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SHAPING POLAND'S BORDERS AFTER THE FIRST WORLD WAR

METHODOLOGICAL PROBLEMS OF CREATING DIGITAL CARTOGRAPHIC REPOSITORIES



WARSAW 2023

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**BEATA KONOPSKA, MAREK BARWIŃSKI
MATEUSZ ZAWADZKI, MICHAŁ LUPA**

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Mateusz Zawadzki, Michał Lupa

Shaping Poland's borders after the First World War
Methodological problems of creating digital cartographic repositories

Reviewer
Elżbieta Kościk, PhD, DSc, ProfTit

Scientific publication financed under the programme of the Minister of Education and Science entitled
"Shaping the Borders of Independent Poland in the Light of Cartographic Documents" in 2018–2023
Project number: 01SPN17003218, funding amount: PLN 1,228,485



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Introduction

Cartographic historical sources as material objects are of interest to cartographic historians, museologists, archivists, conservators, collectors, etc. When the information contained in the graphic or text layer of a map is also the subject of study, the aforementioned researchers are joined by art historians, literary and military historians, political scientists, lawyers, humanistic geographers, experts in socio-economic issues and critical cartography. This wide interest is caused by the multidimensional nature of cartographic sources, information that was conveyed explicitly and encoded in mutual relations between map elements.

This broad, multidisciplinary interest in cartographic sources stems from the nature of a map, in which information about space is encoded and stored in a multidimensional way and usually according to a specific mathematical key. This structured communication is one form of social communication in which graphic and text signs play major roles. They are a representation of objects and phenomena occurring in geographical space, depicting their topographical location and making the interconnectedness and spatial relationships visible. The structure of the signs allows the addition of various types of characteristics that make the message more complete. In practice, a map gives a highly simplified and processed image of reality, which is in line with the intention of its author. When interpreting a map, especially a thematic one, it is more interesting to see what the author has left out, what they could not present or how they deformed its content.

The final image of a map is always a compromise between the knowledge of the era and the author's perception and experience of space, their sense of identity, shared system of values and cartographic communicative prowess dependent on the ability to apply cartographic methods of presentation. Maps developed in accordance with the principles of cartographic communication broaden knowledge and influence the perception of contemporary or past space. They can be addressed to selected social groups or to all people in a given region. Therefore, their impact on society as a whole or on a narrow audience cannot be underestimated, especially when they are a part of significant historical events.

The cartographic and related written sources remaining after the process of shaping the borders of independent Poland fell well into the above-mentioned considerations. In this unique collection, the experience of space and the way it is expressed takes different forms, from the cartometric standard

Keywords: history of cartography, political boundaries, source editing, digital humanities, database of digital cartographic sources

to the emotional cartographic sketch. All the sources found during the search are valid, both the maps made according to cartographic rules and those heavily generalised, far from cartographic correctness. All of them show signs of use, and some have handwritten comments or corrections in the margins. The usefulness of these maps is fully confirmed by the successful negotiations, supported by public actions.

The reflections presented in this publication are based on five years of experience in finding and processing digital copies of cartographic items and related written documents remaining after various activities that led to shaping Poland's as well as its neighbours' borders after the First World War.

The results of this work have been published in the form of academic articles and monographs, two of which are particularly noteworthy.

The first is a multi-authored monograph entitled *Kształtowanie granic niepodległej Polski w świetle dokumentów kartograficznych*¹ (Eng. "Shaping the Borders of Independent Poland in the Light of Cartographic Documents"), in which the team consisting of historians, geographers, and cartographers describes the activities aimed at establishing a new division of Europe. The value of this work lies in its illustrations, which are composed of digital copies of original cartographic documents (maps) found in European and American archives in fonds remaining after the events described above.

The second publication, forming the basis for this monograph, is *Kształtowanie granic Polski po pierwszej wojnie światowej. Metodyczne problemy badań źródeł kartograficznych i tekstowych*² (Eng. "Shaping Poland's borders after the First World War. Methodological problems of researching cartographic and written sources"). In this work, the authors formulate their observations on the differences in the storage of cartographic sources, their dispersion and completeness.

The current publication, *Shaping Poland's borders after the First World War. Methodological problems of creating digital cartographic repositories*, complements the themes addressed in the monographs mentioned above. It constitutes a coherent whole with the volume entitled *Kształtowanie granic Polski po pierwszej wojnie światowej. Metodyczne problemy badań źródeł kartograficznych i tekstowych* (Eng. "Shaping Poland's borders after the First World War. Methodological problems of researching cartographic and written sources"). It is not just a coincidence that both publications share the first part of their titles.

The inspiration to write *Shaping Poland's borders after the First World War. Methodological problems of creating digital cartographic repositories* came

¹ Beata Konopska, Marek Barwiński, Elżbieta Kościk, Krzysztof Kawalec, Włodzimierz Suleja, Michał Lupa, Mateusz Zawadzki, *Kształtowanie granic niepodległej Polski w świetle dokumentów kartograficznych*, Warszawa, Polskie Towarzystwo Historyczne, 2023.

² Beata Konopska, Marek Barwiński, *Kształtowanie granic Polski po pierwszej wojnie światowej. Metodyczne problemy badań źródeł kartograficznych i tekstowych*, Warszawa, Polskie Towarzystwo Historyczne, 2021.

from the very thoughts that emerged during the work on a thematic digital repository of copies of maps and written documentation relevant to understanding the map's content found during the queries. The repository brings together dispersed cartographic sources with their critical processing. The results are made available via a web application. The main issues covered in this publication are methodological problems related to the collected map resource, viz., its characteristics and attempts to organise it, from the point of view of presenting it in a thematic repository, as well as methodological and technological problems leading to the creation of the repository itself. While many of the methodological problems encountered, mainly related to cartographic content, were successfully solved by the authors, general matters, resulting, among other things, from the lack of nomenclatural consistency in the literature on IT solutions, remain for further discussion.

The publications mentioned above were completed as part of the grant *Kształtowanie granic niepodległej Polski w świetle dokumentów kartograficznych* (Eng. "Shaping the Borders of Independent Poland in the Light of Cartographic Documents"), implemented under the programme of the Ministry of Education and Science called "Szlakami Polski Niepodległej" (2018–2023).³

Acknowledgments. The authors would like to express their gratitude to Mrs. Maria Stadnicka and Mr. Adam Kieliszek for their technical support in the development of the cartographic repository.⁴

³ Scientific publication financed under the programme of the Minister of Education and Science entitled "Shaping the Borders of Independent Poland in the Light of Cartographic Documents" in 2018–2023, Project number: 01SPN17003218, funding amount: PLN 1,228,485.

⁴ The repository is available at: <https://granicieniepodleglej.edu.pl> (accessed 2023)

Information and communication technologies in editorial work

The 1990s saw a major breakthrough in the field of scientific editing of historical sources. It involved the possibility of making a digital copy of a source and disseminating it together with its processing, first with the help of a digital medium and then with the use of teletransmission. Digital tools have also facilitated the publication of reprints of maps and atlases.⁵ The widespread digitisation of cartographic sources collected and stored in archives, libraries, and museums aiming to make their digital copies available without territorial or temporal restrictions, is part of the general trend of *digital humanities*. Changes in the ways in which sources are stored and made available are the result of social and technological changes aimed at building an information society.

Editing of cartographic sources

Scientific editing of historical sources is a set of scientifically substantiated methods for establishing and making available (publishing) historical accounts. Cartographic sources in the definition, an excerpt of which is quoted above, are listed immediately after written sources and before iconographic sources.⁶ Without entering into a discussion on the views regarding the subject of source editing and without deciding whether editing is an independent discipline or an auxiliary discipline of history, it is worth emphasising that nowadays, scientific editing of historical sources is increasingly perceived as a separate branch of science, with its own tasks and formulating its own research questions, in which sources are treated as historical facts and phenomena and as participants and witnesses of the process of social communication in the past.⁷

⁵ Other terms also appear in the literature on the subject: facsimile, reproduction, phototype, reedition, photo-offset reprint, etc. They were reviewed by Janusz Sowiński, *Między oryginałem, kopią a falsyfikatem. Polskie edycje faksymilowe*, Uniwersytet Pedagogiczny Komisji Edukacji Narodowej w Krakowie, Prace Monograficzne No. 512, Kraków 2009, pp. 11–19.

⁶ Piotr Dymmel, *Edytorstwo historyczne – stan i potrzeby*, [in:] *Pamiętnik XV Powszechnego Zjazdu Historyków Polskich*, vol. 1, part 2, ed. J. Staszewski, Gdańsk – Toruń 1995, p. 260, after Janusz Tandecki, Krzysztof Kopiński, *Edytorstwo źródeł historycznych*, DiG Publishing, Warsaw 2014, p. 13.

⁷ This discussion was pursued by Janusz Tandecki and Krzysztof Kopiński (*Edytorstwo źródeł...*, op. cit., pp. 13–28) where they analysed many opinions of Polish and foreign researchers, starting with Marceli Handelsman (*Historyka, part 1: Zasady metodologii historii*, Wydawn. Zygmunt Pomarański i Sp., Zamość 1921, p. 146), who criticised the view that it was enough to find an unknown (or known) historical account, rewrite it and publish it, through the statements of R.B.C. Huygens (R. B. C. Huygens, *Ars edendi. A practical introduction to editing medieval Latin texts*, Brepols, Turnhout 2000, p. 9) who believed that publication of sources is a kind of art. An important voice in this regard was published by Józef Siemieński (*Metodologia wydawnictw*. “Przegląd Historyczny” vol. 23, 1921–1922, no. 2, pp. 110–111), who consid-

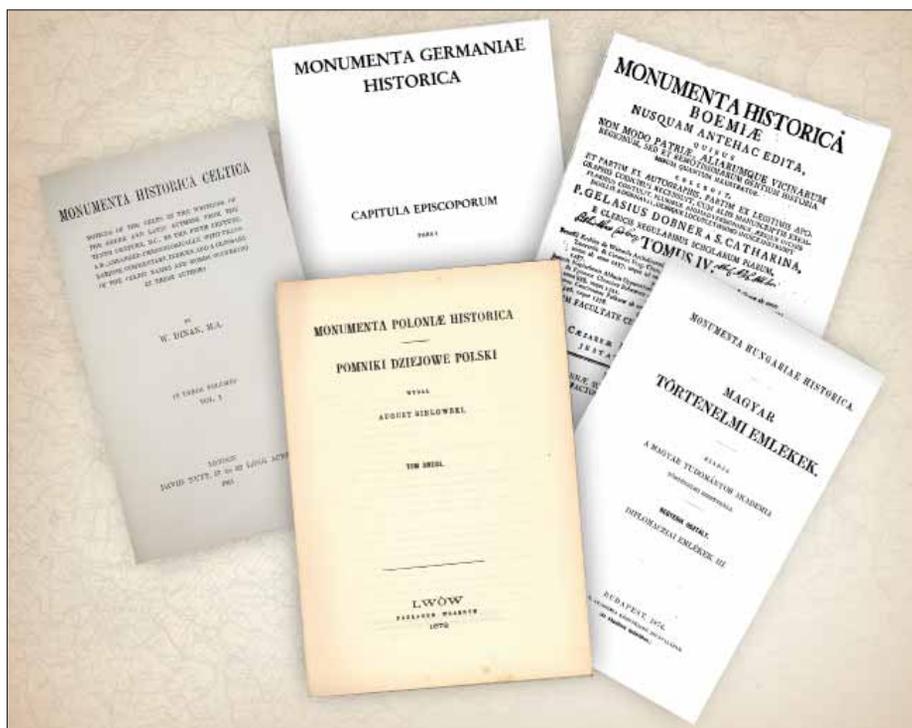


Fig. 1. Examples of publications entitled *Monumenta Historica* completed in different countries
Source: Europeana.eu; Polona.pl

An important breakthrough in the scientific approach to the editing of historical sources was made in the 19th century by Karl Lachmann, who, in his search for the archetype of a written source, proposed, among other things, to develop a tree of the witnesses (*stemma codicum*) of that source and to look at its filiations.⁸ The concept of historical editing emerged as the outcome of the discussion triggered by the proposal of a new approach to the existing philological

ered editing to be an independent discipline (auxiliary to history), with its own subject, research purpose and methodology. J. Siemiński's statement was referred to years later first by Józef Szymański (*Nauki pomocnicze historii*, PWN, Warsaw 1983, pp. 721–726), and later by Piotr Dymmel (*Bibliografia edytorstwa źródeł historycznych w Polsce. Historia – krytyka tekstu – metodyka i technika wydawnicza*, Wydawn. UMCS, Lublin 2001, p.14), who took an even broader approach to this problem. P. Dymmel indicated editing as “an independent discipline with its own research place within the structure of historical science” (p. 9), which includes “historical, philological and methodological works whose aim is to comprehensively prepare a source for publication, but in addition to these also research of a historiographical character on publishing undertakings,” and further according to him the scope of research should also include “a historical perspective that recognizes all manifestations of the life of a text as a historical fact, and thus its genesis, the history of manuscript and printed transmission, transformations and social reception.” (p. 15), which, as the author himself states, are close to studies of historical source, but are also closely related to the work of an editor.

⁸ For more on this topic, see Janusz Tandecki, Krzysztof Kopiński, *Edytorstwo źródeł...*, op.cit., pp. 17–22.

method. It was embraced, among others, by the authors of the series *Monumenta Poloniae Historica*⁹ (Fig. 1) and Karol Buczek, who created the substantive assumptions for *Monumenta Poloniae Cartographica*.¹⁰ The first volume published by the Polish Academy of Arts and Sciences in Kraków in 1939 included maps of Poland and adjacent countries from the late 15th and 16th centuries, but without an introduction and explanatory notes, which K. Buczek did not manage to add before the Germans seized Kraków in 1939. The edition was destroyed in the printing house, but, as is often the case in cartographic activity, a few copies survived, three of which are kept in the Scientific Library of the PAU and PAN in Kraków.

Digitisation of cartographic source editions

Editing has changed significantly under the influence of digitisation, prompting the researchers involved to define new principles. It is difficult not to agree with the statement by Marek Słoń and Michał Słomski that digital “editing does not replace contact with the image of the manuscript, but leads to it. It is the facsimile that is the primary form of presentation of the material, and the other elements should facilitate its perception.”¹¹ The type of source, the capabilities of the publisher and the audience determine the usefulness of the edition, which, according to these authors, should combine multiple forms. The essence of digital editions is the openness of the process, which is both a continuation of previous research and the beginning of new ones. It should be in the form of a database, as it is based on other distributed databases (Fig. 2).¹² Editing of a cartographic source, on the other hand, should, according to Tomasz Panecki, entail a critical and documented delivery (representation) of the map and its content. This means that in the digital paradigm, it is necessary to make the map content available in the form of a database (Fig. 3).¹³

⁹*Monumenta Poloniae Historica* – is a 6-volume publication presenting narrative sources on the Polish Middle Ages and early modern times. It was developed between 1864 and 1893 mainly by historians from Lviv under the direction of August Bielowski (1806–1876), who announced the programme and collected, compiled and published the materials for the first volumes. After his death, the publishing was continued by Wojciech Kętrzyński (1838–1918). For more on this subject, see Antoni Gąsiorowski, *Siedemdziesiąt pięć lat serii II Pomników dziejowych Polski*, *Studia Źródłoznawcze*, vol. 59, 2021, pp. 193–204.

¹⁰For more on the fate of the project, see Edward Schnayder, *Profesor dr Karol Buczek (1902–1983) jako historyk kartografii oraz kartograf i geograf historyczny*, [in:] *Dorobek polskiej historii kartografii* J. Janczak and W. Wernerowa (eds.), „Z.Dziejów Kartografii”, vol. 6, IHNiTPAN Publishing, Warsaw 1993, pp. 16–17.

¹¹ Marek Słoń, Michał Słomski, *Edycje cyfrowe źródeł historycznych*, [in:] *Jak wydawać teksty dawne*, K. Borowiec, D. Masłej, T. Mika, D. Rojszczak-Robińska (eds.), Rys Publishing House, Poznań 2017, p. 67.

¹² *Ibidem*, pp. 68–69.

¹³ Tomasz Panecki, *Cyfrowe edycje map dawnych: perspektywy i ograniczenia na przykładzie mapy Gaula/Raczyńskiego (1807–1812)*, *Studia Źródłoznawcze*, vol. 57, 2020, p. 187.

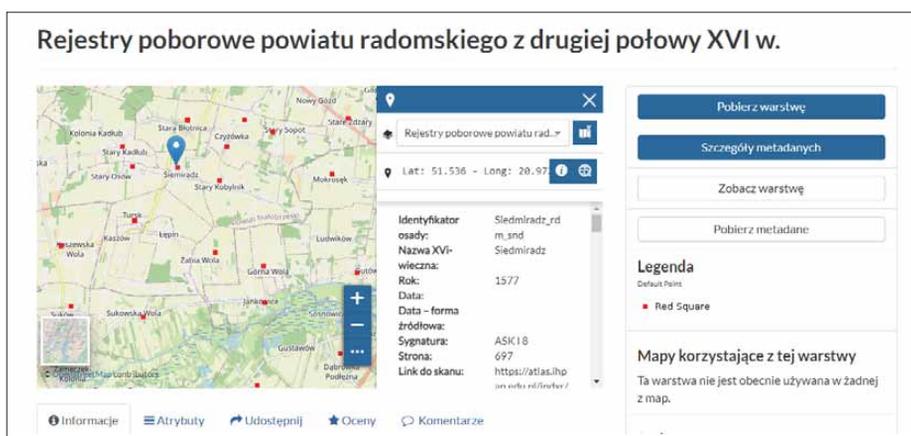
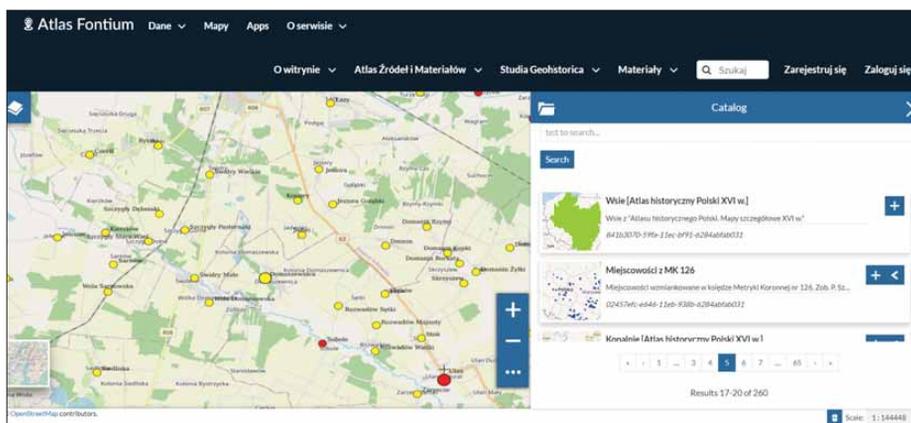


Fig. 2. Digital edition of the Historical Atlas of 16th-century Poland
Source: Data.AtlasFontium.pl

Information and Communication Technologies (ICT) facilitate not only the collection and processing but, above all, the electronic transmission of information about the world's cultural heritage resources. In the times of exponentially growing digital collections of copies of various documents, including cartographic sources, the World Wide Web service¹⁴ holds an important place. A few years ago, the potential of ICT in the context of the above-mentioned sources was merely a remarkably promising vision. However, now it has become a reality.

¹⁴ This issue was discussed in more detail in Beata Konopska's paper, *Zwrot cyfrowy w historii kartografii* at the XLIII National Cartographic Conference: *Kartografia dla wszystkich i dla każdego* (Warsaw 26–27 October, 2021). See also Beata Konopska, *Zwrot cyfrowy w historii kartografii*, XLIII Ogólnopolska Konferencja Kartograficzna: *Kartografia dla wszystkich i dla każdego*. Warsaw, 26–27 October 2021. Streszczenia referatów i posterów. Oddział Kartograficzny Polskiego Towarzystwa Geograficznego, Warsaw 2021, p. 17.

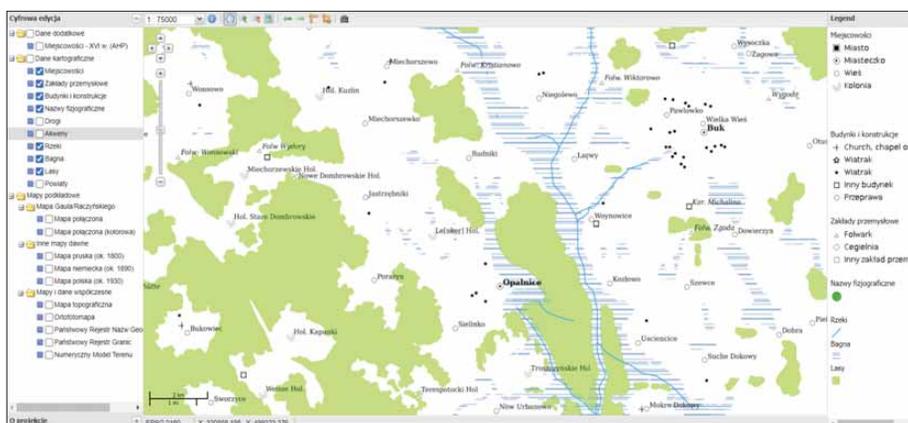
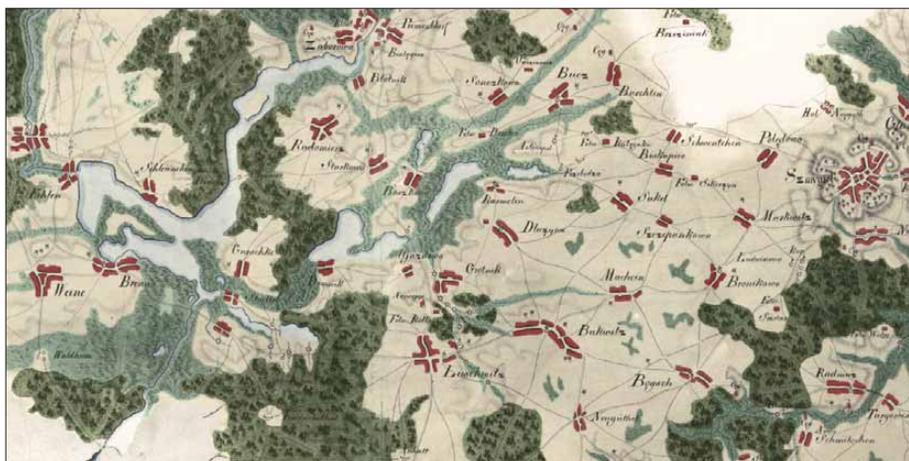


Fig. 3. Digital edition of the Gaul/Raczyński Map (1:125,000; 1807–1812)
Source: Data.AtlasFontium.pl

Emerging digital repositories and web services have decisively facilitated access to information about cartographic resources through their digital copies and metadata. From the perspective of a historian of cartography, the mass digitisation of cartographic items and written sources associated with them has increased interest in the value of historical maps as a form of social communication.

Collection, storage and providing access to cartographic documents

In the era of widespread digitisation of archival, library and museum resources, more and more information about cartographic documents can be found in digital catalogues. However, the order in which they are digitised sometimes varies. Most often, maps with formats larger than a standard sheet of paper are digitised later for technical reasons. However, when digitised, they are made available in excellent quality. This demonstrates that their creators have an outstanding understanding of the needs of researchers when it comes to the quality of cartographic sources and how they are used, as high-resolution scans of maps enable the details of the copied object to be read without problems.

In any database, metadata is the basis for the effective retrieval and identification of data. Metadata varies depending on the objects they describe. In the case of cartographic resources, an understanding of the essence of the map is crucial in creating or selecting a metadata standard. From the queries carried out, it appears that maps to which the access was provided by libraries and archives are compiled according to various standards, but it happens (especially in the case of archives) that not all records are comprehensively completed. Proper content filling of descriptive and especially spatial metadata requires additional cartographic expertise. The identified shortcomings in the descriptions concern precisely those elements of the metadata that entail in-depth, specialised analysis of the source.

Identification of maps remaining after the Peace Conference and the various ways of obtaining them

After the first queries in the Warsaw archives and the National Library, it became apparent that the maps and related written documents remaining after the Paris Conference were more dispersed than initially assumed. This scattering was not only due to the different places where these items had been collected but also to the way in which they had been stored within a single institution. It is puzzling and incomprehensible, from a cartographic point of view, why the maps are separated from the written documents they were based on or which they were drawn for. In Polish archives, maps are usually kept in artificially created fonds, while in libraries, they are kept as stand-alone items within cartographic departments. This problem is discussed in more detail in the monograph dedicated to the methodological problems of researching cartographic and written sources kept after the Paris Conference. This practice of source separation was followed in both archives and libraries. However, in the case of personal legacies, the maps are kept together with the written documentation. In contrast, in the foreign archives in Paris, Prague, and New York, where in situ queries have been made, cartographic sources are stored (often bound together) with the written documentation. Only the stand-alone maps form separate fonds.

