

## NATIONAL REGISTER OF GEOGRAPHICAL NAMES AS PART OF A MODERN, CONSISTENT AND REFERENCE SPATIAL DATA INFRASTRUCTURE OF POLAND

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The Polish language has a long history that reflects the history of the Polish Nation. Its rich vocabulary, that includes also geographical names, is its integral part and constitutes an element of non-tangible Polish heritage. The geographical names, used in the Polish language, referring both to the territory of Poland and to other parts of the world, testifies about the historic links with a given territory. Thus, geographical names, developed for a few hundred years, are a part of Polish culture and are a subject of special protection.

At the same time, the necessity of gathering geographical names is influenced by the fact that they are subject to changes caused by numerous factors. One of them is merging (e.g. in case of names of settlements), uniting or separating (e.g. in case of countries) of geographic territories. Another factor, influencing modifications of geographical names, is a change of authority which controls a given territory in a given time or change of the dominating opinion or attitude of the majority of population to the name, due to political or social changes. Moreover, changes of geographical names are influenced by migration of population or return to the name used previously.

The necessity of keeping a uniform register of geographic names, being a reference for other thematic databases, is supported by the requirement of obtaining unmistakable identification of geographical names, in particular names of cities, towns and villages for censuses. What is more, the reference character of the register allows preparing maps and atlases and it also finds application in many areas of social, economic and business life, among others in transportation, automated navigation, tourism, spatial planning, dealing with natural disasters and provision of aid, as well as in case of extraordinary situations, rescue and search operations. Furthermore, the register performs an important function in cases of real property inheritance and ownership, e.g. in case of a change that took place in the name of the territory, while the documentation contains a name, which is historical at present.

In Poland, by force of the *Act of law of May 17, 1989 – Geodetic and Cartographic Law (Journals of Law from 2010, No. 193, item 1287)*, the Surveyor General of Poland is the authority responsible for the maintenance of the national register of geographical names, that contains current and historical information on names of settlements, physiographic features and also the Polish geographical names of objects located outside the Republic of Poland.

### STANDARDIZATION OF POLISH GEOGRAPHICAL NAMES

The history of determining Polish geographical names goes back to the early 20th century. Its first instances occurred when Poland regained its independence in 1918.

The first Polish list of settlements' names was the *Index of settlements in the Republic of Poland prepared on the basis of results of the first national census of September 30, 1921 and other official sources* published in the years 1923-26 by the Central Statistical Office. That study was a result of the national census held in 1921, during which – among other things – information about names of settlements had been collected. The plans were for the *Index* to comprise 16 volumes, each of them devoted to one voivodship, however the volumes concerning the voivodship of Vilnius and Silesia have never been issued. The first official names of settlements in Poland were decided in 1922, in voivodship of Silesia, which at that time had extensive autonomy. *The list of counties, urban and rural communes, manorial areas, as well as towns excluded from counties* being an attachment to the *Enactment of June 17, 1922, concerning the county structure of the Province of Silesia* determined 700 official names of settlements and manorial areas.

Standardization of geographical names in Poland at the central level began in 1929 by passing an enactment, by the virtue of which the Commission for preparing motions concerning establishment of official nomenclature of places in Poland has been established together with auxiliary commissions working at voivodship offices (with the exception of the voivodship of Silesia).

In 1934, by the virtue of the *Enactment of the President of the Republic of Poland of October 24, 1934, on establishing names of places and numbering of real estates*, the issues of defining official names of inhabited places were settled. The Commission on Determining Names of Places and Physiographic Features was established under the Minister of Interior. The commission worked until 1939 and during its

existence it determined names of Polish towns, names of settlements of the voivodship of Vilnius, collected the names of settlements in the voivodship of Kielce and published one volume of the *List of towns and villages of the Republic of Poland*.

During the period between the two World Wars, also private entities published lists of settlements' names, among other things: *Index of authorities and settlements in the Republic of Poland*; *Alphabetical index of towns, rural communes and manorial areas*; *Index of settlements in the Republic of Poland, with indication of authorities and offices proper for them, as well as communication devices*.

The activities of the Commission were resumed after World War II and its main task became the determination of Polish names in the Regained Territories. The result of its work comprised 12 enactments and ordinances published in the years 1945 – 1948 in *Official Gazette of the Republic of Poland* determining names of settlements.

