

Journal of Maps

A guide to common errors in map production



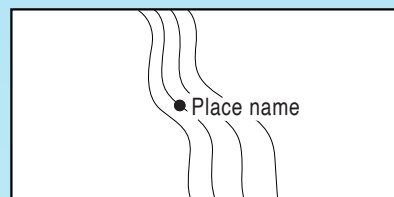
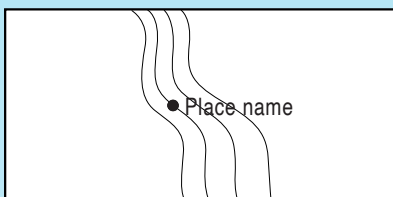
At the Journal of Maps we receive many map submissions and, with strong competition for publication, it is important for authors to make sure that the standard of cartography is high.

Our experience in undertaking reviews has highlighted a range of common problems, many of which can lead to manuscript rejection. This guide therefore offers some advice on good practice regarding cartographic design for submission of maps to the Journal of Maps.

Mandatory points are marked with red circles, other recommendations are marked with blue circles.

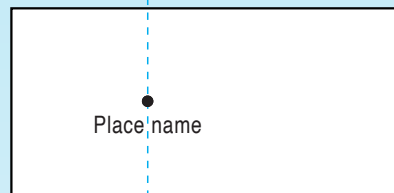
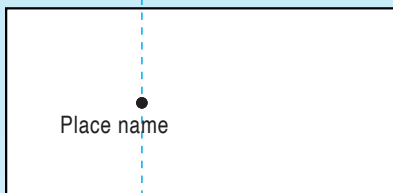
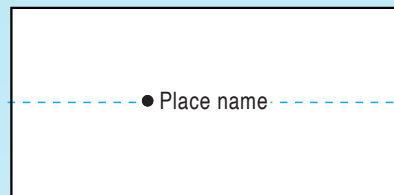
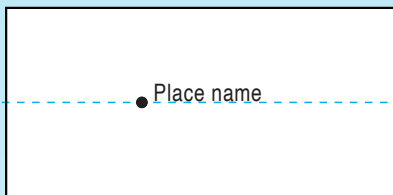
Guide Prepared by Chris Orton (chris.orton@durham.ac.uk), Durham University, 2020 and Mike Smith (editor@journalofmaps.com), Journal of Maps

1



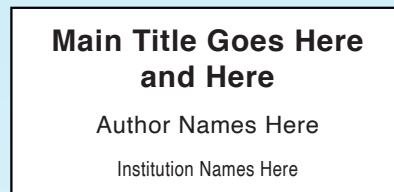
*Text should always appear clear against background map information.
Ensure that a mask or outline stroke is used to make text clear and legible.*

2



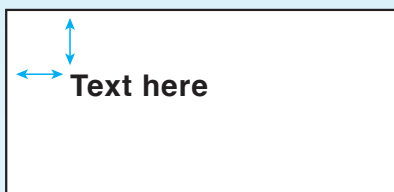
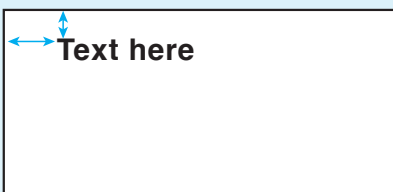
Where possible, try to ensure that text labels sit centrally on the associated symbol.

3



*Try not to mix alignments on map titles - either set left, or set centrally.
The title should be short, succinct, yet describe the content/context of the paper.
In addition the title should also avoid the word "map" (as it is obvious it is a map).*

4









Text should sit at equal distances from the frame.

5

<i>Water bodies</i>	<i>Mountain</i>	COUNTRY NAME
Place names	CAPITAL CITY	STUDY AREA







Use different type styles for different geographic features.

