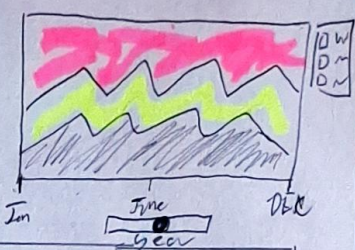
# LAYOUT

## Dangerous Winds

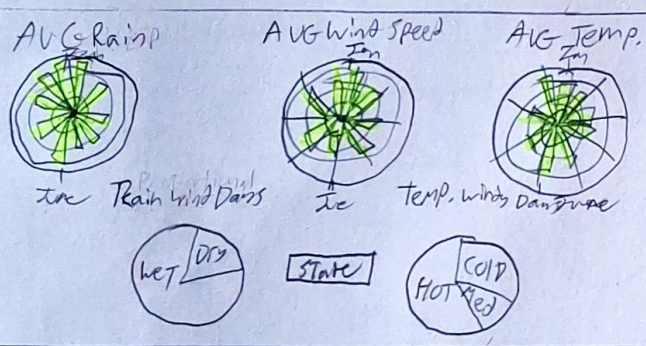


Introduction text

Text Discussion of the above results.



Text Discussion about Relationship with other weather



Conclusion text

Title: Dangerous Winds

Author: Julian Foote

Date: 5/10/2025

Sheet: 3

Task: Design an interactive data visualisation exploring wind and weather data.

## OPERATIONS

### Filters

- year slider  
→ Stacked Area chart
- State Dropdown  
→ Radial charts  
→ Pie charts

### TOOLTIPS

- ⇒ Choropleth map.  
→ Shows state and number
- Stacked Area chart  
→ Shows total number (Area)
- Radial + pie chart (line graph)  
→ Shows number (segment)
- Annotation  
- Choropleth map  
→ Top 3 wind hazard states

FOCUS Finding out which Australian states experience the most wind hazard days and what other weather is related to it.

- 1) TOP 3 states by hazardous wind days (windy days)  
→ choropleth map + stacked Area chart
- 2) Relationship with other weather  
→ Radial chart + pie chart  
Can use links to highlight relationships as weather measures

## DISCUSSION

- Good Layout, easy to look at and read
- Plenty of context and informative information
- Graphs are very thematic (clear)

### CONS

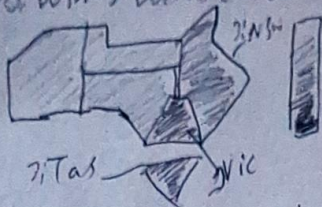
- maybe too repetitive
- Radial graphs may not be intuitive, need more context



# LAYOUT

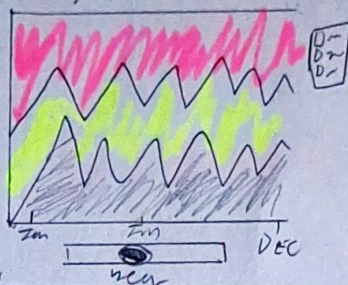
## Dangerous winds

No. windy days (< 62 km/h)



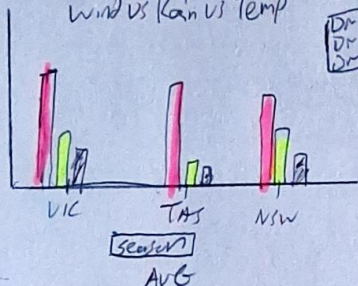
Introduction and brief analysis of map above

No. windy days

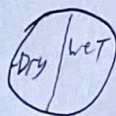
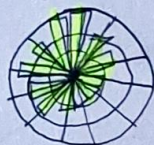


Analysis text on relationships with other weather and above graph.

Wind vs Rain vs Temp



Season  
Avg



State

Conclusion text + Analysis

Title: Dangerous winds

Author: Julian Foote

Sheet: 4

Task: Design an interactive data visualisation exploring wind and weather data.

Date: 6/10/2025

## OPERATIONS

### Filter

- Year slider  
→ Stacked Area chart
- Season Drop Down  
→ Side by side bar chart
- Attribute buttons  
→ Radial chart
- State Drop Down  
→ Radial chart + pie chart

### Tooltip

Hovering over Areas show numerical value and label name.

### Annotation

Top 3 states on choropleth map

FOCUS: Finding out which state has the most days with a max gust speed > 62 km/h and which other weather is related to that.

No.

- 1) Top 3 states by windy days.  
→ choropleth Map + stacked Area chart
- 2) No. windy days and other weather relationship.  
→ Side by side bar, Radial chart, pie chart

## DISCUSSION

### Pros

- Good data to link relation
- Top to bottom, left to right readable
- Variety of graphs

### Cons

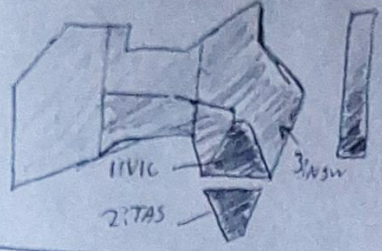
- Overlapping information
- Graph layout is a bit confusing / sub par
- Bar chart scale could be un intuitive.



# LAYOUT

## Dangerous Winds and Where to Find them

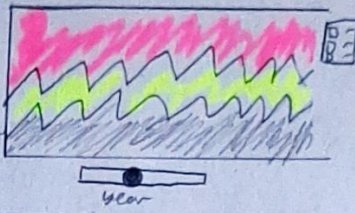
No. Windy Days (50+ km/h)



Introduction text

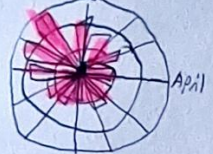
Text Discussion of above results

No. Windy Days

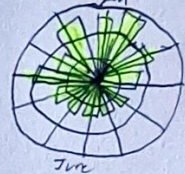


Text Discussion about relationship with other weather and state climates.

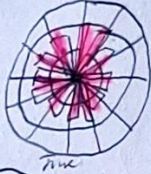
AVG Rain



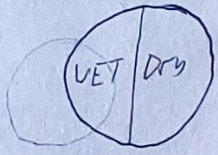
AVG Wind Speed



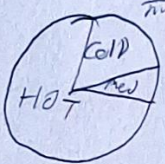
AVG Temp



Windy Days by Rain



State	D
VIC	
NSW	
TAS	



Windy Days by Temp

Conclusion Text

Title: Dangerous Winds and where to Find them

Author: Julian Foote

Date: 6/10/2025

Sheet: 5

Task: Final Design

## OPERATION

### FILTERS

Year Slider

- stacked Area chart

State Dropdown

- Radial chart

- Pie chart

### Tool Tip

Choropleth map + stacked Area chart

- show state and number

Radial Graph

- show month and number

Pie chart

- show categories and number

### Annotation

Choropleth map

- Top 3 states by windy days.

## FOCUS Finding out which Australian states

experiences the most days with ~~min~~ max Gust speed over 50 km/h (hurricane) and what other weather is related to it.

1) Top 3 States by windy days

→ Choropleth map + stacked Area chart

2) Relationship with other weather

→ Radial Chart + Pie chart

## DETAILS

### Dependencies

• Vega-lite

• R for wrangling and formatting data

• Kaggle for dataset

Estimates Time:

10 hours for Visualization

2 hours for learning and data wrangling