Princes and Townspeople: A Collection of Historical Statistics on German Territories and Cities

1: City Locations and Border Maps

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1 Introduction

This dataset locates the 2,390 cities listed in the *Deutsches Städtebuch* (Keyser et al., eds, 1939-2003). This encyclopaedia records every settlement that at one point in the history of the Holy Roman Empire was awarded the status of a city.[1]

[1] The reporting boundaries are the borders of 1937 Germany, including the Free City of Danzig.

We additionally attempt to interpolate borders of the area of influence surrounding a given city. These are not supposed to represent actual borders of territory under control of a city. Rather, our proposed borders partition the region under consideration — Germany in the borders of 1937 — into mutually exclusive units that, through an assignment of cities to territorial lords, can represent a sufficient approximation of the area controlled by a territory.

In the following, this document gives a concise overview over the approach in gathering city locations, before we detail the creation of city boundaries in section 3. A description of the variables follows in section 5. Section 6 then documents how we deal with specific issues that arise in the process.

2 General Approach: City Locations

In assigning coordinates to historic cities, we attempt to come as close as possible to the historical core of settlement. In a first step, we draw on Bundesamt für Kartographie und Geodäsie and GeoBasis-DE (2019), which lists 145,000 place names in contemporary Germany, for city locations. Moreover, we identify historical market squares, town halls, or churches using *Google Maps* and *OpenStreetMap*. We then consider all the points that are located inside the town walls (if present). Out of the remaining possible locations, we choose the oldest one, drawing on the respective *Wikipedia* pages as main source.

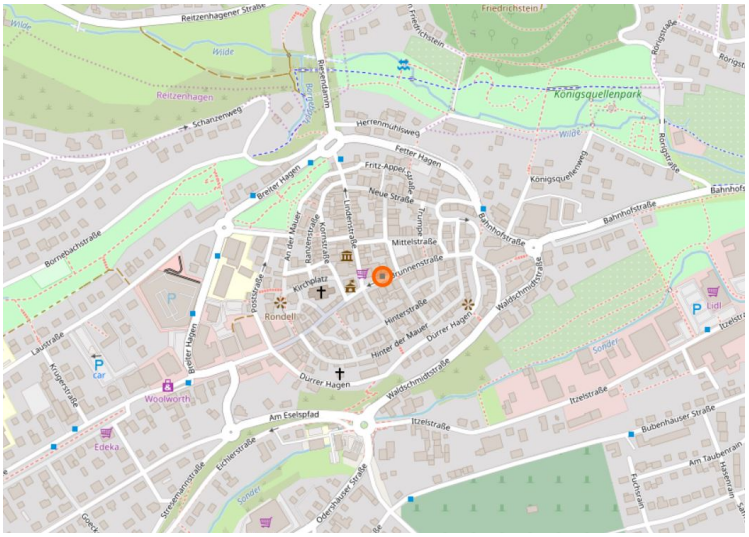

Figure 1: Bad Wildungen

Figure 1 illustrates a very clear example with the visible historical center of Bad Wildungen, where we take the market square as origin of settlement. The town hall is located on the market square, with the parish church around two hundred meters to the west.

3 General Approach: City Borders

In a second step, we aim to go from mere city locations to a two-dimensional surface that approximates a city's likely area of influence. Here, we choose two factors as natural barriers influencing the shape of political borders: terrain ruggedness and river velocity values. We thus assign costs of crossing a respective unit of land by factoring in slope and river presence.[2] We then draw weighted Voronoi Polygons around the respective point coordinates accordingly, thus assigning each point its closest features in the plane.

[2] In a first step we rely on built-in Jenks natural breaks optimization to re-classify slope and velocity values on a scale of 1-10. Additionally, we assess all slope values >12% to constitute an insurmountable obstacle, e.g. for military operations.

Figure 2 shows the resulting cost raster. The outline of our study area is depicted in black.

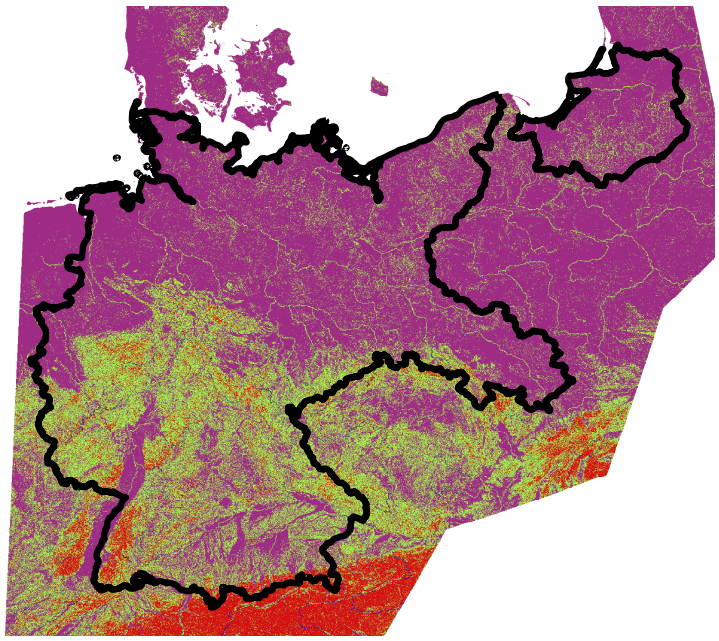

Figure 2: Cost Allocation

The data also include city border polygons which do not take natural barriers into account.

