

DESIGNING MAP TEMPLATES

Making simple, informative maps that communicate effectively

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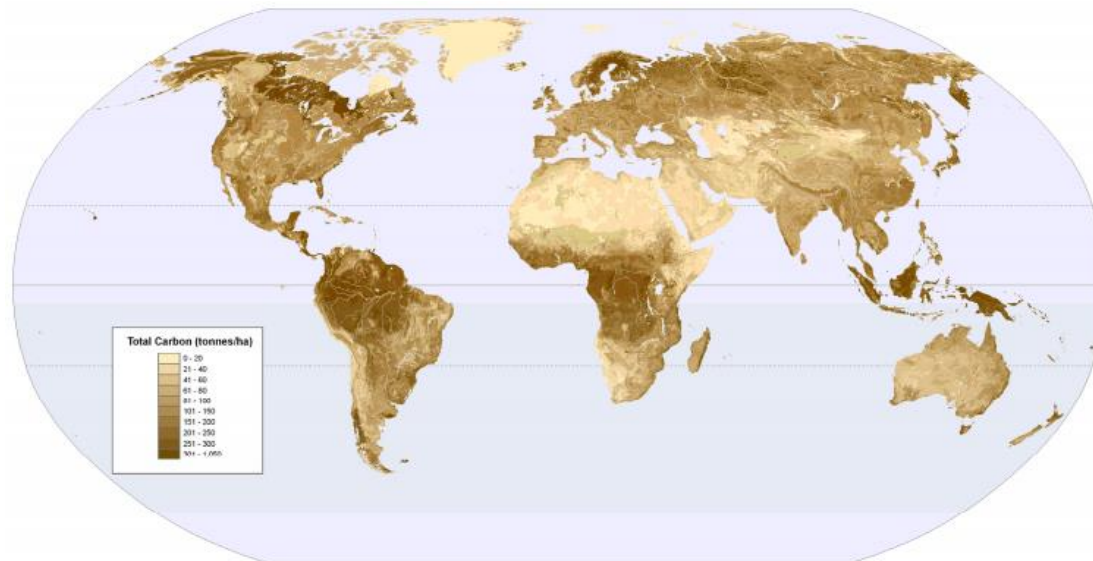
Ulaanbaatar, Mongolia

March 2016



MAPS

If a picture is worth a thousand words,
a map is worth a thousand numbers...



*Mapmaking is a mixture of art, science and
technology.*

From traditional cartography to neogeography



Barbariae et Biledulgerid, Nova Descriptio

1570



Designing a good map: Basic principles I

- **Purpose:** The user should clearly understand what the map is showing. Tell a story!
- **Keep it simple:** Too much information blur the message and confuse the user.
- **Focus.** Draw user attention to the key information of the map through the use of hierarchy in map design.
- **Know your audience:** Always consider for whom are you making the map. Target and customize the map accordingly.
- **Autonomy:** A map should be understood on its own. Design your maps so that they are as independent as possible of story texts or data tables.
- **Media:** Always consider the media through which the map will be distributed (e.g. paper, computer screen, large-format maps, etc.)

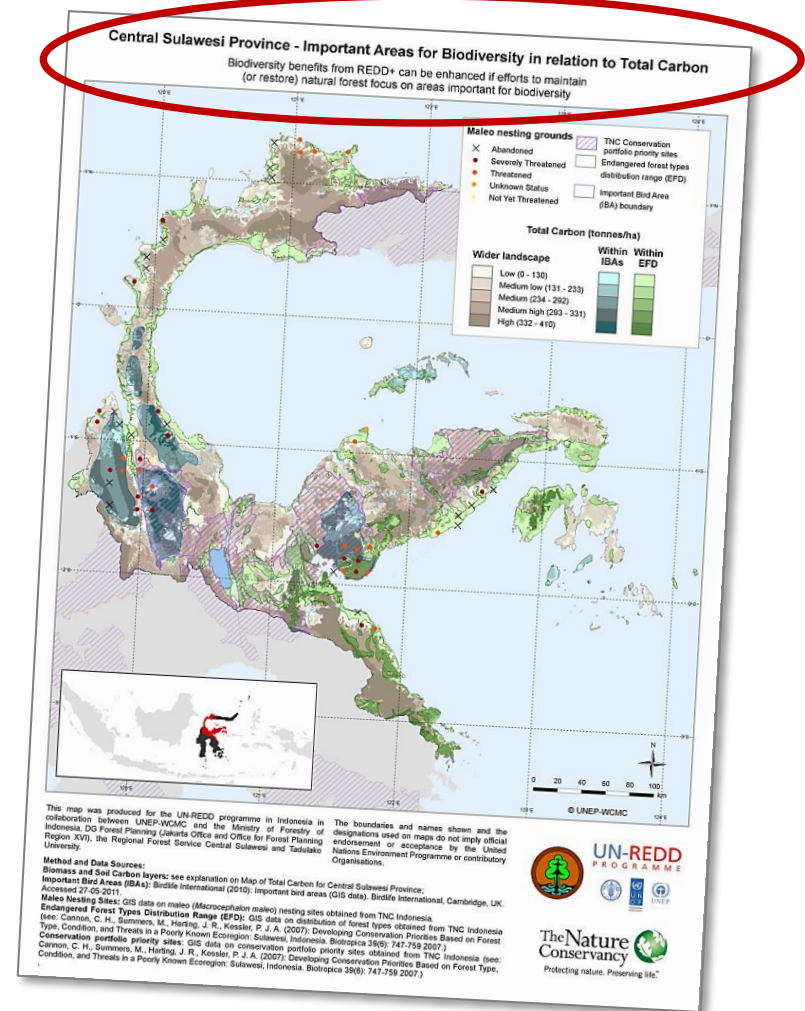
Designing a good map: Basic principles II

