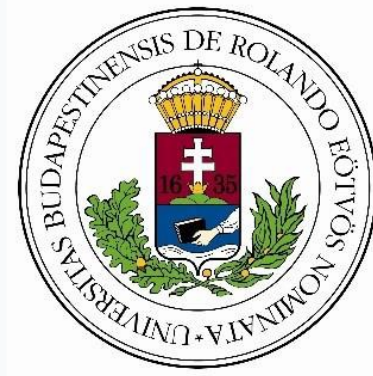


Explore Vác City through WebGIS



Individual Geoinformatics & Cartographic Projects

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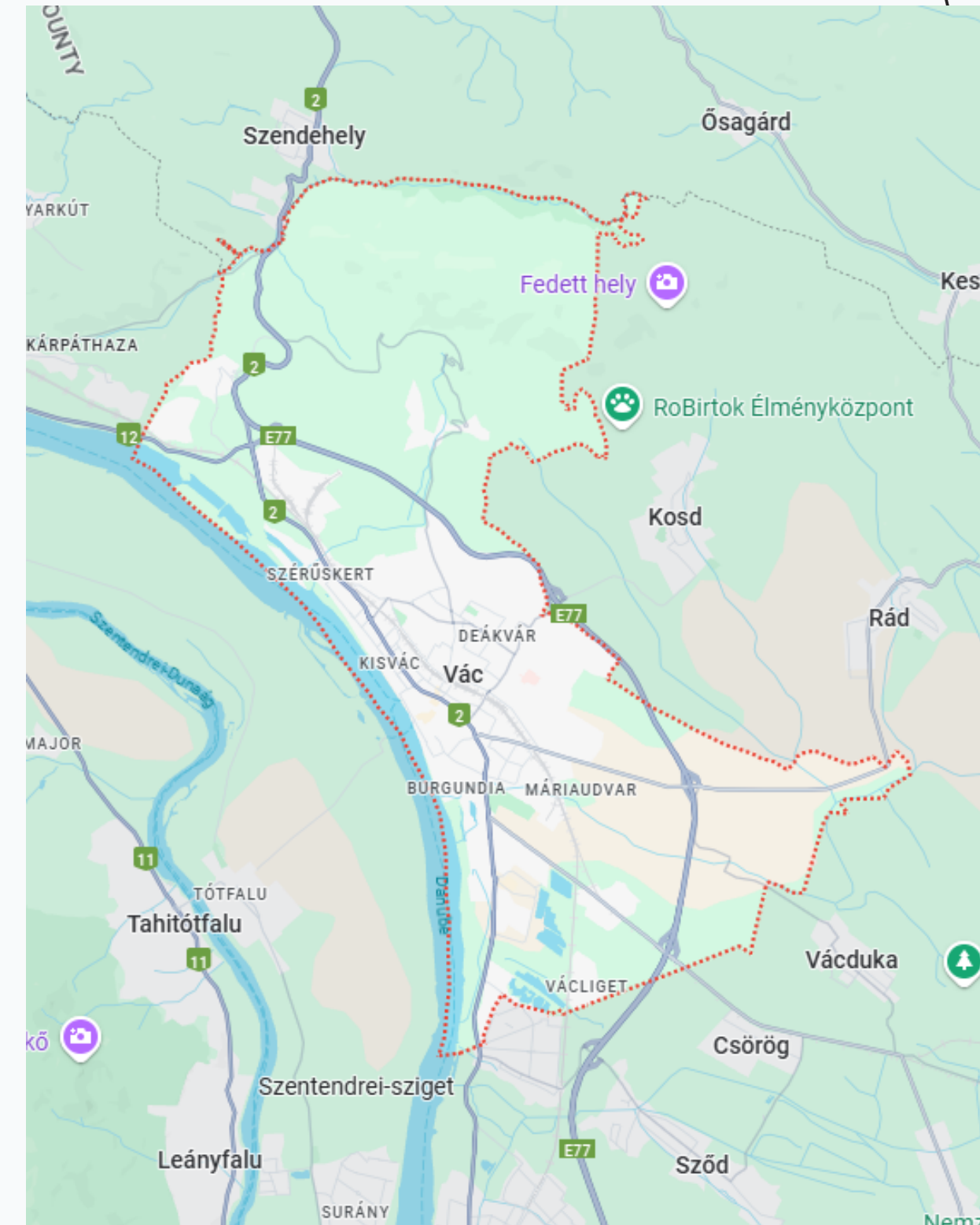
City of Vác

