

8TH CZECH-POLISH WORKSHOP ON RECENT GEODYNAMICS OF THE SUDETEN AND ADJACENT AREAS

Kłodzko, Poland, March 29-31, 2007

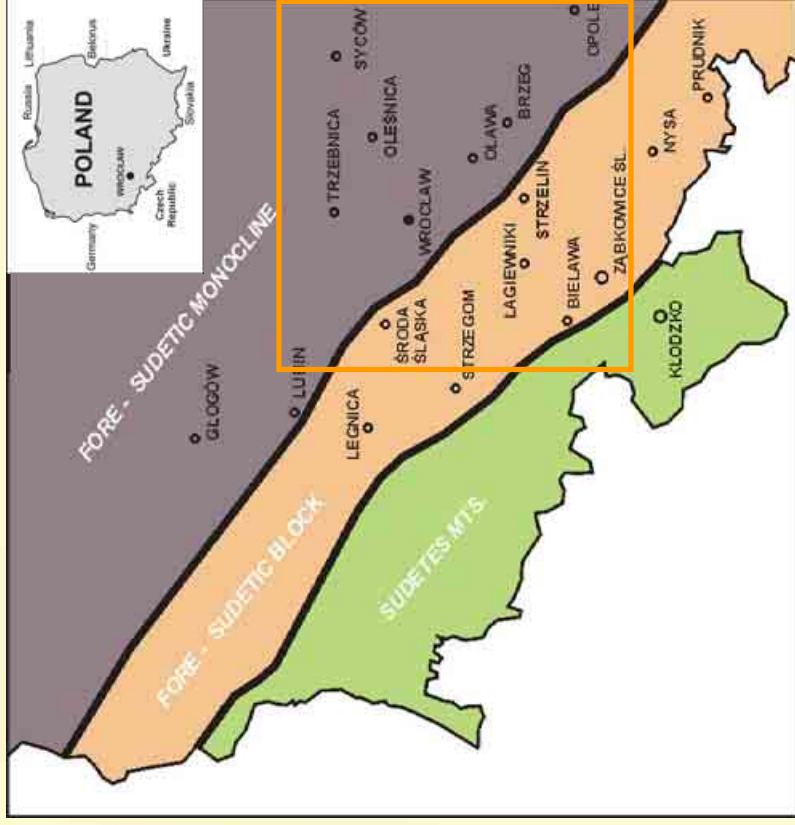
PRESENT VERTICAL MOVEMENTS IN THE WROCLAW SECTION OF THE CENTRAL EUROPEAN SUBSIDENCE ZONE

Piotr GRZEMPOWSKI, Janusz BADURA, Stefan CACÓN, Bogusław PRZYBYLSKI

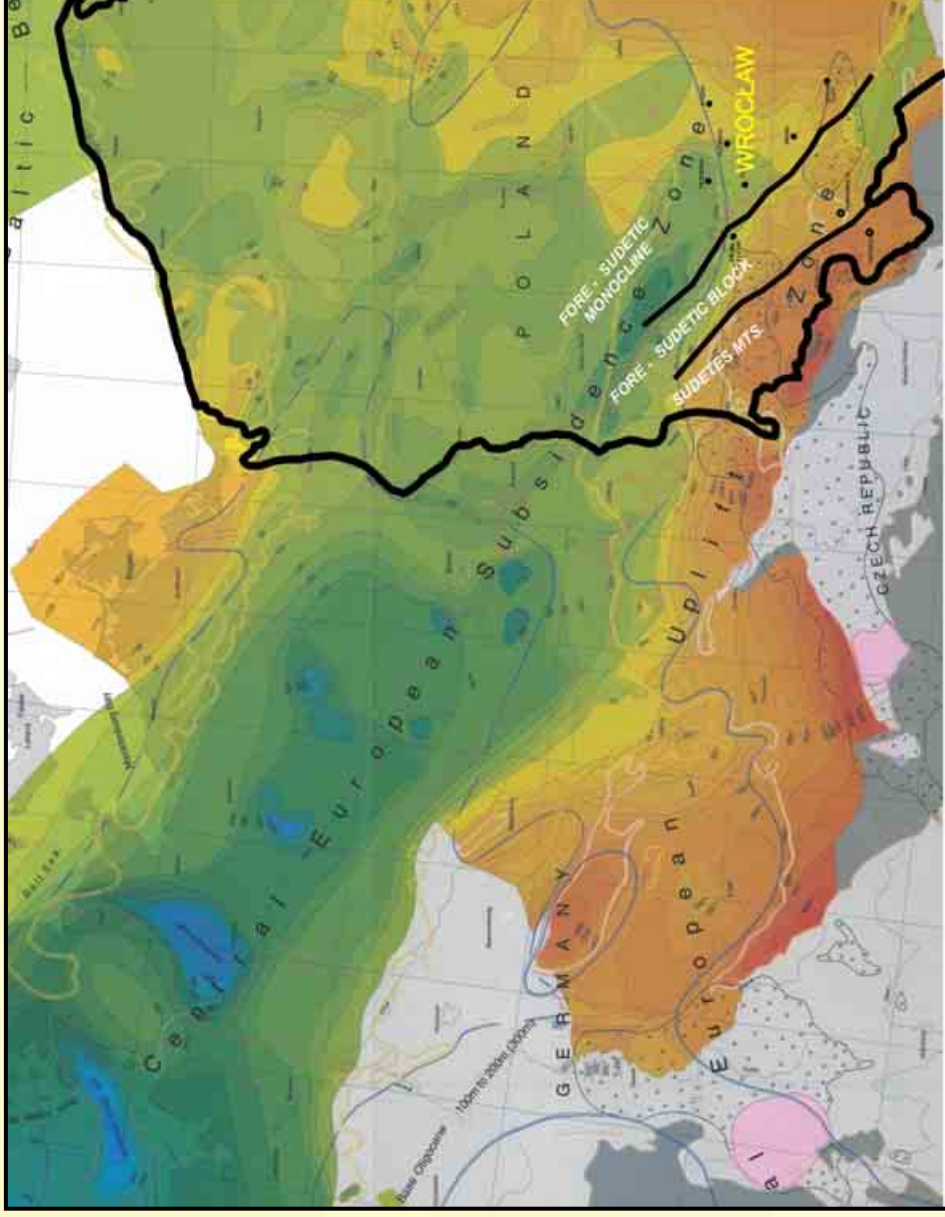
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50-122 Wrocław, Poland**

