LECTURE #5

Mapping Freiburg – Spatial Analisys between Rivers/Lakes and buildings in Freiburg

OBJECTIVE

CREATE A THEMATIC MAP OF RIVERS/LAKES AND BUILDINGS IN FREIBURG BASED ON “SPATIAL QUESTIONS”.

- **ANSWER SPATIAL QUESTIONS THROUGH GEOPROCESSING OPERATIONS.**
  - APPLY THE CLIP, BUFFER, AND INTERSECT TOOLS IN QGIS.

STEPS

1. **OPEN THE ‘PROJECT WASSER” FROM LECTURE#4;**
2. **ADD BUILDINGS AND STYLE THE LAYER.**
3. **CLIP DATA TO FREIBURG (BUILDINGS).**
4. **APPLY BUFFER AND INTERSECT.**
5. **EXPORT MAP.**

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1 – OPEN PROJECT WASSER

IMPORTANT

- OPEN THE QGIS PROJECT “WASSER” CREATED IN LECTURE#4.
- CHECK IF THE RIVERS AND LAKES LAYERS ARE CORRECTLY DISPLAYED AND STYLED.
- WHERE ARE THE MAIN RIVERS AND LAKES LOCATED IN FREIBURG?

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QUICK TUTORIAL

3 – ADD BUILDINGS AND STYLE THE LAYER

ADD LAYER: ‘GIS_OSM_BUILDINGS_A_FREE_1‘

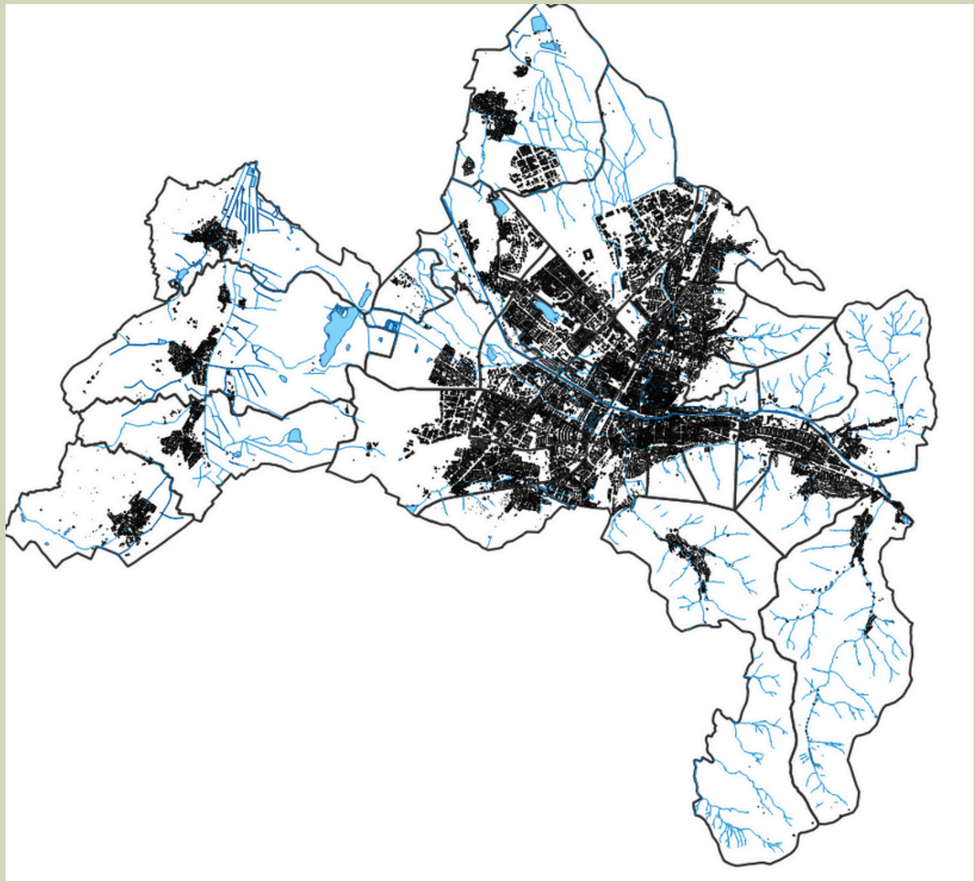
(FROM FOLDER: FREIBURG-REGBEZ-251026-FREE)

A) REPROJECT TO THE PROJECT’S CRS;

B)CLIP THE NEW LAYER (BUILDINGS) TO FREIBURG’S EXTENSION.

