

i Information about the exam

SGO1910 – Introduction to Geographical Information Systems (GIS)

Home exam autumn 2021

November 22 at 09.00-12.00

The exam consists of two parts:

Part 1

Two out of three tasks (40% of grade) - Pages 1-3
(you can leave one of the three answer boxes blank)

Part 2

Two out of three essays (60% of grade) - Pages 4-6
(you can leave one of the three answer boxes blank)

You may submit your responses in Norwegian, Swedish, Danish or English.
It is allowed to use English terms if you use one of the Scandinavian languages.

Before the exam you must have:

- [Read about exams and submissions in Inspera \(Lenker til en ekstern side.\)](#).
- Checked [technical requirements \(Lenker til en ekstern side.\)](#) and [familiarize yourself with Inspera \(Lenker til en ekstern side.\)](#).
- Checked to see that you have access to Inspera.

Information about the exam

- A home exam is your own independent work to demonstrate the results of your efforts and learning. You may use all aids at your disposal (e.g. course and other literature), but keep in mind that you need to economise on time as if this was a traditional school examination without such aids
- Use of references: You may include in-text citations as you would on a school exam, and must do so if you cite directly from literature at your disposal. Keep in mind that all exams automatically will be checked for plagiarism. A reference list is not required even though in-text citations are used.
- Make sure your submission is anonymous - do not use your name in your assignment.

Questions during the exam

- If you have questions during the exam, you must send an email from your UiO-address to hjemmeeksamen@sv.uio.no. Write the course code in the subject field.
- If any information is given to all candidates during the exam, this information will be posted in Canvas. Make sure that you [receive Canvas notifications \(Lenker til en ekstern side.\)](#).
- If you have questions before the exam day or after you have submitted your exam, please contact [SV-info \(Lenker til en ekstern side.\)](#).

How to submit in Inspera

- When you have started to answer the exam / uploaded your file, you will see that it is saved to your submission.
- You can change your exam answer until the test closes.
- When the test closes, your answer will automatically be delivered for grading.
- If you have started to answer the exam and do not want to submit your exam answer you must withdraw from the exam. Click the menu in the upper right corner and choose "Withdraw".

After the exam

- After the submission deadline make sure that you find your submission under **Archive** in Inspira.
- Send an e-mail immediately to hjemmeeksamen@sv.uio.no if you do not see your submission. Attach your exam answer if you have this as a file.

Good luck with the exam!

i Part 1

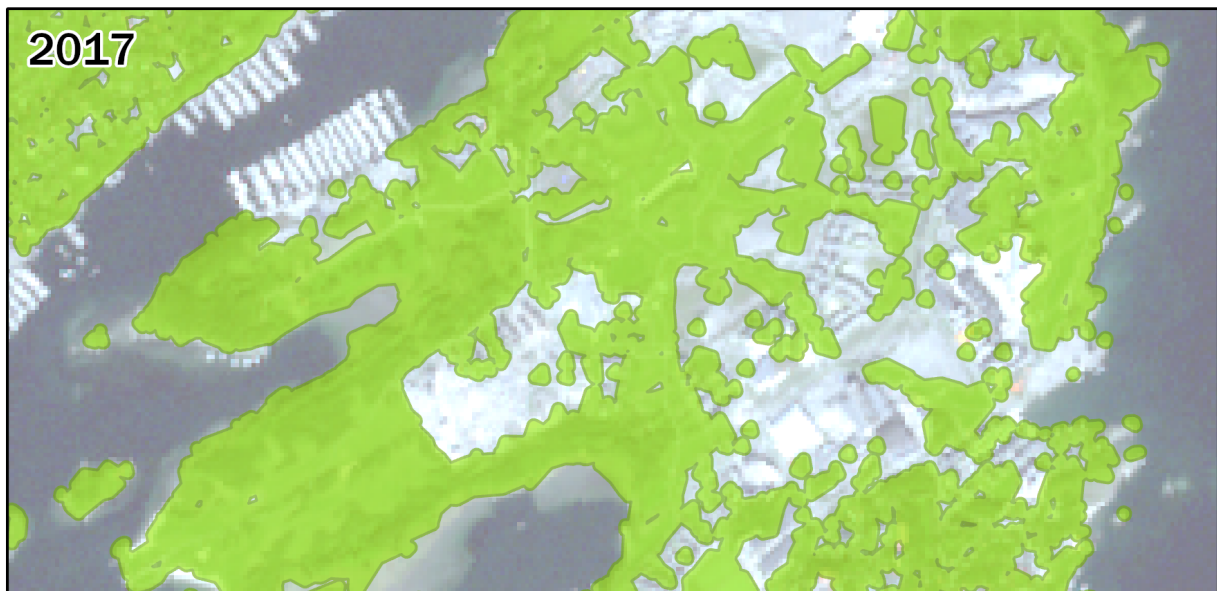
Two out of three tasks (40% of grade) - Pages 1-3
(you can leave one of the three answer boxes blank)