Places of storage of the post-conference collections

The search for maps began with queries in institutions both in Poland and abroad, at the location and online. The pursuit included documents on geographical-historical, socio-economic and nationality issues. The focus was on the quest for manuscript maps, printed maps, cartographic sketches and the source materials they were based on, concentrating on various types of analyses, reports, descriptions, notes, and correspondence that could have been used to develop or revise maps drawn up for the negotiation of the borders of independent Poland. In the case of shaping the borders of the areas where plebiscites had been organised, as well as the eastern areas, documentation and field sketches made by the army were also explored.

Queries on site

Queries on site were made at the Archives of Modern Records in Warsaw, the Archives of the Independence Museum in Warsaw, the National Archives in Krakow, the Archives of the Jagiellonian University, the Jagiellonian Library,

the Archives of Science of the Polish Academy of Sciences and the Polish Academy of Arts and Sciences in Krakow, the Archives of the Polish Academy of Sciences in Warsaw, the Library of the Ossoliński National Institute in Wrocław, the State Archives in Wrocław, the University Library in Wrocław, the Cartographic Collections of the Laboratory of History of Cartography at the



Fig. 4. The Polish Historical and Literary Society / Polish Library in Paris
Source: Authors of this publication

Department of Geoinformatics and Cartography at the University of Wrocław, the Cieszyn Library, the Polish Library in Paris (Fig. 4), the Diplomatic Archives in Paris (Fig. 5), the National Library in Paris, Jozef Pilsudski Institute of America in New York (Fig. 6), the Kosciuszko Foundation in New York (Fig. 7), the Library of Congress in Washington, DC (Fig. 8), the Central State Historical Archives of Ukraine in Kiev, the State Archives of Lviv Oblast and the State Archives in Kiev, the Masaryk Institute and Archives of the Czech Academy of Sciences in Prague (Fig. 9), and Charles University also in Prague (Fig. 10).



Fig. 5. The Diplomatic Archives in Paris
Source: Authors of this publication



Fig. 6. Jozef Pilsudski Institute of America in New York
Source: Authors of this publication



Fig. 7. The Kosciuszko Foundation in New York
Source: Authors of this publication



Fig. 8. Library of Congress in Washington, DC
Source: Authors of this publication



Fig. 9. Masaryk Institute and Archives of the Czech Academy of Sciences
Source: Authors of this publication



Fig. 10. Charles University in Prague, Faculty of Science, Map collection
Source: Authors of this publication

The timing of performing the queries was highly unfavourable; the outbreak of the pandemic changed the priorities and the way the work was done. With the closure of many public institutions, including libraries and archives, research work in the places where collections are stored became impossible. While waiting for the institutions to reopen, online work began in those with digital repositories. It must be acknowledged that the technological leap that archives and libraries have made, especially in Poland, is enormous. Archives and libraries, devoid of readers during the pandemic lockdown, focused on digitising their collections. Thus, digital copies of many valuable and unique publications appeared on their websites.

However, relying on collections made available online also has its weaknesses. Apart from the fact that a digital copy leads to an item, and interacting with a digital copy is only a substitute for interacting with the actual document, there is, unfortunately, no guarantee that the maps stored within the collections being digitised have also undergone this process. Sometimes, the map format,



Fig. 11. Examples of map scans that are difficult to read
Source: Various digital libraries

state of preservation or material on which it was made does not allow for or makes it difficult to produce a digital copy. Having in mind the needs of researchers of historical maps, digital copies of maps made on tracing paper or maps that have been folded many times are usually poorly legible; the material (paper, tracing paper) crumbled at the bends prevents full decipherment of the content or eliminates the item from digital reproduction (Fig. 11).

Online queries

Online queries were carried out using the websites of the Central State Archives in Potsdam, the State Archives of Saxony-Anhalt in Magdeburg, the State Archives in Hamburg, the German Archive Portal Archivportal-D, the Woodrow Wilson Presidential Library and Museum and many others, whose resources have contributed relatively little to the aforementioned repository.

All cartographic sources were searched for, viz. manuscript maps, printed maps, cartographic sketches, as well as source material for their compilation, i.e. various types of expertise, reports, descriptions, notes, letters, and accounts, which could have been used to produce or correct cartographic publications, prepared before and during the conference both in and outside the country.

Identification of maps remaining after the Peace Conference ...



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Peace Conference Map

Title
Peace Conference Map

Creator
Hoover, Irwin Hood, 1871-1933

Date
1919 May 5

Description
Picture of a map that hung in Herbert C. Hoover's office in the Crillon Hotel, Paris

Subject
Hôtel de Crillon (Paris, France)
Hoover, Herbert, 1874-1964

Purchased from the Swann Auction House 25 Nov. 2014

Original Format
Print, Black and White

Physical Dimensions
203.2 x 304.8 mm

Files



Collection

[Advanced Search](#)

Typ Mapy: [Historia](#)

Kategoria: [Europe](#) [Global](#)



Opis
Zdjęcie mapy, które wisiało biurze Herberta C. Hoovera w hotelu Crillon w Paryżu

Podstawowe informacje

Język mapy: Angielski
Twórca mapy: Hood Irwin
Rok wydania: 5 maj 1919

Dodatkowe informacje

Archiwum: Woodrow Wilson Presidential Library & Museum/Woodrow Wilson Presidential Library Photo Collection

Słowa kluczowe

Słowa kluczowe geograficzne: Hôtel de Crillon (Paryż, Francja)
Słowa kluczowe imienne: Herbert Hoover, Erin Carpenter

[Zobacz w Geo Portalu](#)

Zewnętrzny serwis! Mapa wyświetlona powyżej jest przechowywana w zewnętrznym serwisie. [Kliknij tutaj aby do niej przejść](#)

Fig. 12. Woodrow Wilson Presidential Library & Museum repository website with a photograph of the “Peace Conference Map” provided by the repository graniceniepodleglej.edu.pl
 Source: Hoover, Irwin Hood, 1871–1933, “Peace Conference Map,” 5 May 1919, WWPL2665, Woodrow Wilson Presidential Library Photo Collection, Woodrow Wilson Presidential Library & Museum, Staunton, Virginia

An extremely interesting find is the photograph of the map of Europe that used to hang in the office of Herbert C. Hoover in the Hotel Crillon in Paris.¹⁵ The photo is now in the Woodrow Wilson Presidential Library & Museum as part of the W. Wilson photo collection. The value of the map, probably issued in 1914, is further enhanced by the attached note cards (Fig. 12). Another document that can be found in the repository of this archive is the letter by Sosnowski, in which the author refers to the „Partition of Republic of Poland”(Fig.13).¹⁶

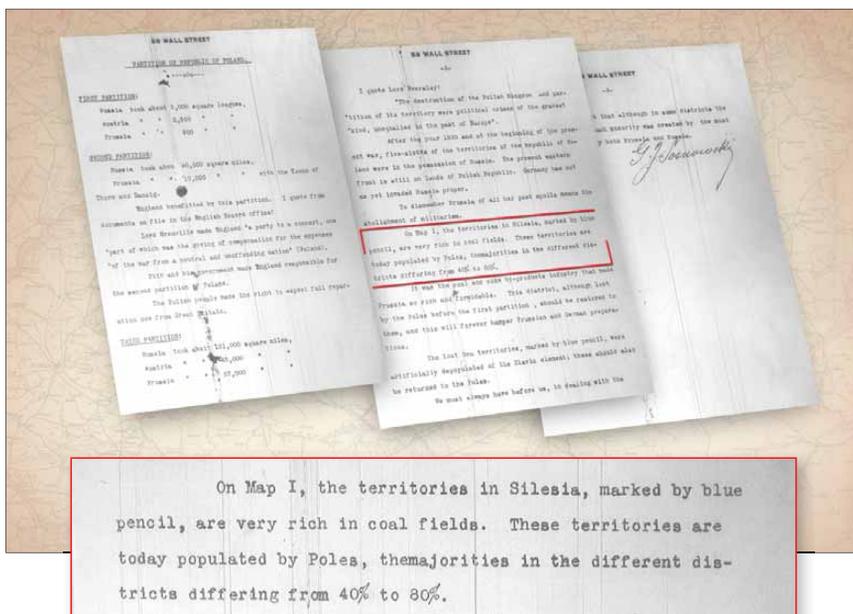


Fig. 13. Document shared in the repository of the Woodrow Wilson Presidential Library & Museum
Source: Wilson, Woodrow, 1856–1924, “Partition of Republic of Poland”, 18 April 1917, WWP21238, World War I Letters, Woodrow Wilson Presidential Library & Museum, Staunton, Virginia

The queries carried out showed that the cartographic sources sought after are more dispersed than initially thought. When starting the work, it was assumed that post-conference documentation could be stored in the assets of a dozen or more institutions. What came as a surprise, however, was the fact that in some of these institutions, maps had been removed from the assemblies containing the post-conference material. While this kind of behaviour may be justified in the case of cartographic works made in large and medium formats

¹⁵ Hoover, Irwin Hood, 1871–1933, “Peace Conference Map”, 5 May 1919, WWPL2665, Woodrow Wilson Presidential Library Photo Collection, Woodrow Wilson Presidential Library & Museum, Staunton, Virginia.

¹⁶ Wilson, Woodrow, 1856–1924, “Partition of Republic of Poland”, 18 April 1917, WWP21238, World War I Letters, Woodrow Wilson Presidential Library & Museum, Staunton, Virginia.

(e.g. wall or folding maps), the separate storage of small-format maps came as a surprise, although in the practice described, the exceptions are the legacies handed down from private individuals who participated in or worked for the conference. Foreign institutions do not follow this pattern, among which the Diplomatic Archives in Paris and the Pilsudski Institute of America in New York should be mentioned, where maps are kept together with the written documentation and study materials on which they were based. The above-mentioned methodological problems of working with cartographic sources are described in detail in the publication *Kształtowanie granic Polski po pierwszej wojnie światowej. Metodyczne problemy badań źródeł kartograficznych i tekstowych*.¹⁷

The research also proved that the maps had been drawn up by experts, politicians, servicemen and activists who had been politically involved in the process of drawing up the borders in Europe and that every country neighbouring the Polish lands could boast a similar collection of maps. It seems to be the way for all of them to tame and come to terms with the new area. The maps show that Poles and their neighbours had different concepts regarding the future borders. The number of publications also indicates that the areas where the negotiations were the most difficult prompted the most detailed and multi-dimensional cartographic studies.

The separation of maps from the original documents raised additional research questions related to, among other things, determining the authorship, especially of the comments visible in the margins, or the circumstances due to which the maps in question had been drawn up and those in which they had been used. The private legacies, especially the correspondence kept in them, were helpful in resolving these questions.

The number of cartographic materials and publications found was impressive. Hence, there is no doubt that for the people involved in this landmark event for Poland, Europe and the entire world, maps were simply important. This fact prompted the concept of undertaking the task of developing a digital map repository.

¹⁷ Beata Konopska, Marek Barwiński, *Kształtowanie...*, op. cit.

General characteristics of the surviving cartographic sources

The collected cartographic sources are very diverse, as they include dozens of maps drawn up in different ways and preserved in various states. These maps in cartographic terms have already been analysed and discussed in the literature on the subject.¹⁸

Maps by method of preparation

Printed maps constitute the most extensive collection remaining after the Peace Conference. They include topographical, survey and small-scale maps printed before the start of the First World War and later adapted for the conference or ones developed especially for it. Within this collection of maps, two subsets can be distinguished: the first includes maps showing Polish lands in the pre-partition extent, while the other - maps presenting areas that had been colonies, which were taken out (or cut out) from various geographical atlases.

Most of the maps depicting the Polish lands before the partitions were inspired by or adapted from Władysław Semkowicz's "Mapa Historyczna Polski" (Eng. Historical Map of Poland). In 1916, the map was published twice. It was included in the *Geographical and Statistical Atlas of Poland* (1916), compiled by Eugeniusz Romer as *Fig. V "Histoire."* (Fig. 14) and was published as a stand-alone map with a cover and extensive commentary on Polish history on the back of the sheet (Fig. 15). This map also inspired Roman Dmowski to develop the map he sent to W. Wilson, about which he wrote in a letter to M. K. Zamoyski.¹⁹

The phenomenon of W. Semkowicz's map rests on its clarity and geographical accuracy. The readable and logical form of this cartographic message caused this map to be an inspiration for other publishers (Fig. 16–19). His map visibly and unambiguously shows the borders of Poland in various historical periods, divided into the most distant Polish borders, the borders of Poland in 1772, the borders of the vassal states, the borders of the Duchy of Warsaw in 1807–1815, and the borders of the Kingdom of Poland in 1815–1831. The map's legend describes the periods in which a given territory was under Polish sovereignty and colour-codes the extent of each partition of Poland along with the names of the

¹⁸ Beata Konopska, Marek Barwiński, *Kształtowanie...*, op. cit., pp. 66–77. Beata Konopska, *The cartographic materials auxiliary in the determination of the borders of Poland during the Paris Peace Conference (1919–1920) in the light of archival records*, "Polish Cartographical Review", vol. 48, 2016, no. 2, pp. 67–75.

¹⁹ Beata Konopska, *The cartographic materials...*, op. cit., p. 70.

partitioning states. The names of the main geo-historical regions were also recorded. Hence, the map shows all the territories that had ever belonged directly to Poland or had been dependent on Poland in any possible way, from Rügen, Lusatia and Bohemia in the west to the Black Sea coast and Inflants in the east. Underneath the legend, there is information that the map had been compiled and engraved from a series of maps published in 1916 by Eugeniusz Romer, professor of geography at the University of Lviv.

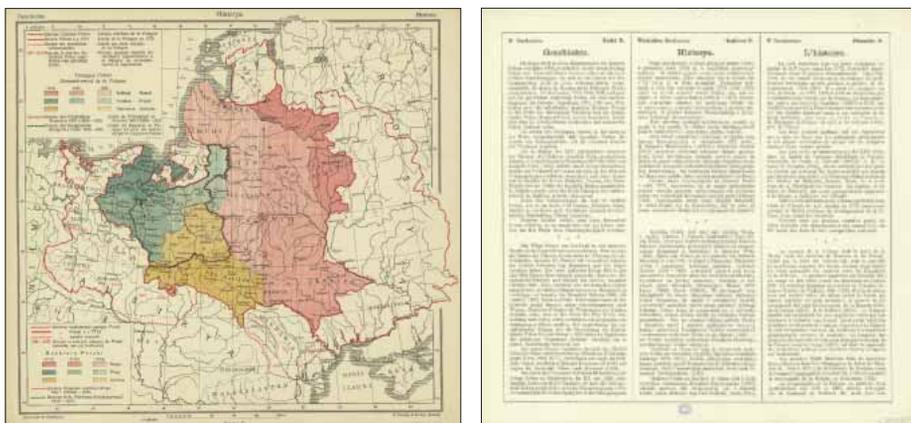


Fig. 14. Map of Poland by W. Semkowicz in Geograficzno-Statystyczny Atlas Polski (Eng. Geographical and Statistical Atlas of Poland), (1916), Tab. V. Histoire
Source: Polona.pl

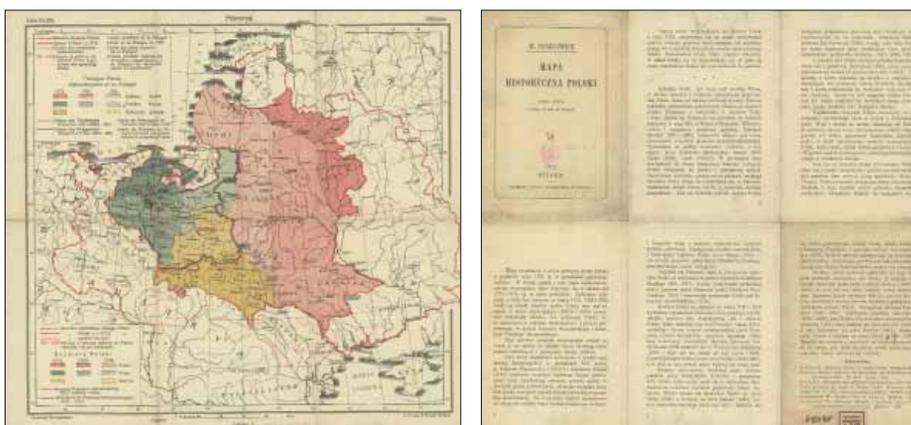


Fig. 15. Obverse and reverse of the map by W. Semkowicz "Mapa Historyczna Polski" (Eng. Historical map of Poland). The map is signed by the G. Freytag & Berndt Publishing House, on the text part: Druk Holzhausen, Adolf (Vienna)
Source: Polona.pl

Historical map of Poland (Historyczna mapa Polski)

Typ mapy: **Polityczna** **Administracyjna**

Kategoria: **owen** **obca**



Opis

Na mapie przedstawiono granice Polski w różnych okresach historycznych, w podziale na najdalsze granice Polski, granice Polski z roku 1772, granice państw wazalskich, granice Królestwa Warszawskiego z lat 1807-1815 oraz granice Królestwa Polskiego z lat 1815-1831. Ponadto wyplisano okresy czasowe, w których dane terytorium znajdowało się pod zwierzchnictwem Polski oraz kolorami zaznaczono zasięgi poszczególnych rozbiorów Polski wraz z państwami zabiorczymi. Zapisano także nazwy głównych regionów geograficzno-historycznych. W efekcie mapa przedstawia wszystkie terytoria, które kiedykolwiek bezpośrednio należały do Polski lub były od Polski w jakiś sposób zależne, od Rugii, Łużyc i Czech na zachodzie, po wybrzeże Morza Czarnego i Inflanty na wschodzie. Pod legendą znajduje się informacja, że została ona opracowana i wygrawerowana z serii map wydanych w 1916 roku przez Eugeniusza Romera, profesora geografii z Uniwersytetu Lwowskiego.

Podstawowe informacje

Język mapy: Angielski

Twórca mapy: Romer Eugeniusz

Wydawnictwo: Rand McNally

Miejsce wydania: Nowy Jork

Rok wydania: po 1916

Dodatkowe informacje

Słowa kluczowe

Zobacz w Geo Portalu

Miniatułka! Zdjęcie wydrukowane powyżej jest tylko miniatułka. [Kliknij tutaj aby zobaczyć mapę w pełnej rozdzielczości](#)

Fig. 16. Historical map of Poland (1916), Rand McNally Publishing House
Source: Archive of Modern Records in Warsaw,
Fonds 100: the J.I. Paderewskiego Archive, Ref. 884



Fig. 17. Map "Partitions of Poland". Drawn and printed by the War Office, Nov. 1918
[in:] Map of Poland [Great Britain. Foreign Office. Historical Section, cartographer.
Great Britain. War Office. General Staff. Geographical Section]
Source: Library of Congress in Washington, DC



Fig. 18. Carte de partages des la Pologne (Eng. Map of the partitions of Poland), the Cartographic Bureau of "Encyklopedia Polska" Publishing House
 Source: © Historical and Literary Society in Paris / Polish Library in Paris,
 Ref. THL_BPP_III K125_CD189_6456



Fig. 19. Carte des partages de la Pologne (Eng. Map of the partitions of Poland), the Cartographic Bureau of "Encyklopedia Polska" Publishing House
 Source: © Historical and Literary Society in Paris / Polish Library in Paris,
 Ref. THLP_BPP_C II 178_CD188_5134

The collection of printed maps also includes maps depicting areas of German colonies. The collection is particularly interesting due to the fact that all the maps contained in it had been found in one copy and in one archive only. They are appendices to an extensive paper on the comparative value of individual German colonies, compiled by W. Bukowski and K. Olszewski at the request of the Bureau of Congressional Works in January 1919. The authors of the paper

stated at its very beginning that, before the war, the matter of having one's own colonies would have been regarded as a "harmless fantasy", but towards the end of the work they wrote that "the German colonies were won by the joint effort of the former German Reich, which consisted of military might /with the participation of the Polish districts/ and enormous financial contributions

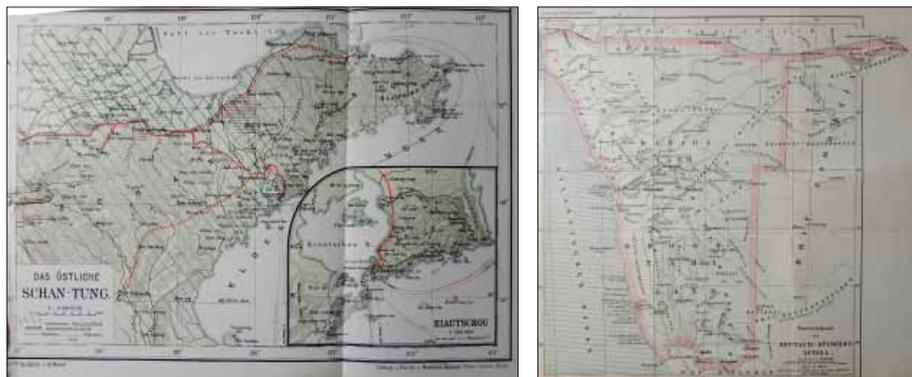


Fig. 20. Examples of the maps depicting German colonies up to the First World War
Source: Archive of Modern Records in Warsaw, Fonds 515: Ref. 59

drawn from general state sums”,²⁰ estimating the share of the Polish districts at 8–9%. The content of the paper was illustrated by maps produced, among others, by Verlag v. Hermann Paetel (Berlin) and Litogr. u. Druck v. Dietrich Reimer [Ernst Vohsen] (Berlin) (Fig. 20).

Manuscript maps are the most interesting and unique studies. These are maps drawn on paper or tracing paper in pencil or using colour pastels. Among them, several items are worth mentioning. The first is the sketch found in the Library of Congress in Washington, D.C., made by the German historian Hans Delbrück in his own hand, showing his proposals for the borders of the reborn Polish state (Fig. 21). In his sketch he proposed the territorial extent of the new Polish state together with Lithuania and White Russia (Belarus). Another drawing of Poland's western borders, according to the peace preliminaries of May 1919, was made in a similar manner (Fig. 22). The map shows, in a very schematic way, the proposed course of Poland's western border, and (probably) the plebiscite area in Prussia and Powisle is marked with hatching. No geographical names, river networks or towns were included. At the bottom of the sheet, at a later date, the information "Peace Treaty between the Allied and Associated Powers and Germany, Warsaw, 1920" was added. The map was prepared by

²⁰ Archive of Modern Records in Warsaw, Ref. 2/39/0/9/627 and Ref. 2/515/0/4/59.



Fig. 21. Sketch of borders proposed to Poland [Hans Delbrück]
Source: Library of Congress in Washington, DC



Fig. 22. Outline of Poland's western borders according to the peace preliminaries of May 1919
Source: © Historical and Literary Society in Paris / Polish Library in Paris,
Ref. BPP_THLP_III 2266_CD187_DSC_3524

the Publishing House of the Bureau of Congress Works in Warsaw. Both of the sketches discussed above, when superimposed on a map with full geographical content, are more legible and explicit.

Another type of sketches are original drafts. This is exemplified by Franciszek Drobniański's map "Carte d'ensemble des existences de charbon dans l'Etat Tchéco-slovaque" (Fig. 23). The map shows the extent of coking coal (pink), black coal (purple), and lignite (green) deposits in the Czech Republic, Slovakia, Cieszyn Silesia, the Polish part of Zagłębie and Galicia. The map covers a much



Fig. 23. Carte d'ensemble des existences de charbon dans l'Etat Tchéco-slovaque (Eng. General map of coal deposits in Czechoslovakia)

Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 920

larger territorial area than its title implies. In addition, the map shows the borders from before 1914 and, only in the area of Cieszyn Silesia, the Čadca region and around Orava and Spiš, a "proposed border" is drawn. Its course suggests that it is the border proposed by the Polish side and it is one of the maximalist versions. According to the author of the map, deposits of coking coal (of the best quality, crucial for metallurgy) lie in Cieszyn Silesia and the Sudeten Mountains, black coal (fuel coal, of poorer quality) in the vicinity of Pilsen, in Moravia and Upper Silesia, while lignite in the Ore Mountains, Moravia and Slovakia. The map was frequently referred to by the Polish delegation, refuting the Czechs' claims that the coal deposits in Cieszyn Silesia were the only ones in the Czech Republic. The map was also used in the discussions about the need to supply high-quality (coking) coal to the ironworks in Upper Silesia. It was argued that the coal basin in Cieszyn Silesia should be within the borders of Poland.

