IDEAS

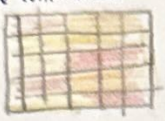
① Proportional symbol map

② choropleth Map

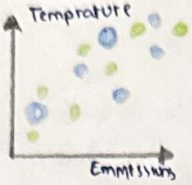
③ Dot Map

④ heat map

fire concentration

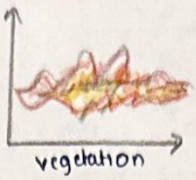


⑤ Scatterplot

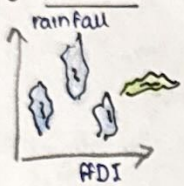


⑥ Treemap

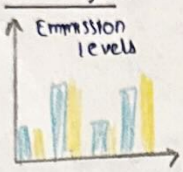
⑦ stream graph



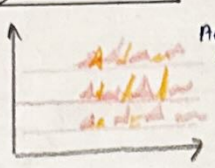
⑧ violin Plot



⑨ histogram



⑩ small multiples

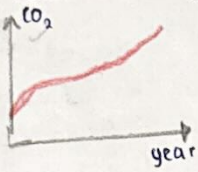


⑪ Donut chart

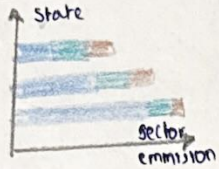
causes of bushfire

•natural
• human relate

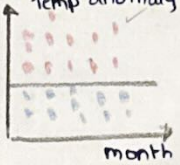
⑫ linechart



⑬ Stacked bar chart

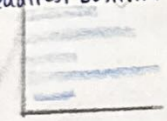


⑭ Dot Plot

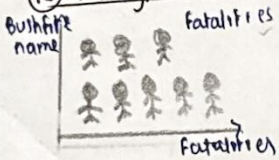


⑮ bar chart

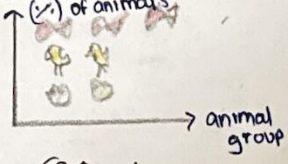
deadliest bushfire



⑯ Istotype - human

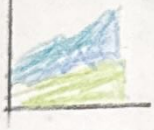


⑰ Istotype - animal



⑱ stacked area chart

vegetation



⑲ Dual axis (bar + line)

PM2.5 Emissions

⑳ Donut chart

FILTER

keep ② + ③ Remove ①

2 → shows forest fire Index

3 → actual fire events & severity

① Proportional symbol map shows no new or added info beyond map 2 and 3

Remove ⑤ + ⑨ → shows emission levels but stacked ~~area~~ bar chart

⑬ shows emission by each sector which is more useful

⑥ → same as ⑳ therefore remove ⑥

remove ④ → dot map ③ shows the same info and better visual engagement

remove ⑦ + ⑩ → ⑱ is the same and better visual engagement

remove ⑧ → ⑭ shows the same information & ⑭ is more interactive with the use of filters

CATEGORISE

Section ① → root forces behind bushfires

⑪ + ⑫ + ⑬ + ⑭

section ② → geographic distribution ② + ③

Section ③ → deadliest bushfire ⑮ + ⑯

Section ④ → environmental & ecological

⑰ + ⑱ + ⑲

Section ⑤ → community Recovery & government response

⑳

Combine & Refine

⑪ + ⑫ → links human activity to emission

⑬ + ⑭ → climate correlation

refined

Why → root forces (cause, emission, climate)

Where → geographic risk & occourence

When / what happened → major event fatalities

how it impacted → environment & ecosystem

What's next → recovery & resilience

Questions

① Is showing bushfire locations geographically necessary to deliver key message?

② does showing data by year or season make it more effective for communicating when major bushfires occours

③ Does showing deadliest bushfires communicate both scale & impact clearly

④ Is the flow from cause → impact → recovery easy for users to follow across the dashboard.

Author : Tricia De Rose
Date : 10/28/2025
Sheet : 1
Task : Planning visualisations

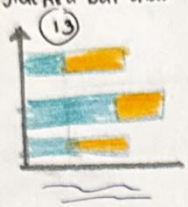
LAYOUT

Title : Partitioned Dashboard
Author : Tricia De Rose
Date : 10/21/2025
sheet : 2
Task : Design an infographic dashboard.