RESEARCH AREA



RESEARCH AREA



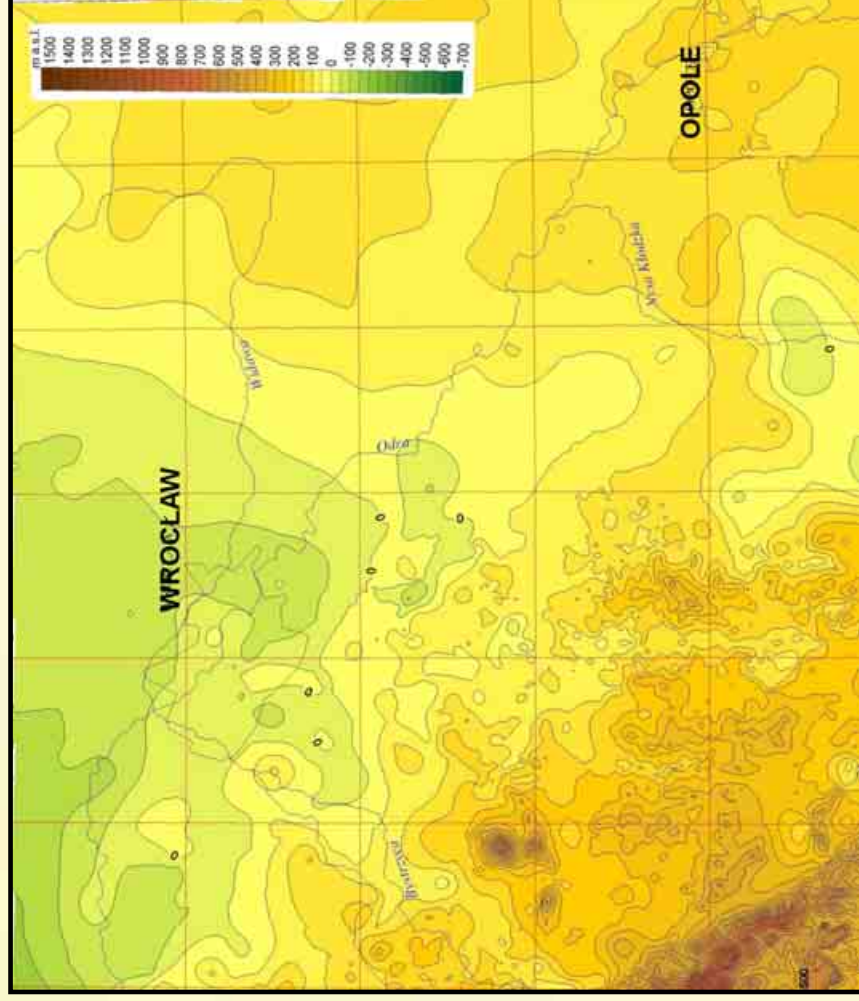
Part of the map „Vertical movements since the beginning of Rupelian stage (Oligocene)”
(Geological Survey of Brandenburg, Germany, 1998/2000)

RESEARCH AREA



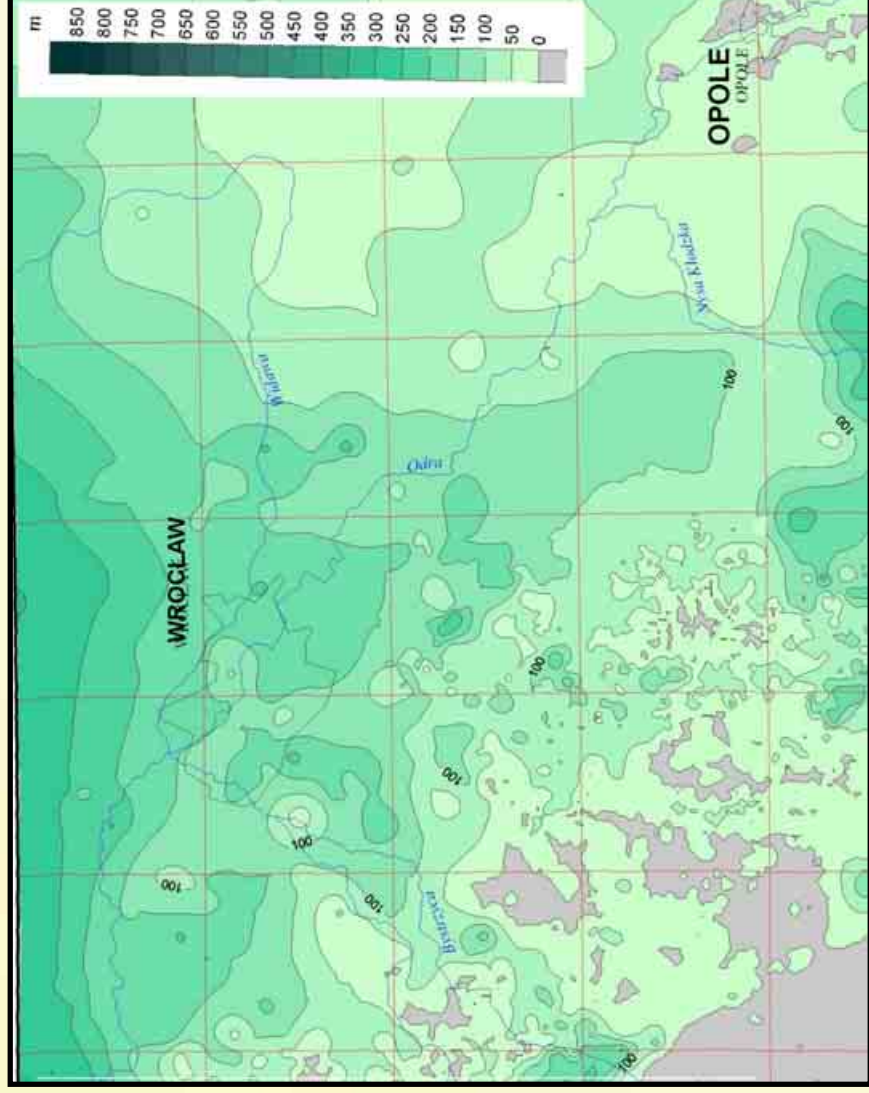
Part of the map „Fault pattern and tectonic units in SW Poland” (Badura et al., 2004)