C) STYLE OF BUILDINGS (POLYGONS)
- FILL COLOR: #595959
- BORDER: BLACK #000000, WIDTH 0.5

SPATIAL QUESTION:
HOW ARE BUILDINGS DISTRIBUTED ACROSS FREIBURG?



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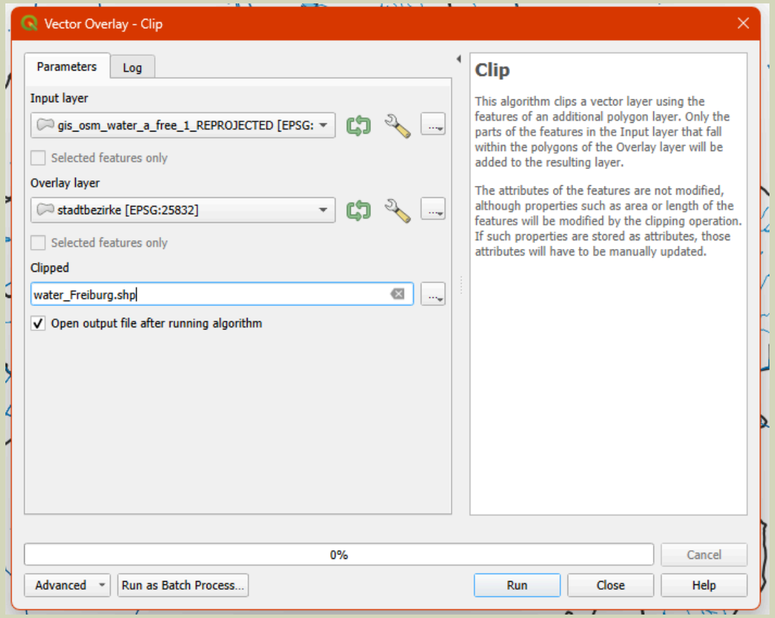
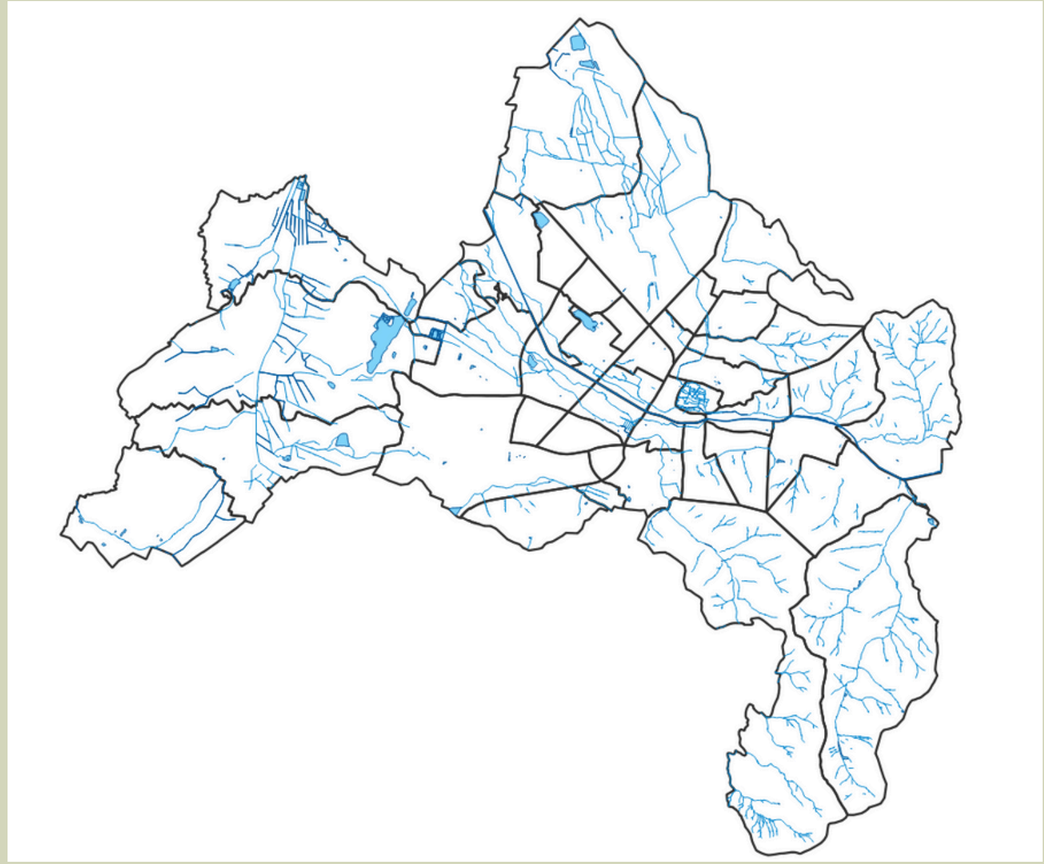
QUICK TUTORIAL