At this point, it is worthwhile to draw attention to the map of a fragment of the Polish-Czechoslovak (Polish-Slovak) frontier, from Cieszyn Silesia and the Čadca region in the west, through Orava, the Tatra Mountains up to Spiš

in the east (Fig. 24). The author of the map marked the pre-war border between Austria and Hungary and the border of the Duchy of Cieszyn. The main feature of the map is the red line drawn on it. Despite the lack of a legend, based on comparisons with other maps of the period, it can be assumed that it marks the southern border of the extent of the Polish language, based on the results of research by Kazimierz Nitsch, a Polish linguist and Slavist, professor at the Jan Kazimierz University in Lviv and the Jagiellonian University in Kraków, who had been an expert to the Polish delegation to the Peace Conference. The map clearly shows that the core disputed regions within the Polish-Czechoslovak frontier after the end of the First World War, i.e. Cieszyn Silesia, the Čadca region, Orava and northern Spiš, were then dominated by the Polish (Polish-speaking) population. Based on this map, it can be concluded that the Polish territorial claims formulated in Paris for Cieszyn Silesia, the Čadca region, northern Orava and northern

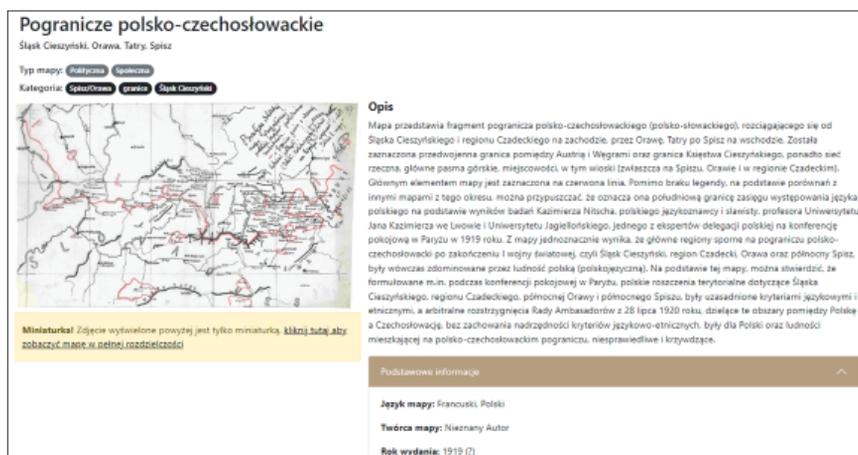


Fig. 24. Polish-Czechoslovak frontier

Source: Archive of Modern Records in Warsaw, Fonds 39: Polish Committee in Paris, Ref. 147

Spiš were justified by linguistic and ethnic criteria. The arbitrary decisions of the Council of Ambassadors of 28 July 1920, dividing these areas between Poland and Czechoslovakia, without preserving the precedence of linguistic and ethnic criteria, had been unfair and hurtful to the population living in these borderlands.

Another example of manuscript maps is a whole set of unique maps of Poland, which, beyond doubt, had been used during the negotiations both before and at the time of the conference. These are discussed in detail in the section devoted to the maps used during official meetings.

A separate group is formed by diagrams, in the case of which there is no certainty they had been used at the conference, but to reflect the nature of the collection, they are included in this group.

The appendix map to the memorial entitled “Caractère physique du territoire de la Pologne” (Eng. Physical features of the territory of Poland) (Fig. 25) can serve as an example. According to the map legend, the red line on the map indicates the Germans, the blue line denotes the Bolsheviks, and the green line marks the Ukrainians.

The drawing of the borders in the Tatra Mountains is much more schematic. The first map presents a schematic picture of the existing Tatra Polish-Hungarian border, while the second map depicts the new Polish-Slovak border in a very similar way (Fig. 26).

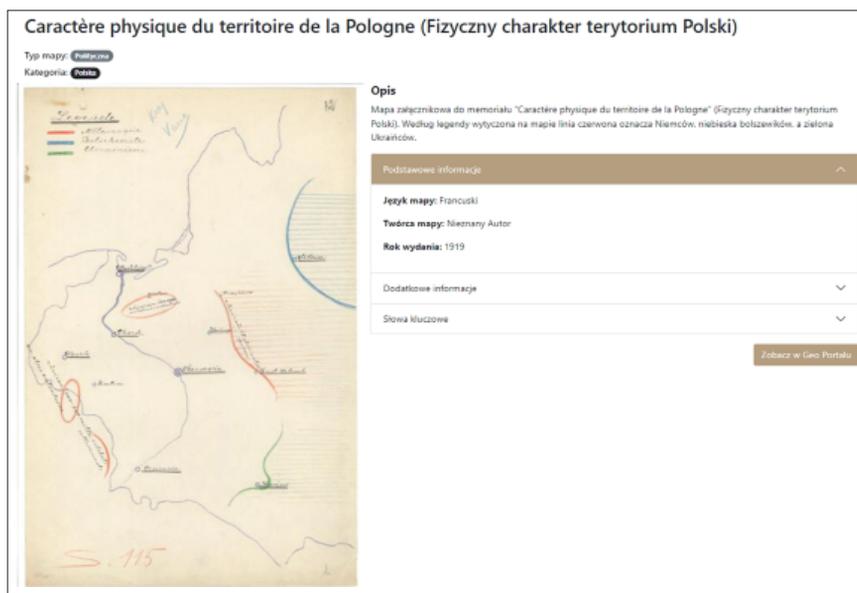


Fig. 25. Cartographic sketch attached to the memorandum “Caractère physique du territoire de la Pologne”

Source: Archive of Modern Records in Warsaw, Fonds 39: Polish National Committee in Paris, Ref. 122



Fig. 26. Schematics drawing of the Tatra section of the existing Polish-Hungarian border and section of the proposed Polish-Slovak border

Source: Archive of Modern Records in Warsaw, Fonds 515: Ref. 224

Printed maps with manuscript elements are the most interesting and valuable group of items. They are distinctive because of the hand-drawn content added onto the published map and texts, complementing or commenting on the printed image. Drawn elements relate directly to the image of the map, while the texts are located within the whole sheet of paper or tracing paper on which the map is printed, most often to be found in the margins or, less frequently, directly on the map content. More extensive comments are sometimes located on the reverse side, although these cases in the discussed collection were the least frequent.

An interesting example is shown in Fig. 27. On the printed cartographic base map, the Polish borders from 1772, the proposed borders according to the position of the Polish National Committee and the Polish delegation to the Peace Conference, and the area allocated to Poland according to the decisions of 7 May 1919,



Fig. 27. Provisions of Versailles of 7 May 1919 (peace preliminaries)
Source: Archive of Modern Records in Warsaw, Fonds 390: File of Leon Wasilewski, Ref. 30

were drawn. In addition, the area of the plebiscite in Powisle, Warmia, and Masuria were marked, as well as the Free City of Gdańsk (Danzig). The final text of the Treaty of Versailles was adopted on 28 June 1919, and with regard to Poland's western borders it had been less favourable than the arrangements of 7 May 1919, especially in the case of Silesia. The entire thematic content of the map had been hand-added by E.R. [Eugeniusz Romer] – geographer, expert at the peace conference, and professor at the Jan Kazimierz University in Lviv.

The added fragments of the map's content usually refer to a different course of the borders. In the example given below, concerning one of the more frequently encountered maps in various archival collections in Poland and abroad,

the most interesting elements (Fig. 28) are the two hand-drawn lines – red and green. From the report attached to the map, it emerges that they had been drawn by Roman Dmowski, in Paris, on 11 September 1919, during a meeting with Polish diplomat Jan Ciechanowski, the author of the said report. The document was intended for Józef Piłsudski and discussed the course of talks between R. Dmowski and J. Cambon and the Polish Affairs Committee concerning holding a plebiscite in Cieszyn Silesia. The lines drawn by R. Dmowski are the Committee proposals for the course of the demarcation line (red) and the



Fig. 28. Le Duché de Cieszyn (Teschen) Silésie (Eng. The Duchy of Cieszyn (Teschen) Silesia)
Source: Archive of Modern Records in Warsaw, Fond: 100: the J.I. Paderewski Archive, Ref. 927



Fig. 29. Übersichtskarte von Mitteleuropa (Breslau) (Eng. General map of Central Europe (Wrocław) with the area painted over and annotation "Polishness marked in red")
Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 899

border (green). The red variant was more favourable to Poland, as it granted her the north-western part of the Ostrava–Karviná Basin. According to the report, both these proposals had been categorically rejected by Dmowski, who was convinced that the situation in this region would develop favourably for Poland. Ultimately, Cieszyn Silesia was divided in 1920 in a way that was much more disadvantageous for Poland.

As already mentioned, the discussed content and annotated texts are a distinguishing feature of these printed maps. It is worth noting that the number of items commented on and annotated indicates the areas and issues that aroused the most emotion among politicians and experts. Because of these additions, each copy of the map is unique. They take the form of laconic original comments, explaining the issues on the map or commenting on a selected map element. Most often, they are annotations located next to selected signatures or short explanations, indicating the most important fragment of the map content or the most controversial one. Sometimes, they reflect the mood of the writer, as exemplified by the annotation “this is Poland” (Fig. 29).

Maps by the scale of their issue

Considering the scale of the study as the main criterion, the following groups of maps were distinguished:

Small-scale maps depicting the full extent of the former Polish territory; these are printed or manuscript maps, signed (or marked with the initials) by the author or a person checking them, and depicting various issues, e.g. territorial, national, linguistic, historical, and of reading level; some of them had been developed and



Fig. 30. Examples of small-scale maps found in post-conference collections

Source: © Historical and Literary Society / Polish Library in Paris,
Ref. THL_BPP_III L 142_CD189_6399

published before the outbreak of First World War, some originate from German geographic atlases, e.g. on colonial issues; this group also includes maps printed in various leaflets and propaganda newspapers of the conference period (Fig. 30) and depicting multiple matters, as well as maps drawn on tracing paper, which had helped conduct warfare activities on disputed areas.

Overview maps (Polish, German, French), mainly show the proposed course of the borders against the background of the settlement and communication network or depict fragments of former Polish lands with handwritten thematic content (Fig. 31).



Fig. 31. Teschen, Orawa et Spisz (Eng. Cieszyn, Orava and Spiš), scale 1:200,000, Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 928

Topographical maps are mainly printed Prussian, Austrian, and French maps, on which thematic content had been handwritten, or borders had been printed.

Maps produced by the Service Géographique de l'Armée are a typical example of this group. The map below shows the border of the Free City of Gdańsk (Danzig) according to the final arrangements of June 1919 (Fig. 32). The following presents the division of Orava between Poland and Czechoslovakia, according to the decision of the Council of Ambassadors of 28 July 1920 (Fig. 33). Until the First World War, Orava had been within the borders of Hungary. After the break-up of the Austro-Hungarian monarchy and the end of the war, the newly formed Czechoslovakia made territorial claims to the entire area of northern Hungary (including Orava). In turn, the numerous Polish population in Orava demanded annexation of this land to Poland. In 1919, a decision had been made to hold a plebiscite in mid-1920 to decide the political affiliation of Orava. The referendum was eventually cancelled due to the Polish-Bolshevik war. In July 1920, Poland was granted only a small fragment

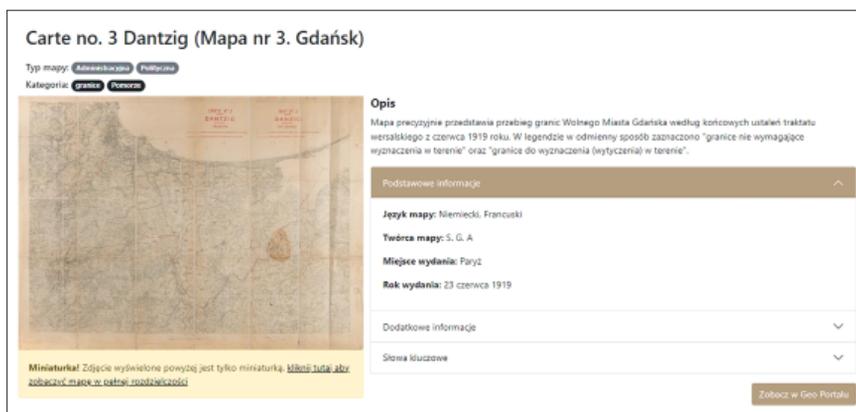


Fig. 32. Carte no. 3 Dantzig, scale 1:100,000
 Source: © Historical and Literary Society in Paris / Polish Library in Paris,
 Ref. BPP_THLP_III 2894_CD187_DSC_3516

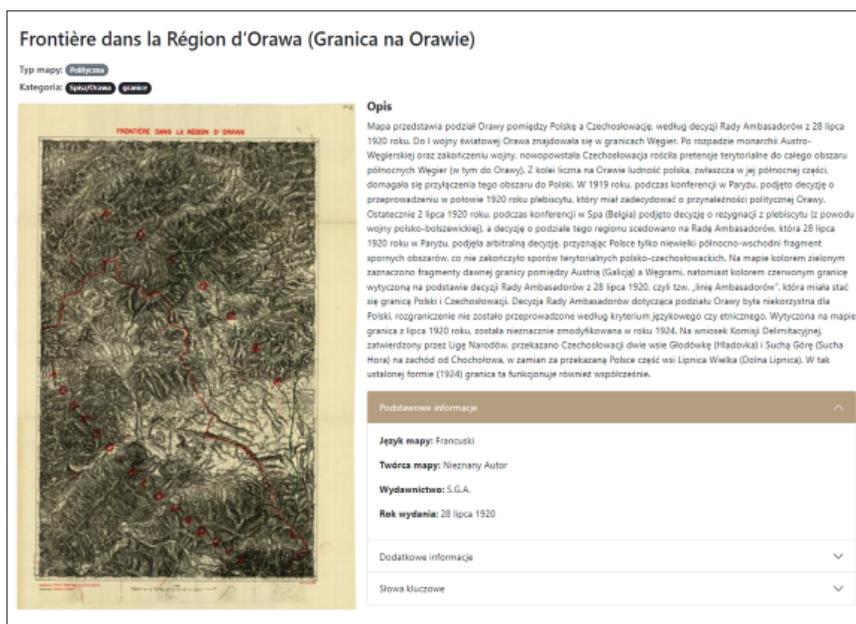


Fig. 33. "Frontière dans la Région d'Orawa" (Eng. Frontier in the Orava Region), scale 1:75,000
 Source: Archive of Modern Records in Warsaw,
 Fonds 100: the J.I. Paderewski Archive, Ref. 928

of the disputed areas, which did not end the Polish-Czechoslovak territorial disputes. The decision was unfavourable for Poland as the delimitation had not been carried out according to linguistic or ethnic criteria. The outlined border was slightly modified in 1924. At the proposal of the Delimitation Commission, two villages, i.e. Głodówka (Hladovka) and Sucha Góra (Sucha Hora), were transferred to Czechoslovakia in exchange for a part of the village of Lipnica Wielka (Dolna Lipnica) that was handed over to Poland. In this shape, the border still functions today.

Another noteworthy item in this group is the manuscript material to the 1:10,000 scale plan of Gdańsk (Danzig), which shows land owned by the city, land belonging to Germany, and “land belonging to the German state, the transfer of which Poland is seeking for its benefit, as being important for its navy and the development of the port” (according to the legend). The descriptions and names on the plan are in French and German (Fig. 34).

Other maps, i.e. non-cartometric maps, which include manuscript cartographic sketches found in notes or on loose sheets of paper, representing poor cartographic quality and concerning a variety of subjects.²¹



Fig. 34. Sketch plan of Gdańsk, scale 1:10,000
Source: Archive of Modern Records in Warsaw,
Fonds 40: Polish Delegation to the Paris Peace Conference, Ref. 34

²¹ Beata Konopska, Marek Barwiński, *Kształtowanie granic...*, op. cit. pp. 67–68.

Maps by geographical coverage

Maps of Europe and the World. This group comprises maps covering the entire European continent, the world, and various countries outside Europe. These include the multi-sheet maps produced during the peace conference, which are in the archival holdings of many of the countries involved in the Paris negotiations. For example, sheet maps on scales of 1:200,000, 1:400,000 and 1:1,000,000, and maps from geographical atlases published before the outbreak of the First World War are incorporated here (Figs. 35–37).



Fig. 35. World map showing German colonies
Source: Archive of Modern Records in Warsaw, Fonds 515: Ref. 59



Fig. 36. La Pologne, l'Allemagne et la Paix (Eng. Poland, Germany and the Peace)
Source: © Historical and Literary Society in Paris / Polish Library in Paris, Ref. BPP_THLP_III 2381_CD187_DSC_3561



Fig. 37. Pologne & Europe Centrale. Revendication de la Pologne et des autres Peuples (Eng. Poland & Central Europe. Demands from Poland and other Peoples)
Source: © Historical and Literary Society in Paris / Polish Library in Paris, Ref. /H.81/6486

Maps of former Polish territories – these are usually maps presenting the area of pre-partition Poland or the Kingdom of Poland. These maps show two concepts of how the Polish lands were perceived – the first, as a coherent whole of lands within the borders of 1772, and the latter as the lands within the borders of the Kingdom of Poland.

The map from the holdings of the Library of Congress in Washington, DC, from President Woodrow Wilson’s map collection is one of the numerous examples of the first variant (Fig. 38). It was one of three maps sent by Roman Dmowski to President Wilson in October 1918. In the lower right corner of the map, there is a handwritten annotation “Washington. October 8th, 1918.” This is a manuscript map that is nowadays in several archives (Warsaw, Paris, Washington). Although each copy is very similar, their details differ. They had been handmade by different people and using various technical means. The map shows the political division of the Polish lands before the First World War against the background of the general linguistic structure (linguistic areas) in a way that is not entirely consistent. The political division shows the pre-war borders of the partitioning states and the main historical and geographical regions in the western and southern parts (Galicia, Silesia, Poznan region, West Prussia, East Prussia).

On the other hand, there is no reference to historical and geographical regions in the area of the Russian partition. Instead, the administrative division into individual gubernias (within the area incorporated into the Russian Empire) and the Kingdom of Poland (in the remaining area) is presented. Despite the



Fig. 38. The Political subdivision of the Polish territory before the war and its linguistic areas
 Source: Library of Congress in Washington, DC

fact that the map was drawn up during the First World War, the Chelm Gubernia, created in 1912 and separated from the Kingdom of Poland in 1915, is not marked. In addition to the political-administrative division, the map shows the “linguistic areas” – Polish, Ruthenian (Ukrainian), Belarusian and Lithuanian. Areas with a dominant German-speaking population are not listed. Moreover, with regard to the Ruthenian (Ukrainian), Belarusian and Lithuanian-speaking populations, only undivided areas where these languages made up more than 50% of the total population are shown in colour. A different method is used to illustrate the distribution of the Polish-speaking population by colouring the area of its numerical dominance but also by depicting with hatching areas with the minority share of Polish speakers in three percentage ranges (25–50%; 10–25%; less than 10%). In this way, it was possible to show the presence of the Polish-speaking population over a vast area, definitely going beyond the “Polish linguistic area”, especially in the east, where it includes all lands within the borders of 1772, but also in the west and south, where in several places it goes beyond the pre-partition borders (Spiš, Orava, Duchy of Cieszyn, Silesia, Pomerania, Masuria). No statistical sources for the linguistic structure were given, making verifying the data difficult.

In the second concept, the extent of the undivided area of the Polish territories was presented within the borders of the Kingdom of Poland, while the other districts were presented on separate maps. This is exemplified, for example, by the maps produced as part of the *Encyklopedia polska* (Eng. *Polish Encyclopedia*) project. In this project, most of the issues presented within the range of the Kingdom of Poland had also been developed for the other districts. The



Fig. 39. Population of the Kingdom of Poland in 1919 (Cartographical Bureau of the “Polish Encyclopedia”)

Source: © Historical and Literary Society in Paris / Polish Library in Paris, Ref. THLP_BPP_C II 178_CD188_5199

map below, prepared by W. Wakar, shows the religious structure of the population of the Kingdom of Poland according to the Russian census of 1897, the results of which had not been published until 1905 (Fig. 39). The map clearly shows that in the area of the Kingdom of Poland at the turn from the 19th to 20th century, the Catholic population was by far the dominant one. Jews were the majority mainly in small towns and cities, Orthodox Christians in the eastern part of the Lublin region, and Protestants only in a few communities near Łódź. The vast majority of Catholics in the area were of Polish nationality at the time, evidencing Poles' numerical dominance in the Kingdom of Poland, but it should be remembered that adherents of Catholicism at the time included Lithuanians. In turn, there were also adherents to Protestantism among the Polish population. Still, Germans and Czechs predominated among the Protestants. Orthodox adherents in the Lublin region were overwhelmingly of Ukrainian nationality.

• **Maps of the regions** were created mainly as a result of isolating disputed areas, on which negotiations had not been easy. For this reason, maps of Upper Silesia, Cieszyn Silesia, Orava, and Spiš, as well as maps of the Warmia and Masuria area dominate among the items found. Maps covering the area of Galicia also have a significant share in this collection. The subject matter of the maps presenting the regions is diverse, but the dominant group is that of the areas covered by plebiscites (Figs. 40, 41).



Fig. 40. Map of Upper Silesia – area covered by the plebiscite
 Source: © Historical and Literary Society in Paris / Polish Library in Paris,
 Ref. THL_BPP_III S 312_CD189_6421



Fig. 41. Exemplary map of Galicia

Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 965

• **Maps of the western border** – this group includes maps of great cartographic interest. They are distinguished by the form of content presentation, which focuses exclusively along the potential western border of Poland. Such a solution undoubtedly facilitated negotiations, as they concentrated the attention of the politicians entirely on the area under negotiation (Figs. 42–44).

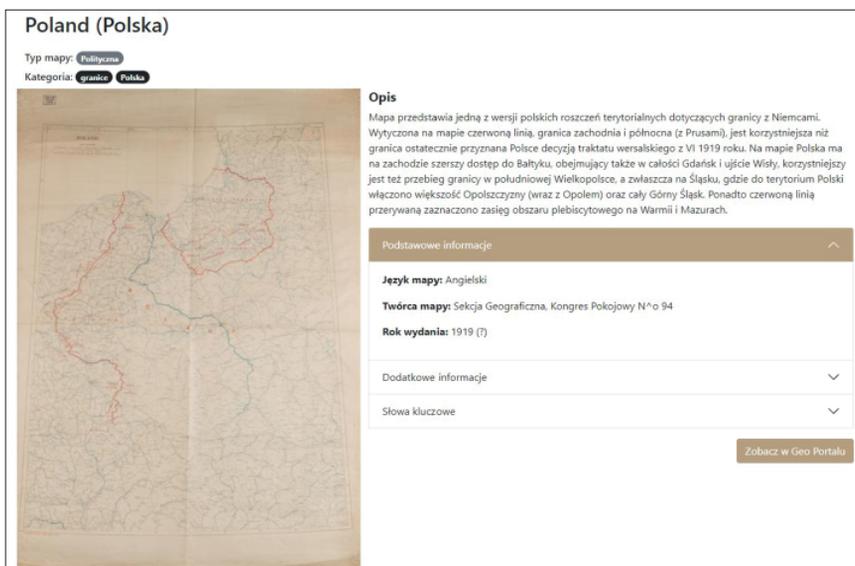


Fig. 42. One of several proposals for Poland's western border

Source: © Historical and Literary Society in Paris / Polish Library in Paris, Ref. THL_BPP_III H 87_CD189_6378

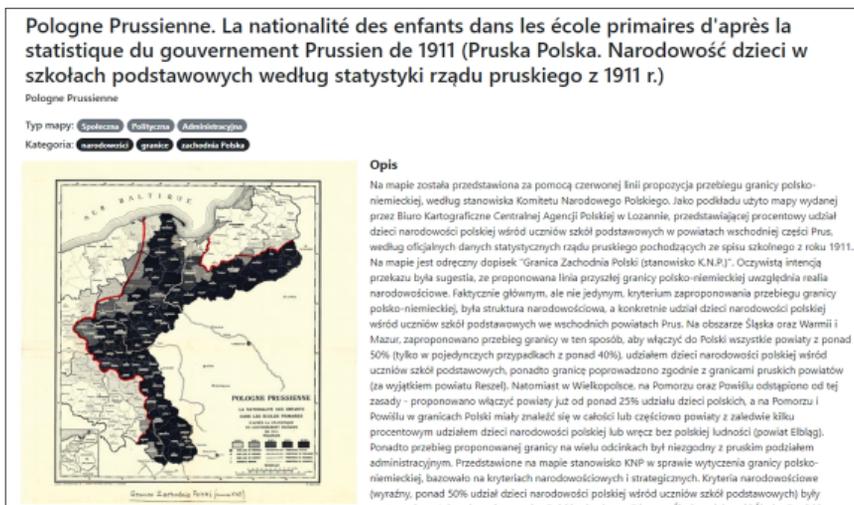


Fig. 43. Example of a thematic map used in the discussion on Poland's western border
Source: Archive of Modern Records in Warsaw, Fonds 260: Cartographic collection, Ref. 429

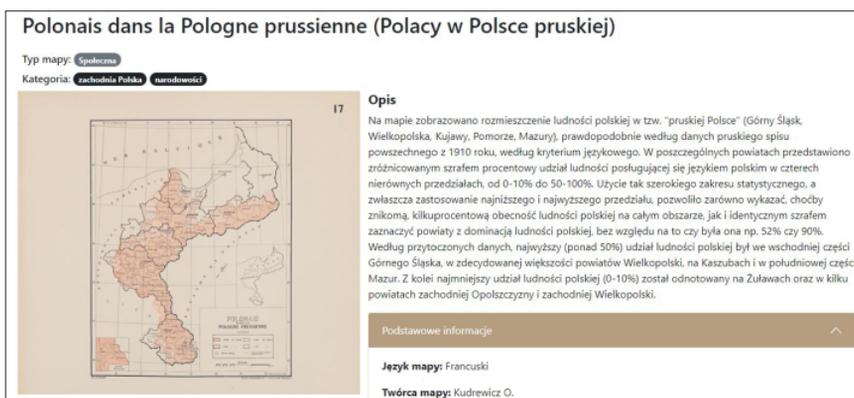


Fig. 44. Typical thematic map made for discussions on Poland's western border
(Cartographical Bureau of the "Polish Encyclopedia")

Source: © Historical and Literary Society in Paris / Polish Library in Paris,
Ref. THLP_BPP_C II 178_CD188_5183

• **Maps of the southern border** – this group includes maps depicting proposals for the course of Poland's southern border. A significant part of this collection comprises items presenting the disputed areas (Figs. 45–47). These are the most commonly preserved maps both at home and abroad. They were referred to by both interested parties, i.e. both sides of the dispute, as well as by the French government. In the case of Cieszyn Silesia and Upper Silesia, maps made by three different expert teams are preserved.

