



## LECTURE #4

# Mapping Freiburg – Rivers, Lakes, and Neighborhoods

### OBJECTIVE

CREATE A THEMATIC MAP OF FREIBURG USING:

- RIVERS AND STREAMS (LINE FEATURES)
- LAKES AND PONDS (POLYGON FEATURES)
- NEIGHBORHOOD BOUNDARIES (ADMINISTRATIVE AREAS)

### STEPS

1. PROJECT SETUP IN QGIS.
2. DOWNLOAD DATA.
3. STYLING THE LAYERS.
4. CLIP DATA TO FREIBURG.
5. MAP LAYOUT.
6. EXPORT MAP.

# 1 – DOWNLOAD DATA (SHP)

01

**IMPORTANT**

CREATE A PROJECT FOLDER NAMED  
“WASSER” WITH THE SUBFOLDERS:

→ SHP

→ PNG

# 1 – DOWNLOAD DATA (SHP)

02

A) NEIGHBORHOODS – CITY OF FREIBURG (VIA DATEN.BW.DE)  
HTTPS://WWW.DATEN-BW.DE/SUCHEN/-/DETAILS/STADTBEZIRKE-DER-STADT-FREIBURG-I-BR?UTM\_SOURCE=CHATGPT.COM



Stadtbezirke der Stadt Freiburg i. Br.

DOWNLOAD IN THE  
PROJECT FOLDER  
→ 'SHP' FOLDER



## "stadtbezirke" als Shapefile (.zip)

Download als Shapefile (.zip)

Letzte Änderung: -

Verfügbarkeit: -

Offenheit der Lizenz:  Freie Nutzung

Nutzungsbedingungen: Datenlizenz Deutschland Namensnennung 2.0

Namensnennungstext: Datengrundlage: Stadt Freiburg, [www.freiburg.de](http://www.freiburg.de)

URL: [https://geoportal.freiburg.de/wfs/abi\\_gliederung/abi\\_gliederung?](https://geoportal.freiburg.de/wfs/abi_gliederung/abi_gliederung?REQUEST=GetFeature&SRSNAME=EPSG:25832&SERVICE=WFS&VERSION=2.0.0&TYPENAMES=stadtbezirke&OUTPUTFORMAT=shapezip)

[REQUEST=GetFeature&SRSNAME=EPSG:25832&SERVICE=WFS&VERSION=2.0.0&TYPENAMES=stadtbezirke&OUTPUTFORMAT=shapezip](https://geoportal.freiburg.de/wfs/abi_gliederung/abi_gliederung?REQUEST=GetFeature&SRSNAME=EPSG:25832&SERVICE=WFS&VERSION=2.0.0&TYPENAMES=stadtbezirke&OUTPUTFORMAT=shapezip)

# 1 – DOWNLOAD DATA (SHP)

## B) HYDROGRAPHY – OPENSTREETMAP / GEOFABRIK

[HTTPS://DOWNLOAD.GEOFABRIK.DE/EUROPE/GERMANY/BA  
DEN-WUERTTEMBERG.HTML](https://download.geofabrik.de/europe/germany/baden-wuerttemberg.html)

