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Database of Institute of Meteorology and Water Management – National Research Institute in the context of the INSPIRE Directive

Monika Oksiuta

Piotr Kozak

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Institute of Meteorology and Water Management – National Research Institute:

National Hydrological and Meteorological Service:

1. Measurement and Observation System
2. Data Transmission System
3. Data Processing System
4. Data and Product Distribution System

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Institute of Meteorology and Water Management – National Research Institute:

National Hydrological and Meteorological Service:

1. Measurement and Observation System

4. Data and Product Distribution System

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Measuring and Observation System:

a. Network of synoptic stations
b. Network of hydrological and meteorological stations
c. Weather Radar Network POLRAD
d. Lighting Detection and Location Network PERUN
e. Network of aerological stations
f. Satellite data reception station

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Synoptic stations

- 62 stations
  - 38 1st Order stations
  - 24 2nd Order stations

- 1st Order stations – full-time staff
- 2nd Order stations - no staff, only automatic apparatus

- round-the-clock measurements (1st and 2nd order) and observations (1st order) are routinely made at synoptic stations

- man-operated (1st order) and automatic apparatus (1st and 2nd order) is used, along with complementary visual observations (1st order).

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Basic measurement and observation programme:

- atmospheric pressure at meteorological site
- air temperature at 2 m above the ground
- air temperature at ground level
- air humidity
- wind speed and direction
- precipitation volume
- soil condition
- type of snow cover
- snow depth
- water equivalent of snow
- horizontal visibility
- duration of sunshine
- cloud cover
- types of clouds
- meteorological phenomena
- hydrometeors, lithometeors

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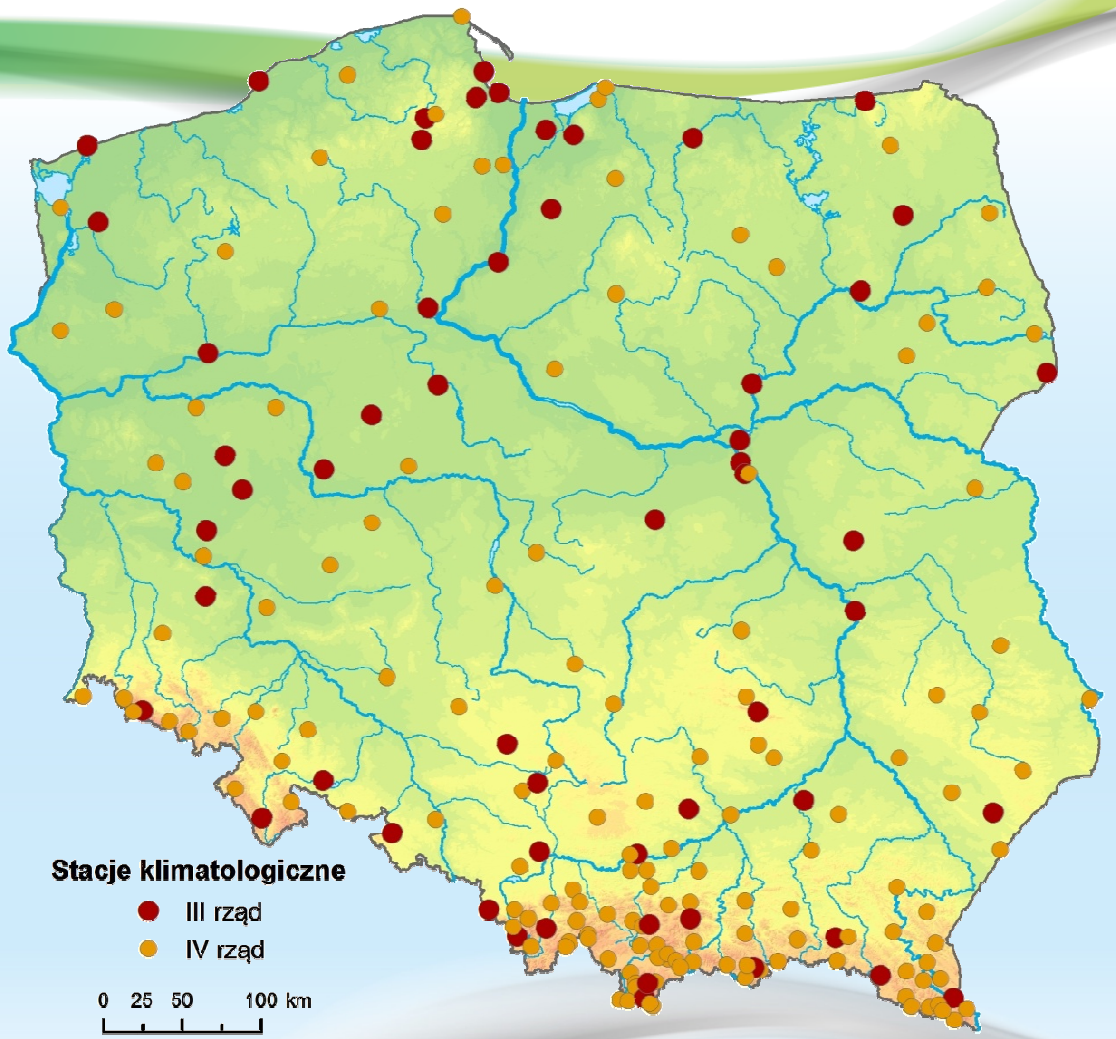
Climatological stations

- 200 stations
  - 56 3rd Order stations
  - 144 4th Order stations

- stations equipped with man-operated and/or automatic apparatus,
- data taken automatically and transmitted every hour:
  - air temperature at 2 m above the ground
  - air temperature at ground level
  - relative air humidity
  - wind speed and direction
  - precipitation volume



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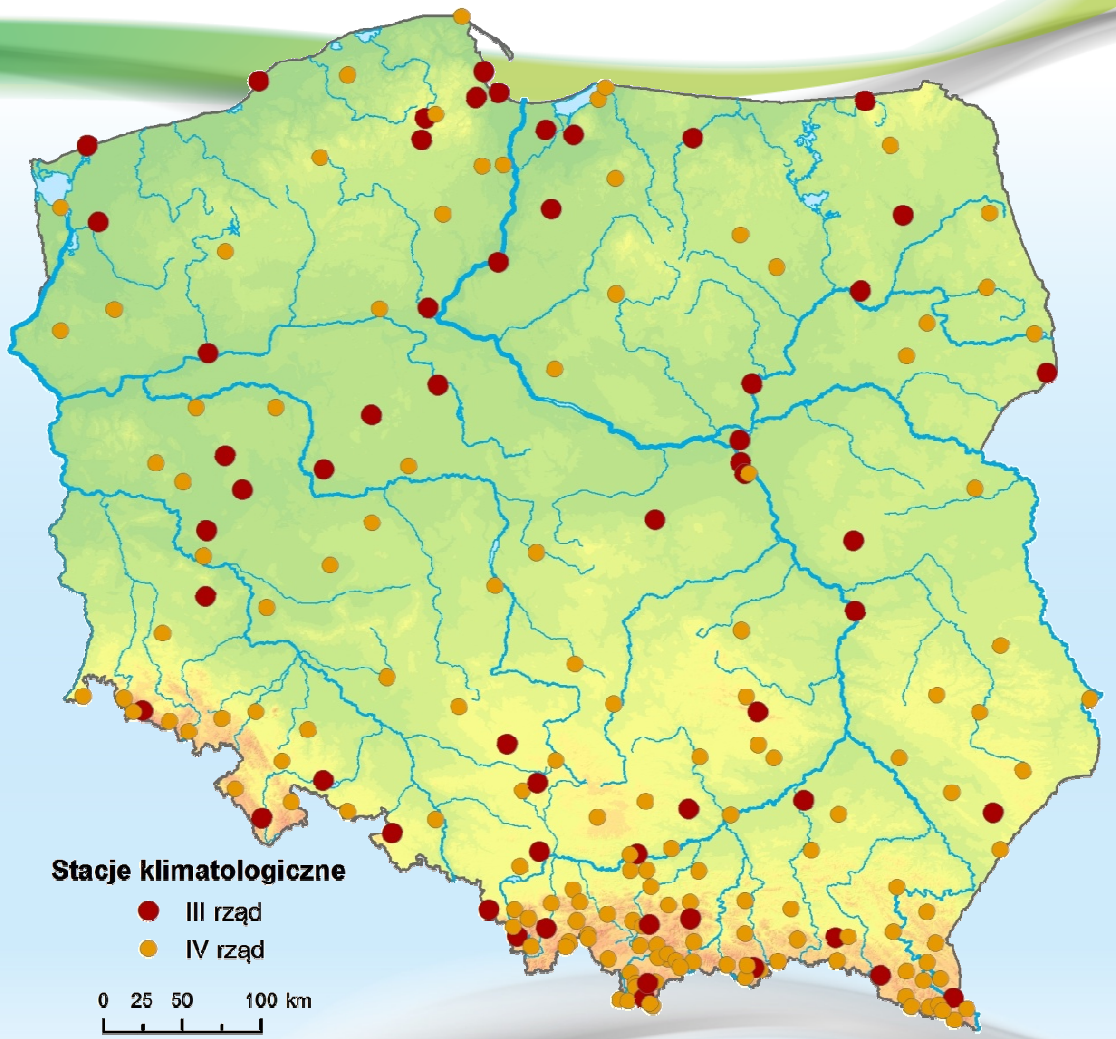
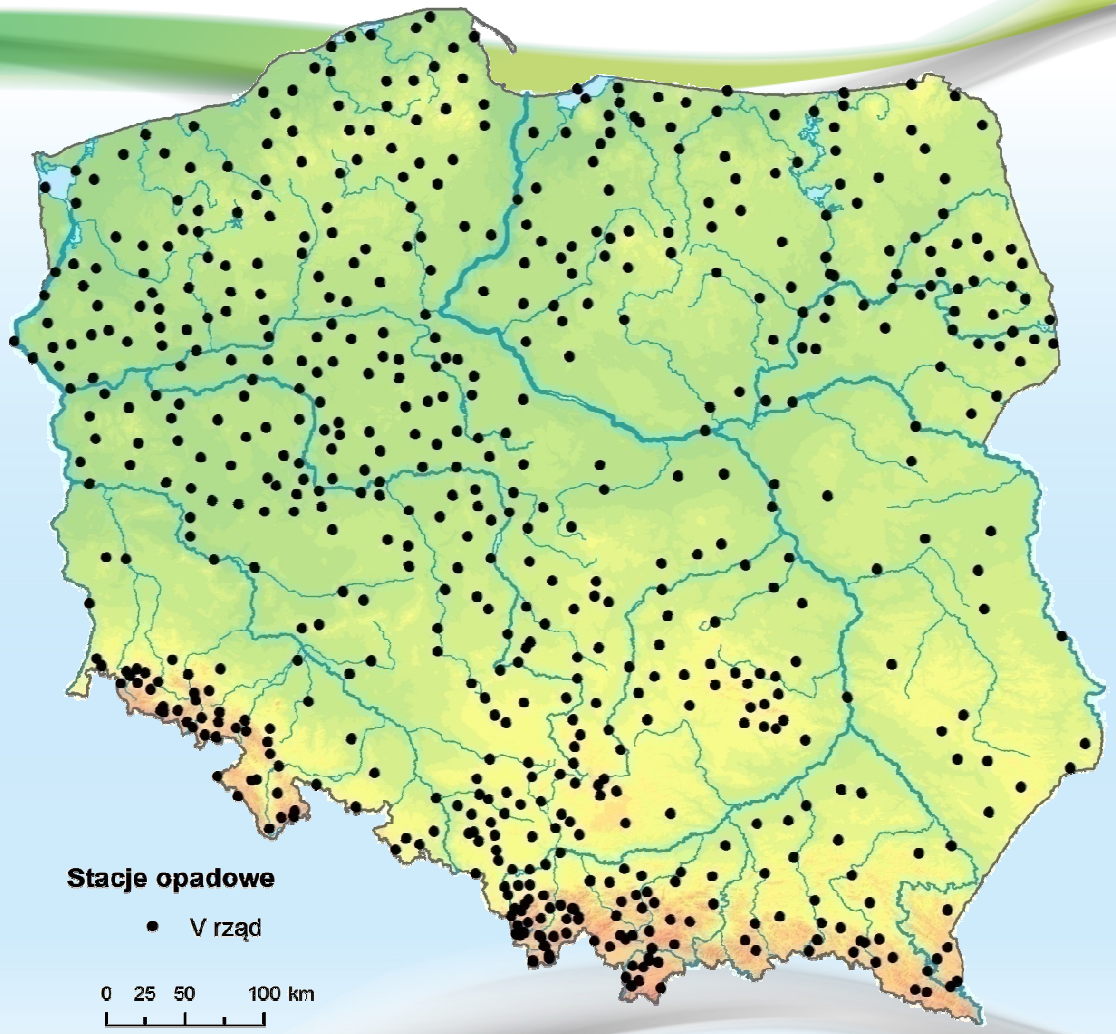
If there is contracted staff, 3 times a day (6, 12, 18 UTC) additional measurements can be taken:

- air temperature at 2 m above the ground
- air temperature at ground level
- air humidity
- wind speed and direction
- precipitation volume
- soil condition
- type of snow cover
- snow depth
- water equivalent of snow
- cloud cover
- meteorological phenomena
- complemetary visual observations go round the clock



Precipitation stations – 5th Order stations

627 stations
- man-operated or automatic apparatus,
- automatic: takes precipitation volume every hour,
- contracted staff: measurements and observations taken at 6 UTC :
  - precipitation volume,
  - snow cover depth,
  - type of snow
  - water equivalent of snow, if needed,
  - complementary visual observations go round the clock



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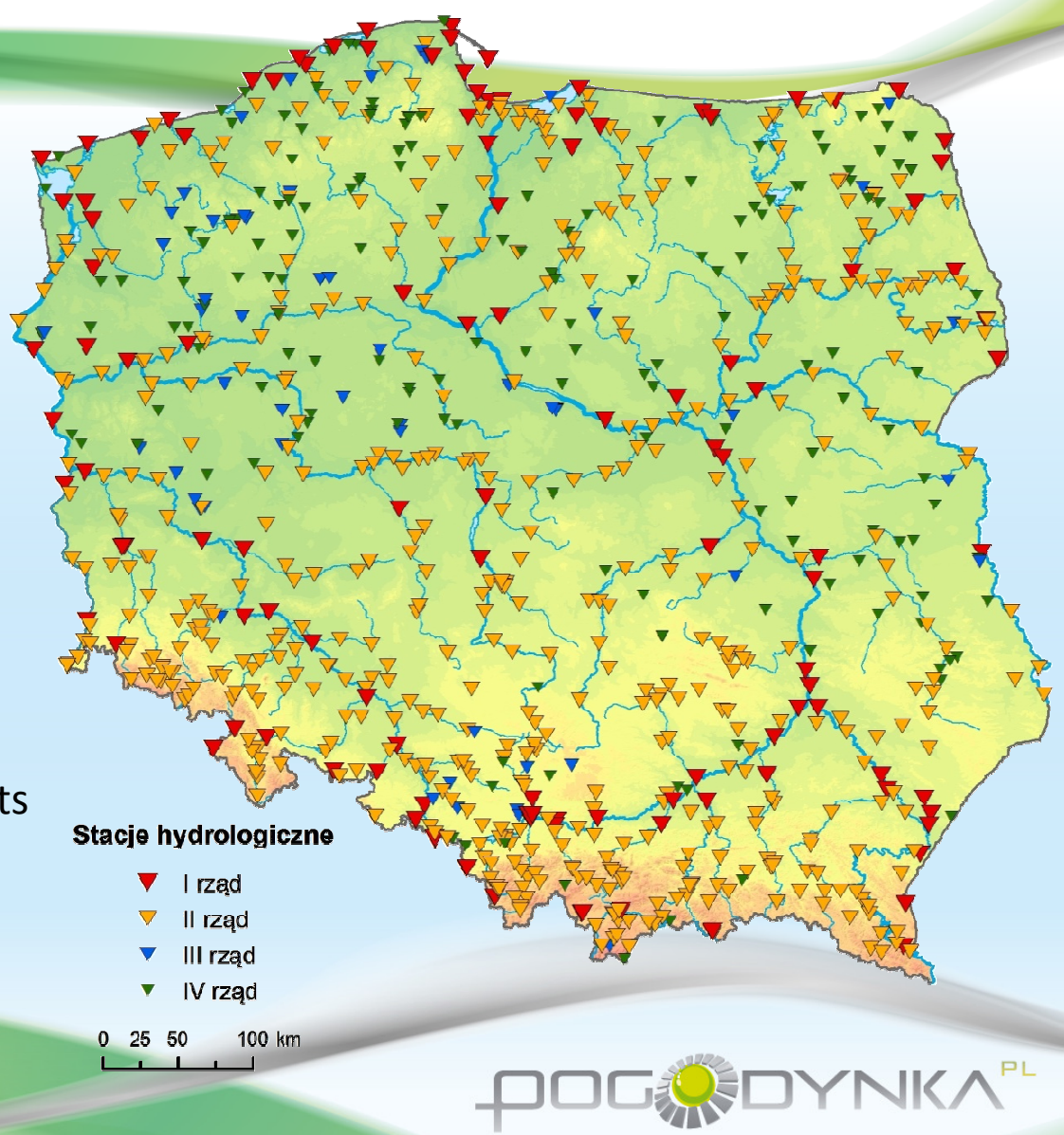
Water gauge sites

861 stations

- water level – hourly (automatically)
- if contracted staff – measurements and observations are routinely taken at 6 UTC, optionally at 12 UTC, 18 UTC

Contracted staff:
- water level,
- ice phenomena,
- ice cover thickness,
- river bed growing over with plants
- water temperature, if needed

- hydrometric measurements
- flow rate curve
- volume of discharge



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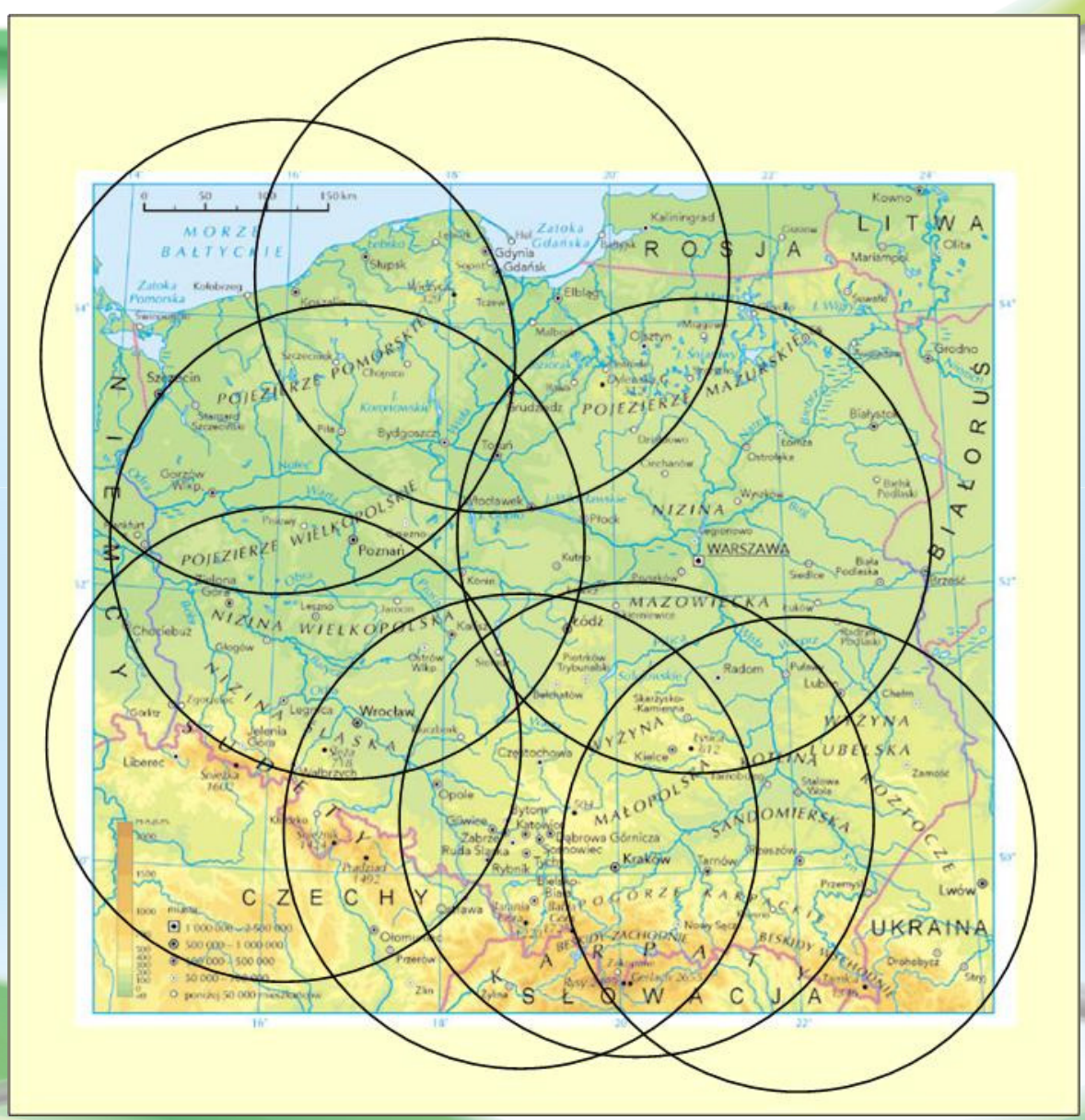
Weather radars