1 Part 1 - Task 1

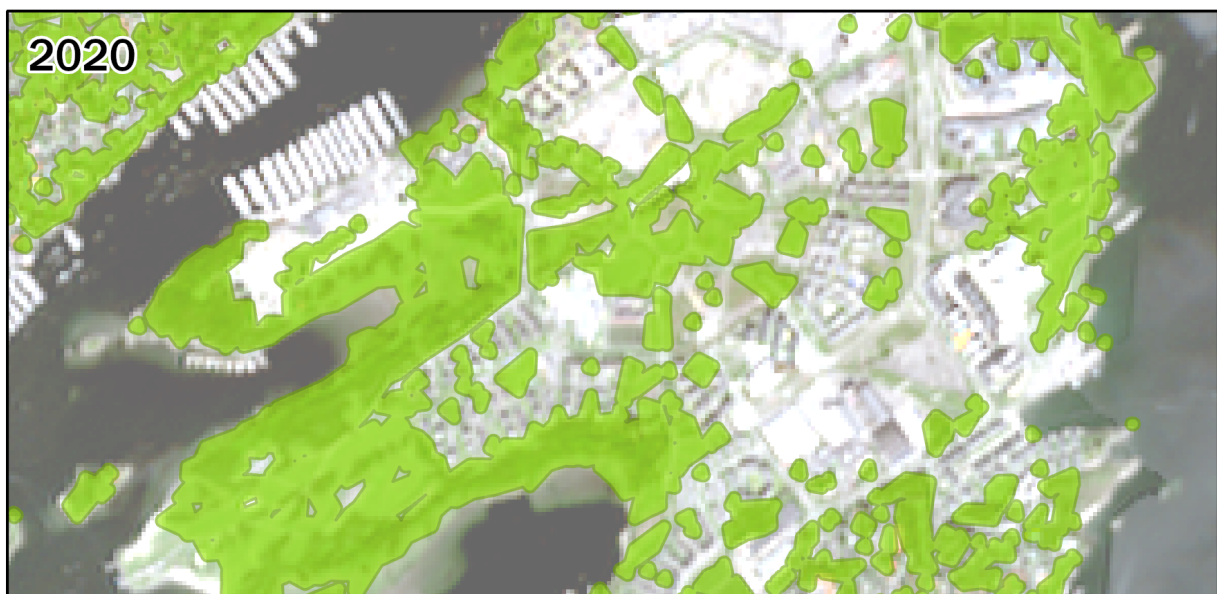
Interpret and describe the maps.

- What methods might have been used to generate these maps?
- What are the advantages and limitations of this type of analysis?

