

Analysis of Geographical information systems (GIS) in geography learning

Introduction

Why GIS in geography learning?

- Large potensial
- Versatile
- Interactive
- Good visualization

National geography curriculum

- Use digital maps and geographical information systems (GIS)

Research Questions

- What are the technological and practical challenges when implementing GIS in geography course?
- What can be done to increase the use, and simplify the implementation process of GIS in education?

Related Work

Several attempts with various amount of success.

Challenges:

- Time constraints
- Software Complexity
- Implementation methods - equipment
- Focus – with vs about



Teacher study

Interviews

Evaluate the situation in Norwegian schools.

Results

Status:

- Almost no use of GIS

Reasons:

- Time constraints
- Software complexity

Requirements

What can be done to increase the use, and simplify the implementation process of GIS in education?

- Related data
- Interactive
- Aimed at the curriculum and textbook
- Data access
- Easy to use
- No installations

Web GIS application

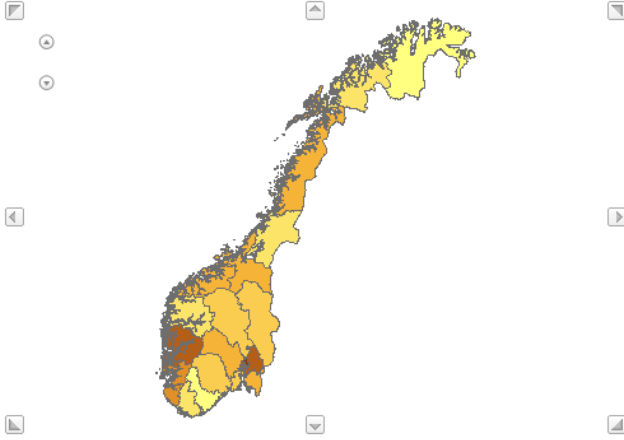
Norsk befolkningsdata 1952 - 2008

Hjem >Forsiden
Folkemengde >Kommuner >Fylker
Fødte >Kommuner >Fylker
Døde >Kommuner >Fylker
Utflytting >Kommuner >Fylker
Innflytting >Kommuner >Fylker

Valgt kart objekt:

Kategori	Navn	År	Areal	Personer
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Folkemengde->Fylker->1972



Husk kartutsnitt

Navigerings tips og farge forklaring:

- Dra for å panorere
- SHIFT + klikk for midtstilt fokus
- SHIFT + Dra for zoom inn
- SHIFT + CTRL + Dra for zoom ut
- Mus scroll fremover for zoom inn
- Mus scroll bakover for zoom ut
- Bruk piltastene til panorering
- + tast for zoom inn
- - tast for zoom ut
- Dobbel klikk for midtstilt fokus og zoom inn

0 - 100000
100001 - 150000
150001 - 200000
200001 - 250000
250001 - 300000
300001 - 400000
400001 - 500000
500001 - 600000

Årstall

1952
1954
1956
1958
1960
1962
1964
1966
1968
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994

Din liste:

Kategori	Navn	År	Areal	Personer	
Folkemengde	Hordaland	1952	15440	201036	Fjern
Folkemengde	Hordaland	1962	15440	228327	Fjern
Folkemengde	Hordaland	1972	15440	376928	Fjern
Folkemengde	Hordaland	1982	15440	392752	Fjern
Folkemengde	Hordaland	1992	15440	414058	Fjern
Folkemengde	Hordaland	2002	15440	438253	Fjern

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Student Study

Workshop & Survey

Background

GIS Experience

Mastering

Challenges

Student Results

- Generally good mastering of the application
- No critical problems reported

GIS Experience vs mastering = no

Computer use vs mastering = no

Speed issues.

Conclusion

- Many challenges
- Technology and methods
- Correct focus
- Responsibility