

SELF-REPORT

1. Diplomas and academic degrees

- a. A diploma of high MSc studies graduation – daily at Faculty of Hydraulic Engineering of Gdańsk University of Technology in the field of environmental engineering, specialization: water supplies and disposal of sewage and waste. Gdańsk, 30 June 1978.
- b. A diploma Office International de l'Eau, Paris, France, of completion of training on basin-based water management in France, 17 February – 2 April 1992.
- c. A diploma of completion of training on environmental management, Japan International Cooperation Agency, Japan, 27 October – 26 November 1993.
- d. A diploma of PhD, Gdańsk University of Technology, Gdańsk, 1988, title of PhD thesis: Mathematical modeling of biochemical sewage treatment process on the example of municipal treatment plants

2. Employment in scientific units:

- a. 1 May 1978 – 31 December 1995 – Gdańsk University of Technology, Gdańsk
- b. 1 February 2003¹ to date – High School of Environment, Bydgoszcz
- c. 1 June 2006 to date – Institute of Meteorology and Water Management National Research Institute, Warsaw

3. Achievement resulting from art. 16 par.2 of the law from 14 March 2003 on academic degrees and academic title and on degrees and title in the arts (Dz.U. no 65, item 595 with changes)

a. The scientific achievement

Development of DNS Macromodel enabling to balance the loads of total nitrogen and total phosphorus discharged from the area of Poland to the Baltic Sea, containing i.a. modules of complement of missing data in time series of:

¹ In the period of 1 January 1996 – 31 January 2003 I was employed by the Ministry of Environment in Warsaw and in Secretariat of the Convention for the Protection of Environment of the Baltic Sea HELCOM in Helsinki (Finland)

- hydrologic cross-sections of rivers using hydrodynamic and hydrologic modeling,
- qualitative surface waters in cross-sections of rivers using the SWAT structural model, and allowing for balancing of total nitrogen and total phosphorus compounds discharged from the area of Poland into the Baltic Sea.

b. Publications (author/authors, title of a publication, year of publication, editing company)

- Ostojski M.S., 2012: Modeling of processes of discharge of biogenic compounds to the Baltic Sea on the example of nitrogen and total phosphorus. In: PWN, Warszawa, 167 pages, 9 appendixes.
- Ostojski M., 2012: Application of hydrological and hydraulic models for hydrological data transfer. Acta Geophysica (in print),
- Ostojski M., J.Niedbała, P.Orlińska, P.Wilk, J.Wróbel, 2012: SWAT Model Calibration Results for Different Catchments Sizes in Poland². In: Journal of Environmental Quality (in print)

c. Description of scientific purpose and achieved results

The issue of a proper assessment of the load of total nitrogen and total phosphorus compounds discharged into the Baltic Sea is important from the viewpoint of preventing the phenomena of eutrophication of the Baltic Sea. However, so far no methodology equipped with mathematical tool was created that would allow to analyze the impact of particular activities within any catchment of its fragment in the area of Poland on the load of biogenic compounds discharged into the surface waters, and then into the Baltic Sea.

Created and implemented universal model describing the balance of the loads of total nitrogen and total phosphorus discharged into surface waters and a mathematical tool of DNS Macromodel, will enable to analyze not only the loads of total nitrogen and total phosphorus discharged into surface waters, but also transportation of biogenic compounds from their introduction to the environment until their discharge to the Baltic Sea.

DNS Macromodel consists of several modules, which can be changed depending in purpose of the Macromodel usage. Hydrodynamic model MIKE 11 HD, hydrologic model MIKE 11 NAM and the SWAT model with co-operating modules such as ArcGIS or PHU, were used in the monograph.

²Declarations of the Authors describing individual input of each of them are attached to the copy of work and to appendix 2.

Such constructed DNS Macromodel was used to determine the loads of biogenic compounds in given balance profiles, selected in such a way, that determination of the loads of total nitrogen and total phosphorus discharged into the Baltic Sea was possible.

Methodological approach presented in the monograph, based on the use of hydrodynamic, hydrologic and balance modeling, confirms great opportunities of solutions of such a type. The possibilities allow not only on analysis, but also development of forecasts based in assumed scenarios of changes.

The changes might be for instance climate changes, spatial management changes, changes in rules of agricultural usage, or policy of water quality improvement. While preparing the computational and analytical part of the monograph, the capabilities of the SWAT model were widely used, confirming its usefulness in such analysis.

Development of the monograph required collection of large amount of data and information and completion of lacks in time series of data in the field of hydrology and physical-chemical parameters of surface waters. A methodology was proposed and calculation of hydrological characteristics in river cross-sections was performed according to it. Keeping in mind development and availability of hydrological and hydrodynamic models, it was proposed to move sequences of instantaneous flows from gauge cross-sections to balance ones. Moreover, restoring of sequences of instantaneous flows in uncontrolled cross-sections was done using conceptual hydrologic models.

Data analysis related to physical-chemical parameters of surface waters shown that available data is characterized by low frequency and it does not create unified time series.

Using completed sequences of instantaneous flows in rivers, the missing data of concentrations of total nitrogen and total phosphorus in surface waters was restored using the SWAT model.

While collecting and preparation of time series of both instantaneous flows and concentrations of total nitrogen and total phosphorus it appeared that in majority of cases the localization of water gauge stations (source of hydrological information) did not match the localization of sampling points (source of water quality data). The problem was solved by restoring the missing elements in time series and assuming one of gauge cross-sections as a balance cross-section.

DNS Macromodel was calibrated and verified for small (the Gąsawka), medium (the Rega) and large catchment (the Warta), and the values of matching measure defined by R^2 coefficient, after rejection of measurements not fitting in 95% percentile, for the flow were $R^2 = 0.60$ for the Gąsawka, $R^2 = 0.70$ for the Rega, and $R^2 = 0.72$ for the Warta. Whereas matching measurement for the loads of total nitrogen and total phosphorus, described by the same measurement, were 0.51/0.79 and 0.24/0.21 for the Gąsawka, 0.76 and 0.43 for the Rega and 0.68 and 0.31 for the Warta.

DNS Macromodel verified for the catchments of the Gąsawka, the Warta and the Rega shown that:

- it is possible to use random analysis of water quality performed as a part of national monitoring and discontinuous time series of water flow measurements performed as a part of National Hydrological-Meteorological Service (PSHM) order to restore hourly water flows and daily concentrations of total nitrogen and total phosphorus in selected computational cross-sections, and especially in estuary profiles of rivers,
- it is possible to calibrate and use it to simulation calculations for small (the Gąsawka), medium (the Rega) and large (the Warta) catchments. Minimal number of instantaneous data of concentration of total nitrogen and total phosphorus and flow necessary to calibrate and verify the macromodel is one measurement of concentration in month and one measurement of flow in a day in the period of minimum 4 consecutive years.
- it is a good tool to analyze the load of biogenic compounds discharged directly to the Baltic Sea. The analysis of annual loads of total nitrogen and total phosphorus discharged to the Baltic Sea in 1999–2008 via the Rega shown that the values differ from estimated using so-far random measurement,
- it is a good tool to analyze the way of transportation of the loads of total nitrogen and total phosphorus from the place of their introduction to the environment till the computational cross-section to the values of the loads in computational profiles.

It seems that DNS Macromodel, ensuring minimal amount of measurement data, can be used in any catchment and the results of calculations performed for the Warta and the Rega are already final calculations and can be used to analyze the loads of biogenic compounds discharged into the Baltic Sea. However, it seems advisable to bring up a scientific topic that would lead to an implementation project, which would review and correct localization of quantitative and qualitative gauge stations in the scale of Poland. The aim of work should be, as far as possible, to unify the localization of water gauge stations and sampling points. The best solution would be to localize them in indicated balance profiles placed in closing cross-sections of merged water bodies.

As a result of performed analysis, a methodology was proposed and calculation of hydrological characteristics in river cross-sections was performed according to it. Keeping in mind development and availability of hydrological and hydrodynamic models, it was proposed to move sequences of instantaneous flows from gauge cross-sections to balance ones. Moreover, restoring of sequences of instantaneous flows in uncontrolled cross-sections was done using conceptual hydrologic models. Experience gained at this stage of calculations shown that leaving extrapolation or analogy methods

used to transit hydrologic information from controlled to uncontrolled profiles is possible and necessary.

