



WELCOME TO APPLIED GIS FUNDAMENTALS!



Welcome

Instructor



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Office hours: Thursdays from 2:00 to 3:00 PM

Where? 😊

1st floor Cascade corridor

Agenda

01 Welcome

02 Get to know each other

03 Course structure

04 Learning outcomes

05 Grading criteria & expectations

06 AI & GIS
Opportunities-Challenges

07 GitHub



08 QGIS installation

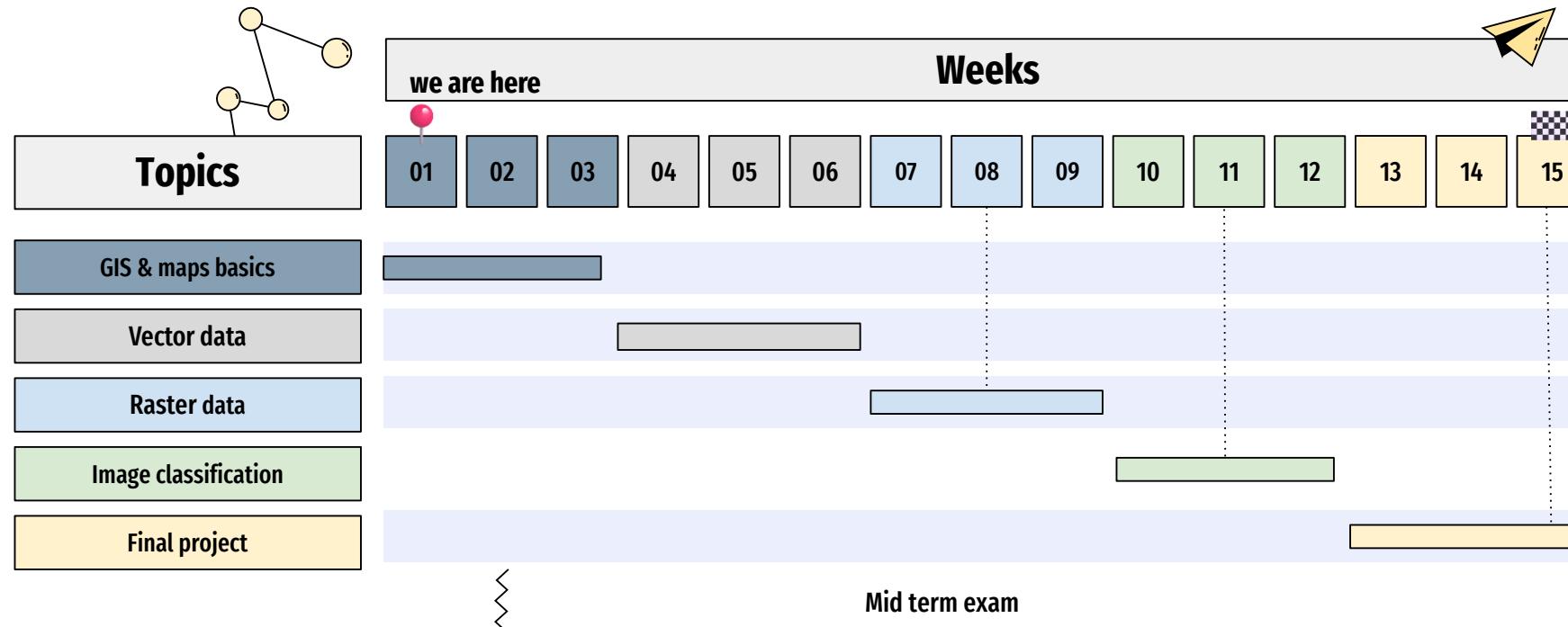


Get to know each other

Scan me and let's discuss!