Australian bushfires

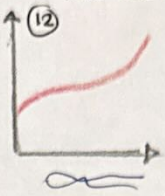
Causes of bushfire

Stacked bar chart

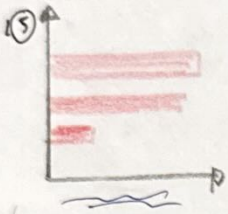


Dot plot

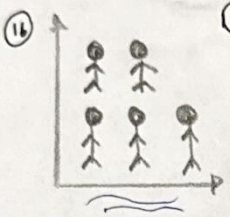
line chart



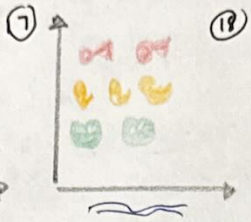
deadliest bushfire



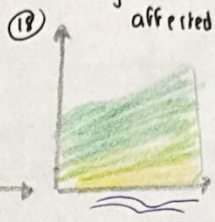
deadliest bushfire



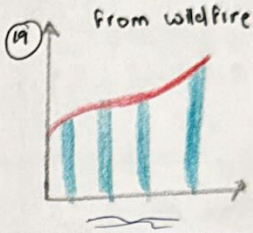
Animals affected



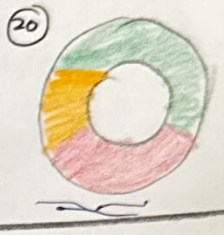
vegetation cover affected.



Australia PM2.5 emission from wildfire



Recovery



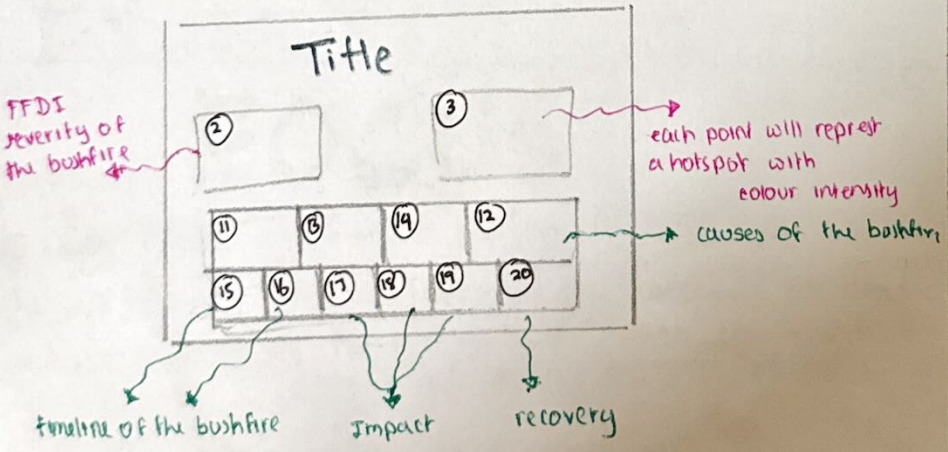
FOCUS

recovery

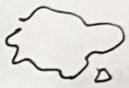
→ No main focus
choropleth map & dot map are equal placed in the dashboard

→ next section is on the root causes of bushfires

→ Lastly focus is on impact + recovery



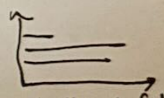
OPERATION



• fill have tooltip to adjust ffdi

• will have tooltip to adjust brightness

• tooltip + filter to see human + natural



• tooltip + filter for each section

DISCUSSION

Advantages

- has 3 sections for users - storytelling
- filter for ffdi + dotmap to understand main areas affected

Disadvantages

- section 3 looks long and might be a bit over the limit since having 6 in one row might squash the visualisations and it might not be visually interactive.

