

Original research paper

Analysis of the cadastral data published in the Polish Spatial Data Infrastructure

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Abstract: The cadastral data, including land parcels, are the basic reference data for presenting various objects collected in spatial databases. Easy access to up-to-date records is a very important matter for the individuals and institutions using spatial data infrastructure. The primary objective of the study was to check the current accessibility of cadastral data as well as to verify how current and complete they are. The author started researching this topic in 2007, i.e. from the moment the Team for National Spatial Data Infrastructure developed documentation concerning the standard of publishing cadastral data with the use of the WMS. Since ten years, the author was monitoring the status of cadastral data publishing in various districts as well as participated in data publishing in many districts. In 2017, when only half of the districts published WMS services from cadastral data, the questions arise: why is it so and how to change this unfavourable status? As a result of the tests performed, it was found that the status of publishing cadastral data is still far from perfect. The quality of the offered web services varies and, unfortunately, many services offer poor performance; moreover, there are plenty services that do not operate at all.

Key words: web services, web map service (WMS), spatial data infrastructure, cadastral data

1. Spatial data of districts in the National Spatial Data Infrastructure (KIIP)

Land parcels, the most important theme of spatial data infrastructure are managed in Poland by districts, self-governmental units. They are derived from 380¹ land and property registers maintained also by districts.

¹ We do not take into account any potential divisions into separately maintained parts of some of the district-level bases.

The importance of the theme of land parcels in the Spatial Data Infrastructure results from the fact that a land parcel, in addition to its primary significance concerning land ownership, is also one of the main reference objects used to locate other objects stored in spatial data bases (Oosterom, et al., 2009; Inspire, 2014; Gaździcki, 2016).

With the common use of a land parcel as a reference object, access to services that enable one to change a land parcel number (identifier) into its spatial location (geometry) is a very important matter for creators of spatial information systems. A widely accessible search service, based on up-to-date data, would offer an easy to implement in external IT solutions search engine for land parcels all over the country. Unfortunately, today it is believed that comprehensive land register bases and services related to them function only in approx. 40% of district-level units (GUGiK, 2017). In the remaining ones, either no web services exist to ensure access to cadastral data, or sufficient numerical data are unavailable to launch such services.

With such state of affairs, for years to come land registers will be maintained by districts and – by way of addition – different IT systems will be used. This does not mean, however, that at the national level we have put up with such fragmentation and each time determine specific access parameters to district-level bases and then analyse their structure. An effective solution to the problem is using properly standardised – at least two – web services.

One of them is access to the presentation cadastral data in any area (Figure 1), while the other is the possibility to locate any parcel, i.e. obtaining its geometrical specifications, namely an ordered list of coordinates describing the parcel (Figure 2).

In this study, we will focus only on the first service, i.e. the one related to presentation of up-to-date cadastral data for any area in Poland. More information on the service comprising locating land parcels and their addresses can be found in paper Izdebski (2014).

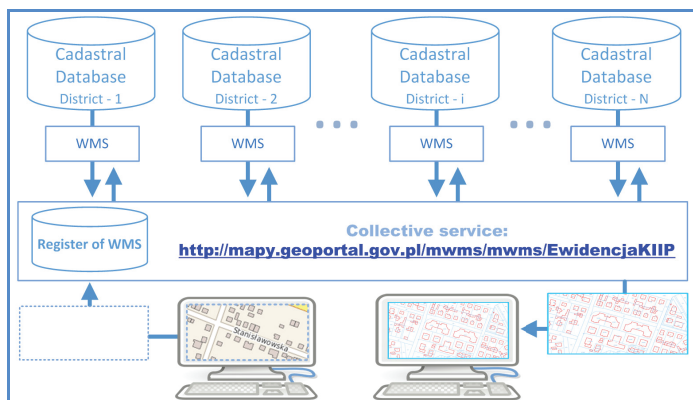


Fig. 1. Conceptual idea of the collective WMS to present land parcels (EwidencjaKIIP)