8 stations

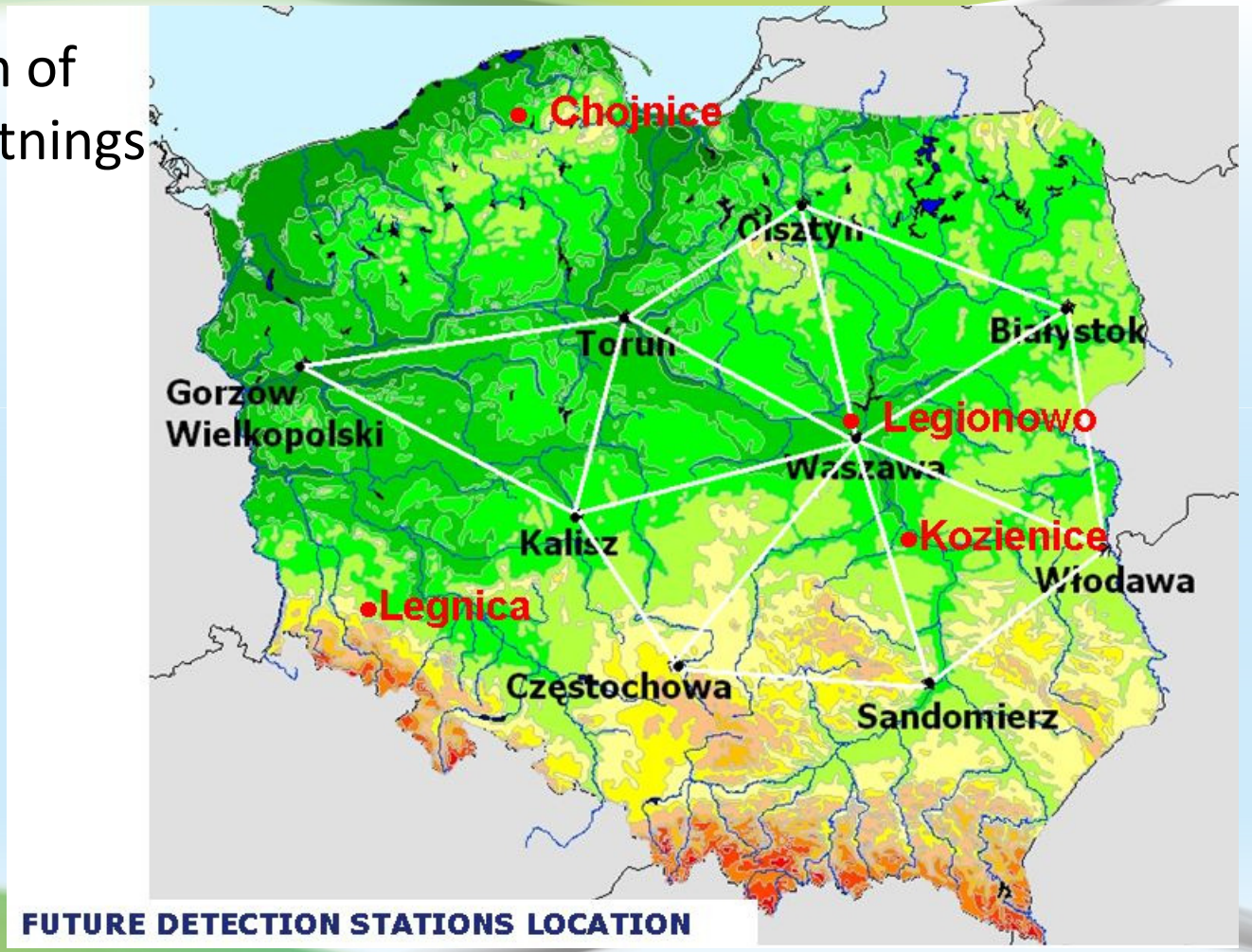
POLRAD system



Detection system of atmospheric lightnings

8 stations

POLRAD system



FUTURE DETECTION STATIONS LOCATION

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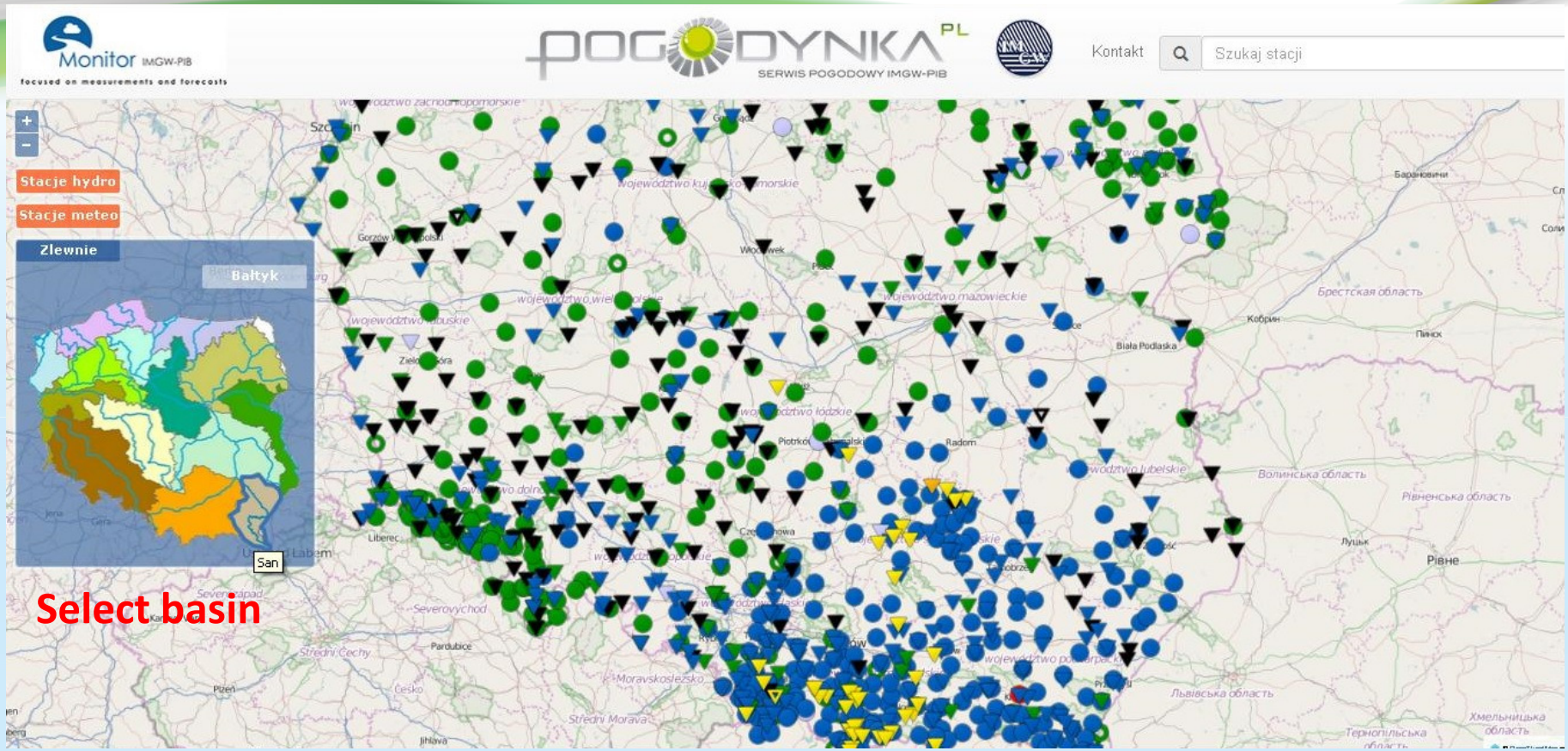

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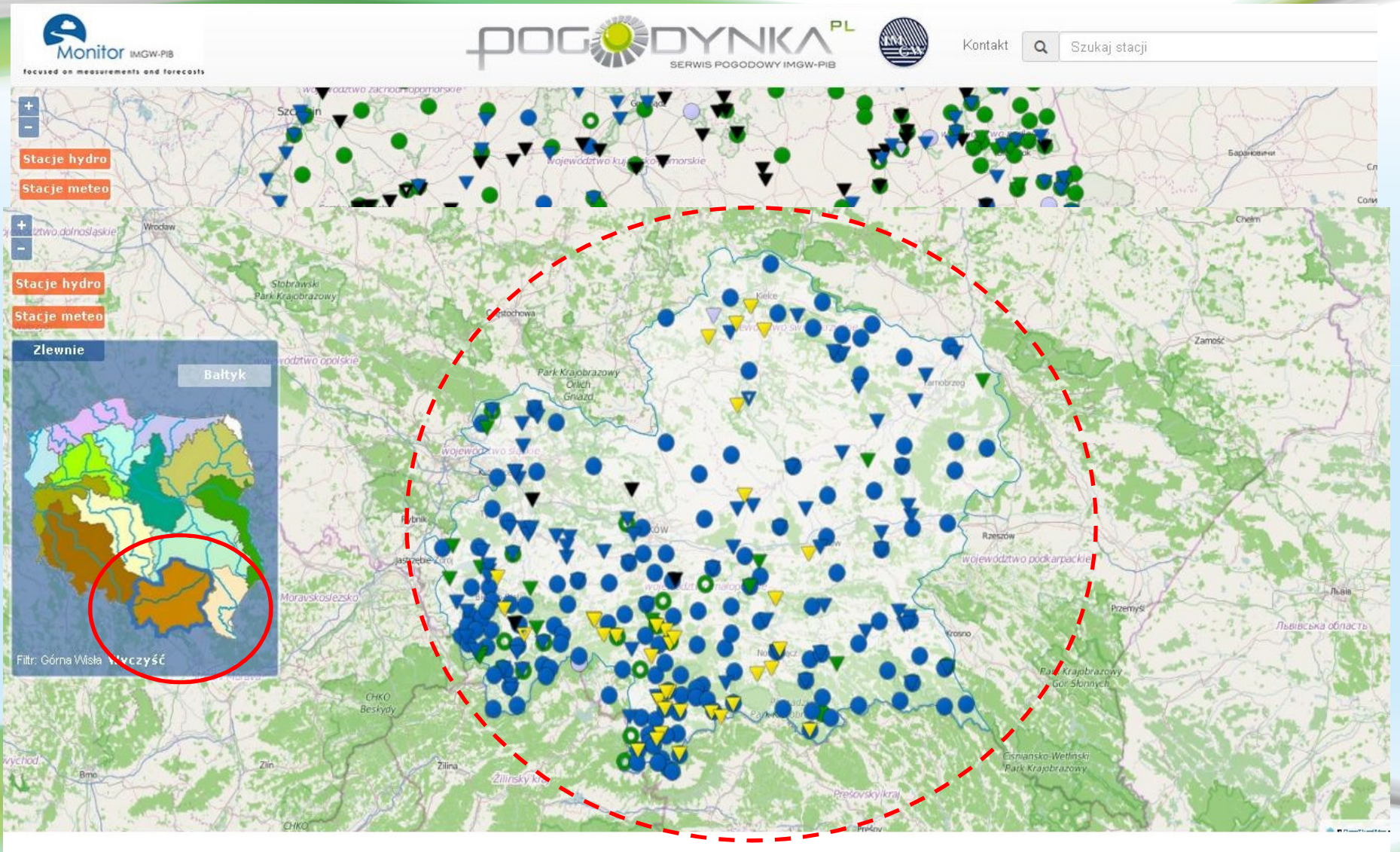

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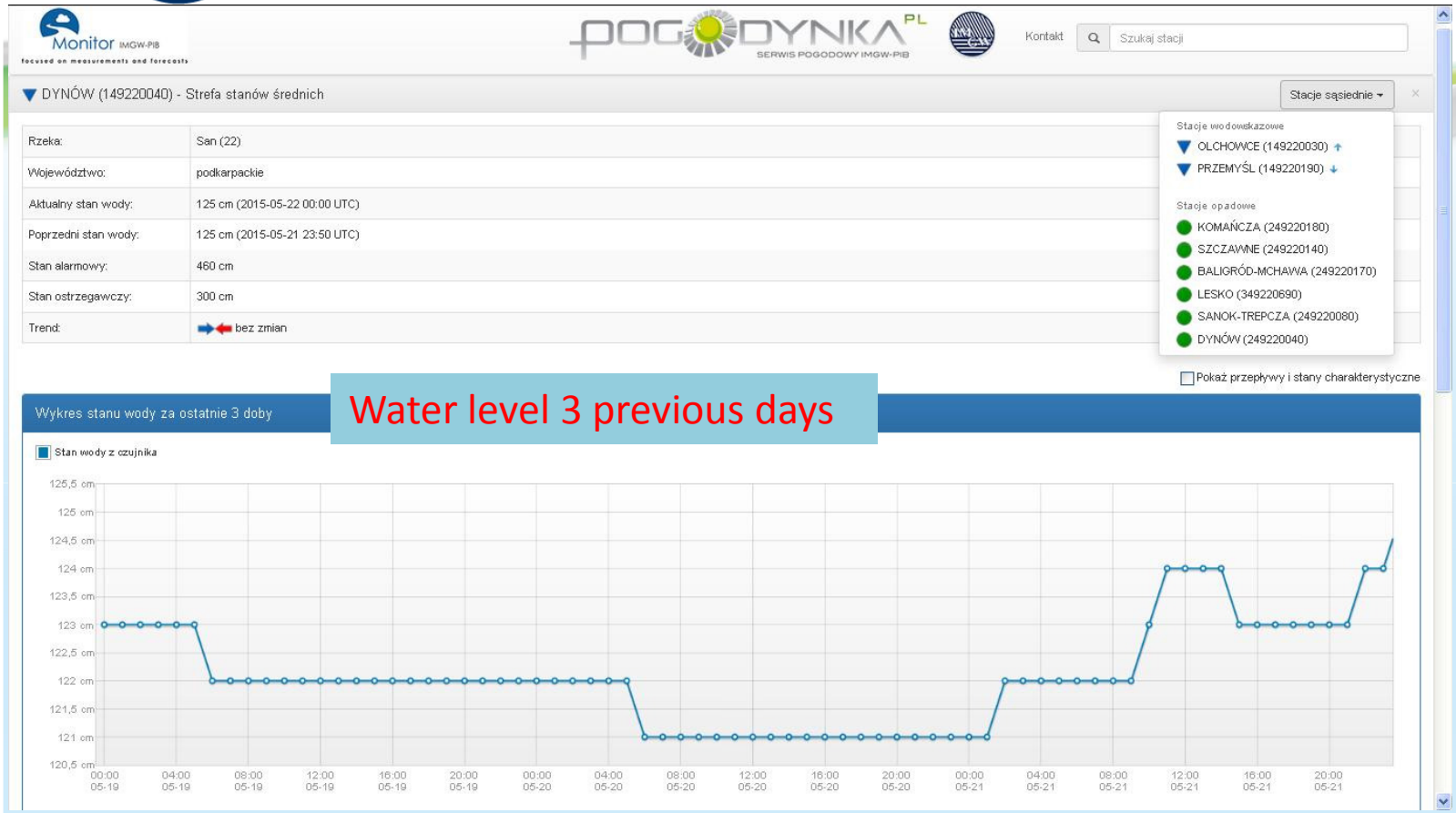

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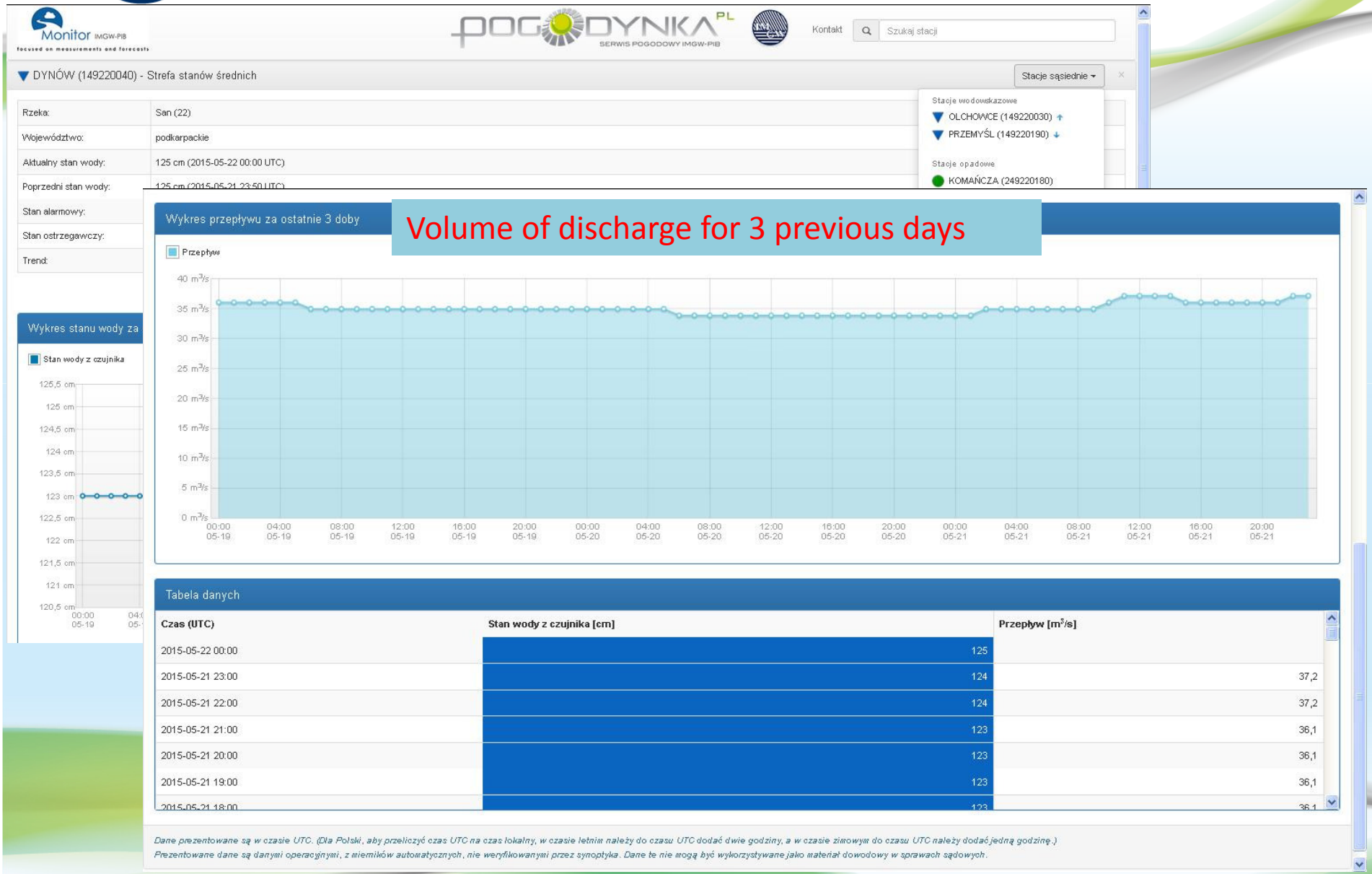

Volume of discharge for 3 previous days

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Monitor IMGW-PIB
focused on measurements and forecasts

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Kontakt

Szukaj stacji

Meteorological data

DYNÓW (249220040) - Opad

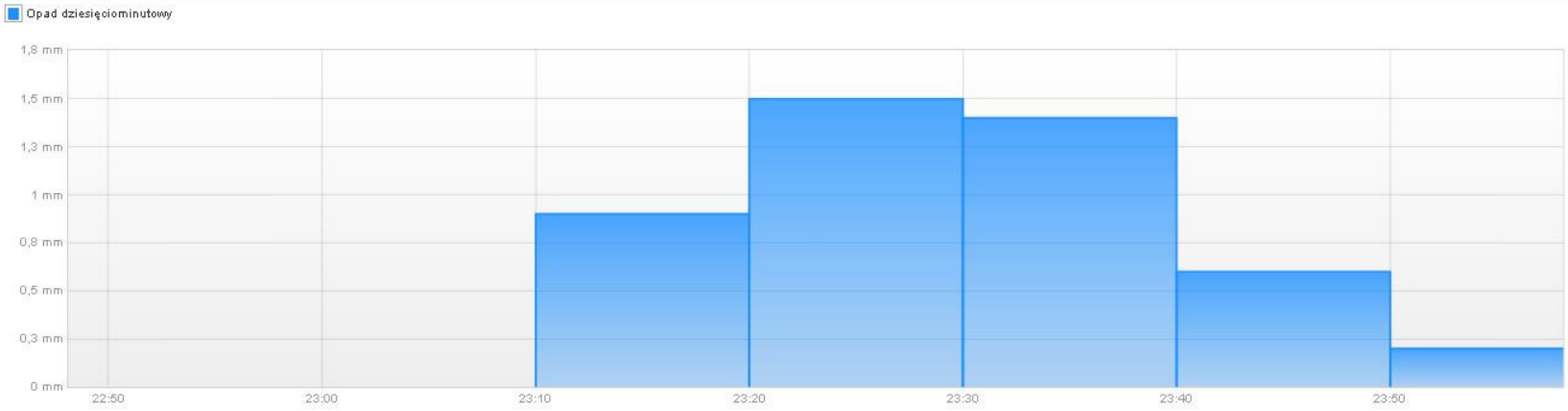
Stacje sąsiednie

Rzeka:	San (22)
Województwo:	podkarpackie
Opad za ostatnią godzinę:	4,9 mm (2015-05-22 00:00 UTC)
Opad za ostatnie 6 godzin:	16,8 mm
Opad za ostatnią dobę:	4,8 mm (2015-05-21 06:00 UTC)