- **Clear data:** Inform the user about the source and nature of the data included in your map.
- **Colour.** Use subtle and light colours and reduce colour saturation. Use warm colours to symbolize the elements of the map you want to highlight and cold colours for the rest.
- **Peer review:** Make sure that your map is reviewed by fellow colleagues, to get constructive feedback. See the CartoTalk forum!
- **Contextualize.** Consider using locator maps and place neighbouring countries to show the location of the area mapped.

Maps elements

Map Title

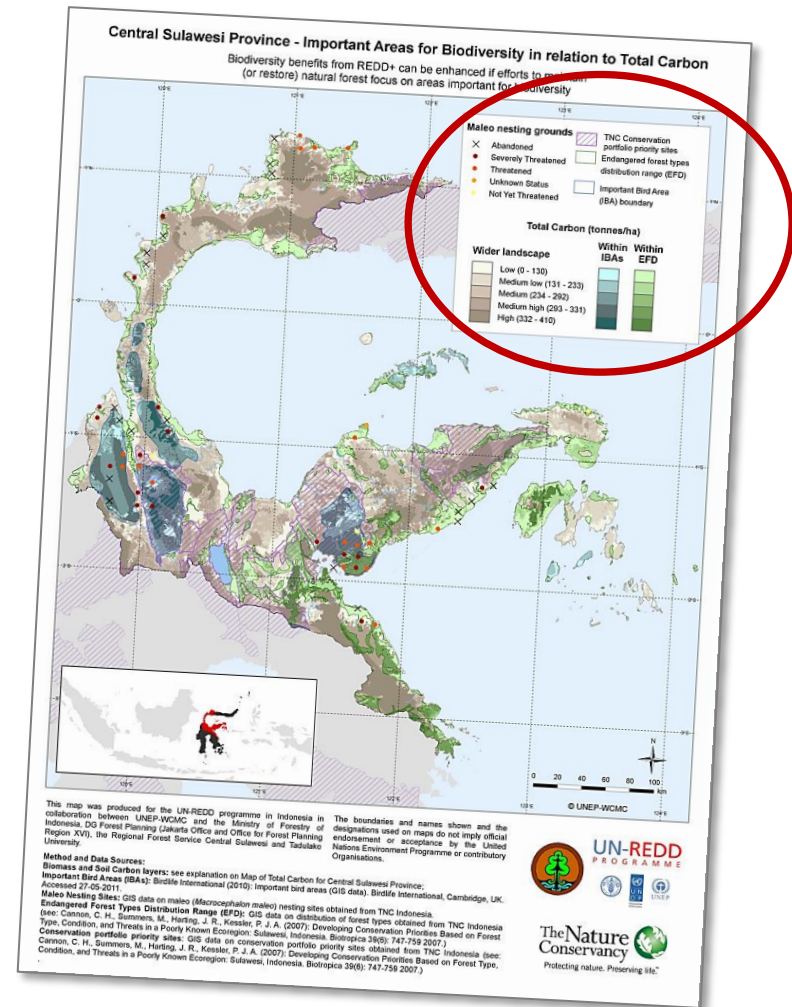
- Clear, short and concise
- Subtitles an option to provide more detailed information



Maps elements

Legend

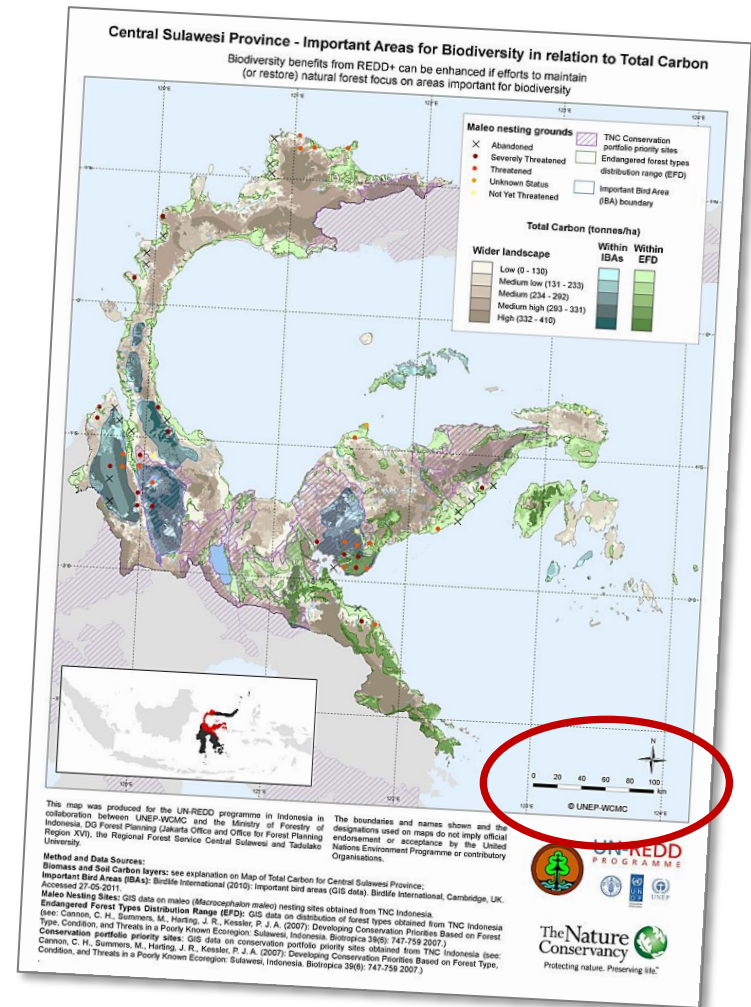
To identify all the symbols and colours used to represent the data in the map



