

Warsaw-natural environment

How did the natural environment determine the development of the city?

Agnieszka Chrzastowska-Wachtel



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Warszawa

What do we already know?

Gdzie leży Warszawa?



http://www.batorz.gmina.pl/img/zdjecia/_big/eu_location_pol.png&imgrefurl



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Warsaw is located in Mazovia which is situated in the Central European Lowland zone.



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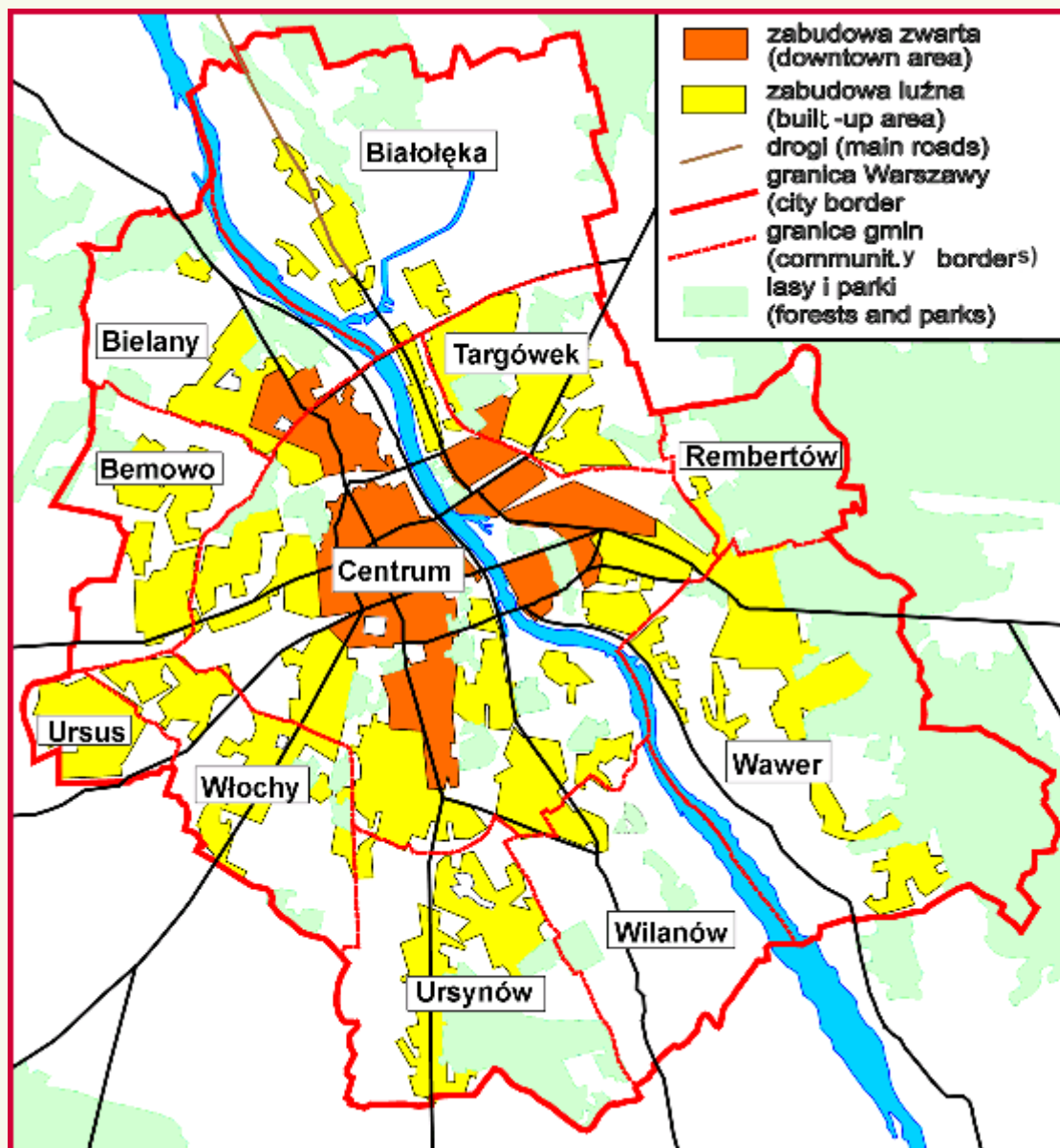


Mark Warsaw on the map



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Warsaw



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Short Quiz for the beginning

Select YES or NO



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Warsaw is the largest Polish city in terms of population.



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Warsaw lies on the Mazovian Lowland.



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Warsaw lies on the banks of the Vistula river. The Vistula is the longest river in Poland.



<http://www.edureg.pless.pl/wisla.htm>



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<http://warszawa.gazeta.pl/warszawa/55,34889,5101170.html>

The Vistula drainage basin is the largest among all rivers of the Baltic Sea.