3 – CLIP DATA TO FREIBURG

- GO TO VECTOR → GEOPROCESSING TOOLS → CLIP
- INPUT LAYER: WATERWAYS OR WATER
- OVERLAY LAYER: STADTBEZIRKE_FREIBURG
- OUTPUT FILE NAME: RIVERS_FREIBURG.SHP AND LAKES_FREIBURG.SHP





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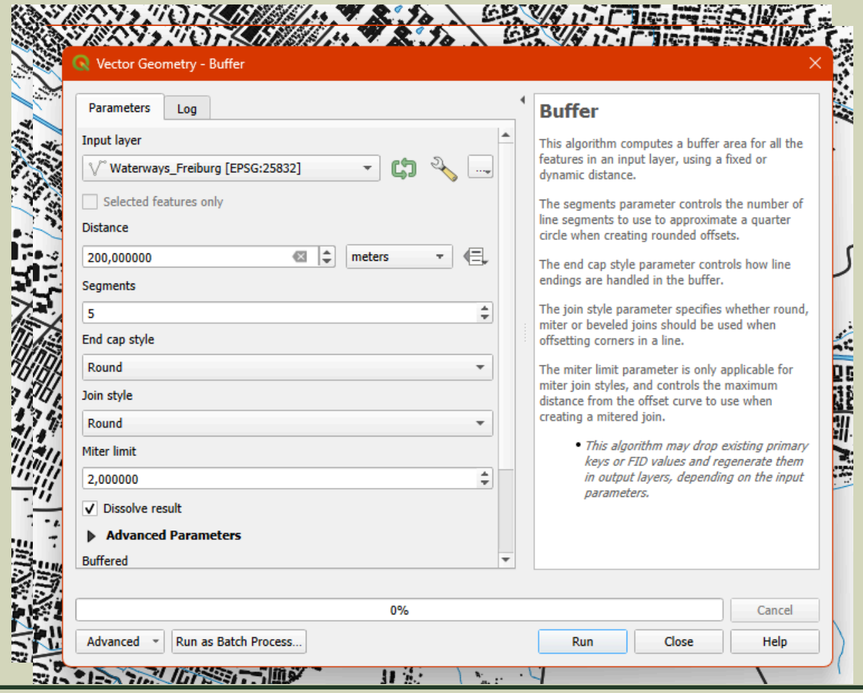
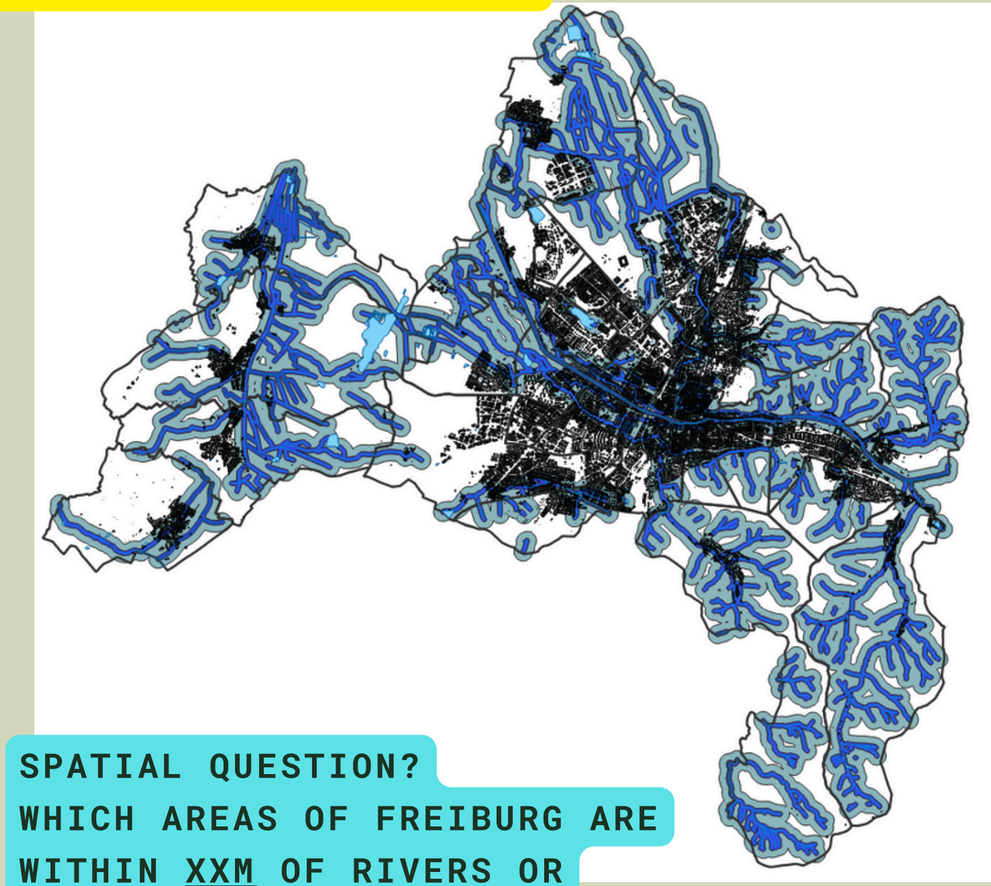
QUICK TUTORIAL

4. APPLY BUFFER AND INTERSECT

- BUFFER:
- GO TO VECTOR → GEOPROCESSING TOOLS → BUFFER.
- INPUT LAYER: RIVERS_LAKES_FREIBURG.SHP
- SET DISTANCE (E.G., 100 M).
- SAVE AS BUFFER_RIVERS_100M.SHP.



TEST MORE DISTANCES TOO



SPATIAL QUESTION?
WHICH AREAS OF FREIBURG ARE WITHIN XXM OF RIVERS OR LAKES?