DOWNLOAD IN THE  
PROJECT FOLDER  
→ 'SHP' FOLDER



### Sub Regions

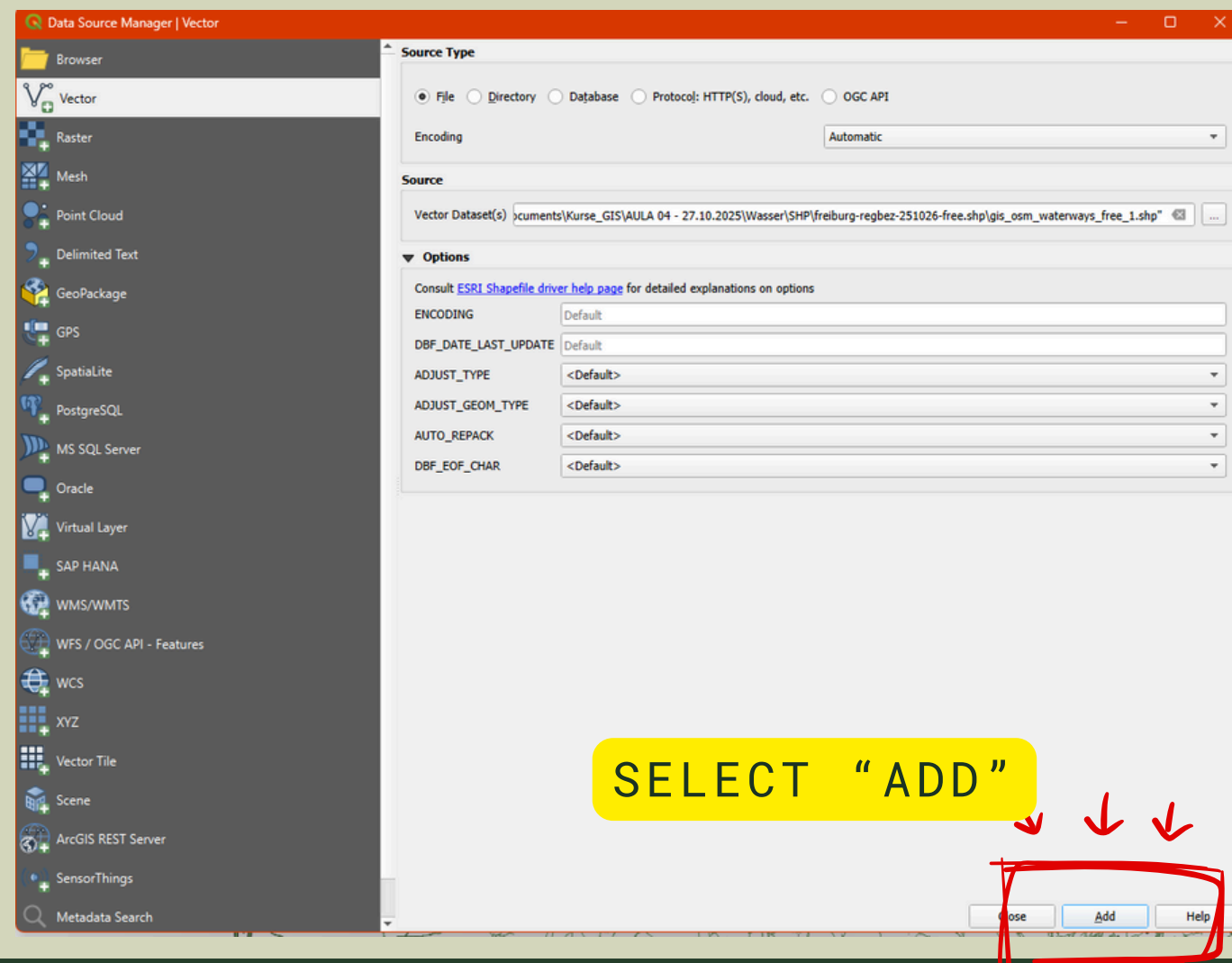
Click on the region name to see the overview page for that region, or select one of the file extension links for quick access.

Sub Region	Quick Links	
	.osm.pbf	.shp.zip
<a href="#">Regierungsbezirk Freiburg</a>	<a href="#">[.osm.pbf]</a> (146 MB)	<a href="#">[.shp.zip]</a>
<a href="#">Regierungsbezirk Karlsruhe</a>	<a href="#">[.osm.pbf]</a> (142 MB)	<a href="#">[.shp.zip]</a>
<a href="#">Regierungsbezirk Stuttgart</a>	<a href="#">[.osm.pbf]</a> (194 MB)	<a href="#">[.shp.zip]</a>
<a href="#">Regierungsbezirk Tübingen</a>	<a href="#">[.osm.pbf]</a> (113 MB)	<a href="#">[.shp.zip]</a>

