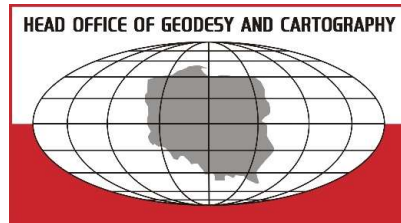


OPEN GEOSPATIAL DATA - EXPERIENCE FROM POLAND

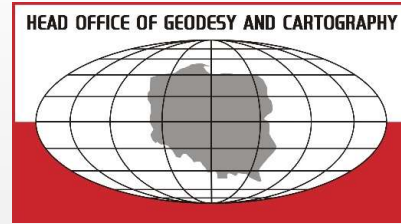


HEAD OFFICE OF GEODESY AND CARTOGRAPHY

Anna Bober, gugik@gugik.gov.pl

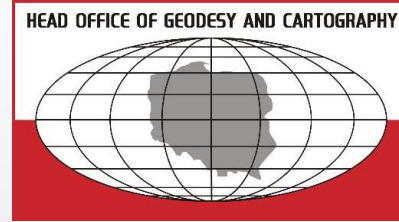
Sustainable Open Data Business Models for NMCAs, 3th February 2022

AGENDA



- 1. LAW REGULATIONS**
- 2. OPEN GEOSPATIAL DATA IN POLAND**
- 3. WEB SERVICES & GEOPORTAL.GOV.PL**
- 4. BENEFITS OF OPEN DATA**

LAW REGULATIONS



31/07/2020

**amendment of the
Polish Geodetic and Cartographic Law:**
most important datasets (6)

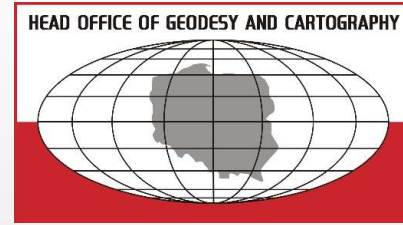
24/06/2020

COVID regulations:
orthophotomaps, geodetic control networks

05/06/2014

first open data:
boundaries, geographical names, general geographic data,
DEM 100

OPEN DATA



THE BIGGEST DATASETS:

- ✓ ORTHOPHOTOMAPS
- ✓ LIDAR DATA
- ✓ DEM
- ✓ DSM

83 TB

4 500 000 files

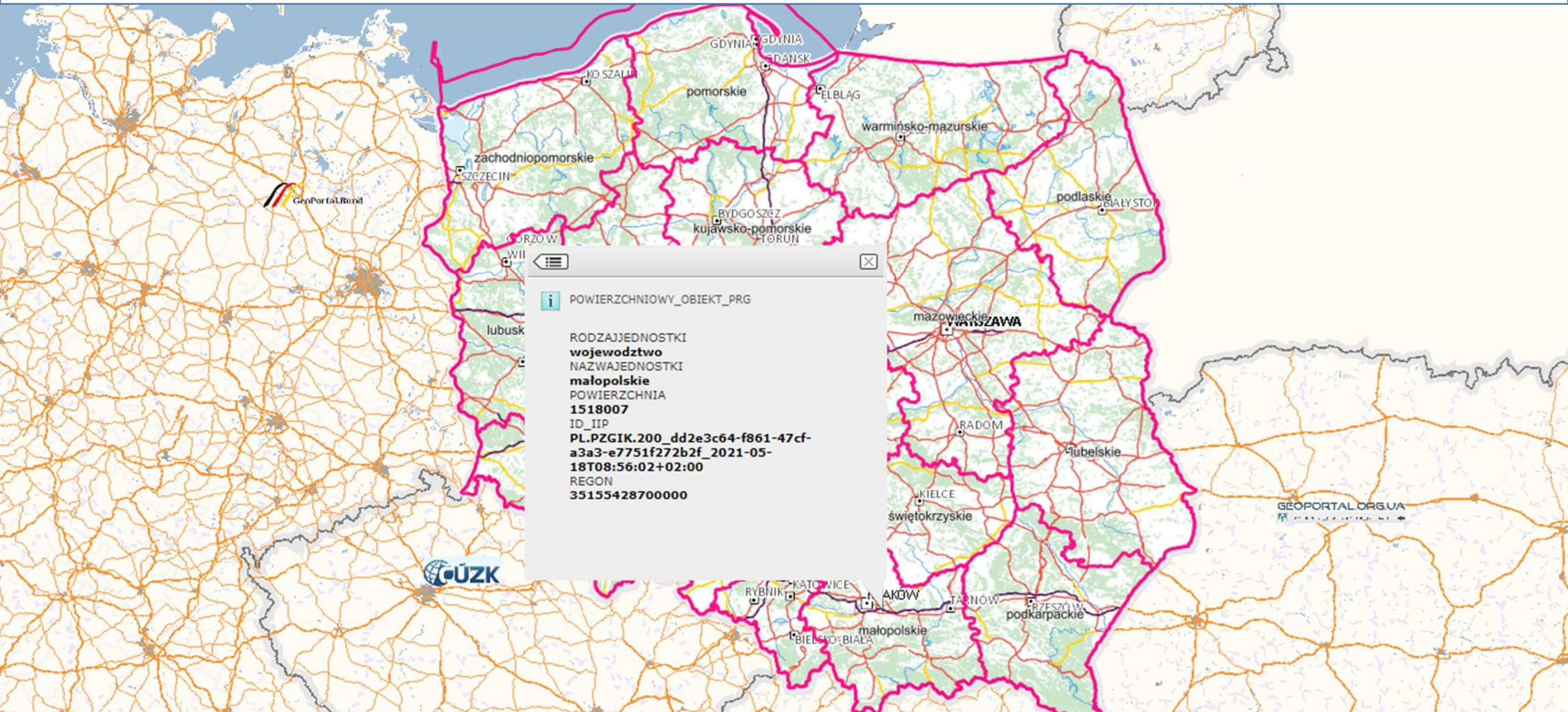
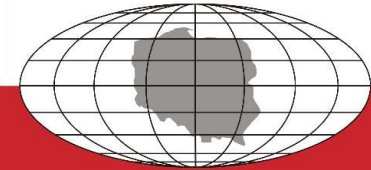
**2021 - 10 000 000 users,
605 TB downloaded data**