Pokaż maksymalną sumę opadu

Wykres opadu dziesięciominutowego w ostatniej godzinie

Precipitation volume for last hour



Wykres opadu godzinowego za ostatnie 48 godzin

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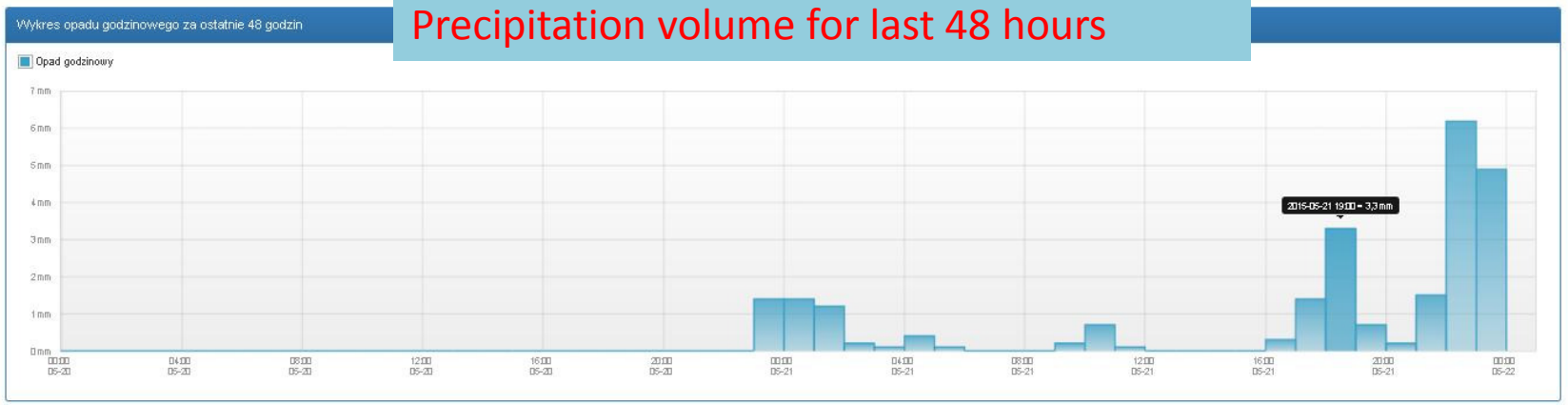
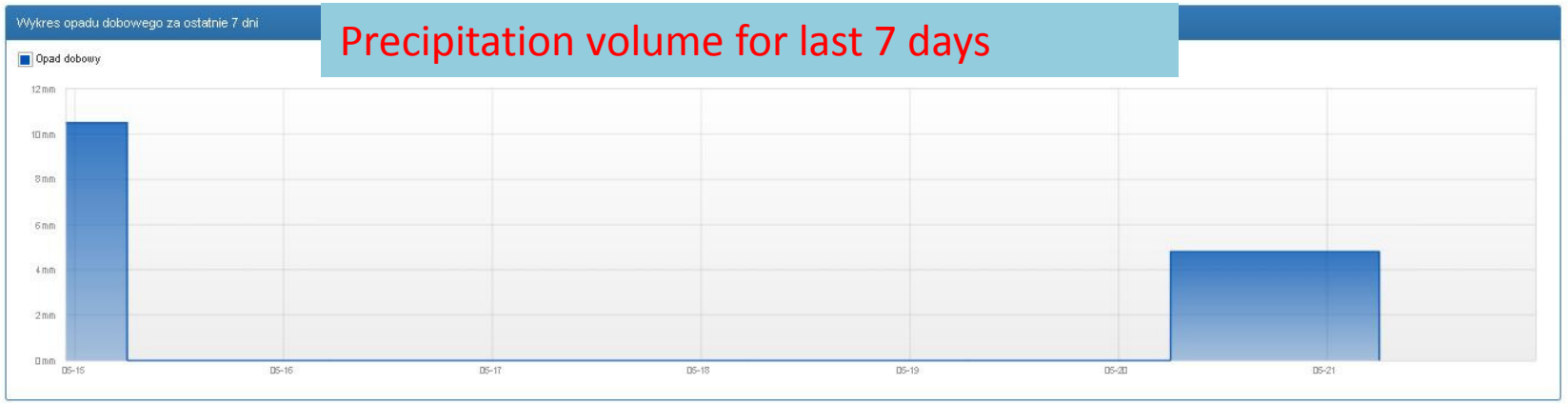
Precipitation volume for last 48 hours



Precipitation volume for last 7 days



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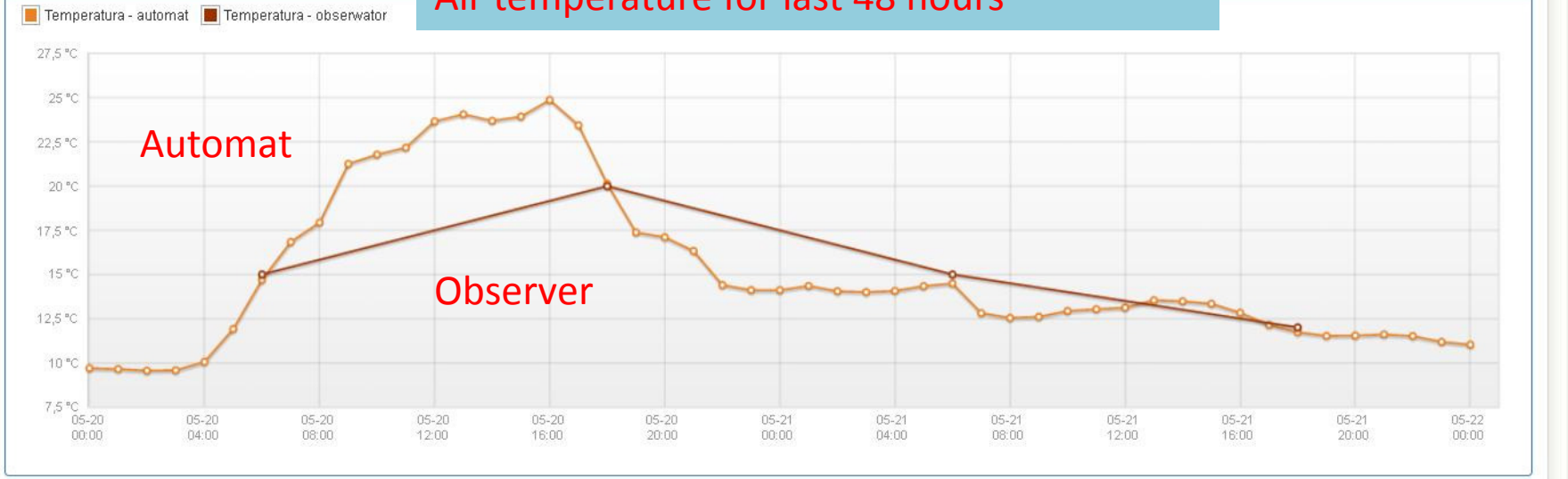
Wykres temperatury powietrza za ostatnie 48 godzin

Air temperature for last 48 hours



Precipitation: 10 min | 1 hour | 1 day | Temp. - automat | Temp. - observer

Czas (UTC)	Opad dziesięciominutowy [mm]	Opad godzinowy [mm]	Opad dobowy [mm]	Temperatura - automat [°C]	Temperatura - obserwator [°C]
2015-05-22 00:00	0,2	4,9		11	
2015-05-21 23:50	0,6				
2015-05-21 23:40	1,4				
2015-05-21 23:30	1,5				
2015-05-21 23:20	0,9				
2015-05-21 23:00		6,2		11,2	

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Central Historical Database

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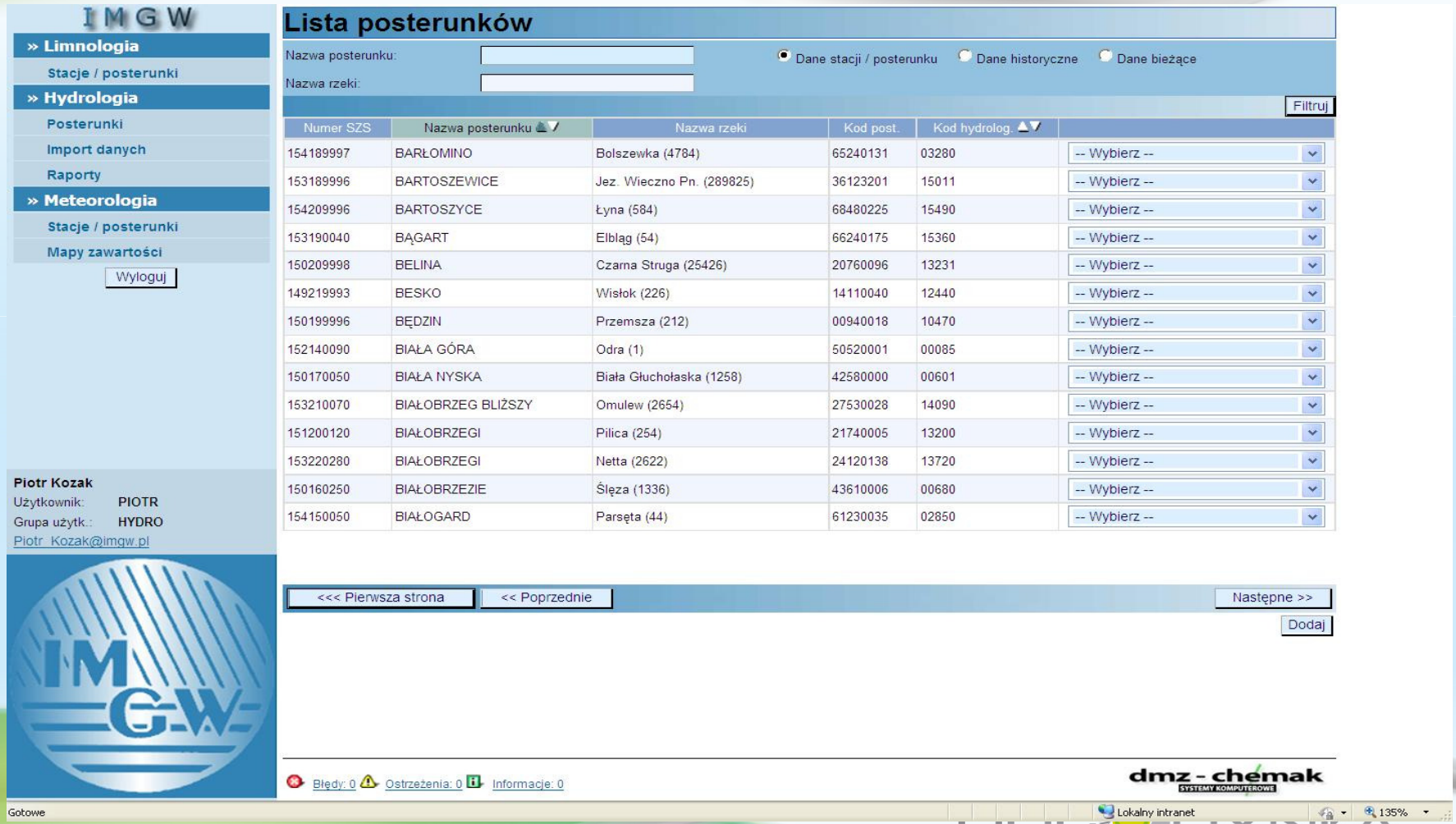
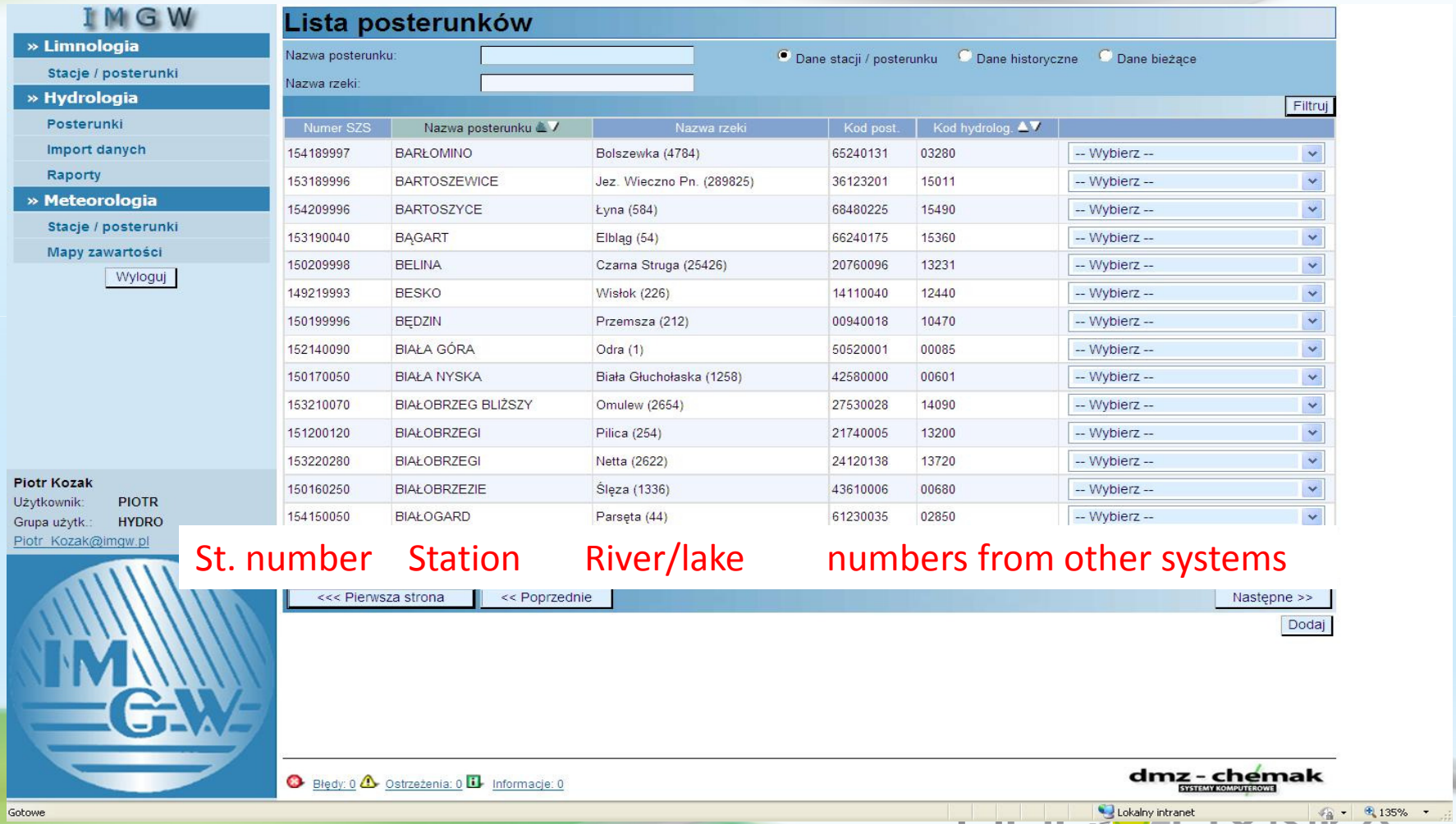
Central Historical Database



Central Historical Database



St. number Station River/lake numbers from other systems

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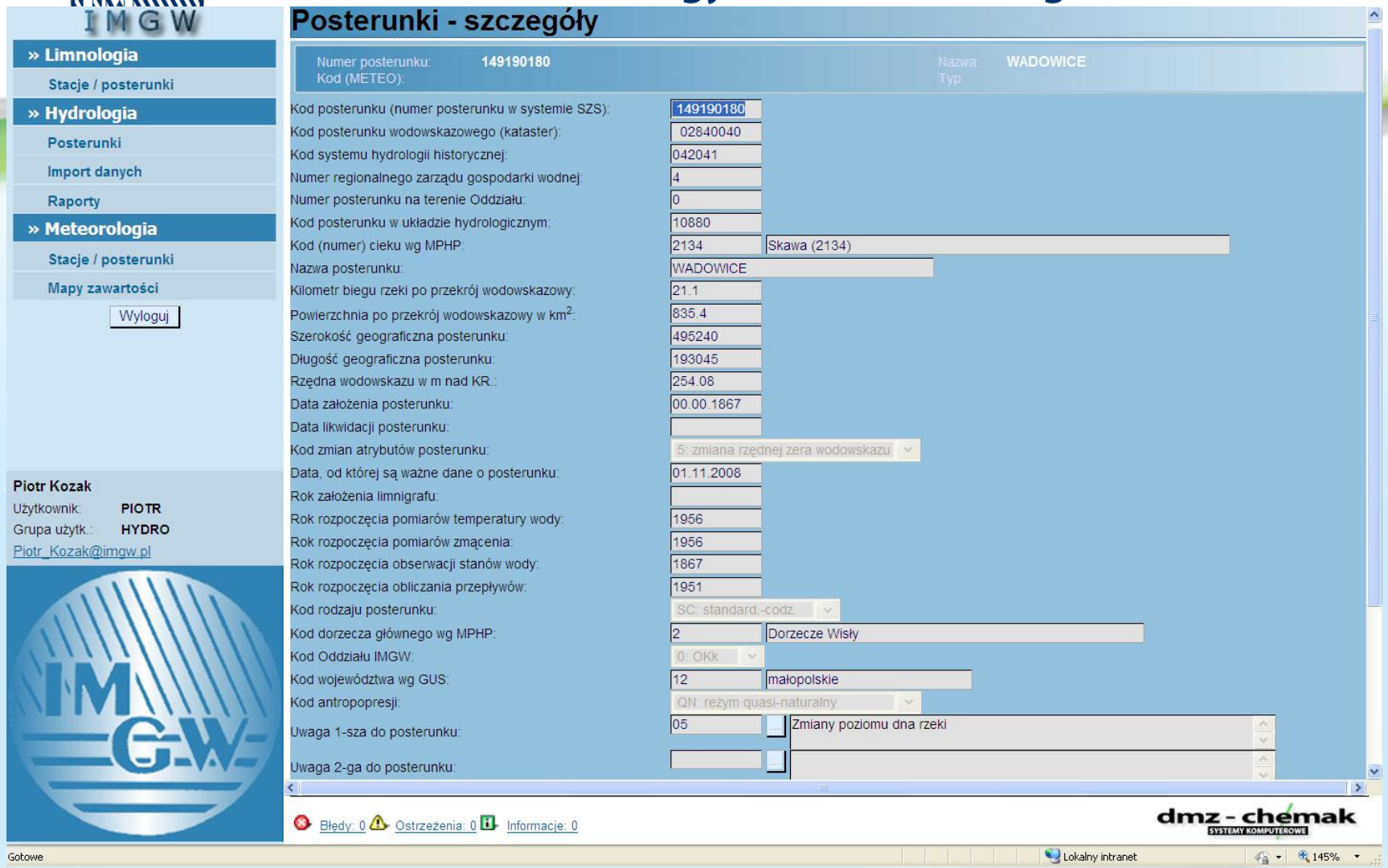

