D.T3.1.3. FUA-LEVEL SELF-ASSESSMENTS ON BACKGROUND CONDITIONS RELATED TO CIRCULAR WATER USE

BTOF 03.2020

Subtitle

Version 1

MM YYYY

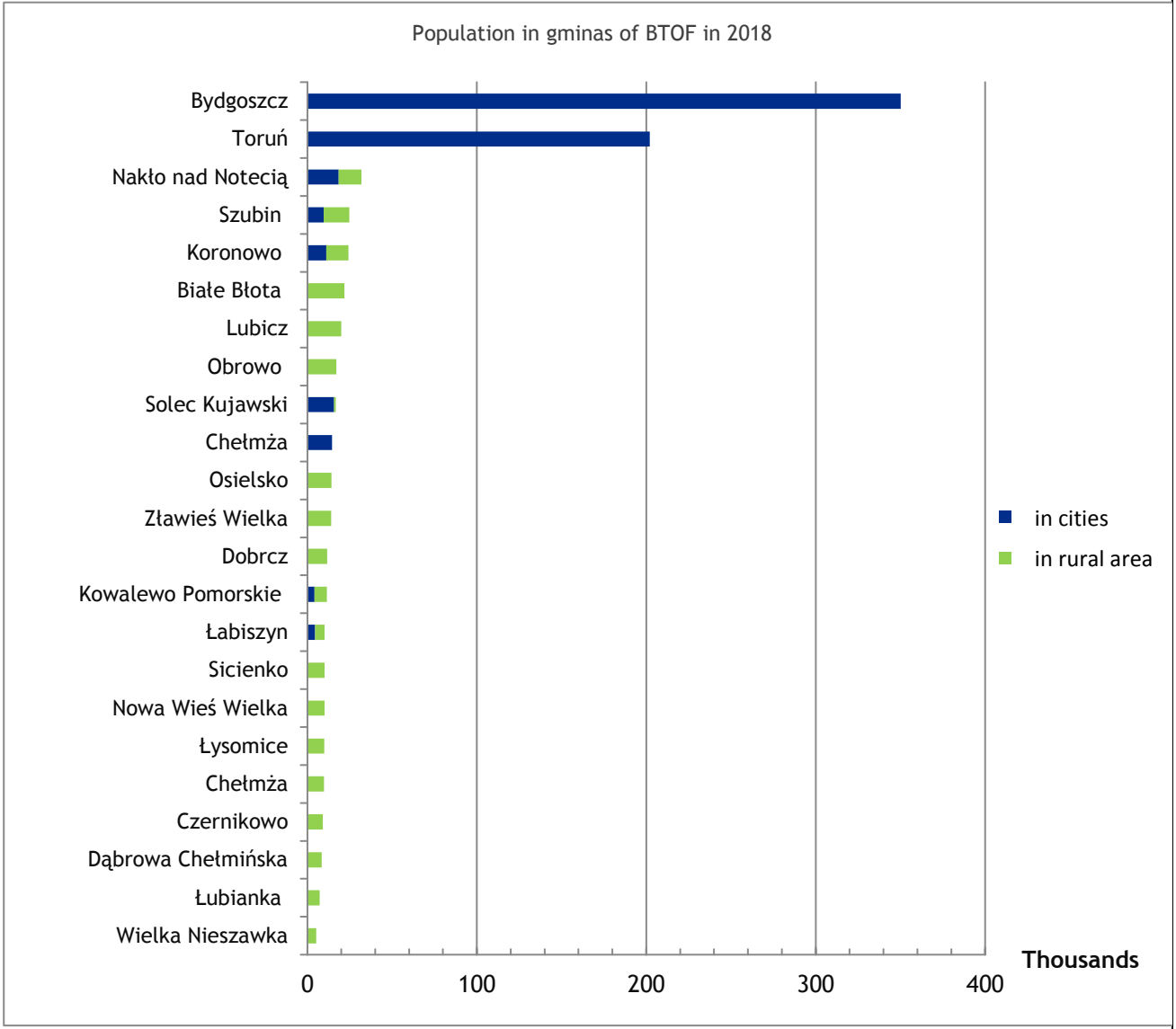
Sommario

A. CLIMATE, ENVIRONMENT AND POPULATION

A1) POPULATION

1) Population living in the FUA in 2018 [inh.]

At the end of 2018 the Bydgoszcz-Toruń Functional Area was inhabited by 854,8 thousand people. Nine cities were inhabited by 630,2 thousand people, i.e. 73,7% of the BTOF population. The largest cities of the area are Bydgoszcz with 350,2 thousand people, and Toruń – 202,1 thousand. The inhabitants of Bydgoszcz i Toruń, together constitute 87,6% of the urban population and 64,6% of all BTOF residents.



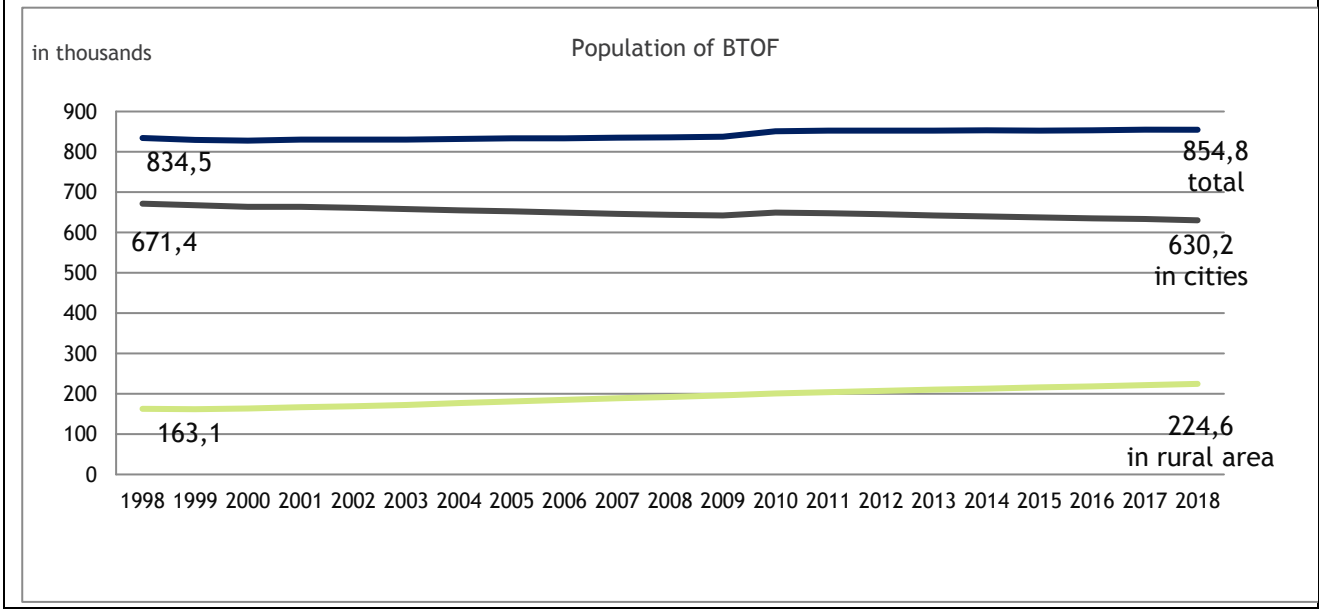
xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank Balance of size and structure of the population in gminas was prepared on the basis of the National Population Censuses including changes connected with vital statistics (births and deaths) and migration of the population (for permanent residence and for temporary stay) and changes caused by administrative changes. Population by place of residence as of 31st December.

2) Population change in the last 20 years in the FUA [inh.]

Table: Population oft he BTOF.

YEAR	Population BTOF				
	total	in cities	in rural area	previous year=100	1998=100
	w osobach				
1998	834 497	671425	163072	100,3	100,0
1999	829 271	667455	161816	99,4	99,4
2000	827 751	663911	163840	99,8	99,2
2001	830 430	663949	166481	100,3	99,5
2002	830 537	661343	169194	100,0	99,5
2003	830 294	657800	172494	100,0	99,5
2004	831 625	654980	176645	100,2	99,7
2005	833 163	652539	180624	100,2	99,8
2006	833 748	649160	184588	100,1	99,9
2007	834 935	646249	188686	100,1	100,1
2008	835 867	643469	192398	100,1	100,2
2009	837 781	641947	195834	100,2	100,4
2010	850 704	649607	201097	101,5	101,9
2011	852 265	647946	204319	100,2	102,1
2012	852 705	645271	207434	100,1	102,2
2013	852 661	642433	210228	100,0	102,2
2014	853 007	640131	212876	100,0	102,2
2015	852 939	637377	215562	100,0	102,2
2016	853 569	635224	218345	100,1	102,3
2017	854 742	633237	221505	100,1	102,4
2018	854 766	630180	224586	100,0	102,4

Chart:



Within 20 years, the population of the BTOF area increased by 2,4%, of which in cities it decreased by 6,1% and in rural areas it increased by 37,7%.

xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank Balance of size and structure of the population in gminas was prepared on the basis of the National Population Censuses including changes connected with vital statistics (births and deaths) and migration of the population (for permanent residence and for temporary stay) and changes caused by administrative changes. Population by place of residence as of 31st December.