## 2 – PROJECT SETUP

### 2. OPEN QGIS → NEW PROJECT

- ADD THE LAYERS:
  - NEIGHBORHOODS: STADTBEZIRKE\_FREIBURG.SHP

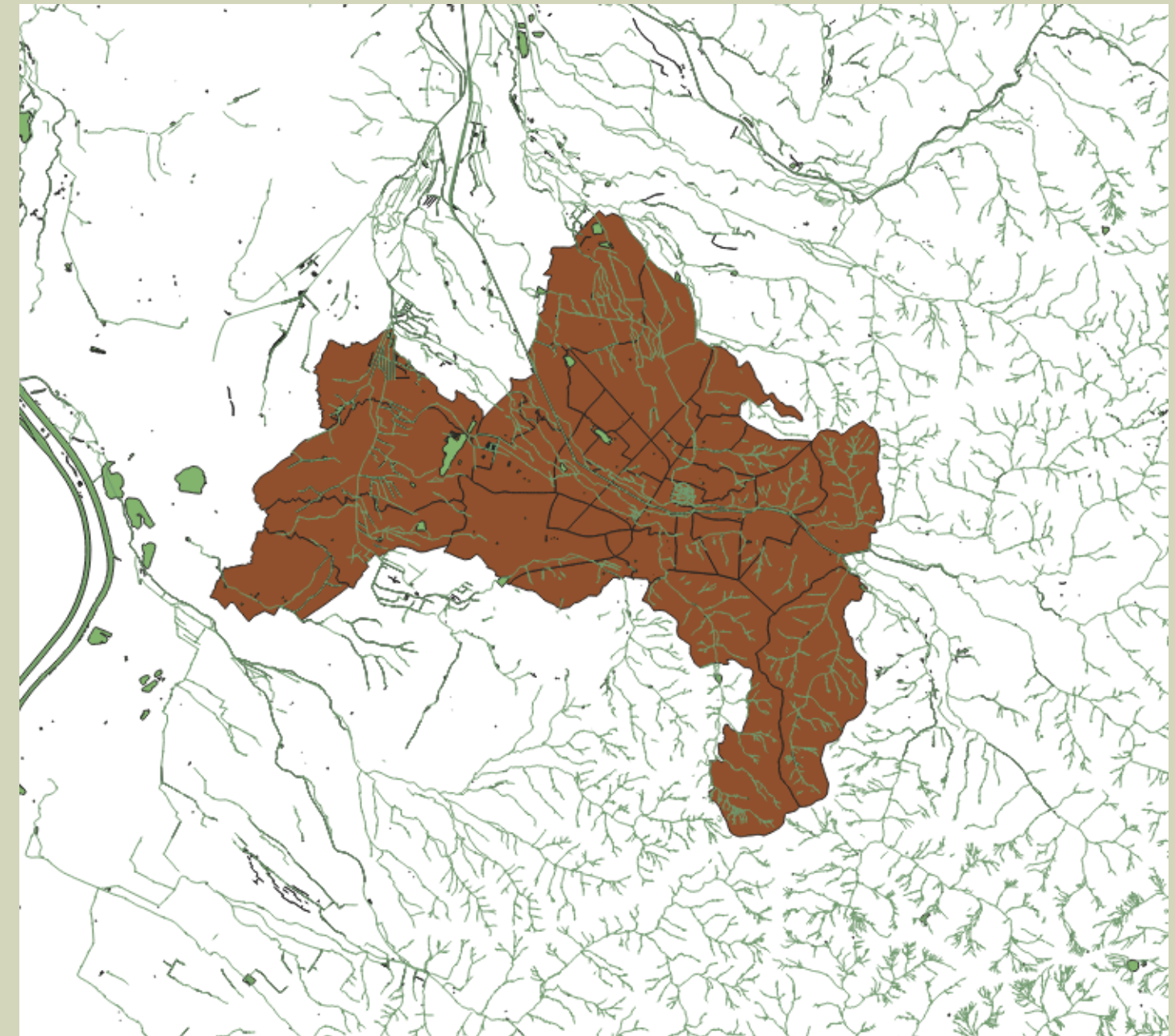
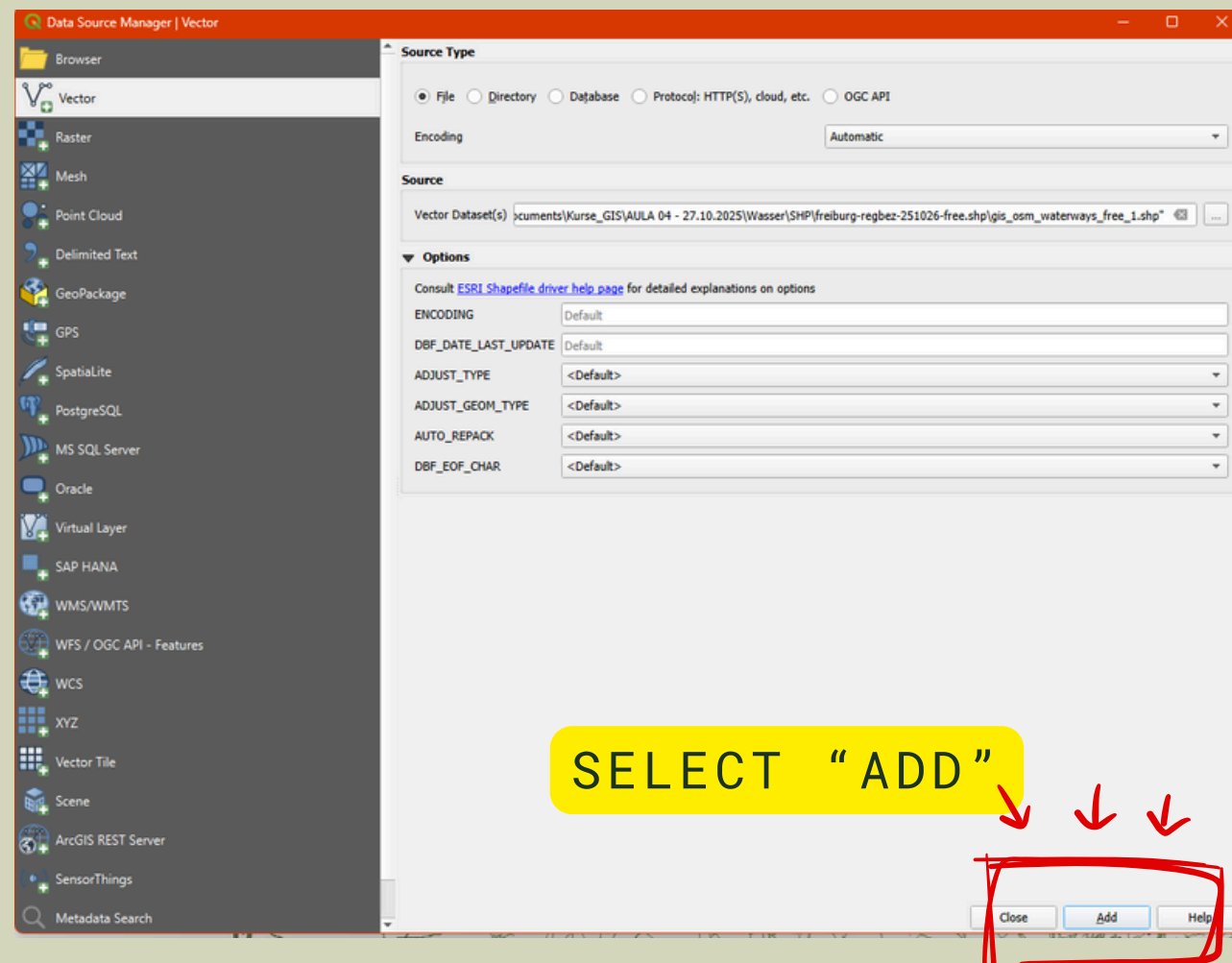