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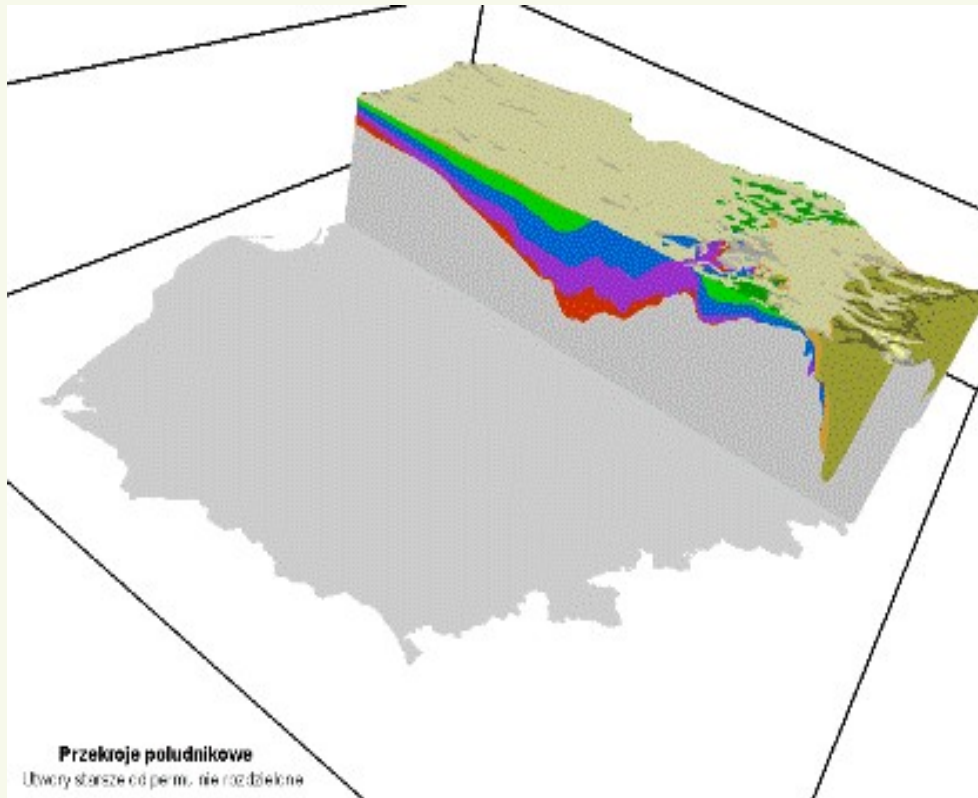


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Warsaw Trough (central part of the Marginal Trough) is filled with thick layers of mezozoic sediments.



http://old.pgi.gov.pl/3d/pages/przekroj_e1.htm



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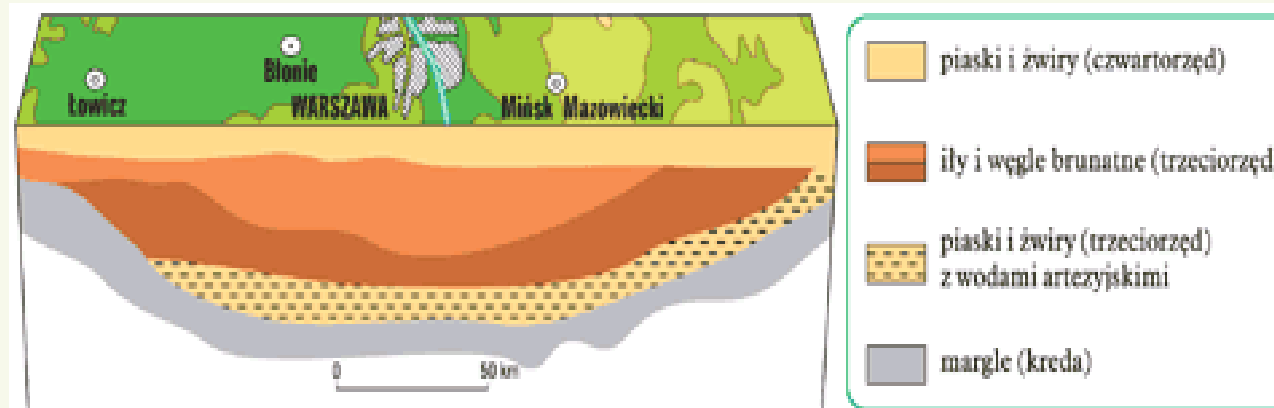
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A vast depression (Mazovian Basin), reaching beyond the Warsaw Basin was created in the Central part of Poland in the Tertiary period.

Marine and lake sediments were accumulated in the Mazovian Basin.