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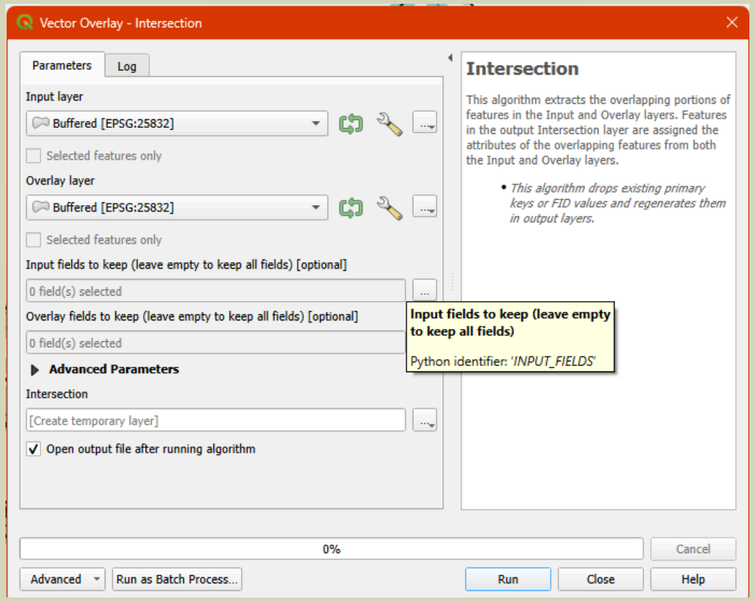
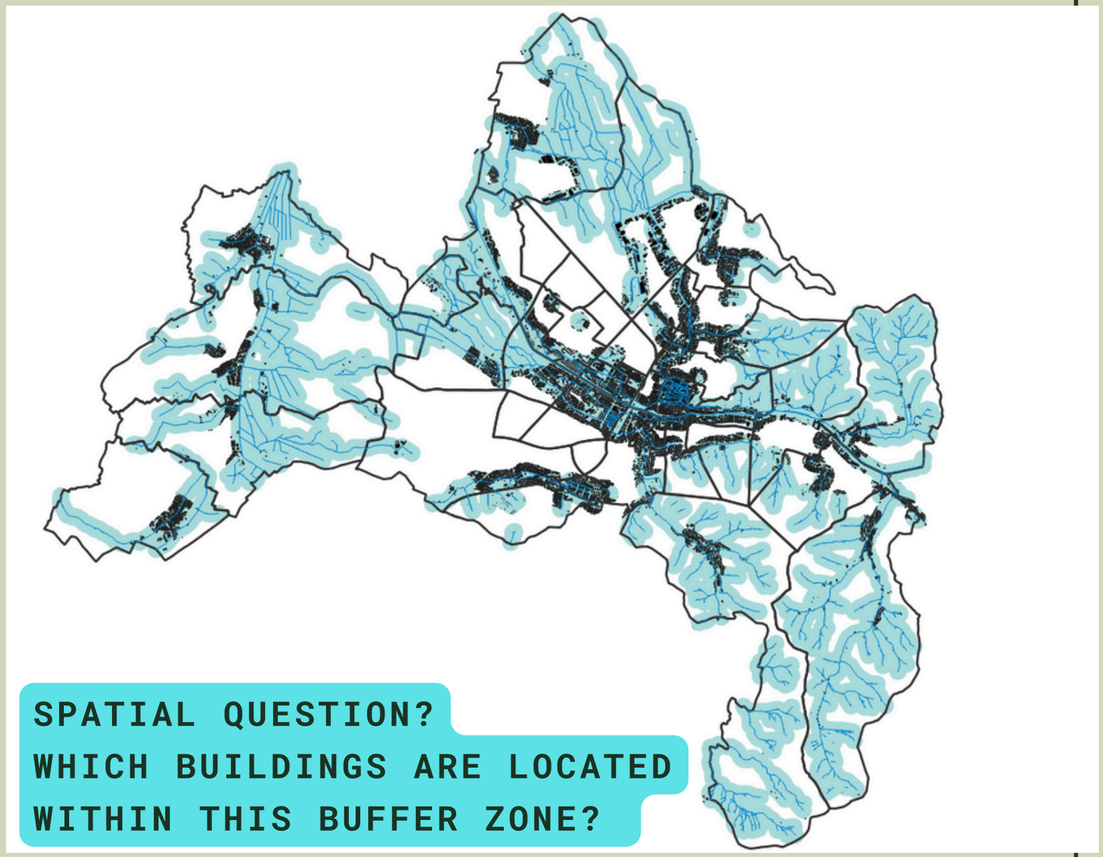
4. APPLY BUFFER AND INTERSECT

- INTERSECT:
- GO TO VECTOR → GEOPROCESSING TOOLS → INTERSECT.
- INPUT LAYER: BUFFER_RIVERS_300M.SHP
- OVERLAY LAYER: BUILDINGS_FREIBURG_CLIPPED.SHP
- SAVE AS BUILDINGS_WITHIN_300M_BUFFER.SHP.



