

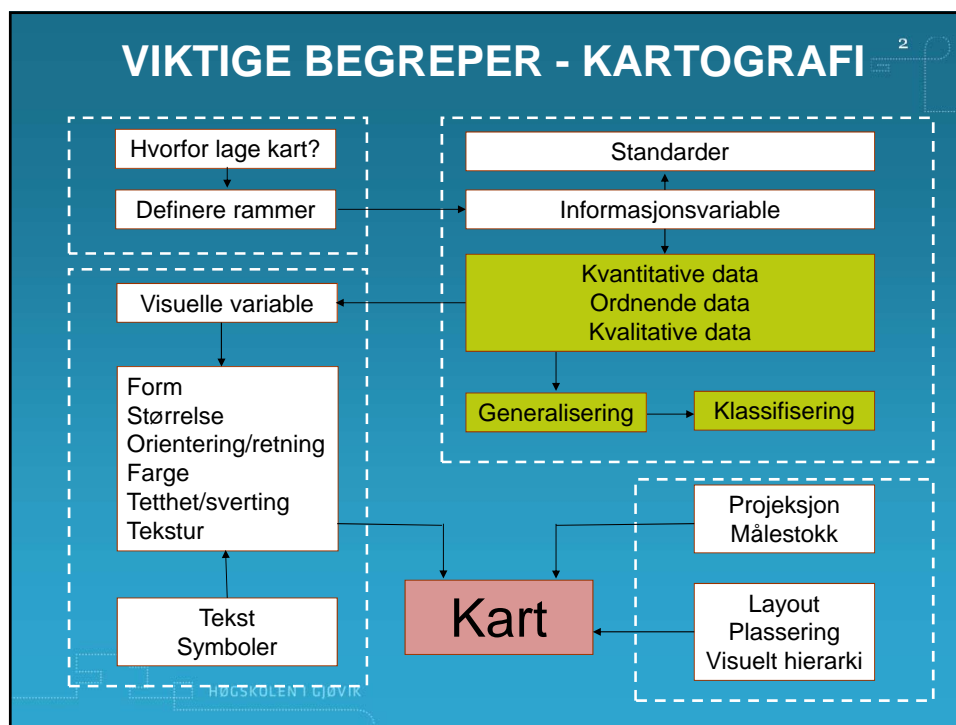
HØGSKOLEN I GJØVIK



# Geografisk Informasjonsbehandling

Kartografi – Generalisering og klassifisering

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## GENERALISERING

- HUSK at et kart er en modell av virkligheten!
- Velge riktig datamodell – hva har betydning?
- Bruk SOSI-objektkatalog når det gjelder standard kartserier.
- Gjør eventuelt utvalg basert på egenskaper eller lokalisering.
- En avveining mellom informasjonsvolum og klarhet i kommunikasjon (hva er strengt tatt nødvendig!!!)
- Overdrive den viktige informasjonen (visuelle variable).



## GENERALISERING – INNHOLD OG GRAFIKK

- Innholdsmessige generalisering:  
Utvalg, klassifiser i forhold til type målenivå (kvalitativ, ordnende, kvantitativ, forenkle/klassifisere i forhold til punkt, linje eller flate
- Forenkling eller glatting av linje- og flate symboler.
- Flytting av objekter !!!
- Bruk av visuelle variable for å framheve viktig informasjon.



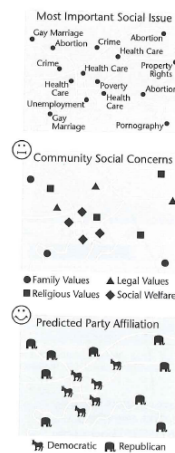
## GENERALISERING – KJØREREGLER

1. Prøv å behold hovedstrukturen i formene så langt som mulig.
2. Bevar topologi (sammenknytning av objekter).
3. Legg vekt på det vesentlige, slett eller reduser. betydningen av mindre viktige objekter.
4. Slå sammen grupper som ligner hverandre.
5. Bruk flatesymboler når enkeltobjekter ikke kan vises. (f.eks. tettbebyggelse).



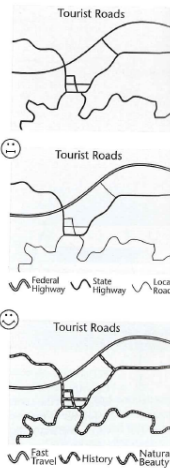
### Qualitative Point Data

A student polls community members on social issues. The first, unclassified, map is not very revealing. The classification on the second map is OK, but the third reveals more about the political landscape. Include the unclassified data so map viewers can decide if your classification is justified.



### Qualitative Line Data

Roads are often classified in terms of who builds and maintains them (federal, state, local). However, this classification is not the best if your map is for tourists. Your goal for the map (tourism) should shape your data classification. Choose tourism-based classes for the roads.