Maps elements

Map Scale

To help the user measure distance and compare different maps.

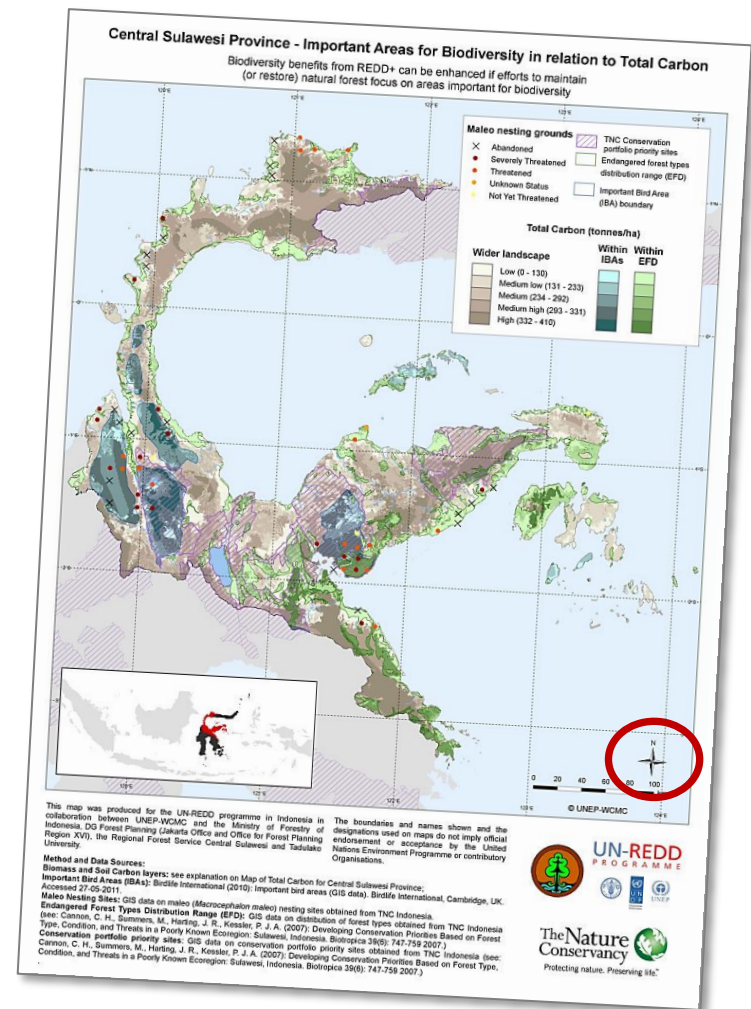


Maps elements

North Arrow

To indicate orientation of the map.

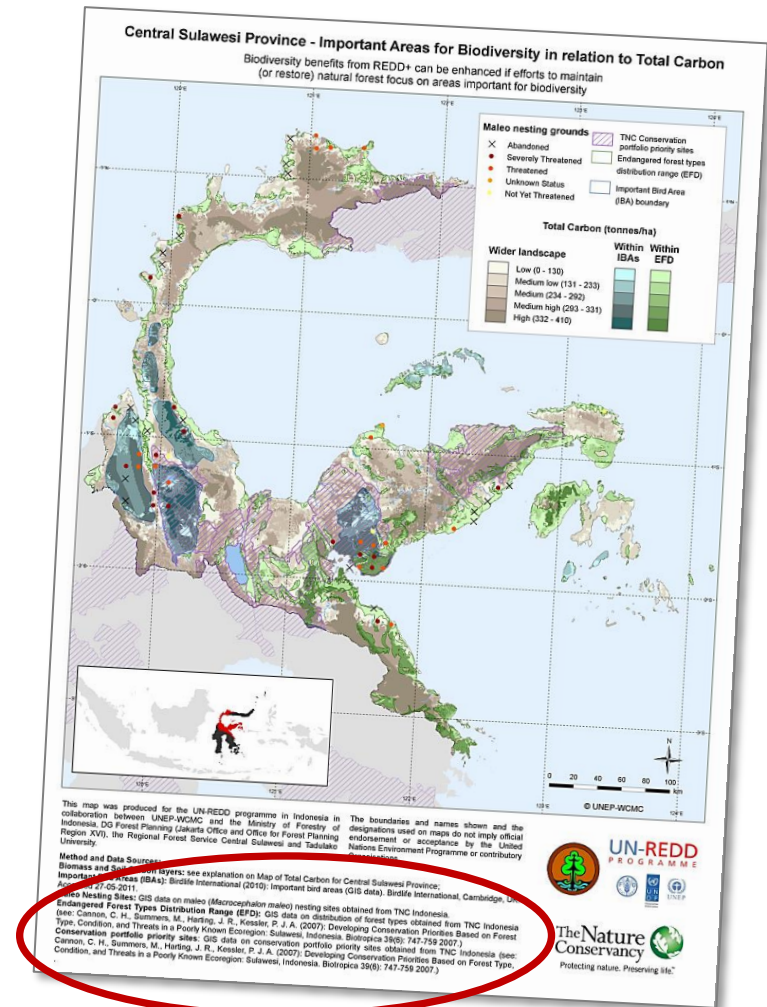
If a grid is used, the north arrow can be dropped.