A2) CLIMATE

3) Monthly average temperature (max and min) [˚C]

Table:

Average temperaturein ˚C

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I-XII
1998	1,0	3,9	2,2	9,7	14,5	17,3	17,6	16,2	13,6	8,1	-1,2	-1,5	8,4
1999	0,5	-1,0	4,5	9,2	12,9	17,1	20,5	18,2	16,9	8,4	2,6	1,3	9,3
2000	-0,7	2,6	3,7	12,4	15,1	17,5	16,4	18,0	12,4	12,1	6,5	2,0	9,8
2001	-0,1	0,1	2,2	8,1	13,7	15,0	20,2	19,5	12,1	11,3	3,3	-2,5	8,6
2002	0,6	3,9	4,9	8,6	17,5	17,4	20,1	21,1	13,7	7,3	3,9	-5,4	9,4
2003	-2,2	-3,7	2,4	7,5	15,3	18,2	19,3	18,3	14,0	5,1	5,1	1,7	8,4
2004	-5,0	0,6	3,7	8,5	11,9	15,7	17,4	19,2	13,7	9,9	3,7	1,9	8,4
2005	1,4	-2,0	0,3	8,1	13,1	15,7	20,4	17,3	15,8	9,5	3,4	0,0	8,6
2006	-8,1	-2,0	-0,8	8,3	13,5	17,4	23,0	17,5	16,3	10,7	6,2	4,6	8,9
2007	3,9	-0,6	6,2	9,0	14,8	18,8	18,4	18,6	13,2	8,0	2,1	1,0	9,4
2008	1,3	3,8	3,7	8,2	13,5	17,7	19,3	18,3	12,8	9,3	5,0	0,8	9,5
2009	-3,0	-0,4	3,0	10,5	12,9	15,3	18,9	18,9	14,7	6,6	5,9	-1,0	8,5
2010	-7,7	-2,0	3,4	8,1	12,1	16,8	21,7	18,8	12,4	6,1	4,6	-6,0	7,4
2011	-0,1	-4,6	2,9	10,5	14,1	18,3	18,1	18,5	14,8	9,2	3,3	3,0	9,0
2012	-0,4	-5,4	5,0	9,2	15,1	15,8	19,4	18,7	14,0	8,2	5,5	-2,1	8,6
2013	-3,3	-0,4	-2,3	7,5	15,1	17,9	19,1	18,7	11,8	9,9	5,2	2,7	8,5
2014	-2,8	2,7	6,0	10,5	13,5	16,2	22,1	18,0	15,1	10,0	4,9	0,9	9,8
2015	1,5	0,9	5,1	8,1	13,0	16,3	19,1	22,1	14,3	7,3	5,8	4,8	9,9
2016	-2,6	3,3	4,0	9,1	15,8	18,9	19,2	17,8	15,7	7,6	3,0	1,6	9,4
2017	-2,6	-0,2	5,9	7,3	13,9	17,5	18,2	18,8	13,6	10,2	5,2	2,6	9,2
2018	1,1	-3,1	0,4	12,8	17,7	18,8	20,8	20,9	15,9	10,3	4,8	2,1	10,2
1998-2018	**-1,3**	**-0,2**	**3,2**	**9,1**	**14,2**	**17,1**	**19,5**	**18,7**	**14,1**	**8,8**	**4,2**	**0,6**	**9,0**

Average maximal temperature in ˚C

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I-XII
1998	3,9	7,3	6,9	15,1	20,5	22,9	23,2	21,7	18,5	11,4	1,1	1,5	12,8
1999	3,6	2,2	9,4	14,4	19,1	22,1	26,3	24,2	23,0	12,7	5,1	3,6	13,8
2000	1,7	5,8	7,5	18,6	22,3	24,1	20,9	24,1	17,4	16,3	9,2	3,8	14,3
2001	1,8	3,8	6,3	12,5	20,1	20,1	25,5	25,4	16,0	15,5	5,8	0,0	12,7
2002	3,2	7,6	9,6	14,1	23,6	22,8	26,0	27,4	19,2	10,9	6,7	-2,2	14,1
2003	0,7	0,7	7,6	13,1	21,6	24,5	24,8	25,0	20,6	9,5	7,9	3,9	13,3
2004	-2,3	3,4	7,6	14,1	17,3	21,3	23,0	25,4	19,3	14,1	6,5	3,9	12,8
2005	3,6	1,0	4,7	14,4	18,8	21,5	26,7	23,2	22,5	15,2	5,7	1,8	13,3
2006	-4,5	0,8	3,2	13,4	19,3	23,8	30,0	22,2	22,4	15,8	9,3	6,9	13,6
2007	6,4	2,1	11,2	15,6	21,3	24,8	23,5	24,0	18,2	12,3	4,5	2,8	13,9
2008	3,7	6,9	7,6	13,6	19,7	24,6	25,4	23,6	17,3	13,6	7,2	3,1	13,8
2009	-0,1	2,0	6,4	18,1	19,4	20,4	25,2	24,9	21,1	10,1	8,9	1,6	13,2
2010	-5,1	1,1	8,2	14,2	16,6	22,4	27,9	24,2	17,3	11,3	7,1	-3,3	11,8
2011	1,8	-0,8	8,6	16,9	20,5	24,3	22,8	24,1	21,2	14,0	7,0	5,3	13,8
2012	2,1	-1,7	10,4	14,9	21,9	21,2	25,0	24,9	20,0	12,9	7,6	0,2	13,3
2013	-1,2	1,6	1,9	12,7	20,6	23,4	25,1	25,0	17,0	14,9	7,7	4,9	12,8
2014	-0,4	7,2	11,4	16,5	19,0	22,1	28,6	24,2	21,2	14,6	7,5	3,2	14,6
2015	3,7	4,3	10,1	14,2	19,0	22,6	25,6	29,3	20,3	11,9	8,3	7,4	14,7
2016	-0,3	6,3	7,7	14,7	22,2	25,3	25,1	23,7	22,7	10,0	5,7	3,9	13,9
2017	0,0	3,0	10,5	12,4	19,5	23,2	23,4	24,7	18,0	13,8	7,3	4,4	13,4
2018	3,3	-0,2	4,7	19,3	23,8	25,2	26,8	27,2	22,5	16,0	7,5	4,0	15,0
1998-2018	**1,2**	**3,1**	**7,7**	**14,9**	**20,3**	**23,0**	**25,3**	**24,7**	**19,8**	**13,2**	**6,8**	**2,9**	**13,6**