- **A Historical City on the Danube River**

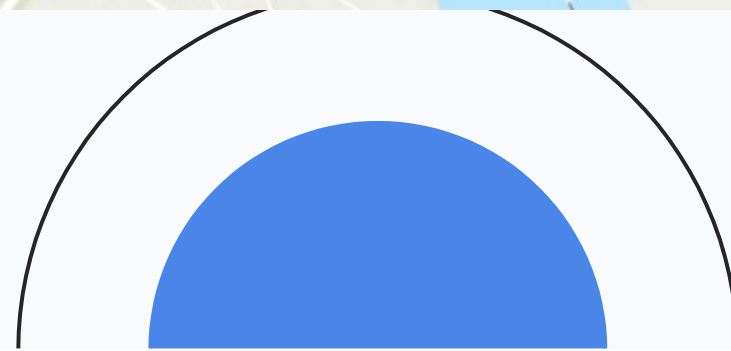
- Vác is a charming city located in northern Hungary, situated on the banks of the Danube River.
- Known for its rich history, beautiful architecture, and vibrant cultural scene.
- A perfect destination for history enthusiasts, nature lovers, and those seeking tranquility.

- **Where is Vác?**

- ❖ Vác is located about 35 kilometers north of Budapest, Hungary's capital.
- ❖ It lies along the Danube River, making it a picturesque and scenic city with riverfront views.
- ❖ Coordinates: 47°47'N 19°08'E.



Study Area



Project Goals

Mapping Environmental Conditions: Create a comprehensive environmental geoinformatics database and a web-based display solution for Vác, Hungary. Key environmental data includes noise, temperature, humidity, and solar radiation.

Touristic Mapping: Develop a detailed 1:8,000 scale touristic map of Vác featuring Points of Interest (POIs) such as monuments, recreational spots, and administrative buildings.

Data Analysis and Visualization: Conduct spatial analysis and visualize the data through thematic maps.

Web Application Development: Build an interactive web application that displays the collected data and allows users to query thematic layers.

Documentation and Presentation: Document the project, describing the methodology, analysis, and results, and present the findings through a professional PowerPoint presentation.

Project Steps

Field Work Phase:

Data Collection:

- Collect touristic POIs with details such as coordinates, names, and types.
- ❖ collected 175 points
- Record environmental data (temperature, noise, humidity, and solar radiation) over three days.
- ❖ collected 141

Lab Work Phase:

1. Data Preparation:

- Clean and organize raw data into geodatabases.
- Detect and correct errors or outliers in the collected data.

2. Thematic Map Creation:

- Use GIS tools (ArcGIS Pro) for interpolation and thematic visualization.
- Design map layouts using appropriate symbology.

3. Web Application Development:

- Build an interactive web application using tools like MapServer, OpenLayers, or QGIS plugins.