TEST MORE DISTANCES TOO



SPATIAL QUESTION?
WHICH BUILDINGS ARE LOCATED WITHIN THIS BUFFER ZONE?

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EXERCISE:

- CHOOSE ONE DISTRICT (STADTTEIL) OF FREIBURG.
- REPEAT THE CLIP → BUFFER → INTERSECT PROCEDURE FOR THAT DISTRICT ONLY.
- EXPORT YOUR DISTRICT-LEVEL MAP AND WRITE A SHORT PARAGRAPH (5–7 LINES) EXPLAINING:
- “WHICH AREAS OF MY DISTRICT ARE WITHIN 300 M OF RIVERS OR LAKES?”
- “WHICH BUILDINGS ARE LOCATED WITHIN THIS BUFFER ZONE?”

UPLOAD YOUT MAP IN THIS LINK:
HTTPS://CLASSROOM.GITHUB.COM/A/TOZG4LAI

REFER TO THE SLIDES AND TUTORIALS FROM THE PREVIOUS SESSION TO IMPROVE YOUR MAP... BE CREATIVE.

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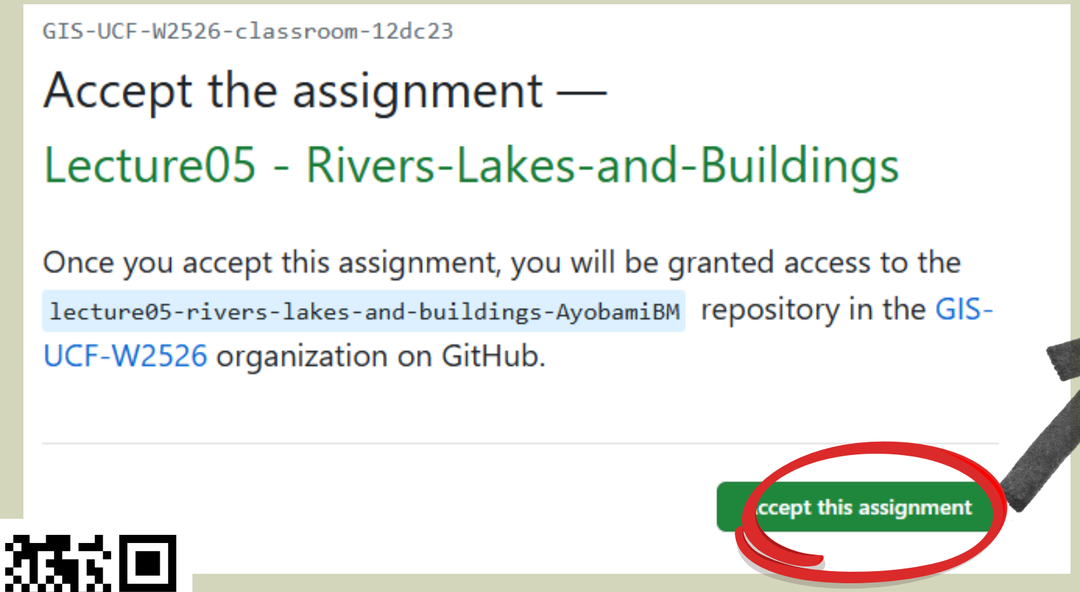
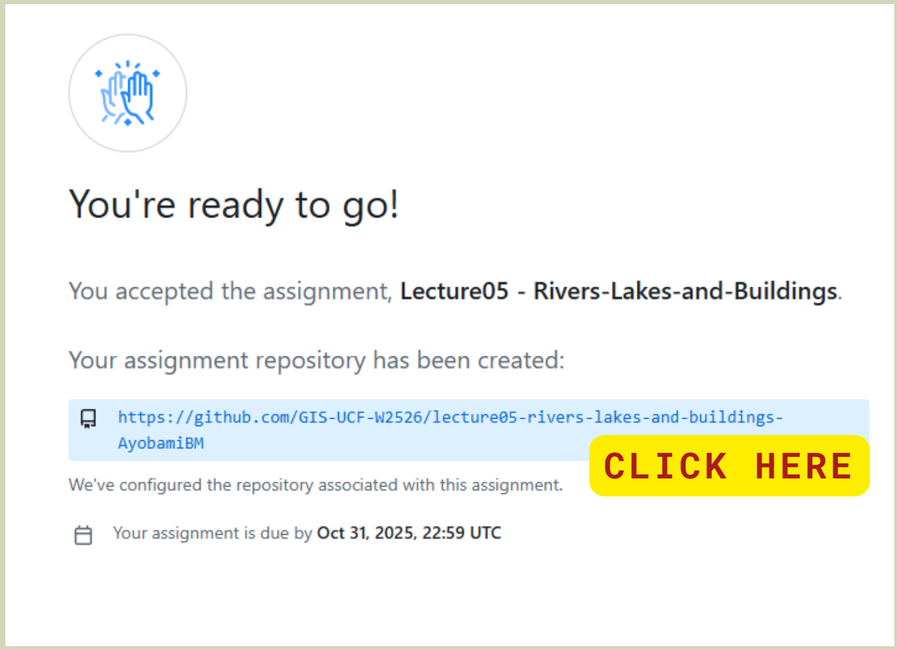
HTTPS://CLASSROOM.GITHUB.COM/A/CFEACSR2