Maps elements

Data Source

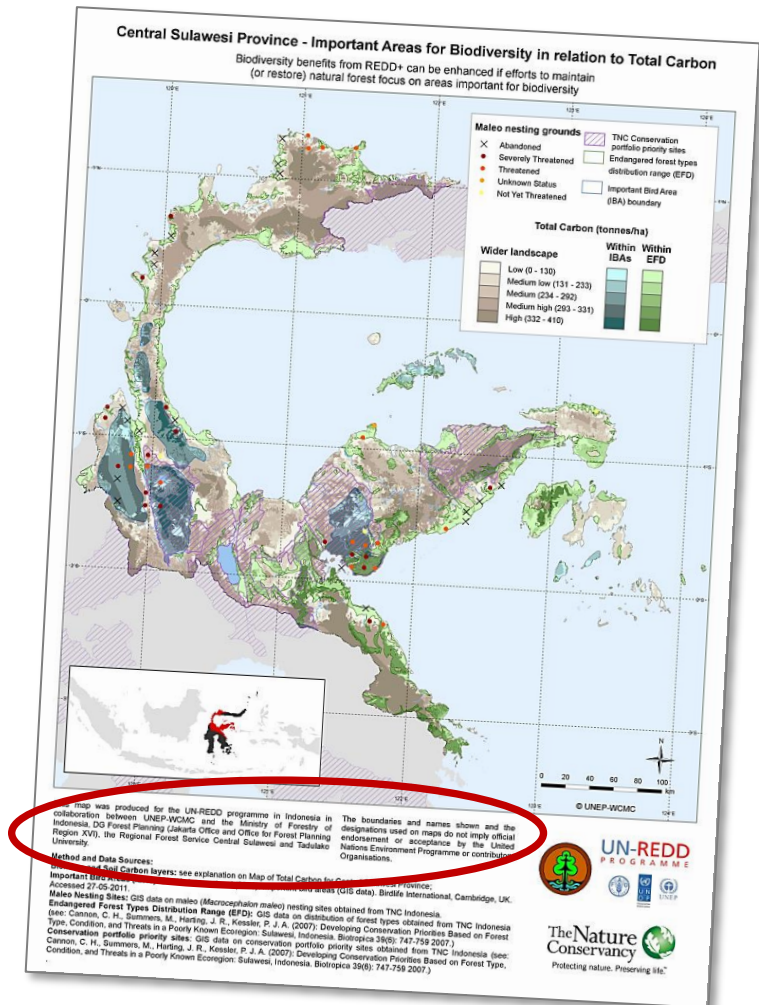
To provide information about the source of the data used



Maps elements

Copyright

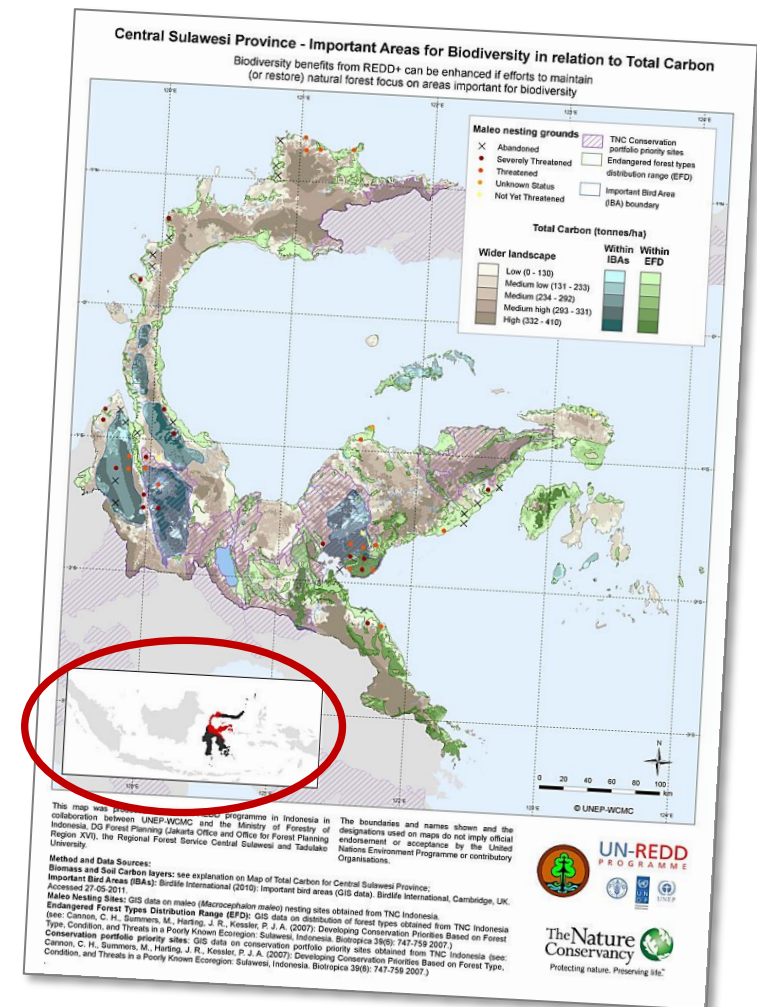
To provide information about the author(s) responsible for the map content