6

1 Lower	1 Lower	 Shading-name	✗
2 Lower	2 Lower	 Shading name	
3 Lower	3 Lower	 Shading name	
4 Lower	4 Lower		
5 Upper	5 Upper	 Shading-name	✓
6 Upper	6 Upper	 Shading name text here	
7 Upper	7 Upper	 Shading name	
8 Upper	8 Upper		
9 Upper	9 Upper		
10 Upper	10 Upper		

Ensure that text in legends and keys is correctly aligned.

7

	Lake sediments and ephemeral lakes (distal glacialfluvial sediments trapped in lava field)	✗
	Glacialfluvial deposits (including debris flow-fed alluvial fans / aprons previously activated by glacial meltwater)	
	Till and moraines dating to the Little Ice Age and more recent glacier advances (areas that are unlikely to have ice cores)	
	Lake sediments and ephemeral lakes (distal glacialfluvial sediments trapped in lava field)	✓
	Glacialfluvial deposits (including debris flow-fed alluvial fans / aprons previously activated by glacial meltwater)	
	Till and moraines dating to the Little Ice Age and more recent glacier advances (areas that are unlikely to have ice cores)	

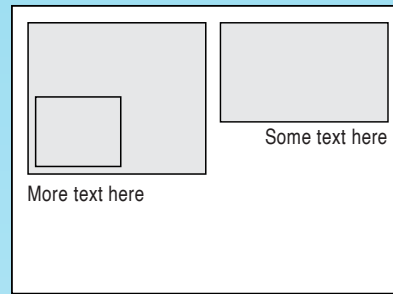
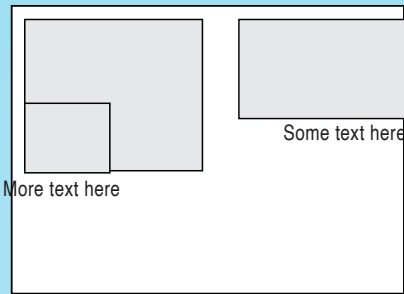
Ensure that text in legends and keys doesn't get too close to the frame.

8

This study maps the spatial relationships between sociodemographic characteristics (poverty trajectories, racial/ethnic/nativity composition) and food environments in Alameda County, California. Our map presents poverty trajectories and racial/ethnic/nativity composition at the tract level, as well as maps	✗
This study maps the spatial relationships between sociodemographic characteristics (poverty trajectories, racial/ethnic/nativity composition) and food environments in Alameda County, California. Our map presents poverty trajectories and racial/ethnic/nativity composition at the tract level, as well as maps	✓

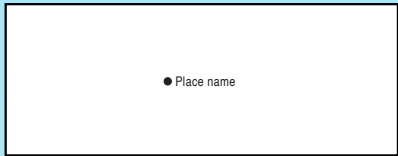
Try to avoid hyphenating words if possible.

9



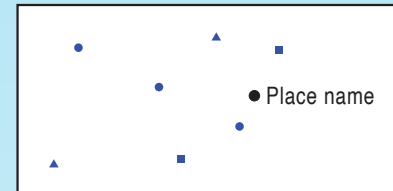
Items should not overlap the main map frame.

10



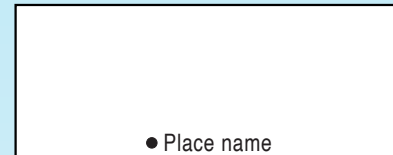
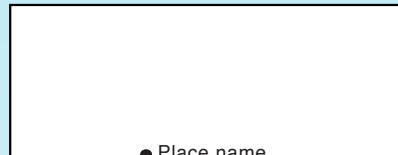
Ensure that text isn't too small - generally a minimum of 7pt should be used.