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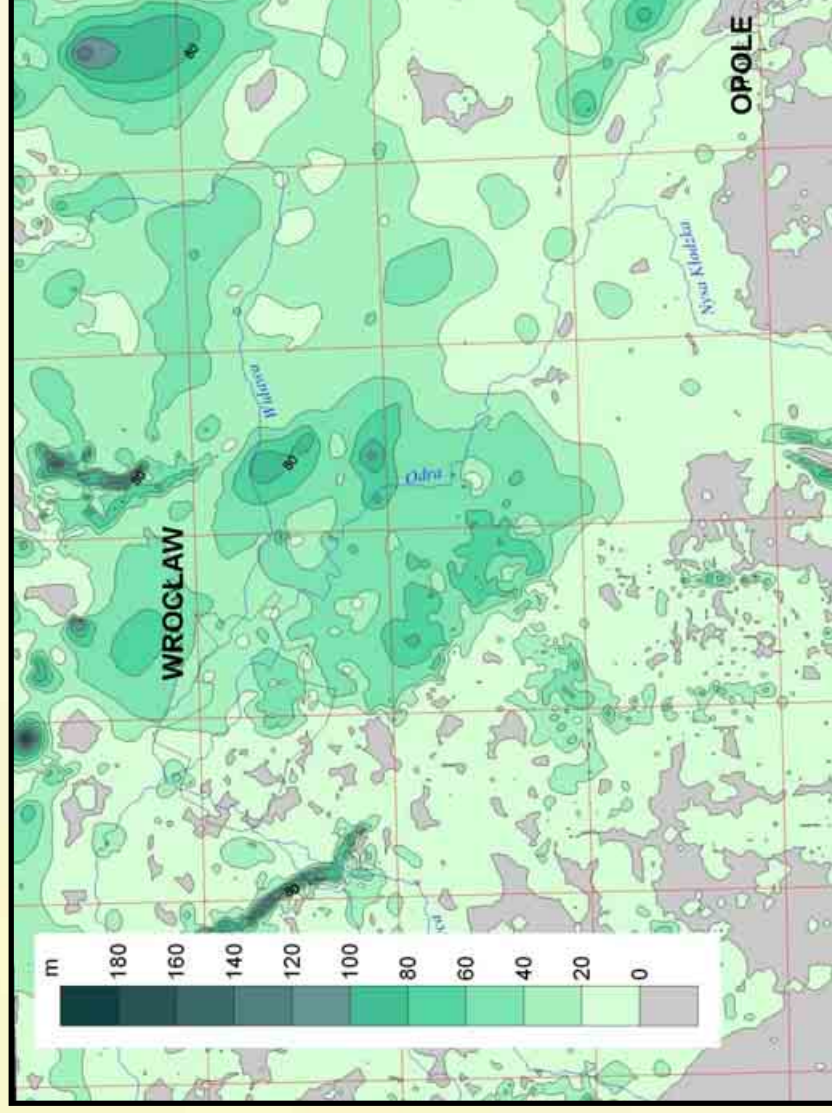
Part of the map „Topography of the sub –Cainozoic surface in SW Poland” (Badura et al., 2004)

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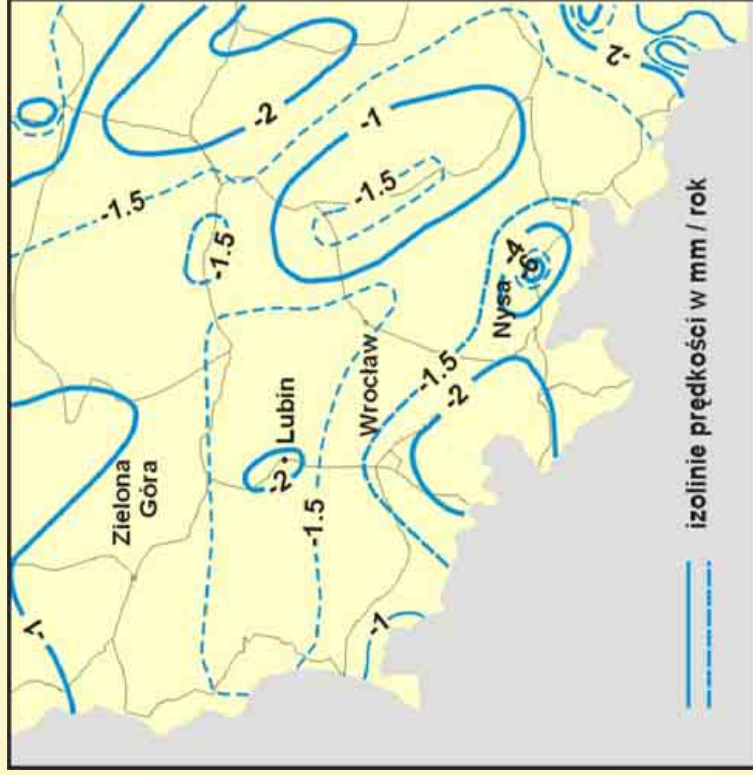
Part of the map „Thickness of Cainozoic strata in SW Poland” (Badura et al., 2004)