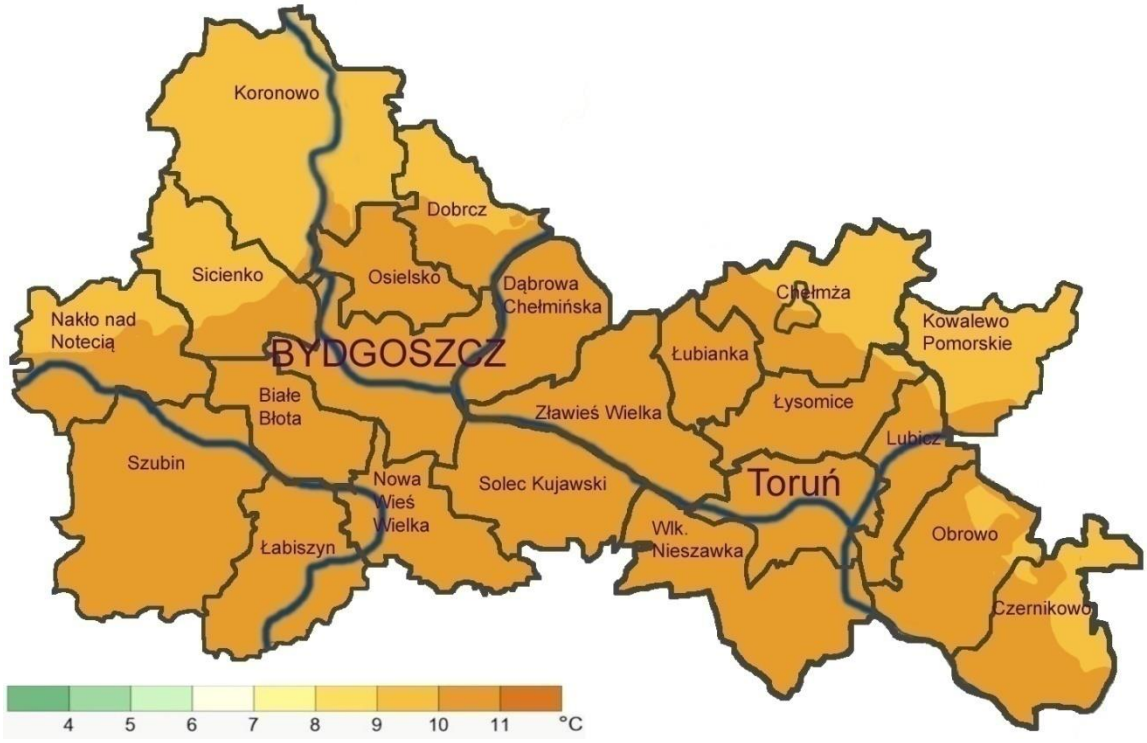
Average minimal temperature in ˚C

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I-XII
1998	-2,0	0,3	-2,2	4,9	8,3	11,9	12,4	11,8	9,0	4,9	-3,8	-4,8	4,2
1999	-2,6	-4,0	0,3	4,1	6,1	12,0	14,7	12,1	10,7	5,3	0,3	-1,2	4,8
2000	-3,2	-0,3	0,3	5,6	7,4	10,8	12,4	12,0	7,4	8,4	3,8	-0,4	5,3
2001	-2,3	-3,8	-1,7	3,5	7,4	9,6	15,1	14,2	8,7	7,5	0,5	-5,5	4,4
2002	-2,5	0,4	0,7	2,8	10,8	11,7	14,5	14,8	8,8	4,1	1,0	-8,9	4,8
2003	-5,2	-7,9	-2,5	1,3	8,7	11,1	14,0	11,9	7,5	1,1	2,2	-0,5	3,5
2004	-8,5	-2,3	0,3	2,7	6,5	10,3	12,1	13,8	8,6	5,9	0,9	-0,3	4,2
2005	-0,7	-4,7	-3,9	1,7	7,5	9,9	14,0	11,4	9,6	4,1	0,8	-1,5	4,0
2006	-11,8	-4,9	-5,1	3,5	7,5	10,8	15,8	14,0	11,1	6,4	3,6	2,3	4,4
2007	1,4	-2,9	1,3	2,1	8,4	13,1	13,8	13,6	8,9	4,2	-0,2	-0,9	5,2
2008	-1,1	1,1	0,5	2,7	6,6	9,9	12,9	13,5	8,8	5,7	2,6	-1,5	5,1
2009	-5,9	-2,6	0,1	1,9	6,6	10,9	13,7	12,7	8,9	3,6	3,2	-3,3	4,2
2010	-10,8	-5,7	-1,1	2,3	8,4	10,3	15,5	14,2	8,5	1,4	1,9	-9,3	3,0
2011	-2,0	-8,2	-2,2	3,9	7,1	12,0	14,4	13,5	9,4	5,3	0,4	0,5	4,5
2012	-2,9	-9,1	-0,2	3,1	8,5	10,7	14,4	13,2	8,9	4,6	3,4	-4,7	4,2
2013	-5,7	-2,0	-6,1	2,7	9,7	12,3	13,1	13,1	7,2	5,4	2,9	0,1	4,4
2014	-4,8	-1,2	1,3	5,1	8,2	10,7	15,8	12,7	9,8	6,2	2,8	-1,3	5,4
2015	-0,5	-2,3	0,7	2,5	6,7	10,2	13,3	14,6	9,5	3,3	3,5	2,2	5,3
2016	-4,9	0,5	0,6	4,1	9,3	12,6	14,0	12,6	9,4	5,3	0,4	-0,7	5,3
2017	-5,2	-2,8	2,0	3,2	8,5	12,4	13,3	13,7	10,5	7,1	3,0	0,5	5,5
2018	-1,1	-6,0	-3,6	6,7	10,6	12,4	15,0	15,0	10,7	5,5	2,5	0,2	5,7
1998-2018	**-3,9**	**-3,3**	**-1,0**	**3,4**	**8,0**	**11,2**	**14,0**	**13,3**	**9,1**	**5,0**	**1,7**	**-1,9**	**4,6**

Chart:

Monthly average temperature in 1998-2018 in ˚C

An average temperature in 2018 r.



On the basis: CLIMATE MONITORING BULLETIN OF POLAND YEAR 2018;
POLISH INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE

☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: POLISH INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE; Bulletin of the State Hydrological and Meteorological Service; Hydrological and meteorological station in Toruń.

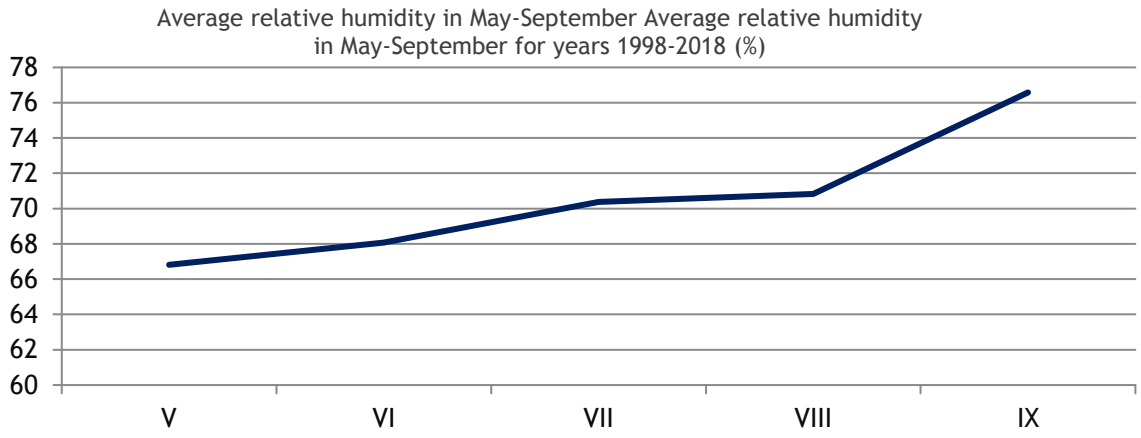
4) Average relative humidity in summer months [%]

Table:

Average relative humidity in May-September [%]

Miesiąc / Rok	V	VI	VII	VIII	IX	I-XII
	w%					
1998	69	72	72	74	81	79
1999	66	77	68	67	68	78
2000	57	61	78	72	76	76
2001	66	75	75	73	85	79
2002	67	72	71	69	78	77
2003	63	57	74	66	68	74
2004	68	65	70	69	73	76
2005	72	68	63	69	71	77
2006	66	67	54	82	76	78
2007	69	70	75	75	80	79
2008	65	58	65	73	82	78
2009	70	78	77	67	76	79
2010	80	69	66	78	82	80
2011	66	67	81	73	76	77
2012	62	74	75	72	77	78
2013	70	72	73	72	84	79
2014	73	71	62	70	74	78
2015	63	64	65	55	78	74
2016	64	62	72	73	71	77
2017	68	69	74	73	84	79
2018	59	61	69	65	69	73
1998-2018	**67**	**68**	**70**	**71**	**77**	**77**

Chart:



☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: POLISH INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE Bulletin of the State Hydrological and Meteorological Service Hydrological and meteorological station in Toruń.

A3) SEALING SOIL

5) FUA total area [km^2]

	Total		In cities		In rural areas	
	in km^2	BTOF=100	in km^2	BTOF=100	in km^2	BTOF=100
BTOF	3744	100,0	372	100	3372	100,0
cities (urban gminas)						
Bydgoszcz	176	4,7	176	47,3	–	x
Toruń	116	3,1	116	31,2	–	x
Chełmża	7	0,2	7	1,9	–	x
urban-rural gminas:						
Koronowo	412	11,0	28	7,5	384	11,4
Szubin	332	8,9	8	2,2	324	9,6
Nakło nad Notecią	187	5,0	11	3,0	176	5,2
Solec Kujawski	175	4,7	19	5,1	156	4,6
Łabiszyn	167	4,5	3	0,8	164	4,9
Kowalewo Pomorskie	141	3,8	4	1,1	137	4,1
rural gminas:						
Wielka Nieszawka	216	5,8	–	x	216	6,4
Sicienko	180	4,8	–	x	180	5,3
Chełmża	180	4,8	–	x	180	5,3
Zławieś Wielka	178	4,8	–	x	178	5,3
Czernikowo	170	4,5	–	x	170	5,0
Obrowo	162	4,3	–	x	162	4,8
Nowa Wieś Wielka	148	4,0	–	x	148	4,4
Dobrcz	130	3,5	–	x	130	3,9
Łysomice	127	3,4	–	x	127	3,8
Dąbrowa Chełmińska	125	3,3	–	x	125	3,7
Białe Błota	123	3,3	–	x	123	3,6
Lubicz	106	2,8	–	x	106	3,1
Osielsko	102	2,7	–	x	102	3,0
Łubianka	84	2,3	–	x	84	2,5

Map of BTOF

xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank DATA OF THE HEAD OFFICE OF GEODESY AND CARTOGRAPHY; as of 31st December. Information about territorial division and its units is updated as of 31 December every reported year on the basis of the official register TERYT - TERC99 system. Information concerning the number of localities is announced by official register TERYT - SIMC99 system.

6) Percentage of sealed soil [%]

Table: Geodetic area according to the directions of use in 2014

	W ha	W %
Total area	374363	100,0
Built-up and urbanized areas	28730	7,7
Lands under surface flowing waters	7725	2,1
Lands under surface standing waters	1047	0,3
Forest land as well as woody and bushy land	133904	35,8
Agricultural land	193152	51,5
Ecological areas and waste land	7772	2,1
Miscellaneous land	2033	0,5

Map:

xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank DATA OF THE HEAD OFFICE OF GEODESY AND CARTOGRAPHY; as of 31st December. Information about territorial division and its units is updated as of 31 December every reported year on the basis of the official register TERYT - TERC99 system. Information concerning the number of localities is announced by official register TERYT - SIMC99 system. Data concerning geodetic area according to the directions of use for gminas level are available only for the years 2012-2014.

7) Time series of the percentage of sealed soil [%]

Table:

No data for BTOF

Chart:

☐Measured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Data concerning geodetic area according to the directions of use for gminas level are available only for the years 2012-2014.

A4) GREEN SPACES IN URBANIZED AREAS

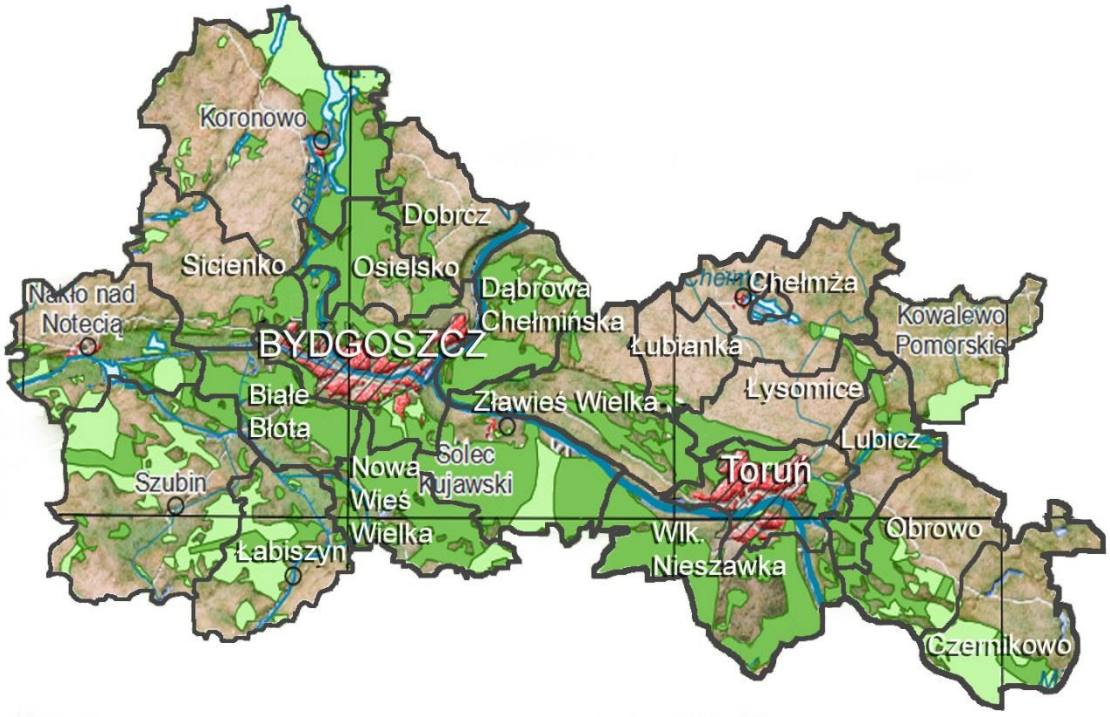
8) Green area in the entire FUA [km^2]