LAYOUT

Name : Tricia

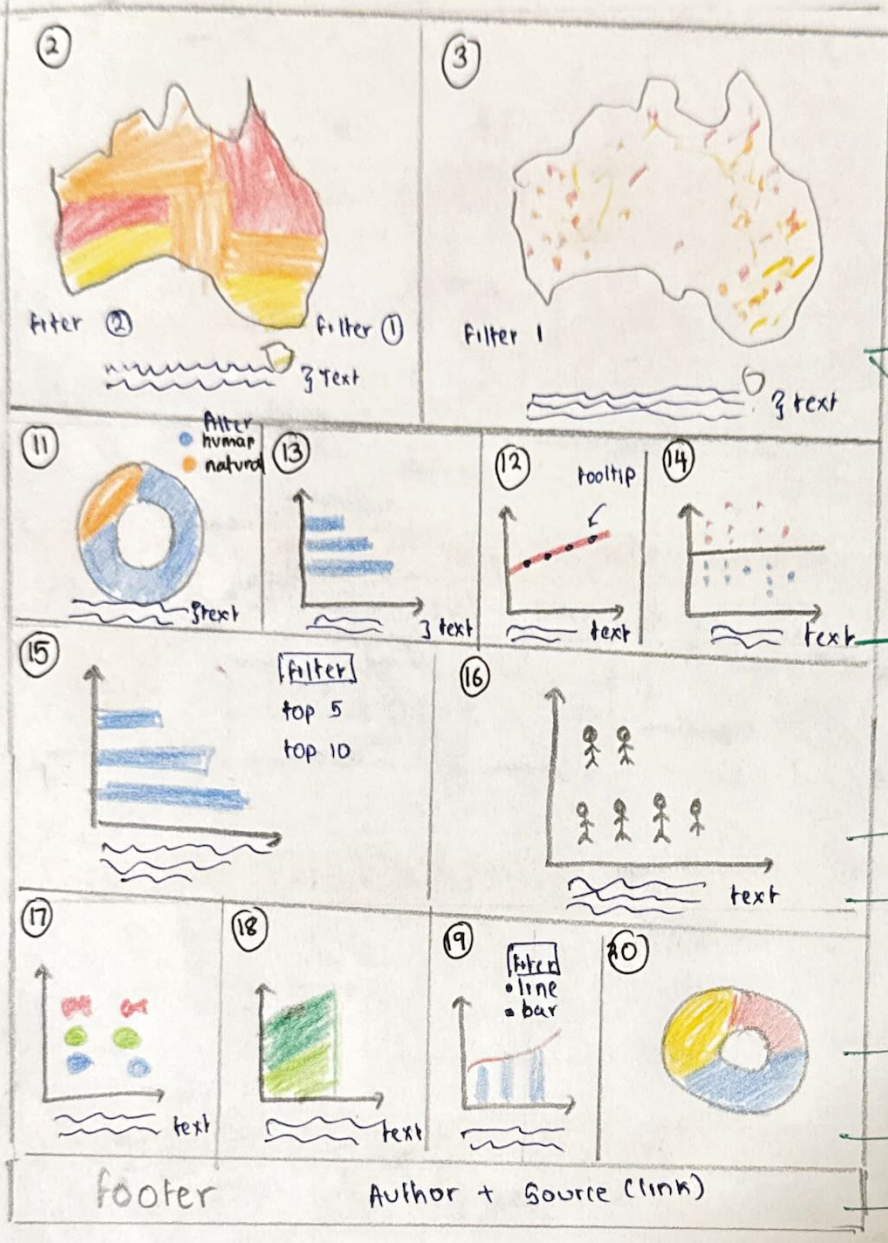
Task : designing a scrollable dashboard

Sheet 3 :

Date : 10/21/2025

Title : Dashboard.

Australian Bushfire



Operation

- added another filter for the chropth map along with tooltip
  - filter (1) - FFDI
  - filter (2) - year (time frame)
- filter 1 + tooltip
- filter to adjust brightness + tooltip
- filter for (11)
  - human cause
  - natural cause
- added tooltips for (13) + (12) + (14)
- filter + tooltip for (15) + (16)
- (15) added dropdown for the top 10 & 5 deadliest bushfire
- added tooltips for (17) + (18) + (19) + (20)
- filter drop down to choose between line + bar.
- footer with all link

FOCUS

- Main focus still remains as the 2 maps
- next row / section → focus on the causes of bushfires
- next section → focus on what / when the bushfires occoured & the deadliest of all
- final section → Impact + Recovery