Maps elements

Locator Map

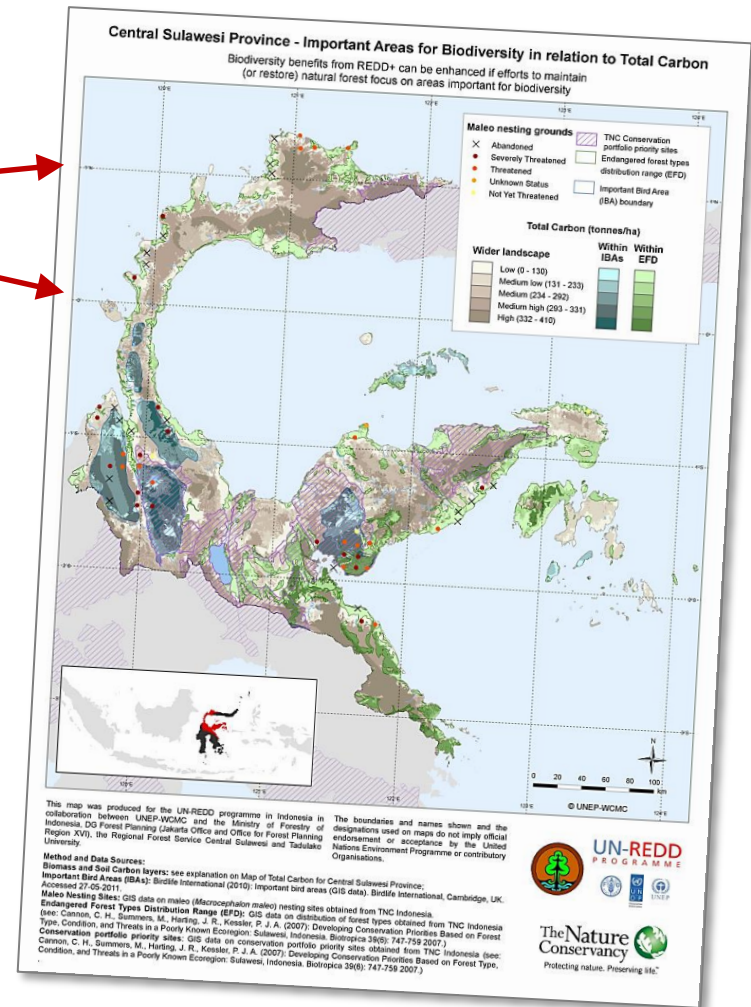
To provide information on the overall location of the place that is mapped



Maps elements

Graticule

Graticules can be added to make it possible to georeference the map and provide more accurate information on scale