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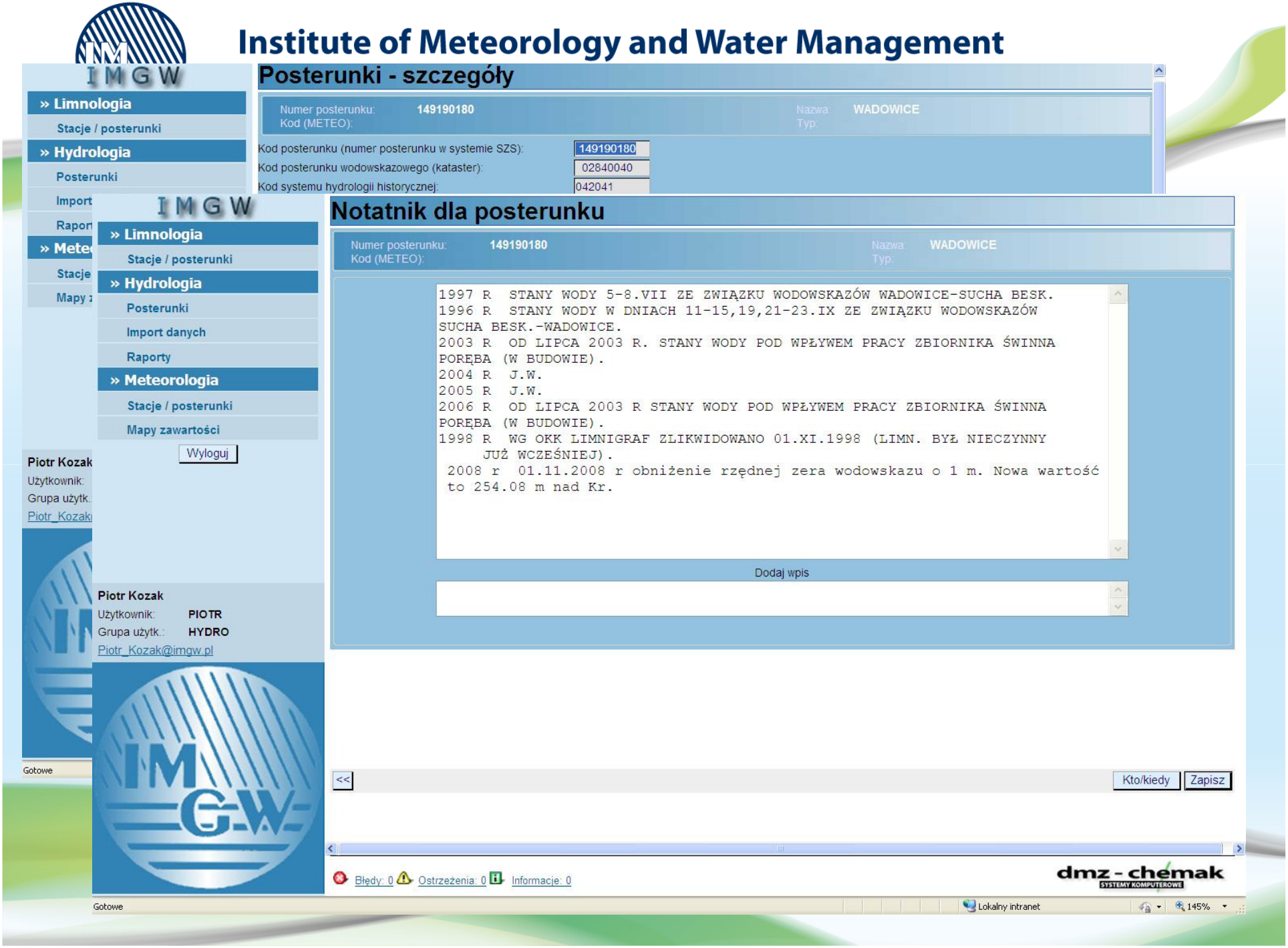

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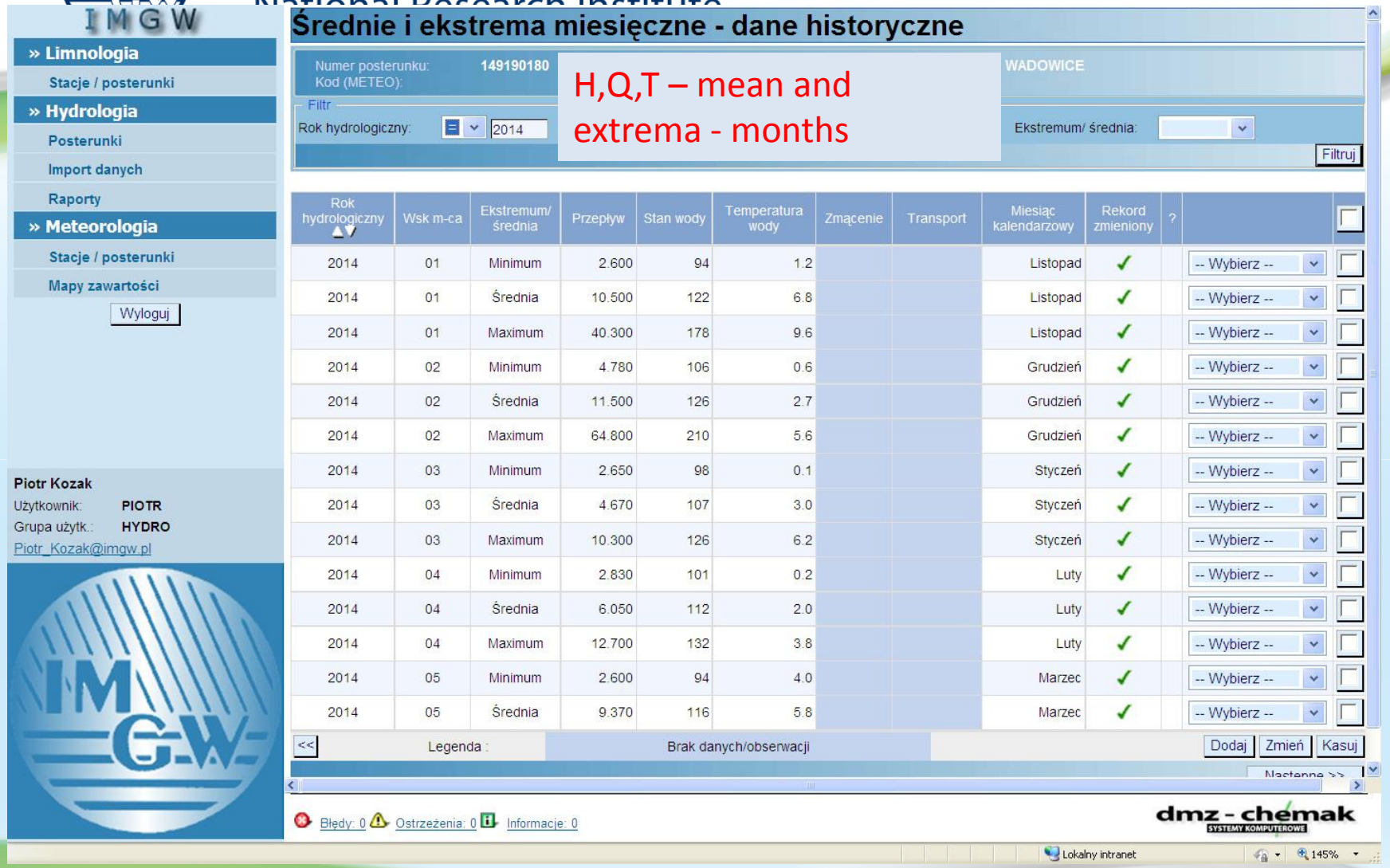

» Limnologia
Stacje / posterunki
» Hydrologia
Posterunki
Import danych
Raporty
» Meteorologia
Stacje / posterunki
Mapy zawartości
Wyloguj

Piotr Kozak
Użytkownik: PIOTR
Grupa użytk.: HYDRO
Piotr_Kozak@imgw.pl

Średnie i ekstrema miesięczne - dane historyczne

Numer posterunku: 149190180
Kod (METEO):
WADOWICE

H,Q,T – mean and extrema - months

Filtr
Rok hydrologiczny: = 2014
Ekstremum/ średnia:
Filtruj

Rok hydrologiczny	Wsk m-ca	Ekstremum/ średnia	Przepływ	Stan wody	Temperatura wody	Zmącenie	Transport	Miesiąc kalendarzowy	Rekord zmieniony	?	
2014	01	Minimum	2.600	94	1.2			Listopad	✓		-- Wybierz --
2014	01	Średnia	10.500	122	6.8			Listopad	✓		-- Wybierz --
2014	01	Maximum	40.300	178	9.6			Listopad	✓		-- Wybierz --
2014	02	Minimum	4.780	106	0.6			Grudzień	✓		-- Wybierz --
2014	02	Średnia	11.500	126	2.7			Grudzień	✓		-- Wybierz --
2014	02	Maximum	64.800	210	5.6			Grudzień	✓		-- Wybierz --
2014	03	Minimum	2.650	98	0.1			Styczeń	✓		-- Wybierz --
2014	03	Średnia	4.670	107	3.0			Styczeń	✓		-- Wybierz --
2014	03	Maximum	10.300	126	6.2			Styczeń	✓		-- Wybierz --
2014	04	Minimum	2.830	101	0.2			Luty	✓		-- Wybierz --
2014	04	Średnia	6.050	112	2.0			Luty	✓		-- Wybierz --
2014	04	Maximum	12.700	132	3.8			Luty	✓		-- Wybierz --
2014	05	Minimum	2.600	94	4.0			Marzec	✓		-- Wybierz --
2014	05	Średnia	9.370	116	5.8			Marzec	✓		-- Wybierz --

<< Legenda : Brak danych/obserwacji Dodaj Zmień Kasuj

Następne >>

Błędy: 0 Ostrzeżenia: 0 Informacje: 0

dmz - chemak SYSTEMY KOMPUTEROWE

Lokalny intranet 145%

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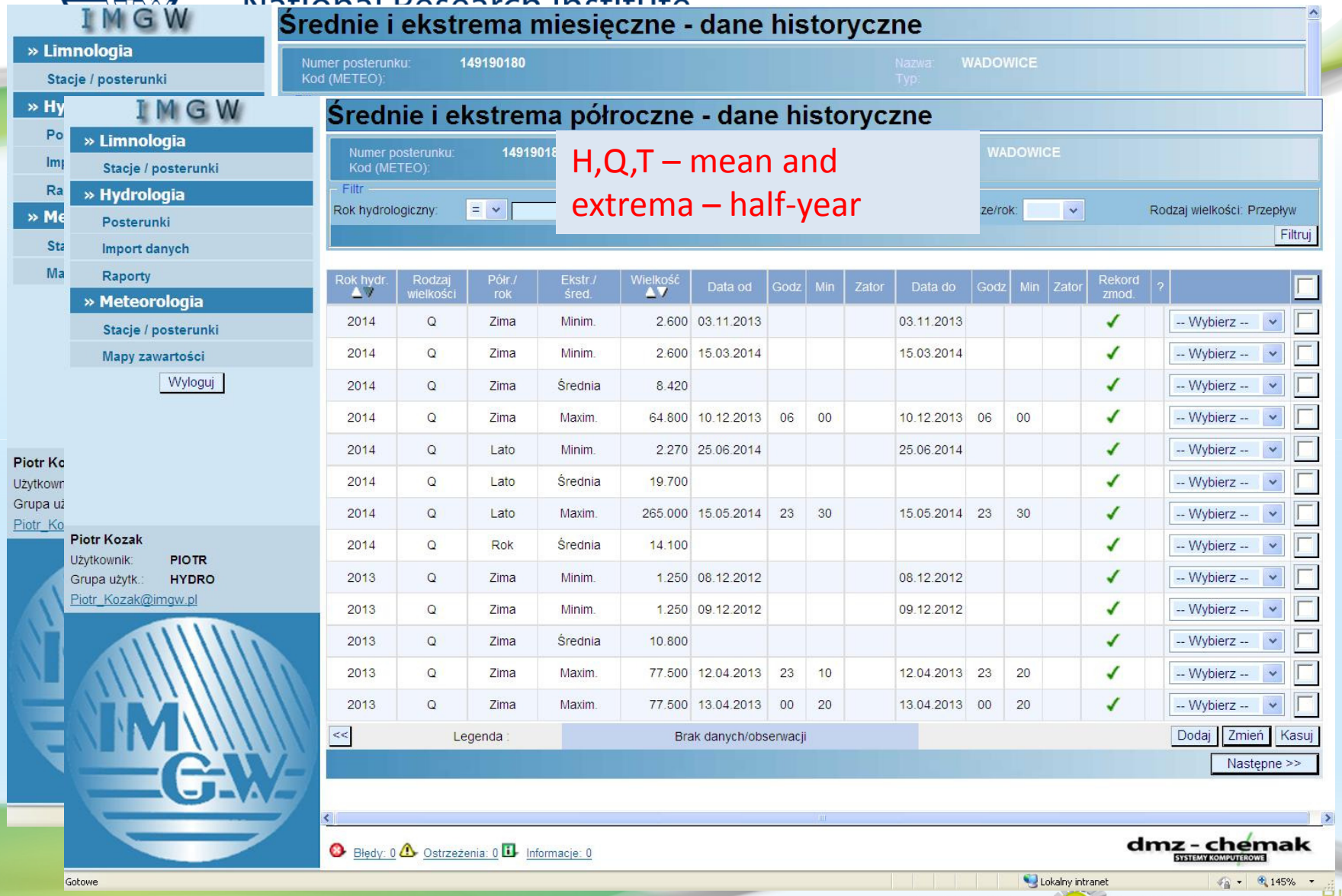

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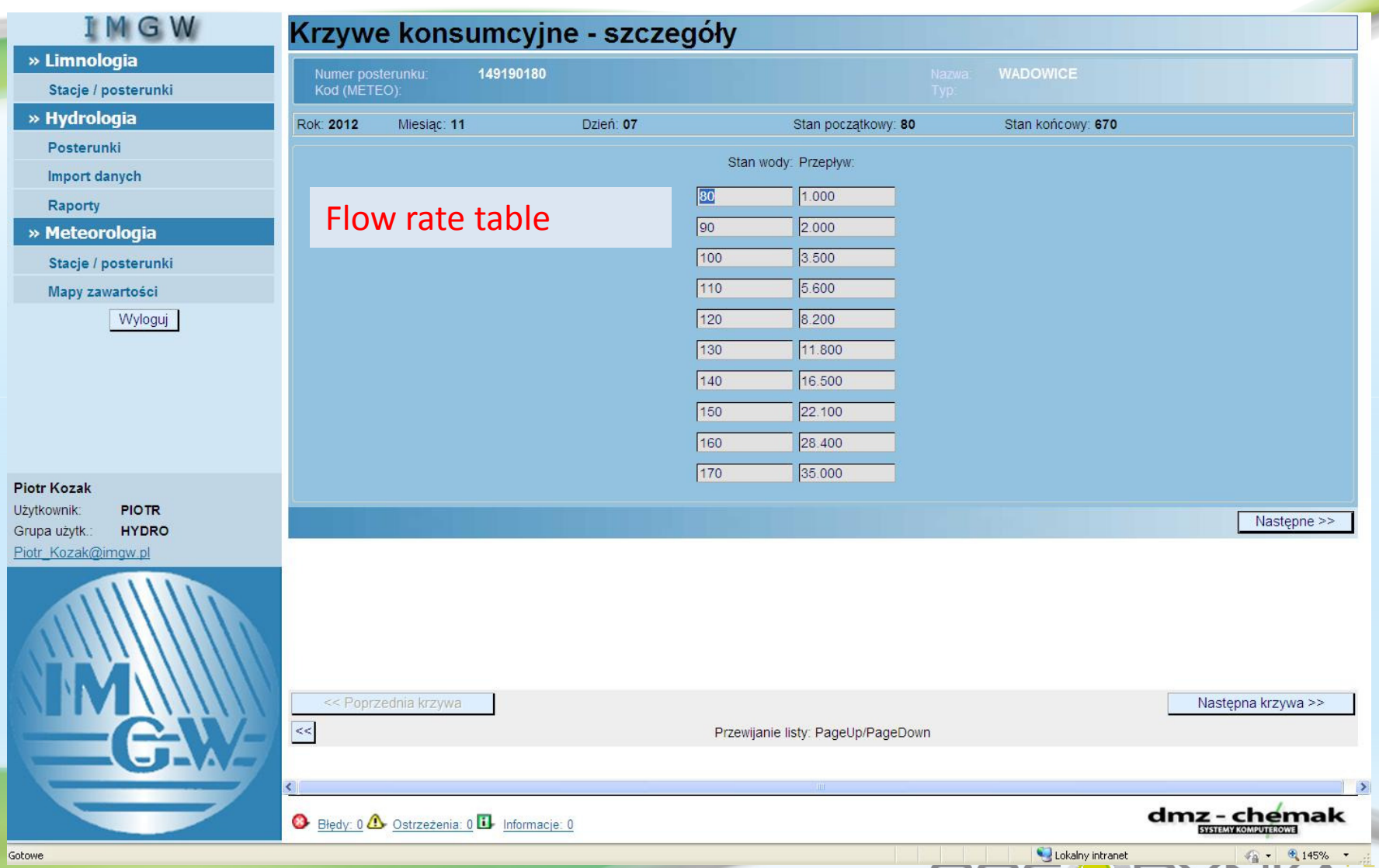

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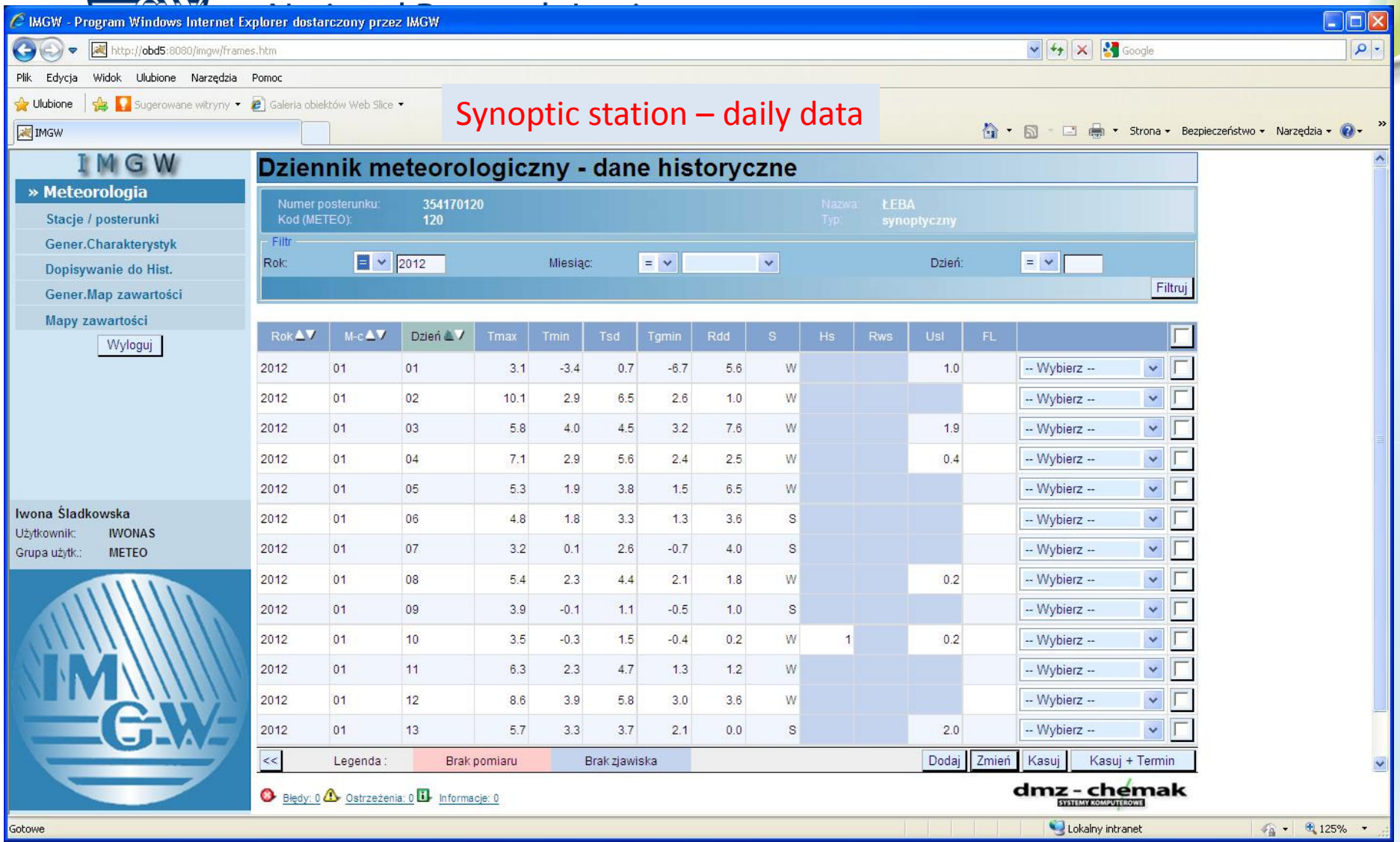
Synoptic station – daily data