11



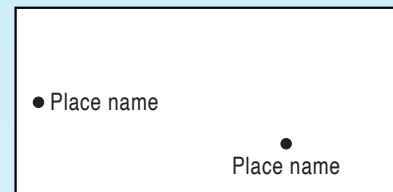
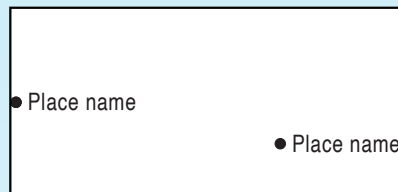
Ensure that symbols are large enough to be seen clearly.

12



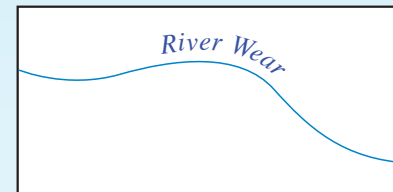
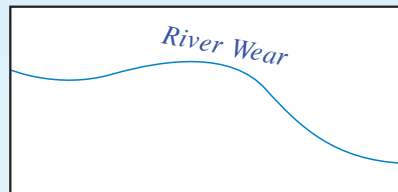
Ensure that text isn't cropped by the frame.

13

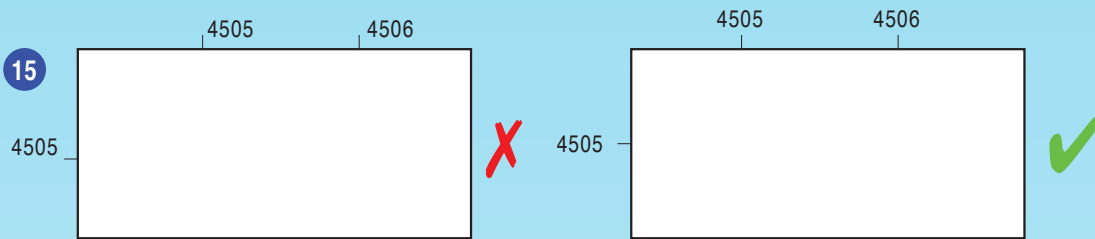


Ensure that text and symbols don't get too close to the frame. Extend the frame to accommodate text if necessary.

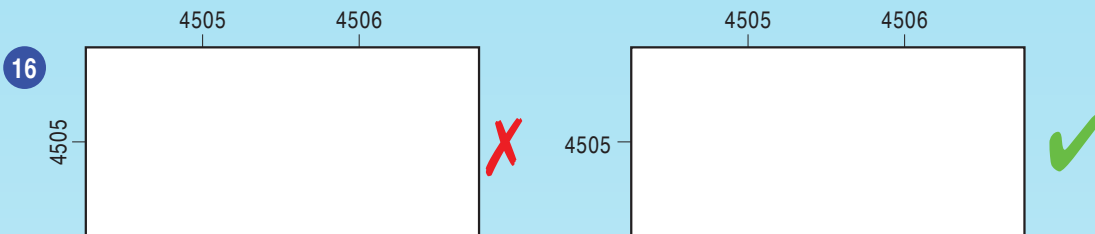
14



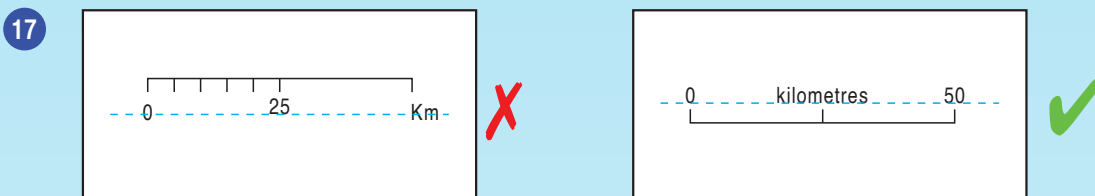
River labels should flow smoothly along the line of the river.