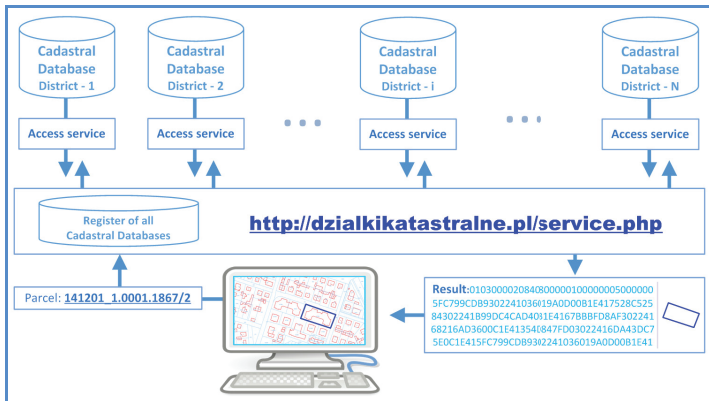


Fig. 2. Conceptual idea of the cadastral parcel locating service

2. Services of presenting cadastral data

Work on standardisation of graphic presentation of the cadastral data as part of the WMS commenced in Poland in 2007. It started with the development of rules of presenting basic cadastral data (land parcels and buildings) by the Team for National Spatial Data Infrastructure. The core of the adopted regulations was definition of parameters related to naming and graphic presentation of selected cadastral information available in the WMS. The parameters agreed upon are presented in Table 1, while more information about the Team's work can be found in Izdebski (2016).

Table 1. Parameters of the WMS base layers in district cadastral nodes

Layer title (Polish letters in UTF-8)	Layer name (Without Polish letters)	Colour RGB	Other parameters
Działki (Parcels)	dzialki	64, 160, 255	Line thickness = 1
Numery działek (Parcels numbers)	numery_dzialek	64, 160, 255	Font=Arial, Size=9, Position=cc
Budynki (Buildings)	budynki	200, 0, 0	Line thickness = 2

Based on the study in question, the Head Office of Geodesy and Cartography (GUGiK) developed the collective WMS available today as the so-called *EwidencjaKIIP*. The source of data for the service comprises district cadastral databases, also sometimes referred to as district cadastral nodes. Service address: <http://mapy.geoportal.gov.pl/mwms/mwms/EwidencjaKIIP>. The service was launched on 12 December 2008, under the initial name of "Multisource WMS". It allows one to view the cadastral data (relevant in terms of areas) from the district WMS. Upon launching, the service covered three districts (Koło, Środa Wielkopolska, and Turek); then on 26 May 2009, it was expanded with the following districts: Chełm, Cieszyn, Kościerzyna, Mielec, Mińsk Mazowiecki, Poznań, Pruszków, Strzelce Opolskie, Szczecinek, Ożarów

Mazowiecki, Wejherowo, Wołomin, and Złotoryja along with the town of Chełm Geoforum.pl (2009).

Over the years, other districts were included in the collective service; according to the data available from the Geodetic and Cartographic Documentation Center (CODGiK), in early 2007 the *Ewidencja KIIP* service comprised 135 district services, the list of which can be found in Table 2.

