# Responsive Map Cheat Sheet

This cheat sheet guides you in successfully making your map design responsive. It provides an overview of the most common **challenges**, and **design solutions** to address them. Use the challenges as a checklist to identify potential issues, then choose design solutions to address the challenges you identified.

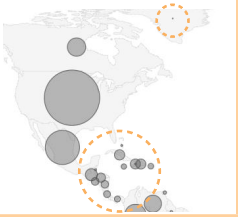
## Challenges

*Which of these are present in your map?*

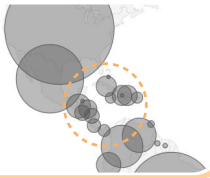
### C1 Scaling the map down makes it unreadable.

C1.1 Small areas on the map are too small to be visible.

C1.2 Symbols on the map are too small to be visible.



C1.3 Symbols overlaid on the map overlap excessively.



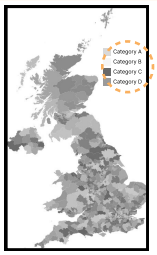
### C2 The aspect ratio of the available space does not fit the map.

C2.1 The map is very small and surrounded by lots of wasted space.

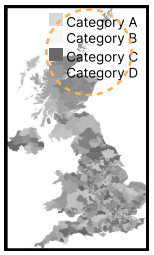
C2.2 The map is partly off-screen.

### C3 Legend or other UI elements do not fit.

C3.1 Legend (text) is too small to read.



C3.2 The legend covers part of the map.

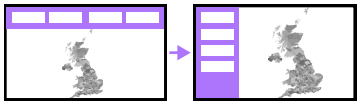



## Design Solutions

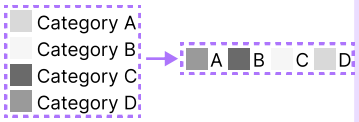
*Which of these strategies could be useful for your map? Start with S1, then move on to S2–S4.*

### S1 Start with subtle design changes that will help the map scale down better.

S1.1 Maximize the size of the map by repositioning other UI elements.



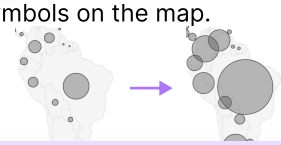
S1.2 Re-design the legend to be more compact.



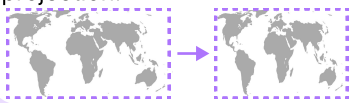

S1.3 Replace the legend with annotations or labels on mouseover/tap.


S1.4 Decrease line width or remove outlines where possible.

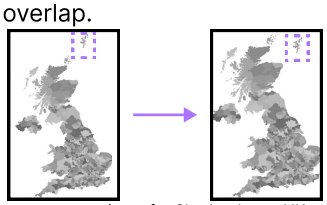
S1.5 Adjust the scale of symbols on the map.



S1.6 Change the map projection.



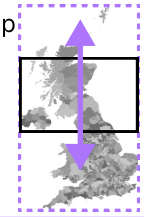
S1.7 Displace symbols or spatial units on the edges of the map slightly to make it more compact or to reduce overlap.



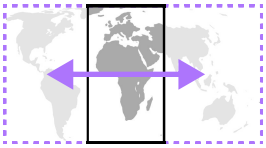
*e.g., create an inset for Shetland on a UK map*

### S2 Make use of scrolling, zooming, and panning.

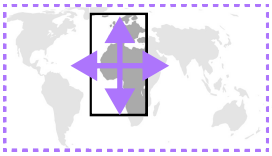
S2.1 Scroll the map vertically.



S2.2 Scroll the map horizontally.



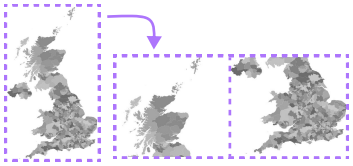
S2.3 Pan and zoom the entire map.



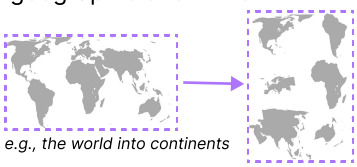
S2.4 Create cutouts that zoom into dense areas.

### S3 Separate the map into segments.

S3.1 Separate the map into equally sized segments.



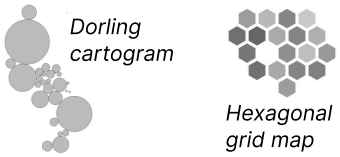
S3.2 Separate the map into geographic sub-units.



*e.g., the world into continents*

### S4 Use alternative visualization types that allow for more flexible use of space, such as:

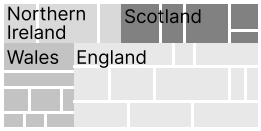
S4.1 Cartograms & grid maps



*Dorling cartogram*

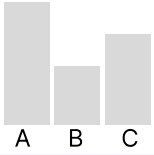
*Hexagonal grid map*

S4.2 Geographically ordered visualizations

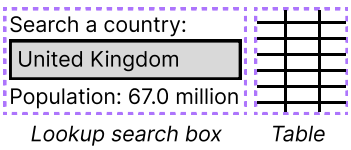



*Treemap (geographically ordered)*

S4.3 Non-geographic visualizations




S4.4 Remove visualizations




*Lookup search box* *Table*



responsive-vis.github.io/map-cheat-sheet