- Section 1 (MAPS) → 40% of the screen equal split
- Section 2 (cause) → 20% → split equally by 4
- Section 3 (when?) → 15% → split equally by 2
- Section 4 (Impact + recovery) → 15%, split equally by 4
- Section 5 (footer) → Author + sources (10%)

Discussion

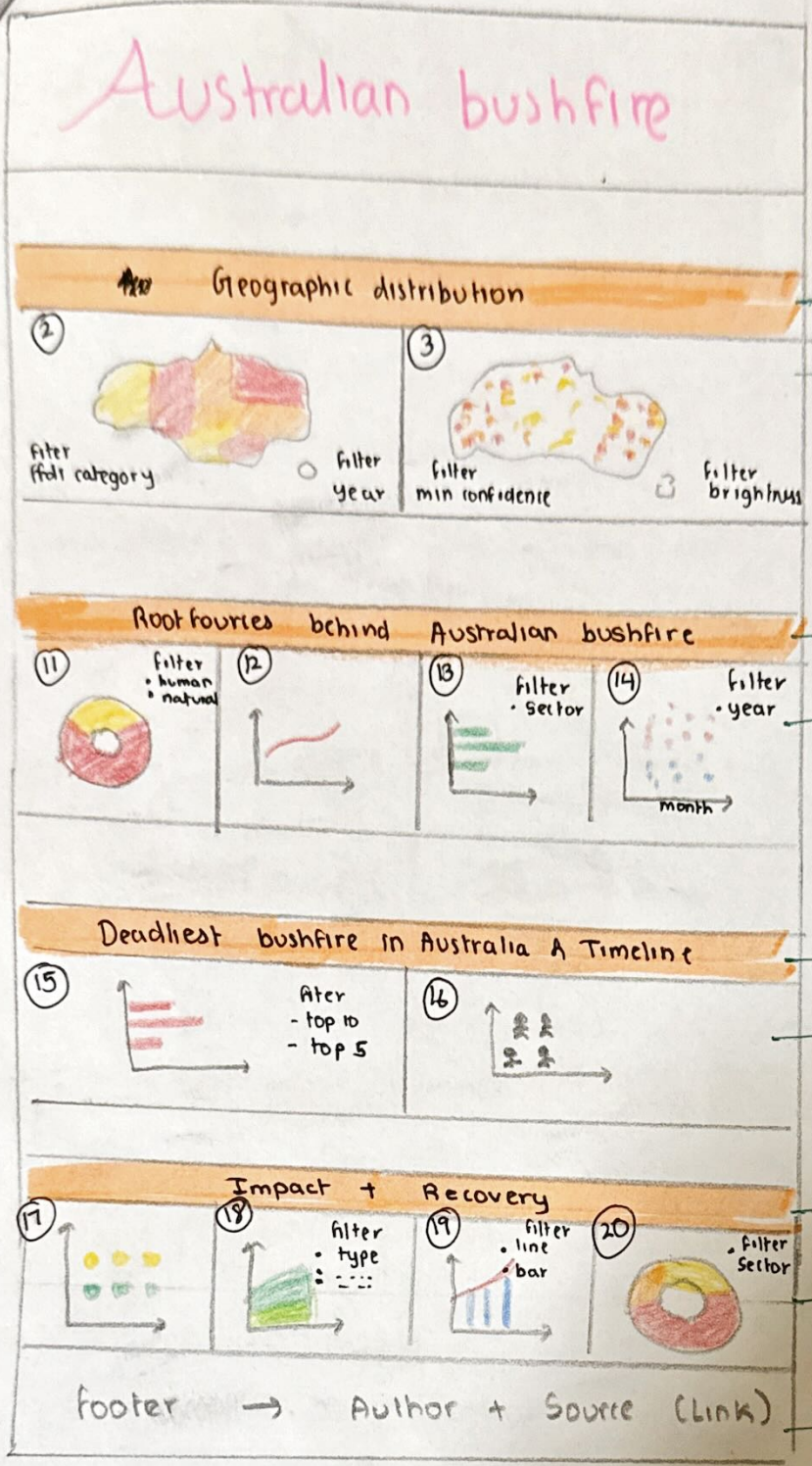
Advantage

- users can see the top 10 & 5 deadliest ~~disasters~~ bushfires of all time to date in australia
- having added a footer can help users find more information using the links to sources

Disadvantage

- No section titles for users to interact - this makes it harder to having a story telling effect on the dashboard.