## 2 – PROJECT SETUP

### 2. OPEN QGIS → NEW PROJECT

- ADD THE LAYERS:

- RIVERS: GIS\_OSM\_WATERWAYS\_FREE\_1.SHP
- LAKES: GIS\_OSM\_WATER\_A\_FREE\_1.SHP





## 2 – PROJECT SETUP

06

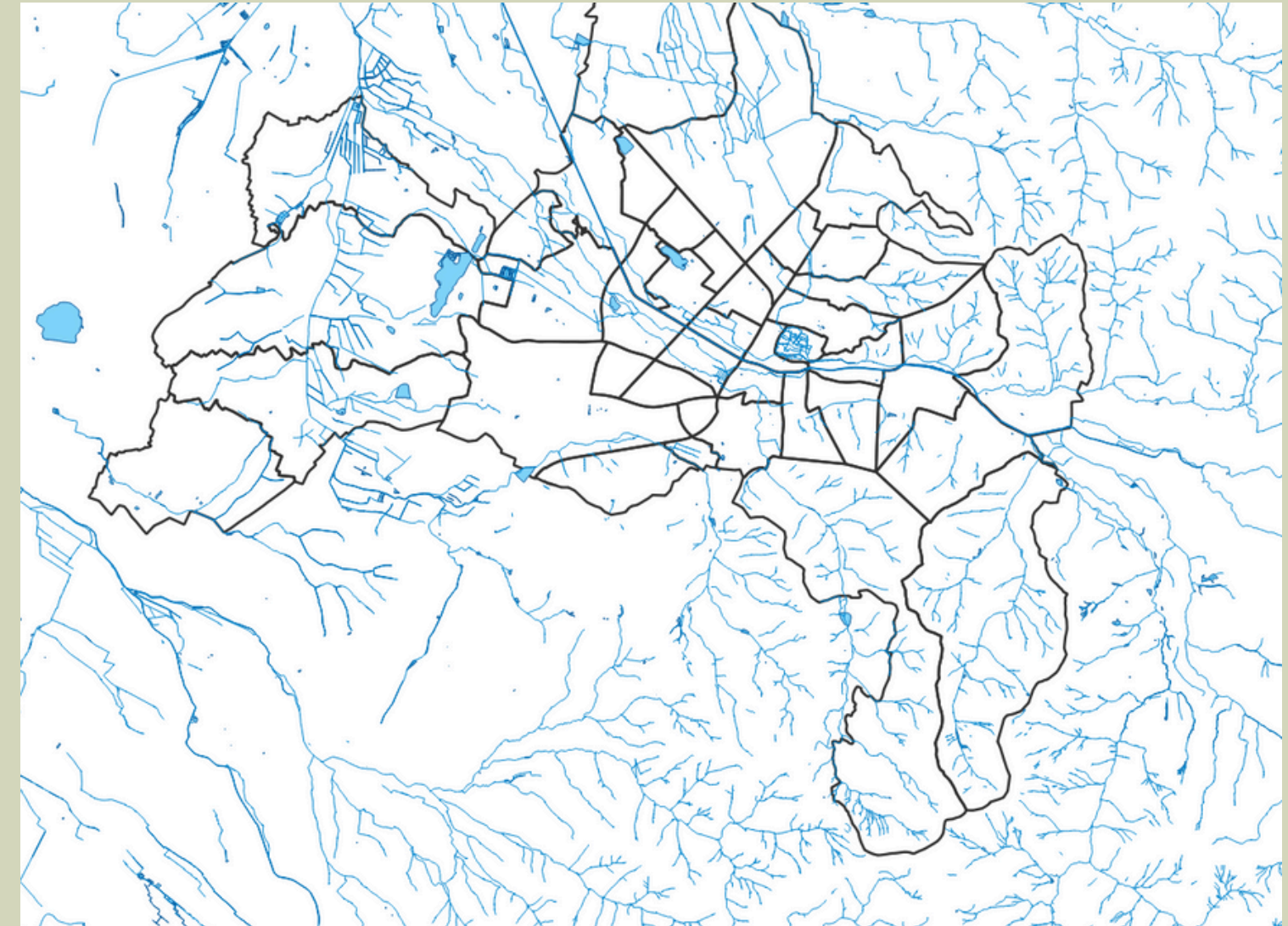
- MAKE SURE ALL LAYERS SHARE THE SAME COORDINATE REFERENCE SYSTEM (CRS).
- EPSG:25832 UTM ZONE 32N.