Discussion on potential usability of achieved results

Proposed in monograph [34] methodological approach to determine the amount of nitrogen and total phosphorus flowing out from a catchment, based on the usage of hydrodynamic, hydrologic modeling and a balance model and implemented mathematical tool of DNS Macromodel, shows that it is a useful scientific tool that allows not only performing analysis, but also development of forecasts based on assumed scenarios of changes. The changes might be for instance climate changes, spatial management changes, changes in rules of agricultural usage, or policy of water quality improvement. Moreover, the calibrated macromodel can be an excellent tool i.a. to assess realization of water management plans of a given catchment.

Analysis of available hydrological and water quality data shows that it would be advisable to take a scientific topic leading to an implementation project that will review and correct locations of water quality and quantity gauge stations in the range of the whole Poland. The aim of proposed changes should be, as far as possible, to uniform locations of gauge stations and sampling points. The best solution would be to place them in indicated balance profiles closing estuary cross-sections of merged water bodies.

An attempt to automate qualitative measurements of water in rivers should be made similarly to the ongoing process of automation of hydrological and meteorological measurements. Extending the scope of tasks of PSHM might be considered.

The next stage of the work should be:

- implementation of DNS Macromodel for all rivers of Pomerania and estuary parts of the Vistula and the Odra, and afterwards for all the remaining computational areas of the Vistula and the Odra. Works on implementation of DNS Macromodel for the Reda have been already started as a part of self-research of the author (IMGW-PIB),
- installation of devices to record continuously the concentrations of biogenic compounds using telemetry system of IMGW-PIB on all the estuary parts of rivers flowing into the Baltic Sea and on selected computational cross-sections on the Vistula and the Odra. It will enable deterministic definition of load of biogenic compounds flowing into computational profiles, so also higher precision of determination of the impact of biogenic compounds discharged into a basin on their amount

within the outflow from the basin, which enable verification of computational methods of calculation the load of nitrogen and total phosphorus discharged to the Baltic Sea.

Experience gained while creating DNS Macromodel, its calibration and simulation calculation performed using it, opens new areas of further research, such as:

- creation of a system of permits to discharge biogenic loads in a catchment based on the ability of the catchment to retention of the compounds,
- verification of so-called good agricultural practices in the field of the use of natural and synthetic fertilizers depending on the type of crop,

and it allows its practical used for instance to assess realization of water management plans of a given catchment or to evaluate projects and programs related to improvement of surface water quality.

4. Other academic achievements

4.1. Professional and scientific-research activities in the period prior to obtaining PhD degree

I have completed higher education at the Faculty of Hydraulic Engineering of Gdańsk University of Technology obtaining in 1978 Master of Science & Engineer in environmental engineering with a specialization of water supply and sewage and waste disposal. After graduating I started to work at Faculty of Hydraulic Engineering of Gdańsk University of Technology in Department of Water Management. During this period I mainly carried out research related to water-sewage management of the Żuławy Wiślane under the direction of Prof. Piotr Kowalik, DSc, Eng., as well as its flood safety. The studies resulted in publications [2, 3, 22-24, 27-30]* and participation in domestic and international conferences [38, 39]. During this period I was the Secretary of the Team for Water Relations in Żuławy Region of PAS Division in Gdańsk. I also started research on mathematical model of sewage treatment operations. During the time I carried on three scientific internships in University of Technology in Prague (ČVUT) and High Chemical-Technological School in Prague (VŠChT) as well as one in Institute for Mechanics of Fluids in Toulouse (IMF Toulouse) and Institute of Applied Sciences in Toulouse (INSA). During these internships I deepened not only my knowledge of mathematical modeling of the processes of biological sewage treatment, as well as hydraulic modeling of sewage treatment objects and familiarized myself with the operations of modern,

*Summary of scientific achievements prior to PhD (including PhD thesis) is shown in Appendix no 1 to this self-report.

in those days, large sewage treatment plants in Hawr (Le Havre, France) and Prague (Praha, Czech Republic), but also deepened my knowledge of French.

The results of my research on mathematical modeling of selected physical and biochemical processes in a sewage treatment plant were published in domestic and foreign journals [1, 4-18, 20], where the most important was the publication [19], and also in conferences and scientific symposiums at home and abroad [40-48].

In June 1988 I defended my PhD thesis titled "Mathematical modeling of a biochemical sewage treatment based on an example of municipal treatment plants" [21] in Gdańsk University of Technology. The promoter of the thesis was Prof. Piotr Kowalik, DSc, Eng.

In the period 1978-1988 my scientific interest concentrated mainly on sanitary engineering. It was then that I became interested in issues of basin-based water management.

Quantitative summary of scientific achievements in the period prior to PhD (including PhD thesis) and after obtaining PhD degree is shown in table 1.

Tab. 1. Quantitative summary of scientific achievements in the period prior to obtaining PhD degree (including PhD thesis) and after obtaining PhD degree

No	SPECIFICATION	BEFORE PhD	AFTER PhD	TOTAL
1.	Monographs , including: a. independently [in print] b. editing and co-editing[in print]	1 1 -	15 [3] 3 12[3]	16[3]
2.	Scientific articles , including: a. in journals from ISI Master Journal List - independently [in print] - joint authorship [in print] b. chapters in monographs c. in foreign journals and publications d. in Polish journals and publications	19 1 - 2 7 9	29[5] [1] [1] 8 5 16[3]	48[5]
3.	Popular science publications	1 1	8 8	9
4.	Patent applications	-	1 1	1
5.	Study compilations not published total , including: a. realized as a part of research projects of SCSR/MSRIT, MSRIT,... b. realized as a part of foreign projects (including co-funded by the EU, WB,...) c. realized as an order from industry, MŚ, NFOŚiGW, WFOŚiGW,...	12 8 1 3	81 - - 81	93
6.	Total [in print]	33	134[8]	167[8]

4.2. Professional and scientific-research activities after obtaining PhD degree

Years 1988-1991 is an intensive period when I used the gained knowledge in the area of water and sanitary engineering, especially concerning the processes of sewage treatment, to perform a series of application and empirical studies. The research concerned mainly:

- optimization of water-sewage management in industrial plants,
- determination of optimal technological parameters for physical-chemical and biological processes in treatment of both municipal and industrial sewage,
- determination of disposal technology for sludge from treatment plants, including determination of technological parameters for disposal processes,
- determination of protection zones for water intakes and sewage treatment plants.

One of the results of my study work within the period was development of a water-sewage management concept for industrial objects [54, 55, 57, 59-64, 69, 72]* and development of a guidance for setting and management of the protection zones of water intakes and sources of surface waters [5].

Basin-based water management

In 1991 when Poland started to implement the basin-based system of water management, I organized Regional Board of Water Management in Gdańsk, which I was the first director until 31 December 1995. In the period, I took an internship in Water Agency in Metz and Toulouse in France and several scientific missions to research centres in Lyon, Paris, Orlean, Toulouse and Bordeaux in France, where I performed a series of lectures and participated in several international conferences showing the status of implementation of the basin-based system of water management in Poland, most important of which was Europe Water Conference in 2004 Paris [156].

Already from the middle of 80' France began to work on assumptions and then implementation of the basin-based system of water management. In 1992 it proposed to establish International Network of Basin Organizations (RIOB/INBO), which task was to carry out joint research, create worldwide forum for experience sharing and promotion of the system. Seven Polish regional boards of water management became founding members of the organization, which I was the President of within the period of 1 March – 30 September 1995. Currently I am a Permanent Member

* Summary of scientific achievements after obtaining PhD degree is shown in Appendix no 2 to this self-report.

of the Presidium of RIOB/INBO. The need to coordinate activities related to basin-based management among European countries resulted in establishment of a regional RIOB society, i.e. European Network of Basin Organizations (EURO RIOB/INBO), which I was the President of from 30 March 2004 till 30 September 2005. In the period I was the initiator and also co-author of over a dozen of reports on the status of the implementation of the basin-based management in member states. In the meantime, I took two missions to Paris, where I consulted the issues of determination of the ranges of water management plans as a part of French work on the basin-based water management in the EU, which in consequence resulted in adopting the EU Water Framework Directive (WFD) by the European Parliament in 2000. As a part of RIOB/INBO and EURO RIOB/INBO activities I participated in several scientific conferences on assumptions and examples of the basin-based water management. One of my most important achievements in the period is participation in development of scientific basis for river basin management plans, which introduced obligatory public consultation of the plans.

The knowledge and experience gained during research on the basin-based water management have I used also for my work in the Ministry of Environment, where I led works that resulted in signing an agreement in 1996 among the European Commission, Germany, Czech Republic and Poland order to establish International Commission for the Odra River Protection Against Pollutants based in Wrocław. The agreement introduced elements of the basin-based water management in the Odra catchment. I have also initiated research work on preparations of the first the Odra River Protection Plan Against Pollutants realized as a part of the agreement.