General characteristics of the surviving cartographic sources



Fig. 45. Revendications Polonaises en Hongrie (Eng. Polish claims in Hungary)
Source: © Historical and Literary Society in Paris / Polish Library in Paris,
Ref. THL_BPP_III S 307_CD189_6428



Fig. 46. Example of a thematic map for the discussion of Poland's southern border
Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 920



Fig. 47. Map of disputed areas within the southern border of Poland
Source: United Nations Library & Archives Geneva

• **Maps of the north-eastern and eastern borders** – in the case of these sectors of the border of the new state, their final course was shaped mainly during the fights that had been ended with the Treaty of Riga (Fig. 48). For this reason, the majority of maps concerning the eastern sector of the border are in the form of maps drawn by military topographers. This group also includes maps with proposals for the course of the borders that had been prepared by French topographers (Fig. 49).

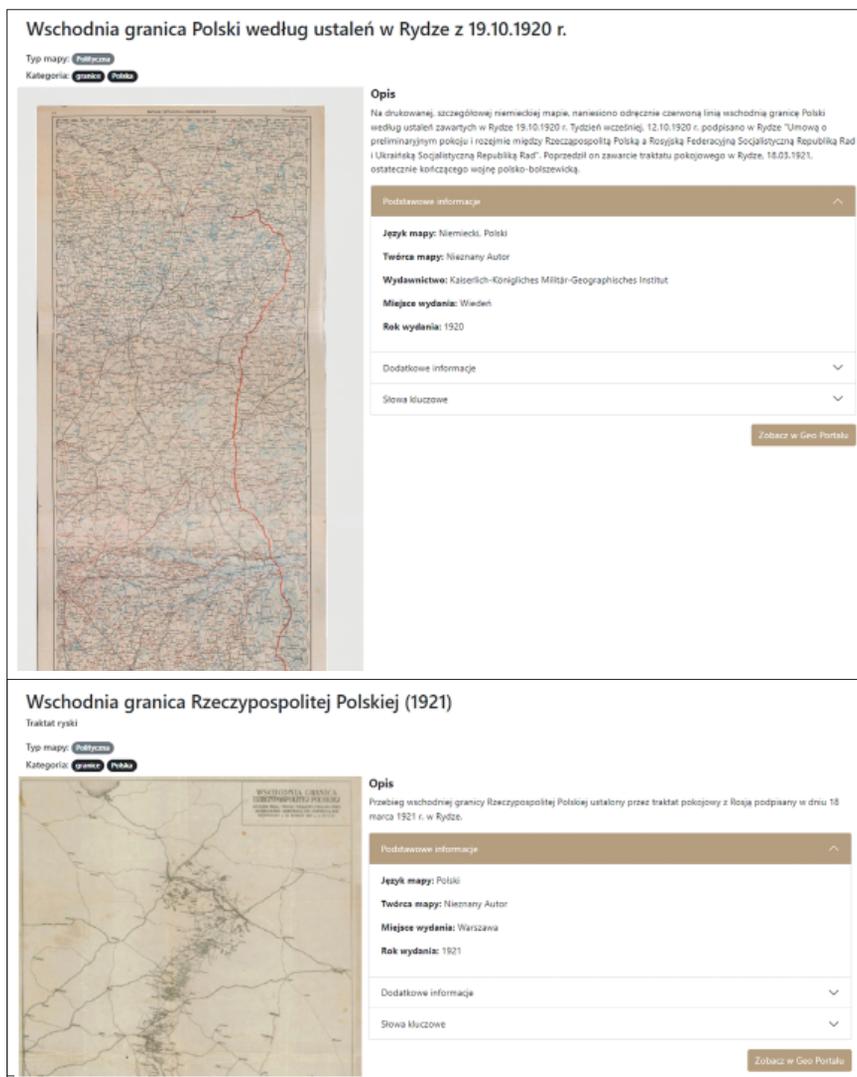


Fig. 48. Maps of Poland's eastern border
Source: Polona.pl

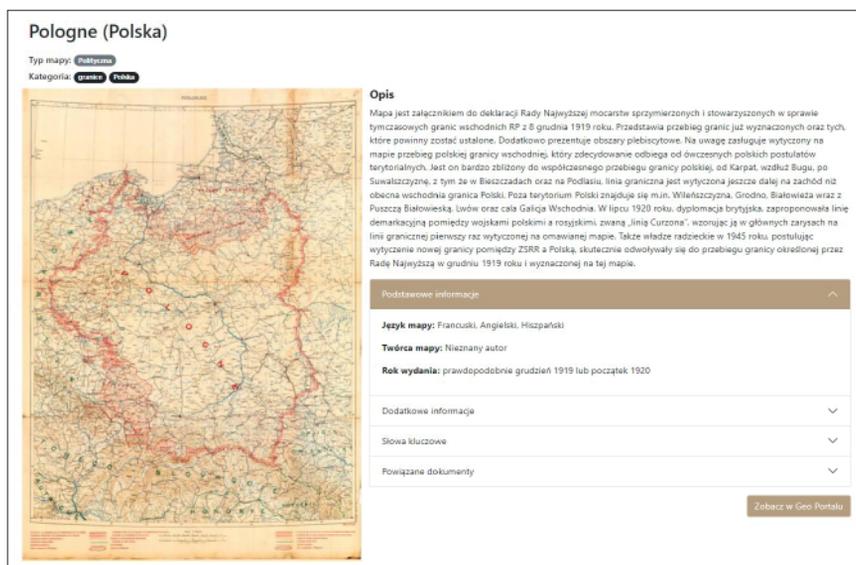


Fig. 49. Map annexed to the Declaration of the Supreme Council of the Allied and Associated Powers of 8 December 1919 relating to the Provisional Eastern Frontiers of Poland
 Source: Archive of Modern Records in Warsaw,
 Fonds 40: Polish Delegation to the Paris Peace Conference, Ref. 73

Maps of areas outside the former Polish territories – maps included in this group represent proposals for the course of borders in areas outside Polish territory. These are usually areas of the neighbouring countries. Notably, significantly fewer of these maps are preserved in Polish archives than in foreign ones. It is likely that the delegations of individual countries were handed over maps, made by S.A.G., with already established border sections (Fig. 50).



Fig. 50. Proposed German border of 23 June 1919
 Source: © Historical and Literary Society in Paris / Polish Library in Paris,
 Ref. BPP_THLP_III 2149_CD187_DSC_3594

An interesting example in this group is the maps illustrating the 1919 memorial “Poland and Finland” (Fig. 51). It is noteworthy that the actual western border of Russia in 1921, except for the section in Galicia, was very close to that depicted on this map.

Finlandia i Polska I

Typ mapy: Społeczna Polityczna

Kategoria: Europa Kraj



Opis

Mapa nr I ilustrująca memorial “Polska i Finlandia” z roku 1919. Obejmuje rozległy obszar Europy Środkowo-Wschodniej, od północnej Finlandii, po Morze Czarne. Wyróżniono na niej terytoria zasiedlone przez poszczególne narody – Finów, Estończyków, Łotyszów, Litwinów, Niemców, Polaków, Białorusinów, Ukraińców, Czechów, Słowaków, Węgrów, Rumunów. Pomimo pewnego schematyzmu i uogólnień, zaznaczone obszary generalnie są zgodne z rzeczywistym ówczesnym rozmieszczeniem dominacji i licznej poszczególnej narodowości. Natomiast na mapie nie uwzględniono, bardzo licznych w tej części Europy, rozproszonych mniejszości narodowych. Zasadniczym elementem mapy jest wyraźnie zaznaczona „zachodnia granica Rosji”, biegnąca od Morza Białego na północy, poprzez Petersburg i okolice Lwowa do Karpát, a następnie wschodnią granicą Rumunii do Morza Czarnego w okolicach Odessy. Zgodnie z przyjętymi przez Autora mapy założeniami, negatywnie zamarkowane przez Ukrainców i Białorusinów oraz szczerą tam mniejszość polską (za wyjątkiem fragmentów z dominacją ludności katolickiej), powinny zostać połączone do Rosji. Rzeczywista zachodnia granica Rosji, ustalona w roku 1921, za wyjątkiem fragmentu w Galicji, nie odbiegała zasadniczo od propozycji przedstawianej na omawianej mapie.

Podstawowe informacje

Język mapy: Polski

Twórca mapy: Nieznany Autor

Rok wydania: 1919

Dodatkowe informacje

Słowa kluczowe

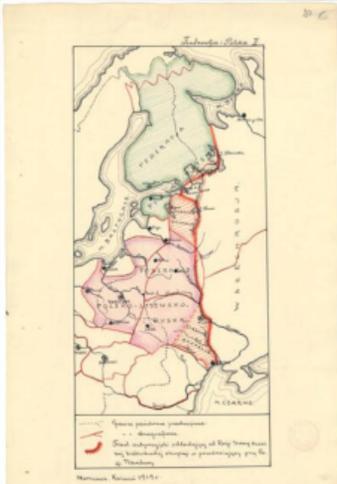
Powiązane dokumenty

[Zobacz w Geo Portalu](#)

Finlandia i Polska II

Typ mapy: Społeczna Polityczna

Kategoria: Europa Kraj



Opis

Mapa nr II ilustrująca memorial “Polska i Finlandia”. Obejmuje obszar Europy Środkowo-Wschodniej, od północnej Finlandii, po Morze Czarne. Wyróżniono na niej rozległe terytorium Federacji Fityko-Estońskiej (z półwyspem Kola i wyraźnie na wschód przesuniętymi granicami Finlandii) oraz Federacji Polsko-Litewsko-Ruskiej wraz z dwoma regionami „poid czasową okupację” – pomiędzy Kijowem a Odessą oraz na wschód od Estonii. Zasadniczym elementem mapy jest wyraźnie zaznaczona linia „frontu antyrosyjskiego”, biegnąca od Morza Białego na północy, poprzez Petersburg i Kijów, po Odessę nad Morzem Czarnym.

Podstawowe informacje

Język mapy: Polski

Twórca mapy: Nieznany Autor

Rok wydania: 1919

Dodatkowe informacje

Słowa kluczowe

Powiązane dokumenty

[Zobacz w Geo Portalu](#)

Fig. 51. Maps attached to the memorial “Poland and Finland” (1919)
Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 933

Maps by function

The large number of maps found, differing in geographical coverage, scale, production technique, as well as in place and language of publication, makes it possible to analyse them considering various criteria. In the context of the raised subject of shaping borders in the light of cartographic documents, it seems justified to analyse the collected set of maps according to the role they played during the conference. The collected maps can be divided into three main groups, taking into account the role played in the process of shaping the borders.

Maps acting as official documents

The first group consists of the maps that acted as official documents. They form the most extensive cartographic collection and are, therefore, divided into four subgroups:

- **Maps used during official meetings.** This subgroup includes cartographic studies that have been confirmed in written documents to have been used during official meetings. These comprise maps of Polish lands, which had been used by our Polish delegates before and during the conference when they had held talks with, for example, W. Wilson. These maps are mentioned in the correspondence of R. Dmowski and W. Wilson. The originals of these maps were found not only in the legacies of the delegates but also in documents left by W. Wilson and the Diplomatic Archives in Paris. These were manuscript maps. Drawing details indicate that they had been handmade by different people and using various technical means. Some were recalling the former Poland, while others depicted the expectations of the delegates (Figs. 52, 53).

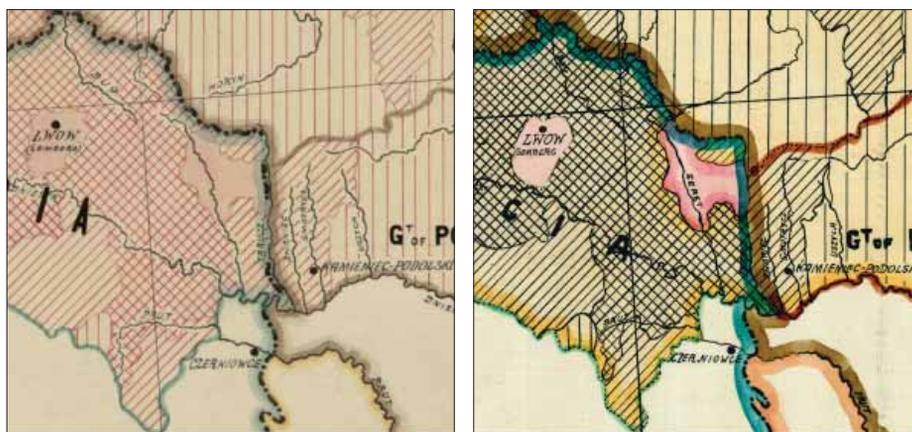


Fig. 52. Fragments of the maps of *the Political subdivision of the Polish territory before the war and its linguistic areas* showing differences in their elaboration
Source: Library of Congress in Washington, DC; Archive of Modern Records in Warsaw

Maps of disputed areas, such as Upper Silesia and Cieszyn Silesia, commissioned by the Big Three from their own experts, are also included in this subgroup. It is interesting to note that these maps had been commissioned despite the large number of cartographic studies drawn and provided by both sides of the dispute. For these maps, confirmation was also found that they had been used during the decision-making process.



Fig. 53. Fragments of the maps of *The proposed frontiers of Poland*
Source: Library of Congress in Washington, DC; Archive of Modern Records in Warsaw

- **Maps documenting the ongoing conclusions of the conference.** The second subgroup in the set of maps constituting official documents includes cartographic publications that directly illustrate the conference conclusions. This collection consists of two types of maps: the first are those produced by the Service Géographique de l'Armée, and the second are made by the Geographical Branch of the Bureau of Congress Works.

The query demonstrates that the Service Géographique de l'Armée drew multi-sheet maps of the entire Europe continuously, as evidenced by the daily dates printed on each map. The process of producing the maps was relatively fast, as the provisions of the peace treaty were printed in red ink on ready-made cartographic base maps on a scale of 1:1,000,000 or 1:200,000 (Figs. 54, 55). The queries abroad indicate that individual states probably received maps signed with the acronym S.G.A. as part of the official materials produced during the conference, as they are kept with the official post-conference documentation. The maps show the details of the course of the border broken down into sections that had been agreed upon or were still under discussion. The large number of maps and their varied geographical extent indicate that the entire Europe was drawn up in a uniform way. A complete set of these maps appears to be in the Diplomatic Archives in Paris.

General characteristics of the surviving cartographic sources

Maps issued by the S.G.A. on a scale of 1:200,000 with overprinted boundaries and the daily date, and with added information that this is research material exclusively and should not be regarded as an official document, were also included in this group.

It is worth mentioning at this point that the Czechs worked in a similar way, i.e. by overprinting borders on ready-made maps signed by Čs. Voj. Zeměpisný Ústav. For this purpose, they used map sheets on scales of 1:75,000 and 1:200,000. However, it is difficult to comment on the size of this undertaking, as the maps found covered the southern border of Poland, but sheets also covering the other Czech and Slovak lands were discovered in Czech and French collections.

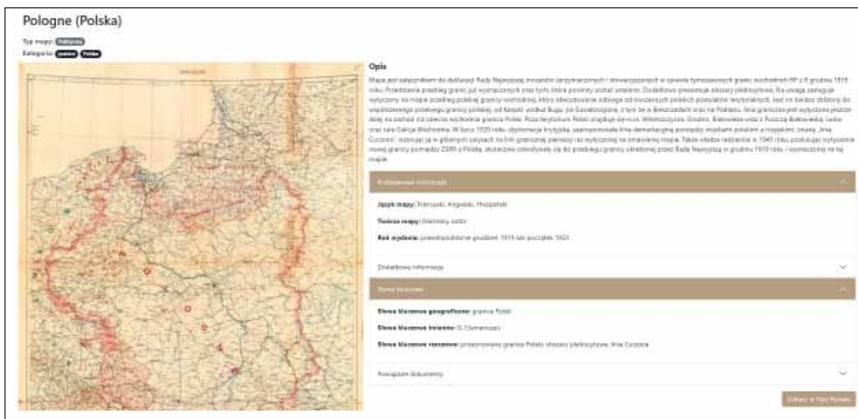


Fig. 54: Example of a 1:1,000,000 scale map signed by the Service Géographique de l'Armée, dated 11 December 1919
Source: Archive of Modern Records in Warsaw



Fig. 55: Map on a scale of 1:200,000 signed by the Service Géographique de l'Armée
Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 928

In contrast, the maps on a scale of 1:1,000,000 issued by the Geographical Branch of the Bureau of Congress Works were probably based on the same scale maps published by the Service Géographique de l'Armée. The former maps were reproduced many times. Many reworkings of them can be found in the press and literature of the period (Fig. 56).

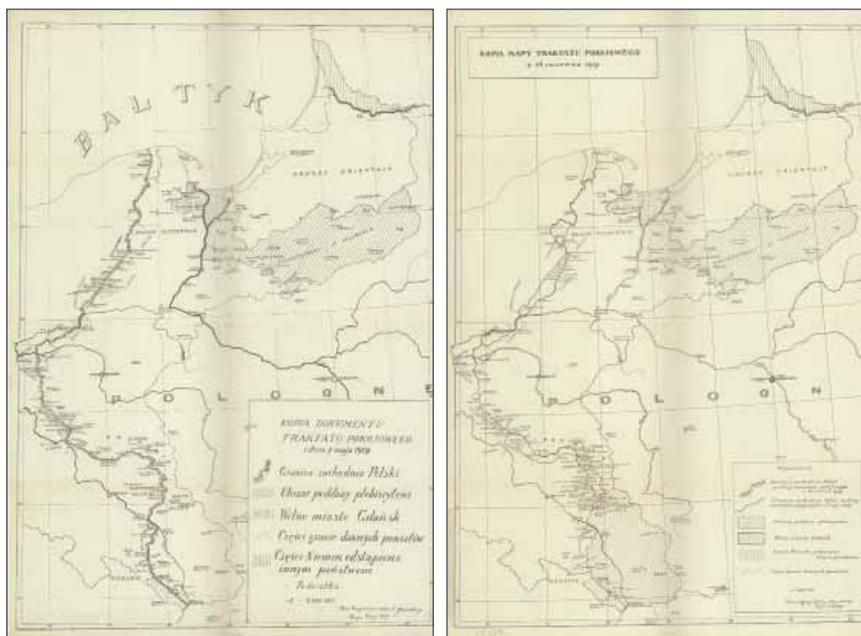


Fig.56. Comparison of map details depicting the provisions of the peace treaty of 7 May and 14 June 1919 (Paris 1919)
Source: Polona.pl

• **Maps featured in official memoranda and papers.** A third subgroup of official documents consists of maps included in various types of memoranda and papers officially commissioned for the Paris negotiations (Fig. 57). These maps were initially incorporated in the written documentation but are mostly kept as stand-alone documents. These studies mainly arrived in Paris with the Bureau of Congress Works.²² Having in mind R. Dmowski's statement, quoted earlier after M. Górny, about the lack of understanding of such a large number of commissioned materials, often with no substantive connection to the issues addressed at the conference,²³ it is difficult to determine what role the maps included in them actually played.

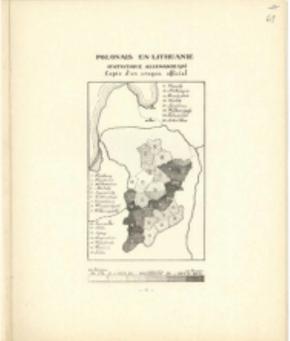
²² *Katalog archiwum Biura Prac Kongresowych do 30 kwietnia 1919 roku* (typescript).

²³ Maciej Górny, *Kreślarze ojczyzn...*, op. cit, p. 87.

General characteristics of the surviving cartographic sources

Polonais en Lithuanie statistique allemande 1916. Copie d'un croquis officiel (Polacy na Litwie. Statystyka niemiecka 1916. Kopia oficjalnego szkicu)
 Polonais en Lithuanie (Polacy na Litwie)

Typ mapy: [Geografia](#) [Administracja](#)
 Kategorie: [Ludność](#) [Tery](#)



Opis
 Na mapie przedstawiono procentowy udział Polaków według powiatów na obszarze ówczesnej (tzn. historycznej) Litwy, wraz z Suwalszczyzną, ziemią grodzieńską oraz wschodnim Podlasiem z Białymostkiem i Bielskiem Podlaskim, czyli poza historycznymi granicami dawnego Wielkiego Księstwa Litewskiego. Dane pochodzą ze spisu z 1916 z przeprowadzonego przez administrację niemiecką. Mapa pokazuje dominujący udział ludności polskiej na obszarze wschodniego Podlasia, Suwalszczyzny oraz w szerokim pasie środkowej Litwy, wraz z Wilieńczyzną, a także powiatami na północ od Wilna. Udział Polaków na tych obszarach wynosił od 50 do 80%, a w niektórych powiatach (zwłaszcza na Wilieńczyźnie i w części Podlasia) przekracza 80%. W mniejszym udziale (do 5 do 50%) ludność polską zamieszkiwała także powiaty północne Jarosław na południe na Wilieńczyźnie oraz ziemi grodzieńską, jak i na północ, aż po Kęgany.

Podstawowe informacje

Język mapy: Francuski
Tytuła mapy: Niemiecki Autor
Rok wydania: -

Dodatkowe informacje

Słowa kluczowe

[Zobacz w Geo Portalu](#)

Lithuanien dans le diocèse de Wilno. Enquête du consistoire catholique 1908 (Litwini w diecezji wileńskiej. Przegląd katolickiego konsystorza 1908)

Typ mapy: [Geografia](#) [Ludność](#)
 Kategorie: [Ludność](#) [Tery](#)



Opis
 Powinno tytułu mapy sugerującego, że dotyczy ona wyłącznie ludności litewskiej, przedstawiono na niej procentowy udział Litwinów (kolor czarny) oraz Polaków (kolor biały) w diecezji wileńskiej. Prezentowane dane są pochodzą z zapisów Konsystorza Katolickiego z 1908 r. Zakładając, że na początku XX w. wśród katolików na tym obszarze zdecydowanie dominowali Litwini i Polacy, można przyjąć, że mapa przedstawia rozmieszczenie oraz strukturę narodowościową ogółu ludności katolickiej w diecezji wileńskiej. Wyraźnie widać bardzo istotne dysproporcje w strukturze narodowościowej ludności należącej do diecezji wileńskiej. Katolicy narodowości litewskiej przeważali w północnej i zachodniej części diecezji, natomiast katolicy narodowości polskiej całkowicie dominowali w centralnej, wschodniej i południowej części, zwłaszcza na Wilieńczyźnie. Powinno zaznaczyć granice terytorium dawskiego według M. Rozwadowskiego (linia kropkowana) oraz według dochodzenia konsystorza katolickiego (linia przerywana), a także obszary mieszane według M. Rozwadowskiego (czarna).