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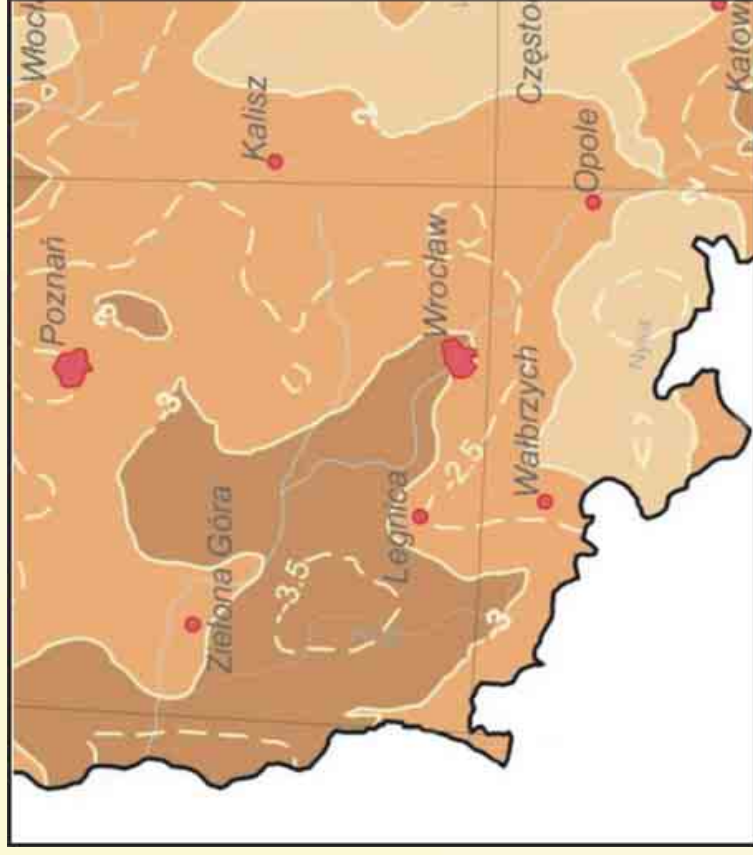


Part of the map „Thickness of Quaternary sediments in SW Poland” (Badura et al., 2004)

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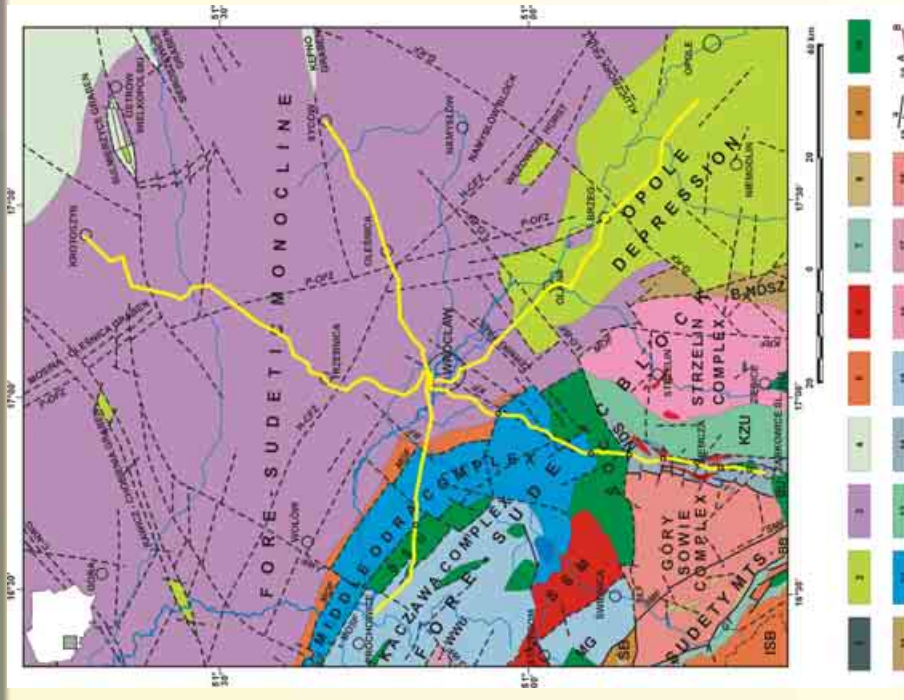
Map of recent vertical earth crust movements (Wyrzykowski, 1985)



Map of recent vertical earth crust movements (Kowalczyk, 2006)