In the period from 7 September 2003 to 31 May 2006 I continued my application research related to implementation of the basin-based water management, as a Director of Department of Water Resources in the Ministry of Environment (from April 2004 Department of Water Management), who I became in a competition. On behalf of the Minister of Environment I controlled regional boards of water management and was in charge of i.a. implementation of the Water Framework Directive (WFD) and development of the new Water Management Strategy considering the aims of the WFD, i.e. introduction of the basin-based water management and the main aim of the WFD: achieving a good status of waters and protection of water and water-dependent ecosystems.

After assuming the position of the Director in Department of Water Resources I figured out that Poland is nearly 3 years late in implementation of the WFD. Therefore, I have immediately started to cooperate with Institute of Meteorology and Water Management in order to prepare the basis of a research project, which should have resulted in making up for the delay. The developed substantial scope of the project, covering scientific basis of i.a. determination of uniform water

bodies for surface waters (rivers, transitional and coastal waters) and groundwaters, description of the guidelines order to determine the good status of waters, uniform water bodies and bodies at risk of achieving good status, development of a catalogue of drinking water sources, development of assumptions to the report on the costs of drinking water and creation of an organizational-legal formula of the project enabled to perform in only 16 months the research enabling to meet deadline of submitting the WFD reports to the European Commission.

Due to significant delay in implementation of the WFD in Poland, the Minister of Environment decided to entrust me also the position of the Director of Water Management Office in order to ensure better coordination of the WFD implementation. I held this position from 1 October 2003 until 14 December 2005. The decision succeeded in creating within Water Management Office for development of a program of public consultation for the water management plans. I have developed the research assumptions of such a program and controlled the work of a team appointed by me order to create the program until the Management of the Ministry of Environment adopted a document describing the Program of Public Consultations for Water Management Strategy and Implementation of the WFD. The program was presented by the team leader during the World Water Forum in Mexico in 2006. It was there where I also presented Polish experiences related to implementation of the basin-based water management. Both presentations were positively rated.

The next significant research-application project related to the basin-based water management was development of the Water Management Strategy. I have worked out the assumptions and was the co-author of the substantial part of the new strategy of water management, which I published in professional journals [5-7, 10], as well as presented on seminars and national conferences [155, 157, 161]. The interdisciplinary nature of the strategy had to include not only the elements related to implementation of the WFD aims, but also i.a. the flood, sewage, nitrogen, drinking water and Nature 2000 area directives. It was necessary to consider the fact that the current system of water management covers also the interests of different water user groups, such as: municipal management, energetics, hydraulic engineering, tourism, inland shipping and there are many owners of waters. The strategy had to include also the financial capabilities of the State. Substantive assumptions of the strategy were accepted by the Management of the Ministry of Environment in 2005.

In my search on the implementation of the WFD I had also used the knowledge that I gained as Polish Water Director by the European Commission, which position I held in parallel to the position of the Director of Department, and the results of my research were presented in domestic

and international conferences and in conference materials and scientific publications [8, 73, 74, 78-80, 82, 84, 96, 99, 100].

The summary of my research activities on implementation of the basin-based water management was a monograph [11], where I presented the status of implementation of the WFD in Poland. Currently I analyze the process of implementation of the WFD in Poland, and in particular objections raised the EC related to non-compliance of Polish legacy and the provisions of the WFD and I am preparing a publication related to these issues. I also participate, as a co-author, co-editor or editor, in preparation of works showing the practical aspects of implementation of the WFD in Poland [9, 18] and in development of research project supporting the implementation.

The quality of waters in the Baltic Sea

My interest in the Baltic Sea water quality has resulted in a natural way when I analyzed the impact of treated sewage on the quality of surface waters. The research on this issue became more precise when I analyzed possibilities of removal of nitrogen and phosphorus compounds from sewage and their impact on the quality of surface waters, and in consequence on the phenomena of eutrophication of the Baltic Sea waters. My knowledge in this area deepened when I took a position of the Director of Regional Board of Water Management in Gdańsk in 1992. In the times, Polish Secretariat of Helsinki Convention HELCOM was within the organizational structure of the Regional Board of Water Management in Gdańsk. I coordinated the work related to the assessment on the amount of pollutants loads discharged from the area of Poland into the Baltic Sea, and I also initiated development of a methodology enabling more precise determination of the size of the loads and I took part in it.

In the period from 01 January 1996 till 30 June 1999, when I held the position of the Director of Department of International Cooperation in the Ministry of Environment, I was also Polish Head of Delegation (HoD) for HELCOM. In February 2006 I was chosen a Deputy Head of HELCOM PITF Task Force. The task of the group was i.a. to monitor discharge of pollutants loads to surface waters from the most burdensome objects threatening the purity of sea waters. A list of the objects, so-called the hot spot's list, was approved by High-Level Ministerial Conference HELCOM in Gdańsk in 1994. There were 30 objects from Poland on the list. For these ones I initiated development of a program for reducing the discharge of pollutants, that I also participated in, which resulted in removing some of them from the hot spot's list.

I have also initiated and participated in detailed development of the scope of research on the assessment of the degree of burden of the objects affecting the quality of the Baltic Sea waters, including the development of assessment indicators of water pollution by total nitrogen and phosphorus in the Baltic Sea. At my request, HELCOM documents introduced the obligation of providing the size of discharge of total nitrogen and phosphorus loads not only in absolute numbers per year, but also per capita and per unit area. These new indicators clearly pointed at the extensive nature of agriculture in our country in that period and lack of possibilities of reducing the discharge of biogenic compounds to the Baltic Sea.

The problem of a relevant evaluation of the size of pollutants loads discharged into the Baltic Sea, and especially the loads of nitrogen and phosphorus, were the subject of my interest also in the period from 1 August 1999 till 31 July 2003, when I held a position of the Executive Secretary in HELCOM. During this period I worked on the preparation and coordination of a research project “Baltic Sea Regional Project” founded by the World Bank and I also participated in its realization. The project consisted of two components: one related to the impact of catchments on the ecosystem of the Baltic Sea, realized by Swedish Agriculture University (SLU) in Uppsala, Sweden, and the other related to the impact from the sea, realized by International Council for the Exploration of the Sea (ICES) in Copenhagen. The activities covered:

- a. development of the substantive scope of the Project,
- b. coordination of actions related to good agricultural practices in the area of the Baltic Sea basin (coordination from SLU Uppsala),
- c. coordination of research in biodiversity protection of the Baltic Sea (coordination from ICES Copenhagen),
- d. coordination of the tasks of HELCOM Contracting Parties,
- e. substantive preparation of the final application,
- f. coordination of financial affair with the World Bank.

After the Project approval I led the Steering Committee and coordinated work of the Secretariat of HELCOM related mainly to the analysis of the size of nitrogen and phosphorus loads flowing to the Baltic Sea from particular countries.

Issues related to the analysis of the size of total nitrogen and phosphorus loads discharged to the Baltic Sea were analyzed by me also after leaving the position of HELCOM Executive Secretary, when as Polish Head of Delegation (HoD) HELCOM(1 October 2003 – 30 June 2006),and afterwards the Chair of HELCOM (1 July 2006 – 30 June 2008) I participated in its works. Since 2006 I led a team

preparing HELCOM Baltic Sea Action Plan (BSAP HELCOM) [12], which identified main problems of the protection of the Baltic Sea natural environment. Progressive eutrophication of sea waters was found the greatest threat to the purity of the Baltic Sea and the plan obliged all the Baltic countries to intensify actions, including research, order to inhibit this phenomena. I gathered hitherto conclusions and findings of the research on the problems in a series of monographs on the Baltic Sea [12, 15, 18, 19].

After the end of the term of Chair of HELCOM office (30 June 2008), already as Director in IMGW-PIB (from 01 June 2006), I started systematic research on the development of a model which – based on scientific analysis of processes in catchments and the results of measurements – would determine the size of the loads of total nitrogen and phosphorus discharged to the sea (the Baltic Sea) from the area of catchment.

For this purpose I conducted i.a. studies on the results of measurements of contamination of the biogenic compounds carried as a part of national monitoring, which were published in [13, 14, 17, 35, 89, 94].

The effect of my long-term interest in the field of the size of nitrogen and phosphorus loads discharged to the Baltic Sea is habilitation thesis titled “The modeling of the processes of biogenic compounds discharge to the Baltic Sea on the example of total nitrogen and phosphorus”, which scientific assumption and achieved results I have described in more details in paragraph 3 of the self-report.

The extraordinary meteorological and hydrological hazards

In natural way, after assuming a position of the Director of Institute of Meteorology and Water Management National Research Institute, my hitherto scientific interests related to extraordinary hydrological hazards were broadened to extraordinary meteorological threats.