	Green areas						Green areas in % of total area
	Total	strolling-recreational parks	lawns	street greenery	green areas of the housing estate	forests	
	in km^2						
BTOF	1293,7	10,0	1,6	7,8	4,7	1269,5	34,6

xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank Generally accessible and estate area green belts on the basis of: reports SG-01 — statistics of the commune: forestry and environmental protection, Annex toreports M-01 - housing resources, regarding housing estate greenery.

9) Percentage of green spaces within urbanized areas [%]

Map:



On the basis of: http://atlas.kujawsko-pomorskie.pl/maps/app/map

Description:

There are 45 parks located within BTOF, of which 31 in Bydgoszcz, 4 in Toruń and the remaining 10 in other smaller towns in the area. Most of the parks are located in the city centre. The largest park not only in the region, but in Poland as a whole is Myślęcinek, with an area of 8 km2, which is only 3 km from the city centre.

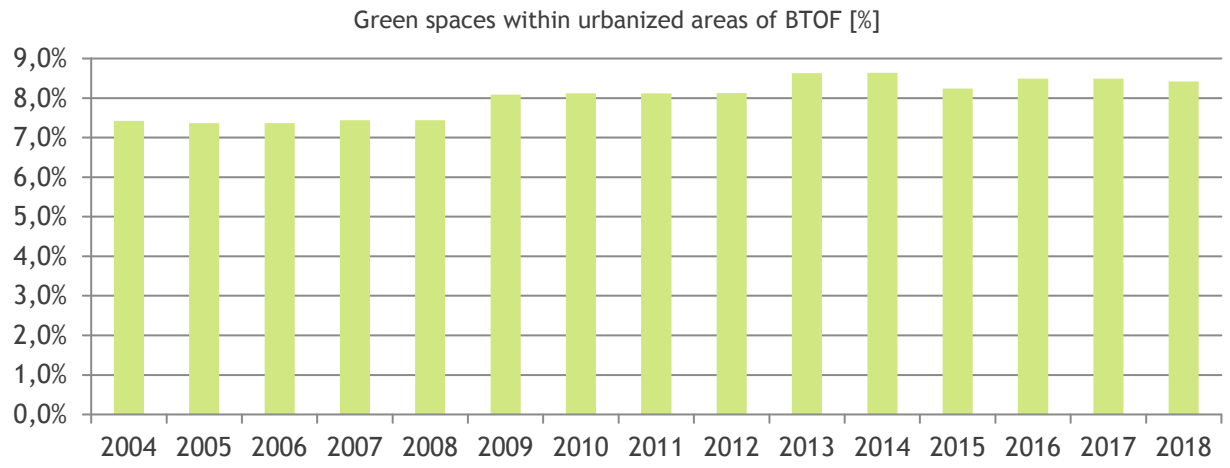
xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank Generally accessible and estate area green belts on the basis of: reports SG-01 — statistics of the commune: forestry and environmental protection, Annex toreports M-01 - housing resources, regarding housing estate greenery.

10) Time series of the percentage of green spaces within urbanized areas [%]

Table: Green spaces (strolling-recreational parks, lawns, street greenery, green areas of the housing estate) within urbanized areas of BTOF [%]

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
	w %														
BTOF	7,42	7,37	7,37	7,44	7,44	8,09	8,12	8,12	8,13	8,63	8,64	8,24	8,49	8,49	8,42

Chart



xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank Generally accessible and estate area green belts on the basis of: reports SG-01 — statistics of the commune: forestry and environmental protection, Annex toreports M-01 - housing resources, regarding housing estate greenery.

B. WATER RESOURCES

B1) ANNUAL PRECIPITATION

11) Average annual precipitation [mm]

Annual precipitation in 2018 r. **411,2 mm**

☐Measured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: POLISH INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE Bulletin of the State Hydrological and Meteorological Service Hydrological and meteorological station in Toruń.

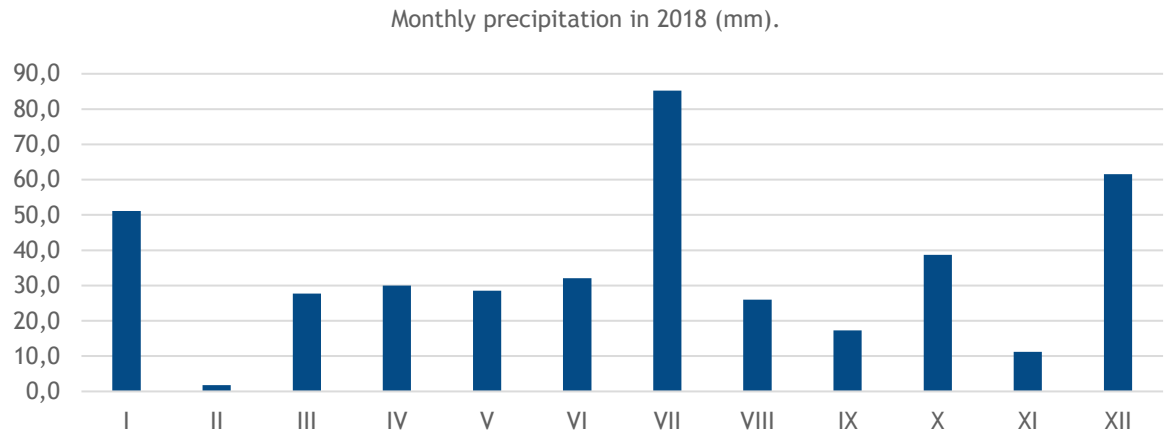
12) Monthly precipitation [mm]

Table:

Monthly precipitation in 2018 [mm]

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	I-XII
2018	51,1	1,8	27,7	30,0	28,5	32,1	85,2	26,0	17,3	38,7	11,2	61,6	411,2

Chart:



☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: POLISH INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE Bulletin of the State Hydrological and Meteorological Service Hydrological and meteorological station in Toruń.

13) Trend of annual precipitation [mm]

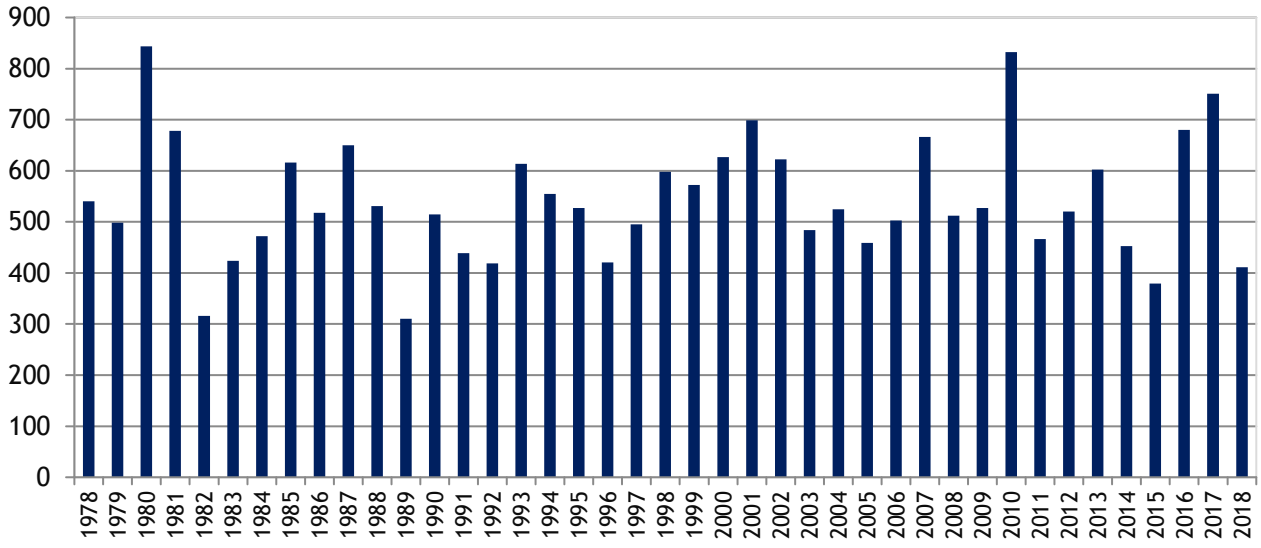
Table:

Tabela: Annual precipitation [mm]