Podstawowe informacje

Język mapy: Francuski
Tytuła mapy: Niemiecki Autor
Rok wydania: -

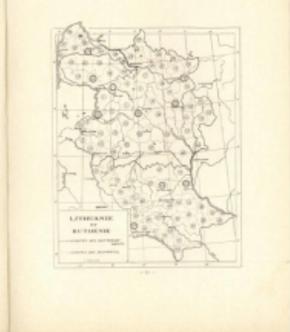
Dodatkowe informacje

Słowa kluczowe

[Zobacz w Geo Portalu](#)

Lithuanie et Ruthenie (Litwa i Ruś)

Typ mapy: [Geografia](#) [Ludność](#)
 Kategorie: [Ludność](#) [Tery](#)



Opis
 Tytuł mapy sugeruje ograniczenie jej zasięgu do Litwy i Ruś (Białoruś i Ukraina), natomiast w rzeczywistości mapa uwzględnia bardzo rozległy obszar, obejmujący poza Litwą, Białorusią i ukraińską wschodnią Ukrainą, także częściowo Łotwę oraz wschodnie Podlasie z Białostoczną. Cały obszar został przedstawiony w podziale administracyjnym na gubernatorstwa oraz wchodzące w ich skład dystrykty.

Podstawowe informacje

Język mapy: Francuski
Tytuła mapy: Niemiecki Autor
Rok wydania: -

Dodatkowe informacje

Słowa kluczowe

[Zobacz w Geo Portalu](#)

Fig. 57. Example of maps included in memoranda
 Source: Archive of Modern Records in Warsaw,
 Fonds 40: Polish delegation to the Paris Peace Conference, Ref. 153

• **Maps prepared by official cartographic studios.** The fourth subgroup consists of maps signed by the Geographical Branch of the Bureau of Congress Works.²⁴ They were made in Paris or officially brought from Poland by persons working together with the Bureau. Also, in this subset, there are maps made as part of the *Encyclopédie Polonaise* venture by the Cartographic Bureau of the Central Polish Agency (Fig. 58). Both cartographic studios published many



Fig. 58. Examples of maps produced by the Cartographic Bureau of the Central Polish Agency Source: Archive of Modern Records in Warsaw, Fonds 100: the J.I. Paderewski Archive, Ref. 896; © Historical and Literary Society in Paris / Polish Library in Paris, Ref. THLP_BPP_C II 178_CD188

²⁴ Franciszek Puławski was the initiator of establishing the Bureau of Congress Works. The Bureau was responsible for advising and preparing materials for the Polish delegates on such issues as communications, economy and military affairs. It also dealt with studies related to the ongoing negotiations.

stand-alone maps. Their number must have been considerable, as they are to be found in many places where the queries were made.²⁵ It can be ascertained that they found their way into the hands of experts and delegates, especially the maps developed on an ongoing basis, but there is no certainty that they were used by them in official discussions. Without an in-depth study, it is therefore difficult to clearly assess their role during the conference.

Military situation sketches

The second group among the surviving maps consists of topographical sketches related to the borders of Cieszyn Silesia, Upper Silesia, the course of the eastern border and the area of Warmia and Masuria (Fig. 59). These are maps

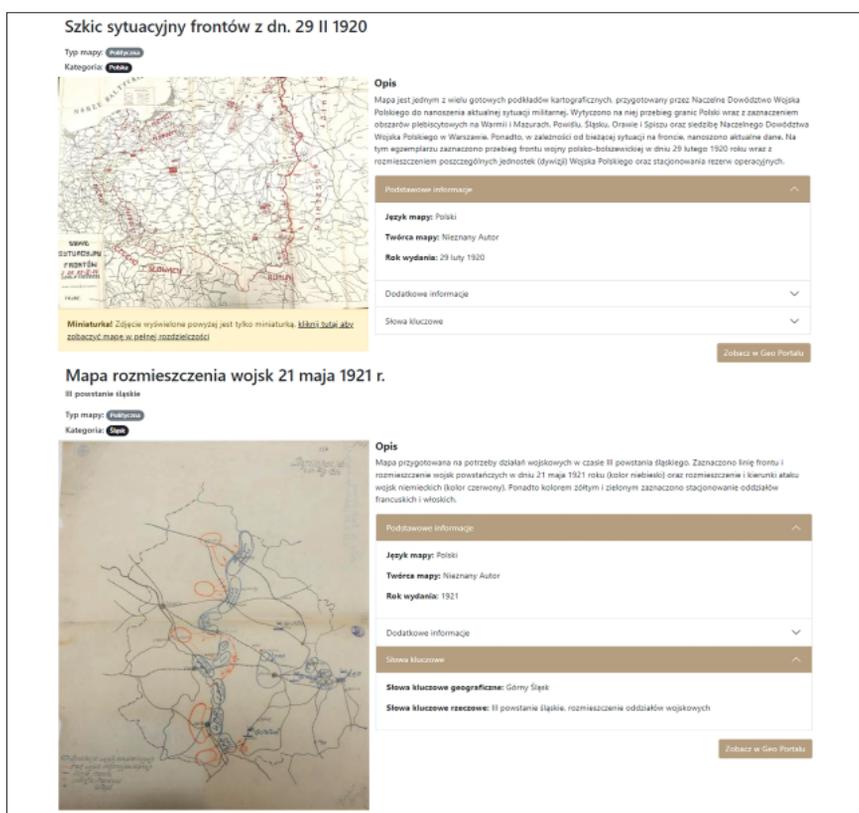


Fig. 59. Examples of military sketches

Source: Jozef Pilsudski Institute of America in New York, Fonds of the Adjutant General's Office of the Commander-in-Chief, Ref. 208, 90, 167

²⁵ Beata Konopska, *Polskie atlasy historyczne – koncepcje i realizacje*. IHN Publishing, Warsaw 1994, p. 90, states on the basis of the literature that out of over a hundred maps made by the Bureau of Congress Works, about 90 had been selected, and each of them was reproduced in 100 copies.

of a completely different nature than those discussed earlier, as the concept and course of these border sections were dependent on the outcome of “armed negotiations” in the field and not in the halls of the Palace of Versailles. These maps were drawn by military topographers. Most of the maps have a signature or are signed with a name with an indicated military rank. Two types of maps are included in this collection: one is manuscript maps at various scales with the war situation drawn in ink on tracing paper, and the other is maps with the situation hand-drawn on a printed topographical base. Maps on small scales, made using the same technique, helpful in planning military operations, are also included in this group.

The state of preservation of these maps varies. The desiccated and crumbling tracing paper did not always allow the sheet to be unfolded to view the entire area depicted on it. The largest number of such maps, often combined with written documents, was found at the Pilsudski Institute of America in New York. This is a unique collection worthy of further in-depth study.

Popular and propaganda publications

The third group of maps consists of popular and propaganda publications, which served to promote and lobby in Paris and beyond, especially among the population living in the disputed areas. Their authors aimed to become actively involved in awakening and shaping national consciousness and in the political struggle to restore Poland's borders as an independent state on the map of Europe. The maps spread knowledge on the distribution of nationalities, history and geography of the former Polish lands. These maps are not mentioned in official documents, but their number and diversity indicate that they played an important social role.

These maps differ from those discussed above in the way they were made. Each is different, depending on the publisher, the recipient or the creator's skill. They are classically produced maps with complete content and, in the vast majority, multicoloured. Many of them have already been discussed in detail in the literature on the subject and have found their place in the history of Polish cartography, the most important being the “Geographical and Statistical Atlas of Poland (1916)”²⁶ by E. Romer (Fig. 60) and maps related to the plebiscites in

²⁶ Stefania Gurba, Jerzy Mościbroda, *Geograficzno-statystyczny atlas Polski Eugeniusza Romera – pomnikowe dzieło kartografii polskiej*, „Polski Przegląd Kartograficzny” vol. 14, 1982, no. 2, pp. 78–86; Barbara Majewska, *Geograficzno-statystyczny atlas Polski Eugeniusza Romera*, „Biuletyn Informacji Biblioteki Narodowej” no. 2 (169), 2004, pp. 12–14; Edmund Romer, *Jak powstał „Geograficzno-Statystyczny Atlas Polski” Eugeniusza Romera (Wspomnienie syna)*, „Czasopismo Geograficzne” vol. 50, 1979, vol. 3, pp. 197–205; Osowska Anna, Przybytek Dariusz, *Jak mapy Eugeniusza Romera w atlasie z 1916 roku przekonały uczestników konferencji pokojowej w Paryżu o istnieniu Polski – spojrzenie historyczno-metodyczne*, [in:] *Z Dziejów Kartografii*, vol. 21, 2017, pp. 145–159; Krystyna A. Harasimiuk, *Działania Eugeniusza Romera w sprawie powrotu Polski na mapę polityczną Europy*, „Geographical Review” vol. 90, 2018, no. 4, pp. 615–633; Aleksandra Cieślak, Zdzisław Pietrzyk, *Spuścizna rękopiśmienna Eugeniusza Romera jako źródło wiedzy do kształtowania granic Polski w latach 1918–1920*, [in:] *W drodze do niepodległości, ślady działań w archiwach, dokumentach i publicystyce państwowej, lokalnej i polonijnej w krajach zamieszkiwanych przez Polaków*, A. Biernat (ed.), Warsaw 2019.

Upper Silesia (Fig. 61).²⁷ This group also includes maps in the form of postcards (Fig. 62) and newspaper maps (Fig. 63). For example, some maps produced by the Geographical Branch of the Bureau of Congress Works were published in the weekly magazine “L’Independance Polonaise” (Fig. 64).²⁸



Fig. 60. Geograficzno-Statystyczny Atlas Polski
(Eng. Geographical and Statistical Atlas of Poland), (1916)
Source: Podkarpacka Biblioteka Cyfrowa



Fig. 61. Map of the plebiscite area in Upper Silesia
Source: Jozef Piłsudski Institute of America in New York,
Fonds: 008 The Silesian Uprisings, Ref. 212

²⁷ Dorota Borowicz, *Mapy plebiscytowe Górnego Śląska*, „Polski Przegląd Kartograficzny” vol. 32, 2000, no. 4, pp. 302–315; Eadem, *Mapy narodowościowe Górnego Śląska od połowy XIX wieku do II wojny światowej*, Wydawnictwo Uniwersytetu Wrocławskiego, Wrocław 2004.

²⁸ Beata Konopska, *Polskie atlasy...*, op. cit. p. 90.

General characteristics of the surviving cartographic sources



Fig. 62. Examples of postcards

Source: © Historical and Literary Society in Paris / Polish Library in Paris,
Ref. BPP_THLP_III 2381_CD187_DSC 3561; State Archives in Katowice - Branch in Cieszyn,
Ref. 14/3/0/4.5/73_57103903



Fig. 63. Examples of newspaper maps included in the "Polak" journal

Source: Archive of Modern Records in Warsaw, Fonds 390: File of Leon Wasilewski 1890–1936, Ref. 30



Fig. 64. Examples of postcards and newspaper maps
Source: Digital Library of University of Lodz

Synergies of cultural heritage with the Internet network

Advances in digital technology have remodelled the perception of the social role of maps. Thanks to ICT (Information and Communication Technology) solutions, maps are now interactive and available in various digital repositories and navigation applications. While online maps still have the traditional role of abstracting reality, enabling the analysis of geospatial patterns and relationships, ICT has significantly changed how we comprehend and use maps. Additionally, it has tremendously impacted the process of sharing, storing and preserving digital copies of cartographic assets.²⁹

A map, an important part of cultural heritage, should be easily accessible to all. Open digital repositories, also known as digital libraries, play a crucial role as gateways to access such items, especially unique maps previously only available in analogue form. Repositories make structured and described collections available, thus providing wide access to this part of the heritage.³⁰ Recent years have seen a significant increase in the number of repositories resulting from the dynamic development of the digital humanities and the growing trend towards mass digitisation of library, museum, institutional, and private collections. As a result of these activities, extensive collections of digitised cartographic sources have become available. Nevertheless, these collections are characterized by thematic diversity and are often incomplete and inconsistent, which generates various problems when searching for a map or written document.³¹

Thematic repositories, also called field repositories, are being created to meet the users' expectations of a quick and efficient search for historical sources. Through such a repository, the recipient receives a pre-identified and structured digital resource from a specific research area. Thus, this type of open digital repository makes it possible to achieve information order within a particular subject area. In addition, a single place provides access to resources held in various institutions at home and abroad.³²

²⁹ Beata Konopska, Marek Barwiński, Elżbieta Kościak, Krzysztof Kawalec, Włodzimierz Suleja, Michał Lupa, Mateusz Zawadzki, *Kształtowanie granic niepodległej Polski w świetle dokumentów kartograficznych*, Polish Historical Association: Warsaw 2023.

³⁰ Jeffrey A. Rydberg-Cox, *Digital Libraries and the Challenges of Digital Humanities*, Chandos Publishing 2006.

³¹ Marta Kuźma, Hans Bauer, *Map Metadata: the Basis of the Retrieval System of Digital Collections*. "ISPRS International Journal of Geo-Information" vol. 9, no. 7, 444, <https://doi.org/10.3390/ijgi9070444>.

³² Mateusz Zawadzki, *Development of metadata for historical cartographic resources associated with the Paris Peace Conference (1919–1920)*, "Polish Cartographical Review", vol. 53, 2021, no. 1, pp. 77–90. <https://doi.org/10.2478/pcr-2021-0007>.

Europeana and Polona as inspiration for new IT solutions

Europeana is one of the most recognizable thematic repositories. It is a unique example of an innovative approach to collecting and sharing digitised cultural heritage resources in Europe (Fig. 65). The project developed by Europeana was funded by the European Commission, enabling the creation of a comprehen-

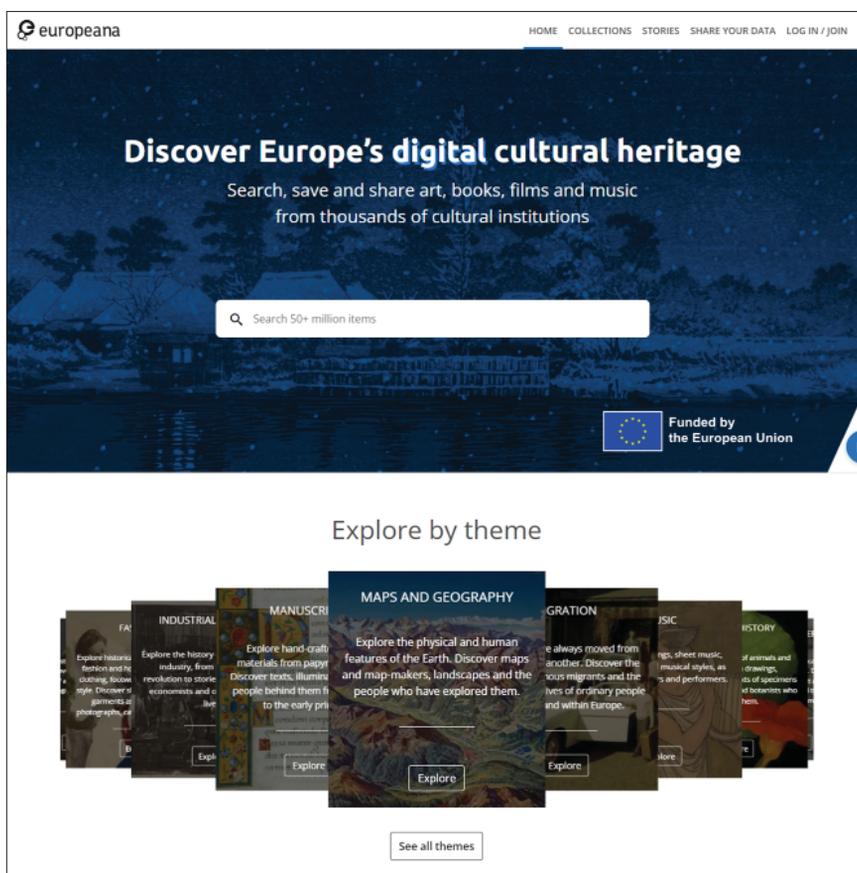


Fig. 65. Europeana.eu – welcome screen with a choice of collections
Source: Europeana.eu

sive infrastructure to integrate access to Europe's dispersed digital collections (Fig. 66). Europeana has gained recognition as one of the leading digital cultural heritage projects. Funding from the European Commission enabled coordinated work on collecting, providing access, and allowing integrated presentation of digital heritage resources. Europeana aims to create a coherent environment that permits easy access to digitised cultural heritage resources. Thanks to

the integration of these resources, users can explore Europe's cultural heritage without geographical or institutional restrictions (Fig. 67).³³ The portal currently provides access to 50 million items from more than 1,000 of Europe's most important libraries, museums, galleries, archives and audiovisual collections.³⁴

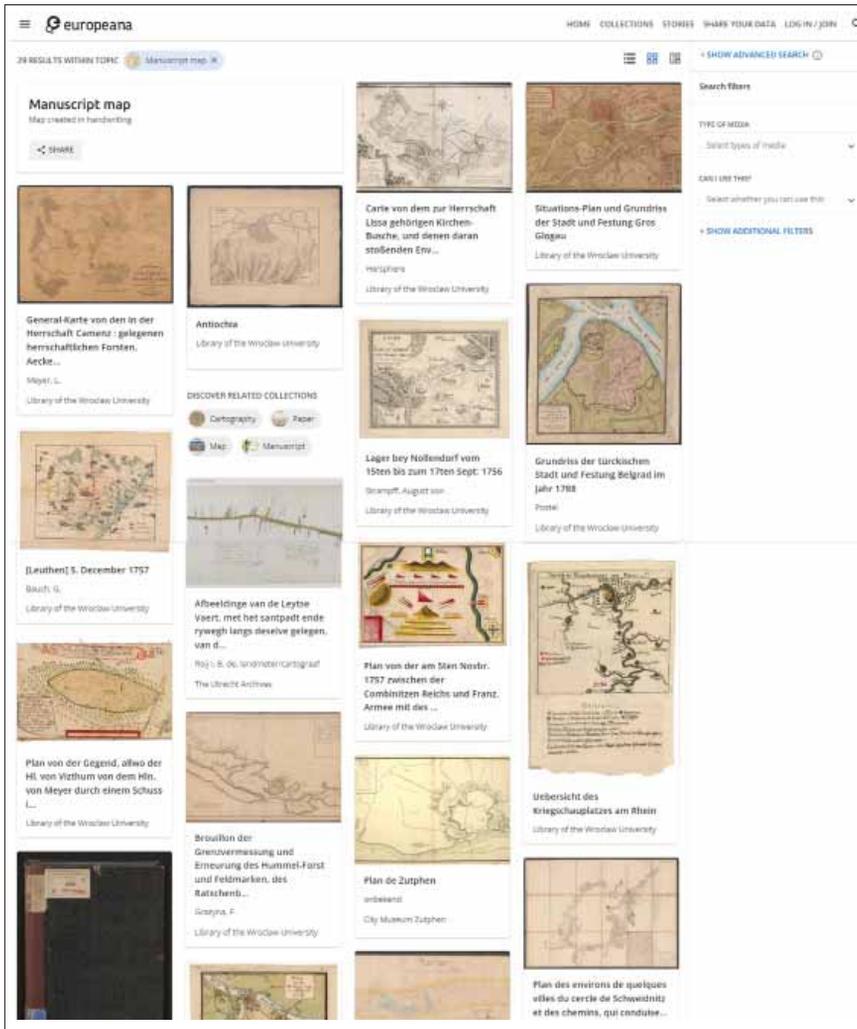


Fig. 66. Europeana.eu – screen view of the introduction to the cartographic collection
Source: Europeana.eu

³³ Jon Purday. *Think culture: Europeana.eu from concept to construction*, Bibliothek Forschung und Praxis, vol. 33, no. 2, 2009, pp. 170–180. <https://doi.org/10.1515/bfup.2009.018>.

³⁴ Europeana <https://www.europeana.eu/pl>, accessed 2023.

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Fig. 67. Europeana.eu – view of a screen presenting an item from the cartographic collection
Source: Europeana.eu

In Poland, the National Digital Library Polona,³⁵ which is the digital equivalent of the National Library, is one of the leading repositories (Fig. 68). Its main task is to provide open access to rich digital collections, which is perfectly in line with the dynamic development of digital humanities. The National Digital Library Polona plays the role of a key institution supporting access to a wide

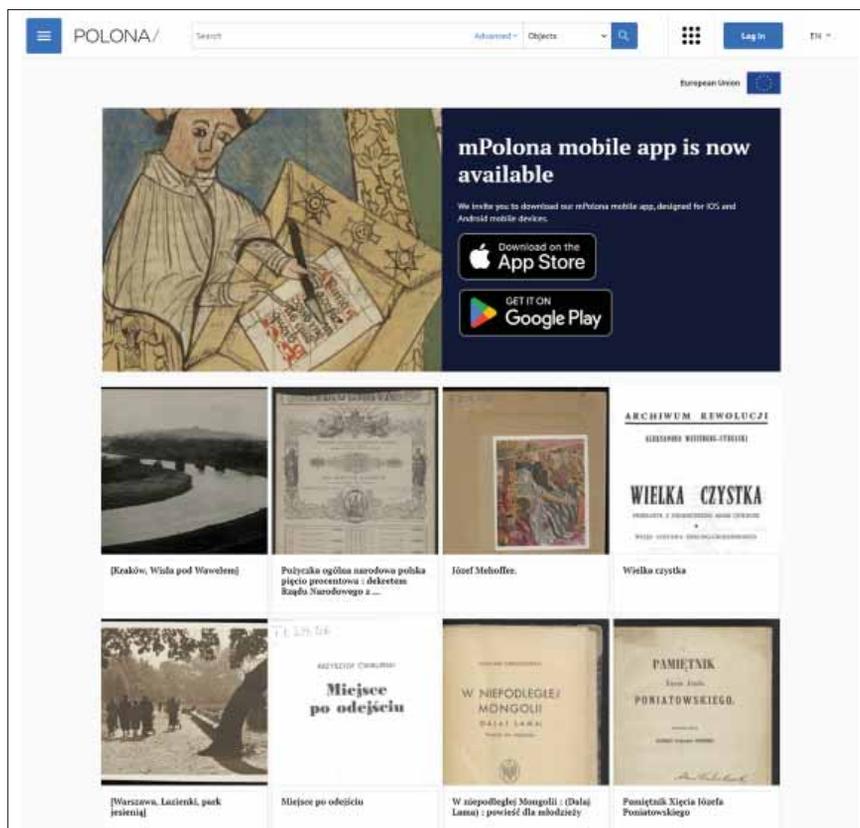


Fig. 68. Polona.pl – welcome screen with a choice of collections
Source: Polona.pl

range of digital cultural resources in Poland (Fig. 69). Its mission is not only to digitise traditional library collections but also to create modern, interactive platforms enabling users to explore the wealth of Polish cultural heritage (Fig. 70). The National Digital Library Polona actively cooperates with other institutions in order to make the digital heritage more accessible. In this context, the mentioned Europeana is an important partner, and the joint work enables synergic use of

³⁵ Polona <https://polona.pl>, accessed 2023.

