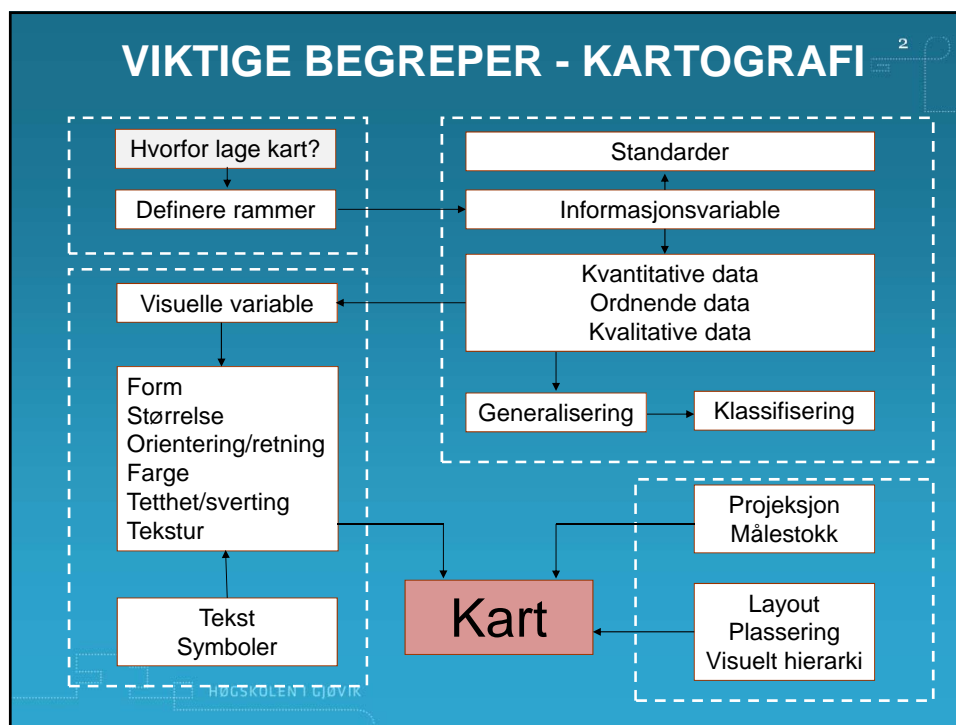HØGSKOLEN I GJØVIK

Geografisk Informasjonsbehandling

Hvordan skal jeg lage et kart? – prosjekt organisering

Rune Strand Ødegård
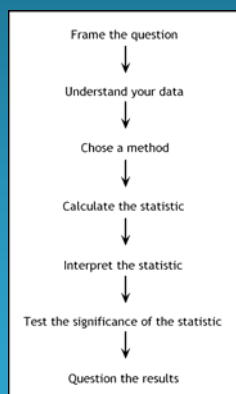

VIKTIGE BEGREPER - KARTOGRAFI

Hvorfor lage kart?

Definere rammer

Standarder

Informasjonsvariable

Kvantitative data
Ordnende data
Kvalitative data

Visuelle variable

Form
Størrelse
Orientering/retning
Farge
Tetthet/sverting
Tekstur

Generalisering → Klassifisering

Tekst
Symboler

Kart

Projeksjon
Målestokk

Layout
Plassering
Visuelt hierarki

MAPPING PROCESS (DIGITAL DATA)

3

Digital data → Pre-processing → Feature extraction

Definition of phenomenon → Existing standards/modelling

Feature extraction → Enhancement → Manual image interpretation → Accuracy assessment

Feature extraction → Selection of training data → Classification → Accuracy assessment

Existing standards/modelling → Data model

Accuracy assessment → Geodatabase ← Data model

Geodatabase → Applications

HØGSKOLEN I GJØVIK

ANALYTICAL METHODOLOGIES

Mitchell (2005)

Draper et al (2005)

Frame the question
↓
Understand your data
↓
Chose a method
↓
Calculate the statistic
↓
Interpret the statistic
↓
Test the significance of the statistic
↓
Question the results

Objective
(Problem specification)
↓
Setting and subjects
(Planning and data)
↓
Design and measures
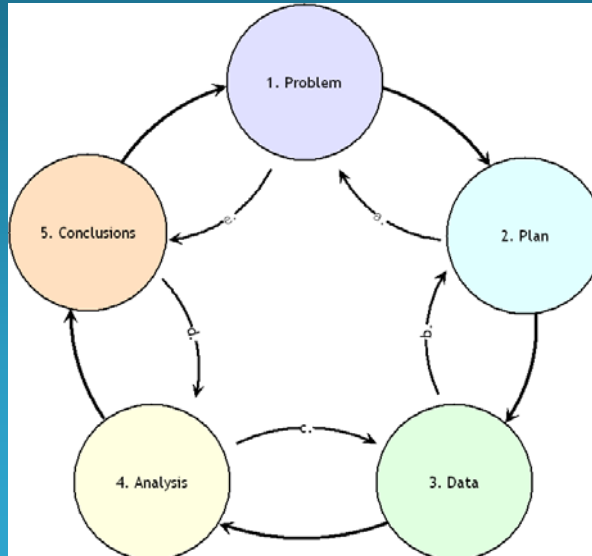(Analysis)
↓
Results and conclusions
(Outcome)
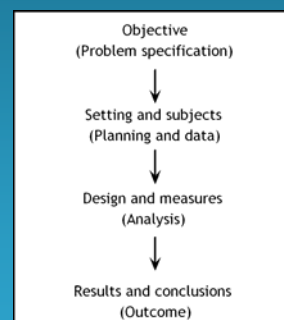
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ANALYTICAL METHODOLOGIES - PPDAC

After Mackay & Oldford (2002)

VIKTIGE BEGREPER - KARTOGRAFI

Hvorfor lage kart?