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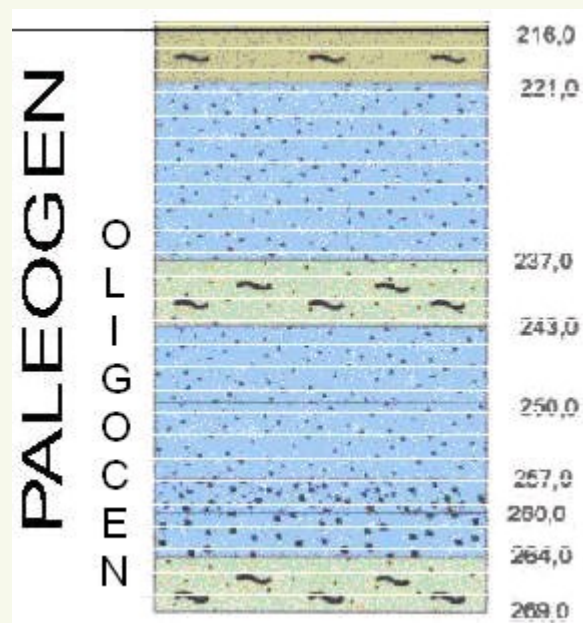


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Artesian waters are Warsaw treasures. They occur in permeable rock layers (sandy) of the Mazovian Basin.



<http://przyrodai.blogspot.com/2008/09/park-rydza-migego.html>



<http://www.geo.uw.edu.pl/STACJA/index.htm>



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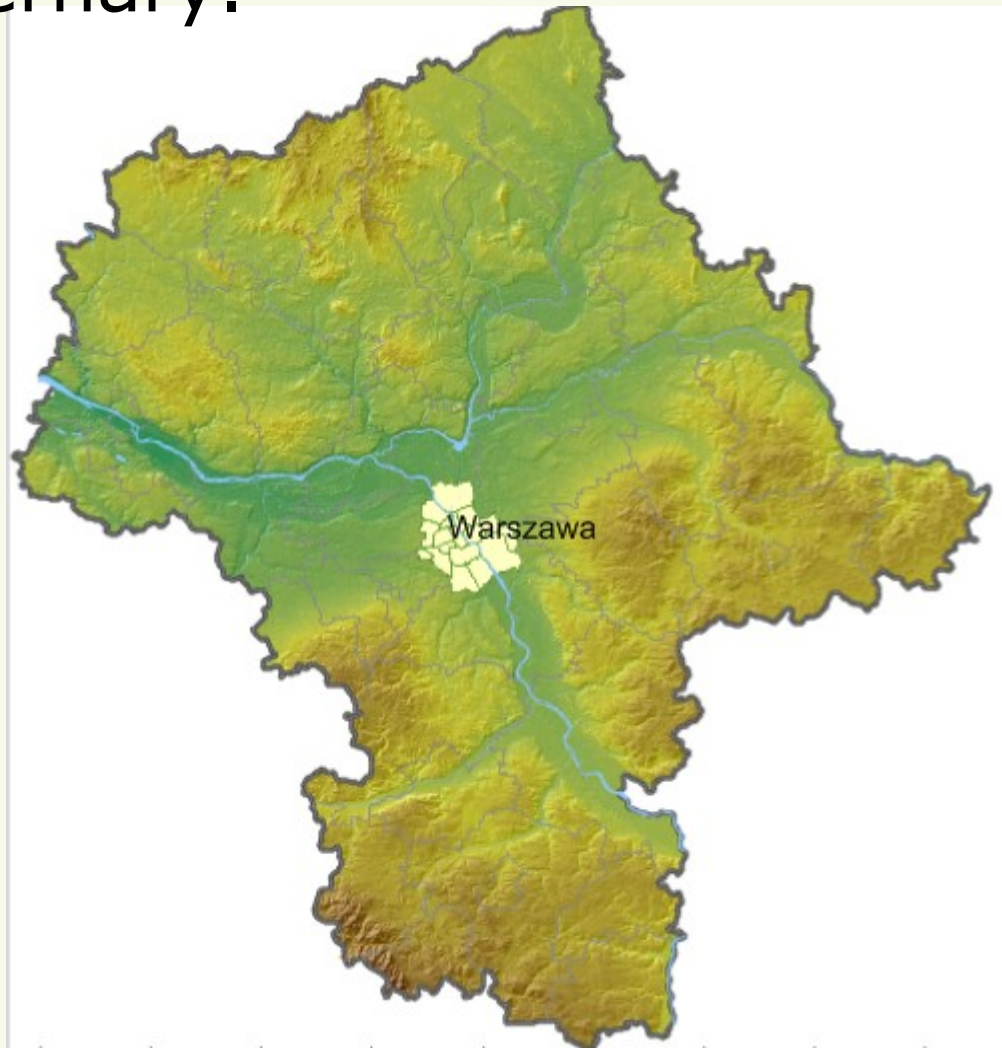


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The region of Mazovia is a vast basin shaped depression called the Warsaw Basin. The relief of a depression was transformed by geomorphological processes in the Quaternary.