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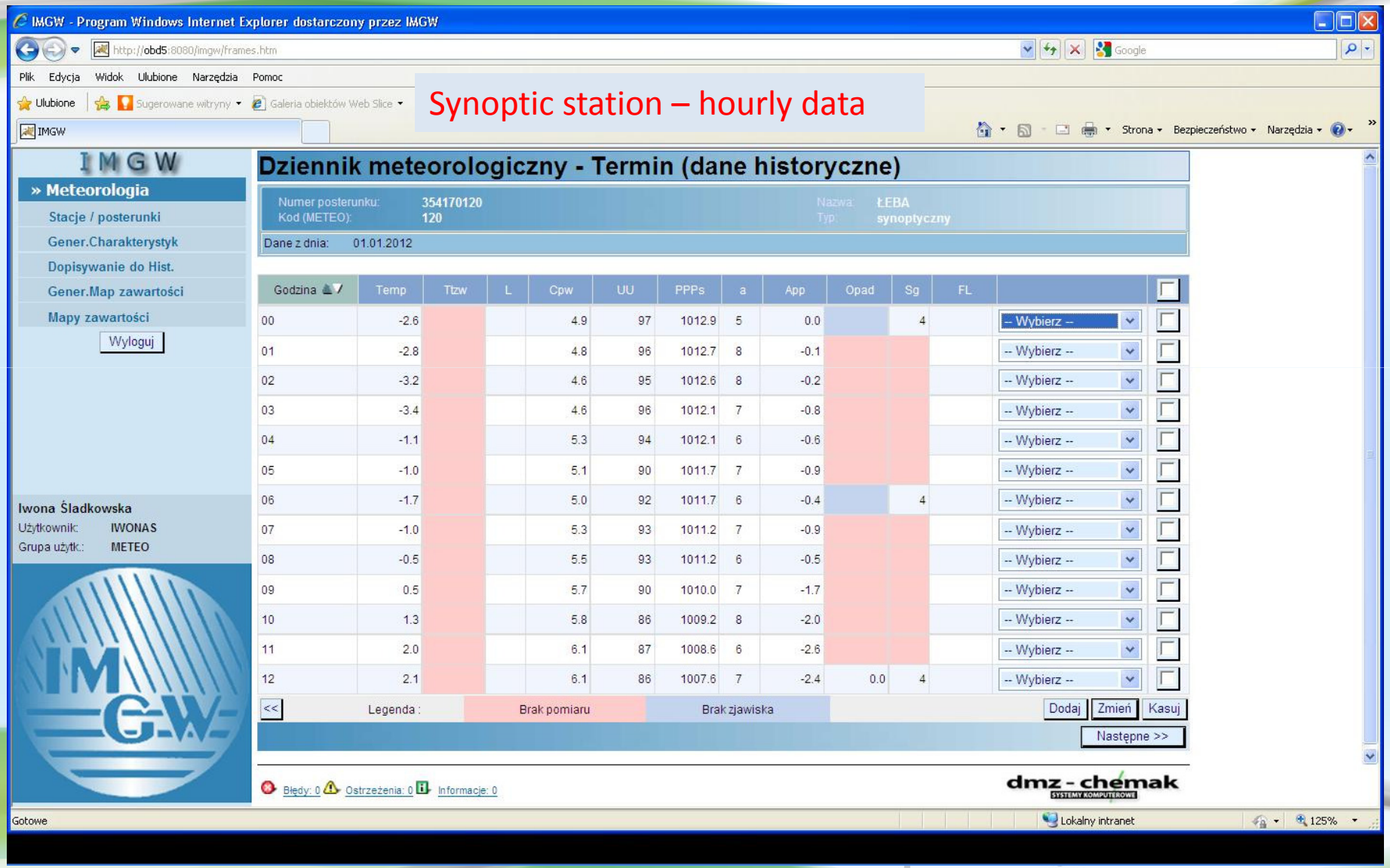

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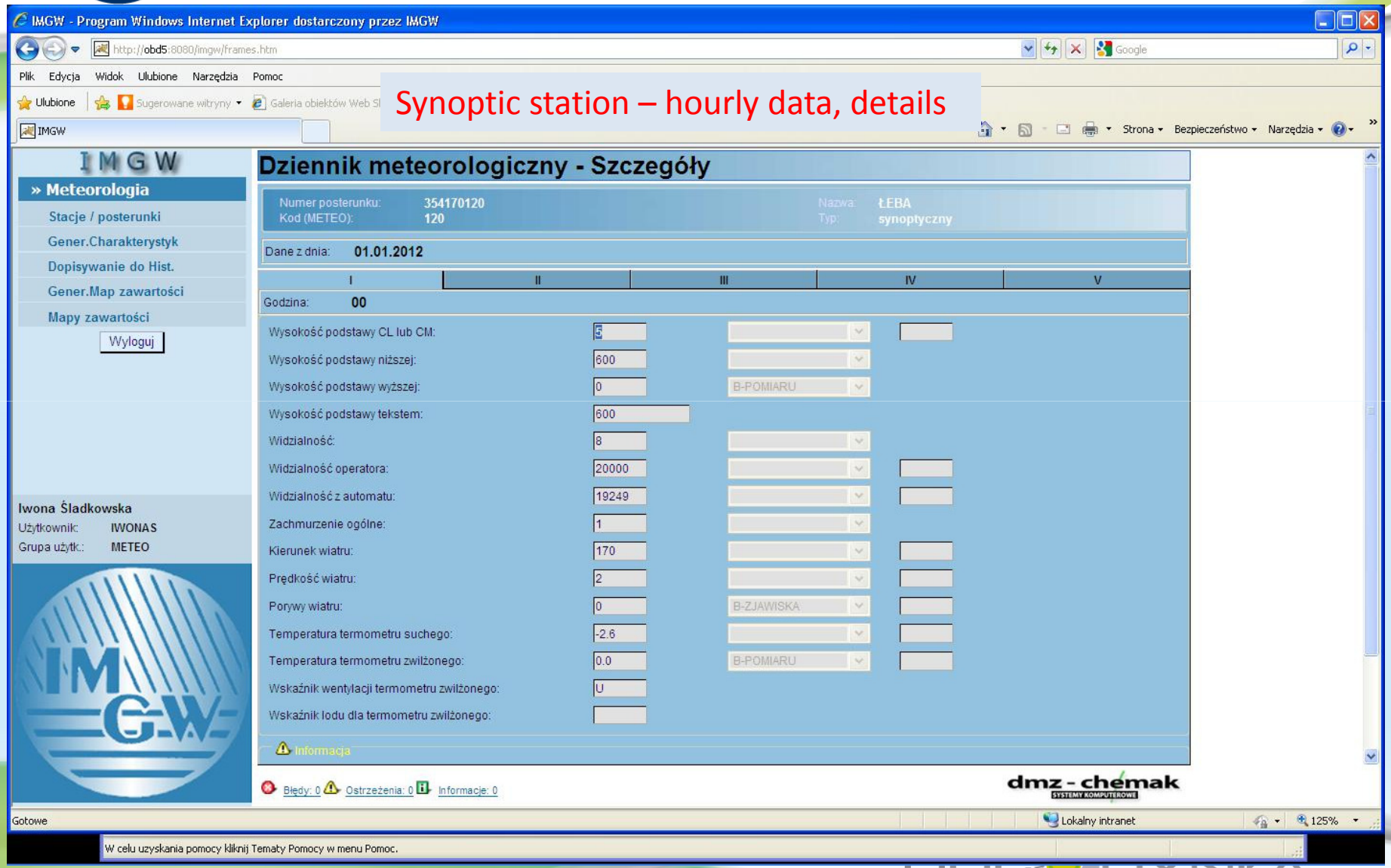
Synoptic station – hourly data, details



Modifications of current database

- addition of new types of stored data,
- connection of data from separated reference databases on one site,
- connection of metadata from separated reference databases on one site,
- new functionality of viewing data,
- new functionality of downloading data and metadata from database (export data and metadata),
- new way of security of data access for users,
- new way of distribution data to clients,
- new user interface.

Addition of new types of stored data and metadata in the modified database

- archiving of new data types, eg.:
  - WMO messages (SYNOP, METAR, CLIMAT, STORM),
  - meteorological and hydrological warning messages and meteorological forecasts,
  - aerological measurements,
- archiving of scans of old journal of observations,
- archiving of metadata of measuring station (under modification),
- archiving of metadata of measurement devices and methods of measurement (under construction).

Viewing of data in modified database

Comparison of types of data stored in CBDO and CBDH as part of modified database

Modified database consists of two parts with similar data, but different function:

- **CBDO** – Central Operational Database

(**C**entralna **B**aza **D**anych **O**peracyjnych) is used to creating of forecasts and meteorological warning messages,

- **CBDH** – Central Historical Database

(**C**entralna **B**aza **D**anych **H**istorycznych) is used to archiving data and creating long term prediction and stats of climatology and hydrology.

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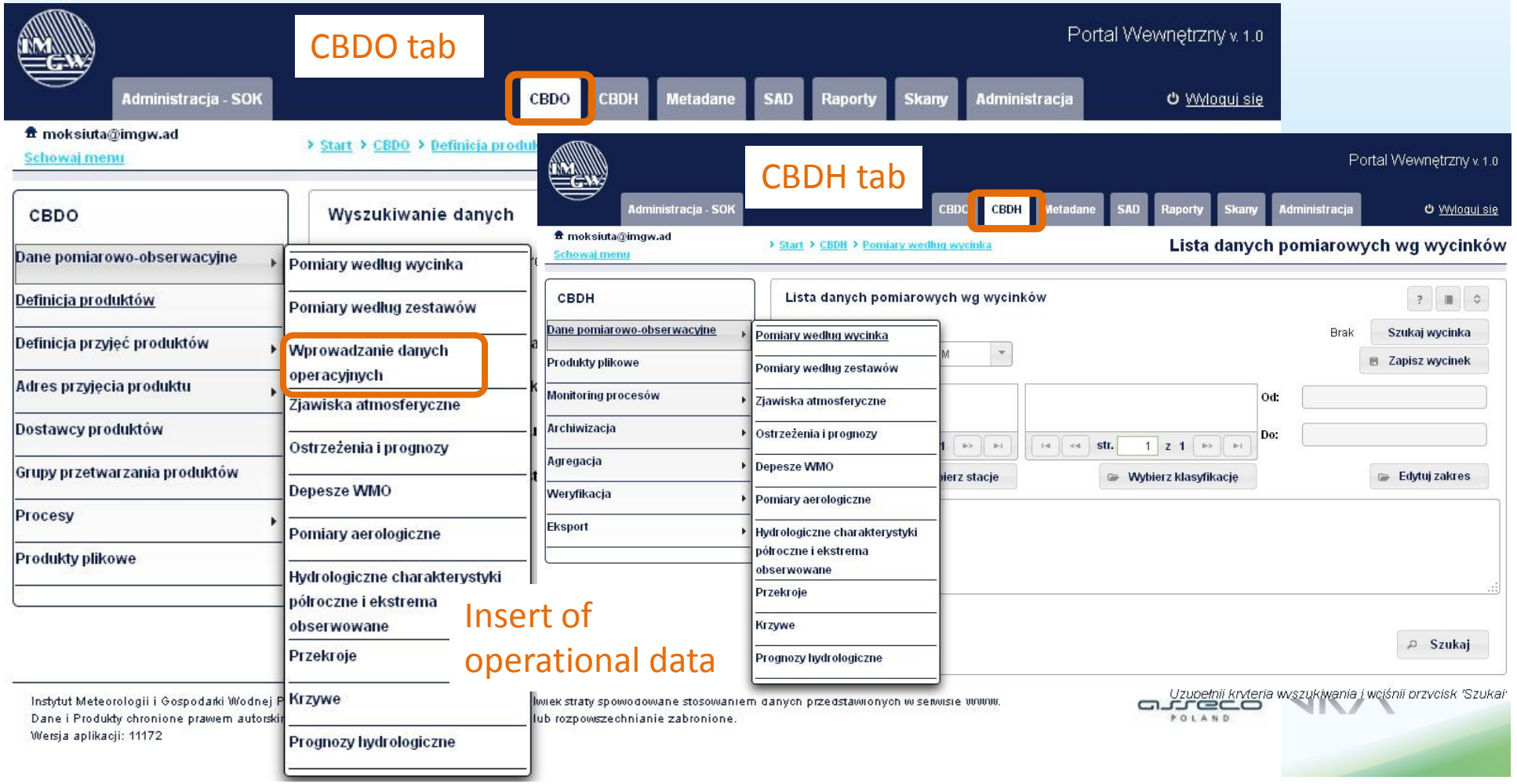
Viewing of data in modified database

Comparison of types of data stored in CBDO and CBDH as part of modified database



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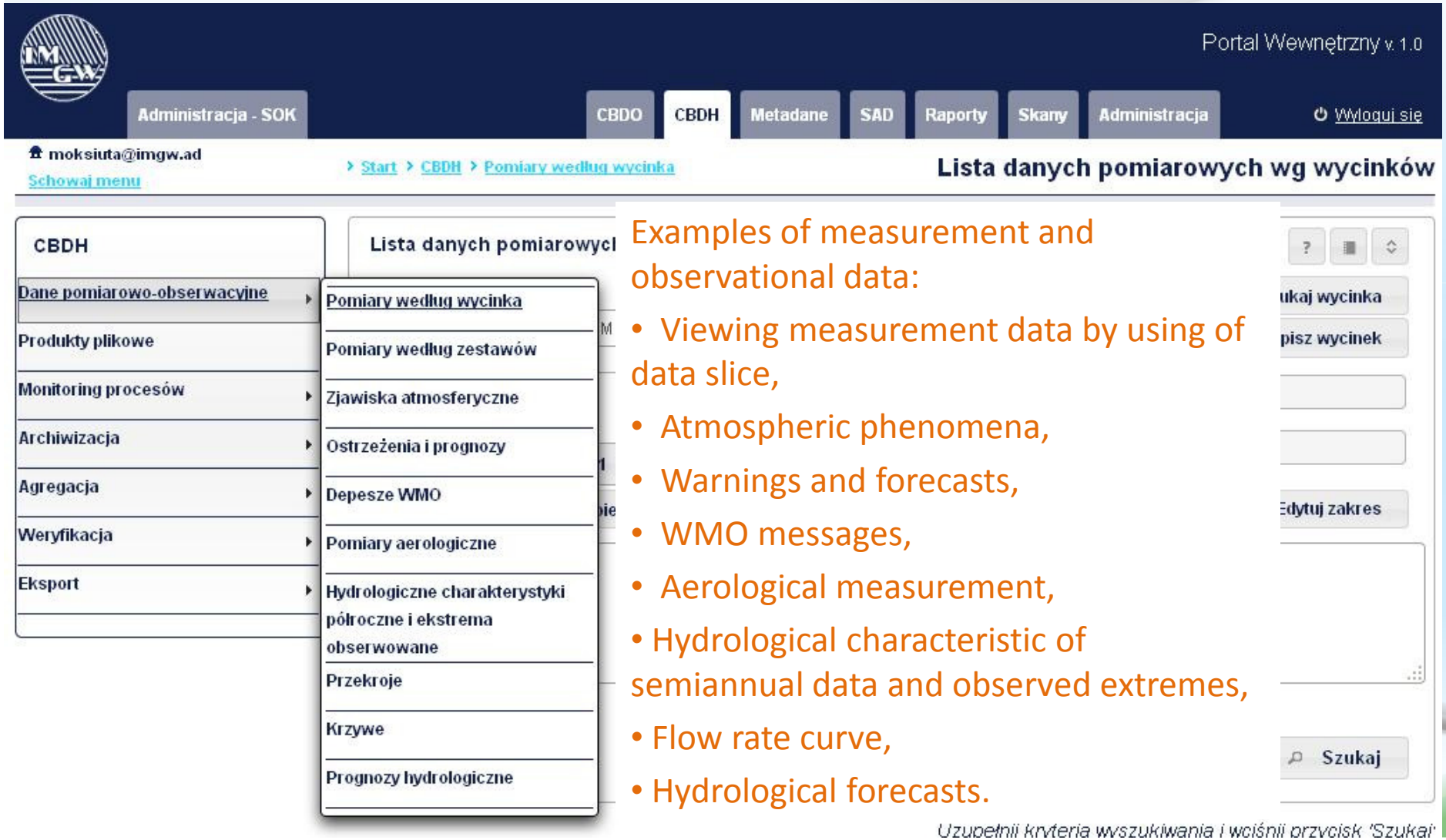
Viewing of data in modified database

Screen for selecting the type of data which is viewed



Examples of measurement and observational data:

- Viewing measurement data by using of data slice,
- Atmospheric phenomena,
- Warnings and forecasts,
- WMO messages,
- Aerological measurement,
- Hydrological characteristic of semiannual data and observed extremes,
- Flow rate curve,
- Hydrological forecasts.

Access to data: grants and data slice

Data slice is a 3D object, which characterises part of data from all data collected in database.

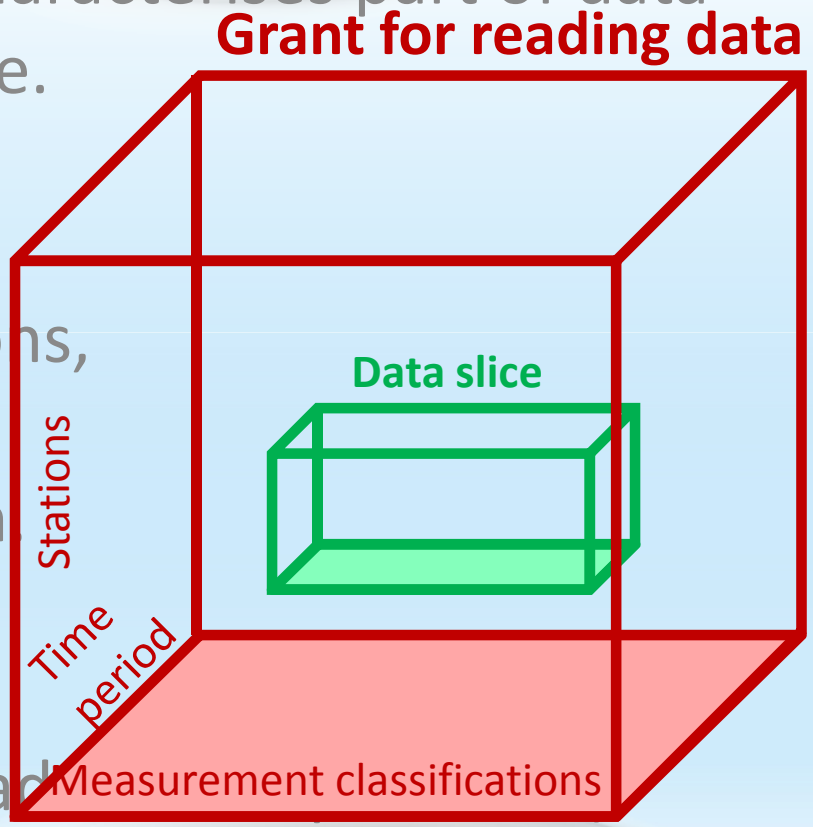
Data slice is described by:

- list of stations,
- list of measurement classifications,
- time period.

Grant is a type of data permission.

Grant is described by:

- data slice,
- type of data permission (eg.: read),
- login of user.