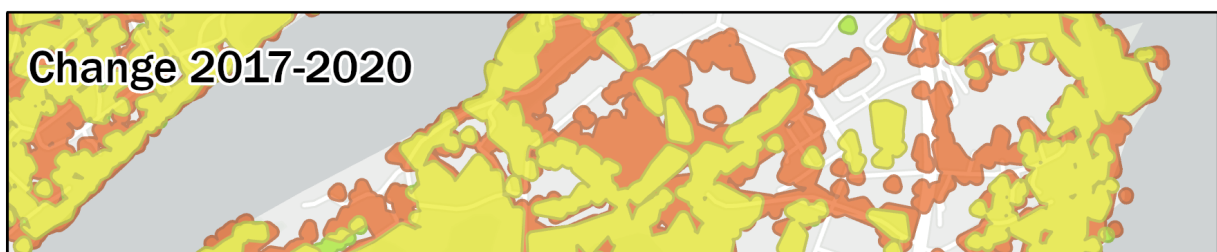
Green cover change in Fornebu 2017-2020

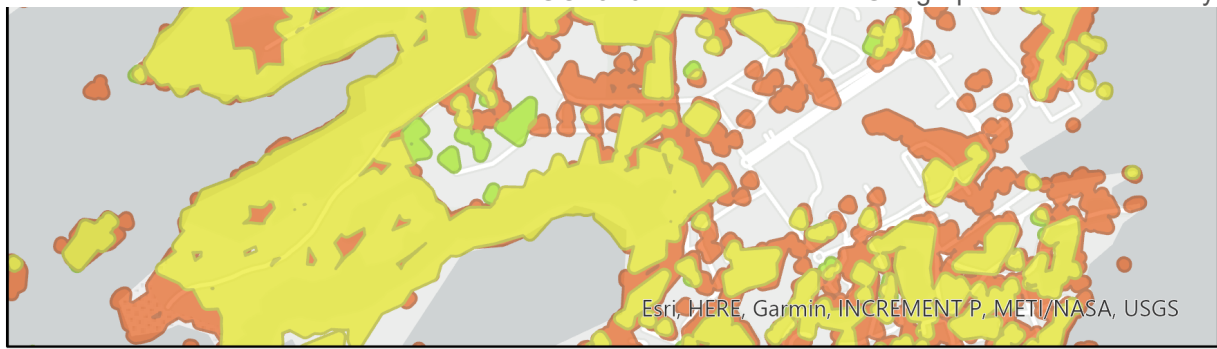


Green cover in 2017



Green cover in 2020





Green cover gained No change Green cover lost



Sentinel 2 images from 2017 and 2020:
Copernicus Sentinel-2 / Kartverket / CESBIO –CNES

(max 400 words)

Fill in your answer here

Format | B | I | U | x₂ | x² | I_x | [Clipboard] | [Undo] | [Redo] | [List] | [List] | [Link] | [Table] | [Image] | [Sum] |

[Close]

Words: 0

Maximum marks: 10













2 Part 1 - Task 2


Using the concepts and vocabulary learned in the course, interpret and describe the map.



(max 400 words)