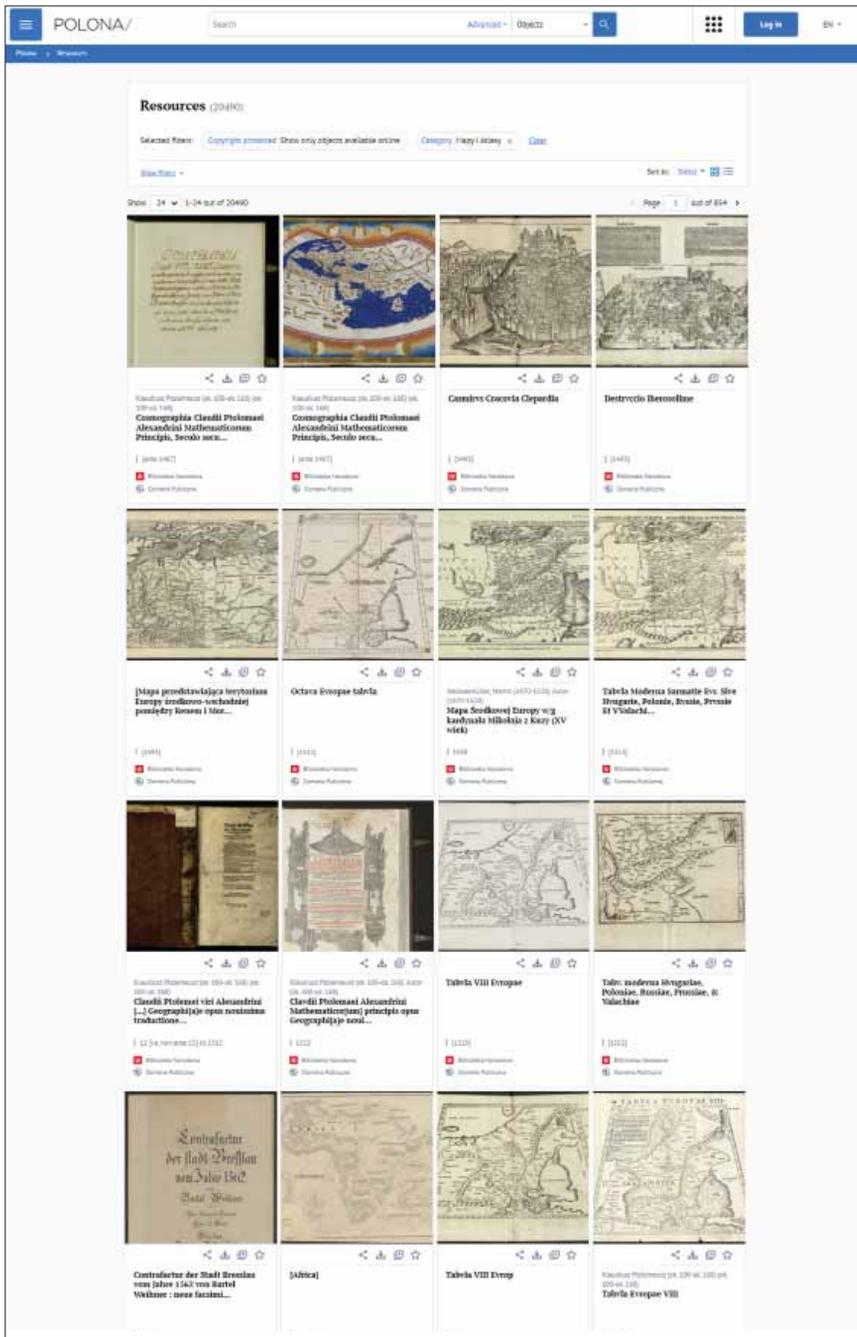


Fig. 69. Polona.pl – screen view of the introduction to the cartographic collection
Source: Polona.pl

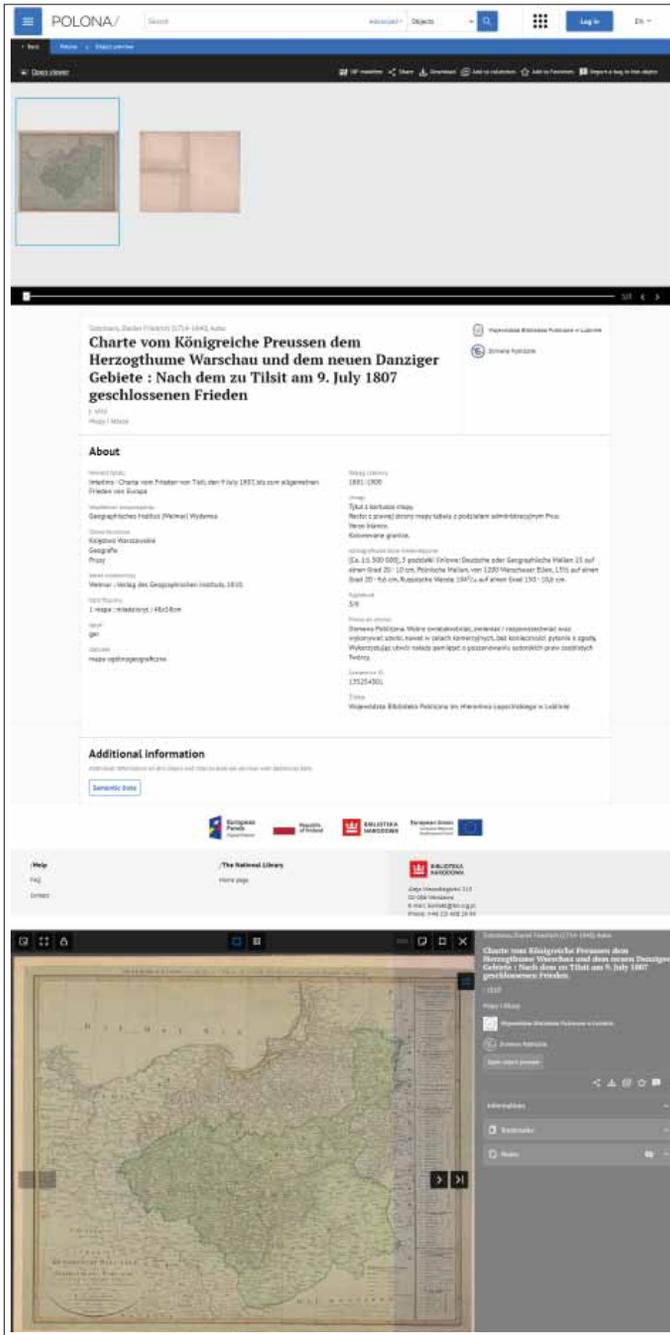


Fig. 70. Polona.pl – view of screens presenting an item from the cartographic collection
Source: Polona.pl

digital resources of various European countries.³⁶ Integration with Europeana broadens access to Polish cultural resources internationally, which is an important step towards global cultural cooperation.

The IT solution designed by the authors, which is an example of a new type of thematic collection, fits into this trend of making structured cartographic and related written sources widely available. This IT solution aimed to create a comprehensive infrastructure for the aggregation of cartographic sources from various libraries and archives, both domestic and foreign. It provides access to digital copies of sources from institutions such as the Polish Library in Paris, the Jozef Pilsudski Institute of America in New York, the Library of Congress in Washington, the Archives of Modern Records, and the Archives of the Museum of Independence in Warsaw, to name a few. The presented solution enables the recipient to access a database of sources related to the process of shaping the borders of independent Poland. Previously dispersed sources from various institutions and locations have been consolidated into one coherent platform. Such consolidation is an essential step in eliminating barriers related to the spatial and institutional dispersion of the information. It is worth emphasizing that some sources included in the repository in question will be available online for the first time. The digitisation process carried out as a part of this project makes unique and valuable resources available to a broader audience. This, in turn, contributes to the popularisation of knowledge on the history of shaping Polish borders. In the case of sources unavailable due to copyright restrictions, the addressee receives descriptive information about the item in question. Such a solution not only respects copyrights but also informs about the existence of these materials relevant to the study of the history of Poland's borders and indicates their location.³⁷

Cartographic sources as a function of the user interface

Maps, known for their role in representing geographic space, also play an important function as an interface for communicating a variety of geographic and non-geographic information in an online environment (Fig. 71). In this context, numerous applications and web-based tools using GIS (*Geographic Information Systems*) solutions represent the critical area of information technology development.³⁸

³⁶ Igor Rosa, *Digital Library Polona: Digitization, Technology, Cooperation*, "Slavic and East European Information Resources", vol. 20, 2019, no. 1–2: *Digital Humanities in Slavic, East European, and Eurasian Studies*, pp. 23–30, DOI: 10.1080/15228886.2019.1628495.

³⁷ Mateusz Zawadzki, *Development of metadata...*, op. cit.

³⁸ Menno-Jan Kraak, *The role of the map in a Web-GIS environment*. "Journal of Geographical System", vol. 6, 2004, pp. 83–93. <https://doi.org/10.1007/s10109-004-0127-2>.

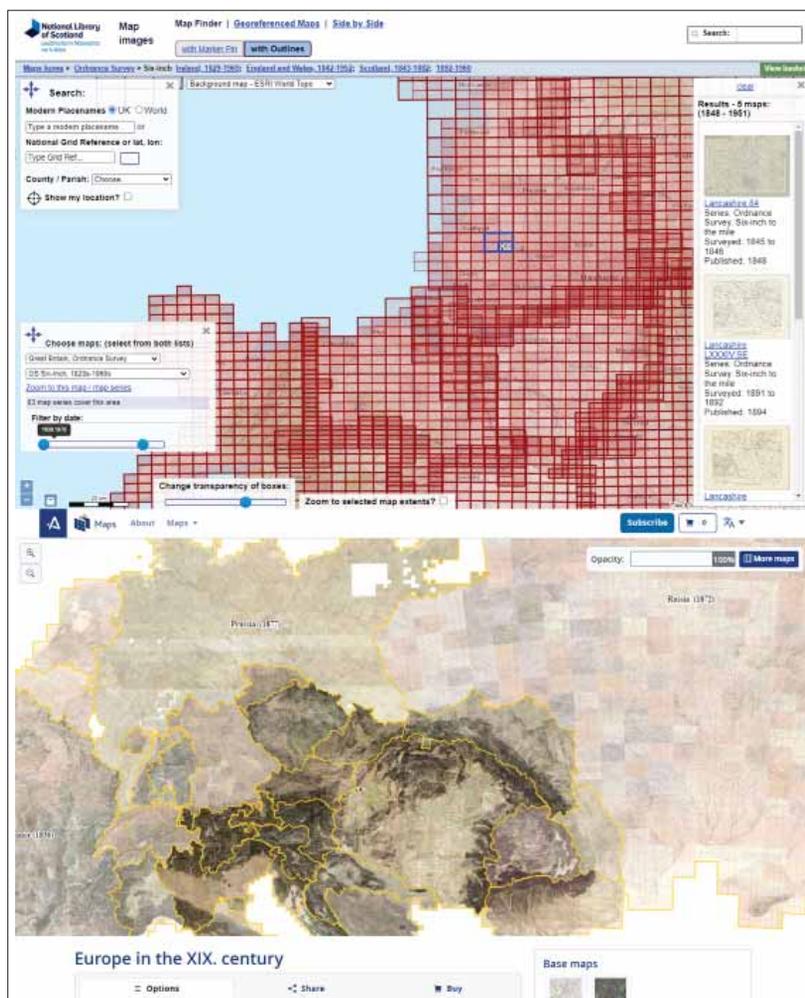


Fig. 71. Examples of the use of maps as an interface to convey information
Source: Arcanum Maps. Arcanum.com

Despite technological advances, there are many challenges in choosing the right GIS for a particular application. The lack of uniform terminology standards related to making geospatial data available online renders the process potentially problematic. Differences in terminology and approaches between different systems can hinder interoperability and consistency of communication between various GIS applications.³⁹ In the literature on the subject, one

³⁹ V. Mathiyalagan, Sabine Grunwald, Raja K. Reddy, S.A. Bloom, *A WebGIS and geodatabase for Florida's wetlands*, "Computers and Electronics in Agriculture", vol. 47, 2005, no. 1, pp. 69–75. <https://doi.org/10.1016/j.compag.2004.08.003>.

can find phrases such as Internet GIS,⁴⁰ GIS online, Distributed Geographic Information,⁴¹ Web-based GIS or simply WebGIS.⁴² The terms mentioned above are similar but relate to different areas. For example, Internet GIS covers issues that use the Internet as a means to exchange data and as a tool to perform spatial analysis but without having to acquire expensive software. Another example is related to the term Internet GIS, which, in the era of developing cloud technologies, is being replaced by Cloud-based GIS. Distributed Geographic Information should be understood as a distributed spatial database, where database instances are distributed across multiple servers.

The terms GIS online, Web-based GIS, or WebGIS can be considered synonymous. The main difference is related to the evolution of the language in the field, which has removed the term GIS online from the terminology. However, all the above terms refer to a family of web-based applications that are used via a web browser. In these applications, an interactive map is placed at the centre, which, by using an established geographical context (base map), presents content from a selected thematic area. The ease of preparation and use of such solutions has contributed to the further development of GIS technology. One cannot resist the impression that thanks to applications such as WebGIS, maps have become much more appreciated as a form of social communication. The use of digital maps is widespread and does not require specialized software.⁴³

Cartographic sources in Historical GIS

The history of cartography and historical cartography play a vital role in the field of research concerning the past. In the context of historical cartography, applying GIS solutions has led to the emergence of a new field known today as *Historical GIS* (HGIS). An invariably important element of this field is access to historical maps, which provide the foundation for creating HGIS. Interest in HGIS is not limited to researchers who previously considered themselves to be historical geographers but has, in fact, led to an increased awareness of the importance of geography within the historical discipline as a whole.⁴⁴ However, it is difficult to imagine the existence of Historical GIS without access to historical maps.

⁴⁰ Zhongren Peng, *An assessment framework of the development strategies of Internet GIS*. „Environment and Planning B: Planning and Design”, vol. 26, 1999, no. 1, pp. 117–132. <https://doi.org/10.1068/b260117>.

⁴¹ Brandon Plewe, *GIS Online: Information Retrieval, Mapping and the Internet*. OnWord Press: Santa Fe 1997.

⁴² Sabine Grunwald, Raja K. Reddy, V. Mathiyalagan, S.A. Bloom, *Florida's wetland WebGIS*, [in] Proceedings of the ESRI User Conference, San Diego, CA, 2003, July 7–11.

⁴³ Beata Konopska, Marek Barwiński, Elżbieta Kościak, Krzysztof Kawalec, Włodzimierz Suleja, Michał Lupa, Mateusz Zawadzki, *Kształtowanie granic niepodległej...*, op. cit.

⁴⁴ Ian N. Gregory, Richard Healey, *Historical GIS: structuring, mapping and analysing geographies of the past*, [in] Progress in Human Geography, vol. 31, 2007, no. 5, pp. 638–653. <https://doi.org/10.1177/0309132507081495>.

For several years now, researchers have been pointing out the fundamental importance of maps in historical research, emphasizing that reconstructing past cultural landscapes is exceptionally challenging when spatial information is missing.⁴⁵ As a result, the development of WebGIS technology has also included historical maps and offered a variety of research tools. These comprise not only the visualization of calibrated scans but also analytical functions allowing, for instance, distance, area, or angle measurements.

⁴⁵ Anne Kelly Knowles, *Past time, past place: GIS for history*. Esri Press 2002; Ian Gregory, Paul Ell, *Historical GIS: Technologies, Methodologies, and Scholarship*. Cambridge University Press 2008.

The concept of a cartographic repository of the sources remaining after the Peace Conference

Systematically maintained general and thematic repositories and increasingly more efficient search engines and digital libraries make it possible to conduct queries quite efficiently. However, the collections acquired from various databases contradict the information order inherent to traditional cartographic bibliographies. It is difficult to infer from them the growth of knowledge in the area under study. It seems that maps from various archival, museum, and library resources compiled and organized in one virtual space would provide greater opportunities to examine the resource and its constituents critically.

Digital copies of sources as the basis for cartographic repositories

The importance of having access to historical maps is shown by the Historical Topographic Map Collection (HTMC) service created by the United States Geological Survey (USGS), i.e. the US agency that deals with, among other things, geographic matters.⁴⁶ The HTMC provides a comprehensive repository of digital copies of topographic maps on a scale of 1:250,000 and larger, printed between 1884 and 2006. All the maps to which access is provided have been calibrated and enhanced with metadata to facilitate queries (Fig. 72).⁴⁷ Another example is provided by the National Library of Scotland service, which grants access to a mosaic created on the basis of topographic maps of Great Britain produced by the Ordnance Survey between 1888 and 1913.⁴⁸ The collections have been shared through an application available at <https://maps.nls.uk/geo/explore>.

The value of the spatial presentation of historical maps has been recognized and implemented by the authors of the David Rumsey Historical Map Collection project.⁴⁹ Initially, this project enabled free access to browsing digital copies of historical maps together with their thorough description in the form of metadata.⁵⁰ By adapting to the spatial turn in the humanities, this portal offers new forms of

⁴⁶ HTMC <https://livingatlas.arcgis.com/topoexplorer/index.html>, accessed 2023.

⁴⁷ Viewing and searching for maps is possible using the WebGIS application, available at <https://livingatlas.arcgis.com/topoexplorer/index.html>.

⁴⁸ Christopher Fleet, Petr Pridal, *Open source technologies for delivering historical maps online – case studies at the National Library of Scotland*, “The Liber Quarterly”, vol. 22, pp. 240–257, <https://doi.org/10.18352/lq.8052>.

⁴⁹ <https://www.davidrumsey.com>, accessed 2023.

⁵⁰ Joel Kovarsky, *Carto-Bibliography on the Web: Links Combining Text and Image*, “Imago Mundi”, vol. 60, no. 1, 2008, pp. 93–96, <https://www.jstor.org/stable/40234119>.

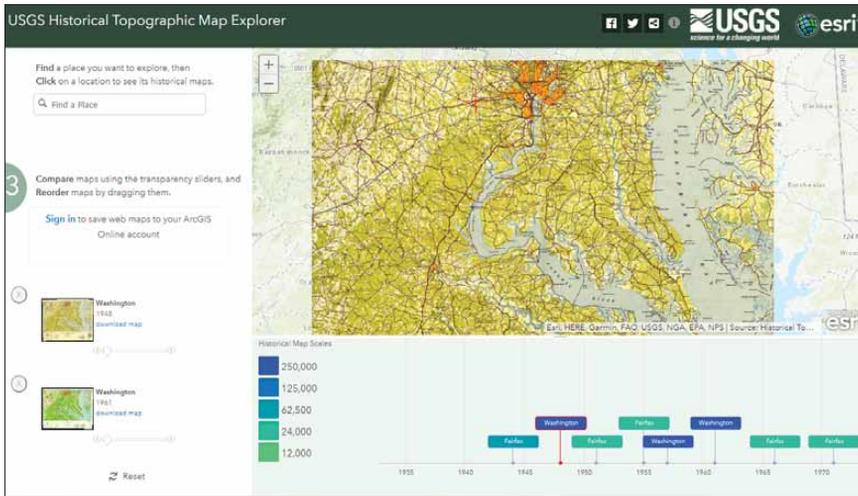


Fig. 72. Interface of the USGS Historical Topographic Map application
Source: <https://livingatlas.arcgis.com/topoexplorer/index.html>

map search and presentation using a map interface. Furthermore, in addition to viewing maps using Google Maps or Google Earth, the user can actively participate in the map calibration process. Moreover, one can verify the accuracy of previously calibrated maps and make corrections (Fig. 73). The aforementioned applications have a common denominator – a calibrated historical map, which can be displayed using a selected background – the base map. Each application

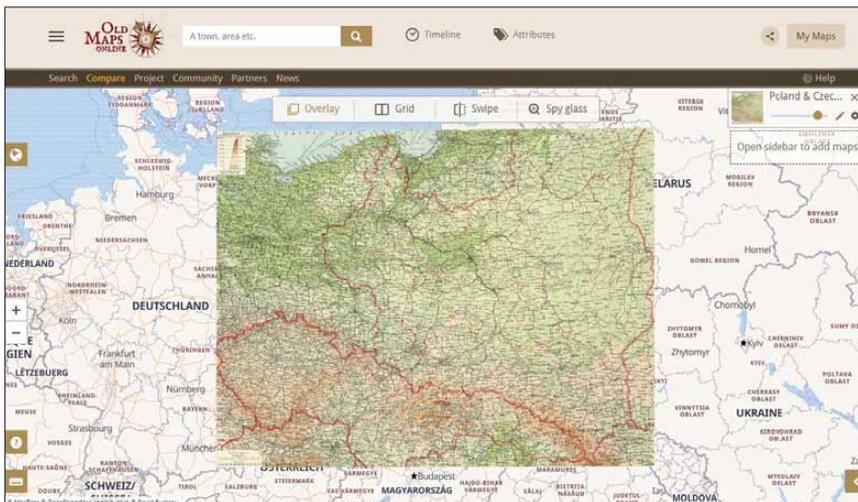


Fig. 73. Interface of the Old Maps Online portal.
Source: <https://davidrumsey.oldmapsonline.org/compare#>

allows one to zoom in and out of the map and search for collection metadata. All these applications have the advantage of being highly intuitive, which characterizes well-developed WebGIS applications.

Technological advances, associated with the introduction of spatial databases and GIS tools into historical research, have opened up an interesting perspective not only for presenting research results but also for the digital editing of historical sources. “Atlas Fontium” is a project of significant importance in the

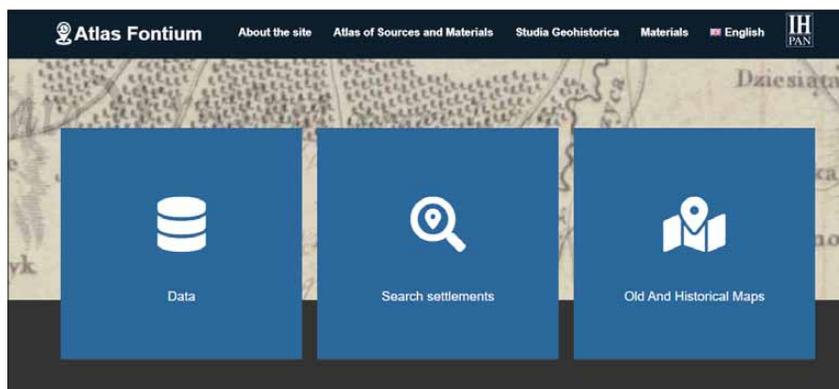


Fig. 74. Atlas Fontium portal interface
Source: <https://atlasfontium.pl>

context of displaying these results. It is an online platform dedicated to publication of historical sources that have a spatial aspect, especially those related to former Poland (Fig. 74). The main objective of the project is to create a coherent system to collect, analyse and provide information and sources supporting research on the historical geography of the Polish lands within the borders before the year 1772.⁵¹

Specificity of cartographic sources as a determinant of adopted IT solutions

The availability of digital copies of historical sources depends not only on the proper process of identifying and selecting these sources but also on the effective acquisition and processing of their content. The last two stages of this process, which focus on the need to obtain high-resolution scans, are crucial. In the context of cartographic sources, given their specific nature, accomplishing this task is not always easy. Problems are related, among other things, to the large size of the maps, often consisting of several sheets. When scanning these sources,

⁵¹ Atlas Fontium <https://atlasfontium.pl>, accessed 2023.

specialized graphic processing is required, including merging map fragments into a unified file, while preserving the cartometricity of the original map. Similar procedures are required for written sources. In this case, merging the individual scans that make up the entire item into one continuous text file is necessary. This procedure allows for a more coherent perception of the source as a continuous narrative. Ultimately, the effective sharing of digital copies of historical sources requires not only technical competence in scanning but also graphics and text processing skills, especially for sources having specific characteristics, such as cartographic and written ones.

The next challenge is optimizing the presentation of digital copies, which always requires some compromises. This is because the use of high-resolution files entails long waits before a map or text document is displayed. In order to optimize this process, an approach has been used in which thumbnails, which are small graphic representations of the source, are initially presented. Their purpose is to make viewing larger digital copies of sources easier and faster. A significant portion of the resources made available are those drawn up in the languages of 19th-century diplomacy, namely English and French. In order to facilitate the use of the sources provided, specialized translations into Polish have been made available for essential documents. The digital repository has been designed with these requirements in mind to provide a structured and easily accessible way of collecting and storing collections of cartographic items.

When working with most historical data, one has to deal with scans of analogue maps, which then have to be calibrated accordingly.⁵² Calibration, also known as georeferencing, makes it possible to locate the scanned map within a specific coordinate system. The efficiency of scanning, as well as the choice of the correct affine transformation used in the calibration process, is crucial to the quality of the final cartographic data. The quality of the scan also affects the final file size, which often exceeds 1 GB. Therefore, displaying raster maps of this size on a computer monitor with current technological capabilities seems hardly realistic and involves the need to download the map each time. In the context of the material collected during the project, which totals to more than 200 GB, without employing special technologies, the user could experience significant delays when using the application. Furthermore, when more than one map needs to be displayed, this could lead to an unfavourable user experience, which in turn could result in low interest in the application.