In 1948, by the decree on amending the enactment of the President of the Republic of Poland of 1934, the scope of official names was extended by names of uninhabited places and physiographic features, also the name of the Commission was changed to Commission on Names of Places and Physiographic Features. As a result of the Commission's work, in the years 1948-1951, some 32 000 Polish names of settlements and some 3000 names of physiographic features were determined and published, for the Regained Territories. In the years 1964-74 the Commission issued 197 numbers of *Official names of places and physiographic features containing names from the area of specific counties*. The lists comprised in their scope about fifty per cent of the territory of Poland and contained previously not considered names of such objects as: fields, shrubberies, pastures, meadows.

In the second half of the 20th century, several publications on onomastics in Poland were published, among them Polish-German and German-Polish *Dictionary of geographical names in Western and Northern Poland* by S. Rospond from 1951. In 1967 the Publishing House of Communication and Connection released an unofficial list of all settlements in Poland, called *Register of settlements in People's Republic of Poland*, which for several years replaced the official registers, non-existent at that time.

In the years 1980-1982, the Ministry of Administration, Regional Management and Environmental Protection, as well as the Central Statistical Office published a 3-volume *Register of official names of settlements in Poland* containing some 111 000 names from the territory of the Republic of Poland, determined by the enactment of the Minister. The register constitutes of the list of settlements and is treated at present as the list of officially determined names. That register has been prepared on the basis of official lists of names published in the *Official Gazette of the Republic of Poland*. Also, the unofficial materials and documents were used and in case of some places, their names differ in relation to the official names determined in the act of law.

In 1991 the Surveyor General of Poland, the Commission on Names of Places and Physiographic Features and the National House of Cartographic Publications published *Geographical names of the Republic of Poland* containing 28 000 standardized names.

In 2003 the *Act of law of August 29, 2003 on official names of places and physiographic features* abolished the Enactment of the President of the Republic of Poland from 1934. That Act of law defined anew and in complex way, the principles of determining, altering or annulling names of places and physiographic features, principles governing the activities of the Commission on Names of Places and Physiographic Features, the manner of determining and publishing lists of official names of settlements and their parts, as well as physiographic features. The Act of law does not apply to names of administrative units and their seats (voivodships, counties and communes), districts of Warsaw, areas of protected nature, names of streets, squares, parks, railway stations, airports, harbours, docks in ports, military practice grounds, etc.

In 2006 the Head Office of Geodesy and Cartography published the *National Gazetteer of Poland, Volume 1. Hydronyms*, containing standardized yet not official names. The gazetteer has been published in two parts, of which part one contains names of flowing waters, sources and waterfalls, while part two contains names of standing waters.

Another legal act, which influences the development of geographical names in Poland is the *Act of law of January 6, 2005, on national and ethnic minorities and regional languages* (*Journals of Law* from 2005, No. 17, item 141). That act of law allows the use of traditional, auxiliary names in a minority language for settlements, physiographic features, as well as names of streets in communes, in which a given minority constitutes at least 20% of inhabitants and in communes listed in the *Official register of communes, in which an auxiliary language is in use*. In case of communes, in which the minority accounts for less than 20% of the population, traditional names may be used if, as a result of consultations, over 50% of

inhabitants have been in favour for such name. Auxiliary names in a minority language cannot be used independently, they must always follow the official name, expressed in Polish. Names in minority languages may not refer to names from the period 1933-45, decided by the authorities of Nazi Germany or the Soviet Union. At present, 572 names exist, in four languages: German, Lithuanian, Kashubian, Lemka for villages in 19 communes.

### **STANDARDIZATION OF GEOGRAPHICAL NAMES OF THE WORLD**

In the period between the two World Wars, Polish names for features located outside Poland were commonly used both in maps/atlases and in encyclopedic publications. However, besides the fixed Polish names of main geographical features, other names were often used in various forms, sometimes the authors themselves rendered foreign names into Polish. Exonyms were dealt with at scientific forums, the correctness of use of some such names was discussed, particular attention was paid to geographical names of Polish origin (given by Poles, to commemorate Poles or connected with Poland in some other way) but those activities have never taken on any official form.