**2020 – 7 500 000 users,
317 TB downloaded data**

OPEN DATA: 05/06/2014

NATIONAL REGISTER OF BOUNDARIES

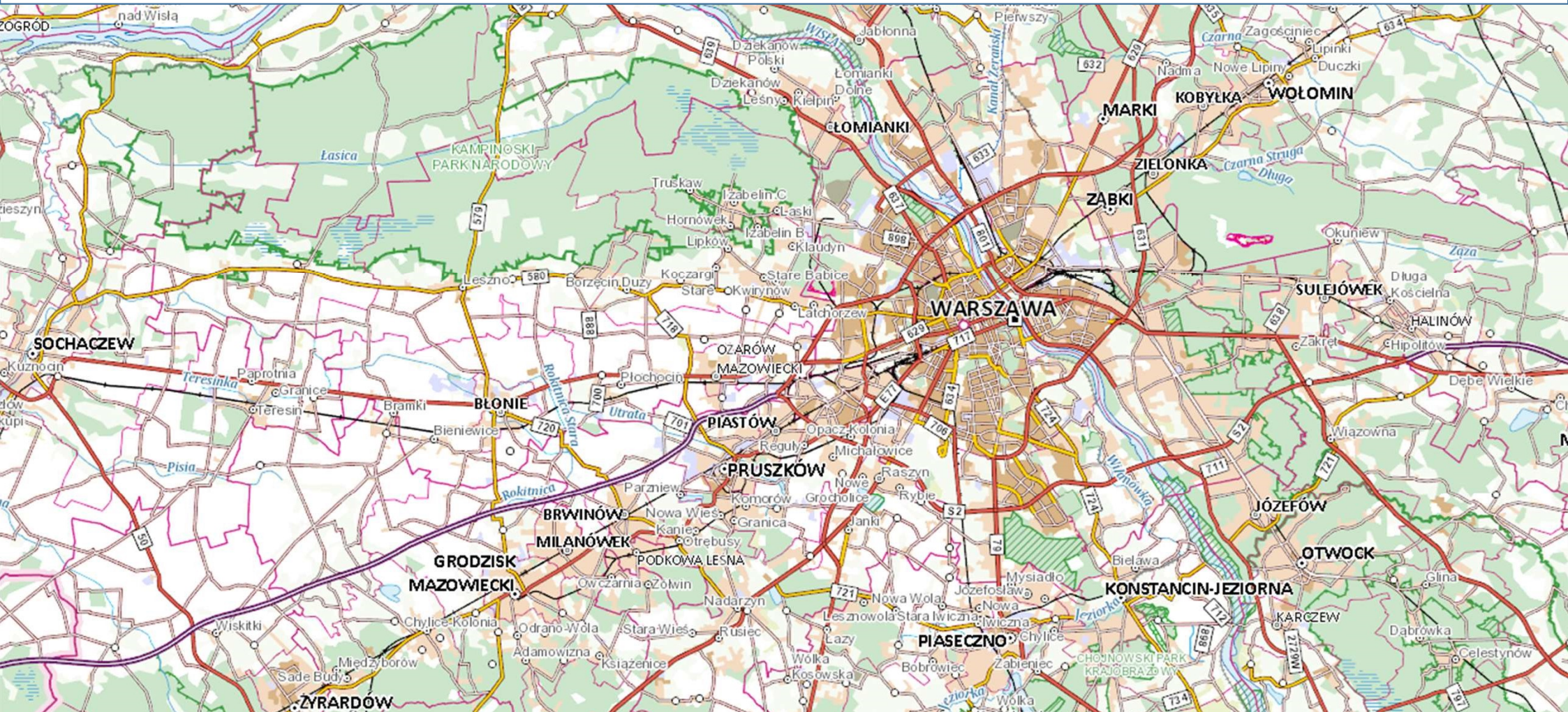
HEAD OFFICE OF GEODESY AND CARTOGRAPHY



OPEN DATA: 05/06/2014

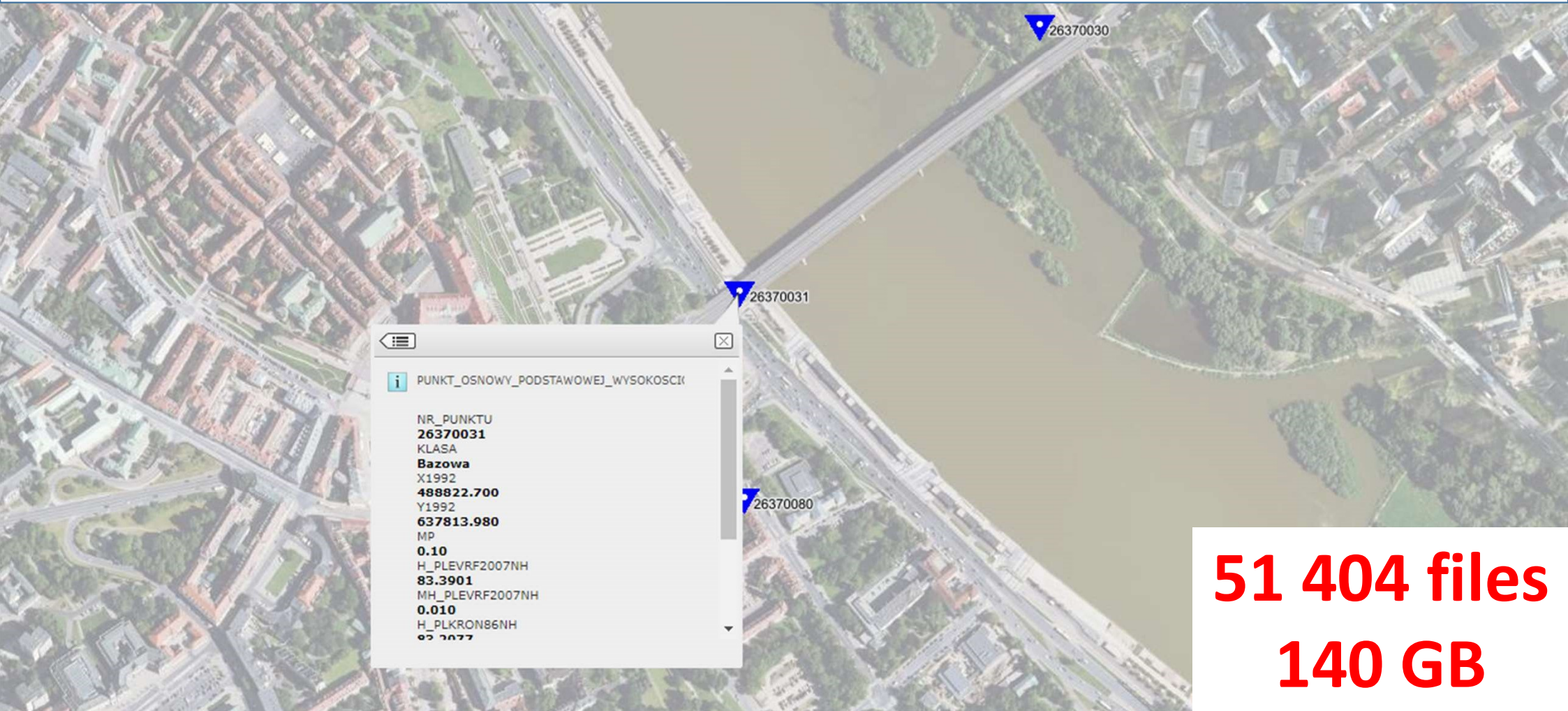
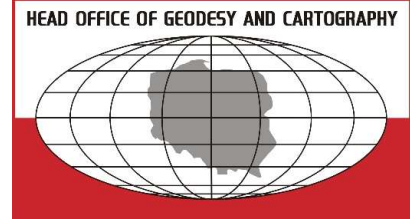
GEOGRAPHIC DATA 1:250 000 (BDOO)