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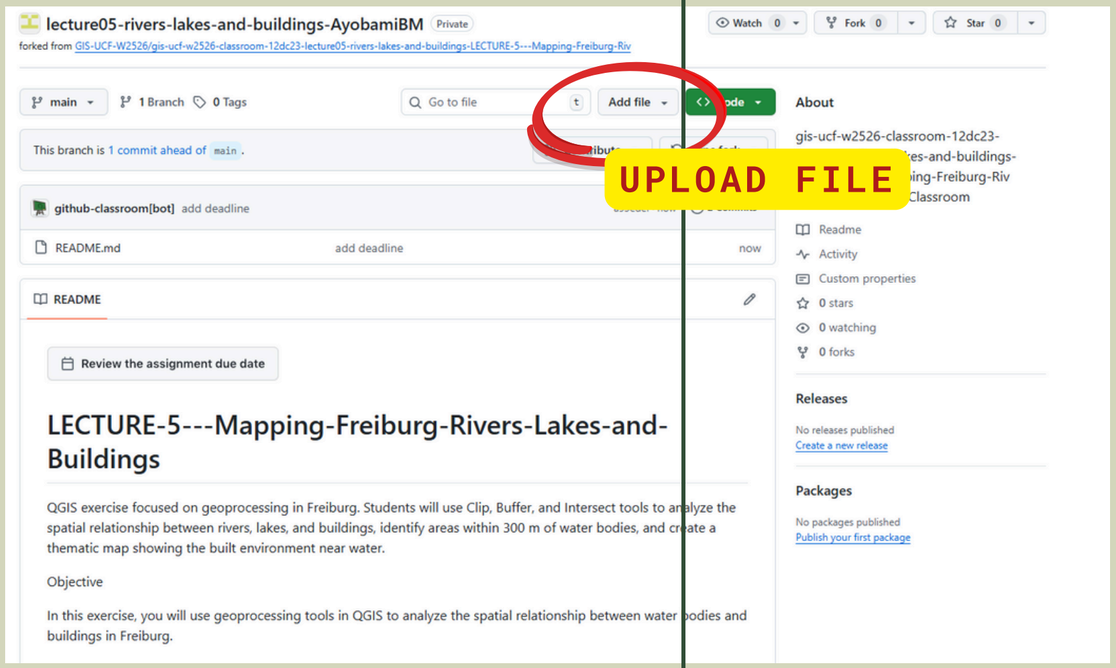