Definere rammer

Standarder

Informasjonsvariable

Visuelle variable

Kvantitative data
Ordnende data
Kvalitative data

Form
Størrelse
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Tekstur

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Klassifisering

Projeksjon
Målestokk

Tekst
Symboler

Kart

Layout
Plassering
Visuelt hierarki
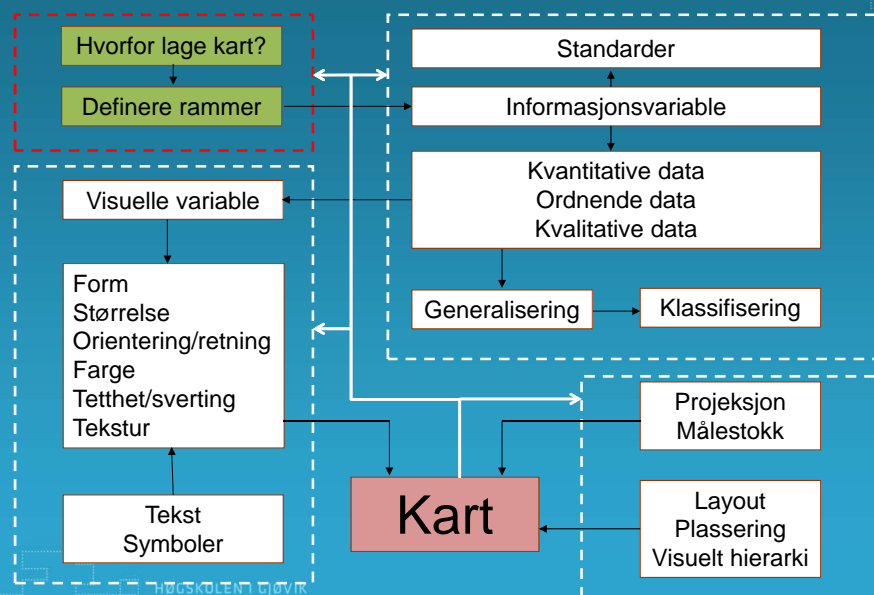
PPDAC – PROBLEM PHASE

Problem definition

- Clear definition of problem/project and (client) expectations is paramount

Analysing existing information

## Identification of specific spatial issues:

- spatial (and statistical) scale factors
- data availability and quality
- spatial grouping issues
  - *ecological fallacy, not representative sample*
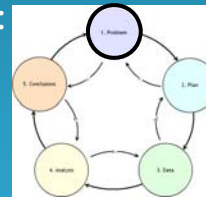
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PPDAC – PLAN PHASE

- Nature of project
- Costing requirements/Funding and resourcing
- Decision-support requirements
- Public participation issues (PPGIS)
- Operational requirements
- Timing and critical dates
- Feasibility and risk analysis
- Client expectations
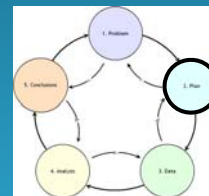
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PPDAC – PLAN PHASE – CONT.

- Decide on specifications and standards
- Decide methods and tools
- Check data (subset)
- Testing/simulating the process flow
- Handling exceptions & rare events
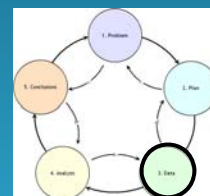- Re-examining the problem specification
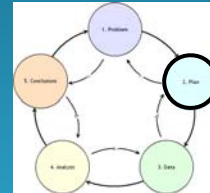
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PPDAC – DATA PHASE

Data quality & sourcing issues
- Quality
- Cost
- Licensing
- Availability
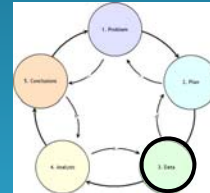- Completeness & consistency
- Timeliness
- Detail/resolution etc.

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PPDAC – DATA PHASE

Data quality & GIS tools – examples
- Missing data handling and masking
- Classification
- Data transformation
- Breakline handling
- Control of errors

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PPDAC – ANALYSIS PHASE
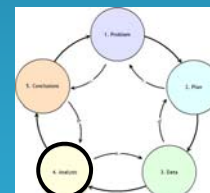
Simplicity and parsimony
Exploratory analysis & visualisation
Interpretation of spatial patterns
Build-test-criticise
Developing preliminary conclusions
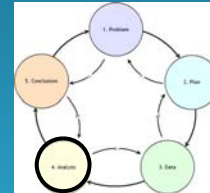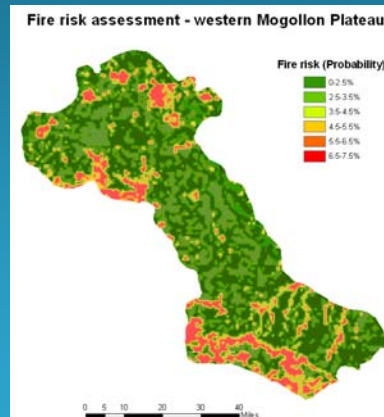Match to expectations?

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PPDAC – ANALYSIS PHASE

Map output

Fire risk assessment - western Mogollon Plateau
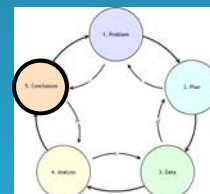
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PPDAC – CONCLUSION PHASE

Expectations on delivery met?
Simplicity again
Clear/high quality visualisation
Identify and report strengths, weaknesses and possible sources of error
Recommendations
Future actions

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PPDAC – FINAL COMMENTS

Work through and specify each model step before commencing – test out ideas
Identify risk areas and revisit PPDAC elements as required
Confirm overall programme and deliverables with 'client'/end-user

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                                com