HEAD OFFICE OF GEODESY AND CARTOGRAPHY



OPEN DATA: 24/06/2020

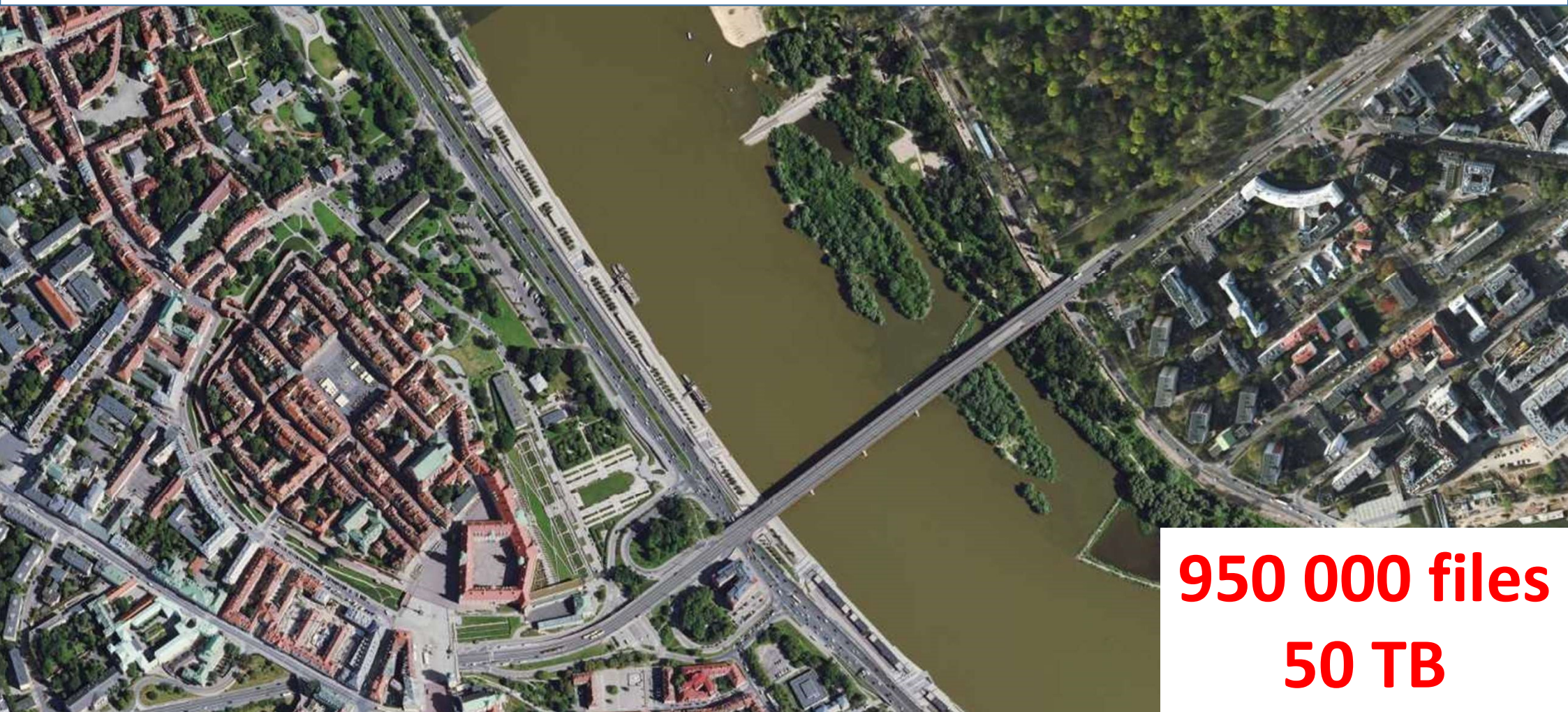
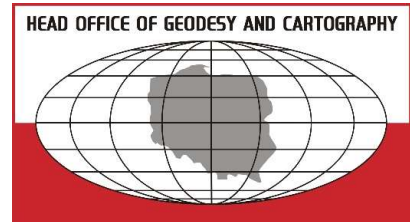
GEODETTIC CONTROL NETWORKS



51 404 files
140 GB

OPEN DATA: 24/06/2020

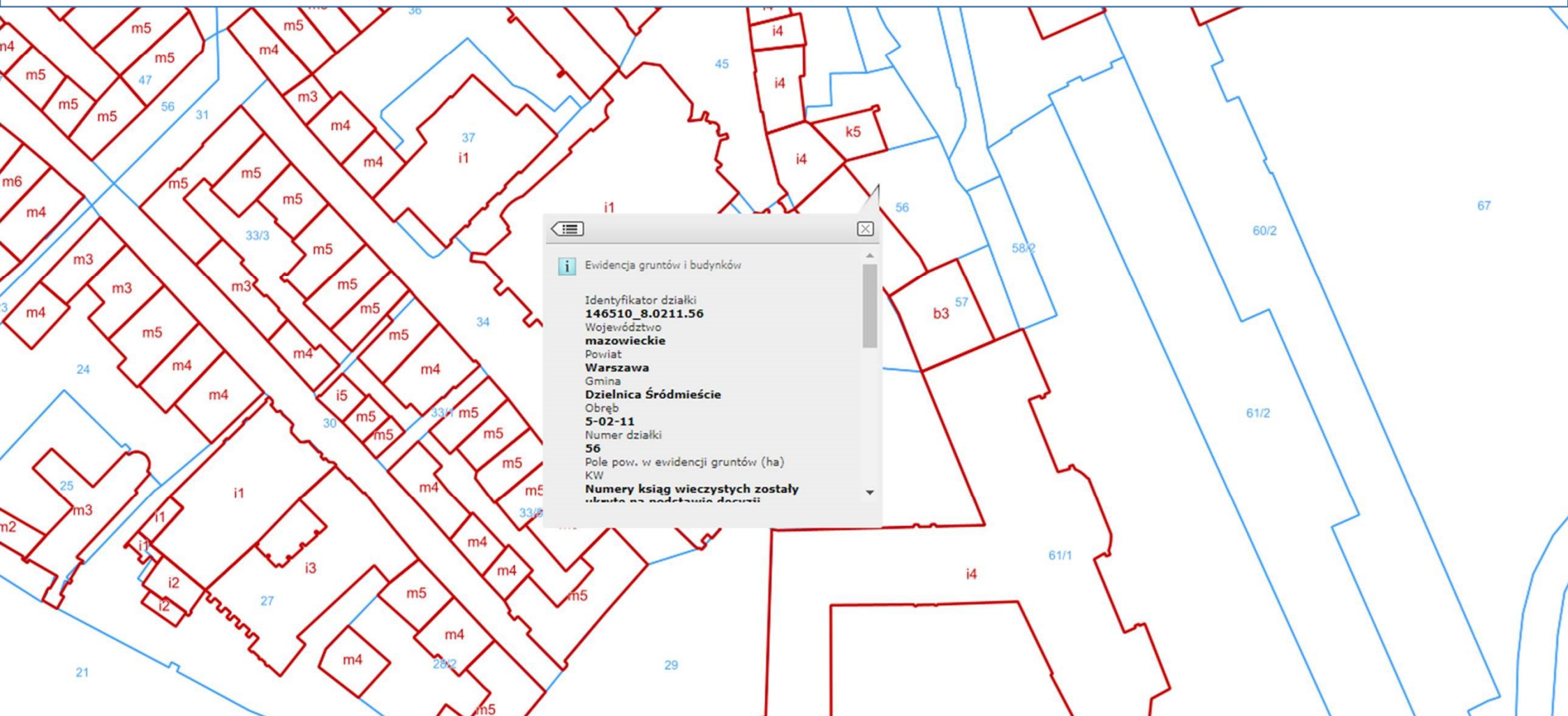
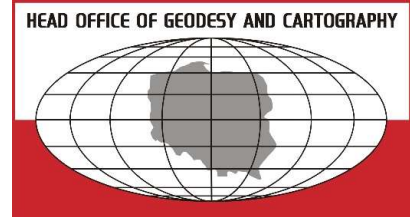
ORTOPHOTOMAPS