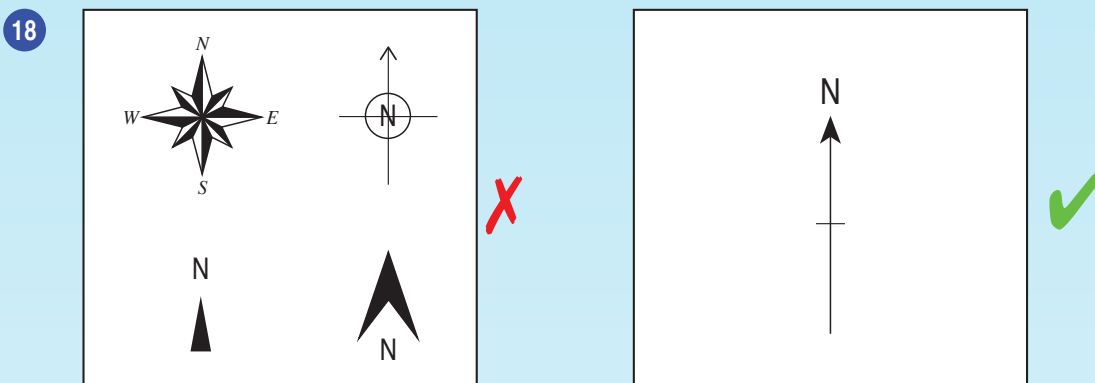
Ensure that grid labels are centred on the tick.



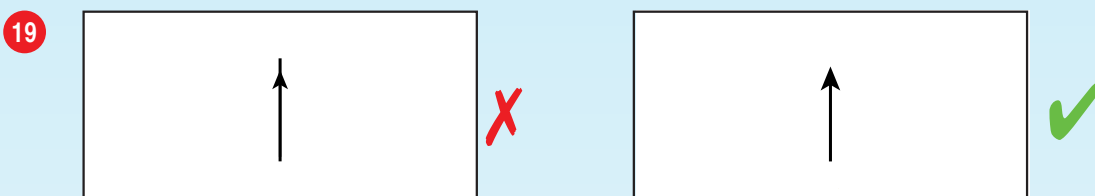
Try to ensure that text on grids is presented horizontally if space allows.
Remove decimal places on grid labels.



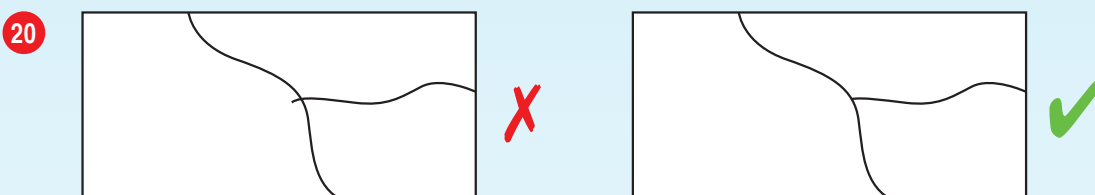
Scale bars should be kept simple. Spell 'kilometres' and 'metres' in full if space allows.
"kilometers" should be spelled in US or UK English dependent upon the manuscript.



North points should not be over elaborate or too simple.
Computer, or GIS, generated symbols are best avoided.

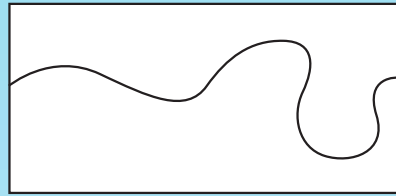
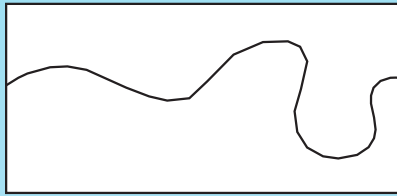


Arrowheads should sit at the end of the line.