Four types of processed sources are distinguished: scanned and calibrated maps with a satisfactory level of cartometric accuracy, scanned sketches that have not been georeferenced, scanned documents (such as notes, diaries, and

⁵² Konrad Wnęk, *Systemy GIS w badaniach historycznych*. Zeszyty Naukowe Uniwersytetu Jagiellońskiego 1312, *Prace Historyczne* 2010, vol. 137, pp. 153–171; Andrzej Affek, *Kalibracja map historycznych z zastosowaniem GIS*, *Źródła kartograficzne w badaniach krajobrazu kulturowego*. *Prace Komisji Krajobrazu Kulturowego*, no. 16, pp. 48–62, Komisja Krajobrazu Kulturowego PTG, Sosnowiec: 2012.

letters), and metadata. Each source type requires an individual approach and specific solutions in the area of system architecture and database.

With regard to scanned and calibrated maps, the method of their presentation to service users is important. In the case of rasters of considerable size and high accuracy, a specialized database structure is constructed that serves as a source for the system components responsible for providing the data. These components are known as GIS servers. The implementation of WebGIS systems is based on a client-server model. The client part can be represented by a web browser or dedicated desktop GIS software. The server part, on the other hand, comprises a web server (for example, Apache Tomcat or IIS), a GIS server (such as GeoServer or ArcGIS Server), and a database (for example, PostGIS).

The client-server architecture is based on the assumption that the system should only serve (make available) the data that the client (the application running in the browser) currently needs. In the context of digital maps, this approach has led to solutions that reduce the need to download spatial data of significant size. When viewing a map, the user does not need to download the entire map but only the element necessary at the given time to display the information on the monitor screen. The GIS server awaits requests from the client application, which sends HTTP requests for data to be made available that coincide with the extent (and scale) of the map currently being viewed in the application. Each time the user changes the range of the map (moves, zooms in or out), the application sends the server appropriate requests for the fragment contained in the given rectangle limited by the lower left and upper right corners, the so-called bounding box. The way in which requests to the server are created and handled has been standardized according to WMS/WMTS/WFS specifications defined by the OGC (Open Geospatial Consortium)⁵³ as well as the REST APIs interfaces offered by the developers of ArcGIS Server software.⁵⁴

In addition, techniques such as tiling and map caching are used to optimize data performance and availability. Tiling in the context of digital maps is the process of dividing large raster maps into smaller, manageable segments called tiles. Tiles (usually arrays of 256×256 or 512×512 pixels) are the product of resampling, a mathematical operation that maps the level of detail of the map being viewed at a given scale. In practice, when the map is zoomed in, each tile is resampled to a higher resolution, providing a detailed view of a particular map fragment. Conversely, when zooming out, the images are rescaled to a lower resolution to

⁵³ Christopher Michaelis, Daniel Ames, *Considerations for implementing OGC WMS and WFS specifications in a desktop GIS*. "Journal of Geographic Information System", vol. 4, 2012, no. 2, pp. 161–167. DOI: 10.4236/jgis.2012.42021; Kris Kolodziej, *OGC OpenGIS consortium, OpenGIS Web Map Server Cookbook 1.0.1*, OGC Document #03-050r1, August 2003. Available at <http://www.opengis.org/docs/03-050r1.pdf>.

⁵⁴ *Esri Rest API*, <https://developers.arcgis.com/rest/services-reference/enterprise/get-started-with-the-services-directory.htm>, accessed 2022.

provide a broader view of the terrain with less detail. During resampling, image processing algorithms adjust the pixels of the map to be appropriate for a given zoom level. This includes both reducing the number of pixels (when zooming out) and interpolating the data (when zooming in) to achieve a higher resolution. In practice, this process also contributes to the size of tiles downloaded from the server, resulting in shorter response times to HTTP requests. Thanks to this process, users can seamlessly navigate the map at different zoom levels while maintaining the quality and readability of the data at each level. Resampling is crucial in tilting, allowing digital maps to be displayed effectively and efficiently in GIS applications.

The second optimization method mentioned is map cache, which in WebGIS systems refers to storing frequently used spatial data in a cache. When a map application sends an HTTP request to download tiles for the currently viewed zoom level and a specific bounding box, this data is fetched from a primary source, such as a database, and stored in the cache. On subsequent HTTP requests for the same data, the system can quickly retrieve the data from the cache instead of downloading it from the main source again. This significantly reduces the data download time and improves the overall performance of the GIS application, providing users with a smoother and faster map viewing experience.

The request handling is the *de facto* interface and parameters for dynamic downloading maps from the server. Each GIS server is configured individually and can support many various map types, layer combinations and styles. Depending on the server configuration, the maps provided can have different formats, sizes, coordinate systems and projections. Maps can be organized into “layers”, and the server can offer the application of filters to select or highlight specific features.⁵⁵

For the completed project, it was decided to use technologies that enable spatial data provision via REST APIs. This choice was driven by the desire to provide seamless access to both extensive raster data and metadata associated with the original images. Such functionalities were achieved through the appropriate structure and organization of the data in the database, which was developed on the principle of mosaic datasets. Mosaics are the recommended form of data structure in the ArcGIS environment, enabling efficient management and processing of large amounts of raster data. The database mainly records image metadata along with the path to the raster file, which is stored on a disk. The result is the creation of a mosaic, i.e. a composite image consisting of multiple related raster sets presented as a single surface. This solution also allows sketches and documents without georeferencing to be integrated into a map. In this case, the raster files are imported into the database with a manually prepared extent that defines the area they refer to. As an example, there is a map (sketch) annexed to

⁵⁵ <https://www.ogc.org/standards/wms/introduction>, accessed 2023.

the memorandum *Caractère physique du territoire de la Pologne*, which, due to the type of execution, does not have georeferencing. In the application, it will be represented as a range bounded by a vector frame with an associated set of metadata and a digital copy of the sketch ready for download.

The specificity of the sources also influenced decisions related to the visual and functional design of the client application. Due to the extensive metadata structure, it was decided that the collection search engine would be limited to five fields to identify the map – title, author, and keywords. A combination of these parameters would make it possible to filter out sources that do not meet the requirements. This made the client application interface clear and intuitive. Cartographic collections are displayed against a selected base map, providing geographical context and facilitating data interpretation. The displayed rasters are fully interactive, allowing the map to be viewed at any zoom level. All decisions regarding the choice of technology were dictated by the nature of working with raster data.

Development of metadata for the digital repository

Metadata has an important function in the process of sharing digital data, playing a key role in providing descriptive information about the resources stored in repositories. Their main purpose is to allow users to search and browse the repository using a variety of criteria such as author, subject, date of creation, etc. This mechanism makes it easier to locate relevant resources in vast datasets. In addition, metadata makes it possible to categorize and classify resources, which aids repository organization and collection structuring. Correctly formulated metadata elements are also crucial in the process of collection promotion, as they provide information that can be used to present and analyse resources in various research contexts. Furthermore, the use of standard metadata formats facilitates interoperability between diverse repositories and systems, which contributes to the ease of sharing and exchange of data between institutions.

Currently, there are several different schemes and standards for describing cartographic resources. The degree of detail in the creation of metadata and how it is made available can vary considerably depending on the specific institutions or organizations responsible for making these resources available. In the context of metadata description for documents and cultural assets, examples of standards include ObjectID, Dublin Core, and Encoded Archival Description (EAD). Digital libraries, given the variety of metadata records associated with map cataloguing, often use updated standards such as ISBD (International Standard Bibliographic Description for Serials) and MARC21.⁵⁶

⁵⁶ Marta Kuźma, Albina Mościcka, *Evaluation of metadata describing topographic maps in a National Library*, "Heritage Science", vol. 8, 2020, no. 113, pp. 1–16.

Development of metadata for cartographic sources is a process that needs to take into account the ways in which internet users search for historical sources. Depending on preference, this can be a chronological search, where the user considers the time of creation of the item. Another form of pinpointing the source is by focusing on its content, or spatial search referring to the geographical range of the source content.⁵⁷ When defining the structure and scope of metadata for commonly accepted descriptive elements, especially in the context of cartographic sources, it is essential to include information regarding spatial coverage.⁵⁸ The standard for describing a geographic dataset is ISO 19115, whereas the ISO 19100 series of standards is used for defining, characterizing and managing geographic information. It also allows the definition of profiles for the interoperability of geographic information systems (GIS) and application systems in order to search for resources.⁵⁹

In the completed project, the generic Dublin Core standard, which uses 15 main metadata elements to describe web resources,⁶⁰ was the starting point for the metadata structure. This choice was dictated by the international scope, universality of use, and flexibility of the structure,⁶¹ which was divided into two components, namely the descriptive and spatial metadata.

The descriptive metadata includes the historical context of the objects, which was recorded in 15 core metadata elements within the Dublin Core standard. The basic scope was extended to include elements such as abbreviated title, scale, and keywords. The last element has been expanded into three subject categories: 1) object keywords (e.g. Polish National Committee), 2) name keywords (e.g. Paderewski Ignacy Jan; Dmowski Roman), 3) geographical keywords (e.g. Polish-Slovakian border; Silesia). This solution is justified in how web browsers work, as this type of metatag helps search for information and return the correct result.⁶²

Spatial metadata, on the other hand, is a graphical and mathematical representation of the extent of the information contained in the source, complementing the descriptive form of representing the location, such as geographical keywords, and the record of coordinates of the bounding quadrilateral. In geographical space, the visual form consists of a bounding box expressed by the meridians

⁵⁷ Michael F. Goodchild, Donald G. Janelle, *Toward critical spatial thinking in the social sciences and humanities*. "GeoJournal", vol. 75, 2010, no. 1, pp. 3–13.

⁵⁸ Marcy M. Bidney, *Can Geographic Coordinates in the Catalog Record Be Useful?*, *Journal of Map & Geography Libraries*, vol. 6, 2010, no. 2, pp. 140–150.

⁵⁹ Marta Kuźma, Albina Mościcka, *Evaluation of metadata...*, op. cit.; Albina Mościcka, Agnieszka Zwirowicz-Rutkowska, *On the use of geographic information in humanities research infrastructure: A case study on cultural heritage*, "ISPRS International Journal of Geo-Information", vol. 7, 2018, no. 3, p. 106.

⁶⁰ Dublin Core <https://www.dublincore.org>, accessed 2023.

⁶¹ Mateusz Zawadzki, *Development of metadata...*, op. cit, pp. 77–90.

⁶² *Ibidem*.

of the western boundary and the eastern boundary of the area in question and the parallels of its southern and northern boundaries. In the completed project, irregular quadrilaterals were used due to map calibration and the resulting coverage of the map content.⁶³

The correct reception of the shared collection of maps and documents depends on reliably developed metadata, which in this context are not only part of the infrastructure of the repository but also a part of the critical discussion of the sources. Development of the metadata was one of the most time-consuming stages in the creation of this repository. It was necessary to describe the resource in such a way as to make it easy for the addressees to find the information they are interested in and to provide insight into the specifics of the resources provided. An interdisciplinary team of researchers from the fields of cartography, socio-economic geography, political, social and economic history, and geoinformatics was responsible for creating the metadata. The comprehensive approach to the research material resulted from the specificity and diversity of the sources. It produced detailed descriptions of the maps and their interconnections with other sources. This distinguishing feature of the created thematic repository allows a broad audience, including researchers and enthusiasts of Polish history and historical maps, to reach the shared sources.

⁶³ Ibidem.

General description of IT repository system for cartographic sources remaining after the Peace Conference

Based on existing solutions and the characteristics of the resource to be shared, it was decided to create a platform that, from the user's point of view, includes two main client applications:

- a) a dashboard application (repository) to collect and share digital copies of sources and descriptive information associated with them,
- b) a web-GIS (geoportal) application to present cartographic sources on an interactive map.

The structure created allows consolidating collections into a single, structured dataset while providing open access to it. The solution integrates two perspectives of presenting the data and complies with international standards. Using the dashboard application, the user can search and browse resources in accordance with digital library practices. Furthermore, this solution is flexible and capable of adapting to an increasing number of sources through vertical scaling. Combining this solution with a web-GIS application is intended to provide tools for spatial search and presentation of resources against a specific base map providing a geographical context. The implementation of a swipe widget⁶⁴ enables the content of the maps to be compared with each other, thus supporting the viewer in carrying out a visual analysis of historical maps.

As mentioned earlier, the client applications are the side of the system visible to the viewer. They have been implemented using web technology, with solutions that allow interactive viewing of spatial and non-spatial data.⁶⁵ The final result consists of many components, from the server infrastructure to the data handling software. A description of all major components of the system with an explanation of their purpose is as follows:

- The server infrastructure consisting of three virtual machines. Each one is configured to act as a database, web and GIS server.
- The desktop GIS software that is used as a tool for calibrating raster sources and publishing map services.
- The database, which is a classical relational database that provides appropriate security mechanisms and multiple access to sources. The database also serves as the basis for the implementation of the mosaic dataset structure, which allows the storage and organization of raster

⁶⁴ *Swipe widget*, <https://developers.arcgis.com/web-appbuilder/guide/widget-swipe.htm>, accessed 2023.

⁶⁵ *ArcGIS API for JavaScript*, <https://developers.arcgis.com/javascript/latest>, accessed 2023

data. In addition to the spatial data, the database also stores metadata organized according to the pre-developed structure.

- The GIS server is the component responsible for serving the data collected in the database via the REST API.
- The ETL software is used to build data pipelines and validate data. Databases storing raster sources and metadata are fed using ETL processes. The software also checks the compatibility of the entered information with the database schema and the completeness of filling the fields with the required values.
- The ETL server is the component through which automatic data flow management is configured.
- The dashboard application allows the administration of system users and shared resources. It acts as an access point to the displayed files of cartographic and written sources, as well as metadata and the links between these elements.
- The web-based application allows raster data to be searched and displayed efficiently and with ease.

Each of the listed system components is dependent on each other. The basis of the system is the server infrastructure, which consists of three virtual machines on which the development, test and production environments are configured. The division into three environments is in line with the art of software development, minimizing the risk of errors. Furthermore, each environment is equipped with an Nginx server, i.e. a web server designed for high availability and heavily loaded sites. In addition, the virtual machines also act as SQL Server database servers, which are similarly divided into development, test and production servers. Each environment also has its own GIS server (ArcGIS Server), which is responsible for sharing spatial data, as well as a version of the client application, which, in the case of the development and test servers, is not made available to a wide range of network users. Fig. 75 shows the simplified architecture and how the data integration between the dashboard and the geoportal is implemented.

Description of the system architecture and data flow

In addition to software development, the implemented server infrastructure was also used to develop the process of feeding the database with new spatial information resources and metadata so that the system is fault-tolerant. A schematic diagram of the organization and processes associated with the creation of the data resources is shown in Fig. 76.

This was necessary due to the fact that several specialists were simultaneously working on feeding the database. The input of new information into the database was divided into several stages. These stages differed for expert sources,

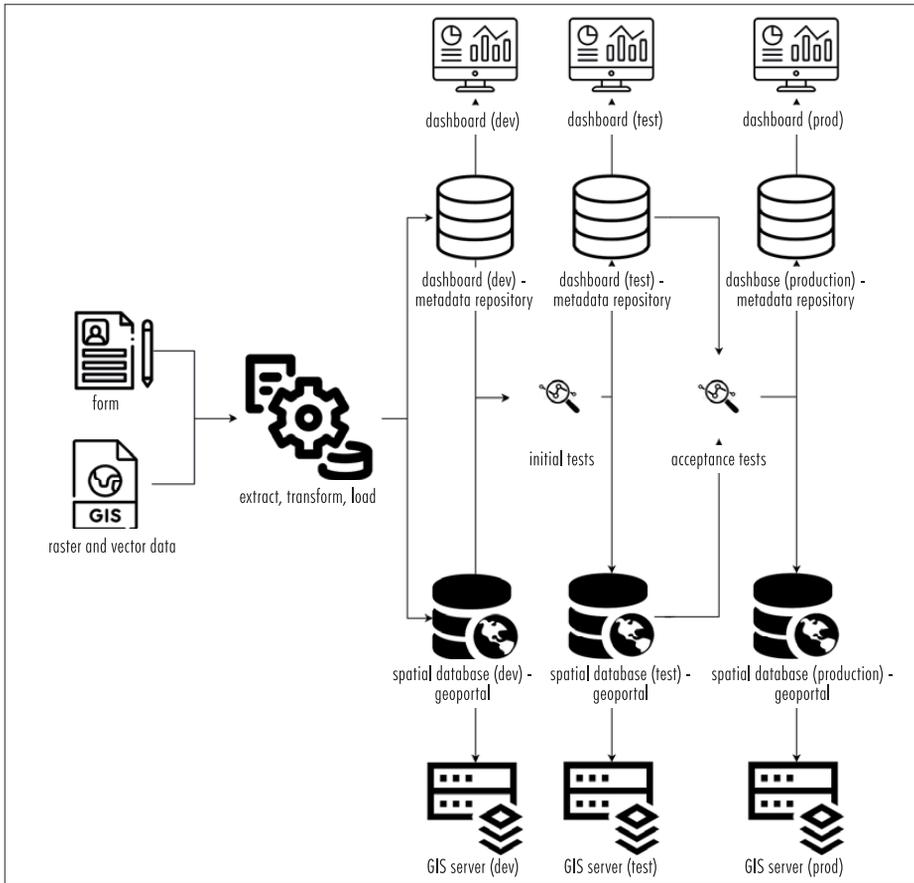


Fig. 75. Simplified diagram showing the components of the system architecture and the stages of data creation and publication

Source: Authors of this publication

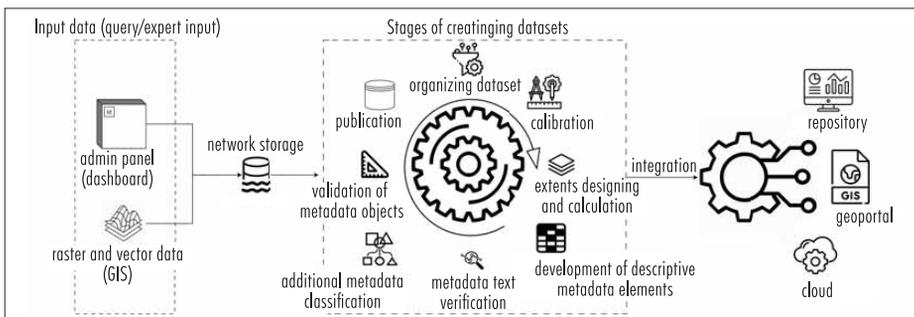


Fig. 76. Information flow diagram and processes associated with the creation of data resources

Source: Authors of this publication

obtained via a form in the admin panel (dashboard) and spatial data (be it in the form of either raster or vector information). However, the combined whole formed a coherent resource, which in practice meant historical maps calibrated and made available on a geographical base map, enriched with a unique set of metadata.

The initial step consisted of entering digital copies of the data sources into the system, pre-cleaning them and calibrating them if the document scanned was a map with cartometric features. In the next step, the actual spatial extent of the document was projected. The exact extent of the map had to be specified at this stage, leaving out information about the legend or the sketches and notes that had been made on it. If the document lacked cartometric features, an attempt was made to artificially delineate the extent using a polygon, the shape of which was agreed upon through expert analysis. Resources prepared in this way were ready to be displayed on an interactive base map.

However, the unique feature and, at the same time, the strongest asset of the created resource is the metadata, which enriches the spatial information with a set of descriptive information that enables queries. The process of developing metadata is carried out manually by verified users through a form accessible from the dashboard application. A table was generated from there and then imported into the database. Users (experts) enter the data concerning a specific document, while the appropriate ETL processes enable the resources to be combined into a coherent set.

Verification of the accuracy of the information is done by validation mechanisms that assess the structural and semantic accuracy of the metadata. These systems check that the obligatory fields are appropriately filled in and that there are no errors resulting from introducing incorrect information into individual form fields. The data entered through the forms is adapted to the established database template and, after a verification process, is imported into the database. In the case of raster data, its georeferencing, size and image quality are analysed. The final result of these procedures is the integration of the data into a web application for developers, which is available only internally. The aim of this stage is the initial analysis of the correctness and standard of the data.

After the initial validation, additional metadata classification is performed, which introduces automatically generated fields calculated and created from existing metadata. Here, processes are also in place to import information into mosaic datasets, which are the source of information for endpoints serving spatial data, and then re-validation of the entered information is performed.

In the final stage, the information gathered in the development databases is published to the test databases. These databases are the source for the application, where a thorough analysis of new records by historians/experts takes place. When problems are encountered, the data entry person is informed about the

necessity to correct them and go through the feed process again. If the data visible on the test server contained no errors, the production database is fed, which is linked directly to the application accessible to the general public.

Description of how to work with client applications

The thematic repository created by the authors of this publication focuses on maps that were a part of the process of regaining independence by Poland. For this reason, the key aspect while formulating the system concept was to ensure effective interaction between the viewer and the digital product. The main objective was to enable people without technical expertise to use the tools to work with historical map resources, making it possible to discover hitherto unknown relationships. One of the main requirements of the system was to make the extensive collection of cartographic sources available to a broad audience. Therefore, architectural solutions were adopted to minimize delays when accessing large raster datasets. In addition to cartographic information, an essential value of the project is the metadata, which provides information about the author, place of publication, and the date of creation of the map. Therefore, mechanisms have been developed to enable easy retrieval of metadata associated with on-screen maps and narrative sources.

The thematic repository home page⁶⁶ is the access point for the client applications. From here, the user selects one of two options for viewing the resource, i.e. the repository application (dashboard) or the geoportal (Fig. 77).

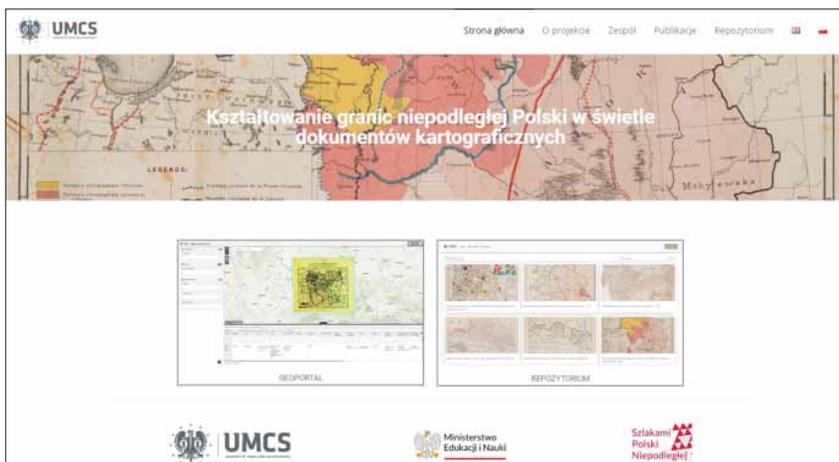


Fig. 77. Project home page – access point to the client applications.
Source: Authors of this publication

⁶⁶ The portal is available at: <https://graniceniepodleglej.edu.pl> (accessed 2023).

Choosing the first option redirects the user to the application,⁶⁷ where the main screen is the map list view (Fig. 78). It consists of sorted objects, where each tab, containing a map and its title, acts as a hyperlink. Once opened, the viewer is redirected to the detailed view. This view also has its counterpart with the same logic for document-type objects. It is accessible via the top navigation menu. Searching for items by their title is also possible as an additional functionality. After entering the phrase of interest to the user and pressing the “Search” button, the page is reloaded, and the objects whose title contains the entered phrase are displayed as the result.

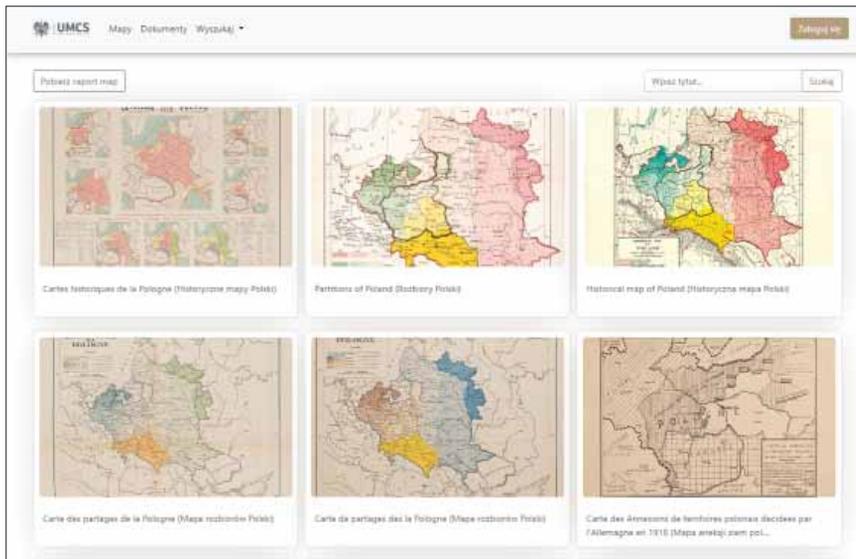


Fig. 78. Resulting dashboard view showing sample map objects
Source: Authors of this publication

An extended filter screen has been developed to facilitate the search for digital copies of the sources. It allows users to search for maps and documents using the following metadata elements: full title, abbreviated title, map language, name keywords, subject keywords, geographic keywords, author, subject matter, and source type (Fig. 79).