950 000 files
50 TB

OPEN DATA: 31/07/2021

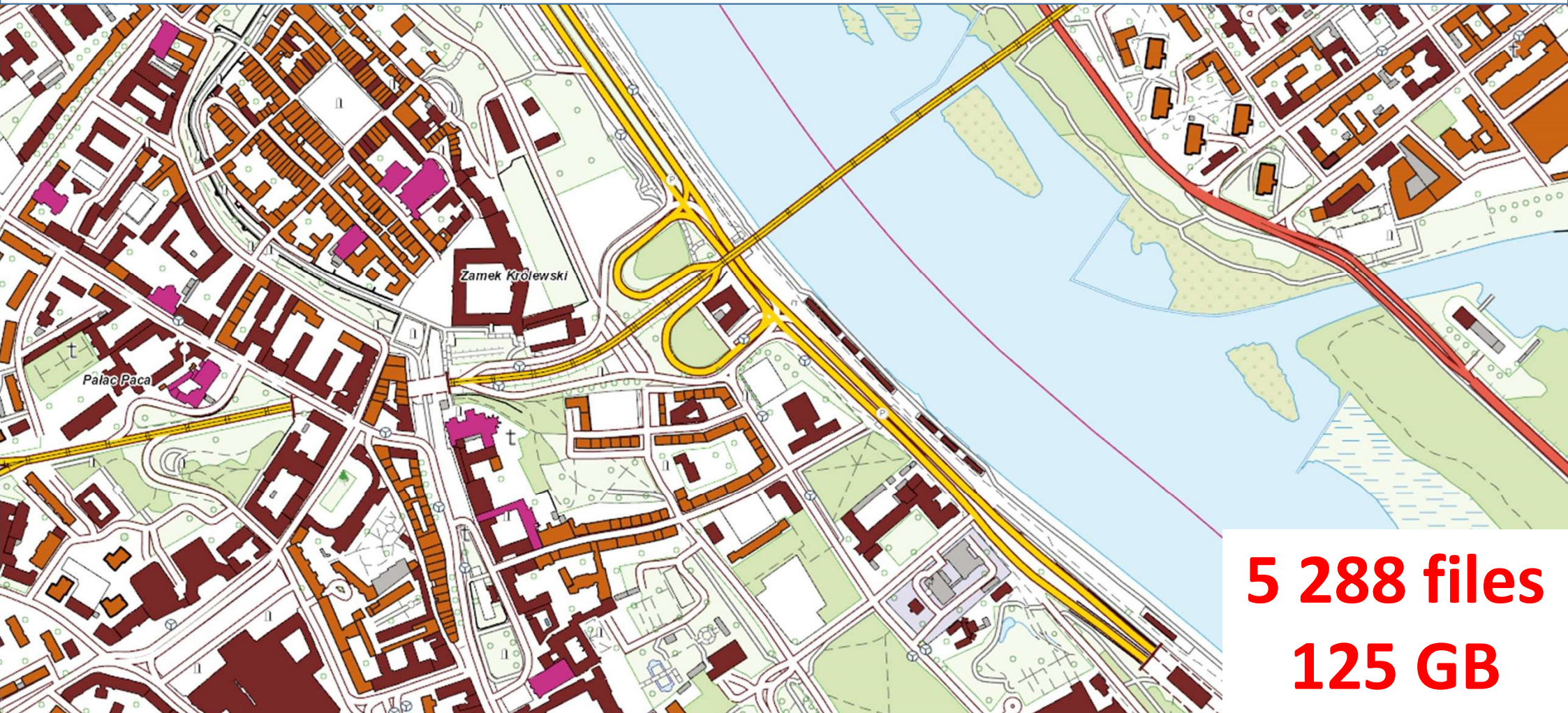
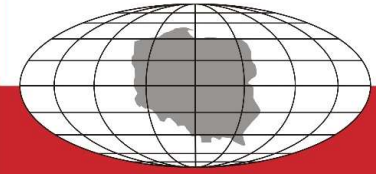
BASIC DATA ON PARCELS & BUILDINGS



OPEN DATA: 31/07/2021

TOPOGRAPHIC DATA (BDOT10K)

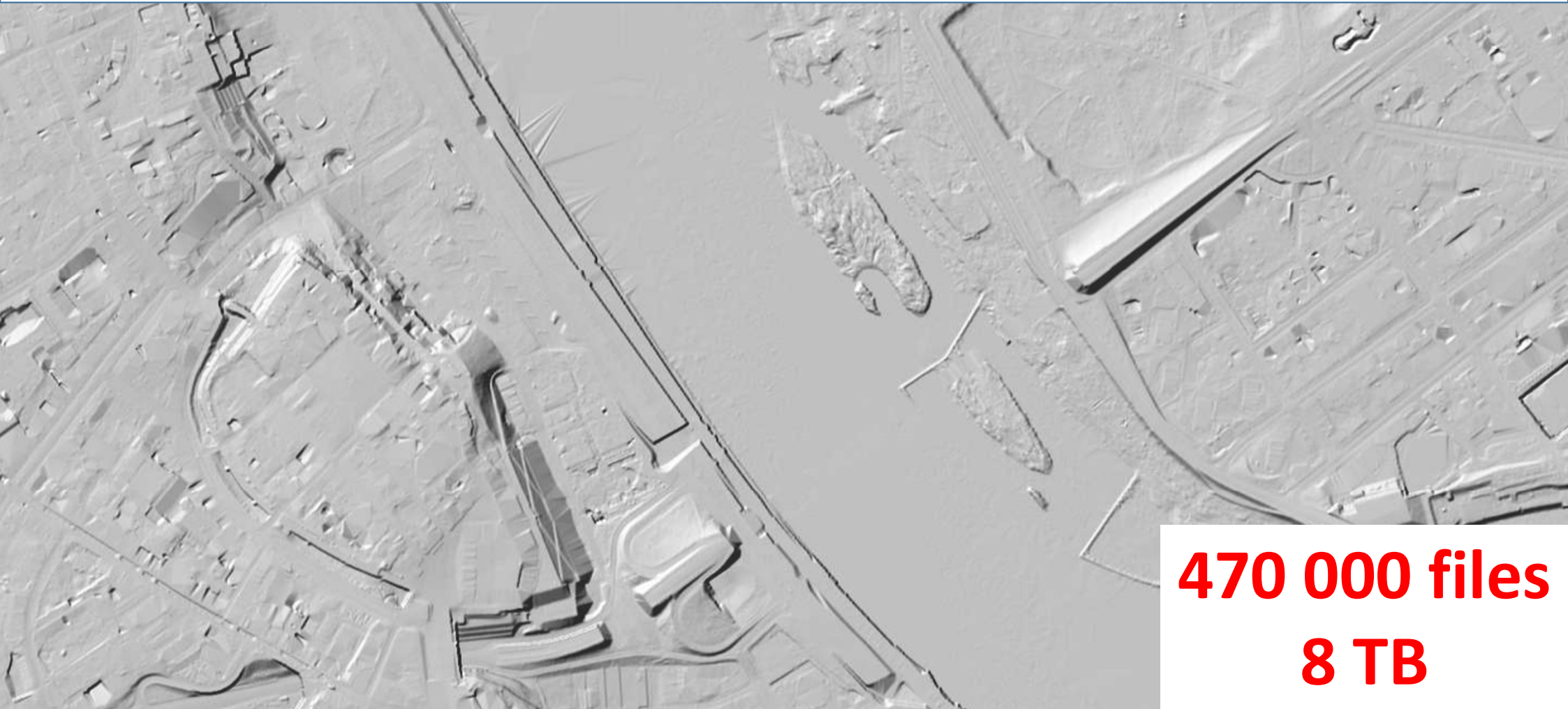
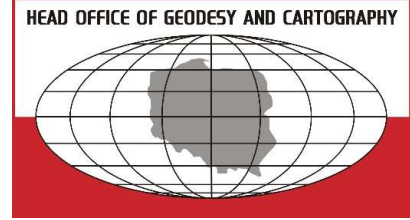
HEAD OFFICE OF GEODESY AND CARTOGRAPHY