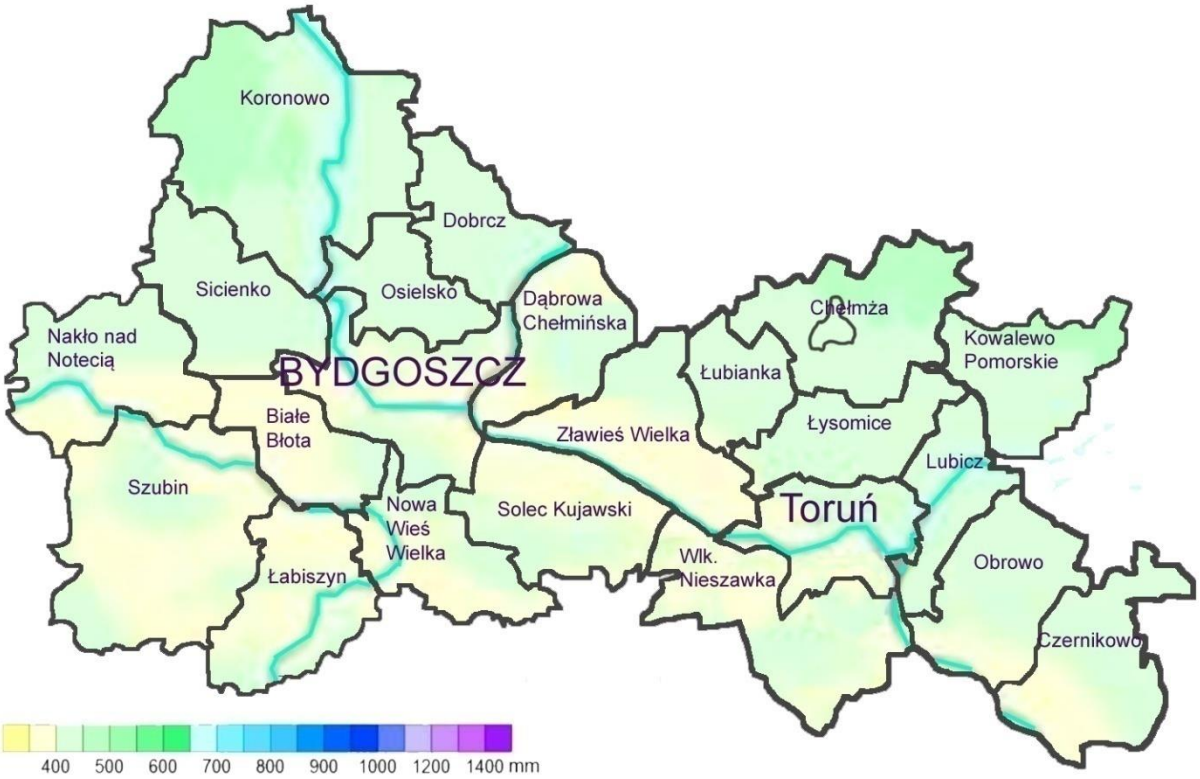
Rok	Precipitation w mm	Rok	Precipitation w mm	Rok	Precipitation w mm
1978	540,0	1992	418,4	2006	502,6
1979	498,3	1993	613,8	2007	666,1
1980	843,3	1994	554,4	2008	512,3
1981	678,2	1995	526,9	2009	527,3
1982	316,1	1996	420,4	2010	832,2
1983	423,9	1997	494,9	2011	466,5
1984	471,8	1998	598,2	2012	520,5
1985	616,1	1999	572,0	2013	602,4
1986	517,4	2000	626,7	2014	452,4
1987	650,0	2001	698,8	2015	379,4
1988	531,1	2002	622,5	2016	680,2
1989	310,4	2003	483,8	2017	751,1
1990	514,4	2004	524,8	2018	411,2
1991	438,9	2005	458,6	**średniorocznie 1998-2018**	**543,1**

Chart:

Annual precipitation in mm.



Annual precipitation in 2018 in BTOF



On the basis: CLIMATE MONITORING BULLETIN OF POLAND YEAR 2018;
POLISH INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE

☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: POLISH INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE Bulletin of the State Hydrological and Meteorological Service Hydrological and meteorological station in Toruń.

B2) RIVER, CHANNELS AND LAKES

14) List of main rivers and channels within the FUA, and their flow rate (average 2018 and monthly flow 2018) [-]

Water body name	Flow rate [m^3/s]
Wisła Toruń Bydgoszcz Fordon	 771 830
Brda	49
Drwęca	no data
Biała Struga	no data
Dopływ z Brzeźna	no data
Dopływ z Dobrzejewic (Bywka)	no data
Dopływ z Gościeradza	no data
Dopływ z Siemonia	no data
Flis	no data
Fryba	no data
Gąsawka	no data
Jordan	no data
Kotomierzyca	no data
Krówka	no data
Noteć	no data
Stare koryto Brdy	no data
Lucimska Struga	no data
Struga Lubicka	no data
Struga Młyńska	no data
Struga Rychnowska	no data
Struga Toruńska	no data
Struga Wierzchucińska	no data
Kanał Bydgoski	no data
Kanał Nieszawski	no data
Kanał Smyrnia	no data
Kanał Zielona Struga	no data
Dolny Kanał	no data
Górny Kanał	no data

Source: Chief Inspectorate for Environmental Protectionand data of municipal offices.

Average flow data:

Wisła - DAILY HYDROLOGICAL BULLETIN; WATER STATES AT SELECTED WATER INDICATOR STATIONS IN WISŁA BASIN; 19.03.2020 at 7:00; INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE
Brda - Operational data - data with various levels of processing, data from the hydrological and meteorological measurement and observation network, with data processing systems and with data receiving stations, data for current hydrological and meteorological analysis as well as data based on the hydrology System database and a central database. IMGW-PIB. Flow value read from the flow rate curve. As of 17.08.2017.
INSTITUTE OF METEOROLOGY AND WATER MANAGEMENT - NATIONAL RESEARCH INSTITUTE

15) Synthetic water quality evaluation (ecological and chemical status) for each of the rivers and channels identified (include quantitative parameters, if available) [-]

Water body name (examined in 2017-2018)	Water quality	
	ecological status / potential	chemical status
Biała Struga	4	no data
Brda	2	no data
Dopływ z Brzeźna	3	no data
Dopływ z Dobrzejewic (Bywka)	3	no data
Dopływ z Gościeradza	3	no data
Dopływ z Siemonia	3	no data
Flis	3	no data
Gąsawka	3	no data
Jordan	4	no data
Kotomierzyca	3	no data
Krówka	3	no data
Lucimska Struga	3	no data
Noteć (Kanał Notecki)	3	under good status
Stare koryto Brdy	3	no data
Struga Młyńska	3	no data
Struga Rychnowska	3	no data
Kanał Bydgoski	3	under good status
Kanał Nieszawski	4	no data
Kanał Smyrnia	4	no data
Kanał Zielona Struga	3	no data
Dolny Kanał	4	no data
Górny Kanał	3	no data
Wisła (Górsk)*	3	dobry

Source: Chief Inspectorate for Environmental Protection

The assessment of ecological status / potential was carried out in accordance with the ordinance of the Minister of the Environment on the method of classification of the status of surface water bodies and environmental standards, quality for priority substances of 5 August 2016 (Journal of Laws item 1187).

Ecological status / potential is determined on the basis of biological assessment, supported by physicochemical and hydromorphological assessment on a five stagest scale, as: 1 - very good ... 5 bad.

* The assessment of Wisła status was carried out in 2016 – REPORT ON THE KUJAWSKO-POMORSKIE VOIVODSHIP ENVIRONMENT IN 2016 - WIOŚ 2017 Inspekcja Ochrony Środowiska, Bydgoszcz 2017

16) List of main lakes and reservoirs within the FUA, an their water storage (average 2018 and monthly variation 2018) [-]

Water body name	Water storage [m^3]
Zbiornik Koronowo	80 600 000,0
Zbiornik Martówka	40 000,0
Zbiornik Kaszownik	20 000,0
Archidiakonka	no data
Borówno	no data
chełmżyńskie	16 451,9
Dobrcz	no data
Głęboczek	no data
Głuchowskie	no data
Grodzieńskie	no data
Jeziorek	no data
Jezuickie	5 063,1
Kamionkowskie	5 354,3
Kaszownik	no data
Kona	no data
Mlewieckie	no data
Nagus	362 000,0
Słupowskie	no data
Staw na Barbarce	no data
Staw na Podgórzu	no data
Stawy Mokrzańskie	no data
Studzienne	no data
Wąsoskie	7 009,0
Wielkie	b.d.
Wierzchucińskie duze	b.d.
Wierzchucińskie małe	2 850,8
Żędowskie	6 366,9

Source: Chief Inspectorate for Environmental Protection and data of municipal offices.

17) Synthetic water quality evaluation (ecological and chemical status) for each of the main lakes and reservoirs identified (include quantitative parameters, if available) [-]

Water body name (examined in 2014-2018)	Water quality	
	ecological status / potential	chemical status
Zbiornik koronowo	umiarkowany	b.d.
Chełmżyńskie	dobry	b.d.
Jezuickie	dobry	b.d.
Kamionkowskie	dobry	dobry
Mlewieckie	zły	b.d.
Słupowskie	umiarkowany	b.d.
Wąsoskie	bardzo dobry	dobry
Wierzchucińskie małe	umiarkowany	dobry
Żędowskie	dobry	dobry

The assessment of ecological status / potential was carried out in accordance with the ordinance of the Minister of the Environment on the method of classification of the status of surface water bodies and environmental standards, quality for priority substances of 5 August 2016 (Journal of Laws item 1187).

A synthetic summary of the assessment of ecological status / potential, chemical status n of the lakes examined in 2014-2018 : very good, good, moderate, weak, bad.

