

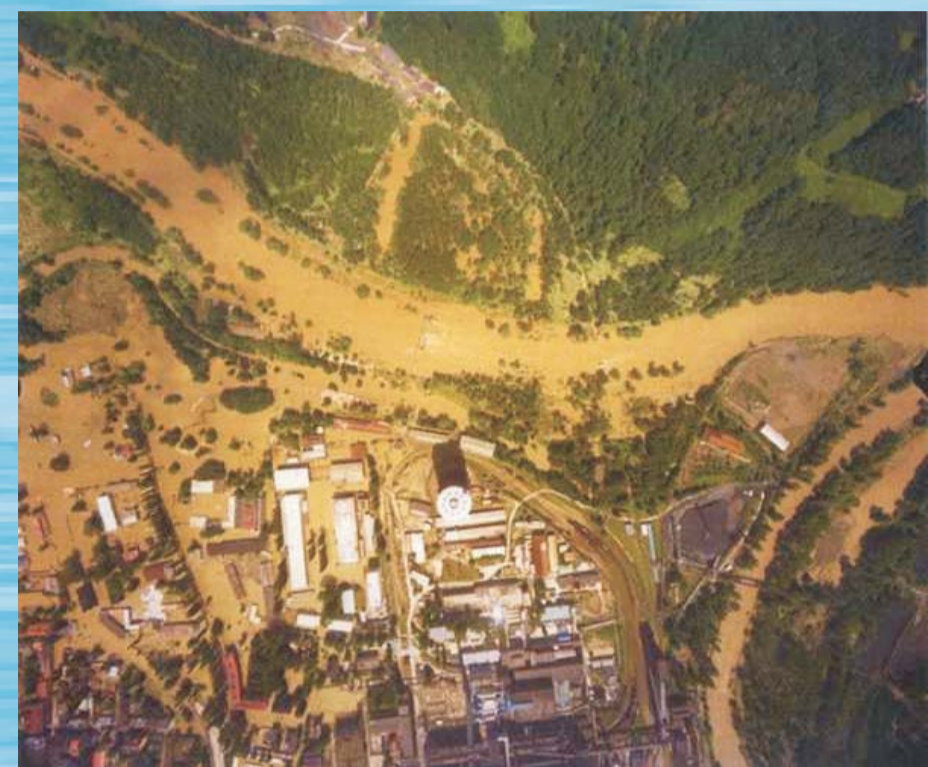
# THE RADIOCARBON CHRONOLOGY OF THE ODRA RIVER VALLEY

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Examples of flooded areas in the Odra river valley, July 1997:



Ostrawa (<http://www.odra.pl/atlas/pl/text/12.shtml>)



Opole (<http://archiwum.wiz.pl/images/duze/1997/10/97101503.JPG>)