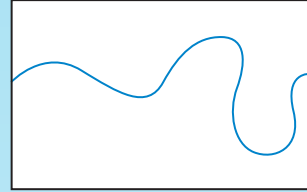
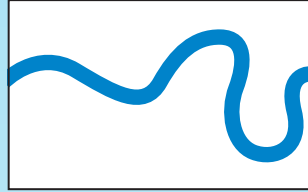
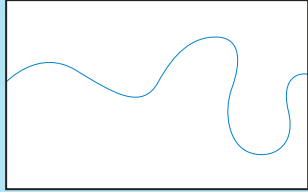
Ensure that linework is neat and that lines don't cross other lines.

21



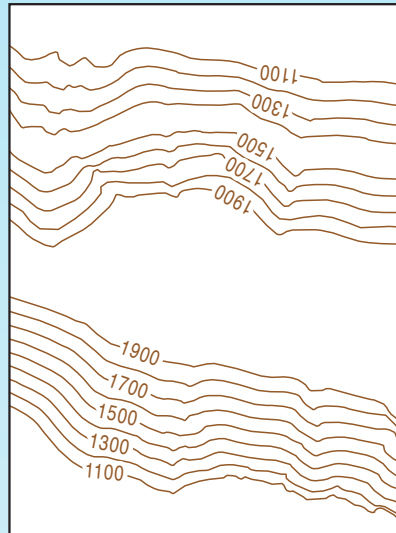
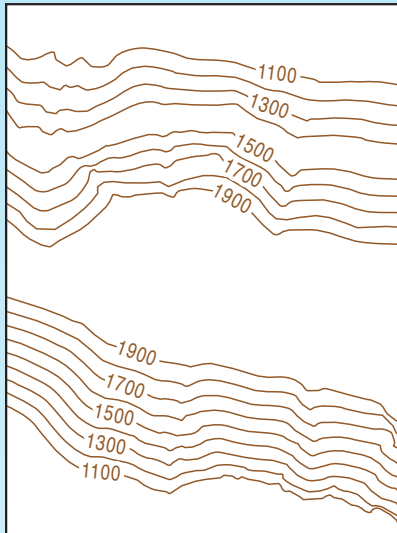
Try to ensure that linework is smoothed out, rather than jagged and computer-generated in appearance. Make sure linework is appropriate to the scale; if detailed, then generalise before smoothing.

22



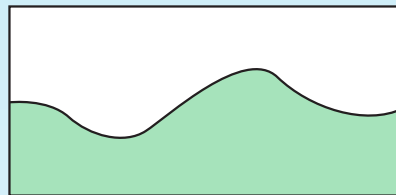
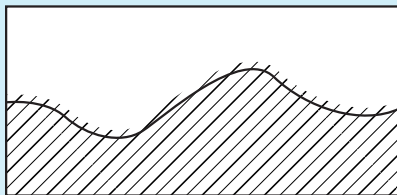
Be aware of line thicknesses. Don't make lines too thin, or too thick.

23



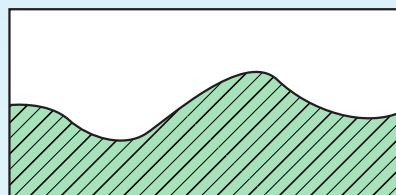
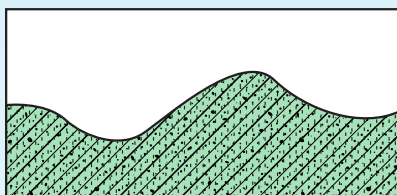
Contour labels should be orientated towards the highest point.

24



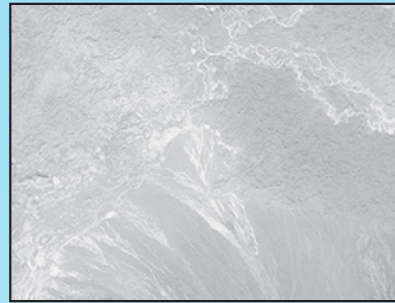
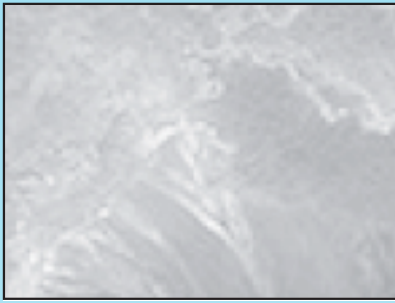
Ensure that shadings are contained within the area. Unless necessary it is best to avoid symbolised polygon fills and use solid areas of shading instead.