B3) GROUND WATER

18) Trend of water level of ground water [m]

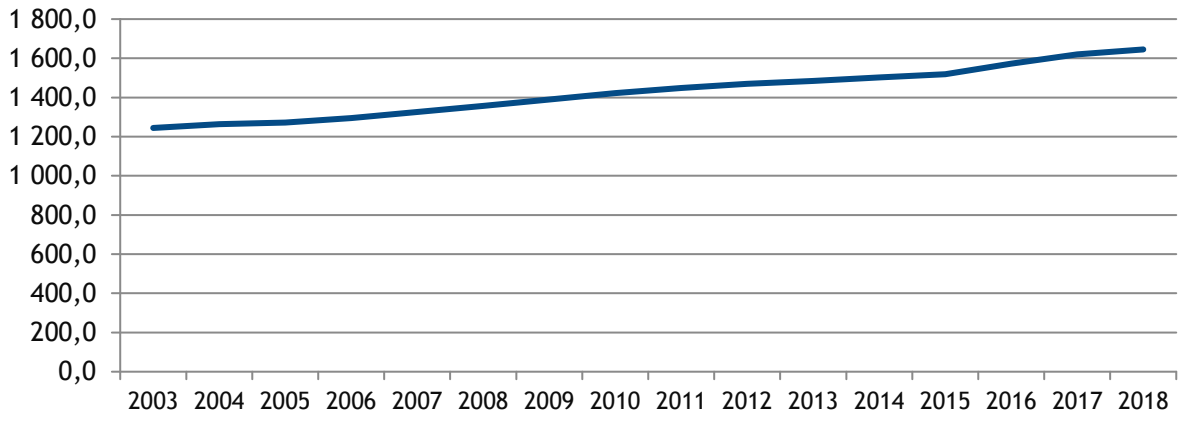
Table:

Usable underground water resource in kujawsko-pomorskie voidodship.

Year	[hm3]
2003	1 244,4
2004	1 263,9
2005	1 271,7
2006	1 295,3
2007	1 326,0
2008	1 356,5
2009	1 389,1
2010	1 421,8
2011	1 448,4
2012	1 470,1
2013	1 484,6
2014	1 501,7
2015	1 519,4
2016	1 572,7
2017	1 619,8
2018	1 645,2

Chart:

Usable underground water resource in kujawsko-pomorskie voidodship.



Source: Statistics Poland; Local Data Bank

No data for units under voivodship level.

C. INFRASTRUCTURES

C1) WATER DISTRIBUTION SYSTEM - POPULATION WITH ACCESS TO FRESH WATER

19) Percentage of population with access to the water supply network [%]	
In 2018 — 95,1% of BTOF population.	
xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank

20) What kind of water purification/treatment arein use, what is planned? [-]

- Underground water intake (Mała Nieszawka) - raw water is fed in a 1-stage system from the intake to the network through treatment in the process of filtration and disinfection.
- Surface water intake (Drwęca) - water from the Drwęca river intake, after preliminary mechanical purification in the intake chamber through a 1st stage pumping station, is pumped through pipelines to tanks, where the process of preliminary ozonization takes place. Then, if necessary, the water reaction (pH) is corrected. The next treatment stages are coagulation, flocculation and sedimentation, followed by filtration on open gravitational haste filters, secondary ozoneation and re-filtration (carbon filters). The end of the treatment process is water disinfection (chlorination).
- Water intake "Las Gdański" - The water pumped from the deep water intakes in the pipeline system is fed into a contact tank, where it undergoes aeration and degassing processes. From the contact tank it is pumped into a closed filter system via the 2nd stage pumping station. Water filtration is carried out on a system of twelve double, closed pressure filters. Each of these filters has a multilayer filter bed (anthracite, quartz sand and pyrolusite) allowing for full removal of iron, manganese and ammonia compounds from the water. The water treatment plant is equipped with a system of periodic water disinfection with sodium hypochlorite solution, prepared for use in case of incidental contamination. Before water is injected into the network, the water is disinfected with UV rays. This allows for the abandonment of constant chlorination of water fed to the city. Thus, the taste of the water is significantly improved without changing its composition and value.
- The water supply station "Czyżkówko" draws water from the Brda River using a shoreline intake. The task of the infiltration intake is to filter the river water naturally through the ground and mix it with groundwater resources. In the aeration hall there are 6 cascade and pipe aerators. The task of the aerators is to degasify and guarantee full aeration of water received from the artificial infiltration area before it is given to the system of 1st degree filters.

  I-stage filtration system consists of 14 filtration chambers each with a filtration area of 46 m^2, backfilled with a 1.6 m high multilayer deposit consisting of:

  - the bottom layer - pyrolusite with a height of 0.4 m,

  - central layer - quartz sand with a deposit height of 0.9 m

  - upper layer - anthracite with a deposit height of 0.3 m.

The water coming from the aerators is evenly distributed to the surface of each filter through a trough system. The main task of I0 filters is to remove all mechanical suspensions from the water, including Fe(III) iron compounds oxidized in aerators, and to remove manganese and ammonia from the infiltration water.

The task of the ozone installation is to oxidise organic compounds in the water using ozone. Filtration is carried out by gravity through a 1.8 m high activated carbon deposit. The task of II degree filters is to remove organic compounds oxidized during the ozonization process. The water treated on the II stage filters flows by gravity into clean water tanks. The gaseous chlorine, stored in barrels, is supplied under negative pressure to the distribution chamber, where two injectors produce chlorine water for disinfection of drinking water.

21) Tap water quality - lab test results

Wskaźnik	BTOF min.	BTOF max.
pH [-]	6,9	7,9
Osady stałe w 180°C[mg/l]	b.d.	b.d.
Twardość [°F]	151	412
Przewodność elektryczna [µS/cm w20°C]	263	999
Wapń [mg/l]	71,2	122
Magnez [mg/l]	7,1	26,2
Amon [mg/l]	<0,025	0,4
Chlorki [mg/l]	5,29	231
Siarczany [mg/l]	2,6	245
Potas [mg/l]	b.d.	b.d.
Sód [mg/l]	6,65	174
Arsen [mg/l]	<0,0005	< 0,05
Wodorowęglan[mg/l]	b.d.	b.d.
Chlor resztkowy [mg/l]	b.d.	b.d.
Fluorki [mg/l]	0,14	0,46
Azotany [mg/l]	0,07	31,7
Azotyny [mg/l]	<0,006	< 0,066
Mangan [mg/l]	< 0,001	0,28
Żelazo [mg/l]	<0,00001	0,19

☐ Measured at FUA level

x Estimated at FUA level

Estimate procedure and hypotheses:
Accredited methodology. The tests were carried out by methods approved by the competent State Poviat Sanitary Inspector. The highest allowable concentration - in accordance with the Regulation of the Minister of Health dated 07.12.2017. on the quality of water intended for human consumption (Journal of Laws of 2017, item 2294)
Tests were conducted in 2018-2019.

Average results estimated, regarding to % of people in gminas with water results.

Minimum and maximum values of the tested parameters from analyzed collection points in BTOF gminas.

Wskaźnik	Population in gminas with water results.	
	in persons	% of BTOF population
pH [-]	823 435	96,3
Osady stałe w 180°C[mg/l]	–	x
Twardość [°F]	768 898	90,0
Przewodność elektryczna [µS/cm w20°C]	811 946	95,0
Wapń [mg/l]	350 178	41,0
Magnez [mg/l]	429 485	50,2
Amon [mg/l]	741 944	86,8
Chlorki [mg/l]	484 736	56,7
Siarczany [mg/l]	484 736	56,7
Potas [mg/l]	–	x
Sód [mg/l]	465 488	54,5
Arsen [mg/l]	461 855	54,0
Wodorowęglan[mg/l]	–	x
Chlor resztkowy [mg/l]	–	x
Fluorki [mg/l]	484 736	56,7
Azotany [mg/l]	506 421	59,2
Azotyny [mg/l]	474 574	55,5
Mangan [mg/l]	847 633	99,2
Żelazo[mg/l]	808 547	94,6

C2) WATER DISTRIBUTION SYSTEM LOSS

22) Percentage of loss in the water supply network [%]

Percentage of loss in the water supply network in BTOF – **10,7%.**

☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: Average losses for BTOF based on data from municipalities with 81,7% of the BTOF population.

C3) DUAL WATER DISTRIBUTION SYSTEM

23) Description of eventual dual system water supply network within the FUA [-]

Not applicable

☐ Measured at FUA level ☐ Estimated at FUA level	Estimate procedure and hypotheses:

C4) FIRST FLUSH RAINWATER COLLECTION

24) Qualitative description of the first flush rainwater collection technique implemented, if any [-]
In Bydgoszcz, rainwater outlets to the river (79 pcs.) Are equipped with sewage treatment consisting of a settling tank and a separator of oil derivatives. Rainwater discharged into the river may not exceed the following parameters: - total suspension - 100 mg / l - petroleum substances - 15 mg / l
Is your description representative of the entire FUA? Please give a short explanation. This metod is used in city Bydgoszcz (41.0% of BTOF total popolation)

C5) WASTEWATER COLLECTION

25) Percentage of households and percentage of industries, connected to the wastewater collection network [%]	
• households • industries Population using the sewage network in BTOF **79,9%.**	
xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank

C6) DUAL WASTEWATER COLLECTION SYSTEM

26) Description of eventual dual system wastewater collection network within the FUA [-]	
Not applicable	
☐ Measured at FUA level ☐ Estimated at FUA level	Estimate procedure and hypotheses:

C7) WASTEWATER TREATMENT PLANTS

27) List of wastewater treatment plants and their population equivalent capacity compared to the actual population [-]

Gmina/name o wastewater treatment plant	Population equivalent capacity RLM
Bydgoszcz Oczyszczalnia Fordon Oczyszczalnia Kapuściska	651 063
Toruń Oczyszczalnia „Centralna”	447 000
Nakło Nad Notecią Oczyszczalnia Ścieków Lubaszcz	53 695
Koronowo Oczyszczalnia ścieków w Koronowie Oczyszczalnia ścieków Wiskitno w Wierzchucinie Królewskim	20 823
Nowa Wieś Wielka Oczyszczalnia ścieków w Nowej Wsi Wielkiej Oczyszczalnia ścieków w Brzozie	16 800
Kowalewo Pomorskie Oczyszczalnia ścieków w Kowalewie Pomorskim Oczyszczalnia ścieków w Piątkowie Oczyszczalnia ścieków w Wielkiej Łące	10 100
Szubin Oczyszczalnia ścieków w Potulicach	9 717
Łabiszyn Oczyszczlnia ścieków w Łabiszynie	9 400
Obrowo Oczyszczalnia ścieków w Dobrzejewicach Oczyszczalnia ścieków w Osieku nad Wisłą	6 147
Wielka Nieszawka Oczyszczalnia ścieków w Małej Nieszawce	5 333
Czernikowo Oczyszczalnia ścieków w Czernikowie	4 492
Lubicz Oczyszczalnia ścieków wLubiczu Górnym	4 000
Zławieś Wielka Oczyszczalnia ścieków w Przecznie	3 500
Łubianka Oczyszczalnia ścieków w Toporzysku	3 300
Sicienko Oczyszczalnia Ścieków w Wojnowie	1 500
Chełmża Oczyszczalnia Zelgno Dziewierzno	739

Comment:

xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: 1. Statistics Poland; Local Data Bank

28) What kind of wastewater treatment is realised, what is planned? [-]

Mechanical-biological or biological sewage treatment plants. In Bydgoszcz, Toruń and Nakło nad Notecią - with increased removal of nutrients enabling an increased reduction of nitrogen and phosphorus.