LAYOUT



Title : Story telling dashboard

Author : Tricia De Rose

Date : 10/21/2025

Sheet : 1

Task : designing a scrollable dashboard

Operation

- Section title
- Added an extra filter to dot map to show min confidence, which show significance of each event
- Section title
- added filter for stacked bar & dot plot
  - ~~shows year~~
  - shows sector & shows year
- Section title
- added tooltips to show other factors such as house + other building burnt.
- Section title
- added filter for
  - (18) → shows type of vegitation
  - (20) → each sector
- Footer

FOCUS

Section 1 → main focus "geographic distribution" 40% of screen split by 2 equally

Section 2 → root cause "25%." of screen split by 4

Section 3 → deadliest bush fire "15%.) split equally by 2

Section 4 → Impact + recovery "15%." split equally by 4

Section 5 → footer "5%." Author + links to all sources

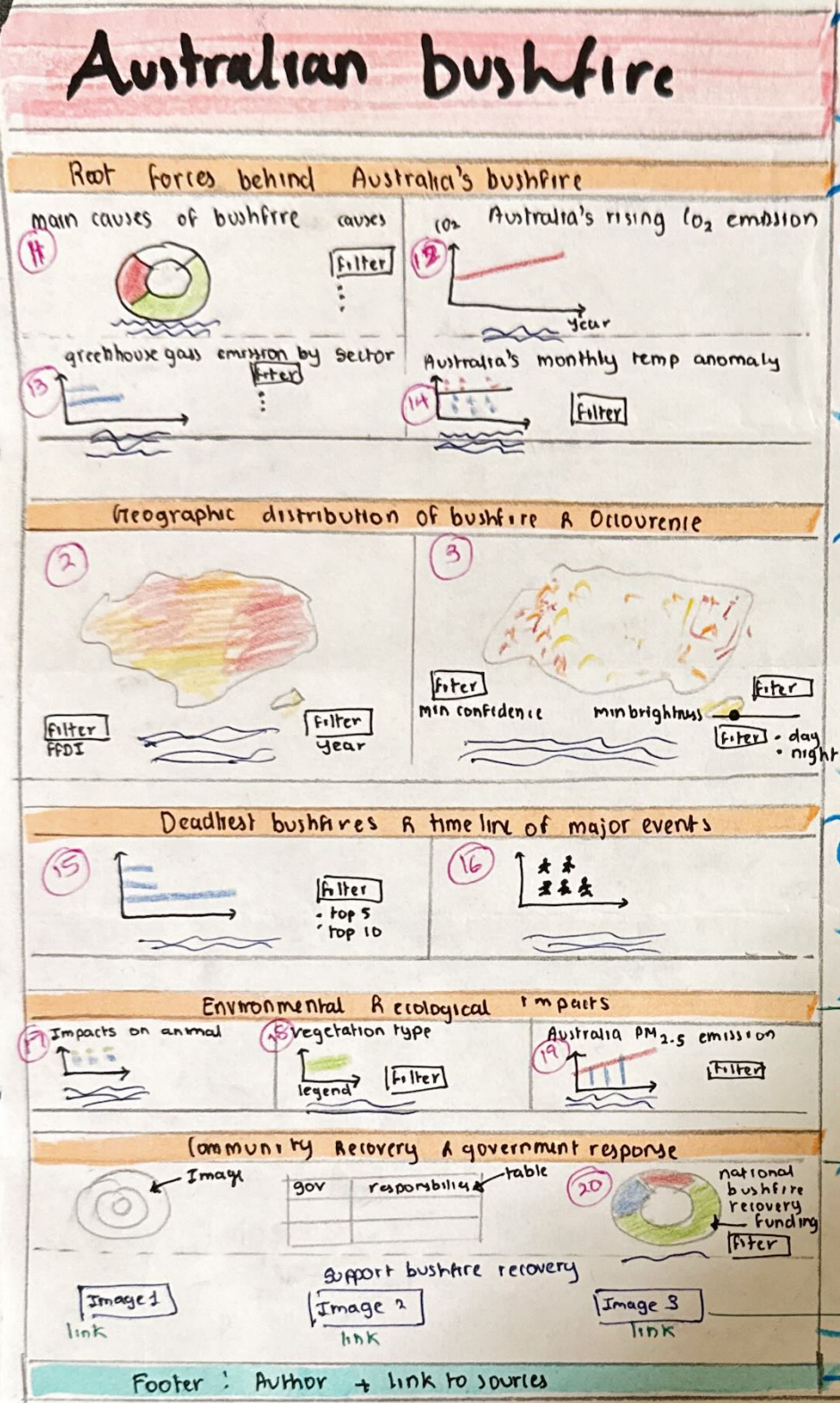
Advantage

- added section title to enhance visual engagement
- The order of causes changed from (11) + (13) + (12) + (14) to (11) + (12) + (13) + (14) → more engaging

Disadvantage

- overload for section 2 & 4 4 visuations in one row might make it harder to see significant differenies since the idoms may be squashed, making it harder to interpret data.

LAYOUT



→ 5%.

• shifted the focus & made the dashboard more visually engaging

→ It made no sence to have ~~geo~~ geographic distribution before cause.

→ 20%.

• starting with forces that ignite bushfires before showing their geographic spread, historical severity, environmental impacts & concluding with recovery, creating a complete & logical story from cause to consequences to recovery

20%. This builds understanding emotion & resolution — guiding the viewer through a complete narrative journey from ignition to renewal.

→ Added a new drop down filter to see during day/night.

10%.

→ new format for this section by only having 3 visualitions than 4 because recovery is diffrent from Impacts

10%.

→ new section with a table showing governments & key communities & their responsibility

30%.

→ added 3 images so that it could help fund the affected victims & help australia recover from the impact.

→ 5%.

FOCUS

- focus has shifted from MAP owning majority 40% to now owning (20%.) of the screen lenght this was because it made no sence to have the map and where bushfire mainly occours in australia without knowing the causes, therefore it moved to section 2
- root cause section 1 → owns 20%. of screen lenght
- deadliest bushfire olon 10% of screen lenght
- Impacts → 10%. of screen lenght
- recovery → own 30%. of screen lenght
- footer & header (5%.) → each

