

# Bridging Heritage and Innovation: The Digital Repository of Polish Geological Cartography

Katarzyna Józwik <sup>a,\*</sup>, Piotr Gałkowski <sup>b</sup>

<sup>a</sup> Polish Geological Institute–National Research Institute, [kjoz@pgi.gov.pl](mailto:kjoz@pgi.gov.pl)

<sup>b</sup> Polish Geological Institute–National Research Institute, [pgal@pgi.gov.pl](mailto:pgal@pgi.gov.pl)

\* Corresponding author

**Keywords:** digital repository, geological maps, Polish Geological Cartography Platform, RE-USE Directive

## Abstract:

In an era of unprecedented technological advancements, it is essential to preserve and make accessible the wealth of geological knowledge embedded in both historical and contemporary cartographic resources. Geological maps, with their intricate details, provide invaluable insights for modern research, decision-making, and innovation. Recognizing this, the Polish Geological Institute–National Research Institute (PGI-NRI) has undertaken a landmark initiative: the creation of a comprehensive digital repository for Poland's geological cartography.

Since its establishment in 1919, PGI-NRI has amassed an extensive collection of geological maps and related cartographic products. These resources, however, were initially scattered across multiple locations, repositories, and, in some cases, private collections. Through the Polish Geological Cartography Platform project, PGI-NRI conducted a systematic nationwide inventory to catalogue these dispersed assets. Each map or product was meticulously documented with metadata such as scale, authorship, publication year, keywords, and other descriptors, forming a detailed index database.

The project's centrepiece is a centralised digital repository that now holds over 26,500 maps and cartographic products, ranging from scanned maps and vector datasets to geological cross-sections, atlases, explanatory texts, and more. Users can access and download data via the repository application, following a registration or login process tailored to two distinct user groups. External users register by completing a short form that identifies the stakeholder type they represent and the intended purpose of the data usage. PGI-NRI employees, meanwhile, are redirected to an internal application within the Institute's perimeter network, which provides access not only to the files available to external users but also to heavy, source versions of the files or datasets.

Although internal access currently involves administrative procedures, the system now records detailed statistics on who downloads which products and when, laying the foundation for reducing these barriers in the future. The repository also integrates an advanced catalogue search engine, supporting dynamic filtering and metadata integration, and offers internal tools for content management, duplicate detection, and compliance verification. Planned enhancements, such as the introduction of Digital Object Identifiers (DOIs), will further strengthen the repository's role as a cornerstone of Poland's digital geological research infrastructure.

By bridging past and future, the PGI-NRI digital repository transforms archival data into an active resource for research, education, and policymaking, fostering cross-disciplinary collaboration and ensuring the nation's geological cartographic heritage remains findable, accessible, interoperable, and reusable, in line with the EU RE-USE Directive and FAIR principles.