5 288 files
125 GB

OPEN DATA: 31/07/2021

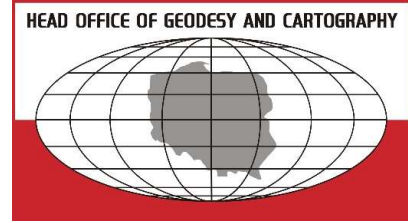
DIGITAL ELEVATION MODEL (DEM)



470 000 files
8 TB

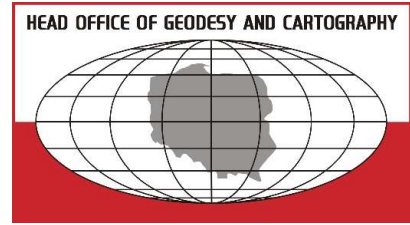
OPEN DATA: 31/07/2021

DIGITAL SURFACE MODEL (DSM)



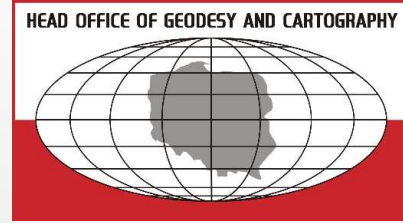
150 000 files
4 TB

OPEN DATA: 31/07/2021
LIDAR DATA (ALS)



400 000 files
20 TB

SOLUTIONS

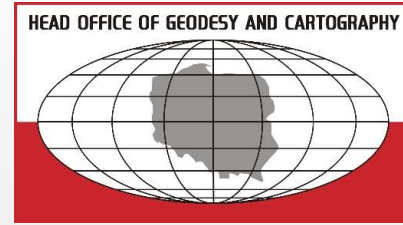


OPEN DATA

OPEN SOLUTIONS

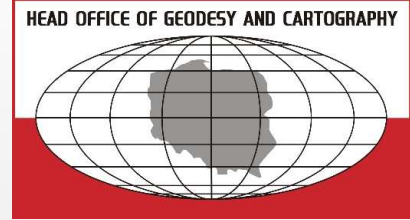


HOW TO DOWNLOAD?



- 1. SERVICES WMS/WMTS, WFS, WCS, ATOM**
- 2. GEOPORTAL.GOV.PL**
- 3. QGIS PLUG-IN („Pobieracz Danych GUGIK”)**
- 4. COMMERCIAL SOLUTIONS (SAFE, ESRI,...)**

SERVICES



WMS/WMTS
ABOVE 50

Elements of the basic map and spatial development

Topographic data

Service type	Service name	Show in geoportal	Service URL
WMS	Topographic data		
WMS	Topographic data		
WMTS	Topographic Objects Database (BDOT10k)		<input type="button" value="Copy URL"/>
			<input type="button" value="Copy URL"/>
			<input type="button" value="Copy URL"/>

Orthophotomap

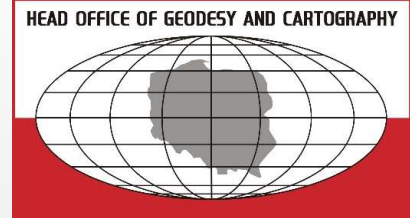
Service type	Service name	Show in geoportal	Service URL
WMTS	Orthophotomap		
WMS	Orthophotomap		
WMTS	High resolution		
WMS	High resolution		
WMS	Archival orthop		

Digital Terrain Model

Service type	Service name	Show in geoportal	Service URL
WMTS	Hillshade		<input type="button" value="Copy URL"/>
WMS	Hillshade		<input type="button" value="Copy URL"/>
WMTS	Hipsometry		<input type="button" value="Copy URL"/>
WMS	Hipsometry		<input type="button" value="Copy URL"/>
WMTS	Hillshade and hipsometry		<input type="button" value="Copy URL"/>

<https://www.geoportal.gov.pl/uslugi/usluga-przegladania-wms>

SERVICES



**WFS
13 SERVICES**

Administrative boundaries

Service type	Service name
WFS	National Regi

National Register of Geog

Service type	Service name
WFS	National Regi

Geodetic network

Service type	Service name
WFS	Control

Photopoints

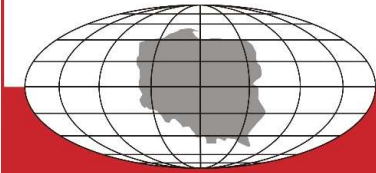
Service type	Service name
WFS	Photopoints

Indexes to download data

Service type	Service name and parameters	Data sample	Service URL
WFS	Orthoimagery Indexes		<input type="button" value="Copy URL"/>
WFS	True ortho Indexes		<input type="button" value="Copy URL"/>
WFS	Aerial images Indexes - aerial photos		<input type="button" value="Copy URL"/>
WFS	LIDAR Indexes (PL-KRON86-NH)		<input type="button" value="Copy URL"/>
WFS	LIDAR Indexes (PL-EVRF2007-NH)		<input type="button" value="Copy URL"/>
WFS	DTM Indexes (PL-KRON86-NH)		<input type="button" value="Copy URL"/>
WFS	DTM Indexes (PL-EVRF2007-NH)		<input type="button" value="Copy URL"/>
WFS	DSM Indexes (PL-KRON86-NH)		<input type="button" value="Copy URL"/>
WFS	DSM Indexes (PL-EVRF2007-NH)		<input type="button" value="Copy URL"/>

<https://www.geoportal.gov.pl/uslugi/usluga-pobierania-wfs>

SERVICES



 Orthoimagery

Service type	Service name and parameters	Data sample	Service URL
 WCS	Orthoimagery		<input type="button" value="Copy URL"/>
 WCS	High Resolution Orthoimagery		<input type="button" value="Copy URL"/>

 Digital Terrain Model

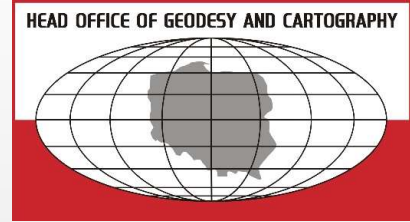
Service type	Service name and parameters	Data sample	Service URL
 WCS	Digital Terrain Model - Arc/Info ASCII Grid		<input type="button" value="Copy URL"/>
 WCS	Digital Terrain Model - GeoTIFF		<input type="button" value="Copy URL"/>

 Digital Surface Model

Service type	Service name and parameters	Data sample	Service URL
 WCS	Digital Surface Model - Arc/Info ASCII Grid		<input type="button" value="Copy URL"/>

<https://www.geoportal.gov.pl/uslugi/usluga-sieciowa-wcs>

SERVICES



Topographic data

Service type	Service name	Service URL
ATOM	BDO	
ATOM	BDOT10k -	
ATOM	BDOT1i	
ATOM	BDOT1	
ATOM	BDOT10	
ATOM	BDOT	
ATOM	BDOT10k -	
ATOM	BDOT1i	
ATOM	BDOT	
ATOM	BDOT	
ATOM	BDOT1i	
ATOM	BDOi	
ATOM	BDC	
ATOM	BDO	
ATOM	BDOT10k -	
ATOM	BDOT10k - doinośląskie	Copy URL