Course structure & timeline



Learning outcomes

- Use QGIS software to manage, visualize and analyze spatial data
- Apply georeferencing techniques, work with vector and raster data and conduct basic image classification
- Create maps and spatial analysis outputs
- Collaborate in groups to design and execute GIS projects

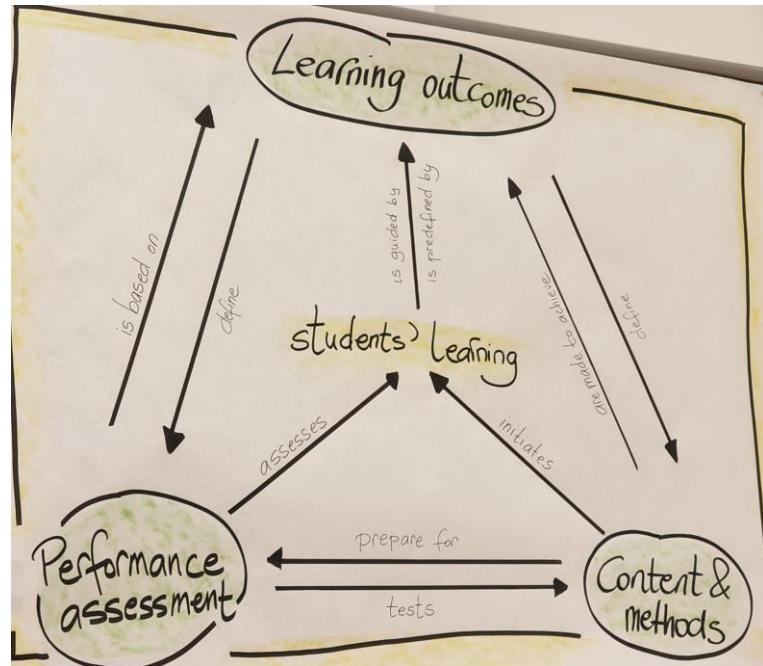


chart by MMag. Dr. Elisabeth Weber

Grading criteria & expectations

Grading Scheme

Final group project

Weekly lab assignments

Participation

Midterm multiple-choice exam 5 %

(optional)



Grading criteria & expectations

Expectations

- Does everyone have their own laptop?
- Download the data before the weekly lab
- Weekly attendance
- Submission of assignments on time (sent by email)

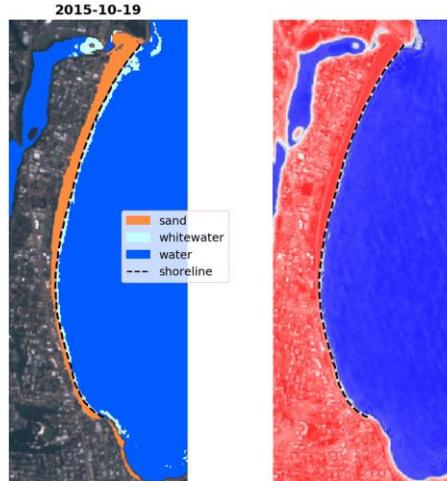
Email subject format: “**402.467_LabX_LastName_FirstName**”

- Equal contribution in group projects
- Active participation

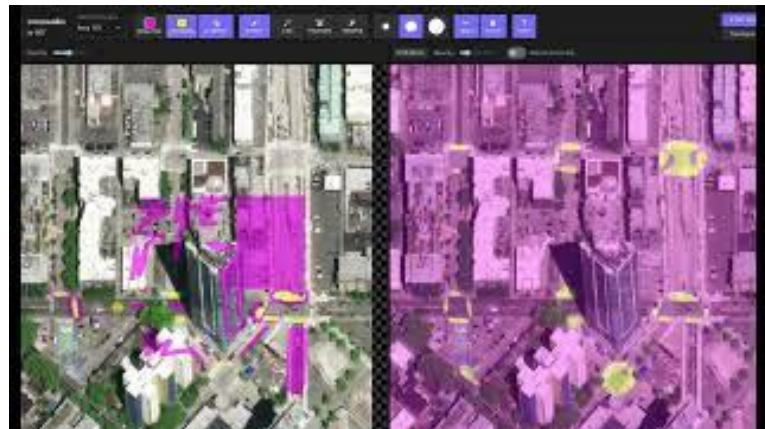


CoastSat: A Google Earth Engine-enabled Python toolkit to extract shorelines from publicly available satellite imagery

Kilian Vos , Kristen D. Splinter, Mitchell D. Harley, Joshua A. Simmons, Ian L. Turner