SINCE UTM UNIT IS 'METERS', WE USE EPSG:25832 TO WORK IN METERS AND OBTAIN ACCURATE DISTANCES AND AREAS.

- RIGHT-CLICK ON THE WATERWAYS LAYER → EXPORT → SAVE FEATURES AS...
- IN THE DIALOG WINDOW:
- FORMAT: ESRI SHAPEFILE
- FILE NAME: WATERWAYS\_25832.SHP
- CRS: CLICK THE GLOBE ICON → SELECT
  - EPSG:25832 – ETRS89 / UTM ZONE 32N
  - CLICK OK.
- REPEAT THE SAME PROCESS FOR THE WATER LAYER (LAKES).
- ADD THE NEW FILES (WATERWAYS\_25832 AND WATER\_25832) TO THE PROJECT AND REMOVE THE OLD ONES.

### 3 – STYLING THE LAYERS

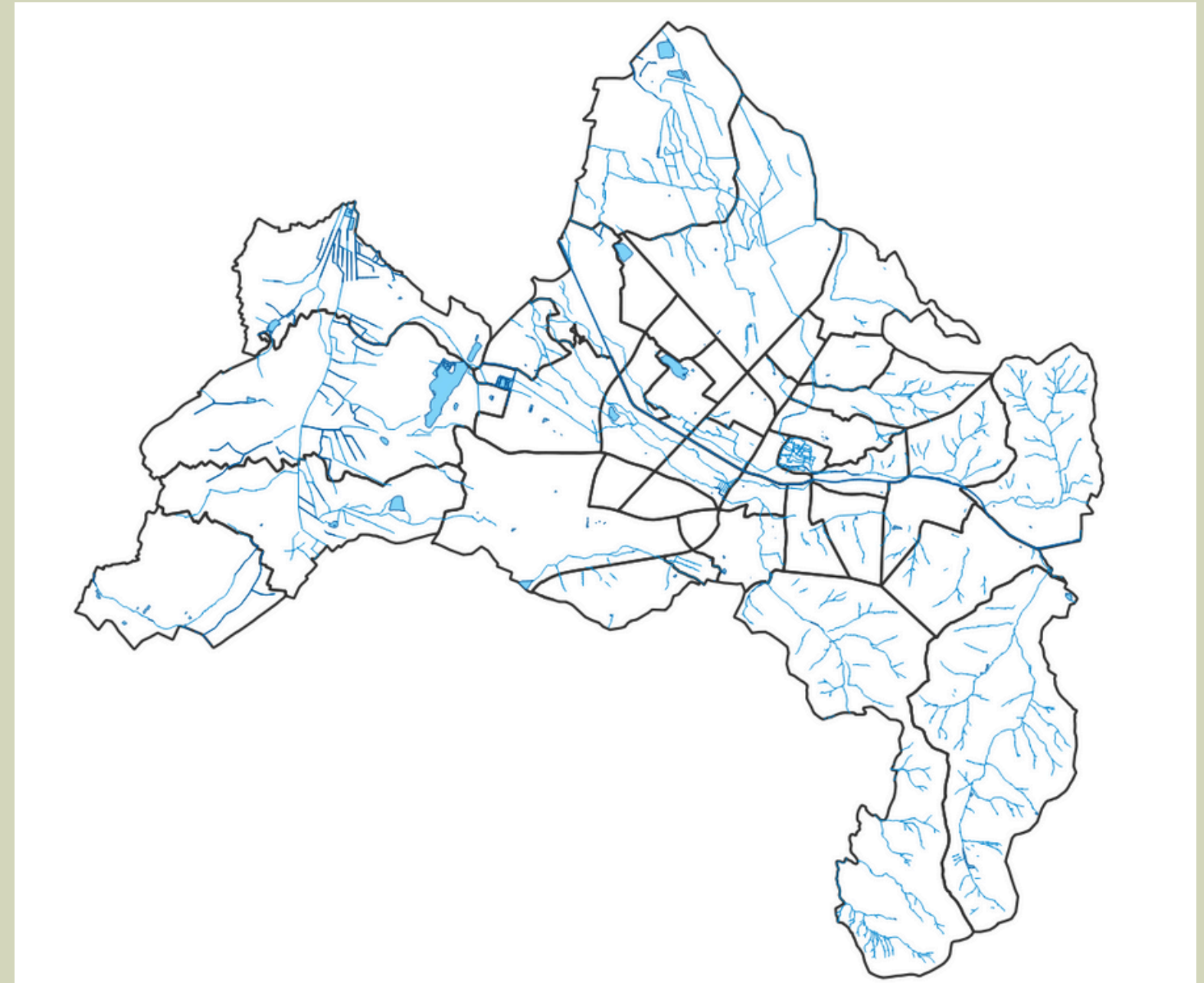
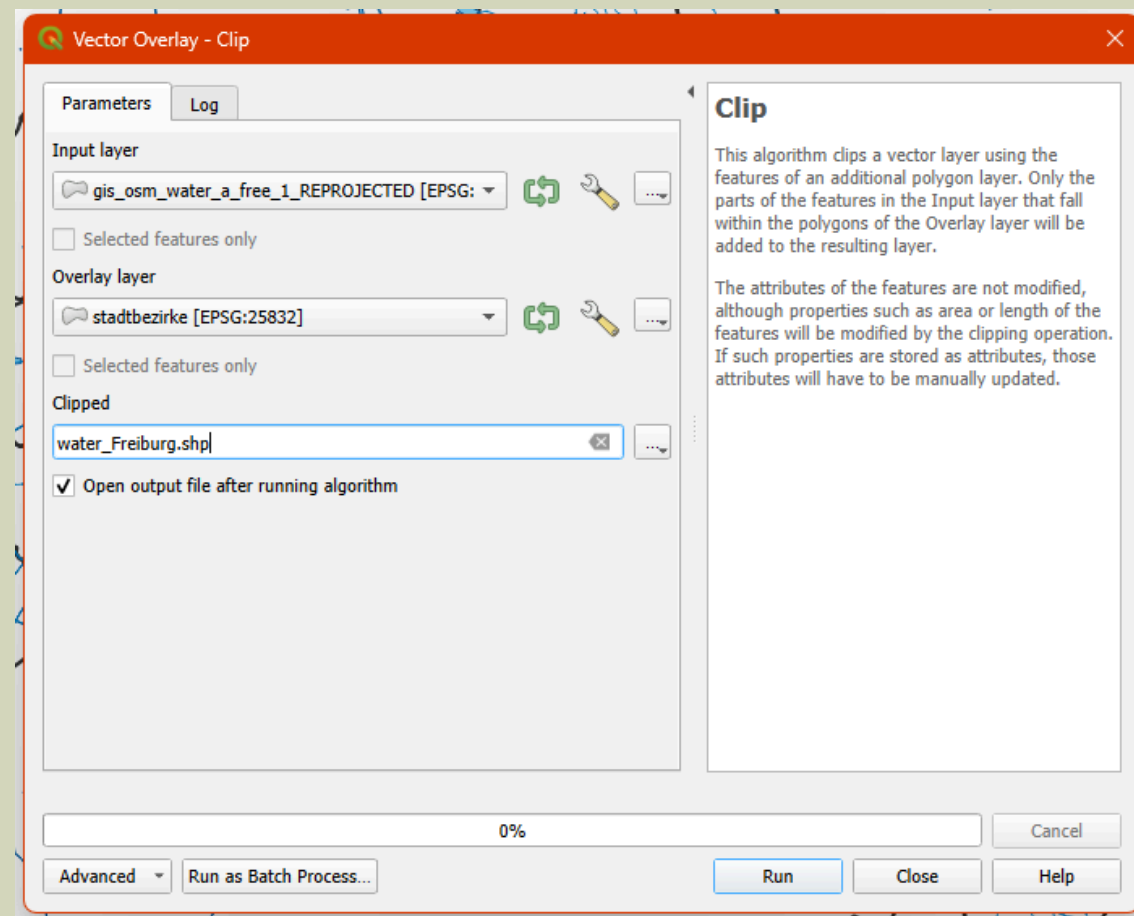
- **RIGHT CLICK ON THE LAYER;**
  - → **PROPERTIES → SYMBOLOGY**
- **A) NEIGHBORHOODS (POLYGONS)**
  - **FILL COLOR: 'NO BRUSH'**
  - **BORDER: DARK GRAY #333333, WIDTH 0.6**
- **B) LAKES (POLYGONS)**
  - **FILL COLOR: LIGHT BLUE #81D4FA**
  - **OUTLINE: DARK BLUE #01579B**
- **C) RIVERS (LINES)**
  - **COLOR: MEDIUM BLUE #0288D1**
  - **WIDTH: 0.8**