Tt is planned to connect of the Chełmża rural commune with the wastewater treatment plant in Toruń.

Table: Municipal sewage treatment plants BTOF gminas.

GMINA	biologiczne	z podwyższonym usuwaniem biogenów
Bydgoszcz	-	2
Toruń	-	1
Nakło nad Notecią	1	1
Kowalewo Pomorskie	3	-
Obrowo	2	-
Nowa Wieś Wielka	2	-
Koronowo	2	-
Łabiszyn	1	-
Zławieś Wielka	1	-
Wielka Nieszawka	1	-
Łubianka	1	-
Lubicz	1	-
Czernikowo	1	-
Chełmża	1	-
Szubin	1	-
Sicienko	1	-

x Measured at FUA level ☐ Estimated at FUA level	Estimate procedure and hypotheses: 1. Statistics Poland; Local Data Bank

C8) TREATED EFFLUENT

29) Annual volume of waste water treated by the wastewater plants [m^3]

Wastewater treated in BTOF in 2018 - 35,698,000 m3, including with increased biogene removal - 32,915,000 m3.

xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank

D. WATER CONSUMPTION

D1) FRESHWATER EXTRACTED

30) Annual volume of freshwater extracted from the ground, surface water, other sources. (Specify sources) [m^3]

		m3	w %
BTOF		**46812361**	**100,0**
Toruń		15082630	32,2
	surface waters	5299480	11,3
	groundwater	9783150	20,9
Bydgoszcz		21157746	45,2
	groundwaters - intake „Las Gdański”	7842481	16,8
	studnie awaryjne	2422	0,0
	surface waters - intake „Czyszkówko”	13312843	28,4
Others		10571985	22,6

☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: Estimation for BTOF area based on data from water utilities serving 92.9% of the population of the BTOF area.

D2) FRESHWATER USED/CONSUMED BY POPULATION

31) Daily volume of freshwater used by each person for civil uses [l/day per capita]

Consumption of water for needs of the national economy and population per person per day – 239 l.

Consumption of water for needs of households per person per day – 98 l.

xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank

32) Consumption of bottled water for drinking purposes [l/day per capita]	
Mineral and spring waters in l/day per person — 0,2 l.	
☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: „Statistical Yearbook of the Kujawsko-Pomorskie Voivodship 2019" Statistical Office in Bydgoszcz; Survey of household budgets. No data for units under voivodship level. The population of BTOF is 41.1% of the population of the kujawsko-pomorskie vVoivodeship.

33) Initiatives to reduce consumption of bottled water [-]
1. Wide promotional campaign in the mass media (education and information programs Water Bydgoska, Bydgoskie H2O). 2. Meetings with school youth (including school lessons). 3. Educational campaign in social media (Bydgoszcz water fan page). 4. Promotion by leaflets, posters, album's stickers. 5. Educational campaign in regional and national media (radio, press, television). 6. A summer campaign of drinking water straight from the network directed to all city residents and visitors (saturators and a tanker truck in the city center). 7. School drinking water dispensers (120 installed). 8. Constant improvement of water quality, with informing about good results of tap water testing for residents. Springs on water supply networks in rural area.
Please specify which municipalities within the FUA are involved in these initiatives. Initiatives 1-7 taken by MWiK and the city of Bydgoszcz (41.0% of the BTOF population), however, by using mass media and regional media, they can affect the inhabitants of other municipalities in the BTOF area. Initiatives No. 8 taken by three municipalities (5.4% of the BTOF population).

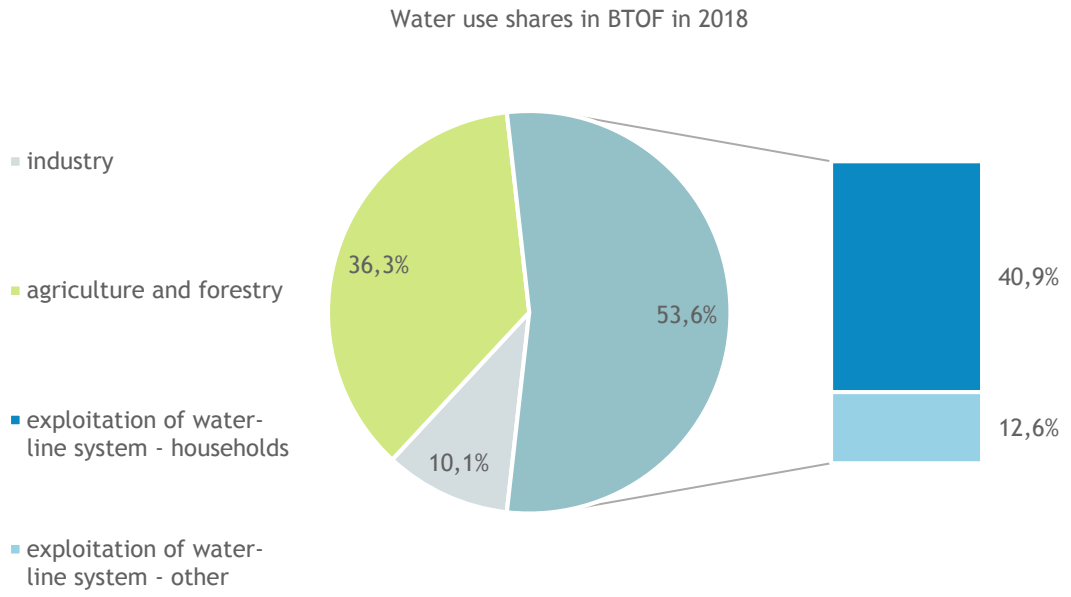
D3) WATER USE SHARES (CIVIL, INDUSTRY, AGRICOLTURE, …)

34) Percentages of water used by the civil, industry, and agriculture sectors [%]

Table Water use in BTOF in 2018

	total	industry	agriculture and forestry	exploitation of water-line system	
				total	of which households
BTOF w dam^3	74582,6	7562	27073	39947,6	30541,3
w %	100,0	10,1	36,3	53,6	40,9

Chart



xMeasured at FUA level ☐Estimated at FUA level	Estimate procedure and hypotheses: Statistics Poland; Local Data Bank

D4) WATER STRESS INDICATOR

35) Class of water stress of the FUA according to Falkenmark Indicator (water availability per capita per year within the FUA) [-]

Falkenmark Indicator: based on the measure of water availability per capita per year within the FUA.

Index (m3/capita/year)	Class
>1,700	No stress
1,000 - 1,700	Stress
500 - 1,000	Scarcity
< 500	Absolute scarcity

Indicator estimated only for Poland – 1600 (m3/capita/year) in 2014.

☐Measured at FUA level xEstimated at FUA level	Estimate procedure and hypotheses: ANALYSIS OF MEASUREMENT METHODS AND EFFECTS OF DEFICIT OF WATER RESOURCES WORLDWIDE; Agnieszka Their; Uniwersytet Ekonomiczny w Krakowie; ŚLĄSKI PRZEGLĄD STATYSTYCZNY; Nr 14(20);

D5) WATER MANAGEMENT COMPANIES

36) List of the private/public companies that manage the anthropic water cycle (extraction, sanitation, distribution, collection, depuration) [-]

Companies	Area served	Public/private	Function
Miejskie Wodociągi i Kanalizacja w Bydgoszczy Sp. z o.o.	Bydgoszcz	public	water supply and waste water treatment
Toruńskie Wodociągi Sp. z o.o.	Toruń	public	
Zakład Wodociągów i Usług Komunalnych Spółka z o.o.	Białe Błota	public	
Zakład Wodociągów i Kanalizacji w Chełmży	M. Chełmża	public	
Gminny Zakład Komunalny	Czernikowo	public	
Zakład Usług Komunalnych w Dobrczu	Dobrcz	public	
Zakład Gospodarki Komunalnej i Mieszkaniowej w Koronowie Sp. z o. o.	Koronowo	public	
Lubickie Wodociągi sp. z o.o.	Lubicz	public	
Zakład Wodociągów i Kanalizacji w Łabiszynie	Łabiszyn	public	
Zakład Usług Komunalnych Łysomice Spółka z o.o.	Łysomice	public	
Komunalne Przedsiębiorstwo Wodociągów i Kanalizacji Spółka z o.o.	Nakło nad Notecią	public	
Zakład Gospodarki Komunalnej	Nowa Wieś Wielka	public	
Gminny Zakład Komunalny	Osielsko	public	
Zakład Komunalny w Sicienku	Sicienko	public	
Zakład Gospodarki Komunalnej Sp. z o.o.	Solec Kujawski	public	
Komunalne Przedsiębiorstwo Wodociągów i Kanalizacji Spółka z o.o.	Szubin	public	
Zakład Usług Komunalnych Zławieś Wielka. Sp. z o.o.	Zławieś Wielka	public	
Zakład Gospodarki Komunalnej i Mieszkaniowej Sp. z.o.o. w Kowalewie Pomorskim	Kowalewo Pomorskie	public	
Urząd Gminy Dąbrowa Chełmińska	Dąbrowa Chełmińska	public	
Urząd Gminy w Łubiance	Łubianka	public	
Urząd Gminy Obrowo	Obrowo	public	
Urząd Gminy w Wielkiej Nieszawce	Wielka Nieszawka	public	
Wodkan Sp. Z o.o. Zakład usług Komunalnych	Chełmża	public	

Is the list complete at FUA level?

