Chapter 6-9

Geographical Data Missing Data LARGE Data

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Geographical Data: Kinds of "Maps"







Geographical Data: Choropleth Maps

- Choropleth maps are by far the most common means to visualize quantitative data with a geographical reference
- The color mapping is quite important, and a well chosen color range can largely improve the correct interpretation of the map
- With the presence of a highlighting color, we need to make sure that the highlighting color does not interfere with the map colors



Geographical Data: Choropleth Map Boundaries

- The overall impression of a choropleth map may be biased by the presence of the boundaries
- Black boundaries emphasize darker areas, white boundaries lighter areas
- Making boundaries semitransparent can reduce this effect drastically and yet preserve the outlines of the areas



Geographical Data: Choropleth Map Shadings

- The most common way to choose a color mapping for choropleth maps is a linear scale between the minimum and maximum value of the data.
- In the example "male per 100 female" on US county level we see that the data is dominated be very few outliers.

linear



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Geographical Data

- Although the linear map ies is theoare far better retically the only 'faithful' depiction at judging the color differences than a ging their a solute value
- Mapping via n-tiles of a normal distribution we get a far better utilization of the color range and thus better comparison of areas

normal



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- The maximal discrimination of values is reached when assigning colors by rank, though the potential bias is also the highest
- In an interactive setting we will benefit from the possibility to look at all three version in short succession, as none of the three mappings is "the perfect" view.

rank



Geographical Data: Odds and Ends

 Using limiting values for the minimum and maximum value to be depicted, we can also show binary maps



 As we already showed in the second chapter, the removal of outliers often can make distributions almost normal