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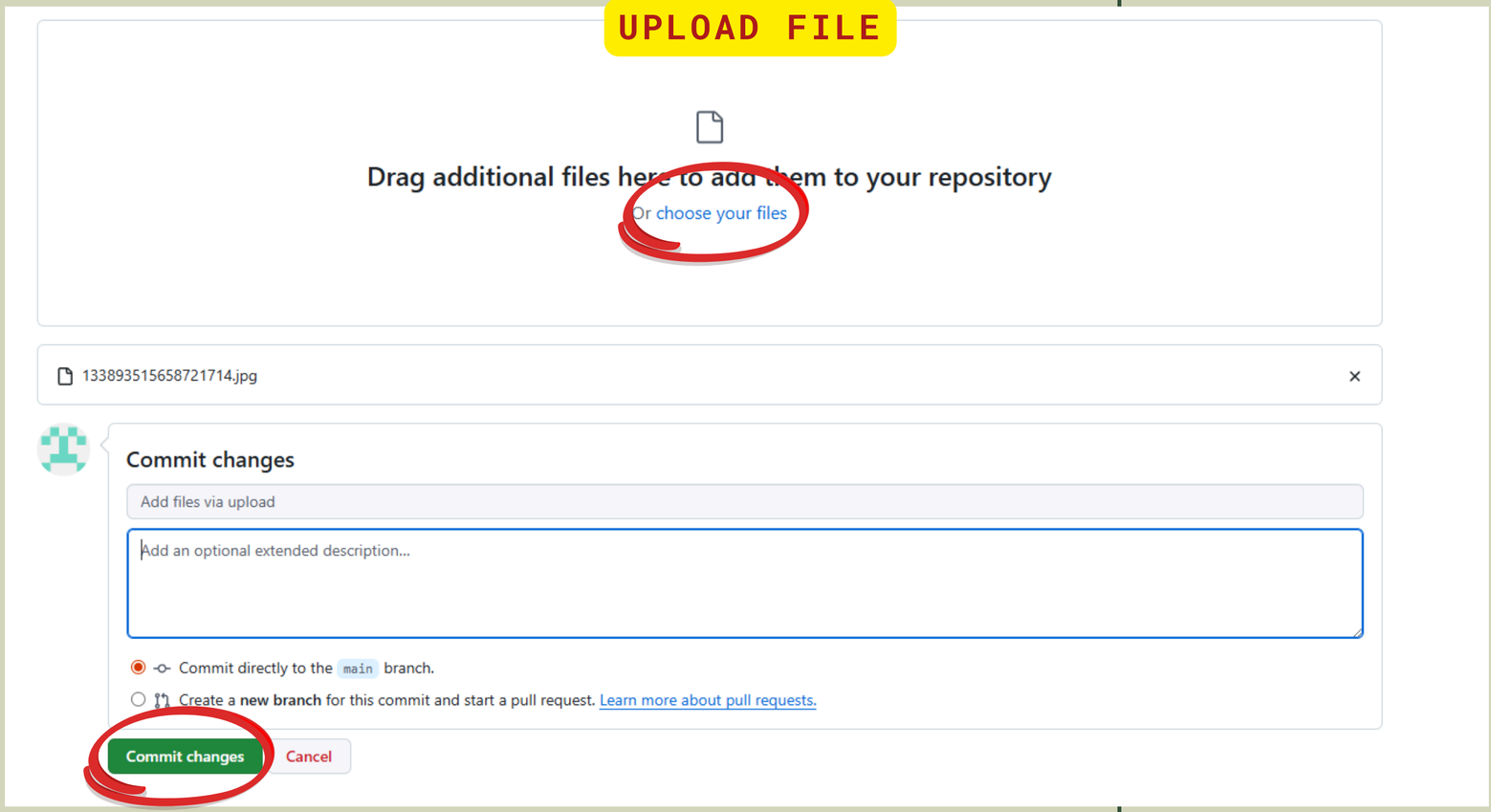

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