Administrative boundaries

Service type	Service name	Service URL
ATOM	National Register of Borders - Territorial Units	Copy URL

General geographic data

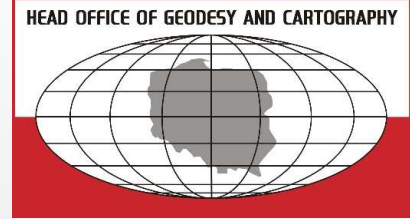
Service type	Service name	Service URL
ATOM	Database of General Geographical Objects (BDOO 2021)	Copy URL
ATOM	Database of General Geographical Objects (BDOO 2015)	Copy URL
ATOM	National Register of Geographical Names	Copy URL

Digital Terrain Model

Service type	Service name	Service URL
ATOM	Digital Terrain Model	Copy URL

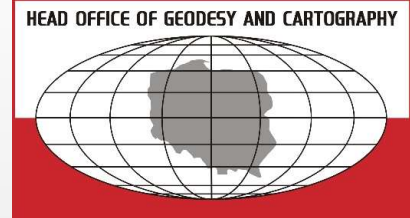
<https://www.geoportal.gov.pl/usluga-pobierania-atom>

GEOPORTAL.GOV.PL



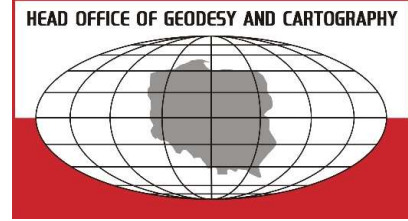
The screenshot shows the geoportal.gov.pl interface. The main map displays a detailed view of Warsaw, including districts like MURANOW, POWAZKI, and PRAGA. A sidebar on the left contains navigation tools. A central pop-up window titled "Dane do pobrania BDOT10k" lists two download options: "Krajowa paczka danych - GML" and "Krajowa paczka danych - SHP", both highlighted with red boxes and labeled with a circled '2'. A red arrow points from these options to a circled '3' with the text "LINKS TO DOWNLOAD". On the right, the "Map contents" panel is visible, showing a list of data layers. The "BDOT data" layer is checked and highlighted with a circled '1'. The "National Register of Boundaries" layer is also visible at the bottom of the list.

GEOPORTAL.GOV.PL



The screenshot displays the geoportal.gov.pl interface. At the top, the navigation menu includes 'FILE', 'VIEW', 'ANALYSIS', 'DOWNLOAD DATA', and 'SEARCHES'. A red box labeled '1' highlights the 'DOWNLOAD DATA' section, which contains two buttons: 'Pobierz dane z usługi WCS' and 'Pobierz dane z usługi WFS'. On the right side, a panel for the 'GROCHÓW' area shows a 'Pobierz dane z usługi WCS' button (labeled '2'), a 'Usługa WCS' dropdown menu, and a 'Wybierz warstwę' dropdown menu currently set to 'Orthoimagery_High_Resolution'. Below these are two buttons: 'Rysuj obs...' (labeled '3') and 'Pobierz plik' (labeled '4'). In the bottom-left corner, a window titled 'HighResolution.tif - Przeglądarka fotografii systemu Windows' (labeled '5') displays a high-resolution aerial photograph of a city area. The main map shows various districts of Warsaw, including Nowe Miasto, Stare Miasto, Praga, and Saska Keпа. The bottom of the page displays map coordinates and a scale of 1:25000.

GEOPORTAL.GOV.PL



The screenshot displays the Geoportal.gov.pl website interface. The browser address bar shows the URL: `mapy.geoportal.gov.pl/imap/lmgp_2.html?startwg=wgOvMap&gui=new&gmpmap=gp0&bbox=-305547,14465328946,76353.39937346535,1339106,1446532896,842588.2651765303&SRS=2180&acti...`

The main interface includes a navigation menu with the following items:

- FILE
- VIEW
- ANALYSIS
- DOWNLOAD DATA
- SEARCHES (1)

The search results for "Orthoimagery sheets" are displayed in a central panel (3):

TAK

Moduł archiwizacji
1:2000

Źródło danych
Zdj. cyfrowe

Kolor
RGB

Numer zgłoszenia pracy
DFT.7201.001.2022

Adres url do pobrania arkusza
<https://opendata.geoportal.gov.pl/ortofot/>

Godło
7.170.20.00

The search results for "Orthoimagery sheets" are displayed in a right-hand panel (2):

Orthoimagery sheets

Orthoimagery sheets
All

Sheets
All

Godło arkusza mapy / nazwa pliku:

Nie starsze niż (rok):
2021

Sheets
do 5 cm włącznie

Use map extent

Search

Godło Clear

7.170.20.09, Rok 2021, Piksel 0.05 m.

7.170.20.10, Rok 2021, Piksel 0.05 m.

7.170.21.06, Rok 2021, Piksel 0.05 m.

7.170.21.07, Rok 2021, Piksel 0.05 m.

7.170.21.08, Rok 2021, Piksel 0.05 m.

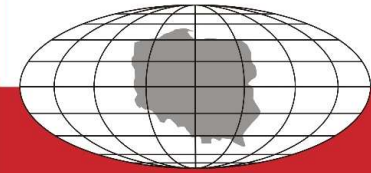
7.170.21.09, Rok 2021, Piksel 0.05 m.

Map coordinate system 1992 (EPSG 2180) X: 471646.48 Y: 635116.34 N: 52°05'40.00" E: 20°58'22.86" Current scale 1:10000