Used Devices



Garmin GPS



Environmental Meter

Database

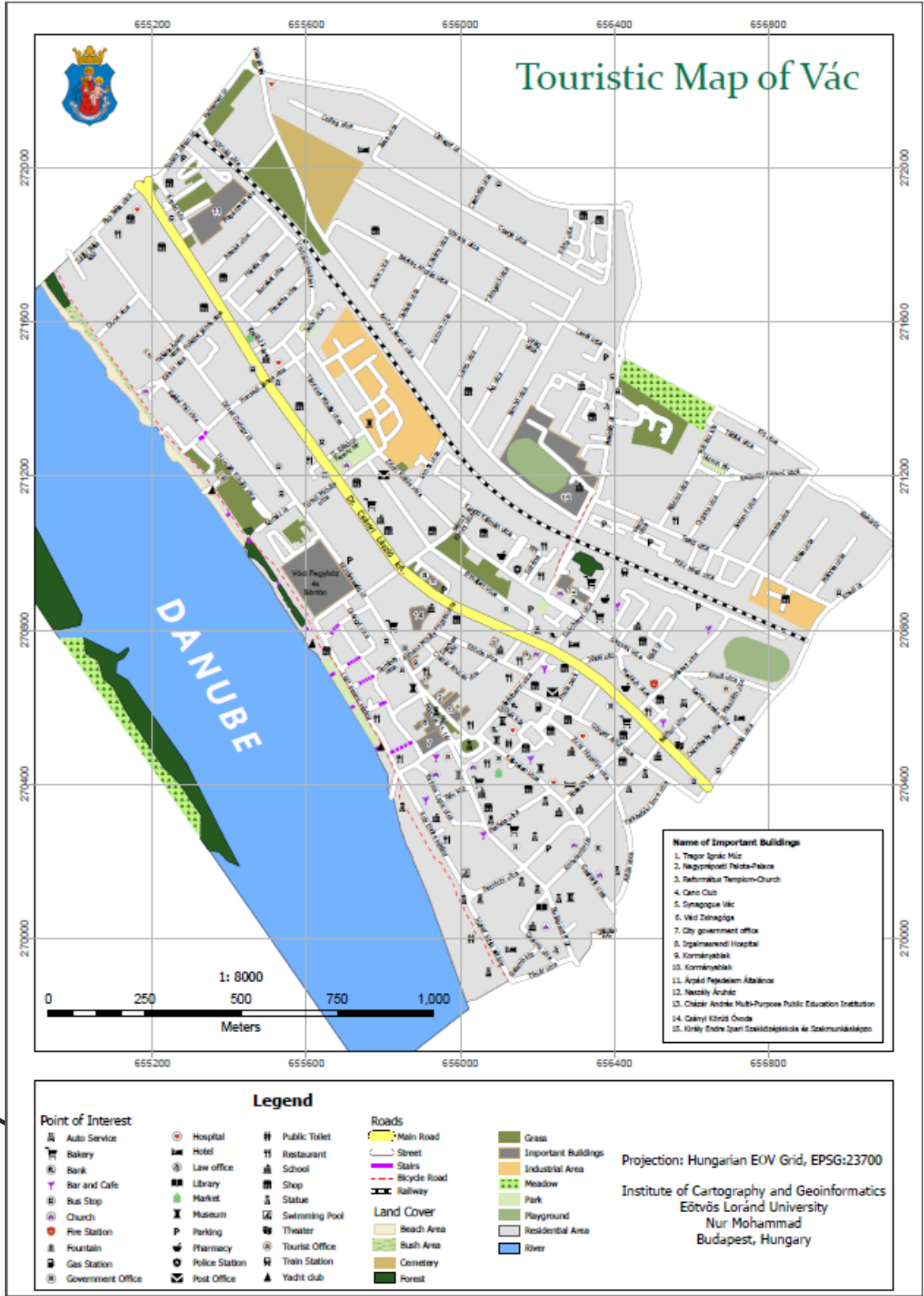
POIs — Features Total: 175, Filtered: 175, Selected: 0						
	OBJECTID	FID_	POI	Type	Lat_n	Lon_n
1	1	238	Endre Király Vo...	School	47.7842710024	19.1316300102
2	2	248	Elektrosziget Pl...	Shop	47.7860260024	19.1321330102
3	3	105	Piarista Rendház	Government Of...	47.7758600024	19.1291000102
4	4	204	Korzó Fish&Chi...	Restaurant	47.7761600024	19.1267500102
5	6	305	Korsós lány	Statue	47.7747400024	19.1280600102
6	8	41	Vác, autójavító	Bus Stop	47.7905230024	19.1174080102
7	9	169	NULL	Parking	47.7873100024	19.1325660102
8	13	10	Szamóca pékség	Bakery	47.7789107889	19.133519082
9	14	108	Budapest F?vár...	Government Of...	47.7781000024	19.1287800102
10	15	22	Jazz Mine Club	Bar and Cafe	47.7780900024	19.1265570102
11	16	95	T?zoltóság	Fire Station	47.7795700024	19.1342100102
12	19	15	OTP Bank	Bank	47.7786530024	19.1284740102
13	20	92	Torta és desszer...	Bar and Cafe	47.7777710703	19.1296906583
14	21	131	Dr. Almási Csaba	Law office	47.7733600024	19.1312400102
15	23	252	Gumiszerviz N...	Shop	47.7901920024	19.1174560102
16	24	306	Árpádházi Szen...	Statue	47.7768000024	19.1254800102
17	28	71	Vác-Fels?városi ...	Church	47.7865330024	19.1165930102
18	29	31	Szépség-Öt Kft.	Shop	47.7784300024	19.1334000102
19	33	301	Bottyán János-s...	Statue	47.7745400024	19.1308300102
20	34	14	Erste Bank ATM	Bank	47.7792600024	19.1292460102
21	36	302	Migazzi szobor	Statue	47.7749400024	19.1302800102
22	37	9	Lipóti	Bakery	47.7813190024	19.1319680102
23	38	225	V.ATI Autósiskola	School	47.7809040024	19.1334740102
24	41	303	Szent István-sz...	Statue	47.7752300024	19.1296800102