Proper forecasting of weather emergencies requires continuous analysis of changes in the atmosphere and hydrosphere. For this purpose it is necessary to improve continuously scientific tools for predicting these phenomena. In this scope I have initialized and developed substantive scope of research on weather forecast improvement, including application research designed to implement the INCA model of short-term forecasts in IMGW-PIB (a model of up to 6 hours ahead forecast of high level verifiability, over 98%), which became operational after

a trial period. I have also initiated research on development of a new source-based dynamic model COSMO, which generates weather forecast for the period of up to 14 (16) days.

The manager of a team appointed by myself, M. Ziemiański, PhD, after 2 years was appointed the head of a team in an international research consortium COSMO developing the new source-based dynamic model COSMO.

Given the need to share experience in this field among academic society and operational services responsible for State safety, as well as knowledge improvement concerning contemporary problems of extreme environment threats, IMGW-PIB has organized National Schools for specialists in this field. Each time I participate in preparations of substantive program for the Schools.

As a Head of Steering Committee of a project carried out as a part of Operational Program Innovative Economy titled "Computer-based System of Country Protection against extraordinary hazards" (ISOK) I realize my scientific interests concerning hydrological and meteorological threats not only by coordination of work executed as a part of the project, but also by participation in development and realization of the substantive scope of each of the tasks. The result of my activities is i.a. determination of the areas endangered by flood and development of pilot flood simulations, which is related to realization of tasks of the flood directive and the WFD.

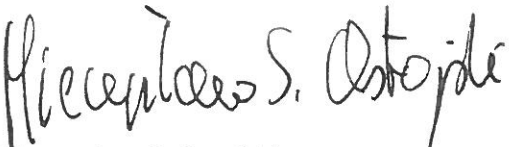
The next stage of the activities on the way to realize complex research on extraordinary atmospheric and hydrological hazards is Training Centre WMO for Hydro-meteo Services of the Middle and Eastern Europe established in Poland. Its aim is to create, under the auspices of WMO, a platform of joint research and experience sharing among scientific centres and hydro-meteo services from the Middle and Eastern Europe in the field of extraordinary hazards. In 2002 the project received support of all hydro-meteo services from the Middle and Eastern Europe. I developed substantive assumptions for the work of the Centre and participate in their realization.

IMGW-PIB is the key subject of the system of the State flood safety in the area of a proper prediction of the phenomena. After the experiences of the flood in 2010 I initiated and developed the scope of a research project called MONITOR IMGW, which realization I lead [21, 106]. The project presents the results of IMGW Macromodel that consists of the modules which contain the models of: weather forecast, rainfall-runoff, surface runoff, as well as hydrodynamic and hydrological model of water flow in a river. MONITOR IMGW allows observing the current status of waters and changes in the atmosphere. It is available for all provincial emergency staffs and Government Security Centre. IMGW Macromodel gives possibility of developing forecasts of water status for nearly 50 cross-sections on the Vistula, the Odra and the Warta in advance to 7 days, based on the results

of the hydrodynamic or the hydrological model. It is the first in the world operational hydrological system used by government operational services such as fire brigade, military or the police. The next stages of MONITOR IMGW development will be to implement hydrodynamic models in cross-sections of the other rivers and extending it with simulations related to the potential break or overflow of embankments, which will allow determining potential flood areas. As another module, the results of the Project of Computer-based System of Country Protection ISOK, which I lead and control as the Head of Steering Committee, will be used. In order to realize the project in a proper way I have created four Flood Modeling Centres within the structures of IMGW-PIB which already developed the maps of flood risk for Poland.

The flood of 2010 shown also how much important it is to predict properly the size of the wave flowing into the tank. Existing locations of meteorological and hydrological measuring stations do not allow for the development of forecast of the wave flowing into water tanks with an appropriate accuracy. I have initiated a research project in this scope, realized as a part of statue research in IMGW-PIB. The result of the work was i.a. a publication related to the catastrophe of the water tank in the Witka River [32], where the meteorological conditions that led to the catastrophe were analyzed.

Complementary to the programs of flood control are compilations of the strategic forecasts of their impact on the environment. As a co-author I participated in development of forecasts for "Flood protection program Odra 2006 – update" and "Flood protection program for małopolskie, śląskie, podkarpackie, świętokrzyskie and lubelskie voivodeships" [102, 103].


Mieczysław S. Ostojki

SCIENTIFIC ACHIEVEMENTS

before obtaining PhD degree (till 1998 inclusive)

A. Published works

1. Ostojski M., 1976. Municipal waste water treatment plant in Hawr. GWTS, vol. 53, no 3, pp. 73-78.
2. Kowalik P., M. Ostojski, 1979. A complex solution for water-sewage management of Żuławy in the Vistula River Delta. In: Quality problems in system water management. Materials of the III Scientific and Technical Conference, PASET Cracow, pp. 35-43.
[source data compilation and co-author of the treatment management concept– 50% contribution]
3. Kowalik P., M. Ostojski, 1979. Water management model in crop production of Żuławy. In: The usage of system analysis in regional development model. Łódź, PSP, pp. 54-63.
[collection and compilation of data on water management in Żuławy and participation in computational simulation of crop production in the polder–50% contribution]
4. Ostojski M., 1980. The impact of variability of pollution concentration and volume of waste water flow on efficiency of a treatment plant. In: Materials. Scientific session for the 35-th anniversary of Gdańsk University of Technology. Gdańsk 29-30 September 1980 r. scientific papers part II, pp. 308-322.
5. Ostojski M., 1981. The impact of variability of pollution concentration and volume of waste water flow on the effect of BOD₅ reduction. GWTS, no 9, vol. LV, pp. 227-229.
6. Ostojski M., 1981. An attempt of multiple regression usage in analysis of the flow of volume of pollutants load and volume of waste water flow on the effect of BOD₅ removal. In: Materials. PASET Conference Koszalin. Kołobrzeg 16-17 October 1981, vol. II, pp. 182-193.
7. Ostojski M., 1983. The rules of setting acceptable pollutants loads in order to ensure effectiveness of a treatment plant. In: Materials. PASET Conference Koszalin. Kołobrzeg 1983. 24-25 November 1983, pp. 185-195.
8. Ostojski M., 1983. The research on probability density function of inflow of pollutants loads in water treatment plants. In: Materials. Water management, 1983, y. 43, no 12, pp. 360-362.
9. Ostojski M., 1984. Determination of the volume of pollutants load discharged into the receiver depending on the inflow loads for biological treatment plants. In: Materials. The IV National Symposium of PASET Kraków, 1984, vol. I. pp. 105-111.
10. Ostojski M., 1984. Statistical method of determination of the value of specific substrate removal coefficient for Eckenfelder I equation. In: Proceedings of the Polish-Yugoslav Symposium held in Gdańsk, 17-20 September 1984 "Research on hydraulic engineering". Zagreb: Gradjevinski Institute, 1984, pp. 537-543.

11. Ostojski M., 1985. Mathematical modeling of a biochemical step in water treatment plants. Water management /in Czech/ no 4, part B, pp. 99-101.
12. Ostojski M., 1985. The method of determining the value of specific substrate removal coefficient for Eckenfelder equation. In: Proceedings. International AMSE Conferences Periodicals: Modeling, Simulation and Control, vol. 4, no 1, pp. 21-30.
13. Mieszczuk-Hauptman E., M. Ostojski, 1985. Mathematical modeling of the process of pollution removal in a secondary clarifier. In: Materials. The XV Seminar of Mathematic Applications UA Wrocław. Kobyla Góra, pp. 49-56.
[co-author of the concept of model describing the operation of a secondary clarifier in a biological treatment plant– 50% contribution]
14. Ostojski M., E. Mieszczuk-Hauptman, 1985. Mathematical verification of the model of operation of a secondary clarifier. In: Materials. The III Scientific and Technical Conference of PASET Koszalin, Kołobrzeg, no MR arch. 479/85, pp. 210-218.
[input data compilation and participation in verification of the secondary clarifier operation for treatment plants in Hawr and Prague– 50% contribution]
15. Ostojski M., 1986. The method of identifying the coefficients of Eckenfelder I and II equations for biochemical sewage treatment. /in French/In: Proceedings. International AMSE Conference "Modeling and Simulation" Sorrento /Italy/. Summaries: AMSE, vol. 4.4, pp. 35-45.
16. Ostojski M., 1986. The methodology and the results of estimation of the equation parameters of mathematical model of biochemical process of sewage treatment based on an example of a municipal treatment plant. In: Estimation of mathematical modeling parameters in issues of water protection. Materials. Warszawa, Polish Division of International Society for Ecological Modeling, pp. 149-159.
17. Ostojski M., 1986. The review of mathematical models of a biochemical sewage treatment. International Conference: System simulations in biology and medicine Sy-Sy'86 /in Czech/, Prague, Czechoslovakia, 6 pages.
18. Ostojski M., 1986. Analysis of the ability of self-treatment of a receptor as a criterion for wastewater treatment operations. /in French/In: Proceedings. International AMSE Conferences Periodicals: Modeling, Simulation and Control, vol. 5, no 4, pp. 25-34.
19. Ostojski M., 1987. Mathematical model of sewage treatment plant operation. Ecological Modeling, vol. 39, pp. 67-83.
20. Ostojski M., 1988. Selected problems of empirical review of models in biological process of sewage treatment. International Conference Si-Sy'88 /in Czech/, Prague, pp. 32-36.