Yes

E. CLIMATE CHANGE

E1) ISSUES ARISING DUE TO CLIMATE CHANGE

37) Description of the issues, if any, raised by climate change (e.g. floods, high temperature, water scarcity, …) [-]

The analysis of historical data for the city of Bydgoszcz showed that the main climatic threats are:

- increase in value and number of days with maximum air temperature,
- increase in the length and frequency of heat waves,
- the growing phenomenon of urban heat island,
- increase in the frequency of high intensity and short duration rains,
- flood hazard from rivers,
- the phenomenon of drought resulting in water shortages in the region,
- landslides, e.g. caused by heavy rainfall, in areas at risk of mass movements,
- concentration of air pollutants and occurrence of winter smog,
- increase of frequency of thunderstorms with strong winds them.

F. RULES, LAWS AND GOOD PRACTICES

F1) PRICING SYSTEM FOR WATER

38) Pricing system for different water uses (e.g. Irrigation, Civil, Industrial) [€/m^3]

WATER

Net price in PLN/m^3 (contract for period up to 12 months).

GMINAS	Rate homogenous inPLN	Rate inPLN for:		People (As of 31.12.2018 r.)	
		households	industry, services and other customers	in persons	in % of BTOF population
Bydgoszcz	4,77	–	–	350 178	41,0
Czernikowo	3,55	–	–	9 086	1,1
Solec Kujawski	3,54	–	–	16 814	2,0
Szubin	3,41	–	–	24 756	2,9
Toruń	3,39	–	–	202 074	23,6
Białe Błota	3,30	–	–	21 792	2,5
Nakło nad Notecią	3,27	–	–	31 847	3,7
Sicienko	3,25	–	–	10 139	1,2
Obrowo	3,17	–	–	17 148	2,0
Dąbrowa Chełmińska	3,06	–	–	8 349	1,0
Koronowo	3,05	–	–	24 198	2,8
Zławieś Wielka	2,98	–	–	14 096	1,6
Nowa Wieś Wielka	2,97	–	–	10 129	1,2
Łabiszyn	2,94	–	–	10 162	1,2
Dobrcz	2,90	–	–	11 670	1,4
Chełmża	2,86	–	–	14 532	1,7
Wielka Nieszawka	2,58	–	–	5 176	0,6
Osielsko	2,54	–	–	14 234	1,7
Lubicz	–	3,44	4,43	19 907	2,3
Łubianka	–	3,36	3,26	7 133	0,8
Chełmża	–	2,86 rate also for public utility buildings	2,94	9 838	1,2
Łysomice	–	2,82	4,68	10 019	1,2
Kowalewo Pomorskie	–	2,58	3,75	11 489	1,3

In addition, in 16 gminas, a subscription fee was added for the settlement period in the amount from PLN 1,85 in Dąbrowa Chełmińska to PLN 7,42 in Szubin. In Bydgoszcz, the amount of the fee depended on the maximum water demand and ranged from PLN 4,11 to PLN 792,71. In Nowa Wieś Wielka a fee in the amount from 2,3 to 36,03 PLN was determined on the basis of the water meter diameter.

SEWAGE

Net price in PLN/m^3 (contract for period up to 12 months).

GMINAS	Rate homogenous in PLN	Rate in PLN for:		People (As of 31.12.2018)	
		households	industry, services and other customers	in persons	in %of BTOF population
Sicienko	11,34	-	-	10 139	1,2
Białe Błota	10,98	-	-	21 792	2,5
Dobrcz	9,32	-	-	11 670	1,4
Chełmża	8,35	-	-	14 532	1,7
Osielsko	7,14	-	-	14 234	1,7
Solec Kujawski	6,97	-	-	16 814	2,0
Nowa Wieś Wielka	6,86	-	-	10 129	1,2
Szubin	6,38	-	-	24 756	2,9
Łubianka	5,94 5,63 farm wastewater pumping stations	-	-	7 133	0,8
Dąbrowa Chełmińska	5,56	-	-	8 349	1,0
Czernikowo	5,55	-	-	9 086	1,1
Koronowo	5,49	-	-	24 198	2,8
Łabiszyn	5,13	-	-	10 162	1,2
Nakło nad Notecią	4,97	-	-	31 847	3,7
Bydgoszcz	4,88	-	-	350 178	41,0
Toruń	4,55	-	-	202 074	23,6
Obrowo		4,51 2,29 farm wastewater pumping stations 8,80 transported sewage	6,08	17 148	2,0
Wielka Nieszawka	4,28 6,00 transported sewage	-	-	5 176	0,6
Chełmża	-	6,93 rate also for public utylity buildings	7,16	9 838	1,2
Zławieś Wielka	-	6,58	8,00	14 096	1,6
Lubicz	-	5,84	13,40	19 907	2,3
Kowalewo Pomorskie	-	5,74 rate also for non-industrial consumers	6,56	11 489	1,3
Łysomice	-	5,36	8,70	10 019	1,2

A further subscription fee for sewage was added in 3 gminas: PLN 0,66 to PLN 20,58.

F2) RESTRICTION IN WATER USE

39) Description of restrictions in water use, if any [-]
1. Water Law Act of 20 July 2017. Article 31 section 5: If a state of natural disaster is introduced, in order to prevent the effects of flooding or drought, a voivode may, by way of a local law act, introduce temporary restrictions on the use of water, in particular on water abstraction or the introduction of sewage into waters or the ground, as well as changes in the method of water management in retention reservoirs. 2. In the territory of rural communes in the summer, in connection with water shortages, ad hoc bans on watering house gardens, allotments, green areas and filling pools between 7 a.m. and 2 p.m. from the communal water supply system are introduced.
Are the restrictions described above valid for the entire FUA? Please specify 1. Yes, the law applies throughout the country. 2. No.

F3) LEGISLATION ABOUT DUAL WATER DISTRIBUTION SYSTEM

40) Description of the legislation about dual water distribution system, if any [-]
No regulations
Is the legislation described above valid for the entire FUA? Please specify

F4) LEGISLATION ABOUT WATER REUSE

41) Description of the legislation about water reuse, if any [-]
No regulations
Is the legislation described above valid for the entire FUA? Please specify

F5) LEGISLATION ABOUT FIRST FLUSH RAINWATER COLLECTION (e.g. streets)

42) Description of the legislation about first rainwater collection, if any [-]
Rainwater or snowmelt, included in open or closed sewerage systems, originating from a contaminated sealed surface: 1) industrial areas, warehouses, transport bases, ports, airports, cities, roads classified as national, provincial or district roads of class G, as well as car parks with an area of more than 0.1 ha, in the amount that arises from precipitation of at least 15 l per second per 1 ha, 2. fuel storage and distribution facilities, in the amount that arises from precipitation at a rate of once a year and a duration of 15 minutes, but not less than the amount that arises from 77 l per second of precipitation per 1 ha - may be introduced into water or water facilities, except in cases referred to in Article 75a of the Act of 20 July 2017. - Water law, provided that they do not contain pollutants in quantities exceeding 100 mg/l of total suspended solids and 15 mg/l of petroleum-derived hydrocarbons.
Is the legislation described above valid for the entire FUA? Please specify Yes, the law applies throughout the country.

F6) RULES FOR GREEN SPACES IRRIGATION

43) Description of the rules about urban green spaces irrigation, if any [-]
Are the rules described above valid for the entire FUA? Please specify

F7) DIFFUSION OF WATER SAVING GOOD PRACTICES

44) List of good practices in place for water saving [-]
DESZCZ TO ZYSK (RAIN IS A GAIN) project is a city investment implemented by the municipal water supply and sewage company in Bydgoszcz. The project 'Bydgoszcz retention +2050. The construction and reconstruction of the storm water drainage system and adaptation of the storm water drainage system to climate changes in the city of Bydgoszcz" is aimed at adapting the storm water drainage system in the city of Bydgoszcz to the current and planned way of land development and protecting the city against the effects of torrential rain and a large amount of rainfall and snowmelt. The essence of the activity is to minimize flooding of buildings and flooding of streets, as well as to allow water retention and use in dry periods.

The aim of the program is to respond to the needs identified for the current situation, but also to introduce solutions that change the unfavorable trend of increasing threats and counteracting threats in the place where they arise, i.e. before rainwater enters the rainwater drainage system.

To encourage residents to join the initiative, the guide "Rain is a profit" was prepared. It is a catalog of tips for residents. It shall be an impulse for all users and property managers to introduce their own solutions related to rainwater retention.

rain is a profit

2. Plans to prevent drought effects (PPSS)

The plan is developed for a period of 6 years (2021-2027). The main goal is already contained in the name itself to prevent the effects of drought. The main goal of PPSS is specified by four specific objectives:

• effective water resources management to increase available water resources,

• increasing water retention (storage),

• drought education and coordination of drought related activities,

• creating mechanisms for the implementation and financing of actions to prevent the effects of drought.

3. Informational and educational activities:

•promotional leaflets

•meetings hildren (school lessons)

•promotion in the mass media (educational and information programmes Woda Bydgoska)