POIs

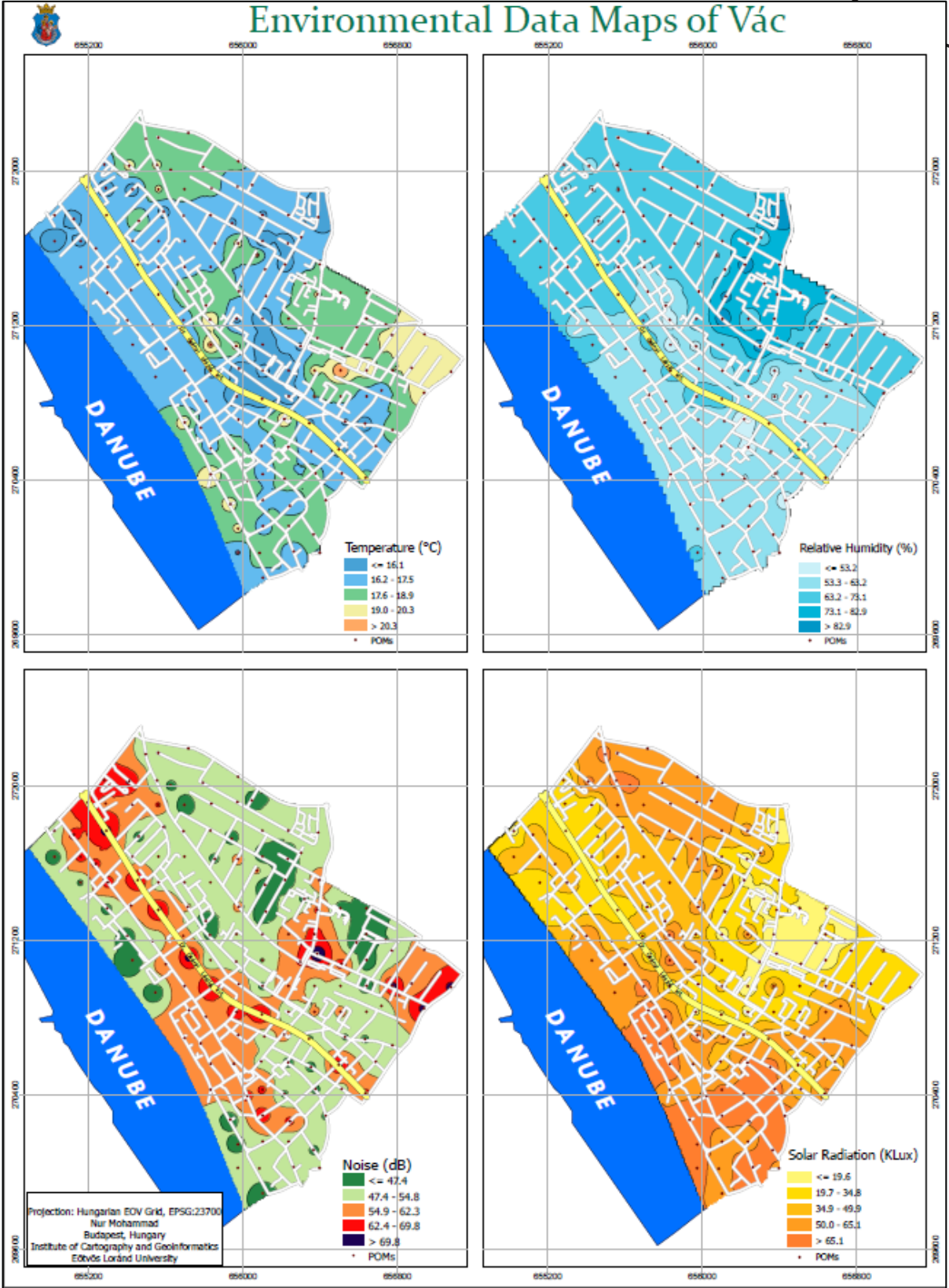
POMs — Features Total: 141, Filtered: 141, Selected: 0						
	Latitude	Longitude	Temperature (°C)	Relative Humadity (%)	Noise (dB)	Solar Radiation (K/Lux)
1	19.1208076	47.7932311	18.83	63.07	52.73	69.57
2	19.1216731	47.793288	18.5	63.7	49.73	59
3	19.1237435	47.7934983	17.9	66.9	50.93	53.73
4	19.1179256	47.7920237	16.83	68.17	67.17	23.93
5	19.1196461	47.7919668	19.3	62.43	70.37	69.8
6	19.1215851	47.7920088	19.03	62.83	50.93	69.53
7	19.1225166	47.7917782	18.33	66.03	45.67	69.47
8	19.1247498	47.791898	18.3	63.93	49.23	58.93
9	19.1271835	47.7921764	17.83	67.2	50.83	53.8
10	19.1167845	47.7909846	16.9	67.1	69.4	23.23
11	19.1180281	47.7909337	15.3	62.33	59.97	20.37
12	19.1198765	47.790874	15.33	62.9	60	19.77
13	19.1216731	47.790874	19.07	62.9	63.07	63.4
14	19.1234698	47.790874	18.57	64.63	44.1	60.7
15	19.1253337	47.7909217	17.83	68.73	50	60.13
16	19.1271389	47.7909966	16.73	66.37	49.37	53.8
17	19.1281374	47.7910714	16.93	65.83	45.77	65.33
18	19.1144866	47.7896669	16.13	69.53	47.4	15.77
19	19.1158172	47.7894903	15.87	65.43	63.9	44.17
20	19.1180799	47.7896669	17.2	66.97	71.77	20.73
21	19.1203058	47.7894004	18.73	62.3	45.27	32.07
22	19.1220219	47.7898317	15.53	72.33	47.1	37.97
23	19.1234081	47.78964	16.47	68.03	48.37	49.67
24	19.1252664	47.7896669	16.13	66.3	48.37	51.83