4 Description of the Variables: City Locations

name Name of the city according to the title of the article in the *Städtebuch*.

name_alt Alternative name of the city (e.g. including a region description).

region_id Denotes *Städtebuch* regions.

region_id	region	””
1	Ostpreussen	East Prussia
2	Pommern	Pomerania
3	Hinterpommern	Farther Pomerania
4	Mecklenburg	Mecklenburg
5	Schleswig-Holstein	Schleswig- Holstein
6	Hamburg	Hamburg
7	Brandenburg	Brandenburg
8	Schlesien	Silesia
9	Sachsen	Saxony
10	Thueringen	Thuringia
11	Sachsen Anhalt	Saxony-Anhalt
12	Niedersachsen	Lower Saxony
13	Westfalen	Westphalia
14	Rheinland	Rhineland
15	Hessen	Hesse
16	Nordwürttemberg	North Württemberg
17	Südwürttemberg	South Württemberg
18	Rheinland-Pfalz	Rhineland-Palatinate
19	Saarland	Saarland
20	Nordbaden	North Baden
21	Südbaden	South Baden
22	Franken	Franconia
23	Bayern	Bavaria

city_id Unique identifier of each city, clustered by *Städtebuch* volume.

name_foreign Non-German city name. Only present when city is outside contemporary German borders.

nat Country of location if outside of contemporary Germany. Two-letter-codes according to ISO 3166-1 alpha-2.

longitude Longitude of location (DD).

latitude Latitude of location (DD).

author (Primary) author of the encyclopaedia entry for the respective city. Authors of individual articles are preceded by the article number.

5 Description of the Variables: City Borders

In addition to the city location information, this dataset contains the following variables:

Shape_Area Area of the polygon (sqm).

Shape_Length Circumference of the polygon (m).

6 Specific Issues

Two issues require additional efforts in locating a historic city center: first, name changes of cities that today are outside German borders, and second, changes in urban landscapes mostly brought about by World War II. Kaliningrad (Königsberg (Pr.) in our data) illustrates both these obstacles in Figure 3.

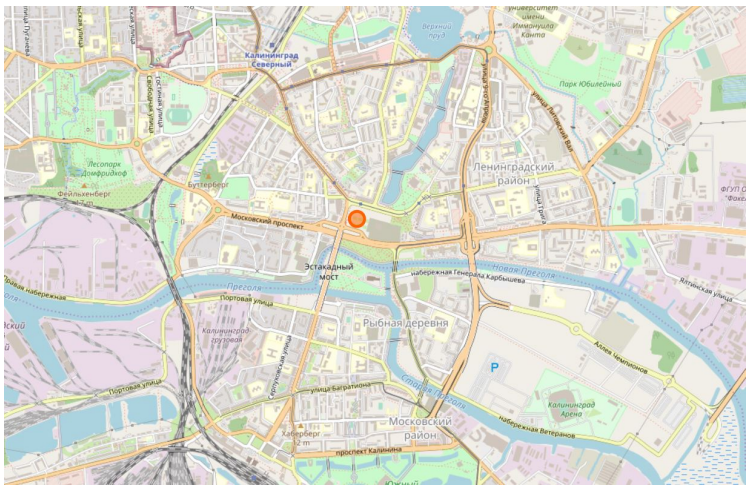

Figure 3: Kaliningrad (Königsberg (Pr.))

Due to destruction of the city's core in British air raids of 1944, and in the *Battle of Königsberg*, the location of the historic market and castle today is a tourist information center, the coordinates of which enter our dataset. If a contemporary city is the result of mergers of multiple cities in our source, we identify the respective centers separately.

We also identify two duplicates amongst the 2,394 entries of the *Deutsches Städtebuch*: Ostheim von der Rhön and Bad Sachsa administratively were originally part of Thuringia, and in 1947 were allocated to Bavaria and Lower Saxony, respectively. They thus appear twice, in separate volumes of the *Städtebuch*, published before and after the war.

Additionally, Wuppertal and Saarbrücken were formed in 1929 and 1909, respectively, with all its constituting parts mentioned as separate entries in this encyclopaedia. This leaves 2,390 unique city locations, to which we assign coordinates.

7 Contents of the Data Package

city_locations.csv CSV of city locations.

city_locations.shp Point geometry of city coordinates (includes all locations).

city_locations_2019.shp Point geometry of city coordinates (includes only those located within 2019 German borders).

city_borders.shp Interpolated borders of cities (includes all locations).

city_borders_2019.shp Interpolated borders of cities (includes only those located within 2019 German borders).

city_borders_flat.shp Interpolated borders of cities assuming flat terrain (includes all locations).

city_borders_2019_flat.shp Interpolated borders of cities assuming flat terrain (includes only those located within 2019 German borders).

8 Collaborators

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References

Bundesamt für Kartographie und Geodäsie and GeoBasis-DE, *Geographische Namen 1:250 000 - GN250. Stand 01.01.2019*, Frankfurt am Main: Bundesamt für Kartographie und Geodäsie and GeoBasis-DE, 2019.

Keyser, Erich, Peter Johanek, Evamaria Engel, and Heinz Stoob, eds, *Deutsches Städtebuch: Handbuch städtischer Geschichte*, Stuttgart u.a.: Kohlhammer, 1939-2003.