Only after World War II did the Polish names applied in geography of the world receive complete elaboration and standardization. The first body, which dealt in Poland with geographical names for features outside Poland, was the Commission on Geographical Names, established in 1951. The Commission was a scientific body, without official status, yet its recommendations have been taken into consideration among wide circles of recipients and applied in numerous dictionaries, encyclopedias and geography-related studies. Until 1956, the Commission determined 19 720 names of features from around the world, part of which were exonyms. Registers were published in a systematic manner in the years 1952-56, in the form of 15 volumes, entitled *Polish Geographical Names*. In 1959, joint register of corrected and updated names contained in those volumes was published.

After initiating works to standardize geographical names on the United Nation forum and establishing the United Nations Group of Experts on Geographical Names (UNGEGN), also in Poland attempts were taken to establish an official body authorized to determine official Polish geographical names of the world. In 1973 the Commission on Standardization of Geographical Names of the World was established. It was directly continuing the work carried out by the previously appointed Commission, within the scope of tasks performed.

Since 1997 that Commission has been functioning under the auspices of the Surveyor General of Poland, on the basis of art. 8 of the *Act of law of May 17, 1989 – Geodetic and Cartographic Law*. Since 2001 the name of Commission has been changed to Commission on Standardization of Geographical Names Outside the Republic of Poland and is being used until now. The tasks of the Commission include, among others: determining the spelling and pronunciation of Polish versions of names of settlements and physiographic features located outside the territory of Poland, establishing the principles of romanization from languages which use non-Roman writing systems, preparation of official lists of mentioned names, as well as providing opinions concerning publications in that field. Furthermore, the Commission publishes of lists of geographical names, including established Polish exonyms. Since the beginning of its activity, the Commission has released a series of publications, which among others include the following:

- *Names of Countries, Their Capitals and Inhabitants* containing names of countries, dependent and autonomous territories,
- *Polish Geographical Names of the World*, published in the years 1994-96 in four volumes, containing some 6 500 geographical names,
- *Geographical Names of the World* published since 2004, until today it comprises 12 volumes, containing about 56 500 geographical names of various parts of the world.

The decisions of the Commission, despite the fact that they are not official norms but only recommendations, are taken into consideration by both scientific institutions and publishers (cartographic, geographic and science popularizing publishers, as well as some periodicals and newspapers) or institutions of the state administration.

Besides publishing lists of geographical names, the Commission is involved in preparation of toponymic guidebooks, among which there is a three volume series entitled *Collecting and elaborating geographical names – Toponymic Guide*. In 2010 the Commission published the fourth and latest edition of *Toponymic Guidelines of Poland for Map Editors and Other Users*, which contains information enabling cartographers and other foreign users to understand the principles of applying Polish geographical names. The Polish-English *Guidelines* contain detailed information about the Polish language, principles and legal basis for standardization of geographical names, as well as an extensive section devoted to national and

ethnic minorities and the use of regional languages. Moreover, the *Guidelines* contain several maps and a well-developed glossary of terms and list of abbreviations.

Moreover, it should be stressed that publications of the Commission appear not only in the traditional paper book version but are also available in electronic version in PDF files, via the website of the Commission: <http://ksng.gugik.gov.pl/>.

### **NATIONAL REGISTER OF GEOGRAPHICAL NAMES (PRNG)**

Since 1994, the Surveyor General of Poland, by means of the Main Geodetic and Cartographic Documentation Centre, has been maintaining the national register of geographical names (PRNG). That register is of key importance for preserving the onomastic heritage, as well as the development of reference databases in Poland and constructing modern spatial information infrastructure.

The aim of PRNG is to maintain a uniform official list of geographical names in Poland, first of all for the needs of all official elaborations (in particular: geographic information systems and production of maps), in order to provide their cohesion, univocal character, as well as to avoid multiplication of the process of gathering and updating information about geographical names by various institutions and enterprises. PRNG has the aim of providing information about correct spelling of names, location of names and their properties, that is type of name, declension, etc. However, it is not a task of the register to provide cartographic presentation of names on maps, as it does not contain information about fonts (type face), size and distribution of inscriptions on maps depending on map scale, etc.

At present, the register contains 194 904 names of geographic features, together with attributes, including 123 118 names of settlements (official names, together with historical ones, administrative subjection and geographic coordinates), as well as 71 786 names of physiographic features (surface and linear water objects, names of mountains/ mountain ranges, forests, protected areas (at present under the competencies of the Minister of Environment) and others. The register is the most comprehensive data set, containing present and former names of places and physiographic features, together with georeferences. Updating the data in PRNG is a process taking place on the basis of legal acts concerning determination, alteration or annulment of names (for official names) and result of verification and adding information included in other sets and registers, which contain geographical names.