B.1. PhD thesis

21. **Ostojski M. S., 1988. Mathematical modeling of a biochemical sewage treatment process based on an example of municipal treatment plants. PhD thesis. Typescript. Gdańsk University of Technology, Faculty of Hydraulic Engineering, 170 pages, 4 appendixes.**

B.2. Compilations, concepts and research results

22. Kowalik P., M. Ostojski, H. Obarska-Pempkowiak, 1978. Analysis of possibilities of the usage of an integral model of agriculture catchment control on an example of the Vistula River Delta. GUT IHE Gdańsk.
[co-author of the compilation of the model of control of water circulation in the Fiszewka S polder – 33% contribution]
23. Kowalik P., M. Ostojski, 1979. Compilation of an integral model of infiltration, evaporation and surface runoff processes. GUT IHE Gdańsk, 68 pages.
[co-author of the compilation of a model of water circulation in the polder considering infiltration, evaporation and runoff – 50% contribution]
24. Kowalik P., H. Obarska-Pempkowiak, J. Borżym, T. Grabowski, J. Melaniuk, B. Nowek, M. Ostojski, 1980. An integral model of interception, infiltration, surface runoff and evaporation phenomena for agriculture catchments. GUT IHE Gdańsk, 61 pages.
[participation in data analysis and preparation and carrying out simulation computation for the Fiszewka S polder – 14% contribution]
25. Kowalik P., J. Borżym, T. Grabowski, E. Hauptman-Mieszczuk, B. Nowek, M. Ostojski, R. Wichowski, 1981. Empirical verification of a simulation model of infiltration, evaporation and discharge into ground water for selected soils in the catchment of the Kłodawa River for a wet year. GUT IHE Gdańsk, 132 pages.
[participation in analysis of input data and results obtained from model verification for the Kłodawa River – 14% contribution]
26. Kowalik P., H. Obarska-Pempkowiak, M. Zaczek, T. Grabowski, E. Hauptman-Mieszczuk, M. Kulbik, J. Melaniuk, A. Nurek, M. Ostojski, S. Skarżyński, R. Wichowski, 1981. Developing a program and research methodology for selected sanitary facilities of stocktaking objects in Żuławy. GUT IHE Gdańsk, 43 pages.
[co-author in developing a methodology of water-sewage management analysis – 9% contribution]
27. Kowalik P., H. Obarska-Pempkowiak, J. Borżym, T. Grafowski, A. Kowalewski, J. Melaniuk, A. Nurek, M. Ostojski, R. Wichowski, 1982. The concept of the Żuławy polder control. GUT IHE Gdańsk, 103 pages.
[co-author in developing the concept of water control in the polder – 11% contribution]
28. Kowalik P., R. Orłowski, J. Borżym, M. Ostojski, 1983. Description of a polder pumping station and input data to SWART program exploitation. Gdańsk University of Technology Faculty of Hydraulic Engineering, Gdańsk, 80 pages.
[description of selected pumping stations and compilation of real exploitation data from these pumping stations enabling SWART program exploitation – 25% contribution]
29. Kowalik P., R. Orłowski, J. Borżym, M. Ostojski, 1984. The concept of the Żuławy polder control with a particular focus on the operations of the polder pumping station and water circulation in the polder. Gdańsk University of Technology, Gdańsk, 42 pages.
[co-author of the water circulation concept in the Fiszewka S polder – 25% contribution]

30. Kowalik P., R. Orłowski, M. Ostojcki, 1985. Operating and maintenance recommendations for the Fiszewka S polder determining maximization of the production effects. Gdańsk University of Technology, Gdańsk, 42 pages.
[co-author of operating recommendations for selected polder pumping stations– 33%contribution]
31. Ostojcki M., 1987. Verification of a mathematical model of a biochemical process of sewage treatment. Report IMF Toulouse /in French/, 20 pages.
32. Ostojcki J., M. Ostojcki, 1988. The concept of a municipal landfill for Lipka in pilskie voivodeship. BIOTECHNIKA Koszalin, 30 pages.
[development of technological conception of the landfill – 50% contribution]
33. Ostojcki M., M. Kulbik, 1988. The concept of a household-economic sewage treatment from a residential building by the poultry farm in Skarszewo. Aquados Kościerzyna, 11 pages.
[development of technological concept of sewage treatment– 50% contribution]

C. Technical projects

Performed in District Design Service Team Koszalin

34. TP of a rural water supply in Ciechnowo. Principal: WZIR Koszalin, 1981, assistant designer.
35. TP of rainwater sewerage in Skwierzynka. Principal: MC Sianów, 1987, assistant designer.
36. TP of a water intake from the water supply station in Rudno. Principal: PGR Plant Tychowo, 1987, assistant designer.
37. TP of a water intake including connection to management of a well in Dygowo. Principal: WZIR Koszalin, 1988, assistant designer.

D. Conferences, seminars and scientific missions

The most important are:

38. International Conference of Systems Research Institute PAS: The usage of system analysis in regional development modeling. Jabłonna, September 1979.
39. The III Scientific and Technical Conference, PASET Kraków, 1979.
40. Scientific Session for the 35-th anniversary of Gdańsk University of Technology. Gdańsk, 29-30 September 1980.
41. Summer School of UA Wrocław, Barzkowice 16-20 September 1980.
42. Polish-Yugoslav Symposium, Gdańsk University of Technology, Gdańsk, September 1984.
43. International Conference: System simulations in biology and medicine, Si-Sy'84. Prague, Czechoslovakia, 12-14 October 1984.

44. International Conference: System simulations in biology and medicine, Si-Sy'86. Prague, Czechoslovakia, 1986.
45. The XV Seminar of Mathematic Applications of UA Wrocław, Kobyla Góra, 1985.
46. International AMSE Conference "Modeling and Simulation", Brighton, UK, 1985.
47. International AMSE Conference "Modeling and Simulation", Sorrento, Italy, 1986.
48. Days of Science of National Institute of Applied Sciences in Toulouse, Toulouse, France, paper, 11 June 1987.

Mieczysław S. Ostojki

Mieczysław S. Ostojki

SCIENTIFIC ACHIEVEMENTS
after obtaining PhD degree

A.1. Published works

1. Mąkinia J., Ostojki M.S., 1991: Initial analysis of the work of a sewage treatment plant type of BIOXYBLOK based in the treatment plant in Swarzew. Conference materials. The III Congress of Polish Sewerage Engineers. "POLKAN 91". Published by: Polish Association of Sanitary Engineers and Technicians and Łódź University of Technology, Łódź, 22-23 November 1991, vol. 2, pp. 145-152.
[participation in development of the methodology of the sewage treatment plant operation and in compilation of its results – 50% contribution]
2. Ostojki M., Mielczarek A., 1992: Organization of water management in Poland. Gdańsk, Gdańsk University of Technology. Seminar materials: Actual state and perspectives of water supply for Gdańsk, pp. 61-67.
[analysis of the impact of the new water management system on the possibilities of water supply for cities – 50% contribution]
3. Ostojki M.S., Krzyżanowski P., 1993: Poland: Towards a new water management. Annals of Mines /in French/, pp. 48-49, May 1993.
[comparative analysis of Polish and French systems of water supply for economy – 50% contribution]
4. Ostojki M., Bystrzanowski W., Musiał R., Sadurski A., Wołoszyn E., 1995: Methodological guide for determining the borders and land use of protection zones of intakes and surface water sources. Editing: M. Ostojki, W. Bystrzanowski, In: Ship building and Shipping, Gdańsk-Warsaw, 195 pages, 25 pictures, 16 tables, 80 lit. items + 3 appendixes. Commissioned by: Ministry for Environment Protection, Natural Resources and Forestry, Water Management Department.
[co-author of the concept of the guide and its editing – 50% contribution; co-author of chapters related mainly to forbidden activities within protection zones – 20% contribution]
5. Ostojki M., 2004: Where do you flow, water? Part 1: Water Management no 2004/6, pp. 217-220; part 2: Water Management, 2004/7, pp. 266-268.
6. Ostojki M., 2005: Water management strategy. In: The Water Management Committee PAS. World Water Day 2005, Warsaw, June 2005, pp. 7-32.
7. Ostojki M.S., Bielakowska W., 2005: Analysis of the financing of water management in years 1996-2003. Water Management no 6/2005, pp. 240-245.
[development of analysis methodology and participation in analysis of obtained results – 50% contribution]