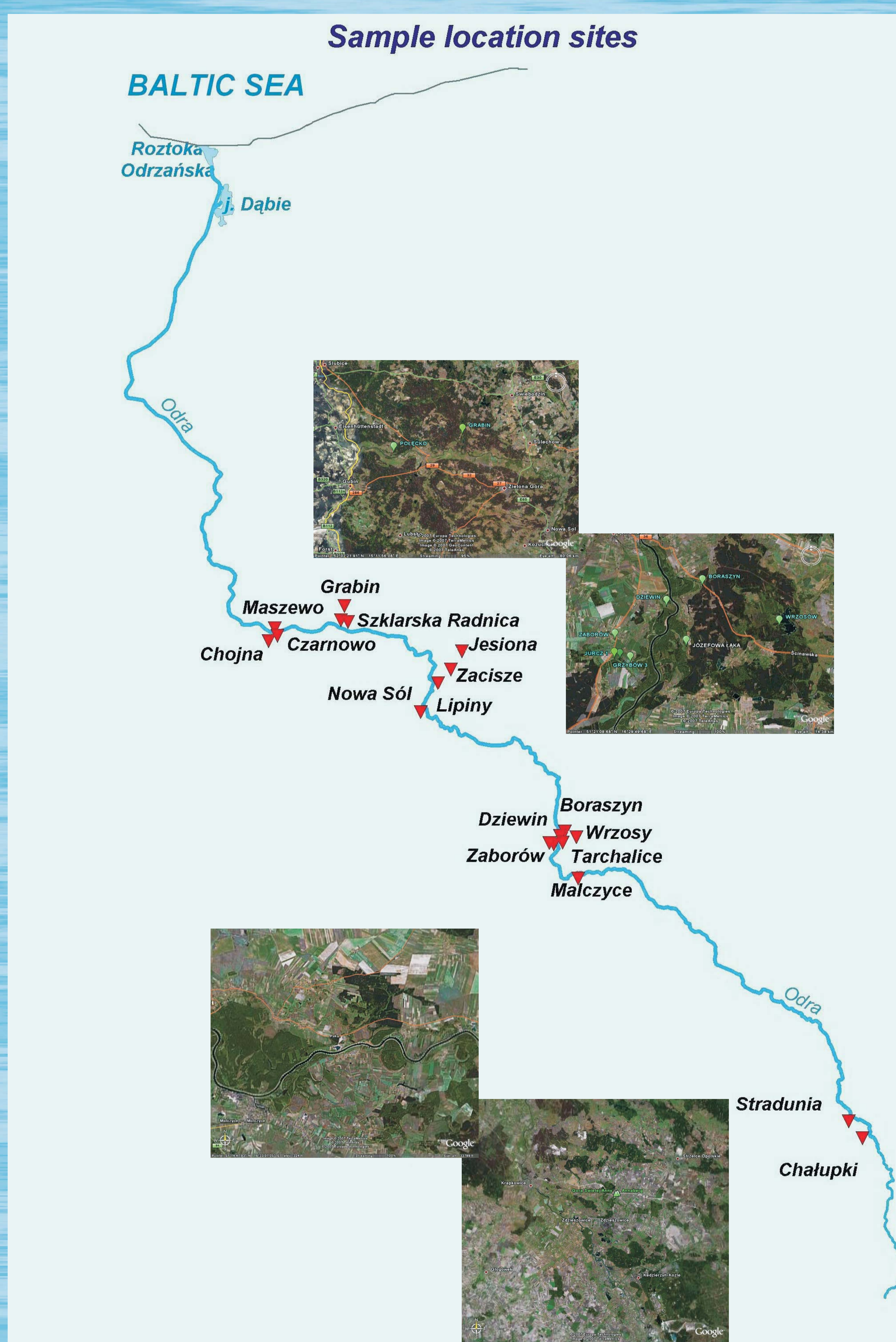
Wrocław ([wroclaw.hydral.com.pl/foto/32/32999.jpg](http://wroclaw.hydral.com.pl/foto/32/32999.jpg))