LEVELLING LINES

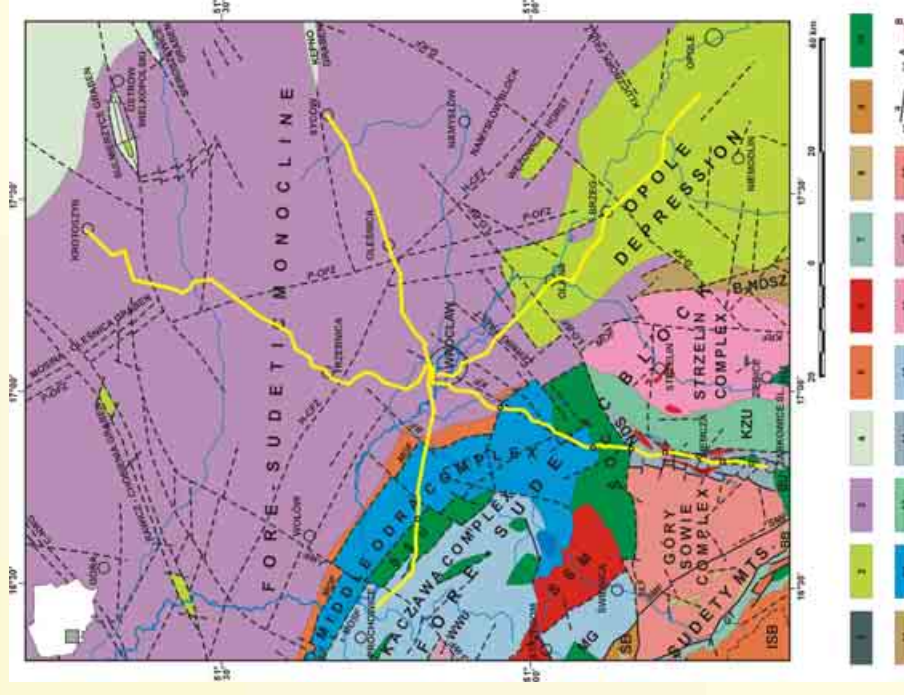
LEVELLING LINES	YEARS OF THE MEASUREMENTS
SYCÓW - WROCŁAW	1956, 1975, 1999
ZĄBKOWICE- WROCŁAW	1956, 1975, 1999
WYREBINY- WROCŁAW	1956, 1980, 1999
KAWICE - WROCŁAW	1975, 1999
KROTOSZYN - WROCŁAW	1980, 1999



Tectonic Map of the Fore-Sudetic Block and Fore-Sudetic Monocline (Sawicki 1997, Cymerman, 2004)

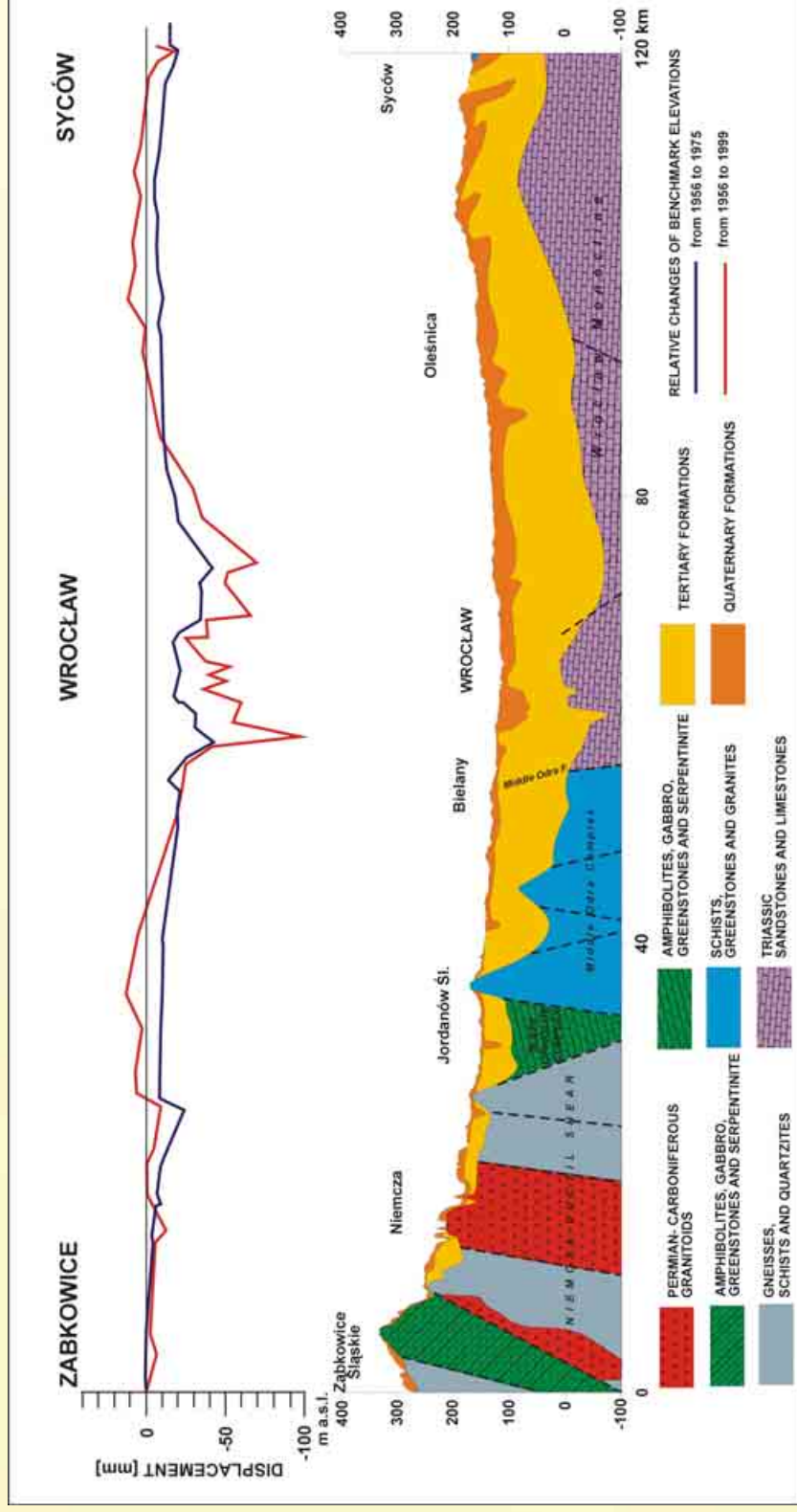
LEVELLING LINES

Levellin line	Changes of elevation differences in 1975-1999 period [m]	Changes of elevation differences in 1956-1999 period [m]	Lenght [km]
SYCÓW - WROCLAW	-0.024	-0.031	56
ZĄBKOWICE-WROCLAW	-0.016	-0.035	83
WYRĘBINY-WROCLAW	-0.012	-0.048	92
KAWICE - WROCLAW	-0.010	-	53
KROTOSZYN - WROCLAW	-0.032	-	83