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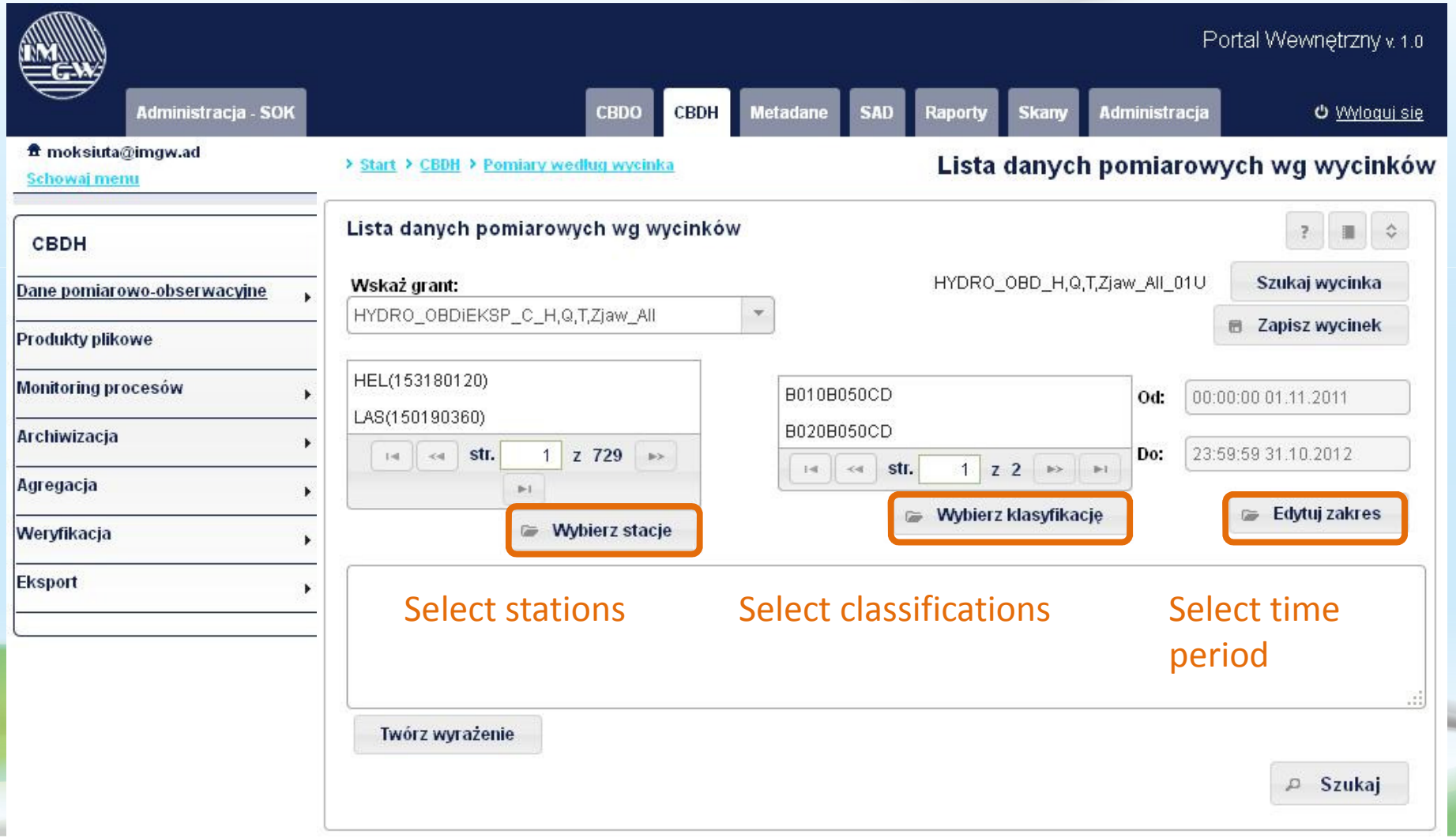
Viewing of data in modified database

Screen for viewing measurement data by data slice



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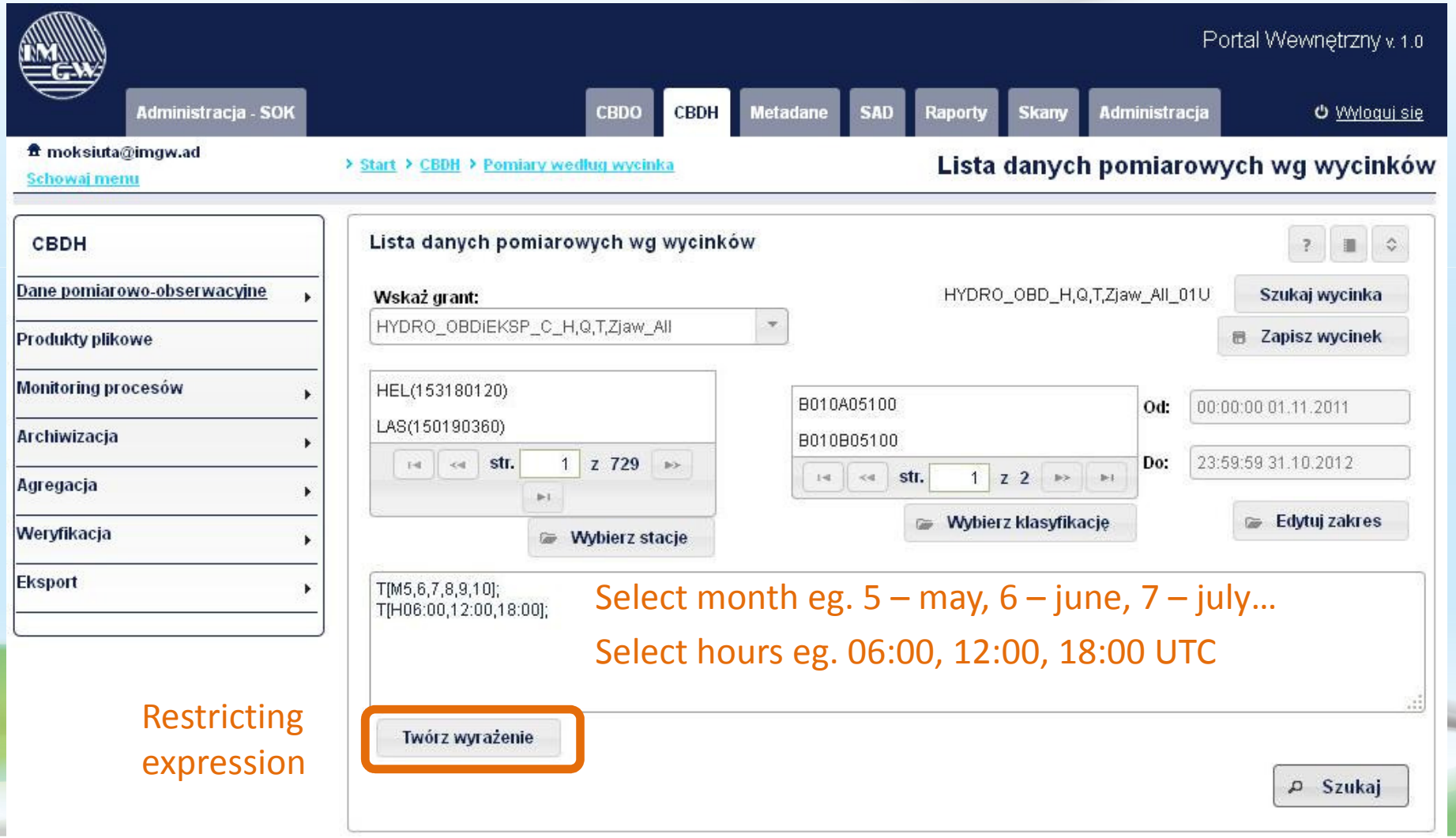
Viewing of data in modified database

Screen for viewing measurement data by data slice 2



Restricting expression

Viewing of data in modified database

Hourly water level from automat 1

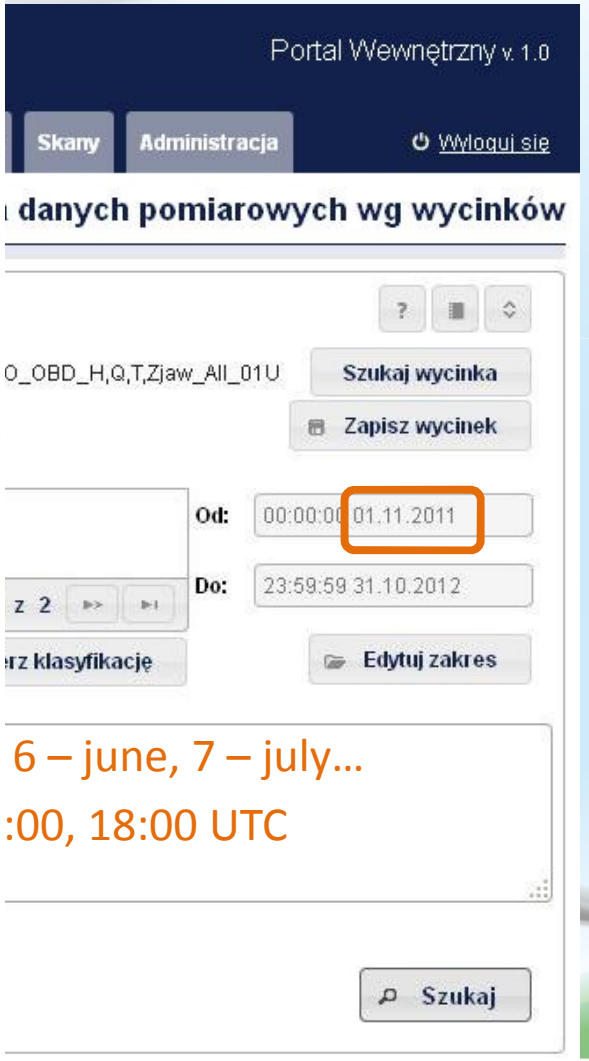
Hourly water level from observer

Hourly water level from automat 2

Identyfikator stacji	Nazwa stacji	Data pomiaru	B010A05100	B010B05100	B010L06000
154160140	CHARNOWO	06:00:00 01.05.2012	195	196	
153160020	TYCHÓWKO	06:00:00 01.05.2012	166		
153190050	BRODNICA	06:00:00 01.05.2012	168	167	
154160140	CHARNOWO	12:00:00 01.05.2012	202		
153160020	TYCHÓWKO	12:00:00 01.05.2012	166		
153190050	BRODNICA	12:00:00 01.05.2012	168		
154160140	CHARNOWO	18:00:00 01.05.2012	199	198	
154170050	GARDNA WIELKA	18:00:00 01.05.2012		504	
153160020	TYCHÓWKO	18:00:00 01.05.2012	165		
153190050	BRODNICA	18:00:00 01.05.2012	168	167	

(str. 1) 10

a by data slice 2



6 – june, 7 – july…

:00, 18:00 UTC

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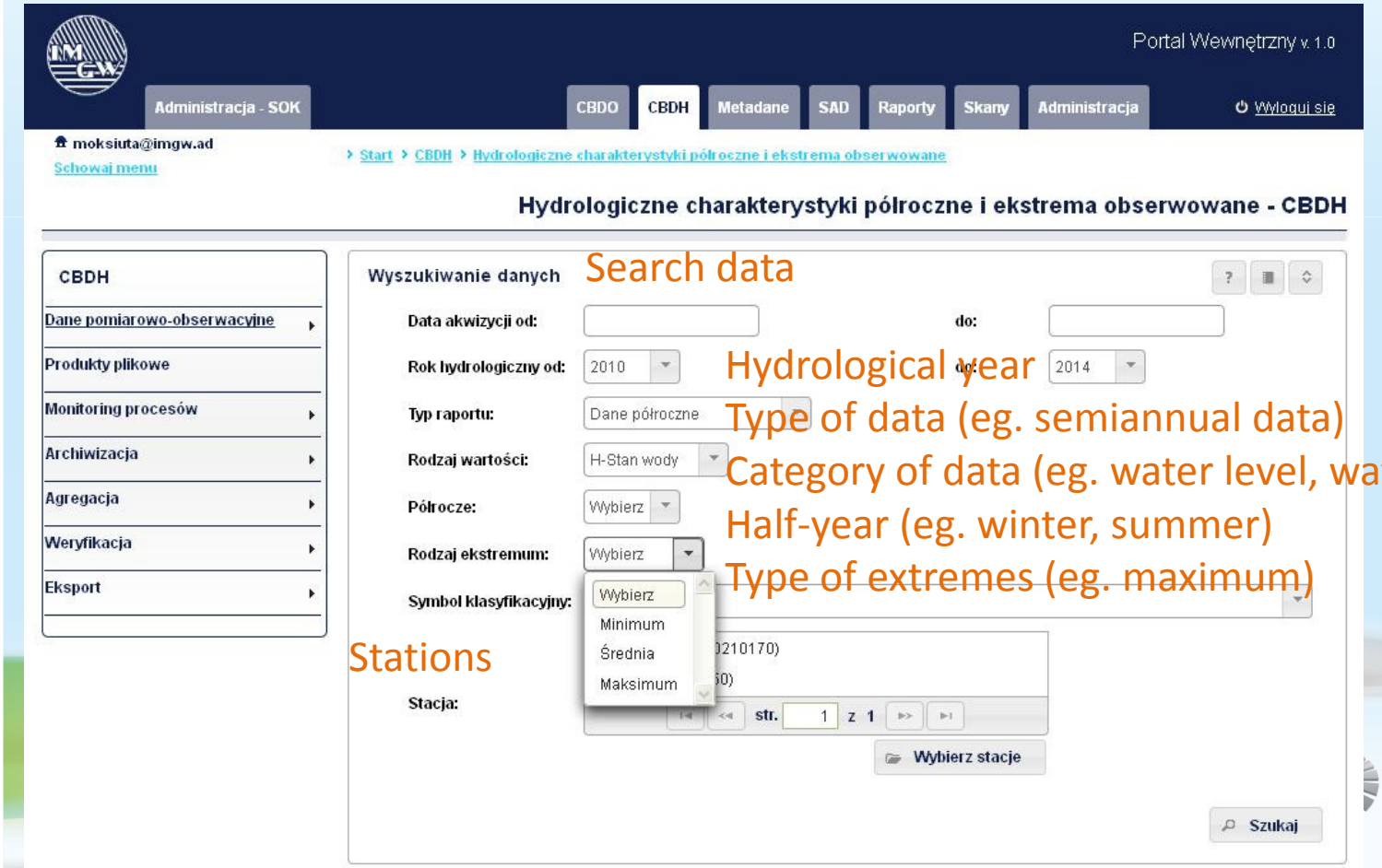
Viewing of data in modified database

Screen for searching and viewing hydrological characteristic of semiannual data and observed extremes



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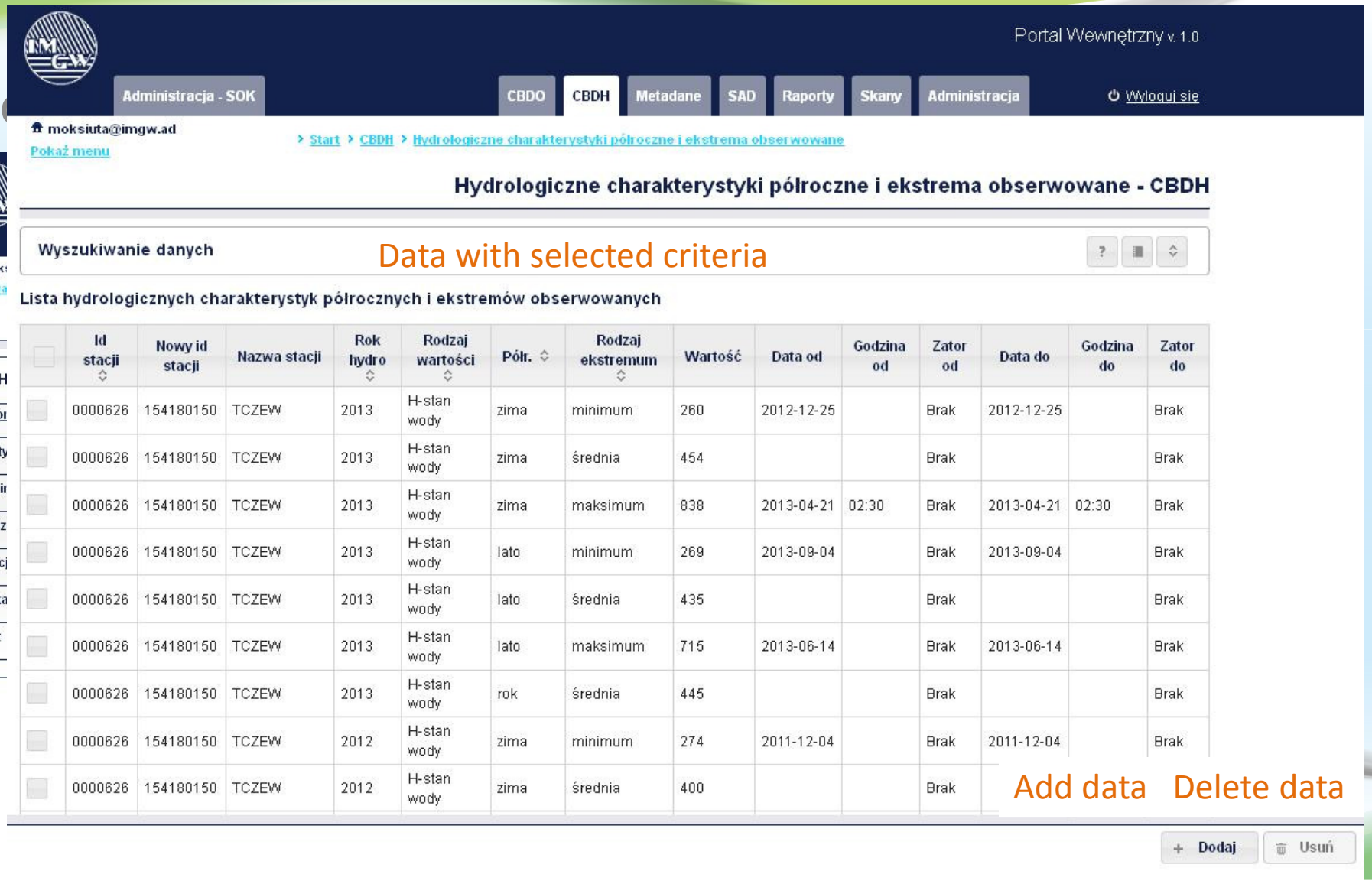
Viewing of data in modified database



Id stacji	Nowy id stacji	Nazwa stacji	Rok hydro	Rodzaj wartości	Półr.	Rodzaj ekstremum	Wartość	Data od	Godzina od	Zator od	Data do	Godzina do	Zator do
0000626	154180150	TCZEW	2013	H-stan wody	zima	minimum	260	2012-12-25		Brak	2012-12-25		Brak
0000626	154180150	TCZEW	2013	H-stan wody	zima	średnia	454			Brak			Brak
0000626	154180150	TCZEW	2013	H-stan wody	zima	maksimum	838	2013-04-21	02:30	Brak	2013-04-21	02:30	Brak
0000626	154180150	TCZEW	2013	H-stan wody	lato	minimum	269	2013-09-04		Brak	2013-09-04		Brak
0000626	154180150	TCZEW	2013	H-stan wody	lato	średnia	435			Brak			Brak
0000626	154180150	TCZEW	2013	H-stan wody	lato	maksimum	715	2013-06-14		Brak	2013-06-14		Brak
0000626	154180150	TCZEW	2013	H-stan wody	rok	średnia	445			Brak			Brak
0000626	154180150	TCZEW	2012	H-stan wody	zima	minimum	274	2011-12-04		Brak	2011-12-04		Brak
0000626	154180150	TCZEW	2012	H-stan wody	zima	średnia	400			Brak			

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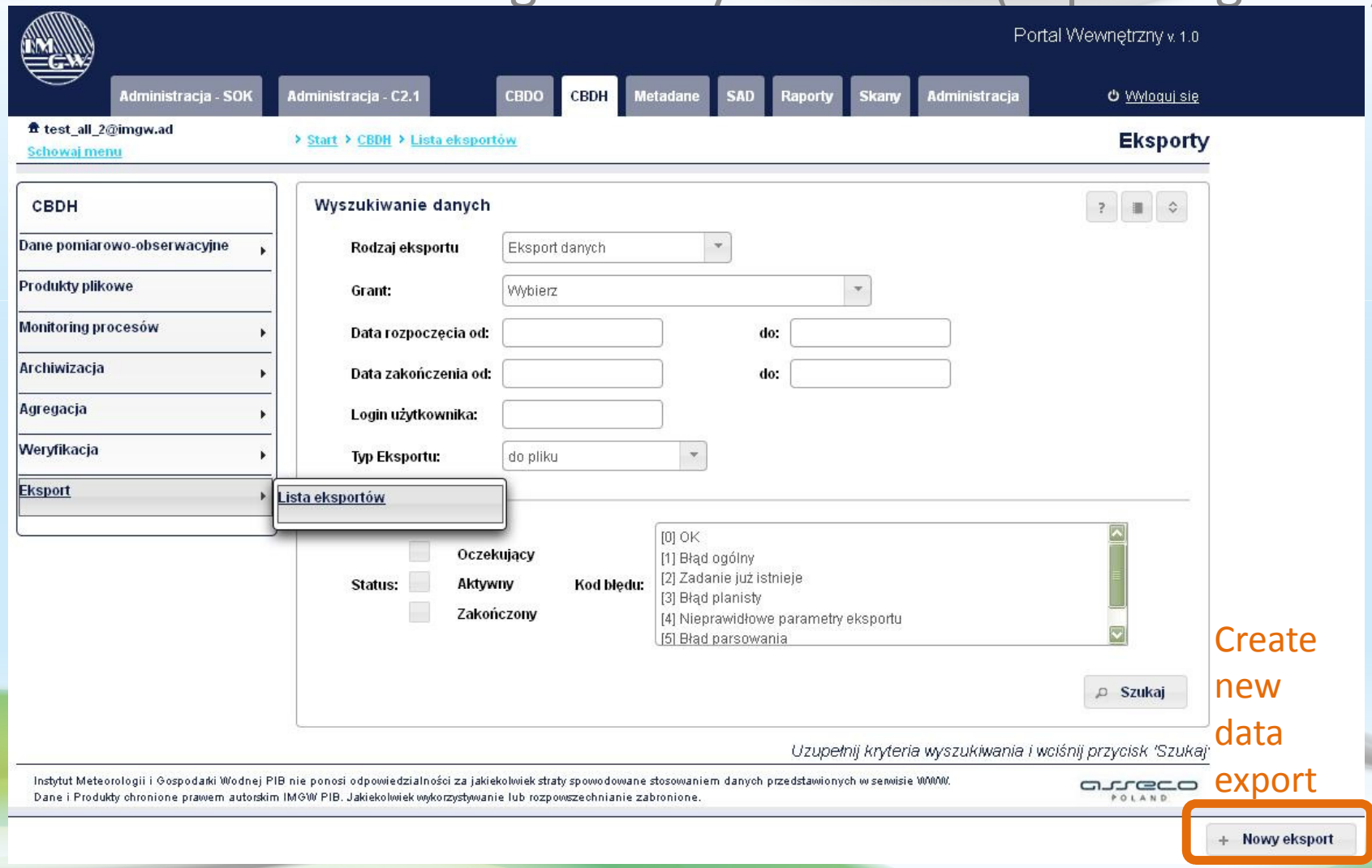
Downloading data from the database

Screen for downloading data by data slice (exporting data)