### Qualitative Area Data

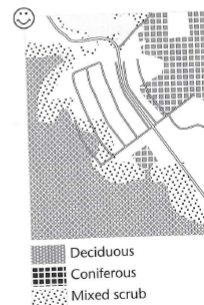
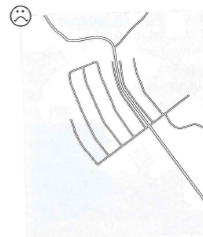


Be aware that qualitative data on maps has been classified. Determine the criteria for classification. A map may classify data based upon criteria suitable for one purpose but not necessarily for others.

For ecology projects, U.S. Geological Survey (USGS) topographic maps (above left and right) are often consulted. They classify vegetation into two categories: vegetation (gray areas) or no vegetation. One might assume that the classification is based on ecological criteria.

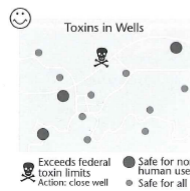
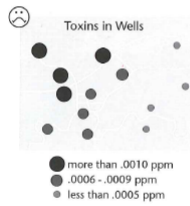
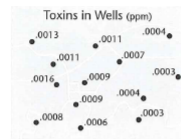
Alas, vegetation areas are actually classified based on military criteria. Vegetation areas are those with tree cover at least 6 feet tall that can hide military troops. It is a classification for army guys, not ecologists!

Instead, find a vegetation map (right) with a classification based on ecological criteria.



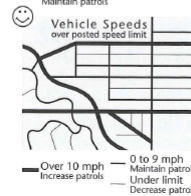
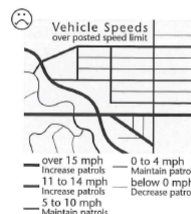
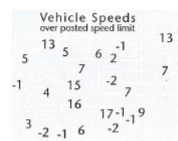
### Quantitative Point Data

A map created for a community meeting about well test results should clearly show what is most important: whether the well water is safe for humans or not. The third map, below, is best for that goal.

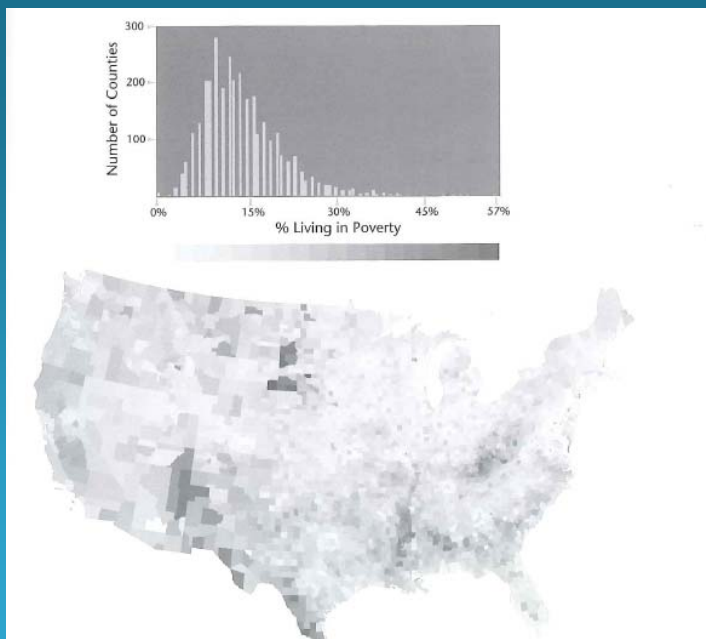


### Quantitative Line Data

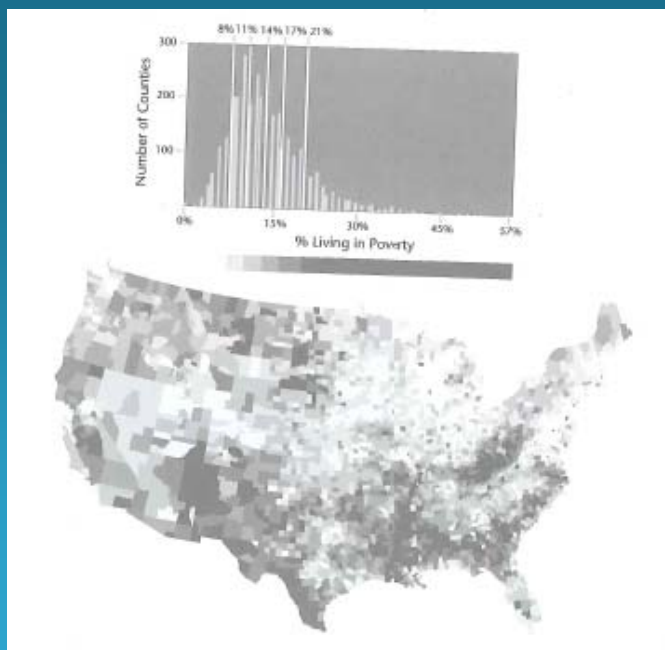
A map intended to help guide the restructuring of police patrol routes should classify data, in this case average vehicle speeds, in categories appropriate to the task: increase, maintain, or decrease patrols.