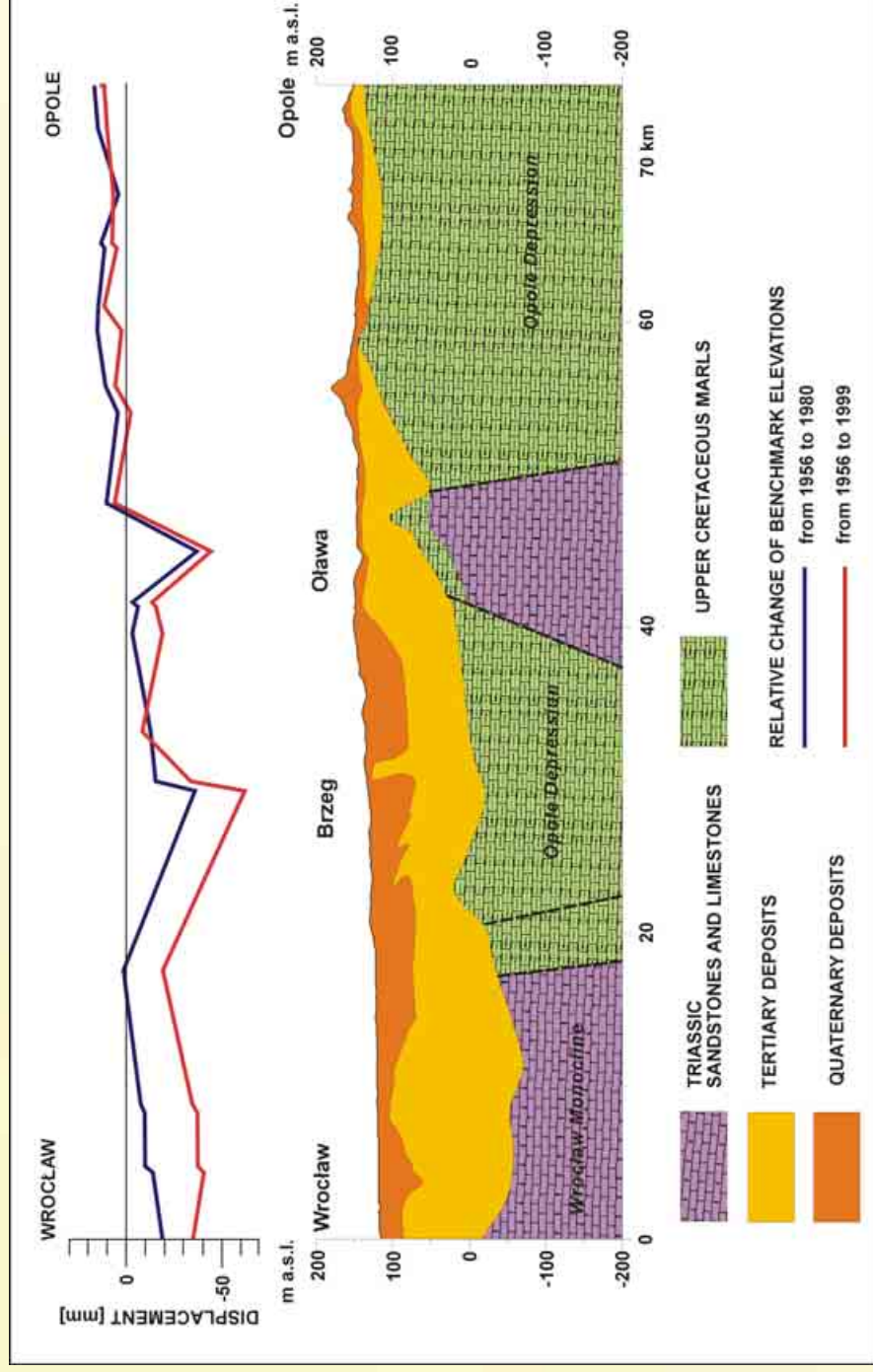
Tectonic Map of the Fore-Sudetic Block and Fore-Sudetic Monocline (Sawicki 1997, Cymerman, 2004)