Sustainable Open Data Business Models for NMCAs, 3th February 2022

GEOPORTAL.GOV.PL

HEAD OFFICE OF GEODESY AND CARTOGRAPHY



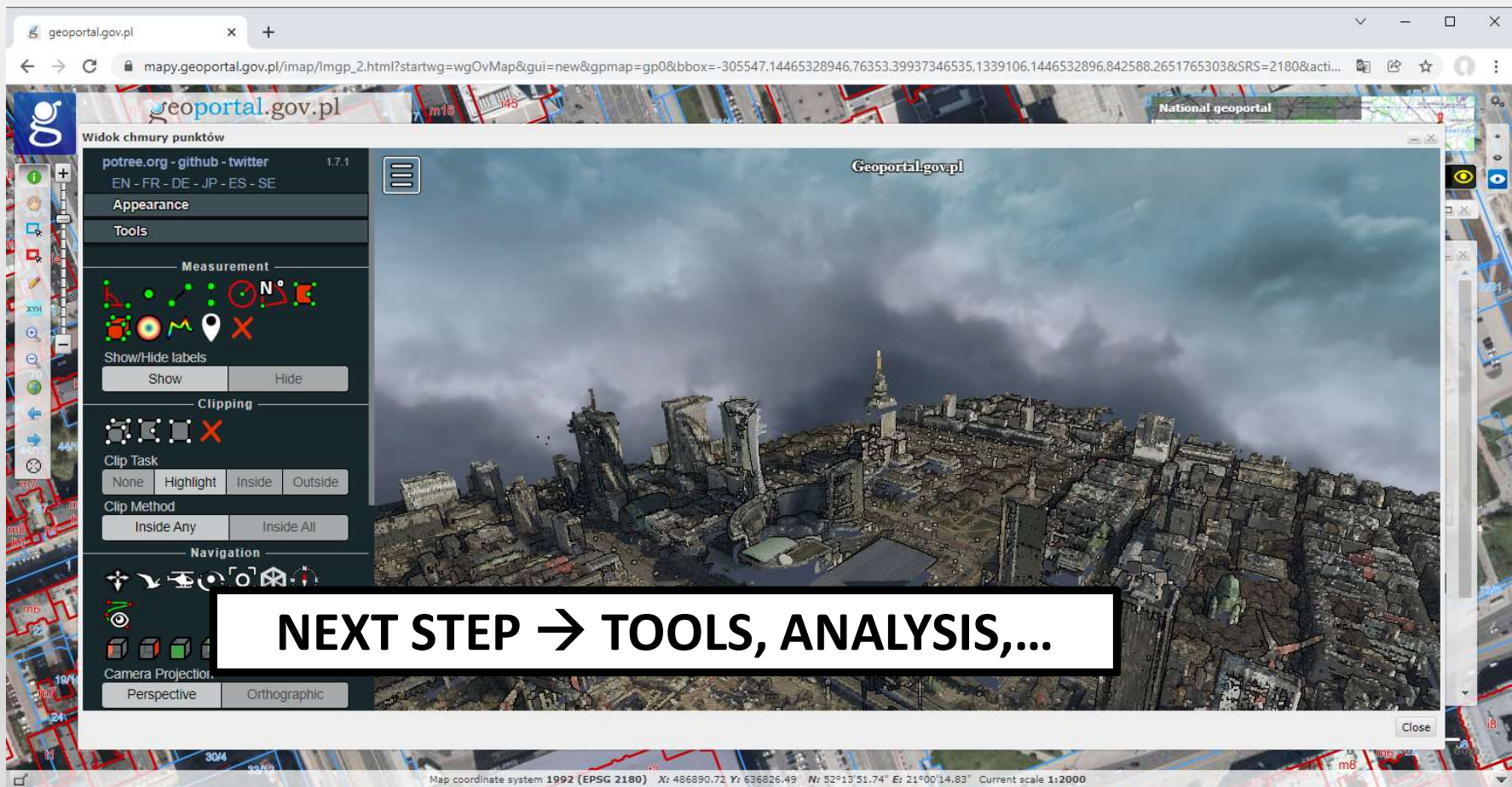
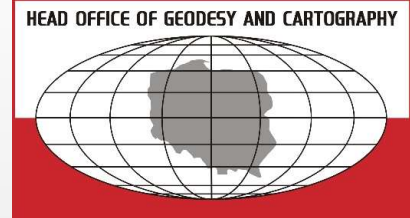
The screenshot displays the Geoportal.gov.pl interface. A 3D terrain model is shown with a red and green measurement line. A dropdown menu is open, listing various analysis tools: Measurements, DTM, BDOT10k, and Another. The 'Another' category is selected, showing options like Terrain profile, Landmass volume to plane, Volume of embarkment/excavation, Visibility along the line, and Surface visibility. On the right, a 'National geoportal' sidebar is visible, along with a 'Rysuj' button and a 'Model' section with radio buttons for NMT 1m, NMT 5m, NMT 100m, and NMPT 1m. Below this, a 'Linia referencyjna' section also has radio buttons for the same options. A profile graph shows elevation (78-96) vs. distance (0-1000). The graph shows a red area representing the terrain profile. Below the graph, the following data is displayed:

Parameter	Value	Unit
Długość	872,06	m
Długość odcinków w górę	456	m
Długość odcinków w dół		

At the bottom of the map, the coordinate system is noted as 1992 (EPSG 2180) with coordinates X: 488788.05, Y: 640162.89, N: 52°14'50.10", E: 21°03'13.47" and a current scale of 1:10000.

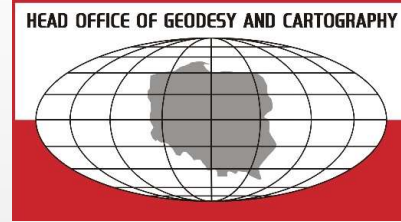
NEXT STEP → TOOLS, ANALYSIS,...

GEOPORTAL.GOV.PL

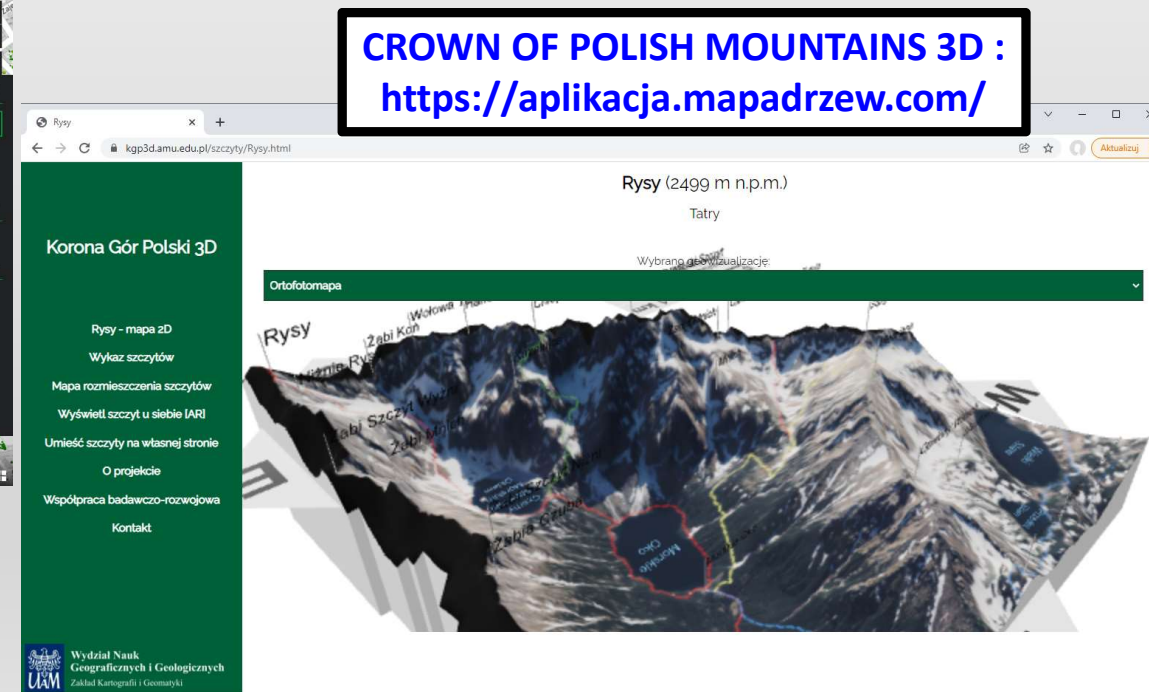
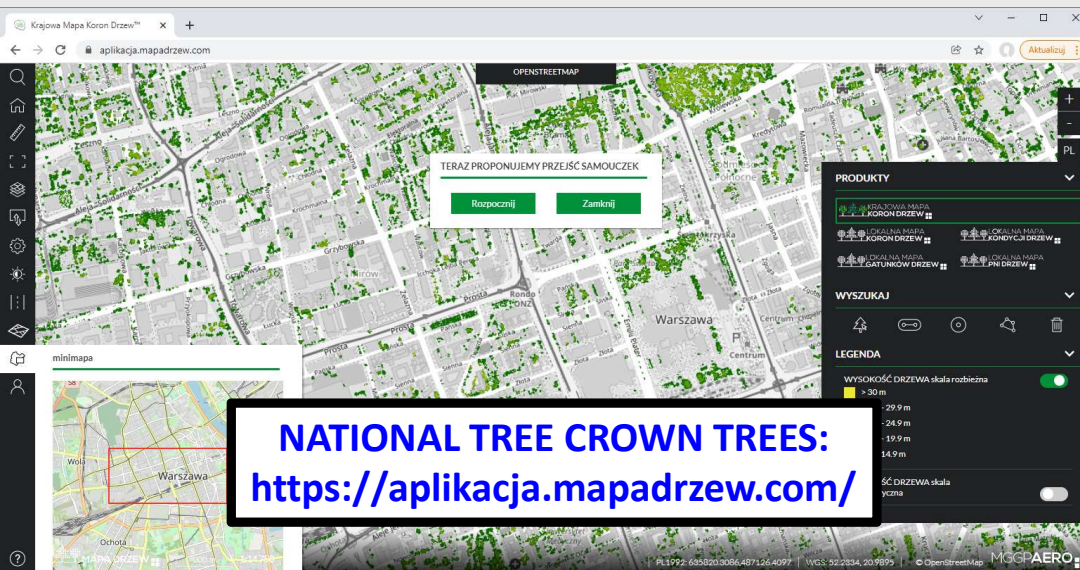


