

Considerations when making a map

The map should be clear with all elements clearly visible, particularly the features that are the reason for making the map (or there is no point in making a map).

Make the map big enough to see whatever the map is trying to show. Make use of the space you have, don't print a map on a full page and leave half of it blank. If you use a full page, then take advantage of it and make the map bigger.

If a map is going to be embedded in a document, it may take some trials to get an appropriate size, shape and resolution such that it works in the document.

Consider if landscape would be better than portrait. If you are showing many features, such as different road types, pick colors and patterns that are discernible. This can become a challenge in a map with lots of features. If this is a real problem, you might want to consider using two maps instead of one. And don't forget that you have many patterns available to use, not just different colors/shades!

Maps do not all have to be color - black and white is ok if you can tell the features apart and see clearly the purpose of the map. But the eye can only tell apart a few gray shades before it all looks alike, and then again there is no point in making a map if you can't tell the features apart.

You have to think about what you are trying to get across with your map and be sure that purpose comes across clearly. For example, do you just need to know if something is a relatively high or low value (perhaps elevation), or do you need to tell apart specific categories (different types of roads or land use types, for example). This will affect how you design your map.

Names, titles and labels should use full, intuitive names, not strange abbreviations that no one but you knows. The legend should not list things like 'fl_huc14_utm', but instead '14 DigitHydrologic Boundaries' and not 'shape_area' but 'Area (sq km)'. Units should be indicated where necessary - such as elevation legends and Population Density. Sometimes all that matters is just what is high and low, but generally, even here, you can list what the range is even if the values themselves are unitless (such as indices). The legend shouldn't have odd bits that don't relate to anything such as '<all other values>' which will appear if you don't turn this off in the table of contents.

Generally, every map should have a scale bar, legend, and north arrow. The units of the scale bar should be selected based on the scale of the data. A map of a large area should not have a scale bar in meters - you wouldn't tell someone the region is 48,000 m wide or to go 9,445 meters then turn left - you would use km or miles! If the map is a small area only a km or two in size, then meters or feet would be appropriate. Also, the scale bar does not need to be huge, just enough to get the reference scale across.

The legend and what is in it varies depending on the purpose of your map. If you have a data set in the map, the legend should tell the reader what the data is. There are exceptions; for example a river layer might be obvious in some maps and not need to be specified in a legend. Sometimes you may choose to identify specific items/features by adding text and an arrow instead of trying to put it in a legend.

Always include your name and a date on a map, and it is good practice to put a projection statement. If you are showing some index or more complicated data (and you will be!), a very brief text statement that explains the index is often useful so the reader doesn't have to dig for the description in the document.

For a good map, basically, will the user be able to easily and unambiguously get the info from the map that is its purpose. If not, the map is of no use. This is by no means a complete list of what should be in a map, just a guide. There may be times when those listed here are not appropriate, and others not discussed important.

General organization of your maps, i.e., whether to put things in boxes, physically where to place the map elements such as the legend or scale bar, etc., is hard to describe and varies with purpose and preferences. This improves with experience.