Create new data export

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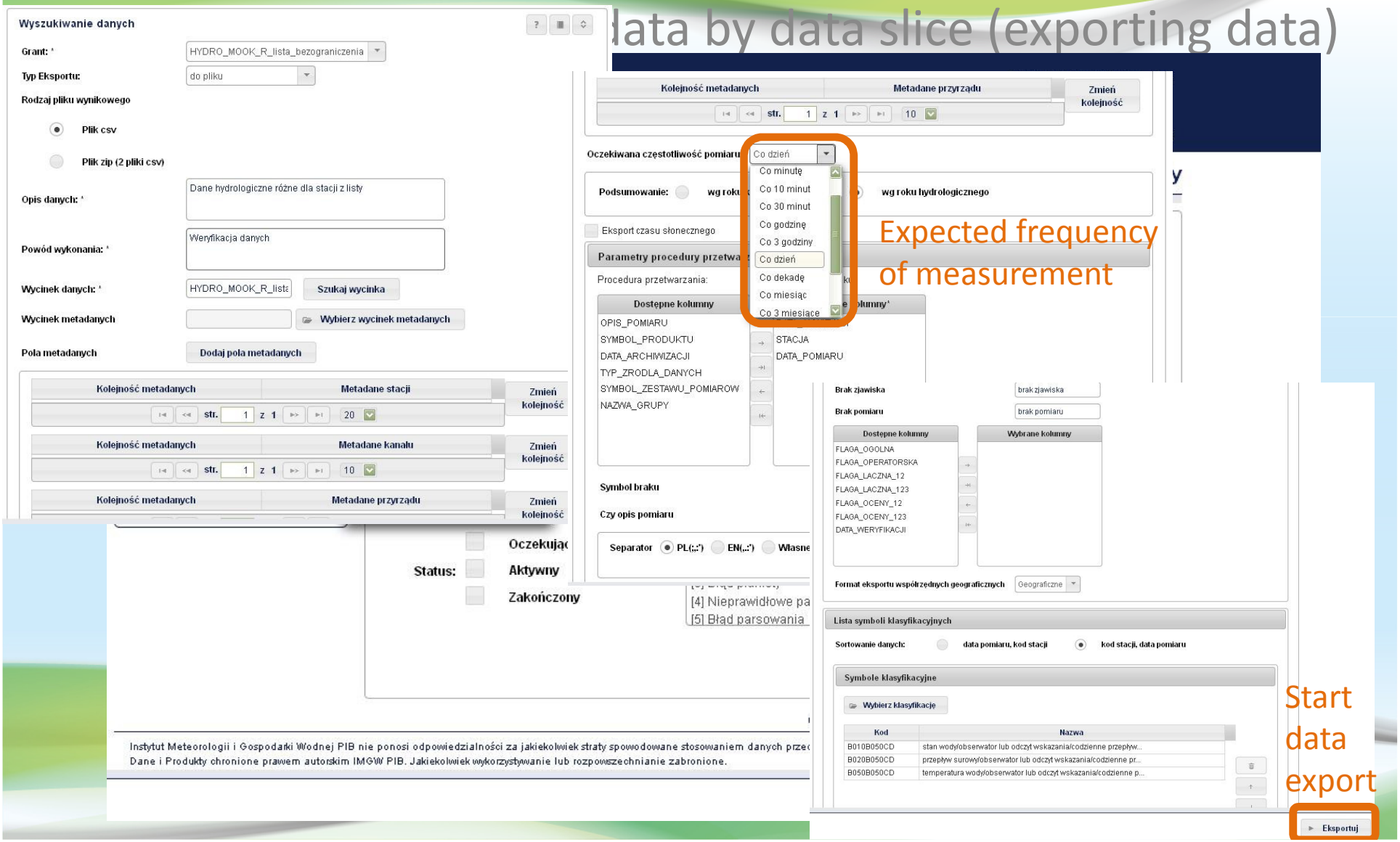
Downloading data from the database

lata by data slice (exporting data)



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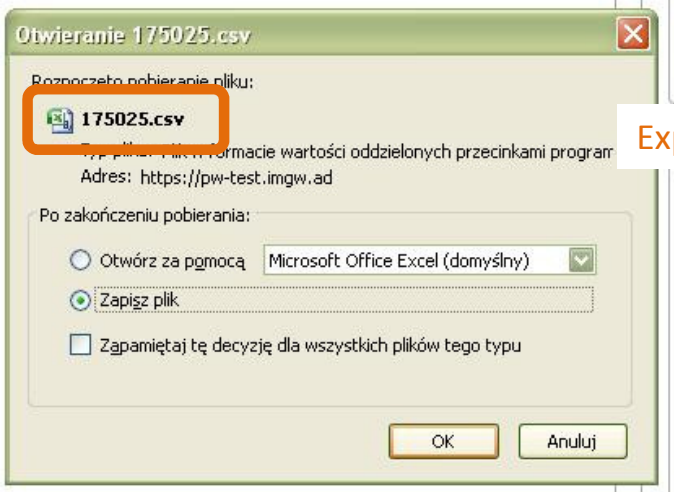
Downloading data from the database



Data export is always done to .csv file

Ilość wierszy w eksporcie: 36482

Nazwa pliku: 175025.csv

Download file

Pobierz plik

Sortowanie: Kod stacji, data pomiaru, istotność daty pomiaru

Expected frequency of measurement: once a day

Oczekiwana częstotliwość pomiaru: Co dzień

Podsumowanie: według roku hydrologicznego

Identyfikator stacji	Nazwa stacji	Rok	Ilość wyeksportowana	Ilość oczekiwana
149180220	PSZCZYNA	2010	304	365
149180220	PSZCZYNA	2011	61	365
149180230	PODKĘPIE	2010	304	365
149180230	PODKĘPIE	2011	61	365
149190150	PEWEL MAŁA	2010	275	365
149190150	PEWEL MAŁA	2011	61	365
149200010	PORONIN	2010	266	365
149200010	PORONIN	2011	61	365
149200110	TRYBSZ 2	2010	304	365
149200110	TRYBSZ 2	2011	61	365
149200150	TYLMANOWA	2010	304	365
149200150	TYLMANOWA	2011	61	365
149200170	PROSZÓWKI	2010	304	365
149200170	PROSZÓWKI	2011	61	365
149210060	TOPOLINY	2010	304	365
149210060	TOPOLINY	2011	61	365
149210150	PUŁAWY	2010	304	365
149210150	PUŁAWY	2011	61	365
149220100	TERKA	2010	304	365
149220100	TERKA	2011	61	365

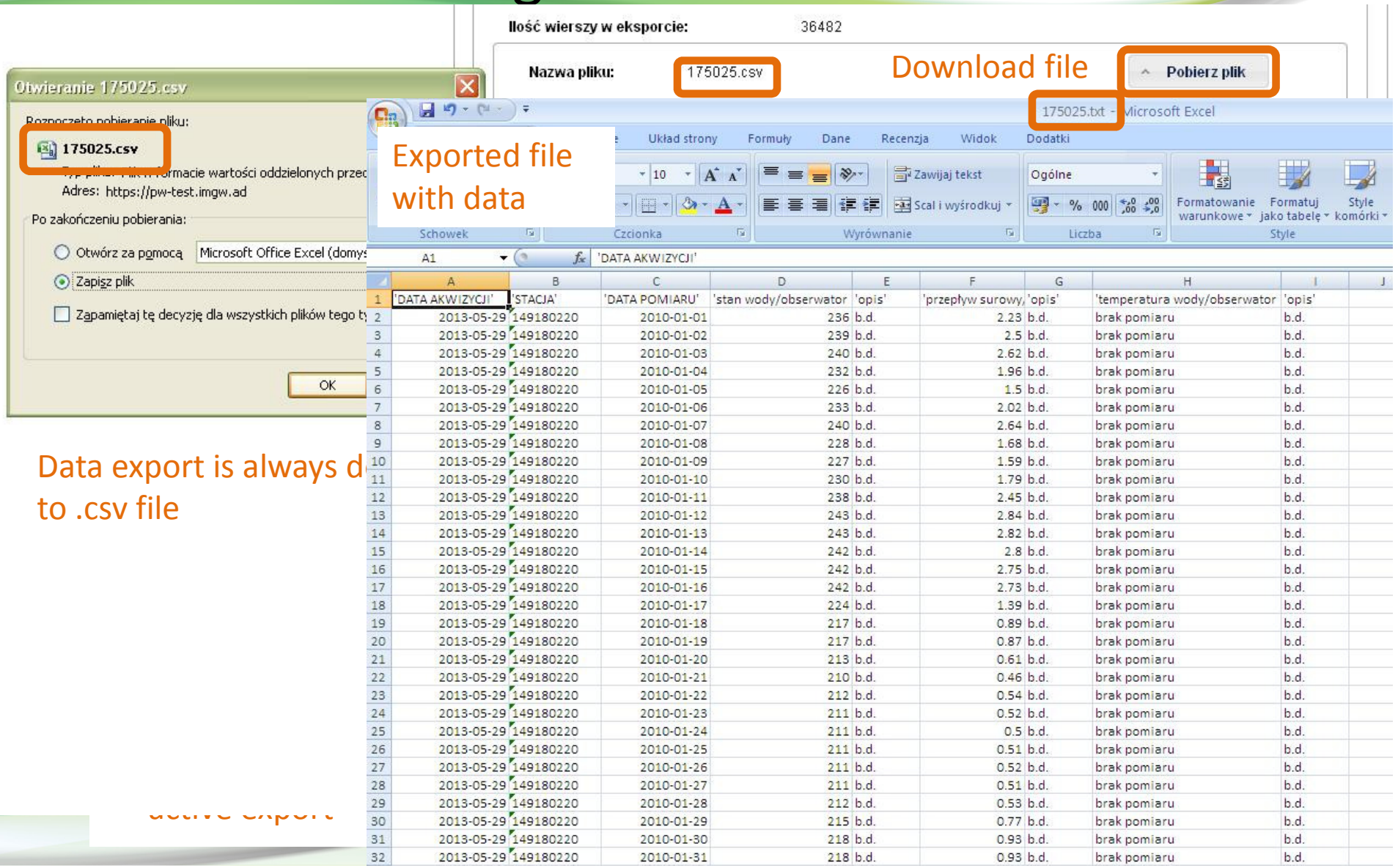
str. 1 z 11 20

Downloaded data

Expected data

172530	2015-05-12 09:05	2015-05-12 09:06	Zakończony	[0] OK	712
172529	2015-05-12 08:53	2015-05-12 08:53	Zakończony	[0] OK	712

Downloading data from the database



	A	B	C	D	E	F	G	H	I	J
1	'DATA AKWIZYCJI'	'STACJA'	'DATA POMIARU'	'stan wody/obserwator	'opis'	'przepływ surowy,	'opis'	'temperatura wody/obserwator	'opis'	
2	2013-05-29	149180220	2010-01-01	236	b.d.	2.23	b.d.	brak pomiaru	b.d.	
3	2013-05-29	149180220	2010-01-02	239	b.d.	2.5	b.d.	brak pomiaru	b.d.	
4	2013-05-29	149180220	2010-01-03	240	b.d.	2.62	b.d.	brak pomiaru	b.d.	
5	2013-05-29	149180220	2010-01-04	232	b.d.	1.96	b.d.	brak pomiaru	b.d.	
6	2013-05-29	149180220	2010-01-05	226	b.d.	1.5	b.d.	brak pomiaru	b.d.	
7	2013-05-29	149180220	2010-01-06	233	b.d.	2.02	b.d.	brak pomiaru	b.d.	
8	2013-05-29	149180220	2010-01-07	240	b.d.	2.64	b.d.	brak pomiaru	b.d.	
9	2013-05-29	149180220	2010-01-08	228	b.d.	1.68	b.d.	brak pomiaru	b.d.	
10	2013-05-29	149180220	2010-01-09	227	b.d.	1.59	b.d.	brak pomiaru	b.d.	
11	2013-05-29	149180220	2010-01-10	230	b.d.	1.79	b.d.	brak pomiaru	b.d.	
12	2013-05-29	149180220	2010-01-11	238	b.d.	2.45	b.d.	brak pomiaru	b.d.	
13	2013-05-29	149180220	2010-01-12	243	b.d.	2.84	b.d.	brak pomiaru	b.d.	
14	2013-05-29	149180220	2010-01-13	243	b.d.	2.82	b.d.	brak pomiaru	b.d.	
15	2013-05-29	149180220	2010-01-14	242	b.d.	2.8	b.d.	brak pomiaru	b.d.	
16	2013-05-29	149180220	2010-01-15	242	b.d.	2.75	b.d.	brak pomiaru	b.d.	
17	2013-05-29	149180220	2010-01-16	242	b.d.	2.73	b.d.	brak pomiaru	b.d.	
18	2013-05-29	149180220	2010-01-17	224	b.d.	1.39	b.d.	brak pomiaru	b.d.	
19	2013-05-29	149180220	2010-01-18	217	b.d.	0.89	b.d.	brak pomiaru	b.d.	
20	2013-05-29	149180220	2010-01-19	217	b.d.	0.87	b.d.	brak pomiaru	b.d.	
21	2013-05-29	149180220	2010-01-20	213	b.d.	0.61	b.d.	brak pomiaru	b.d.	
22	2013-05-29	149180220	2010-01-21	210	b.d.	0.46	b.d.	brak pomiaru	b.d.	
23	2013-05-29	149180220	2010-01-22	212	b.d.	0.54	b.d.	brak pomiaru	b.d.	
24	2013-05-29	149180220	2010-01-23	211	b.d.	0.52	b.d.	brak pomiaru	b.d.	
25	2013-05-29	149180220	2010-01-24	211	b.d.	0.5	b.d.	brak pomiaru	b.d.	
26	2013-05-29	149180220	2010-01-25	211	b.d.	0.51	b.d.	brak pomiaru	b.d.	
27	2013-05-29	149180220	2010-01-26	211	b.d.	0.52	b.d.	brak pomiaru	b.d.	
28	2013-05-29	149180220	2010-01-27	211	b.d.	0.51	b.d.	brak pomiaru	b.d.	
29	2013-05-29	149180220	2010-01-28	212	b.d.	0.53	b.d.	brak pomiaru	b.d.	
30	2013-05-29	149180220	2010-01-29	215	b.d.	0.77	b.d.	brak pomiaru	b.d.	
31	2013-05-29	149180220	2010-01-30	218	b.d.	0.93	b.d.	brak pomiaru	b.d.	
32	2013-05-29	149180220	2010-01-31	218	b.d.	0.93	b.d.	brak pomiaru	b.d.	

Metadata

Modification of metadata tab in database:

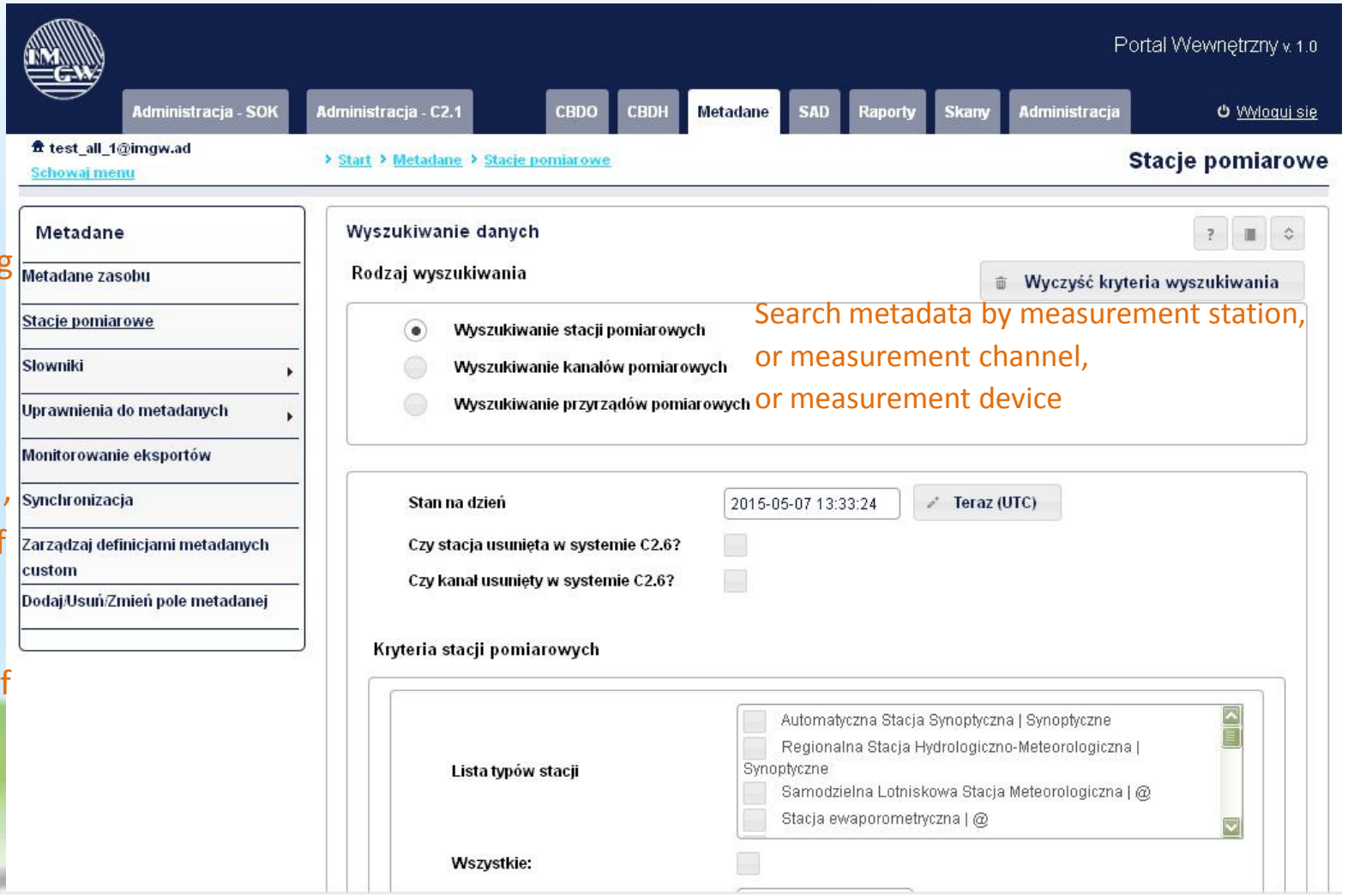
- storage of metadata of station from reference system,
- storage of metadata of measurement device and measurement method from other reference system,
- connection of station metadata with metadata of measurement device and measurement method and with correct data,
- create a new database object type called „measurement channel" to connection of measurement data with station metadata and measurement device metadata (under testing and verification),
- new way of downloading data and metadata from database (under construction and testing):
  - downloading data only - .csv file,
  - downloading metadata only - .csv or .xml file,
  - downloading data and metadata togheter – 1 .csv file or 1 .zip file which consists of 2 .csv file with data and metadata separate files.

Metadata

Screen for searching and viewing metadata

Metadata:

- Metadata set,
- Measurement station,
- Dictionaries with some type of metadata,
- Possibility of giving restriction to changing or adding metadata,
- Monitoring of exporting metadata,
- Synchronization of metadata with reference systems,
- Create new kind of metadata,
- Adding, deleting and changing metadata.