<http://www.wrotamazowska.pl/>



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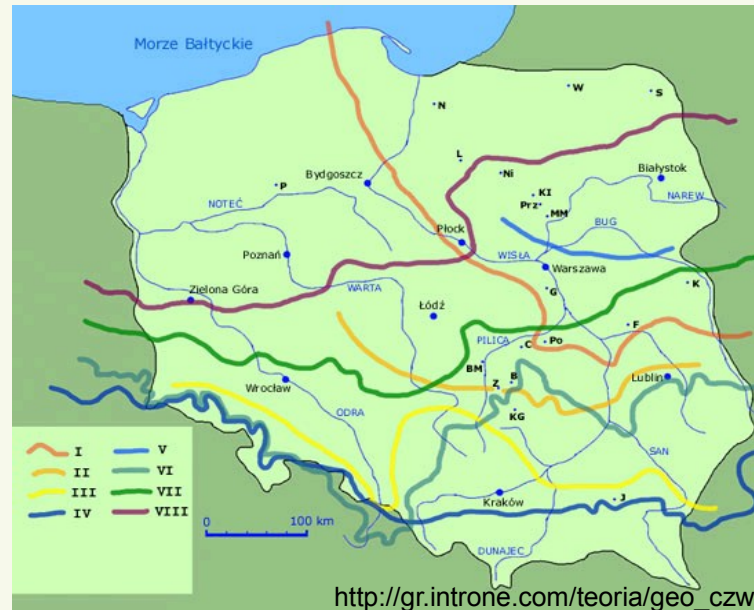
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<http://uwb.edu.pl/universytet.php?p=1283>



http://gr.introne.com/teoria/geo_czwartorzed.htm

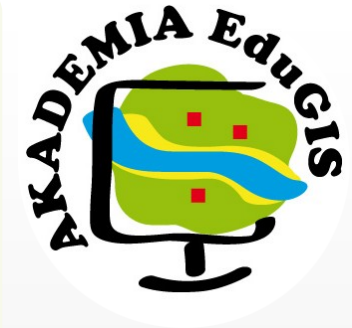
The main forms of relief of the Mazovian Lowland have been shaped as a result of the Scandinavian ice-sheet during two subsequent glaciations (Odra and Warta).



<http://www.varsovia.pl/varsovia/>



http://www.msw-pttk.org.pl/galeria/galeria_obiekty/galeria5.html



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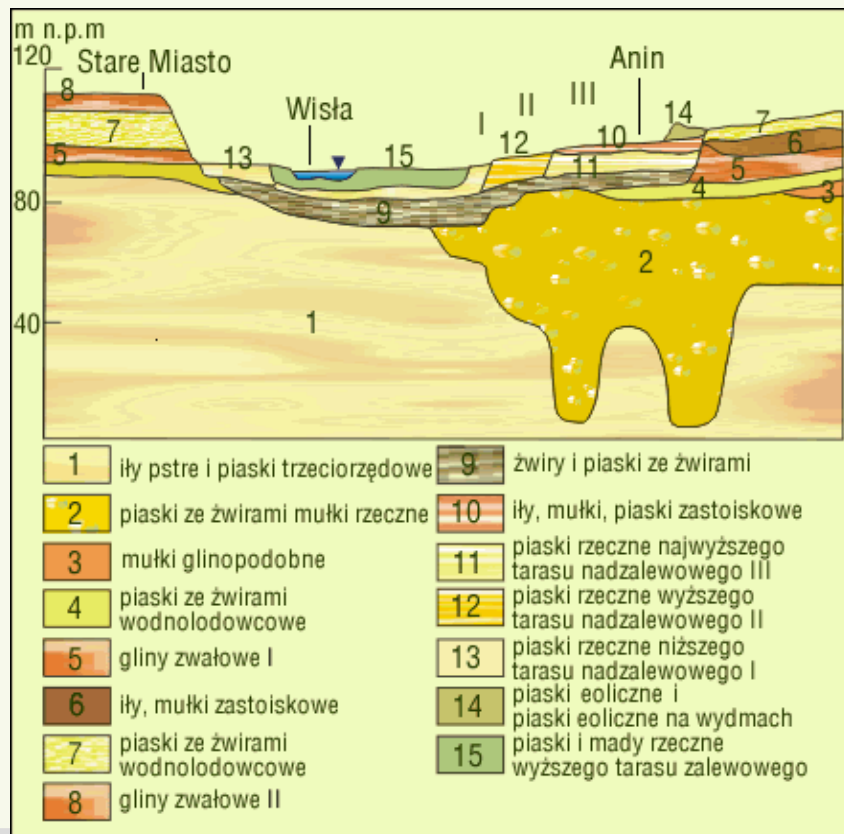
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Terrain of today's Warsaw have been shaped by: glacial, fluvioglacial, fluvial and aeolian processes.