Table 2. A list of districts in the EwidencjaKIIP service

No.	TERYT	Name	Status	No.	TERYT	Name	Status
1	0401	Aleksandrów Kujawski	operating	69	2814	Olsztyn	operating
2	1001	Bełchatów	operating	70	2606	Opatów	non-operating
3	0661	city of Biała Podlaska	operating	71	1007	Opoczno	operating
4	1401	Białobrzegi	operating	72	1661	city of Opole	operating
5	2061	Białystok	operating	73	0612	Opole (lubelskie province)	non-operating
6	2402	Bielsko-Biała	operating	74	1461	city of Ostrołęka	operating
7	2461	city of Bielsko-Biała	operating	75	2607	Ostrowiec Świętokrzyski	operating
8	0602	Biłgoraj	operating	76	3017	Ostrów Wielkopolski	operating
9	1202	Brzesko	operating	77	2815	Ostróda	operating
10	1021	Brzeziny	operating	78	1417	Otwock	operating
11	0662	city of Chełm	operating	79	0613	Parczew	operating
12	3001	Chodzież	operating	80	1418	Piaseczno	operating
13	3202	Choszczno	operating	81	3019	Piła	operating
14	2403	Cieszyn	operating	82	1010	Piotrków Trybunalski	operating
15	2404	Częstochowa	operating	83	2608	Pińczów	operating
16	1803	Dębica	operating	84	3020	Pleszew	non-operating
17	3203	Drawsko Pomorskie	non-operating	85	3211	Police	operating
18	0202	Dzierżoniów	operating	86	3021	Poznań	operating
19	1403	Garwolin	operating	87	1610	Prudnik	operating
20	0203	Głogów	operating	88	1421	Pruszków	operating
21	0801	Gorzów Wlkp.	operating	89	1422	Przasnysz	operating
22	0861	city of Gorzów Wielkopolski	operating	90	0614	Puławy	operating
23	3004	Gostyń	operating	91	3212	Pyrzyce	operating
24	0204	Góra	operating	92	1425	Radom	operating
25	1405	Grodzisk Mazowiecki	operating	93	0615	Radzyń Podlaski	operating
26	3205	Gryfice	operating	94	1013	Rawa Mazowiecka	operating
27	0605	Janów Lubelski	operating	95	1815	Ropczyce	operating
28	2467	city of Jastrzębie-Zdrój	operating	96	2472	city of Ruda Śląska	operating
29	0205	Jawor	operating	97	0412	Rypin	operating
30	0261	city of Jelenia Góra	operating	98	1816	Rzeszów	operating

No.	TERYT	Name	Status	No.	TERYT	Name	Status
31	2602	Jędrzejów	operating	99	1863	city of Rzeszów	operating
32	3007	Kalisz	operating	100	1464	city of Siedlce	operating
33	3207	Kamień Pomorski	operating	101	1426	Siedlce	non-operating
34	2603	Kazimierza Wielka	operating	102	2474	city of Siemianowice Śląskie	operating
35	2604	Kielce	operating	103	2010	Siemiatycze	operating
36	1604	Kluczbork	operating	104	1063	city of Skierniewice	non-operating
37	0208	Kłodzko	operating	105	1015	Skierniewice	operating
38	1806	Kolbuszowa	operating	106	0805	Słubice	operating
39	3009	Koło	operating	107	1818	Stalowa Wola	operating
40	2605	Końskie	operating	108	2612	Staszów	operating
41	3010	Konin	operating	109	0806	Strzelce Krajeńskie	operating
42	2206	Kościerzyna	operating	110	1819	Strzyżów	operating
43	1407	Kozienice	operating	111	0807	Sulęcín	operating
44	0606	Krasnystaw	operating	112	3024	Szamotuły	non-operating
45	1002	Kutno	operating	113	3215	Szczecinek	non-operating
46	1408	Legionowo	non-operating	114	2817	Szczytno	operating
47	0262	city of Legnica	operating	115	0218	Środa Wielkopolska	operating
48	1821	Lesko	operating	116	3263	city of Świnoujście	operating
49	1809	Lubaczów	operating	117	1864	city of Tarnobrzeg	operating
50	2407	Lubliniec	operating	118	1820	Tarnobrzeg	operating
51	1810	Łańcut	operating	119	1217	Zakopane	operating
52	1003	Łask	operating	120	0463	city of Toruń	operating
53	0610	Łęczna	operating	121	3027	Turek	operating
54	3218	Łobez	operating	122	1218	Wadowice	operating
55	1410	Łosice	operating	123	1432	Ożarów Mazowiecki	non-operating
56	1005	Łowicz	operating	124	3028	Wągrowiec	operating
57	1811	Mielec	operating	125	2215	Wejherowo	operating
58	3014	Międzychód	operating	126	0464	city of Włocławek	operating
59	2408	Mikołów	operating	127	0619	Włodawa	operating
60	1412	Mińsk Mazowiecki	operating	128	3029	Wolsztyn	operating
61	2008	Mońki	operating	129	1434	Wołomin	operating
62	3210	Myślibórz	operating	130	3030	Września	operating
63	1606	Namysłów	operating	131	0812	Wschowa	operating
64	1414	Nowy Dwór Mazowiecki	operating	132	0620	Zamość	operating
65	2812	Nowe Miasto Lubawskie	operating	133	0226	Złotoryja	non-operating
66	3015	Nowy Tomyśl	non-operating	134	1436	Zwoleń	operating
67	1607	Nysa	operating	135	0811	Żary	operating
68	1608	Olesno	operating				

Since there have been many issues with using the district services, it was decided that a closer look will be given to all WMS included in the collective service of *EwidencjaKIIP* and that their availability and performance of functioning should be checked.