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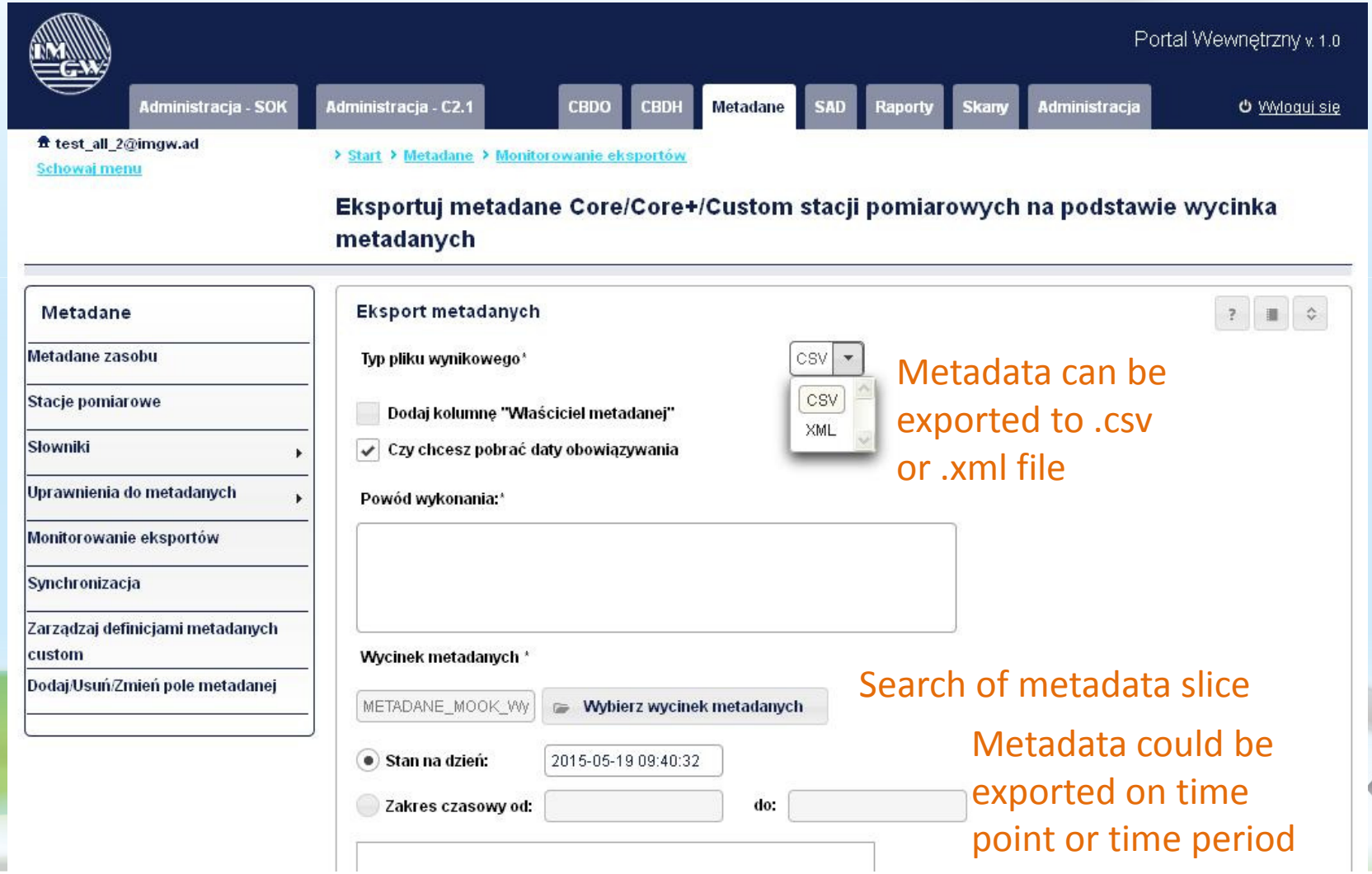
Metadata

Screen for downloading metadata



Metadata can be exported to .csv or .xml file

Search of metadata slice

Metadata could be exported on time point or time period

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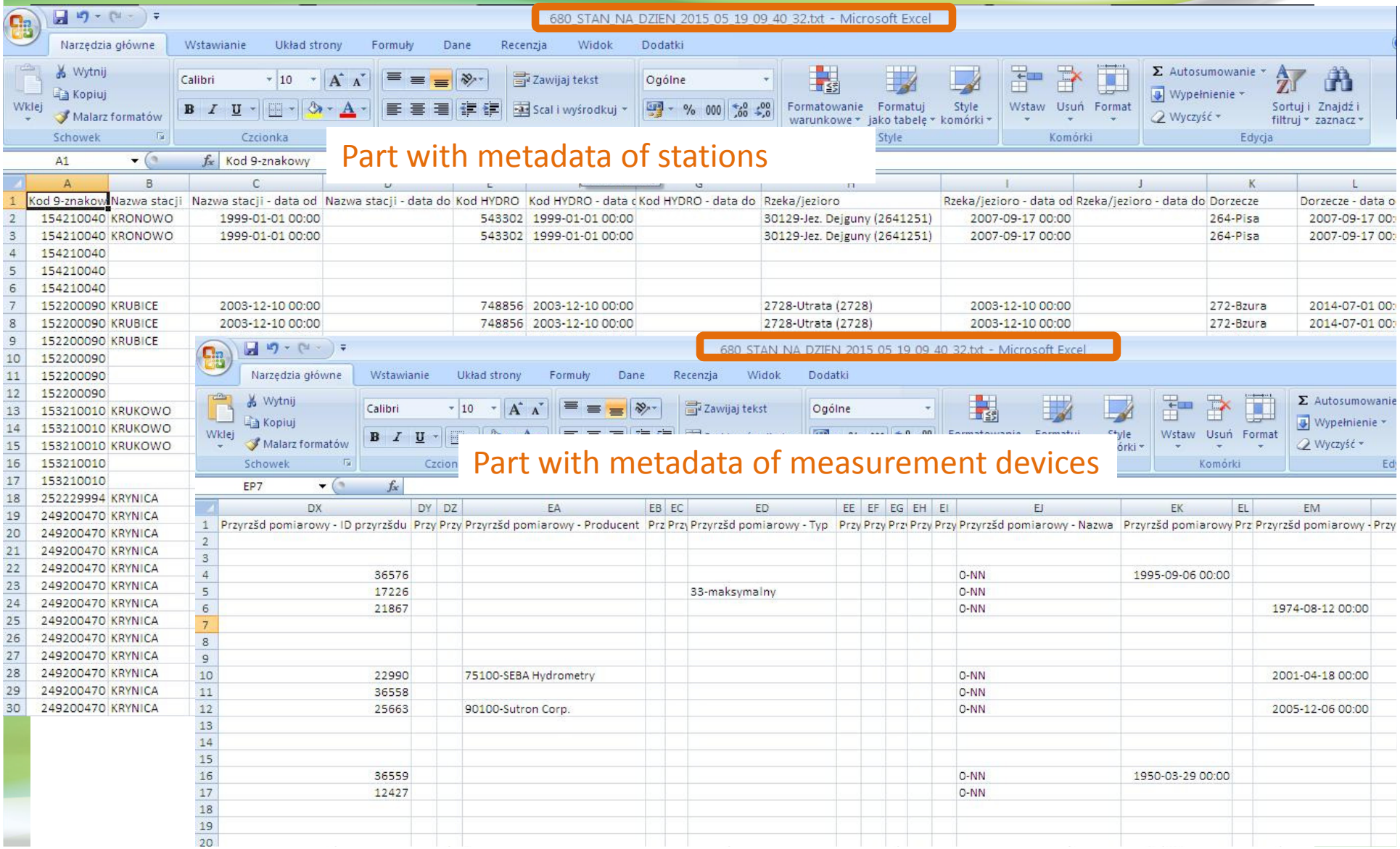
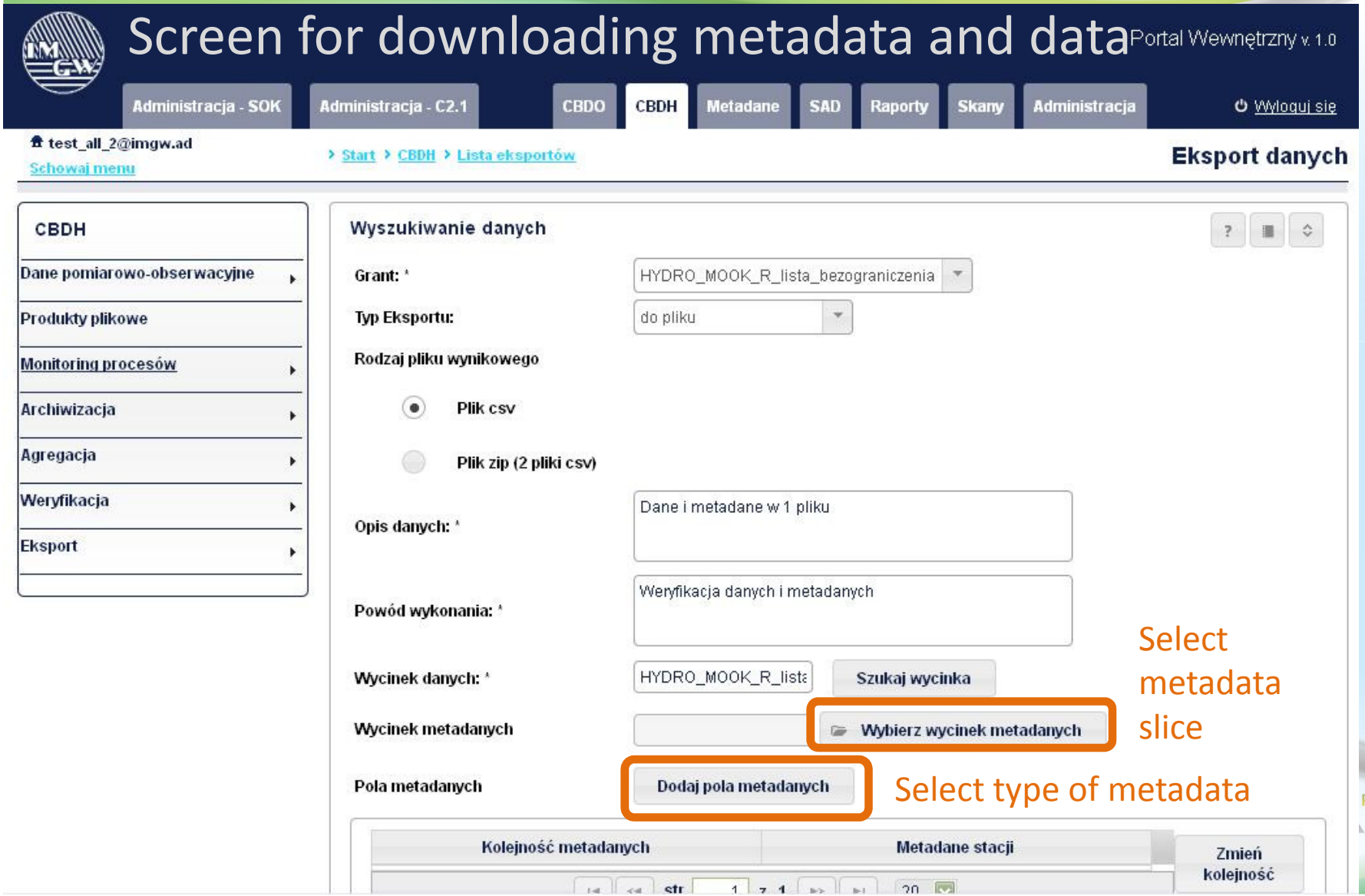
Metadata



Metadata and data

Screen for downloading metadata and data



Select metadata slice

Select type of metadata

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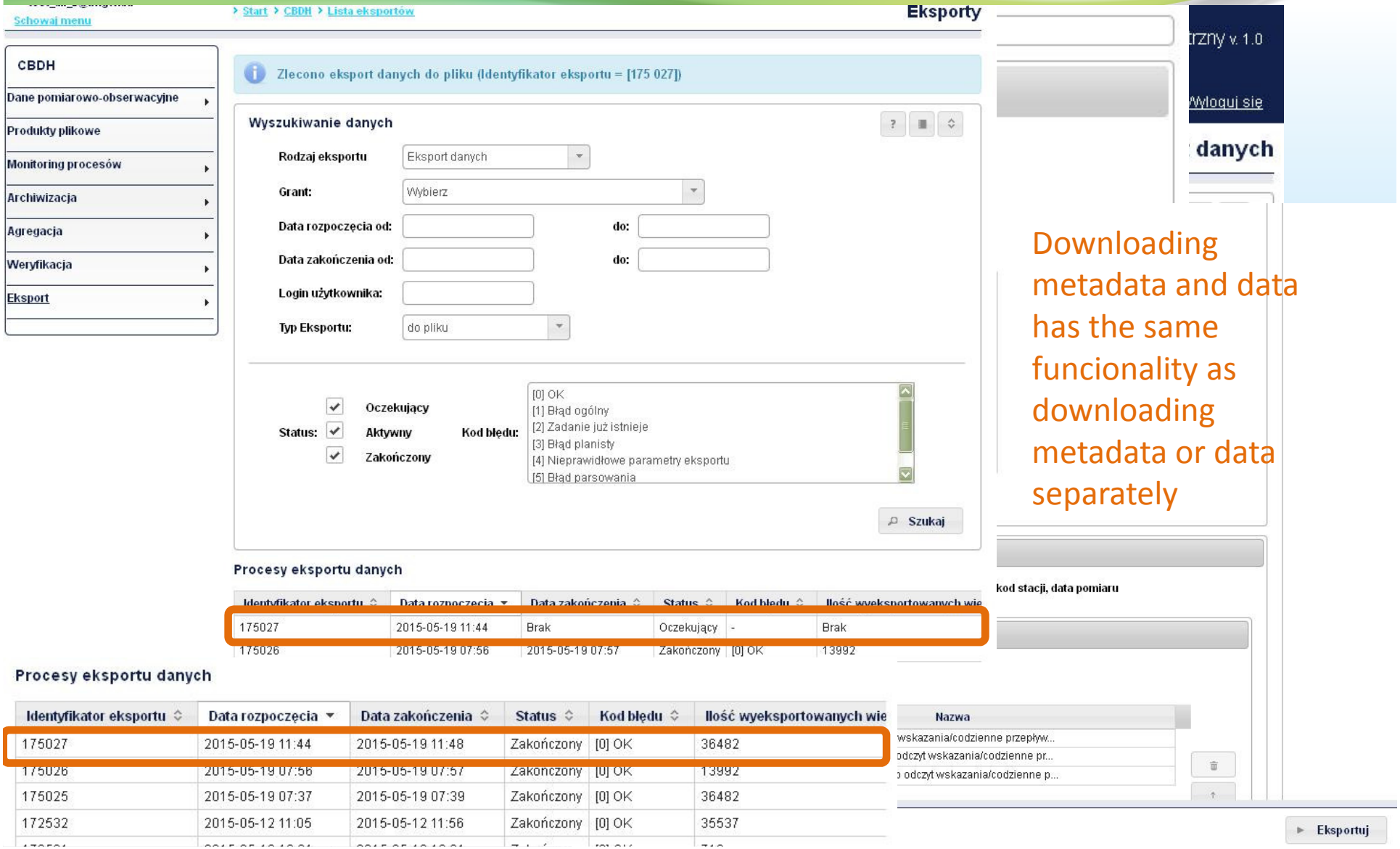
Metadata and data



Downloading metadata and data has the same funcionality as downloading metadata or data separately

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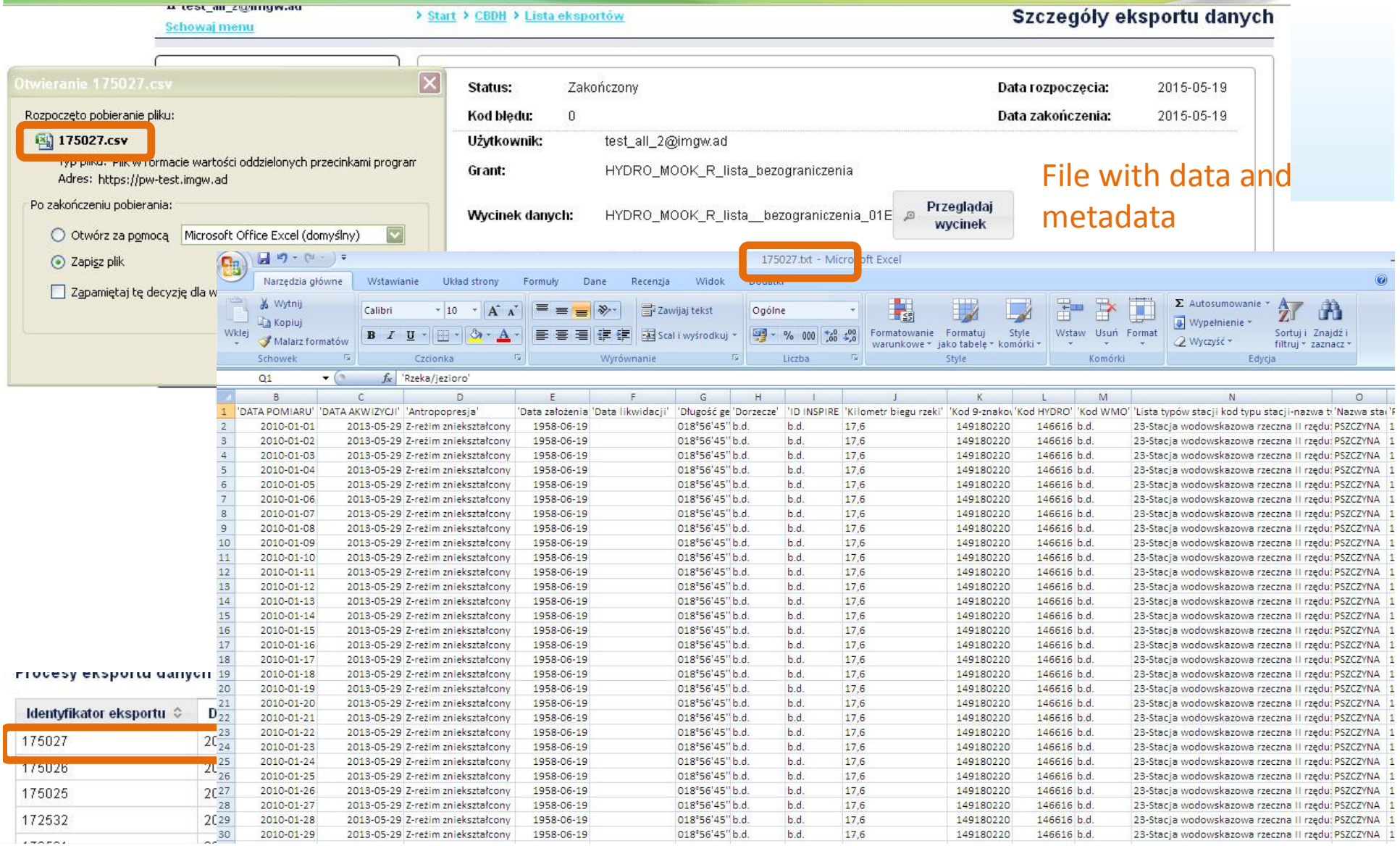
Metadata and data



'DATA POMIARU'	'DATA AKWIZYCJI'	'Antropopresja'	'Data założenia'	'Data likwidacji'	'Długość ge'	'Dorzecze'	'ID INSPIRE	'Kilometr biegu rzeki'	'Kod 9-znako'	'Kod HYDRO'	'Kod WMO'	'Lista typów stacji kod typu stacji-nazwa t'	'Nazwa sta'
2010-01-01	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-02	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-03	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-04	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-05	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-06	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-07	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-08	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-09	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-10	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-11	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-12	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-13	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-14	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-15	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-16	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-17	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-18	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-19	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-20	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-21	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-22	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-23	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-24	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-25	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-26	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-27	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-28	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA
2010-01-29	2013-05-29	Z-reżim zniekształcony	1958-06-19		018°56'45"	b.d.	b.d.	17,6	149180220	146616	b.d.	23-Stacja wodowskazowa rzeczna II rzędu:	PSZCZYNA

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Project ISOK and INSPIRE Directive

Project ISOK pursues the implementation of the INSPIRE Directive in the Ministry of the Environment. IMWM-NRI actively participating in the conceptual work on how to achieve these goals. The effect of this is to create a concept of measuring channel. Measuring channel is a physical object in the database, whose task is to combine the measurement data with metadata of measuring devices. It also allows downloading of relevant data and metadata by ISOK system, which performs their harmonization in accordance to the requirements of the INSPIRE Directive. Work on the correct mapping of data and metadata, which are collected by the Institute, were difficult and time consuming.

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Summary – part 1

INSPIRE Directive Requirements

IMWM-NRI Current database

Part with data (hydrological and meteorological data)	Part with metadata of stations (copy from reference system for metadata)

Modification Step 1

IMWM-NRI Modifications of database (done)

Part with data	Part with metadata of stations (only for viewing of metadata)
New type of stored data	New functionality – automatical actualization from reference system

Modification Step 2

How to harmonize IMWM-NRI data and metadata to implement INSPIRE Directive by ISOK system?

IMWM-NRI Modifications of database

Part with data and new type of stored data	Part with metadata of stations
	New functionalities: -automatical actualization, -downloading metadata,
	Add new type of metadata – metadata of measurement device

Measurement channel

How to download data with metadata together?

Modification Step 3

IMWM-NRI Modifications of database

Part with data and new type of stored data	Measurement channel	Part with metadata of stations and metadata of measurement device
		Add new type of metadata – metadata of measurement channel
	New functionality: – downloading data and metadata	

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Summary – part 2

IMWM-NRI
Modifications of database

Part with data	Measurement channel	Part with metadata

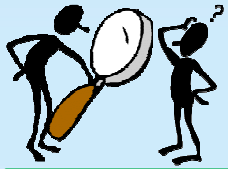
Downloading data and metadata by measurement channel for harmonize it

ISOK Part of ISOK system dedicated to implementation of INSPIRE Directive

Harmonization of data by Project ISOK

Harmonized data and metadata

Sharing data and metadata according to INSPIRE Directive



Common conceptual work of people from Project ISOK and from IMWM-NRI

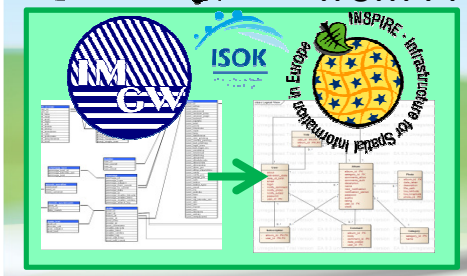


Table with metadata of IMWM-NRI mapping for objects, parameters and attribute of INSPIRE Directive

Institute of Meteorology and Water Management
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Thank you for your attention

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