POMs

Results



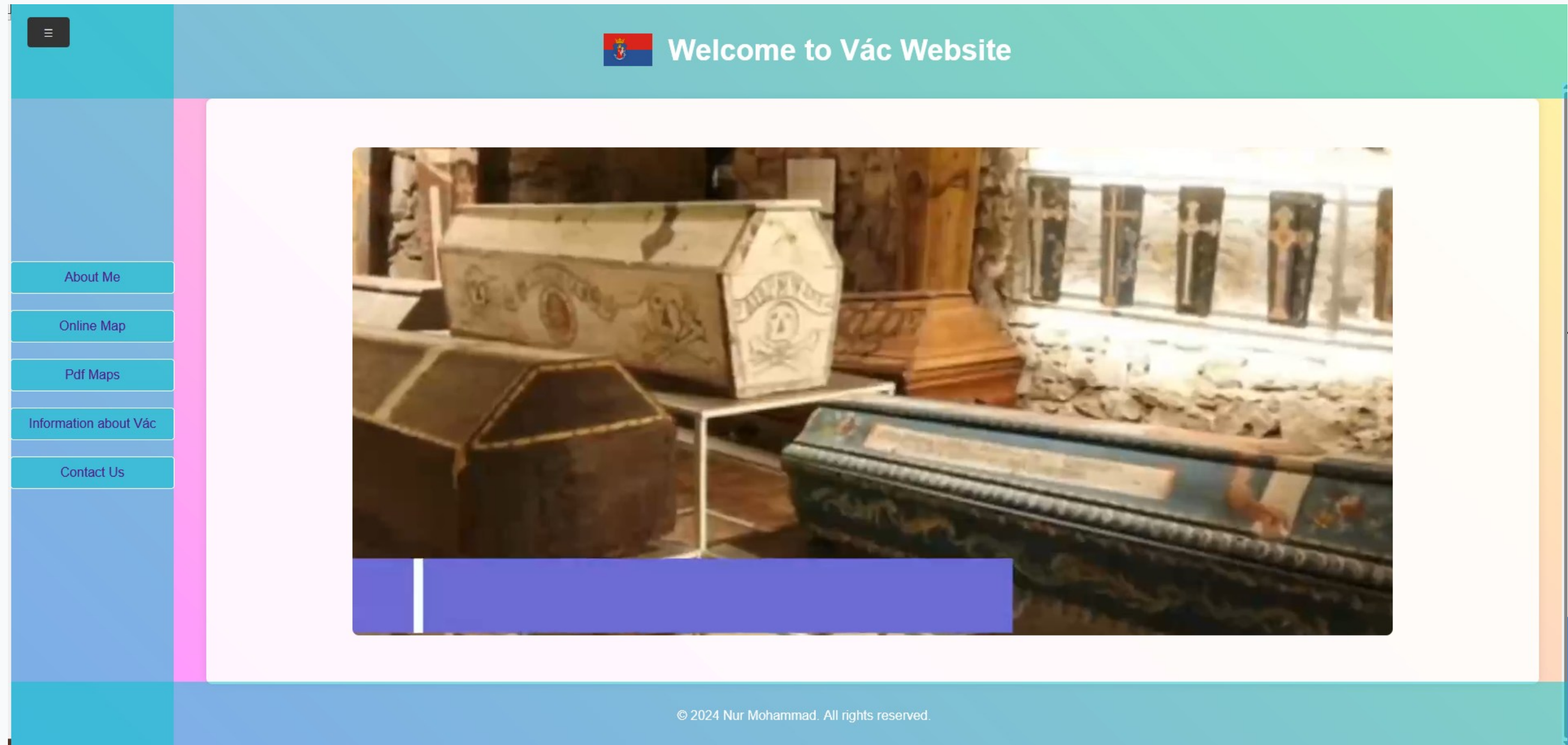
Touristic Map



Environmental Data Maps

Results

Website Main Page



Website Link: https://mercator.elte.hu/~d26855/web_gis/Vac/index1.html



Thanks!

Do you have any questions?