### 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



## LECTURE #4

### Mapping Freiburg – Rivers, Lakes, and Neighborhoods

UPLOAD YOUR MAP IN THIS LINK:

[HTTPS://CLASSROOM.GITHUB.COM/A/TOZG4LAI](https://classroom.github.com/a/tozg4lai)

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#### OBJECTIVE

CREATE A THEMATIC MAP OF FREIBURG USING:

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5. MAP LAYOUT.
6. EXPORT MAP.

REFER TO THE SLIDES AND TUTORIALS FROM THE PREVIOUS SESSION TO ADD LABELS, SATELLITE IMAGERY, AND ENHANCE THE VISUAL STYLE OF YOUR MAP FOR PRINTING.

## LECTURE #4

# Mapping Freiburg – Rivers, Lakes, and Neighborhoods

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UPLOAD YOUR MAP IN THIS LINK:  
[HTTPS://CLASSROOM.GITHUB.COM/A/TOZG4LAI](https://classroom.github.com/a/tozg4lai)

GIS-UCF-W2526-classroom-12dc23


Accept the assignment —  
**Lecture04 - Rivers, Lakes, and Neighborhoods**

Once you accept this assignment, you will be granted access to the `lecture04-rivers-lakes-and-neighborhoods-AyobamiBM` repository in the `GIS-UCF-W2526` organization on GitHub.

☐

**Accept this assignment**







You're ready to go!

You accepted the assignment, **Lecture04 - Rivers, Lakes, and Neighborhoods**.

Your assignment repository has been created:

 <https://github.com/GIS-UCF-W2526/lecture04-rivers-lakes-and-neighborhoods-AyobamiBM>

We've configured the repository **CLICK HERE**

 Your assignment is due by **Oct 31, 2025, 22:00 UTC**

# LECTURE #4

## Mapping Freiburg – Rivers, Lakes, and Neighborhoods

lecture04-rivers-lakes-and-neighborhoods-AyobamiBM Private

Watch 0

Fork 0

Star 0

forked from GIS-UCF-W2526/gis-ucf-w2526-classroom-12dc23-lecture04-rivers-lakes-and-neighborhoods-Wasser\_Freiburg\_Map\_Exercise

main 2 Branches 0 Tags

Go to file

Add file

Code

This branch is 3 commits ahead of main .

UPLOAD FILE

#1

github-classroom[bot] add deadline 3c0cd87 · 3 minutes ago 4 Commits

.github

GitHub Classroom Feedback 3 minutes ago

README.md

add deadline 3 minutes ago

README

Review the assignment due date

### QGIS Exercise – Mapping Freiburg: Rivers, Lakes, and Neighborhoods

#### Objective

In this exercise, you will create a thematic map of Freiburg showing:

About

gis-ucf-w2526-classroom-12dc23-lecture04-rivers-lakes-and-neighborhoods-Wasser\_Freiburg\_Map\_Exercise created by GitHub Classroom

Readme

Activity

Custom properties

0 stars

0 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package


# LECTURE #4

## Mapping Freiburg – Rivers, Lakes, and Neighborhoods

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lecture04-rivers-lakes-and-neighborhoods-AyobamiBM /


**UPLOAD FILE**



Drag additional files here to add them to your repository

[Or choose your files](#)

 133893515658721714.jpg 



### Commit changes

Add files via upload

Add an optional extended description...

☒ Commit directly to the `main` branch.  
☐ Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)

**Commit changes** Cancel