First, however, an important comment needs to be made on the collective service of *EwidencjaKIIP*, which in *GetCapabilities* request returns a rather poor section `<Abstract>`. The section contains only the record: `<Abstract> Integracja usług KIIP </Abstract>`. Such information is of no use to uninitiated users; thus, it hinders the effective and extensive use of the service. It would be better for the users if the record `<Abstract>` was modified at least to the following form:

“The Ewidencja KIIP” service is a collective service comprising presentation of cadastral data directly from the level of district units. The service only contains data of the units that have their own WMS of required parameters and incorporated their WMS into the ‘Ewidencja KIIP’ collective service.”

The analysis of district services started off with a general overview of them, with the focal point being verification whether given services can indeed be found under provided addresses. In the end, the analysis carried out on 22 May 2017, from 9:00 am to 11:00 am, showed that 12 of the 135 reported services were inactive, while in other several services various issues were encountered that prevented their use. It is natural then that the basic assessment criterion for the district WMS is its availability (functioning): to put it simply, if a service does not work it is impossible to assess its parameters.

With respect to the operating services, one can distinguish several detailed assessment criteria to compare them and then point to corrective actions that should be taken to improve the functioning of faulty services. Based on the author’s experience comprising frequent use of the district WMS as well as creation and supervision of functioning thereof, the following criteria were established to assess the district WMS:

1. availability of a service under a given address,
2. completeness of data presented by the service,
3. currency of data presented by the service,
4. compliance of presentation with the adopted standard,
5. performance.

The first criterion is indisputable and meeting it is the basis for any further research; to be able to assess a service it needs to be operating and have its own URL under which it can be found. It is important that the address is permanent since it is entered into configuration of the *EwidencjaKIIP* collective service; each time a reference indicates a given district the collective service will call the address (Figure 1). Another solution would be to make sure changing an address is easy for the providers on the district level. In this case, however, a service would have to be established where the providers of district services would need to notify of any changes in their address, while the staff of the organisation rendering the collective service available, upon receiving of such notification and having tested it in the district service for compliance with the expected parameters, would disable the old address and enable the new one.

Yet another solution would be automation of the process to enable the districts to reconfigure their services in the collection service on their own, but in this case the supervising organisation would have to share relevant software to test the new service parameters and to allow for changes to be introduced only if specific conditions have been fulfilled.

The issue of supervising the collective service is crucial in the functioning of any services which integrate data and distributed services; the issue needs to be treated seriously if we want the collective services to fulfil their roles and establish themselves in general applications.

3. Detailed research on the district WMS

Detailed research on the services set off with checking their availability. In consequence, it was found that 12 addresses are non-responsive. The services of the following districts were beset with problems: Drawsko Pomorskie, Legionowo, Nowy Tomyśl, Opatów, Opole, Pleszew, Siedlce, Szamotuły, Szczecinek, Ożarów Mazowiecki, Złotoryja, as well as the city of Skierniewice. The analysis result was taken into account in Table 2 with an entry *non-operating* for disabled services or *operating* for active services. The analysis result does not mean that the districts mentioned above do not share the WMS; it means that under the address reported to the collective service of *EwidencjaKIIP* no response was obtained at the moment of testing. This purports that the districts are not fully aware that once the WMS has been incorporated into the collective service one should take care of its proper functioning. The situation shows that the quality of the collective service is of little concern to the supervising organisation, namely CODGiK.

Next stage was about researching only 123 district services, namely they were tested in terms of completeness of presented data. As the result of the research the services were discovered which only partially cover the district area with land parcels; a sample of this is presented in Figure 3 based on the data from the Kielce district.