8. Ostojcki M., 2005: Implementation of the European Union Water Policy – current status. Materials of international conference: Water management in the Noteć catchment. Program of the Water Frame Directive. In: WSOS Bydgoszcz, 7-8 March 2005, Bydgoszcz-Prądocin
9. Ostojcki M., 2005: Water management strategy. In: Ministry of Environment. National training materials: Protection against floods. Szczyrk, September 2005, 3 pages.
10. Ostojcki M., 2007: Implementation of the European Union Water Policy in Poland as an element of water management (2006). Monograph: Selected issues of ecology and environment protection. Theory and practice of sustainable development. Selection of lectures from 2004-2007. Edited by A. Kalinowska and W. Lanart. In: University of Warsaw UCRE, pp.275-280.
[analysis of criteria of waters split and their quality defined by the EU– 5% contribution]
11. Ostojcki M., 2008: The EU Water Framework Directive – status of implementation in Poland, In: Institute of Meteorology and Water Management, High School of Environment. Series: Monographs of IMGW, 112 pages, 8 pictures, 65 tables, Warsaw.
12. Ostojcki M., 2008: Baltic Sea Action Plan of the Helsinki Commission, In: Institute of Meteorology and Water Management, series: Monographs of IMGW, 127 pages, Warsaw.
13. Szczepański W., Ostojcki M., Jarosiński W., Iwaniak M., Moryc E., Gromiec M., Góra M., Jarosińska D., Kloze J., Kurczyński K., Musioł J., Pniak G., Dudek R., Rusek D., Sieński E., Sokołowska E., Szczepańska-Góra A., Szczepańska J., Wajda B., Zieliński J., 2009: Catalogue of the water bodies in Poland. Editing: W. Szczepański, M. Ostojcki. In: GIOŚ, Environmental Monitoring Library, Warsaw, 912 pages.
[co-editing and scientific leadership over the catalogue – 5% contribution]
14. Szczepański W., Ostojcki M., Jarosiński W., Dudek R., Iwaniak M., Moryc E., Musioł J., Pniak G., Rusek D., Sokołowska E., Wajda B., 2009: Status of the purity of rivers based on the results of research performed as a part of national environmental monitoring in 2007-2008. Editing: W. Szczepański, M. Ostojcki, In: GIOŚ, Environmental Monitoring Library. Warsaw, 247 pages.
[co-editing and participation in results compilation – 9% contribution]
15. Ostojcki M., Walczykiewicz T., Paluszkiwicz B., Czarnecka J., Biedroń I., 2009: The activities of the Baltic Sea states to improve ecological status of the Baltic Sea. Monograph: Anthropogenic impact and its effect on aquatic environment. Series: Monographs of IMGW. In: IMGW, Warsaw, pp. 64-78.
[scientific leadership and co-author of the part concerning HELCOM activities – 20% contribution]
16. Szczepański W., Ostojcki M., Jarosiński W., Iwaniak M., Błaszczuk B., Gromiec M., Góra M., Jarosińska D., Kurczyński K., Musioł J., Pniak G., Dudek R., Sieński E., Sokołowska E., Szczepańska-Góra A., Szczepańska J., Wajda B., 2010: Catalogue of the presence of priority substances in waters of rivers in municipalities. Editing: W. Szczepański, M. Ostojcki. In: IMGW-PIB, Warsaw, 1605 pages.
[co-editing and participation in scientific leadership – 5% contribution]

17. Szczepański W., Ostojński M., Jarosiński W., Dudek R., Iwaniak M., Moryc E., Musioł J., Pniak G., Sokołowska E., Wajda B., 2010: Status of purity of rivers based on the results of research performed as a part of national environmental monitoring in 2007-2009. Editing: W. Szczepański, M. Ostojński, In: GIOŚ, Environmental Monitoring Library. Warsaw, 210 pages.
[co-editing and participation in results compilation – 10% contribution]

18. Ostojński M., Walczykiewicz T., Biedroń I., Boroń A., Czarnecka J., Krzywiński W., Rataj C., 2010: The EU Water Policy for the protection of the Baltic Sea waters. In: Institute of Meteorology and Water Management, series: Monographs of IMGW, Warsaw, 2010, 71 pages.
[scientific leadership and participation in monograph editing as well as co-author of chapters – 14% contribution]

19. Ostojński M., Andruliewicz E., Krzywiński W., 2010: Chemical weapon sunken in the Baltic Sea by the war. In: Institute of Meteorology and Water Management, series: Monographs of IMGW, Warsaw, 2010, 48 pages.
[co-editing and co-authorship – 33% contribution]

20. Maciejewski M., Ostojński M., Winter J., 2010: A computer-based system of the country protection against exceptional threats. Materials Hydraulic Engineering XII'2010, Nationwide Symposium, Ustroń 18-20 May 2010. In: PFEA Silesian Council, Katowice, pp. 25-38.
[participation in development of the concept of the system and in scientific leadership while implementing the system – 33% contribution]

21. Kadłubowski A., Niedbała J., Ostojński M.S., 2011: Modeling of transformation of flood releases in troughs and valleys of rivers. In: Abrys, The VI National Training Conference: Rain water – legal, economical and technical aspects. Toruń, 4-5 April 2011, pp. 103-111.
[scientific leadership and participation in analysis of the results of modeling for selected profile of the Vistula River – 33% contribution]

22. Ostojński M., History of the IMGW websites development as a communication tool. 91 American Meteorological Society Conference, 22-27.01.2011, Seattle, USA,
<http://ams.confex.com/ams/91Annual/webprogram/Manuscript/Paper178576/Ostojnski%20Poster.pdf>

23. Ostojński M.S., Legutko Ł., Plygawko A., 2011: Fast and effective communications – experience gathered by IMGW Poland in using new media to inform about severe meteorological and hydrological phenomena. AMS Conference: 39th Conference on Broadcast Meteorology/The Conference on Weather Warning and Communication. 22-24.06.2011, Oklahoma City, USA.
<http://ams.confex.com/ams/39BROADCAST/webprogram/Paper189120.html>
[participation in the concept development and scientific management while implementing new systems – 33% contribution]

24. Ostojński M.S., Bąkowski R., Niedbała J., 2011: Conclusions-changes in warning procedures of the Institute of Meteorology and Water Management National Research Institute. Materials Hydraulic Engineering XIII'2011. National Symposium, Ustroń 17-19 May 2011, pp. 265-279.
[development of the changes concept and scientific leadership while their implementation – 33% contribution]