25



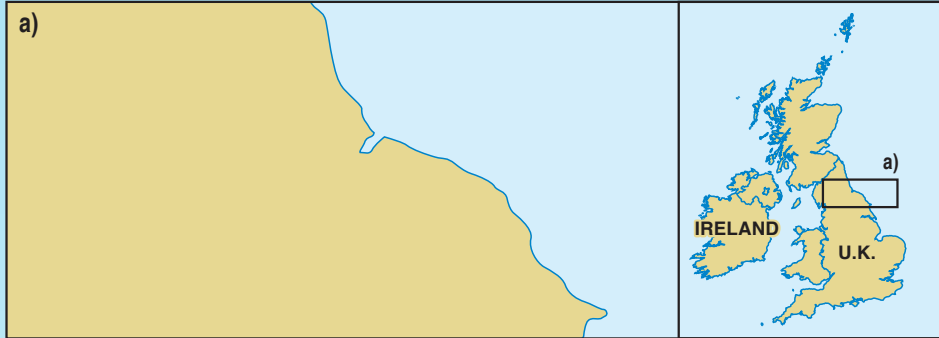
Don't overcomplicate shadings.

26



Ensure that DEM images are full resolution (300 dpi or above).

27



Ensure that location inset maps are clear, and show the study area in a wider context.

28



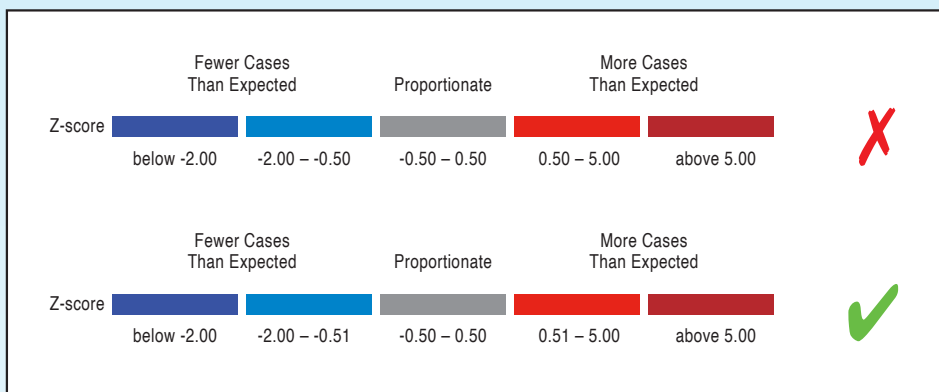
Fit text neatly according to available space.