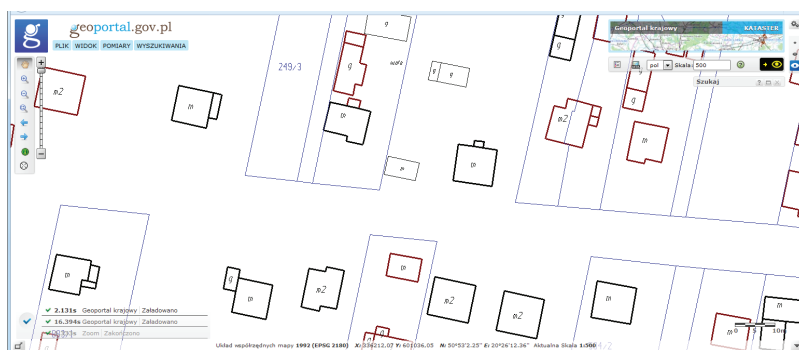


Fig. 3. Sample of the WMS with incomplete data

The first reaction to this piece of information is the conclusion that such services should not be part of the collective service as they may create confusion. Unfortunately, such situations stem from the lack of adequate quality of data in the entire district; this is impossible to correct overnight. In the author's opinion, districts should be appreciated for publishing even fractional data rather than waiting for obtaining correct data for the whole of the district, while making attempts at successive expansion of the area covered by the published data. In other words, fractional data are more useful than no data at all. However, in such cases, it seems worthwhile to emphasise that the service in a district is incomplete in terms of data and correct the presentation method so that the user is aware that the data he or she obtains are not complete. At the time of the analysis, there were 20 districts which published incomplete cadastral data. The results are presented in the summary Table 3 with the entries of "+" or "-" in *Completeness* column.

Next, the published WMS data were verified in terms of their compatibility with the adopted standard, developed in 2007 by the Team for National Spatial Data Infrastructure. As a result of the actions taken it was confirmed that nearly all services are compliant with the adopted standard as far as their presentation is concerned; also, the cases of deviances are so marginal that they are not worth discussing.

One should mention here, however, that adequate information is missing in the *<Service>* section of the XML file returned for *GetCapabilities* requests sent to district authorities. In the opinion of the author, this section should contain at least basic information about the service related with the *<Abstract>* tag used to place a short description of the service, and with the *<ContactInformation>* tag used to place such contact information as *<ContactOrganization>*, *<ContactAddress>*, *<ContactElectronicMailAddress>* or *<ContactVoiceTelephone>*.

A positive example (Figure 4) comprises the WMS from the Mińsk Mazowiecki, Pruszków or Wołomin districts, which have the information discussed above, although the Description section (*<Abstract>* tag) could use more information.

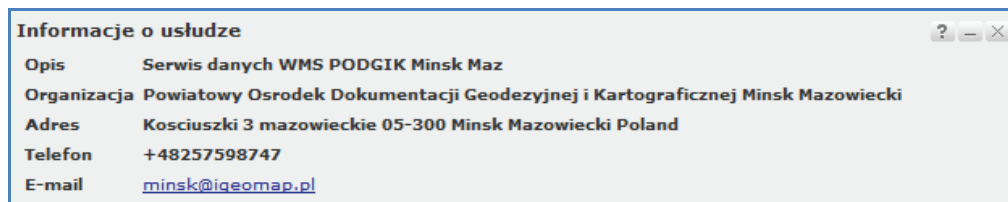


Fig. 4. An example of information about the WMS from the Mińsk Mazowiecki district displayed on geoportal.gov.pl