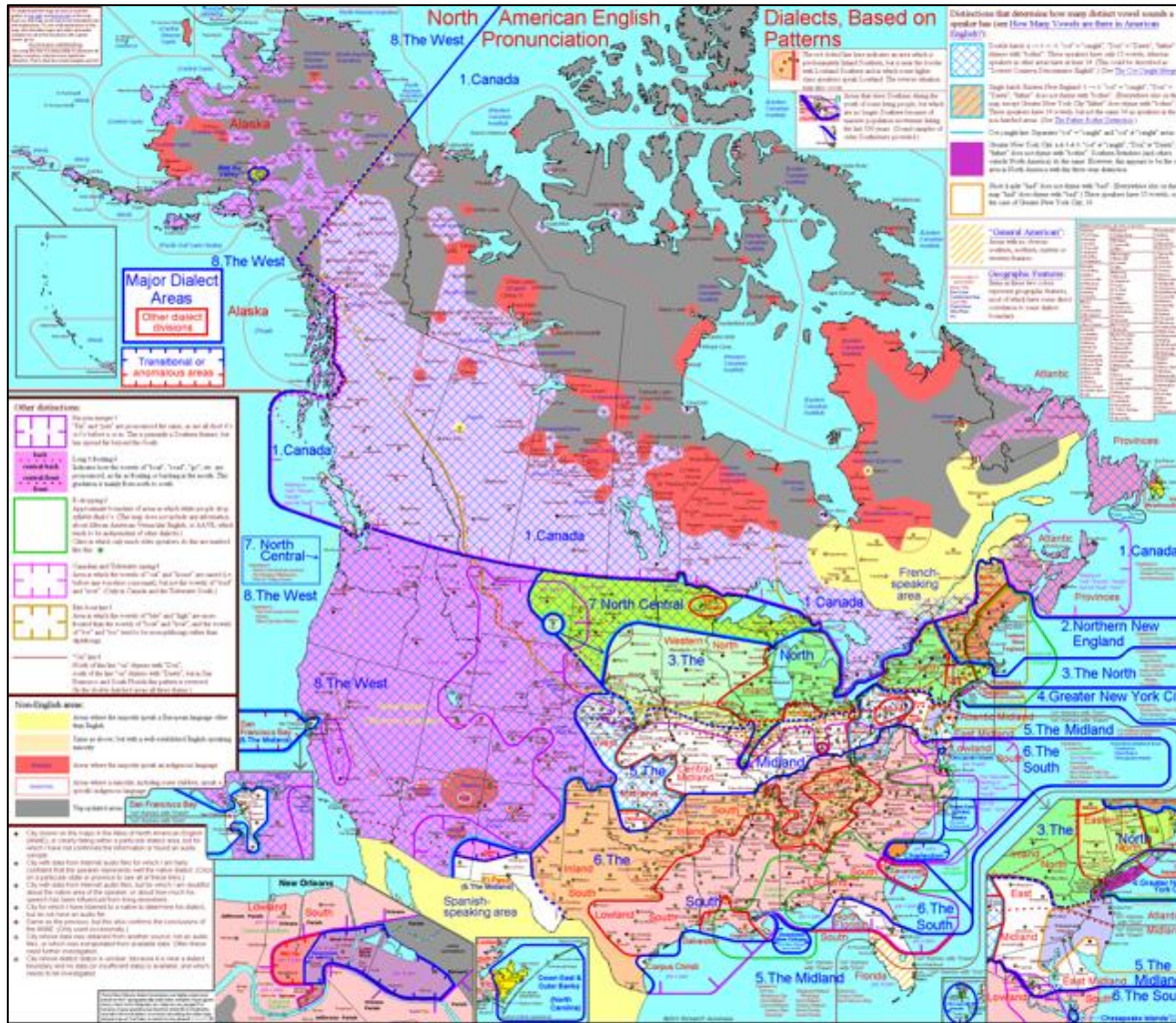
Map examples

What is wrong with this map?