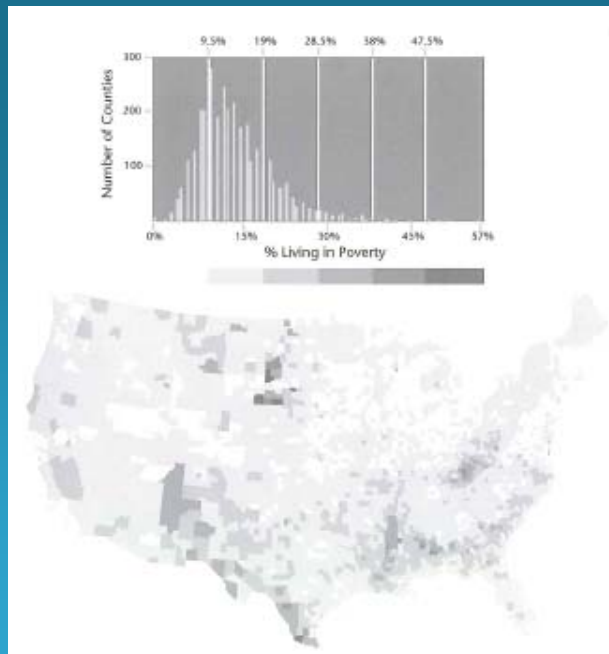
## Datasett



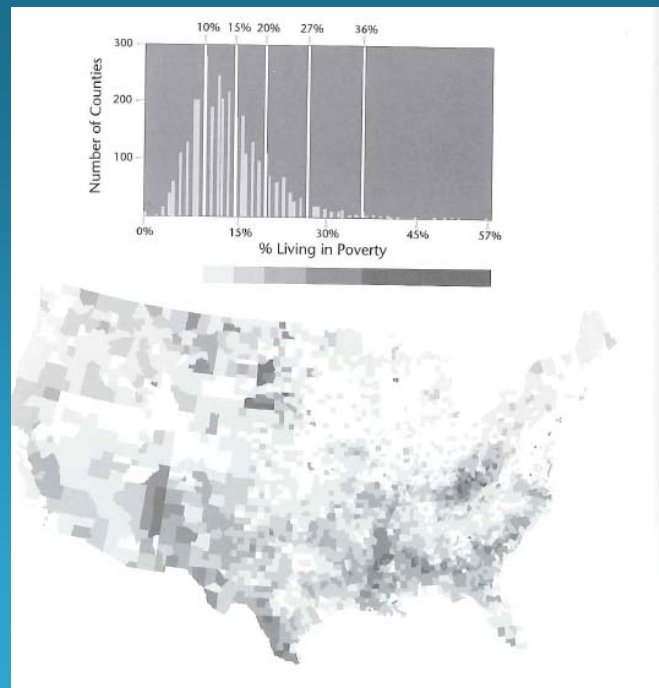
## Kvantiler



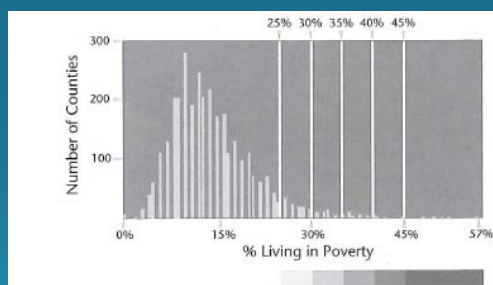
Faste  
intervaller



Naturlige  
intervaller













Unike  
intervaller












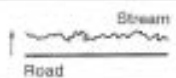
## GENERALISERING – KLASSIFISERING AV KVANTITATIVE DATA

1. Analyser datasettet (histogram, plott).
2. Like intervaller
3. Kvantiler
4. Naturlig intervaller
5. Like intervaller
6. Unike (deler av datasettet)



Spatial Operator	Original Map	Generalized Map
<b>Simplification</b> Selectively reducing the number of points required to represent an object	 15 points to represent line	 13 points to represent line
<b>Smoothing</b> Reducing angularity of angles between lines		
<b>Aggregation</b> Grouping point locations and representing them as areal objects	 Sample points	 Sample areas
<b>Amalgamation</b> Grouping of individual areal features into a larger element	 Individual small lakes	 Small lakes clustered
<b>Collapse</b> Replacing an object's physical details with a symbol representing the object	 City boundary      Airport      School	 Presence of city      Airport      School

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Thematic Cartography and Geographic Visualization

<b>Merging</b> Grouping of line features	 All railroad yard rail lines	 Representation of railroad yard
<b>Refinement</b> Selecting specific portions of an object to represent the entire object	 All streams in watershed	 Only major streams in watershed
<b>Exaggeration</b> To amplify a specific portion of an object	 Bay      Inlet	 Bay      Inlet
<b>Enhancement</b> To elevate the message imparted by the object	 Roads cross	 Roads cross; one bridges the other
<b>Displacement</b> Separating objects	 Stream      Road	 Stream      Road

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