Before the implementation of INSPIRE Directive, the names from the register had been available for all persons interested in the topic, yet there was no standing obligation to apply them.

In the light of the *Act of law of March 4, 2010 on spatial information infrastructure (Journals of Law from 2010, No. 76, item 489)* being a transposition of the *Directive of the European Parliament and Council of March 14, 2007* establishing spatial information infrastructure in the European Community (INSPIRE), the Surveyor General of Poland is a leader for the 15 spatial data themes, among others for geographical names defined as names of areas, regions, localities, cities, suburbs, towns or settlements or any geographical or topographical feature of public or historical interest. The necessity of adjusting PRNG to INSPIRE spatial data specification resulted in several undertakings of legislative and technical nature to develop a uniform register, which would function as the main, complete, reliable and updated reference database, containing correct geographical names, recommended for official use.

As a result of those works, in 2009, a new system for maintaining PRNG was implemented, allowing for gathering, updating and making data available, as well as allowing to launch on-line the search and view services for all data kept in the register, via the Geoportal website [www.geoportal.gov.pl](http://www.geoportal.gov.pl). Furthermore, a draft regulation was prepared, defining the scope of information gathered in the database of national register of geographical names organization, mode and technical standards for its creation, updating and periodic verification, as well as making its data available, keeping in mind the importance of that register for spatial information infrastructure, as well as the principle of interoperability, also the necessity of harmonizing of data sets from that register with other data sets.

Extended functions of PRNG enable, first of all, easier access for developers of various spatial data bases, to uniform identifiers of names gathered in PRNG, which leads to integration of information contained in various topographic and thematic databases, developed within the framework of Geodetic and Cartographic Service as well as outside its works.

The technologies that have been applied for the execution of PRNG system include: Oracle10gR2 (database), ArcGIS Server Enterprise Basic 9.3.1, ArcGIS 9.3.1 in the version of ArcEditor Desktop and PRNG application. Those technologies have been selected due to the openness of the solution, as well as complying with international standards. Mechanisms are provided for storing substantial amounts of data in relational, open database, as well as suitable tools for efficient management of spatial data and making it available. The functionality of the system, comprising the functions of import/export of data and browsing,

downloading and search functions, are determined by international ISO norms, as well as technical specifications.

The main task of the system for maintaining PRNG is harmonization of the currently existing registers, as well as provision of access to data gathered by commonly applied technological standards, among others: OGC protocols, SQL language and interface of WWW browser. The basis of the PRNG system is the database, whose logical model provides storage and processing of data complying with strictly defined conceptual model. The relational data model, developed for the needs of the system allows to render the relations between objects of the system, to create – among other things – possibilities of storing the history of changes made on a given object, as well as to create the possibility of linking more than one geometric point to the given object. Moreover, a module has been developed for editing and updating of data stored in PRNG database. The system provides the possibility of locating, comfortably and explicitly, the named objects in space, among others by linking such data with geometric data from the resources, e.g. from orthophotomap or database of topographic objects.

The layout of the PRNG consists of a toolbar, side panel for search and map content, map view window, as well as panel of search results. In order to provide functionality and flexibility of the PRNG system, several applications have been developed, which enable performing functions in the following areas:

- data editing,
- data search acc. to attribute: type of object, administrative unit, as well as name status,
- import of data,
- export of data to TXT, XLS, XML, GML, SHP files,
- visualization of named objects' location against the background of orthophotomap and vector data,
- making data available (search for objects according to selected attributes of name, obtaining coordinates of objects registered in the database),
- handling of metadata,
- provision of data security,
- development and maintenance of lists and glossaries,
- enabling complete and two-way data exchange between the database and owners of existing registers and databases.

Development of the system has been planned to take place in three stages. The first one assumes harmonization of conceptual models, among others adjusting the model to *INSPIRE Technical Specification 'Geographical Names'*. Stage two comprises signing agreements for the use of compatible information about geographical names, by various institutions. The ultimate stage in the development of the PRNG system comprises preparation of fixed identifiers of objects in individual classes for the databases, so that thematic databases developed with the use of reference data may always have access to updated databases.