RELATIVE CHANGES OF BENCHMARK ELEVATIONS



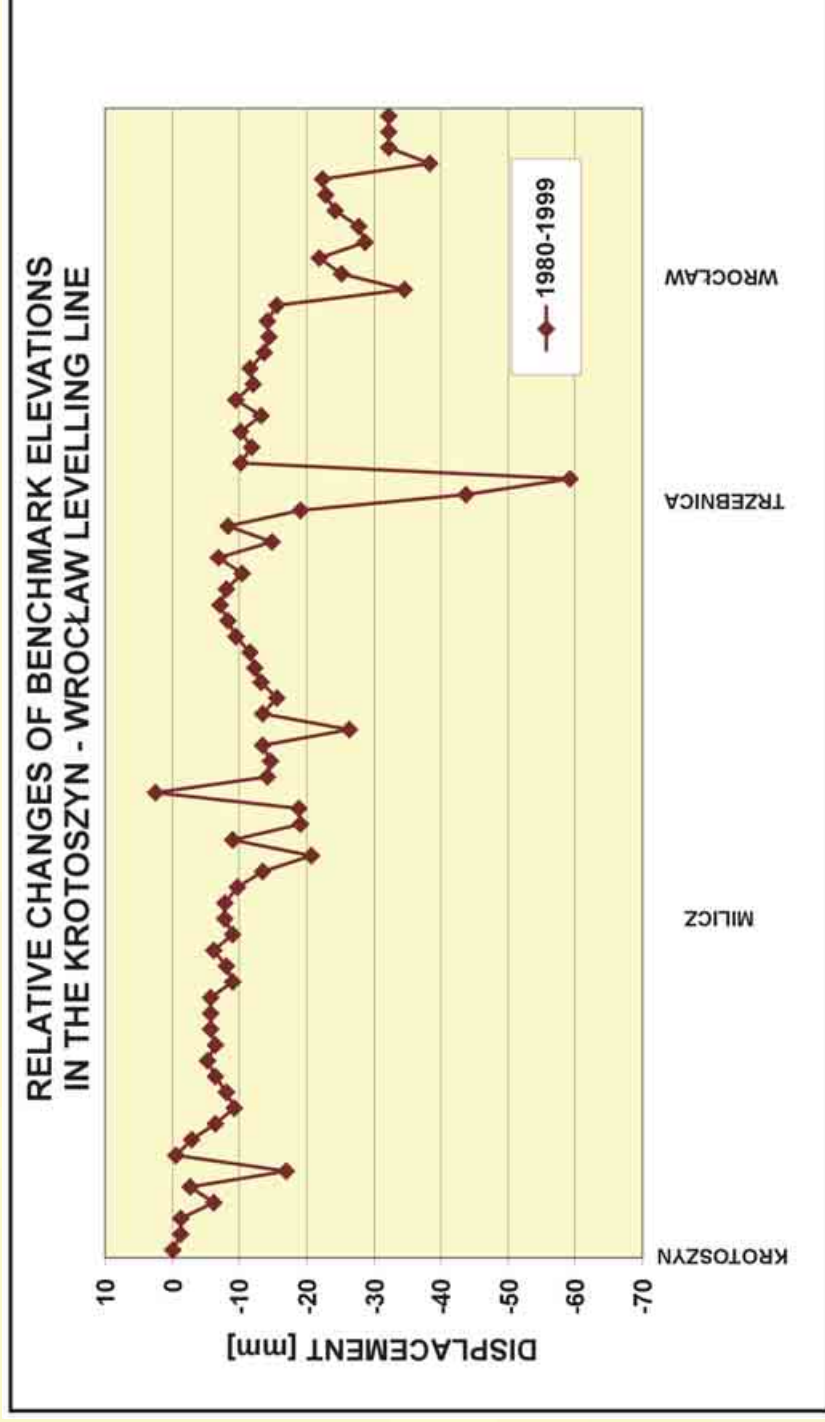
Geological profile along Ząbkowice Śl. – Syców national levelling line
with indicated benchmark height changes between 1956 and 1999

RELATIVE CHANGES OF BENCHMARK ELEVATIONS



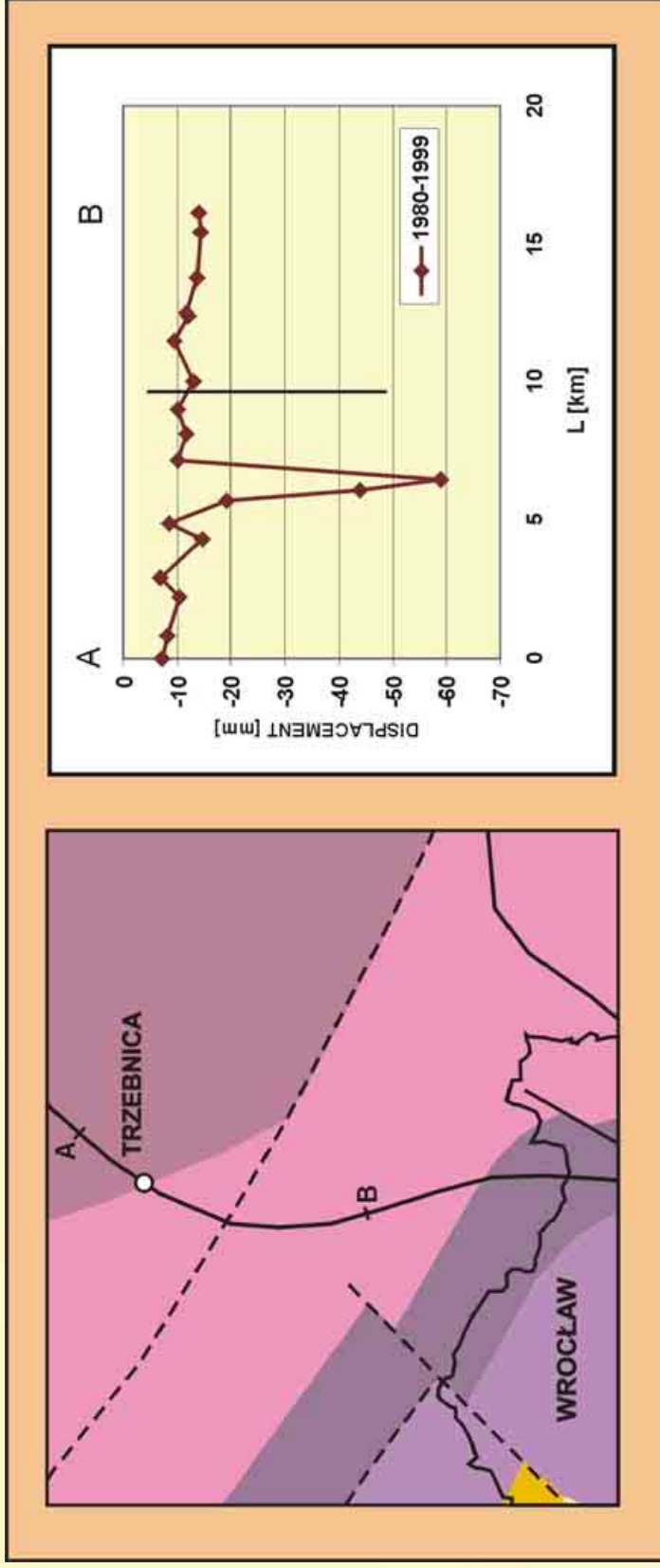
Geological profile along Wrocław – Opole national levelling line with indicated benchmark height changes between 1956 and 1999