The data currency criterion is not as easy to verify as the preceding criteria. This is due to the fact that one cannot derive the currency of the data source from the standard information returned in the WMS. One should bear in mind that the WMS is oftentimes based on replicas of data bases of various currency, for different reasons

such as security or organisation. Information about currency is very much needed to assess usefulness of the service, therefore one should add to the values returned by *GetCapabilities* a section *ExtendedCapabilities* (Figure 5) which is recommended in the specifications for INSPIRE browsing service (Inspire, 2011) and modify it after every data update on which the service relies, by filling out at least the *<DateOfLastRevision>* box.

```

- <inspire_vs:ExtendedCapabilities>
+ <inspire_common:ResourceLocator><inspire_common:ResourceLocator>
  <inspire_common:ResourceType>service</inspire_common:ResourceType>
- <inspire_common:TemporalReference>
  <inspire_common:DateOfLastRevision>2017-05-15</inspire_common:DateOfLastRevision>
  <inspire_common:TemporalReference>
+ <inspire_common:Conformity><inspire_common:Conformity>
+ <inspire_common:MetadataPointOfContact><inspire_common:MetadataPointOfContact>
  <inspire_common:MetadataDate>2017-05-15</inspire_common:MetadataDate>
  <inspire_common:SpatialDataServiceType>view</inspire_common:SpatialDataServiceType>
+ <inspire_common:MandatoryKeyword xsi:type="inspire_common:classificationOfSpatialDataService"><inspire_common:MandatoryKeyword>
+ <inspire_common:SupportedLanguages><inspire_common:SupportedLanguages>
+ <inspire_common:ResponseLanguage><inspire_common:ResponseLanguage>
</inspire_vs:ExtendedCapabilities>

```

Fig. 5. Extended section in GetCapabilities (Mińsk Mazowiecki district)

The existence of such an extension is particularly important for monitoring the way the services function as it offers a possibility to inquire the district services about the date of the recent data update and take proper action if the data is not updated at all. At this point the *ExtendedCapabilities* section can only be found in the services provided by the Geo-System Sp. z o. o. Company.

The last stage of the tests was verification of service performance, which was performed by making 10 *GetMap* requests to each service with alternating areas. The best response times were 0.1 second, but some services offered response only after several seconds. The most (10) points were awarded to the fastest services, with respectively fewer points being assigned to slower services. The scores were placed in Table 3 in the *Performance* column.

Table 3. A list of districts included in the EwidencjaKIIP service

No.	TERYT	Unit name	Completeness	Performance	No.	TERYT	Unit name	Completeness	Performance	No.	TERYT	Unit name	Completeness	Performance
1	0401	Aleksandrów Kujawski	+	3	4223	1407	Kozienice	+	3	83	3212	Pyrzyce	+	9
2	1001	Belchatów	-	4	43	0606	Krasnystaw	+	10	84	1425	Radom	+	7
3	0661	city of Biała Podlaska	+	9	44	1002	Kutno	+	1	85	0615	Radzyń Podlaski	+	8
4	1401	Białobrzegi	+	4	45	1821	Lesko	-	4	86	1013	Rawa Mazowiecka	+	4
5	2061	Białystok	+	2	46	1809	Lubaczów	-	9	87	1815	Ropczyce	-	7
6	2402	Bielsko-Biała	+	9	47	2407	Lubimiec	+	8	88	2472	city of Ruda Śląska	+	7
7	2461	city of Bielsko-Biała	+	10	48	1810	Łańcut	+	9	89	0412	Rypin	+	7
8	0602	Biłgoraj	-	8	49	1003	Łask	+	4	90	1816	Rzeszów	+	8
9	1202	Brzesko	+	1	50	0610	Łęczna	+	8	91	1863	city of Rzeszów	+	3
10	1021	Brzeziny	+	8	51	3218	Lobez	+	9	92	1464	city of Siedlce	+	7
11	0662	city of Chełm	+	10	52	1410	Łosice	+	6	93	1426	Siedlce	+	1
12	3001	Chodzież	+	9	53	1005	Łowicz	+	4	94	2474	city of Siemianowice Śląskie	+	8
13	3202	Choszczno	+	10	54	1811	Mielec	+	6	95	2010	Siemiatyże	-	1
14	2403	Cieszyn	+	3	55	3014	Międzybórz	+	4	96	1063	city of Skiermiewice	+	0
15	2404	Częstochowa	+	8	56	2408	Mikołów	+	4	97	1015	Skiermiewice	+	8
16	1803	Dębica	-	8	57	1412	Mińsk Mazowiecki	+	10	98	0805	Stubice	+	4
17	0202	Dzierżoniów	+	10	58	2008	Monki	-	4	99	1818	Stalowa Wola	-	8
18	1403	Garwolin	+	10	59	3210	Myslibórz	+	7	100	2612	Staszów	-	1
19	0203	Głogów	+	4	60	1414	Nowy Dwór Mazowiecki	+	8	101	0806	Strzelce Krajeńskie	+	4