Records of morphological processes that shape the relief and geology of the area can be observed on the geological profile crossing the Vistula Valley.



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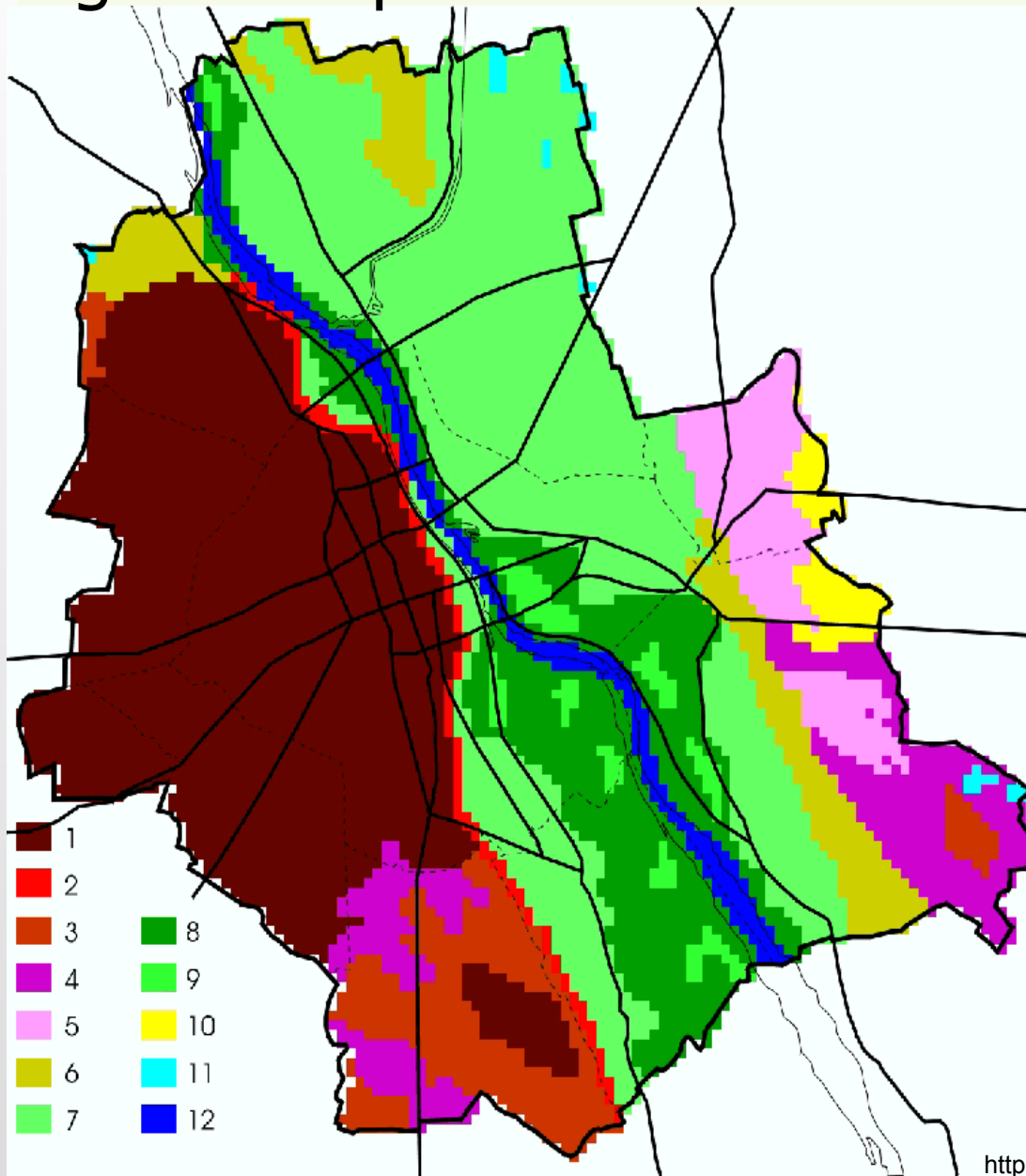


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The dominant elements of the Warsaw relief are: the Vistula Valley, Warsaw Plateau and high escarpment.



- 1- Warsaw Plateau,
- 2 - Escarpment,
- 3 – Denuded Plateau,
- 4 – Otwock terrace,
- 5 - Plain "Radzimska",
- 6 - Dune Terrace,
- 7 - Accumulation terrace- the Praga terrace,
- 8 - Floodplain terrace ,
- 9 - River shoal,
- 10 - Dune field,
- 11 - Bogs,
- 12 - Bed of the Vistula.