RELATIVE CHANGES OF BENCHMARK ELEVATIONS IN THE KROTOSZYN - WROCLAW LEVELLING LINE



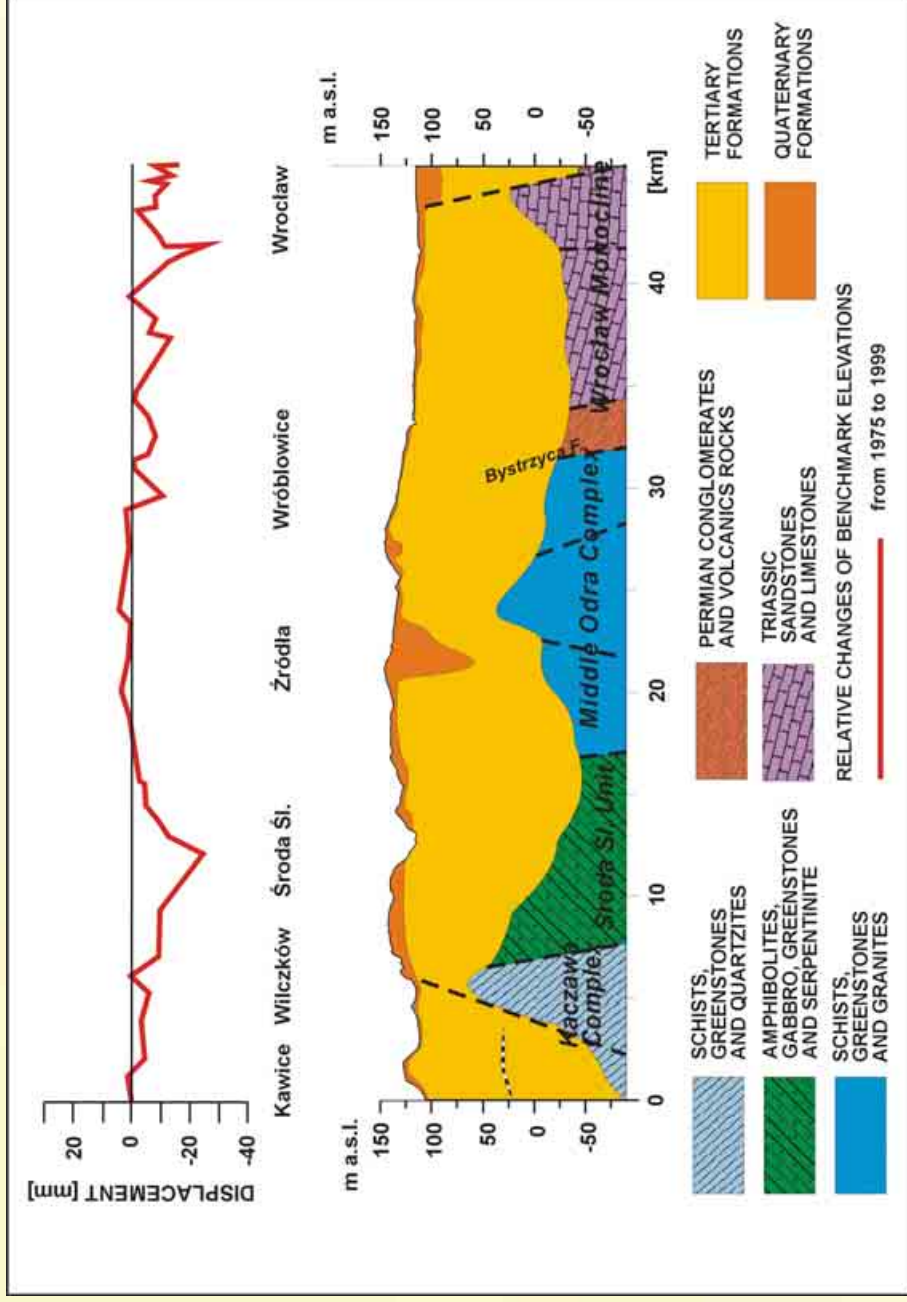
Relative changes of benchmark elevations in national levelling line from 1980 to 1999

RELATIVE CHANGES OF BENCHMARK ELEVATIONS



Relative changes of benchmark elevations
in the Krotoszyn – Wrocław part of a levelling line

RELATIVE CHANGES OF BENCHMARK ELEVATIONS



Geological profile along Wrocław – Kawice national levelling line with indicated benchmark height changes between 1975 and 1999

CONCLUSION

- Analysed relative changes of benchmark elevations in the levelling lines traverse the Wrocław section of the Central European Subsidence Zone showed existence of activity.
- The greatest relative change of benchmark reaching 99 mm in the Ząbkowice Śl. – Wrocław – Syców levelling lines in the 1956 – 1999 period.
- The changes of elevation differences between junction benchmarks ranged from 10 mm to 48 mm in the 1957-1999 period.
- Significant changes of elevation differences were registered in the parts of levelling lines traverse the tectonic zones such as the Middle Odra Faults Zone (near Domasław) and the Poznań – Oleśnica Faults Zone (near Oleśnica and between Brzeg and Oława).