25. Ostojński M.S., Bąkowski R., Zawiałak T., 2011: Synoptic conditions of precipitation in the warm season of 2010. Materials Hydraulic Engineering XIII'2011. National Symposium, Ustroń, 17-19 May 2011, pp. 103-118.
[development of the concept for the article, selection of characteristic measurement points, participation in final conclusions development – 33% contribution]
26. Ostojński M., Orlińska P., Wilk P., 2011: The importance of scientific research to protect water environment of the Baltic Sea. Monograph: Status of environment of the Polish coastal zone of the Baltic Sea in 1986-2005. Selected issues. Editing: M. Miętusa i M. Sztobryn. In: IMGW-PIB, pp. 10-18.
[initiative and development of substantive assumptions and editing – 33% contribution]
27. Ostojński M., Wilk P., Orlińska P., 2011: Conflicts over water – coordination of implementation of the marine strategy. Monograph: Conflicts and dilemmas in water management. In: IMGW-PIB Warsaw 2011, pp. 9-21.
[development of the concept of the article, selection of literature and editing – 33% contribution]
28. Ostojński M., Niedbała J., Orlińska P., Wilk P., Wróbel J., 2011: Ecological conflicts related to the construction of reservoirs. Monograph: The safety of dams – new challenges. IMGW-PIB Warsaw, pp. 250-259.
[participation in identification of potential conflicts and editing the article – 20% contribution]
29. Zaręba K., Szczepański W., Ostojński M., 2011: The balance of work in water management – assessment of the situation. Conference “Water management – current status and tasks for the future”. Warsaw, 1 February 2011, Senate Committee on Environment in cooperation with Chamber of Commerce “Ekorozwój”. In: Senate of Poland – Materials from conference organized by the Committee on Environment in cooperation with Polish Chamber of Commerce “Ekorozwój”, 1 February 2011, Warsaw, 10 pages.
[analysis and assessment of the status of implementation of the EU Water Policy in Poland and development of conclusions in this scope – 33% contribution]
30. Ostojński M., Niedbała J., Orlińska P., Wilk P., Wróbel J., 2012: Water Availability in Reference to Water Needs in Poland: The Importance of correct Estimation of Water Resources. In: Earth Zine (Fostering Earth Observation & Global Awareness).
http://www.earthzine.org/?p=348173&shareadraft=baba348173_4f08fcf2d3cb4
[development of the concept of the article, analysis of water usage in the world based on data from the World Bank, participation in final conclusions compilation and co-editing – 20% contribution]
31. Ostojński M., Orlińska P., Wilk P., Wróbel J., Niedbała J., Maczuga M., 2012: The assessment of impact of vegetation on capacity of a large stretch water channel of the Vistula River in the vicinity of Sandomierz. Materials of the XXI National Water Management School, (in print).
[editing and participation in computer simulation compilation, results analysis and final conclusions compilation – 16% contribution]

32. Ostojński M., Kosierb R., Jelonek L., 2012: Catastrophic Floods in the catchment area of the Lusatian Neisse River in August 2010. Journal of Water, Water Management and Environment /in German/, (in print).
[scientific leadership and co-editing the article – 33% contribution]
33. Ostojński M., Niedbała J., Orlińska P., Wilk P., Wróbel J., 2012: SWAT Model Calibration Results for Different Catchment Sizes in Poland. Journal of Environmental Quality (in print).
[development of the concept of the article, development of the concept of computer-based simulations and contribution in final conclusions development – 50% contribution¹]
34. Ostojński M., 2012: Modeling of processes of discharge of biogenic compounds to the Baltic Sea on the example of total nitrogen and phosphorus. In: PWN Warsaw, 157 lit. items, 9 appendixes, 256 pages.
35. Ostojński M., 2012: Application of hydrological and hydraulic models for hydrological data transfer. Acta Geophysica (in print).
36. Szczepański W., Ostojński M., Jarosiński W., Iwaniak M., Błaszczuk B., Góra M., Jarosińska D., Kurczyński K., Musioł J., Pniak G., Dudek R., Sieiński E., Sokołowska E., Szczepańska-Góra A., Szczepańska J., Wajda B., Assessment of water conditions in merged catchments of rivers based on precipitation and flow data for the purposes of performing a balance of area pollutant loads, 2012, In: IMGW-PIB Warsaw, editing: W. Szczepański, M. Ostojński (in print).
[selection of balance profiles of merged water bodies order to estimate the flows and co-editing – 6% contribution]
37. Ostojński M., Maciejewski M., Szczepański W., Winter J., Sieiński E., Walczykiewicz T., Moryc E., Iwaniak M., Dudek R., Musioł J., Wajda B., Zientarska B., Opiał-Gałuszko U., 2011: Flood – change in the quality of waters – the Vistula River basin. IMGW-PIB Katowice, 120 pages.
[selection of gauge profiles in the Vistula and verification of data on water quality in selected profiles, co-editing of final conclusions – 7% contribution]
38. Ostojński M., Maciejewski M., Szczepański W., Winter J., Sieiński E., Walczykiewicz T., Moryc E., Iwaniak M., Dudek R., Musioł J., Wajda B., Zientarska B., Opiał-Gałuszko U., 2011: Flood – change in the quality of waters – the Odra River basin. IMGW-PIB Katowice, 85 pages.
[selection of gauge profiles in the Odra and verification of data on water quality in selected profiles, co-editing of final conclusions – 7% contribution]

A.2. Editing and co-editing

39. Atlas of gage stations. In: IMGW. Warsaw, 1996 r. Editing: W. Szczepański, M. Ostojński.
[initiative and development of the concept of the atlas and co-editing – 50% contribution]

¹ A certified copy of the declaration of Authors has been included at the end of this list.

40. Environmental hazards of extreme natural phenomena. Series: Monographs of IMGW, Warsaw 2006. Editing: M. Maciejewski, M. Ostojski.
[scientific leadership and co-editing of the parts considering hydrological hazards – 50% contribution]
41. Reduction of phosphorus and nitrogen discharged from the area of Poland to waters of the Baltic Sea 2000-2006-2021. In: HELCOM 2008, the XXVI Meet of Heads of Delegations as a part of HELCOM Convention on 04-05 June 2008, Helsinki. Editing: M. Ostojski.
42. Detailed monitoring research order to determine the amount of phosphorus and nitrogen in rivers flowing from the area of Poland into the Baltic Sea. In: GIOŚ, Warsaw, 2008. Editing: M. Ostojski, W. Szczepański.
[initiative and development of the research concept, participation in compilation of final conclusions and co-editing – 50% contribution]
43. Anthropogenic impact and its result on water environment. Series: Monographs of IMGW, In: IMGW, Warsaw 2009. Editing: M. Maciejewski, M. Ostojski.
[verification and editing in the part concerning municipal economy – 50% contribution]
44. Catalogue of uniform and merged water bodies. In: GIOŚ, Environmental Monitoring Library, Warsaw, 2009. Editing: W. Szczepański, M. Ostojski.
[initiative and development of the concept of the catalogue and co-editing – 50% contribution]
45. Status of the purity of rivers based on the results of research performed as a part of national environmental monitoring in 2007-2008. In: GIOŚ, Environmental Monitoring Library. Warsaw, 2009. Editing: W. Szczepański, M. Ostojski.
[scientific leadership, verification of final conclusions and co-editing – 50% contribution]
46. Status of the purity of rivers based on the results of research performed as a part of national environmental monitoring in 2007-2009. In: GIOŚ, Environmental Monitoring Library. Warsaw, 2010. Editing: W. Szczepański, M. Ostojski
[scientific leadership, verification of final conclusions and co-editing – 50% contribution]
47. The Vistula River basin. Monograph of the flood May-June 2010. In: IMGW-PIB, 2011. Editing: M. Maciejewski, M. Ostojski, T. Walczykiewicz.
[initiative, participation in development of the concept of the monograph, verification of hydrological part and co-editing of the monograph – 33% contribution]
48. The Odra River basin. Monograph of the flood May-June 2010. In: IMGW-PIB, 2011. Editing: M. Maciejewski, M. Ostojski, T. Tokarczuk.
[initiative, participation in development of the concept of the monograph, verification of hydrological part and co-editing of the monograph – 33% contribution]
49. Conflicts and dilemmas in water management. In: IMGW-PIB, 2011, Series: Monographs of IMGW-PIB, Warsaw 2011. Editing M. Maciejewski, M. Ostojski.
[scientific leadership and co-editing in the area of conflicts in water management – 50% contribution]
50. Catalogue of the presence of priority substances in waters of rivers in municipalities. In: IMGW-PIB. Warsaw 2010. Editing: W. Szczepański, M. Ostojski.

[initiative and development of the concept of the catalogues, verification of the hydrological part, co-editing – 50% contribution]

51. Flood – change in the quality of waters – the Vistula River basin. In: IMGW-PIB Katowice, 2012, 120 pages. Editing: M. Ostojki. (in print)
52. Flood – change in the quality of waters – the Odra River basin. In: IMGW-PIB Katowice, 2012, 120 pages. Editing: M. Ostojki. (in print)
53. Assessment of water conditions in merged catchments of rivers based on precipitation and flow data for the purposes of performing a balance of the area pollutant loads, 2012, In: IMGW-PIB Warsaw. Editing: W. Szczepański, M. Ostojki. (in print)
[development of the concept, verification of the selection of profiles of merged water bodies, compilation of conclusions concerning water flows and co-editing – 50% contribution]