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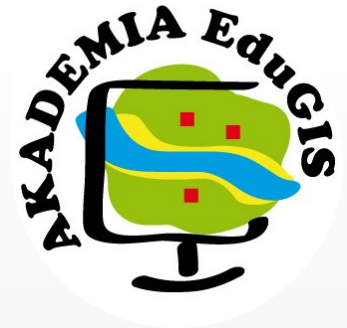
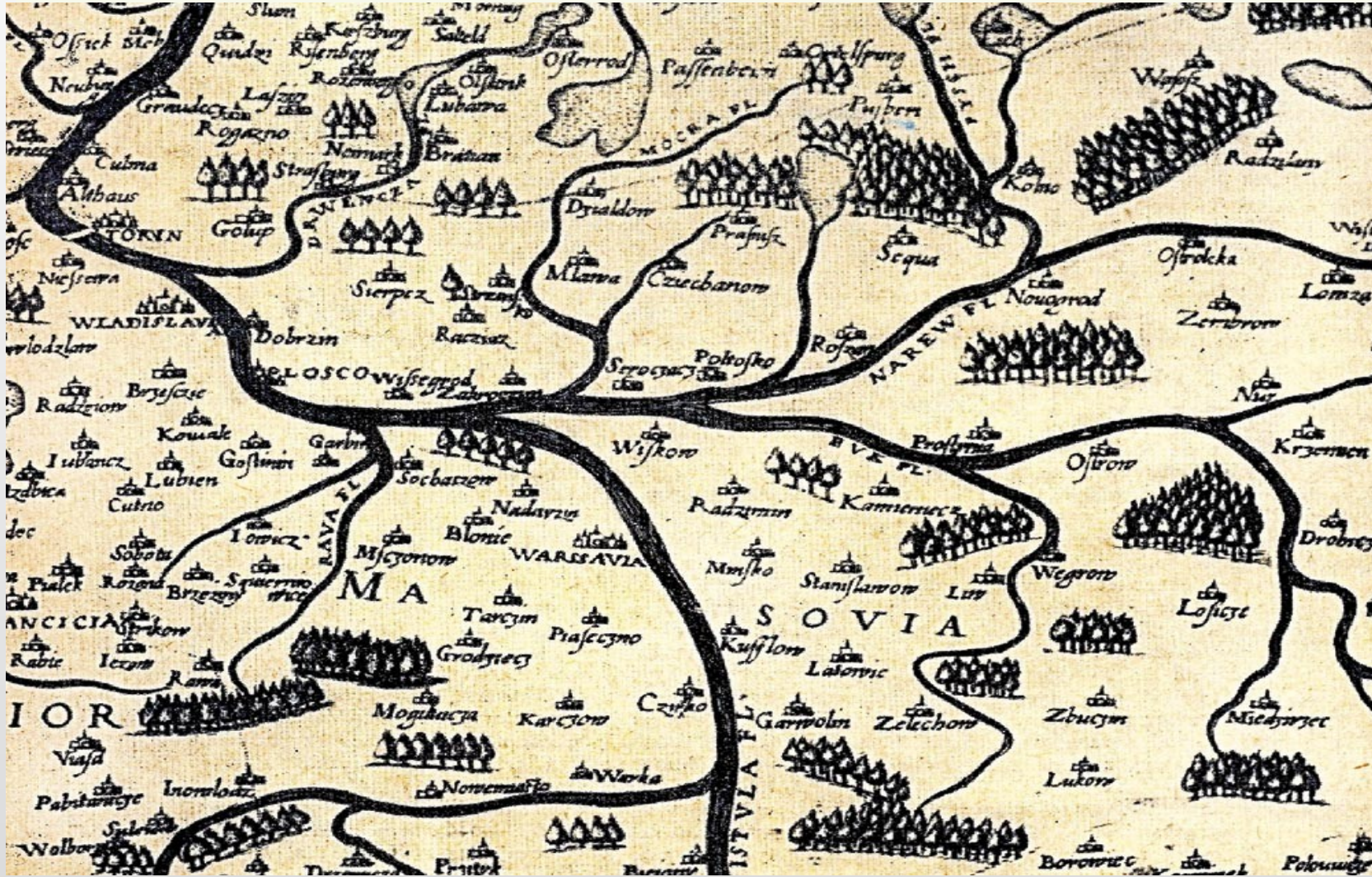


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The shape of the Warsaw Basin has determined concentric systems of river networks. The Vistula receives waters of many rivers which flow from all directions towards the Warsaw Basin.



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The Vistula is an unregulated river. In historic times, the river changed from a meandering form to a wild (braided) form, depending on human activity.