20	0801	Gorzów Wlkp.	+	8	61	2812	Nowe Miasto Lubawskie	+	4	102	1819	Strzyżów	+	4
21	0861	city of Gorzów Wielkopolski	+	9	62	1607	Nysa	+	10	103	0807	Sulęcim	+	3
22	3004	Gostyń	+	10	63	1608	Olesno	+	10	104	2817	Szczytno	+	7
23	0204	Góra	+	3	64	2814	Olsztyń	+	4	105	0218	Środa Wielkopolska	+	1
24	1405	Grodzisk Mazowiecki	+	8	65	1007	Opoczno	+	4	106	3263	city of Świnoujście	+	10
25	3205	Gryfice	+	10	66	1661	city of Opole	+	9	107	1864	city of Tarnobrzeg	+	5
26	0605	Janów Lubelski	-	3	67	1461	city of Ostrołęka	+	5	108	1820	Tarnobrzeg	+	6
27	2467	city of Jastrzębie-Zdrój	+	4	68	2607	Ostrowiec Świętokrzyski	-	3	109	1217	Zakopane	+	3
28	0205	Jawor	+	8	69	3017	Ostrów Wielkopolski	-	10	110	0463	city of Toruń	+	8
29	0261	city of Jelenia Góra	+	9	70	2815	Ostróda	+	4	111	3027	Turek	+	8
30	2602	Jędrzejów	+	3	71	1417	Otwock	+	10	112	1218	Wadowice	+	1
31	3007	Kalisz	+	4	72	0613	Parczew	+	3	113	3028	Wągrowiec	+	10
32	3207	Kamień Pomorski	+	9	73	1418	Piaseczno	+	9	114	2215	Wejherowo	+	10
33	2603	Kazimierza Wielka	-	2	74	3019	Piła	+	10	115	0464	city of Włocławek	+	8
34	2604	Kielce	-	3	75	1010	Piotrków Trybunalski	+	4	116	0619	Włodawa	+	10
35	1604	Kluczbork	+	9	76	2608	Pińczów	+	7	117	3029	Wolsztyn	+	8
36	0208	Kłodzko	+	10	77	3211	Police	+	9	118	1434	Wołomin	+	2
37	1806	Kolbuszowa	-	5	78	3021	Poznań	+	9	119	3030	Września	+	9
38	3009	Koło	+	8	79	1610	Prudnik	+	9	120	0812	Wschowa	+	5
39	2605	Końskie	-	4	80	1421	Pruszków	+	10	121	0620	Zamość	+	4
40	3010	Konin	+	3	81	1422	Przasnysz	+	5	122	1436	Zwoleń	+	8
41	2206	Kościerzyna	+	4	82	0614	Puławy	+	8	123	0811	Żary	+	4

4. Conclusions

Summarising the performed tests, one can conclude that the *EwidencjaKIIP* collective service is currently made up of only 123 district services, while 17 of them are based on incomplete cadastral data. Spatial distribution of all the districts WMS functioning within the *EwidencjaKIIP* is presented in Figure 6.

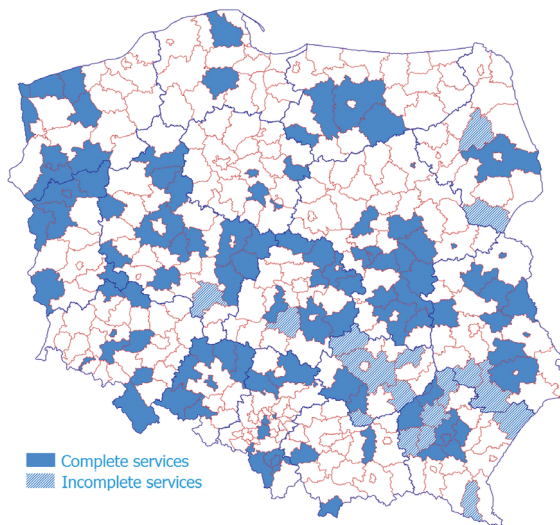


Fig. 6. Map of districts that are part of the *EwidencjaKIIP* services

Based on the analysis, at least three conclusions can be made in relation to the functioning of the collective service:

1. Despite the span of 10 years since the standard was developed and the first services were published, the collective service today contains only 33% of all districts. More intensive actions should be taken so that one does not have to wait another 20 years for all district services.
2. When it comes to the operating services, monitoring of their operation should be in place so that proper measures are taken when problems occur.
3. Most services in the collective service work well, but in the case of the services which scored less than 5 points changing of the server or improving transfer parameters should be considered.

The revealed status of the *EwidencjaKIIP* indicates that data need to be supplemented in the districts where they are incomplete, and that the WMS needs to be launched in the districts that have no such services. Knowing the current status of availability of the district WMS, one can say that the condition of the collective service can be quickly improved by incorporating into it many services that are available but, for some reason, are not part of the collective service. An in-depth

analysis could be carried out on this, but the most important cause is that frequently districts are not aware of the collective service functioning; it would be advisable to raise their awareness and, at the same time, obtain useful information about the launched services. Actions like that should be taken as fast as possible since the dominant WMS with respect to land parcel data is the service based on cadastral data from the land-parcel identification system LPIS, namely http://mapy.geoportal.gov.pl/wss/service/pub/guest/G2_GO_WMS/MapServer/WMServer Sadly, the service in question contains many errors, which is illustrated by a piece of data from the Mińsk Mazowiecki district in Figure 7.

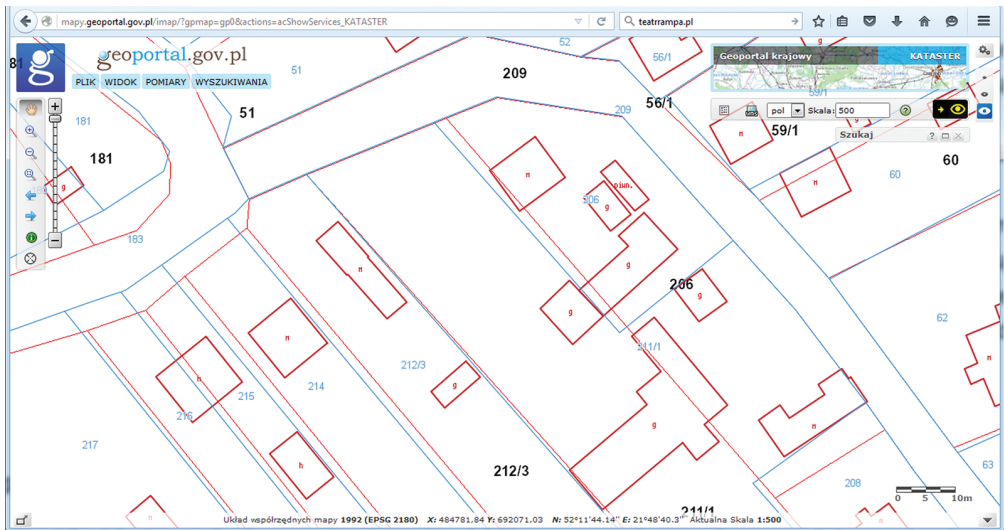


Fig. 7. An example of discrepancies between the so-called cadastral data and the data derived directly from the district

That such state of affairs continues is beyond comprehension; the district in question has had the WMS available since 2007, containing up-to-date cadastral data, and has requested multiple times that GUGiK should disable the publication of erroneous data. Similar efforts have been made by other districts as well, but GUGiK, for reasons best known to themselves, has not removed the incorrect data, thereby intentionally misleading the users of the WMS containing cadastral type data and the users of the geoportal.gov.pl portal, the layer of which, “Cadastral type data”, is based on the same invalid LPIS data.

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