Operation

Details

dependencies → vega lite vs code

- Index.html
- Pure.css
- Style.css
- Json files

estimated time & effort

Maps → 15 hours in total

other Idoms → 34 hours in total

Cleaning formatting → 6 hours

approximately → 55 - 60 labour hours excluding research

Visualisation	Section	Sources
	Section 1	**The Root Forces Behind Australia's Bushfires**
1. Donut chart	Main causes for bushfires in Australia	• https://en.wikipedia.org/wiki/Bushfires_in_Australia • https://www.abc.net.au/news/science/2019-11-20/bushfire-ignition-source-how-we-know/11701132?utm • https://www.mdpi.com/2571-6255/4/3/40
2. Line chart	Australia's Rising CO_2 Emissions (1950–2023)	https://ourworldindata.org/co2-and-greenhouse-gas-emissions
3. Stacked Bar chart	Greenhouse Gas Emissions by State & Sector	https://ageis.climatechange.gov.au/
4. dotplot	Rising Temperature Anomalies	https://ourworldindata.org/co2-and-greenhouse-gas-emissions
	SECTION 2	**Geographic Distribution of Bushfire Risk and Occurrence**
1. Choropleth map	Fire Danger Index (FFDI Choropleth)	https://www.climatechangeinaustralia.gov.au/en/obtain-data/download-datasets/
2. Dot map	point represents a hotspot, with colour intensity	https://www.kaggle.com/datasets/nagarajbhat/australian-bush-fire-satellite-data-nasa?select=fire_archive_M6_101673.csv
	SECTION 3	**Deadliest Bushfires in Australia and Timeline of Major Events**
1. Bar chart	Largest and Most Destructive Bushfires in Australia (1851–2021)	https://en.wikipedia.org/wiki/List_of_major_bushfires_in_Australia
2. Isotype chart	Australia's Deadliest Bushfires by Fatalities	https://en.wikipedia.org/wiki/List_of_major_bushfires_in_Australia
	SECTION 4	**environmental and Ecological Impacts of Australia's Bushfires**
1. Isotype chart	Animals Most Affected by Bushfires in Australia	• https://en.wikipedia.org/wiki/Bushfires_in_Australia • https://www.worldatlas.com/articles/10-animals-that-suffered-the-most-in-australian-bushfires.html?utm • https://www.wwf.nl/globalassets/pdf/wwf-impacts-of-the-unprecedented-2019-2020-bushfires-on-australian-animals.pdf
2. Stacked area chart	Vegetation Types Affected by bushfires	https://ourworldindata.org/wildfires
3. Dual axis – bar and line chart	Australia's PM2.5 Emissions from Wildfires	https://ourworldindata.org/wildfires
	SECTION 5	**Community Recovery and Government Response**
image		https://www.nema.gov.au/sites/default/files/2024-08/journey%20to%20recovery_0.pdf
table		https://www.nema.gov.au/sites/default/files/2024-08/journey%20to%20recovery_0.pdf
Donut chart	National Bushfire Recovery Funding (2020)	https://www.nema.gov.au/sites/default/files/2024-08/journey%20to%20recovery_0.pdf