Fill in your answer here

Format ▾ | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  |  |



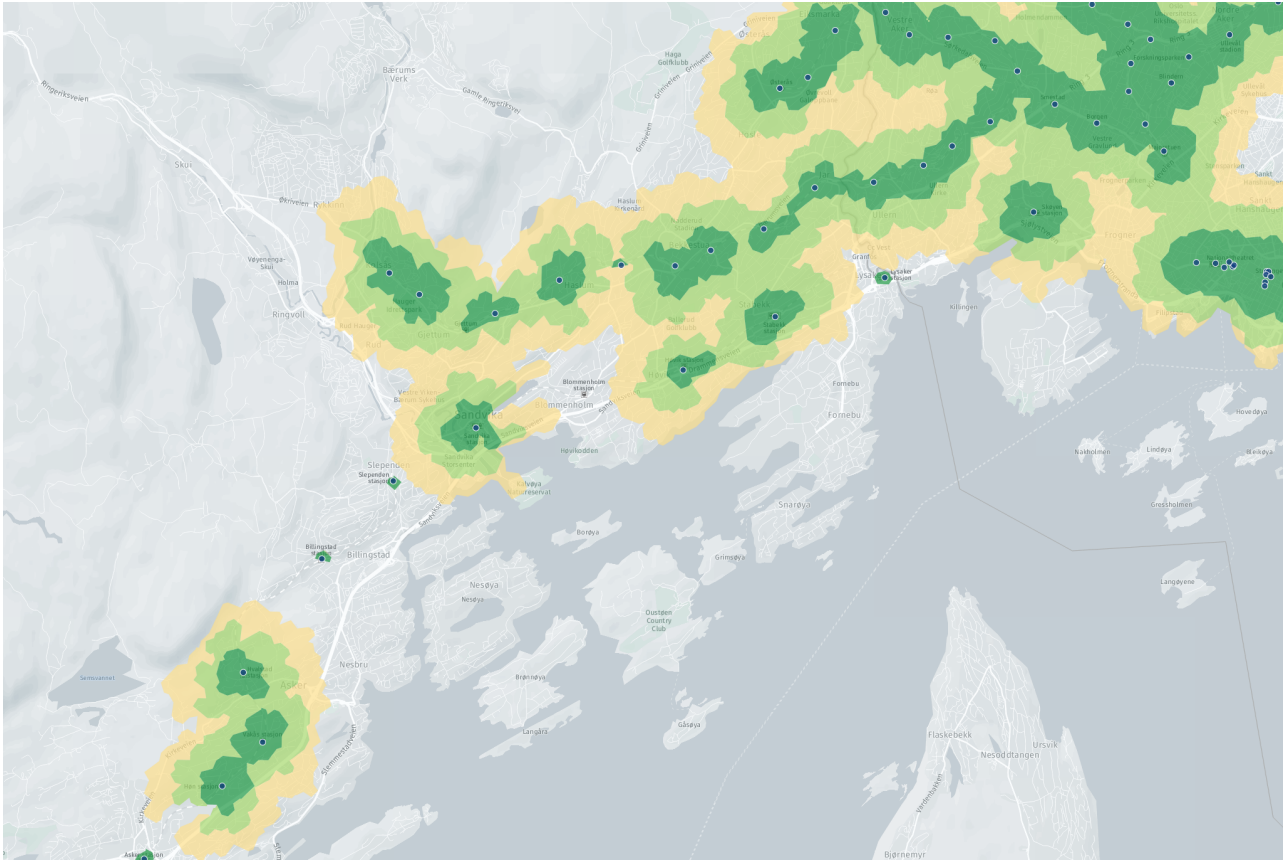
Words: 0

Maximum marks: 10

3 Part 1 - Task 3












The small blue points on the map are metro stops and train stations. Interpret and describe the map.


- What methods might have been used to generate the map?
- What could be the reason why polygons around certain stations are very small, compared to most other stations?



(max 400 words)

Fill in your answer here

Format ▾ | **B** *I* U x_2 x^2 | I_x |   |    |   |   |  |  |



Words: 0

Maximum marks: 10

i Part 2

Two out of three essays (60% of grade) - Pages 4-6
(you can leave one of the three answer boxes blank)

4 Part 2 - Question 1











Privacy and confidentiality are important ethical considerations in many GIS projects. One way of handling privacy issues is through data aggregation.


- What kind of data is considered private data?
- Explain how data aggregation works and how it can ensure protection of private data.
- Discuss the limitations of data aggregation.

You can support your answer with examples.

(max 800 words)

Fill in your answer here

Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |



Words: 0

Maximum marks: 10

5 Part 2 - Question 2











What is spatial autocorrelation?

- Explain what spatial autocorrelation is.
- How can we measure spatial autocorrelation?
- For what kinds of topics can measures of spatial autocorrelation be relevant and/or interesting?

You can support your answer with examples.

(max 800 words)

Fill in your answer here

Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |

Words: 0

Maximum marks: 10

6 Part 2 - Question 3











GIS has traditionally been perceived as a quantitative type of science. However, GIS and cartographic methods can also be applied to analyse and visualize qualitative information.


- Explain what types of qualitative information can be integrated with GIS.
- Explain the advantages of qualitative analysis in GIS.

You can support your answer with examples.

(max 800 words)

Fill in your answer here

Format ▾ | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |



Words: 0

Maximum marks: 10