### **LEGAL BASIS FOR PRNG**

In parallel to technology works, also legislative work has been carried out, concerning the *enactment of the Minister of Internal Affairs and Administration, on the national register of geographical names*, which will perform the role of norm and technical standard, resulting from construction of national infrastructure of spatial information.

In accordance with the draft enactment, the scope of data gathered in the PRNG database will be extended and will comprise of:

- register of geographical names from the territory of the Republic of Poland, comprising names of geographical features located within the territory of the Republic of Poland, including inland sea waters, territorial sea and Polish exclusive economic zone of the Baltic Sea,
- register of Polish names of geographical features located outside the territory of the Republic of Poland, together with a wide range of obligatory and non-obligatory attributes.

The register will be maintained in ICT system, comprising source registers, functions of import and export of data; functions of import from vernacular databases; search, view, download, transforming services, as well as services of bespoke data elaboration; functions that provide maintenance of the procedures of gathering, verification, supplementing and updating geographical names, in compliance with international norms, among others the following:

- ISO 19136:2007 *Geographic information – Geography Markup Language (GML)*,
- ISO 19128:2008 *Geographic information – Web map server interface*,
- ISO 19142:2007 *Geographic information – Web Feature Service*,

- ISO 19143:2007 *Geographic information – Filter Encoding*,
- ISO 19112:2003 *Geographic information – Spatial referencing by geographic identifiers*,
- ISO 19143:2007 *Geographic information – Filter Encoding*,
- ISO 639-2:2001 *Codes for the representation of names of languages – Alpha-3 code*.

In order to provide updated data in the register, geographical names will be gathered, verified and supplemented in a continuous manner, depending upon the objects which they apply to, on the basis of source materials:

- legal acts concerning determination, altering or annulment of official names of settlements announced by organ of public administration competent for official names of settlements, determined and published by competent organ of public administration,
- legal acts concerning determination, altering or annulment of names of physiographic features, announced by organ of public administration competent for names of physiographic features, determined and published by competent organ of public administration,
- *Register of communes, in the territory of which names in a minority language are used* for additional names in languages of national and ethnic minorities,
- lists of names accepted by the Commission for Geographical Names and Physiographic Features and subsequent resolutions of the Commission, concerning introduction, alteration or annulment of standardized names of physiographic features,
- lists prepared by the Commission on Standardization of Geographical Names Outside the Republic of Poland and subsequent resolutions of the Commission, concerning introduction, alteration or annulment of standardized world geographical names,
- topographic maps and lists of names elaborated by public institutions of not standardized names (names not determined and not published by competent organ of public administration),
- alteration and annulment of names on the basis of the above mentioned documents, for historical names.

At present, work is carried out in connection with verification and supplementing the content of PRNG, namely:

- verification against official lists of names and supplementing names of settlements,
- participation in preparation of standardized hydronyms,
- participation in preparation of standardized names of caves,
- verification and supplementing names of physiographic features,
- supplementing the names of other physiographic features, on the basis of topographic maps and other elaborations concerning geographical names,
- cooperation with the Commission for Geographical Names and Names of Physiographic Features, in order to standardize geographical names.

In the nearest future continuation is planned of the works connected with obtaining the remaining names of physiographic features, together with georeferences. At the same time, tasks related to the maintenance, updating and making data available will be continued on ongoing basis. Moreover, in Main Geodetic and Cartographic Documentation Centre, work will be carried out, which consists of adjusting the system and database to INSPIRE technical specification of spatial data and to the *enactment of the Minister of Internal Affairs and Administration, on the national register of geographical names*, which is meant to come soon into force as a binding administrative act to the *Act of Geodetic and Cartographic Law*.

The PRNG, that includes geographical names, having so interesting history, variegated by political and administrative changes, is the database of substantial scientific and historical values and - due to the latest legal regulations - it provides reference to and bringing up to date for data used by institutions, as well as private users. Thanks to the presentation of PRNG data by means of Geoportal website, easy and quick access to information is possible for wide circle of users. Furthermore, the participation of PRNG in the *EuroGeoNames* project, led by *EuroGeographics* (an association of the European national mapping, land registry and cadastral agencies) will bring benefits in field of popularization of Polish geographical names.

## REFERENCES

- Internal documents and materials of Commission on Standardization of Geographical Names Outside the Republic of Poland (KSNG),
- Internal documents and materials of Head Office of Geodesy and Cartography and Main Geodetic and Cartographic Documentation Centre on national register of geographical names.