For additional coding support, I referred to the following online resources while developing my visualisations in VS Code.

Dounut chart - Main causes for bushfires in Australia

- https://vega.github.io/vega-lite/examples/arc_donut.html
- https://vega.github.io/vega-lite/docs/config.html?utm
- anchor: middle → making the title move to the center - https://vega.github.io/vega-lite/docs/title.html?utm_source
- autosize → https://vega.github.io/vega-lite/docs/size.html#autosize

Line chart - Australia's Rising CO_2 Emissions (1950–2023)

- https://vega.github.io/vega-lite/docs/line.html

Stacked bar chart - Greenhouse Gas Emissions by State & Sector

- fold function in transform - https://vega.github.io/vega-lite/docs/fold.html?utm
- index of function → https://vega.github.io/vega/docs/expressions/#indexof

Dot plot - Rising Temperature Anomalies

- https://vega.github.io/vega-lite/docs/scale.html
- https://vega.github.io/vega/docs/scales/

Choropleth map - Fire Danger Index (FFDI Choropleth)

- https://vega.github.io/vega-lite/docs/projection.html
- https://github.com/FIT3179/Vega-Lite/blob/main/3_choropleth_map/choroplethMapWithCountryName.html

Bar chart - Largest and Most Destructive Bushfires in Australia (1851–2021)

- https://vega.github.io/vega/docs/expressions/#replace
- https://vega.github.io/vega-lite/docs/window.html

Isotype chart - Australia's Deadliest Bushfires by Fatalities and animals affected by bushfires

- https://vega.github.io/vega-lite/examples/isotype_bar_chart_emoji.html
- https://vega.github.io/vega/docs/expressions/#ceil
- https://vega.github.io/vega/docs/expressions/#sequence
- https://vega.github.io/vega-lite/docs/flatten.html

Stacked area chart - Vegetation Types Affected by bushfires

- https://vega.github.io/vega-lite/docs/line.html#interpolation

Styling – style.css

• CSS Reference (MDN):
https://developer.mozilla.org/en-US/docs/Web/CSS

• Flexbox Guide (CSS-Tricks):
https://css-tricks.com/snippets/css/a-guide-to-flexbox/

• Pure.css Framework Documentation:
https://purecss.io/start/

• Flexbox Layout (MDN Learn):
https://developer.mozilla.org/en-US/docs/Learn/CSS/CSS_layout/Flexbox

• HTML & CSS Basics (W3Schools):
https://www.w3schools.com/html/html_css.asp

• Vega-Embed Styling Reference (GitHub):
https://github.com/vega/vega-embed/blob/main/vega-embed.scss

• Justify-Content Reference (MDN):
https://developer.mozilla.org/en-US/docs/Web/CSS/justify-content

PURE.CSS

- https://pure-css.github.io/grids/?utm_source
- https://www.tutorialspoint.com/purecss/purecss_grids.htm?utm_source
- https://dev.to/logrocket/creating-responsive-mobile-layouts-with-purecss-11bk?utm_source