29

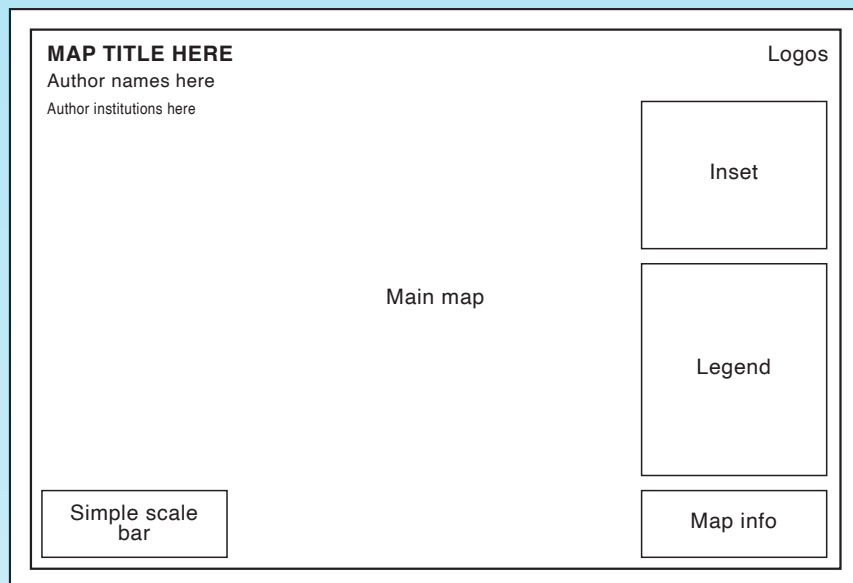
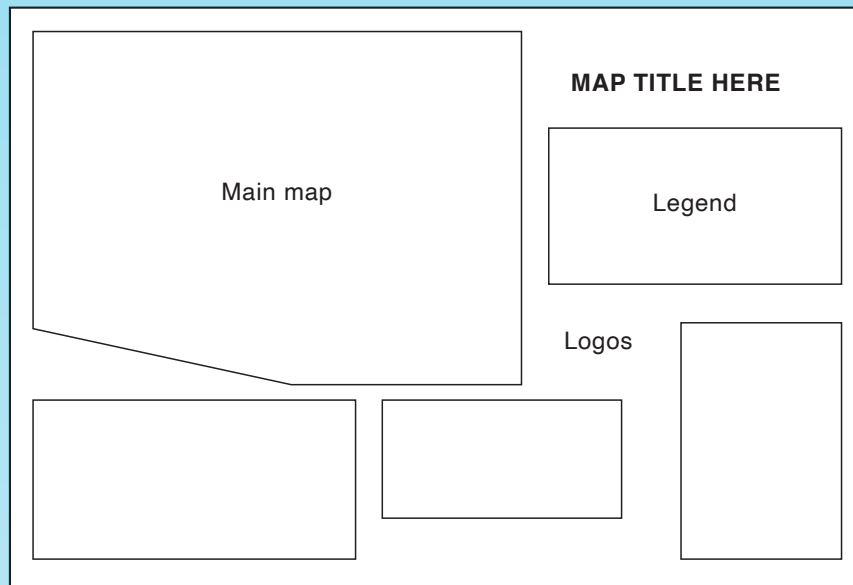


Try to use subtle colour schemes to avoid maps appearing garish.

30



Make sure that choropleth map class boundaries do not overlap.



Ensure that your map is neatly laid out. The main map should dominate the space (supporting graphics will appear in the essay). Create a layout considering that the viewer will be reading top to bottom, and left to right.

Other points to remember:

- When adding the logos of institutions then ensure that high-resolution vector versions are used, and not just low-resolution jpeg files from the web.
- Try not to 'flood' the map with too much information. Consider what it is that you are trying to communicate and only include relevant information.
- Keep focused upon **map** production. Think about creating the map as the focus filling the page, with other related elements (e.g. title, legend, etc.) designed in an appropriate visual hierarchy and balanced layout.
- **Avoid** designs that are like an academic poster that use lots of a text, photos, and charts.
- Remember to include technical details of map projection, coordinate system, map orientation etc.
- Maps **MUST** be submitted in vector format. *Failure to do so will result in the work being rejected.*

References:

- Dent, B.D. (1993). *Cartography: thematic Map Design* (5th ed). Dubuque, Iowa: William C Brown.
- Kraak, M.J. and Ormeling, F. (2002). *Cartography: visualization of spatial data* (2nd ed). Harlow: Pearson.
- MacEachern, A.M. (1995). *How maps work: representation, visualisation, and design*. London: Guildford Press.
- Robinson, A.H., Morrison, J.L., Muehrcke, P.C., Kimmerling, A.J. and Guptil, S.C. (1995). *Elements of cartography* (6th ed). Chichester: Wiley.