<https://tinyurl.com/2v5u6xkx>

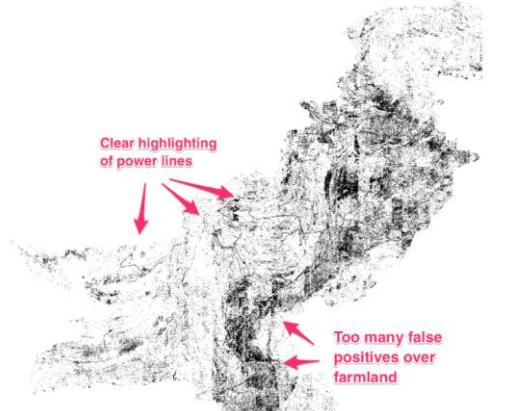


<https://tinyurl.com/2rn5frnx>

AI in GIS

Challenges

AI goes wrong in spatial reasoning



<https://tinyurl.com/mryru98e>

AI hallucinations



<https://tinyurl.com/55s322ez>

CTV News
NCOVER

EAKING NEWS: Donald Trump must pay US\$354.9M, judge rules

VANCOUVER News

Air Canada's chatbot gave a B.C. man the wrong information. Now, the airline has to pay for the mistake

Air Canada's Costly Chatbot Mistake

DC MAN COMPENSATED AFTER AIR CANADA MISTAKE

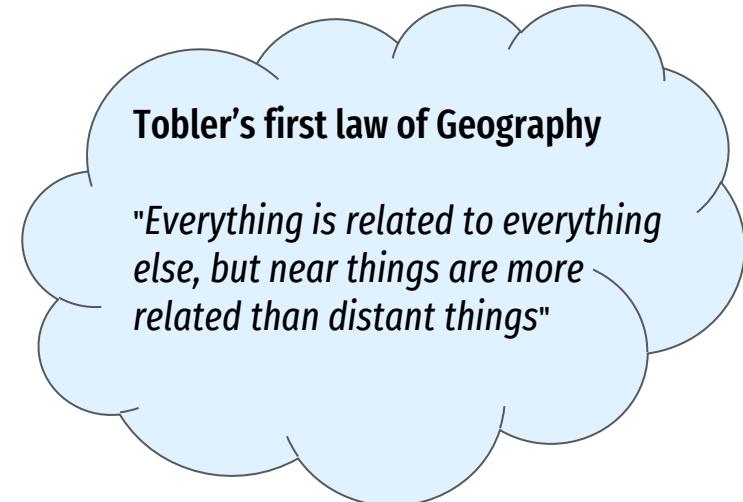
<https://tinyurl.com/yc49cw25>

💡 Reflect on the answers that AI tools provide to you

Why GIS matters

GIS is being used to answer questions such as:

- Where is it? 🔎
- What else is nearby?
- Where is the highest concentration of 'X'?
- Where can I find things with characteristic 'Y'?
- Where is the closest 'Z' to my location?



Real-world example

The image shows a composite view of a GIS application interface. On the left, a search interface displays a list of park-related locations under the category 'Arts & Culture' and 'Natur und Parkanlagen'. In the center, a detailed map of Graz, Austria, shows various parks and landmarks. On the right, a detailed info window for 'Stadtpark' (City Park) is open, listing its description, topic, category, facility, and address. The map also features a legend, a scale bar (200m), and a small inset map of Graz.

Advanced Search

Contents > Arts & Culture > Natur und Parkanlagen > Parkanlagen > Name

Show all

Augarten, Parkanlagen

Burggarten, Parkanlagen

Methafohpark, Parkanlagen

Oeverseepark, Parkanlagen

Stadtpark, Parkanlagen

Volksgarten, Parkanlagen

Arts & Culture

Description: Stadtpark

Topic: Freizeit, Kultur & Erholung

Category: Natur und Parkanlagen

Facility: Parkanlagen

Address: Stadtpark 1

Transport & Infrastructure

More Info...

SEN

GRAZ

MOI_Austria_Gr_East Scale 1:7500 © Magistrat Graz – Stadtvermessung & ARGE Karl... 200 m

GitHub



GitHub repository: https://github.com/christinavaldesera-gif/402.467_Applied-GIS-Fundamentals.git

Discussions field. Remember we talked about active participation? **This is also the space to do so!**

 Note

Highlights information that users should take into account, even when skimming.