The Vistula river south from Warsaw. http://www.samper.pl/warszawa_z_lotu_orla/?wzlo-gal&s=kuw&z=0



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Old Town

was established at the intersection of two axes: the Vistula River (North - South) and the main East - West axis running at the narrowest point of the Vistula valley. Prince's town in the XIII century was on a high bank of the Vistula and exercised control over the river crossing.



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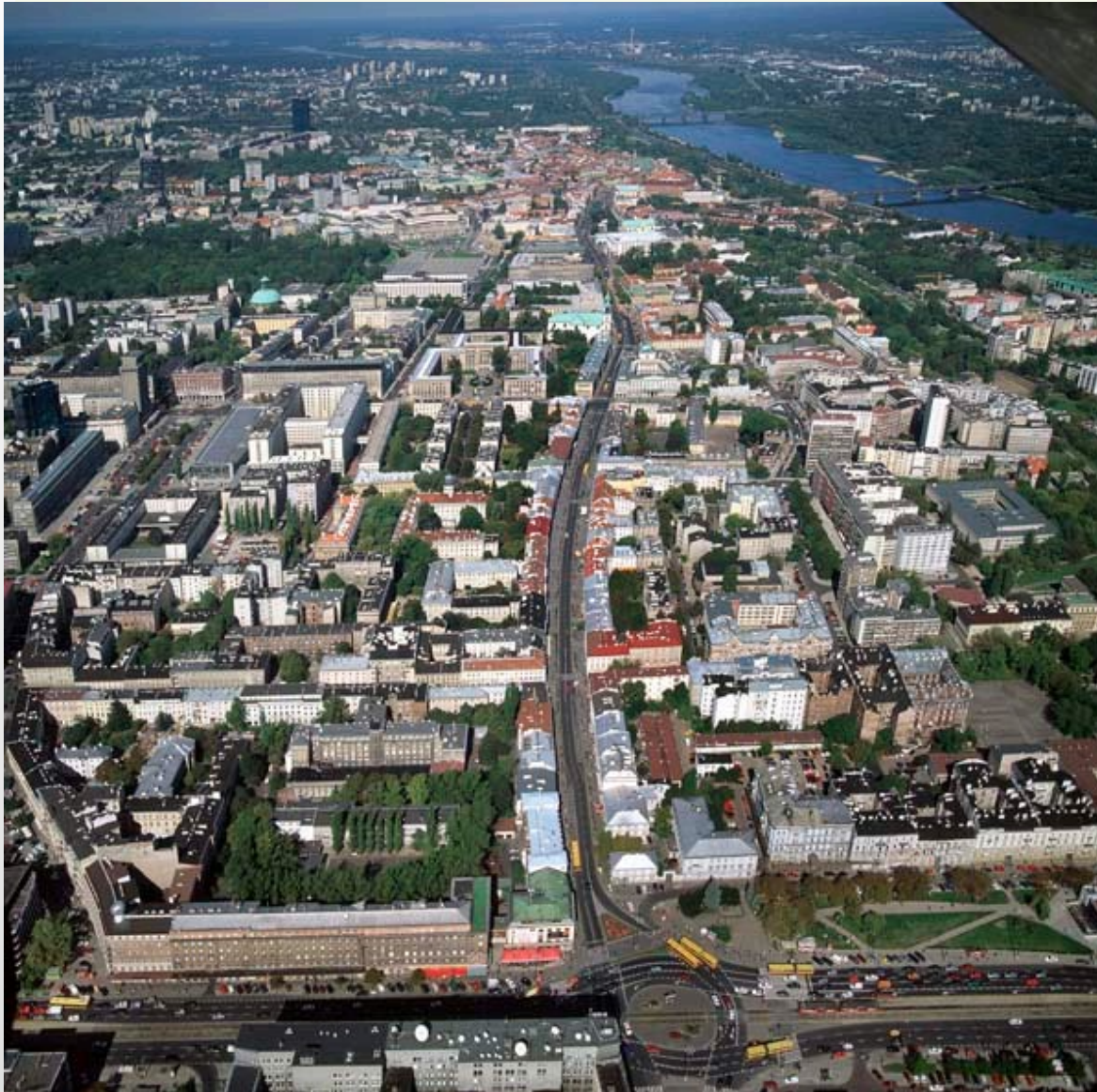


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Warsaw Escarpment



The first urbanization axis of Warsaw - Royal Route was founded along the erosion edge of the Warsaw Plateau.



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Project partners:



Support from Norway through the Norwegian Government and the Norwegian Development Fund

Movements of the Warsaw Escarpment, such as landslides of the slope, result for instance in cracking the walls of St. Ann Church.