Sustainable Open Data Business Models for NMCAs, 3th February 2022

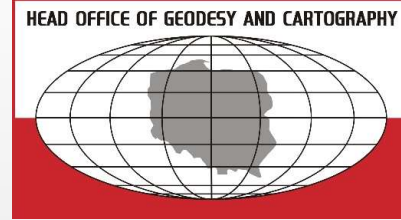
BENEFITS OF OPEN DATA



1. MORE ACTIVITIES / INITIATIVES, EXAMPLES:



BENEFITS OF OPEN DATA



2. ELIMINATES BUREAUCRACY IN GEODETIC ACTIVITIES

✓ Without license applications, supplementary declarations

✓ Reduces time needed to complete investment project

WNIOSEK O UDOSTĘPIENIE MATERIAŁÓW CENTRALNEGO ZASOBU GEODEZYJNEGO I KARTOGRAFICZNEGO¹

1. Imię i nazwisko/Nazwa wnioskodawcy

2. Adres miejsca zamieszkania/siedziby wnioskodawcy

3. Oznaczenie wniosku nadane przez wnioskodawcę*

4. Dane kontaktowe wnioskodawcy: numer telefonu/adres poczty elektronicznej*

5. Miejscowość i data

6. Adresat wniosku - nazwa i adres organu lub jednostki organizacyjnej, która w imieniu organu prowadzi państwowy zarząd geodezyjny i kartograficzny

7. Oznaczenie kancelaryjne wniosku nadane przez adresata wniosku

8. Przedmiot wniosku

1. Określenie materiałów z zasobu będących przedmiotem wniosku

Zbiór danych zintegrowanych kopii BDOT10k²

Standardowe opracowania kartograficzne: Mapa topograficzna³ Ortofotomapa⁴

Mapa ogólnogeograficzna⁵ Fotogrametryczne plany lotnicze⁶

Kartograficzne opracowania tematyczne, regionalne Fotopunkty⁷

lub niestandardowe opracowania topograficzne Numeryczny model terenu¹¹

Baza danych państwowego rejestru podstawowych punktów geodezyjnych⁸ Inne materiały¹²

Zbiór danych bazy K-GESUT⁷

9. Parametry charakteryzujące zakres uprawnień do przetwarzania materiałów z zasobu

dla potrzeb związanych z działalnością gospodarczą lub w celu publikacji opracowań kartograficznych - pochodnych materiałów z zasobu w sieci Internet zgodnie z poniższą tabelą

Wzrost punktu wysokości	Skala	Maksymalna liczba stron, na których mogą być przesłane w zasobie opracowania kartograficzne - pochodne materiałów z zasobu, o których mowa w ust. 4 pkt 2 załącznika do ustawy ¹³ z wyjątkiem publikacji w sieci Internet	Łączny maksymalny nakład drukowanych lub kopii elektronicznych materiałów z zasobu lub opracowań kartograficznych - pochodnych materiałów z zasobu, o których mowa w ust. 4 pkt 2 załącznika do ustawy ¹³ w przewidzianym na arkuszu formularza A4	Sposób publikacji w sieci Internet
<input type="checkbox"/> 1,1	10	10	500	Pojedynczo oraz statycznie o rozmiarze maksymalnym do 1 000 000 pikseli
<input type="checkbox"/> 1,2	100	100	2 000	
<input type="checkbox"/> 1,3	500	500	10 000	
<input type="checkbox"/> 1,4	1 000	1 000	10 000	Pojedynczo oraz statycznie o rozmiarze maksymalnym do 2 100 000 pikseli
<input type="checkbox"/> 1,7	10 000	10 000	50 000	
<input type="checkbox"/> 2,0	60 000	60 000	200 000	
<input type="checkbox"/> 2,5	200 000	200 000	500 000	
<input type="checkbox"/> 3,0	Bez ograniczeń	Bez ograniczeń	Bez ograniczeń	

10. Osoba wyznaczona do kontaktów ze strony wnioskodawcy

Imię, nazwisko: _____ e-mail: _____ telefon: _____

11. Forma przekazania i sposób odbioru materiałów

postać nieelektroniczna

postać elektroniczna

serwer FTP/e-mail

płyta CD/DVD

nośnik zewnętrzny wnioskodawcy

usługa sieciowa udostępniana

usługa¹⁴, o której mowa w ust. 20 załącznika do ustawy¹⁴

1 rok 6 miesięcy 3 miesiące

Sposób udostępnienia:

odbiór osobisty

wysyłka na adres:

jak w nagłówku

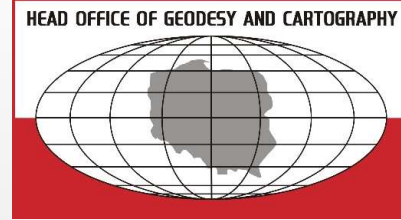
inny _____

e-mail: _____

serwer FTP: _____

12. Dodatkowe wyjaśnienia i uwagi wnioskodawcy

BENEFITS OF OPEN DATA



3. IMPROVES THE DATA CONTROL AND UPDATE PROCESS IN THE REGISTERS

The screenshot shows the geoportal.gov.pl website. On the left, a navigation menu includes options like 'Link to map composition', 'Link to mobile application', 'User map', 'Print', and 'Report an error'. The 'Report an error' option is highlighted with a red box. On the right, a 'Report an error' form is visible, also highlighted with a red box. The form includes fields for 'Request type' (set to 'Invalid data'), 'Request date' (2022-01-30 22:29:45), 'Request contents', 'First name', 'Last name', and 'E-mail address'. Below the form, there are 'Save' and 'Clear' buttons. The map in the background shows a network of roads and cities across Poland, with 'WARSAWA' clearly marked. A scale bar at the bottom right indicates 0, 50, and 100 km.

MORE USERS → BETTER VEIFICATION

THANK YOU!



HEAD OFFICE OF GEODESY AND CARTOGRAPHY

Anna Bober, gugik@gugik.gov.pl

Sustainable Open Data Business Models for NMCAs, 3th February 2022