 Tip

Optional information to help a user be more successful.

 Important

Crucial information necessary for users to succeed.

 Warning

Critical content demanding immediate user attention due to potential risks.

 Caution

Negative potential consequences of an action.

1 Download the software

- You can download the latest version here: <https://www.qgis.org/download/>

Recommendation: download the latest Long Term Release version as it is more stable

2 Depending on your operating system, choose between *Download for Windows*, *Download for macOS* or *Download for Linux*

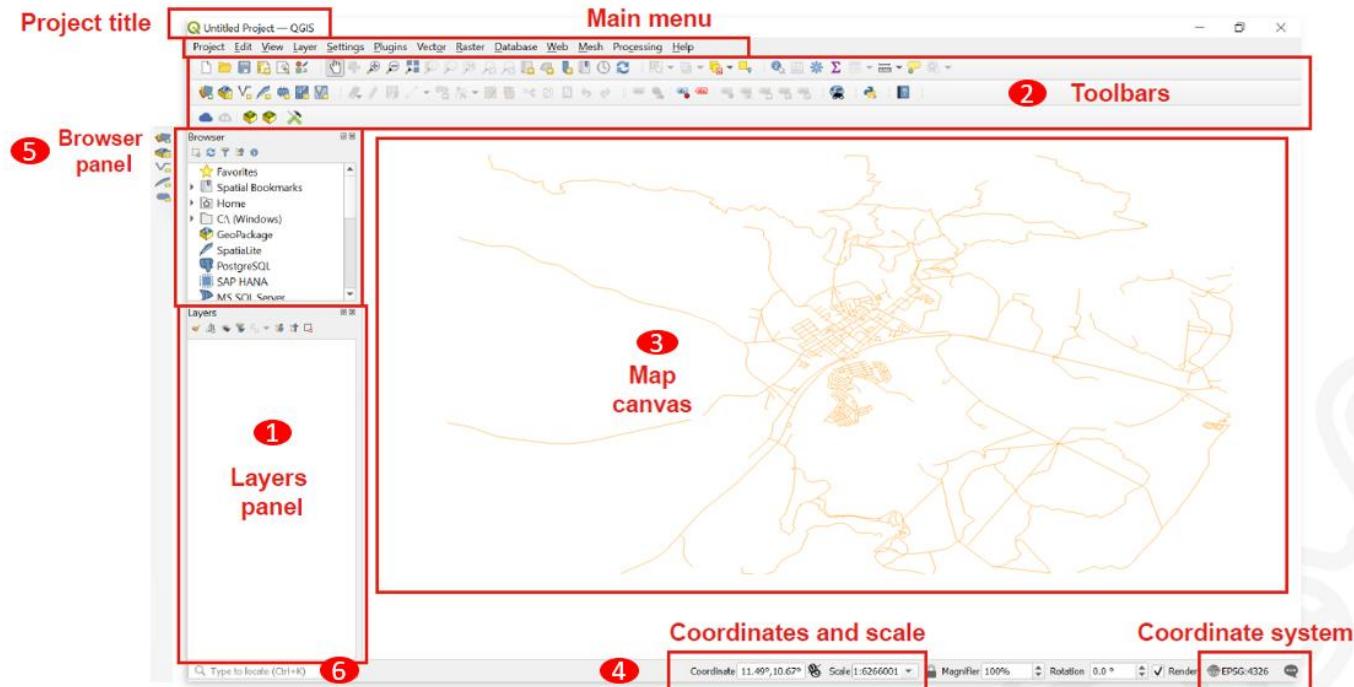
If you are stuck, feel free to check:

- QGIS official installation guide: <https://qgis.org/resources/installation-guide/>
- Youtube tutorials on *How to install QGIS*: <https://www.youtube.com/watch?v=88rUyahYrDk>

Note! Download the english version

QGIS interface

Check official QGIS documentation: [2.1. Lesson: An Overview of the Interface](#)



A link for the start of the semester from the Student Union at the University of Graz

<https://www.swisstransfer.com/d/e5281c0e-f79b-4372-8e1f-0e6379c82ca9>

Note that the link expires soon, so download if interested!