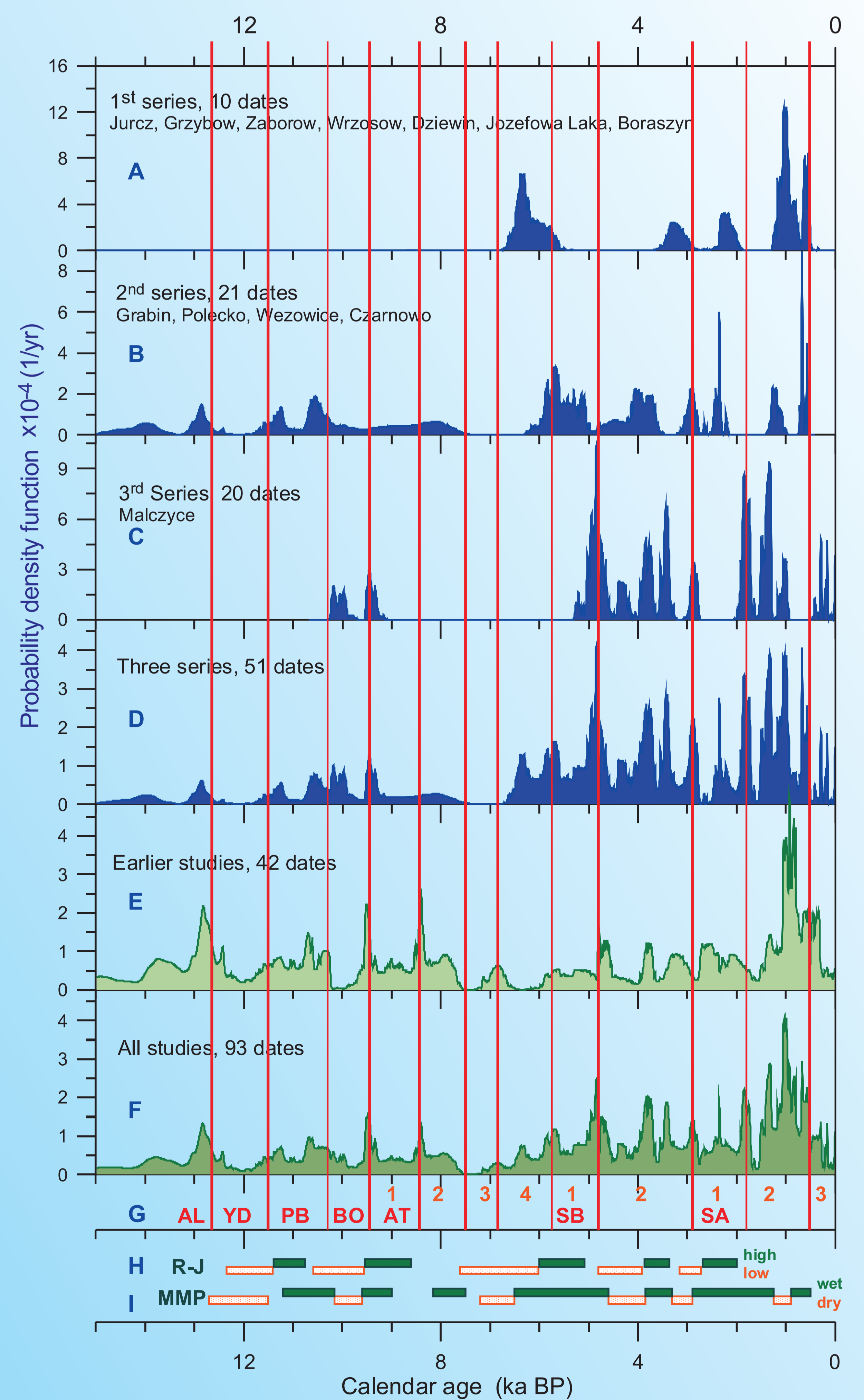
Wrocław (<http://wroclaw.hydral.com.pl/32992.foto.html>)

The research presented in this paper is a part of the project "Geology of Odra River valley from the Polish-Czech border till the mouth of the river in the aspect of floods risk of the adjacent regions" ("Studium budowy geologicznej doliny Odry od granicy polsko-czeskiej do ujścia rzeki w aspekcie zagrożenia powodzią rejonów przyległych").

The goal of this research is the identification of Odra River valley zones which can constitute risk for the floodbanks stability. These zones can be identified on the basis of geological and geomorphological maps and satellite images analysis. A thematic maps atlas of the Odra River valley at the scale of 1:50 000 and a 3D Odra River valley model will be the results of this study. The determination of absolute ages of sediments will allow to specify the terrace system classification and to identify extreme events (floods). Till now over 50 radiocarbon dates were obtained for samples collected from 15 different locations along the Odra River valley.



**Fig. 1.** Sample location sites. Samples were collected in a few series: 1st - 7 locations near Dziewin, 2nd - 4 locations near Grabin, and 3rd - Malczyce. Apart of this series, there are also marked sites from which samples had been already collected, but the process of dating is not finished yet.



**Fig. 2.** Results of dating of 51 samples collecting along Odra river valley in the comparison of earlier studies. Results of dating are presented as summarized probability density functions (PDFs).

- A - Results of dating of 1st series of samples (sediments)
- B - Results of dating of 2nd series of samples (sediments)
- C - Results of dating of 3rd series of samples (outer tree-rings of oak trunks found in the Odra channel in Malczyce). Dated samples represent extreme events (floods)
- D - Results of dating of all series of samples
- E - Results of dating of samples collected in the frame of earlier studies (Starkel et al. 2006)
- F - Results of dating of all samples collected along Odra river valley and dated in Gliwice Radiocarbon Laboratory
- G - Borders of subdivisions of the Late Glacial and Holocene period marked as red vertical lines.
- H - Reconstruction of lakes and mire levels for northern Poland R-J (Ralska-Jasiewiczowa, 1989, after calibration)
- I - Evaluation of dry and wet periods on the base of PDFs shapes (Michczyńska et al. 2007)