The detailed view is available from both the main screen and the extended filters view. Its purpose is to present the source and the metadata describing it. The interface style is common both for maps (Fig. 80) and written documents (Fig. 81). The only difference is in the additional component that allows

⁶⁷ The security policy provides for two levels of access: unauthorised (public) and authorised. The description in the chapter covers public access.

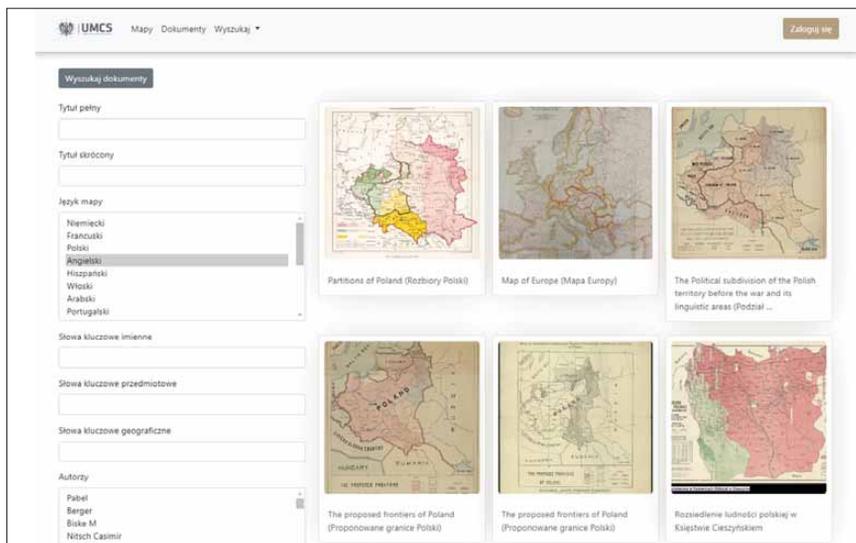


Fig. 79. Interface of the map search tool
Source: Authors of this publication

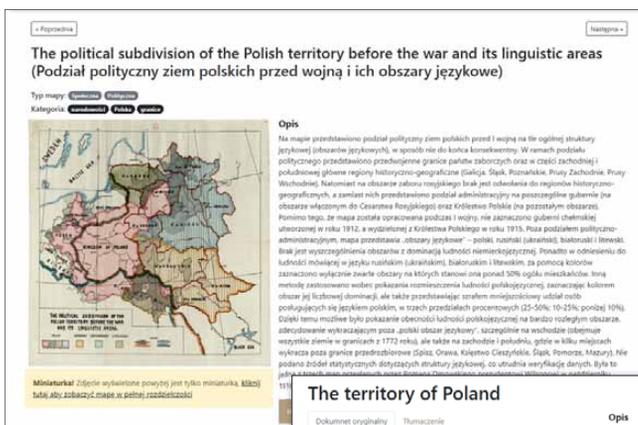


Fig. 80. Detailed view of the selected map with expert description
Source: Authors of this publication

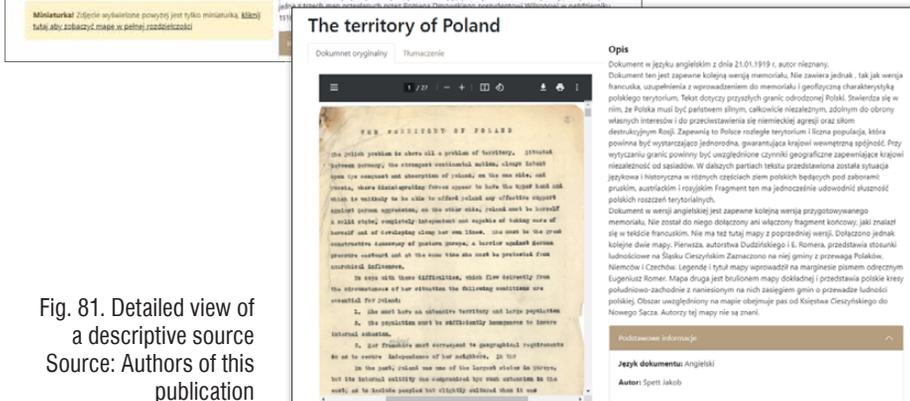


Fig. 81. Detailed view of a descriptive source
Source: Authors of this publication

the display of the translation available for selected texts. From this level, the recipient can view detailed metadata and download a high-resolution scan of the item. For sources for which no permission to publish has been obtained (the digital copy is not available in the public domain), a link to external repositories is available within the repository. It is possible to view related sources within the detailed view.

A user module was created to meet the requirements of restricting access to particular views and functions of the application. The module mainly focuses on the logic responsible for allowing or blocking users attempting to access specific parts of the application based on the access group assigned to them.

Some inaccessible features, such as the option of downloading reports, have not been hidden to encourage portal visitors to register an account and log in to gain access to them. When attempting to perform a given blocked action, the user will be redirected to the login page and, after a successful login, back to the desired view. Obtaining an account allows users to publish new data. A special page has been developed, using which logged-in users can publish new objects. The form consists of 18 fields for completing metadata for maps and 20 fields for text documents. The fields are divided into two types: obligatory, such as title and submitting person, and optional, such as creation date and scale. In addition, the form for document publication includes options to define a link to a source, which reveals an additional tab in the detailed view presenting Maps/Reference Documents, respectively.

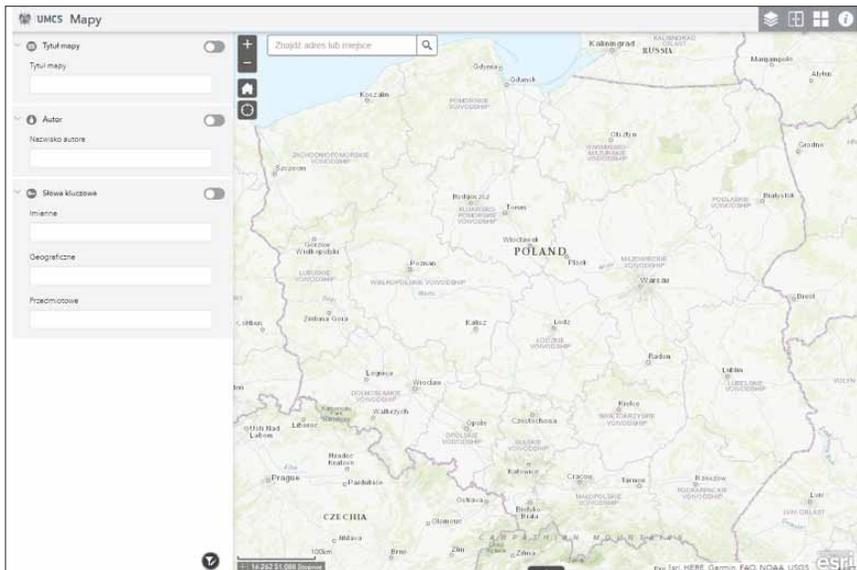


Fig. 82. The initial view of a geportal-type application
Source: Authors of this publication

The tool for exporting objects of the same type (maps or documents) to files in .csv format is an additional functionality for acquiring metadata and working with it outside the application. The report can be downloaded by using the relevant buttons visible in the objects list view. Once these are pressed, a function is called that dynamically generates a file based on all objects of a given type.

A geoportal client application provides interactive browsing of calibrated cartographic sources using selected base maps that provide geographical context. It can be accessed from the project homepage, where the user is redirected to the map portal by choosing the “Geoportal” tile. Visually and functionally, the application follows generally accepted patterns, where the user can browse, search and manage data (Fig. 82). In order to start working, a map search is required. Due to the extensive metadata structure, the search engine is limited to five fields to identify the map, i.e. title, author, and three types of keywords. Combining these elements enables filtering out sources that do not meet the formulated requirements. Selected maps are displayed against the base map, providing a geographical background and facilitating the understanding of the presented content. The cartographic sources are fully interactive, allowing the user to view them at any zoom level. Map selection is also possible using the content table (located in the bottom panel), which contains detailed metadata. When the indicated record is clicked, the spatial extent of the resource is displayed in the main window. Clicking on the spatial extent of the map with the identification tool shows the content of the expert description (Fig. 83).

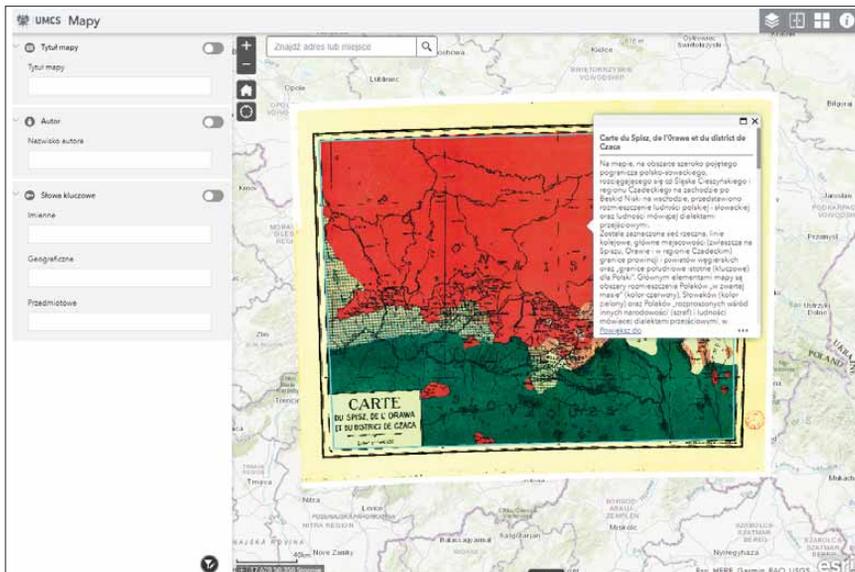


Fig. 83. Application interface with a selected historical map and expert description thereof
Source: Authors of this publication

As part of the additional functionalities, a tool is available to allow recipients to compare the content of historical maps. To activate it, one has to select a historical map in the content table and launch the “Compare Maps” tool, then

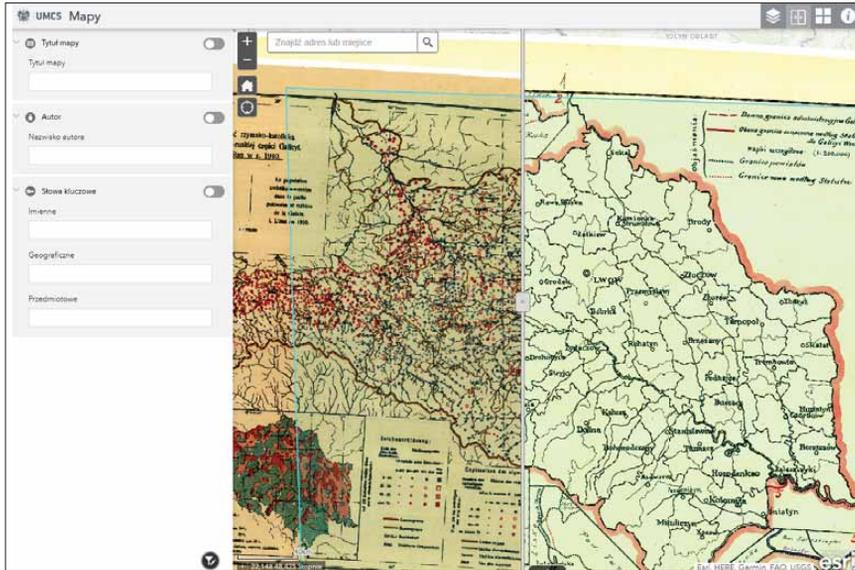


Fig. 84. View of the historical map content comparison tool
Source: Authors of this publication

choose the map, thus activating the “Historical Maps – Comparison” option. This tool allows the viewer to easily compare the contents of two maps in horizontal view mode. By moving the mouse, the content of the compared maps can be dynamically revealed and covered. (Fig. 84).

Bibliography

Archival sources

Archive of Modern Records in Warsaw
Archives of Science of the Polish Academy of Sciences and the Polish Academy of Arts and Sciences in Krakow
Archives of the Independence Museum in Warsaw
Archives of the Jagiellonian University, Krakow
Archives of the Polish Academy of Sciences in Warsaw
Cartographic Collections of the Laboratory of History of Cartography at the Department of Geoinformatics and Cartography at the University of Wrocław
Central State Archives in Potsdam
Central State Historical Archives of Ukraine in Kiev
Charles University in Prague, Faculty of Science, Map collection
German Archive Portal Archivportal-D
Jagiellonian Library, Krakow
Jozef Pilsudski Institute of America in New York
Library of Congress in Washington, DC
Library of the Ossoliński National Institute in Wrocław
Masaryk Institute and Archives of the Czech Academy of Sciences, Prague
National Archives in Krakow
State Archives in Hamburg
State Archives in Katowice – Branch in Cieszyn
State Archives in Wrocław
State Archives of Lviv Oblast and the State Archives in Kiev
The Diplomatic Archives in Paris
The Kosciuszko Foundation in New York
The Polish Historical and Literary Society / Polish Library in Paris
United Nations Library & Archives Geneva
University Library in Wrocław
Woodrow Wilson Presidential Library & Museum, Staunton, Virginia

Literature

- Affek A., *Kalibracja map historycznych z zastosowaniem GIS, Źródła kartograficzne w badaniach krajobrazu kulturowego*. Prace Komisji Krajobrazu Kulturowego, no. 16, pp. 48–62, Komisja Krajobrazu Kulturowego PTG. Sosnowiec, 2012, pp. 48–62.
- ArcGIS API for JavaScript, <https://developers.arcgis.com/javascript/latest>, accessed 2023.
- Atlas Fontium <https://atlasfontium.pl>, accessed 2023.
- Bidney M.M., *Can Geographic Coordinates in the Catalog Record Be Useful?*, „Journal of Map & Geography Libraries”, vol. 6, 2010, no. 2, pp. 140–150.
- Borowicz D., *Mapy narodowościowe Górnego Śląska od połowy XIX wieku do II wojny światowej*. Wrocław, Wydawn. Uniwersytetu Wrocławskiego, 2004.
- Borowicz D., *Mapy plebiscytowe Górnego Śląska*, „Polski Przegląd Kartograficzny”, vol. 32, 2000, no. 4, pp. 302–315.
- Cieślak A., Pietrzyk Z., *Spuścizna rękopiśmienna Eugeniusza Romera jako źródło wiedzy do kształtowania granic Polski w latach 1918–1920*, [in:] *W drodze do niepodległości, ślady działań w archiwach, dokumentach i publicystyce państwowej, lokalnej i polonijnej w krajach zamieszkiwanych przez Polaków*, (ed.) A. Biernat. Warsaw 2019.
- Dublin Core <https://www.dublincore.org>, accessed 2023.
- Dymmel P., *Bibliografia edytorstwa źródeł historycznych w Polsce. Historia – krytyka tekstu – metodyka i technika wydawnicza*. Lublin, Wydawn. UMCS, 2001.
- Dymmel P., *Edytorstwo historyczne – stan i potrzeby*, [in:] *Pamiętnik XV Powszechnego Zjazdu Historyków Polskich*, vol. 1, cz. 2, (ed.) J. Staszewski. Gdańsk – Toruń, Adam Marszałek Publishing, 1995.
- Esri Rest API, <https://developers.arcgis.com/rest/services-reference/enterprise/get-started-with-the-services-directory.htm>, accessed 2022.
- Europeana.eu, <https://www.europeana.eu/pl>, accessed 2023.
- Gąsiorowski A., *Siedemdziesiąt pięć lat serii II Pomników dziejowych Polski*, „Studia Źródłoznawcze”, vol. 59, 2021, pp. 193–204.
- Goodchild M.F., Janelle D.G., *Toward critical spatial thinking in the social sciences and humanities*. „GeoJournal”, vol. 75, 2010, no. 1, pp. 3–13.
- Górny M., *Kreślarze ojczyzn. Geografowie i granice międzywojennej Europy*, Warsaw, IH PAN Publishing, 2017.

- Gregory I.N., Richard Healey, *Historical GIS: structuring, mapping and analysing geographies of the past*, [in:] *Progress in Human Geography*, vol. 31, 2007, no. 5, pp. 638–653.
- Grunwald S., Reddy R.K., Mathiyalagan V., Bloom S.A., *Florida's wetland WebGIS*, [in:] *Proceedings of the ESRI User Conference*, San Diego, CA, 2003, July 7–11.
- Gurba S., Mościbroda J., *Geograficzno-statystyczny atlas Polski Eugeniusza Romera – pomnikowe dzieło kartografii polskiej*, „Polski Przegląd Kartograficzny” vol. 14, 1982, no. 2, pp. 78–86.
- Harasimiuk K.A., *Działania Eugeniusza Romera w sprawie powrotu Polski na mapę polityczną Europy*, „Przegląd Geograficzny”, vol. 90, 2018, no. 4, pp. 615–633.
- <https://developers.arcgis.com/web-appbuilder/guide/widget-swipe.htm>, accessed 2023.
- <https://granicieniepodleglej.edu.pl>, accessed 2023.
- <https://livingatlas.arcgis.com/topoexplorer/index.html>, accessed 2022.
- <https://livingatlas.arcgis.com/topoexplorer/index.html>, accessed 2023.
- <https://www.davidrumsey.com/>, accessed 2023.
- <https://www.ogc.org/standards/wms/introduction>, accessed 2022.
- Huygens R.B.C., *Ars edendi. A practical introduction to editing medieval Latin texts*, Brepols, Turnhout 2000.
- Katalog archiwum Biura Prac Kongresowych do 30 kwietnia 1919 roku* (typescript).
- Knowles K.A., *Past time, past place: GIS for history*. Esri Press 2002.
- Konopska B., Barwiński M., Kościk E., Kawalec K., Suleja W., Lupa M., Zawadzki M., *Kształtowanie granic niepodległej Polski w świetle dokumentów kartograficznych*. Warsaw, Polish Historical Association, 2023.
- Konopska B., Barwiński M., *Kształtowanie granic Polski po pierwszej wojnie światowej. Metodyczne problemy badań źródeł kartograficznych i tekstowych*. Warsaw, Polish Historical Association, 2021.
- Konopska B., *Polskie atlasy historyczne – koncepcje i realizacje*. Warsaw, IHN PAN Publishing, 1994.
- Konopska B., *The cartographic materials auxiliary in the determination of the borders of Poland during the Paris Peace Conference (1919–1920) in the light of archival records*, „Polish Cartographical Review” vol. 48, 2016, no. 2, pp. 67–75.

- Konopska B., *Zwrot cyfrowy w historii kartografii*, XLIII Ogólnopolska Konferencja Kartograficzna: Kartografia dla wszystkich i dla każdego. Warsaw, 26–27 October 2021. Streszczenia referatów i posterów. Oddział Kartograficzny Polskiego Towarzystwa Geograficznego, Warsaw 2021, p. 17.
- Kovarsky J., *Carto-Bibliography on the Web: Links Combining Text and Image*, „Imago Mundi”, vol. 60, 2008, no. 1, pp. 93–96.
- Kraak M.-J., *The role of the map in a Web-GIS environment*. „Journal of Geographical System,” vol. 6, 2004, pp. 83–93.
- Kuźma M., Bauer H., *Map Metadata: the Basis of the Retrieval System of Digital Collections*. „ISPRS International Journal of Geo-Information”, vol. 9, no. 7, pp. 444.
- Kuźma M., Mościcka A., *Evaluation of metadata describing topographic maps in a National Library*, „Heritage Science”, vol. 8, 2020, no. 113, pp. 1–16.
- Majewska B., *Geograficzno-statystyczny atlas Polski Eugeniusza Romera*, „Biuletyn Informacji Biblioteki Narodowej” no. 2 (169), 2004, pp. 12–14.
- Mathiyalagan V., Grunwald S., Reddy R.K., Bloom S.A., *A WebGIS and geodatabase for Florida’s wetlands*, „Computers and Electronics in Agriculture”, vol. 47, 2005, no. 1, pp. 69–75.
- Michaelis Ch., Ames D., *Considerations for implementing OGC WMS and WFS specifications in a desktop GIS*. „Journal of Geographic Information System”, vol. 4, 2012, no. 2, pp. 161–167.
- Mościcka A., Ziurawicz-Rutkowska A., *On the use of geographic information in humanities research infrastructure: A case study on cultural heritage*, „ISPRS International Journal of Geo-Information”, vol. 7, 2018, no. 3, pp. 106.
- Osowska A., Przybytek D., *Jak mapy Eugeniusza Romera w atlasie z 1916 roku przekonały uczestników konferencji pokojowej w Paryżu o istnieniu Polski – spojrzenie historyczno-metodyczne*, [in:] „Z Dziejów Kartografii”, (eds.) B. Konopska, W. Spallek, G. Strauchold, vol. 21, 2017, pp. 145–159.
- Panecki T., *Cyfrowe edycje map dawnych: perspektywy i ograniczenia na przykładzie mapy Gaula/Raczyńskiego (1807–1812)*, *Studia Źródłoznawcze*, vol. 58, 2020, pp. 185–206.
- Peng Z., *An assessment framework of the development strategies of Internet GIS*. „Environment and Planning B: Planning and Design”, vol. 26, 1999, no. 1, pp. 117–132.
- Plewe B., *GIS Online: Information Retrieval, Mapping and the Internet*. OnWord Press: Santa Fe 1997.
- Polona, <https://polona.pl/>, accessed 2023.

- Purday J., *Think culture: Europeana.eu from concept to construction*, "Bibliothek Forschung und Praxis", vol. 33, no. 2, 2009, pp. 170–180.
- Romer E., *Geograficzno-statystyczny atlas Polski*, Warszawa – Kraków, Gebethner i Wolff, 1916.
- Romer E., *Jak powstawał „Geograficzno-Statystyczny Atlas Polski” Eugeniusza Romera (Wspomnienie syna)*, „Czasopismo Geograficzne”, vol. 50, 1979, z. 3, s. 197–205.
- Rosa I., *Digital Library Polona: Digitization, Technology, Cooperation*, "Slavic and East European Information Resources", vol. 20, 2019, no. 1–2: *Digital Humanities in Slavic, East European, and Eurasian Studies*, pp. 23–30.
- Rydberg-Cox A.J., *Digital Libraries and the Challenges of Digital Humanities*, Chandos Publishing 2006.
- Schnayder E., *Profesor dr Karol Buczek (1902–1983) jako historyk kartografii oraz kartograf i geograf historyczny*, [in:] *Dorobek polskiej historii kartografii*, (eds.) J. Janczak, W. Wernerowa, „Z Dziejów Kartografii” vol. 6, Warsaw, IHNiT PAN Publishing, 1993, pp. 16–17.
- Siemiński J., *Metodologia wydawnictw*, „Przegląd Historyczny”, vol. 23, 1921–1922, no. 2.
- Słoń M., Słomski M., *Edycje cyfrowe źródeł historycznych*, [in:] *Jak wydawać teksty dawne*, (eds.) K. Borowiec, D. Masłej, T. Mika, D. Rojszczak-Robińska. Poznań, Rys Publishing House, 2017, pp. 65–84.
- Sowiński J., *Między oryginałem, kopią a falsyfikatem. Polskie edycje faksymilowe*, Uniwersytet Pedagogiczny Komisji Edukacji Narodowej w Krakowie, Prace Monograficzne no. 512, Kraków 2009.
- Szymański J., *Nauki pomocnicze historii*. Warsaw, PWN Publishing, 1983.
- Tandecki J., Kopiński K., *Edytorstwo źródeł historycznych*. Warsaw, DiG Publishing, 2014.
- Wnęk K., *Systemy GIS w badaniach historycznych*. Zeszyty Naukowe Uniwersytetu Jagiellońskiego 1312, „Prace Historyczne” 2010, z. 137, pp. 153–171.
- Zawadzki M., *Development of metadata for historical cartographic resources associated with the Paris Peace Conference (1919–1920)*, „Polish Cartographical Review”, vol. 53, 2021, no. 1, pp. 77–90.

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