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http://warszawa.gazeta.pl/warszawa/1,95190,9070033,Kosciol_sw__Anny_ma_mury_jak_ga_bka__Pekaja_siany.html



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Complex geology of the Warsaw area delayed the building of an underground railway.



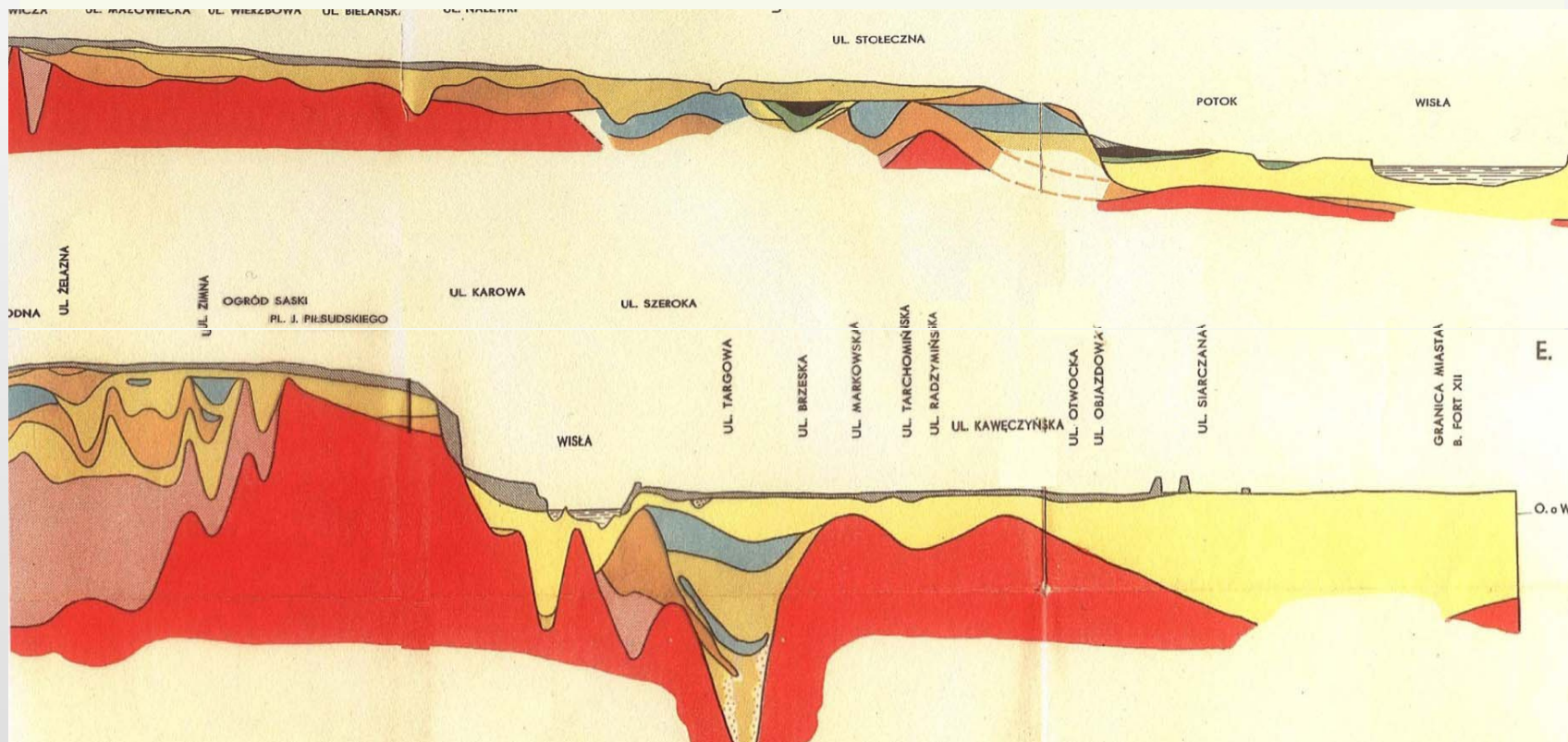
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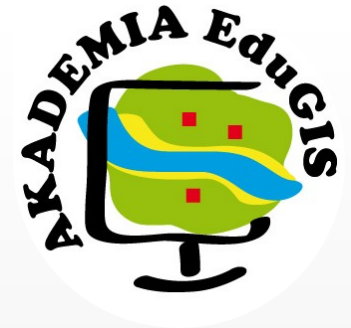
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Profiles by .Różycki and Sujkowski, 1936

Research problems

- What are the main features of Warsaw's natural environment with particular emphasis on the geological structure, relief and hydrography?
- How the natural environment determined the spatial development of Warsaw?
- What are the natural causes of the spatial diversity of the city?
- Does the geological structure, relief and hydrographic network affect the distribution functions of the city and its physiognomy?



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Formulate a research hypothesis



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