- Too much information
- Pointless use of colour
- Poor use of visual hierarchy

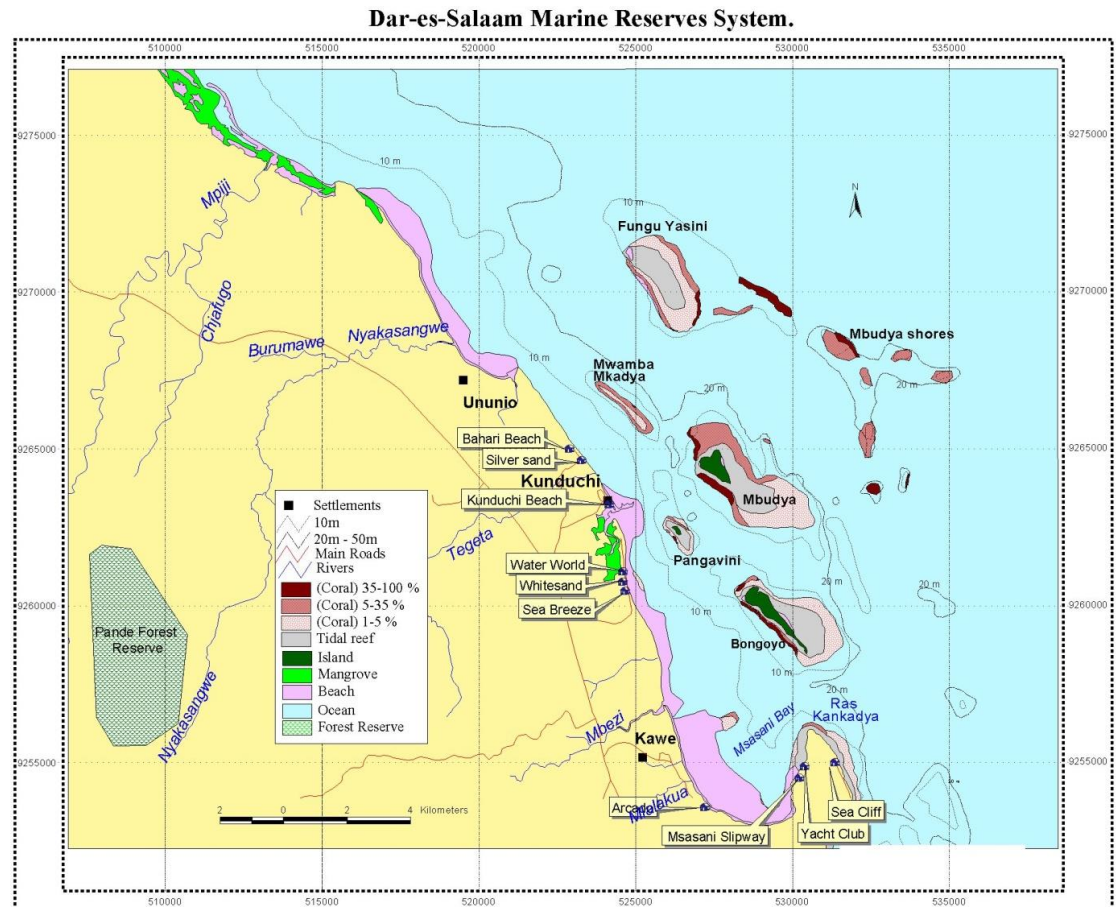


Map examples



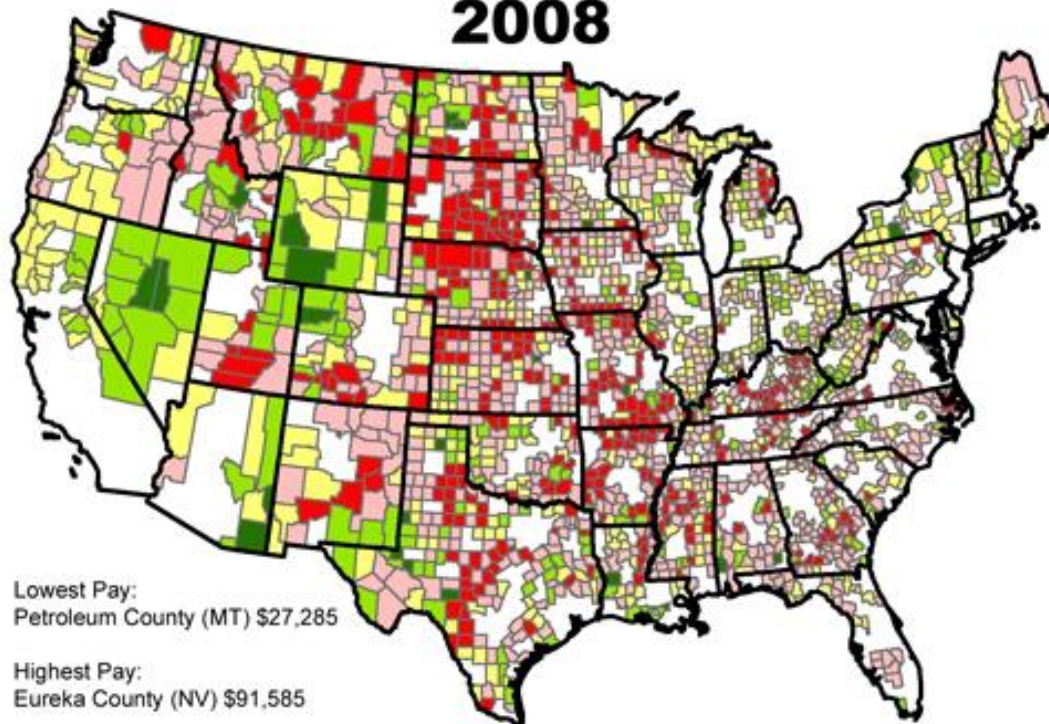
Map examples

- **Inconsistent labeling**
- **Where is the source?**
- **North arrow?**



Map examples

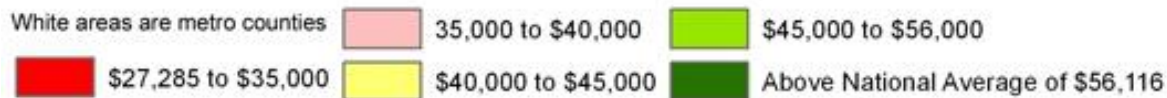
What Work Pays in Rural America 2008



Lowest Pay:
Petroleum County (MT) \$27,285

Highest Pay:
Eureka County (NV) \$91,585

Average Compensation in Rural Counties



Source: Bureau of Economic Analysis

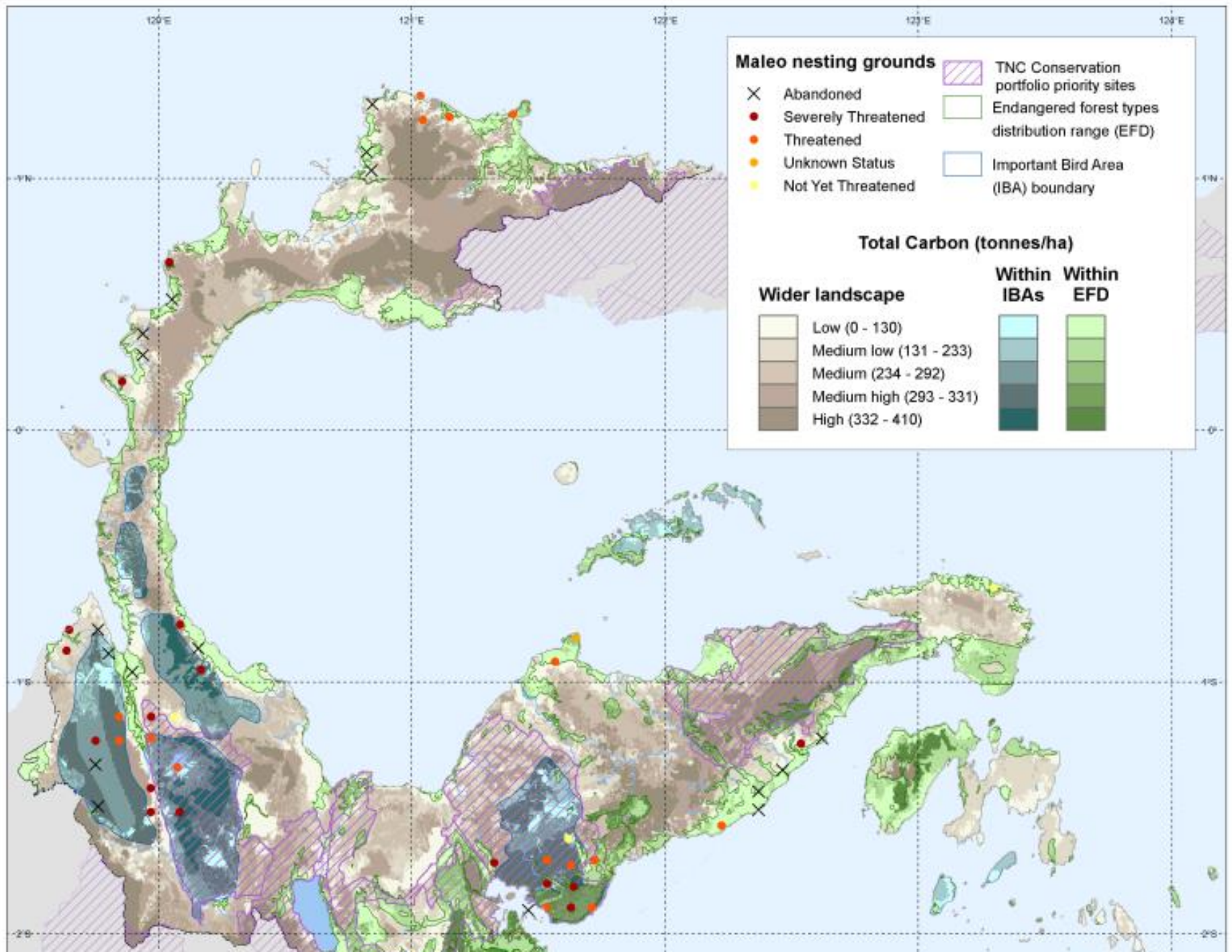
More tips for mapping I

- For a map series define your extent and keep it constant.
- Try to account for the most complicated map in the series, i.e. in terms of the amount of space needed for text, legends etc.
- Add scalebar, north arrow, legend – **do not** convert these to graphics. There are options to help you manipulate the layout of these.

More tips for mapping II

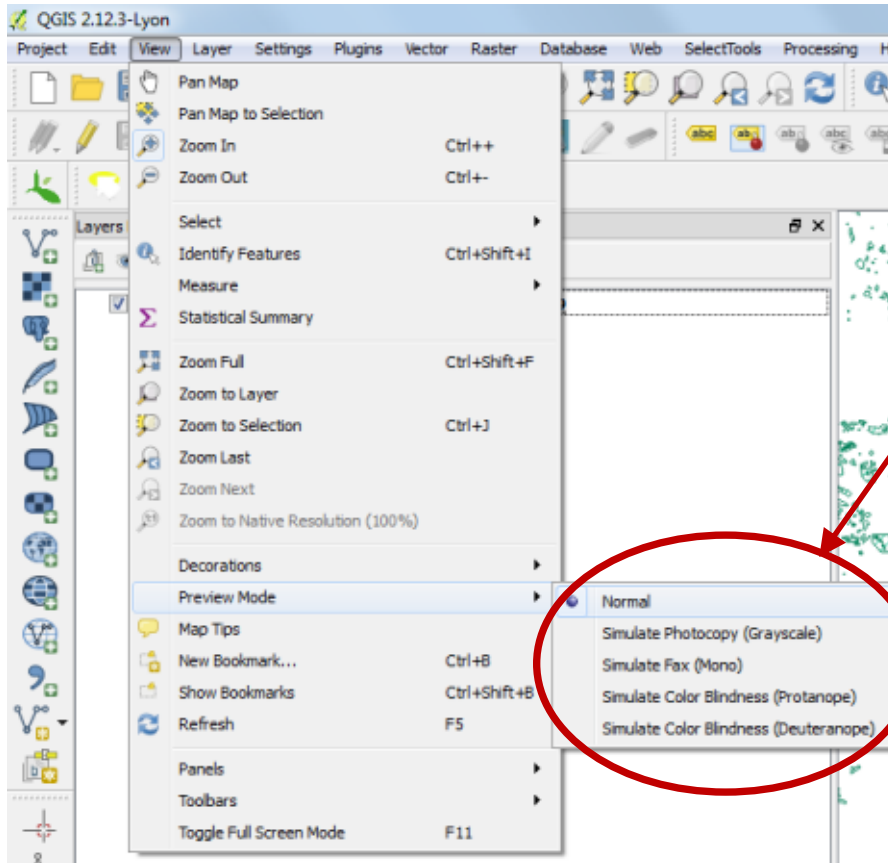
Options for overlay of thematic data with carbon:

- Place as open boundaries or hatched boundaries – allows user to see carbon underneath (if polygons are not too small or hatching too dense)
- Avoid using transparency – the carbon colours underneath are altered and it is difficult to distinguish which areas are in which class
- Clip the carbon data to the boundaries and display with same carbon class breaks but with different colour ramp.



In summary – Tips for mapping I

- If many themes on single map try to simplify as much as possible.
- Choose colours appropriate for application – screen presentation, publishing, both.
- Colour combinations – which themes are most important? What should be standing out most on the map?
- Background layers – what should be labelled?
- Locator maps – Consider if they are really necessary
- Fonts and text sizes – Use visual hierarchy
- Think about colour-blindness – e.g red/green colour combination not good



In QGIS you can directly check for 3 types of colour blindness!



In summary – Tips for mapping II

- Scale bars and projection used
- Graticule intervals
- Saving colour ramps – importing colour ramps
- Saving colours
- Publishing and saving map packages
- Creating layer packages
- Output formats:
 - Interactive PDFs
 - Publication quality TIF files (at least 300 dpi)

Thank you!

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