B.1.Unpublished works

54. Kulbik M., Ostojki M., 1989. The concept of sewage management for ZUM Lipusz with consideration of development plans. Status: conception. In: Aquados, Koscierzyzna, 11 pages.
[development of the technological concept of sewage treatment – 50% contribution]
55. Ostojki M., Kulbik M., Geneja M., Kulbik A., 1989. The concept of building sewage treatment plant for Eksportowej Ubojni Królików in Ciechocinek. In: Ekopol Division Gdynia, 40 pages.
[development of the technological concept of sewage treatment plant, participation in laboratory technology experiments order to determine optimal values of technological parameters – 25% contribution]
56. Geneja M., Ostojki M., 1989. Technological research on chemical screening of waste water from Futrzarska Spółdzielnia Pracy Lutria in Gdańsk. In: PU-H EKOL in Gdańsk, 42 pages.
[development of technological concept of sewage screening – 50% contribution]
57. Kulbik M., Ostojki M., Geneja M., 1989. Analysis of water-sewage management in Tannery no 2 in Krynki order to determine the detailed scope of work necessary to develop the concept of water-sewage management and waste water treatment technology. In: PUS Exo Gdańsk, 51 pages.
[scientific leadership and co-author of the concept of technological sewage screening – 33% contribution]
58. Bachanek S., Prejzner J., Sobol Z., Ostojki M., Łomotowski J., Baczyński J., 1989.: New solutions in the field of container treatment plants of surface waters for rural water supply. 106 pages, 24 figures, 15 tables, 27 lit. items, CPBR 10.8.5.3. A 44, In: IMUZ Falenty.
[analysis of so-far technical solutions of container treatment plants in scope of possibilities of fulfilling the basic technological requirements for biological processes of sewage treatment – 16% contribution]
59. Geneja M., Kulbik M., Ostojki M., 1990. Recommendations concerning technology of sewage treatment for small slaughterhouses and butchers based on quantitative, qualitative and modeling research in selected existing objects in the area of Gdańsk Voivodeship. In: Urząd Wojewódzki Gdańsk, 98 pages.

[participation in water-sewage management analysis in selected treatment plants of small slaughterhouses and butchers and co-edition of recommendations concerning technologies of sewage treatment – 33% contribution]

60. Kulbik M., Geneja M., Ostojski M.S., 1990. Analysis of sewage management and technological research on sewage treatment using the method of activated sludge in Gdańskie Zakłady Drobiarskie in Żukowo. In: AQUADOS Kościerzyna, 99 pages, 14 figures, 9 tables, 1 appendix: 58 tables, 61 pages.
[scientific leadership and participation in laboratory research development on determining optimal values of technological parameters for the biological process of sewage treatment – 33% contribution]
61. Ostojski M., Kulbik M., Geneja M., Czerwionka K., Mąkinia J., 1991.: Recognition of water-sewage management in Gdańskie Zakłady Piwowarskie and proposal of its solution. Stage I. AQUADOS Kościerzyna 1991, vol 1. Synthesis of results. 35 pages, 4 figures, 2 tables, vol. 2. Documentation of the results, 30 pages, 21 tables.
[development of the concept of water-sewage management analysis and participation in its realization and co-edition of final conclusions – 20% contribution]
62. Ostojski M.S., Geneja M., Czerwionka K., Mąkinia J., 1991.: Technological research on determination of technological parameters and effectiveness of processes of reagent less pressure flotation of pollutants and forward conditioning of post flotation sludge dewatering. In: Aquados, Gdańsk, 8 pages, 28 appendixes.
[participation in planning of laboratory experiment and in compilation of its results – 25% contribution]
63. Ostojski M.S., Geneja M., Czerwionka K., Mąkinia J., 1991. Technological research on determination of technological parameters and effectiveness of processes of reagent less pressure flotation of pollutants and forward conditioning of post flotation sludge dewatering. In: AQUADOS Kościerzyna, 9 pages, 23 tables.
[participation in planning of laboratory experiment and in compilation of its results – 25% contribution]
64. Ostojski M., 1991: The concept of re-arrangement of sewage management in Metals Recovery Plants "ARGENTEX" and "AVANTI" in Kolbudy. Gdańsk, July 1991, 9 pages, 3 figures.
65. Kulik-Kuziemska J., Ostojski M., Bray R., 1991: Development of a method of biological removal of phosphorus from sewage treated biologically and analysis of possibilities of its usage in sewage treatment plant in Swarzewo. In: Gdańsk University of Technology, 18 pages, 9 tables, 13 figures.
[co-author of the method of phosphorus removal from municipal sewage for sewage treatment plant in Swarzewo and participation in determination of technological parameters of this process – 33% contribution]
66. Ostojski M., 1991: Water-legal whitepaperforOśrodek Sportu, Rekreacji i Wypoczynku GZE UNIMOR in Łączno. 30 pages, 3 figures, 4 tables.
67. Ostojski M., Geneja M., Kulbik M., Czerwionka K., Mąkinia J., 1991. Water-legal whitepaper for getting a water permitfor modernization of biological sewage treatment plant in Żukowo. In: Aquados Kościerzyna, 64 pages, 7 tables, 1 figure + appendixes: 30 tables, 48 pages.
[scientific leadershipof water-sewage management analysis in Żukowo and participation in the white paper editing – 20% contribution]

68. Kreft A., Krzyżanowski P., Ostojński M., Tyszecki A., Wobalis Z., 1992: Study on possibilities and conditions of discharge of brine from leaching of storage caverns in five regions of Poland into the Baltic Sea. In: Design-Consulting Office EKO-KONSULT, Gdańsk, 26 pages, 2 appendixes, 4 figures.
[scientific leadership and co-edition of the final report – 20% contribution]
69. Ostojński M., 1992: Water-legal whitepaper for sewage discharge from Zakładu Sortowania Jelit in Dąbrówka Młyn into ground. In: ELJOT Gdańsk, 9 pages, 1 table + 3 appendixes.
70. Demczuk A., Ostojński M.S., 1992. Analysis of possibilities of reducing the protection zone of municipal treatment plant of Jędrzejów, 92 pages, 7 figures, 11 tables.
[scientific leadership, participation in laboratory research and co-edition of final conclusions – 50% contribution]
71. Demczuk A., Ostojński M., Zabiegała W., Nitecka E., 1993.: Program of emission measurements for sewage treatment plant in Elbląg. In: BPBM PROJMORS Ltd., Gdańsk 14 pages.
[scientific leadership, participation in research program development and co-edition of final conclusions – 25% contribution]
72. Ostojński M., Geneja M., 1993.: Physical-chemical and biological research on mulch from Zakłady Mięsne in Kościerzyna in order to determine possibilities of its disposal at the municipal landfill in Gostomie. In: MEKO s. c. Ecological Agency Gdańsk, 12 pages, appendix 1, and appendix 2.
[scientific leadership, participation in laboratory research program development and co-author of final conclusions – 50% contribution]
73. Ostojński M.: The impact of implementation of the EU Water Policy on water management in Poland. Scientific Seminar of the Water Management Committee PAS, Warsaw, October 2003, PowerPoint slide set.
74. Ostojński M.: Water management funding. Current status and perspectives. The VIII International Ecological Meet, Poznań, 15-16 November 2004, PowerPoint slide set.
75. Ostojński M.: Eutrophication of the Baltic Sea waters as one of the main problems of natural environment protection in the Baltic Sea. Seminar of the Water Management Committee PAS, Warsaw, March 2004, PowerPoint slide set.
76. Ostojński M., Szczepański W., 2004: Assessment of quality of surface water susceptible to pollution from nitrogen compounds from agricultural sources, Water Quality Monitoring Centre IMGW, Katowice, 42 pages.
[scientific leadership, participation in analysis of data concerning the concentration of nitrogen compounds in surface waters – 50% contribution]
77. Ostojński M., Szczepański W., 2005: Water Quality Monitoring Centre, Assessment of surface water susceptible to pollution from nitrogen compounds from agricultural sources, Water Quality Monitoring Centre IMGW, Katowice, 25 pages.
[scientific leadership, participation in analysis of data concerning the concentration of nitrogen compounds in surface waters – 50% contribution]

78. Ostojski M., 2005. Realization of National Program of Municipal Sewage Treatment – tasks for local government. PowerPoint/Typescript, Polish-German Conference "Implementation of the EU directives on water and sewage management – for Polish and German representatives of local governments", Urząd Marszałkowski Województwa Wielkopolskiego, Poznań, 8-10 November 2005, 21 pages.
79. Ostojski M., 2005: Realization of National Program of Municipal Sewage Treatment. The IX International Ecological Meet "Poland in new Europe", Poznań, 14-15 November 2005, 21 pages.
80. Ostojski M., Mordarska M., 2005: The EU Water Framework Directive 2000/60/EC – implementation status in Poland. The IX International Ecological Meet "Poland in new Europe", Poznań, 14-15 November 2005, 21 pages.
[co-editing – 50% contribution]
81. Szczepański W., Ostojski M., Maciejewski M., 2005: Assessment of the status and tendencies of changes in pollution reduction discharges from rivers to the Baltic Sea from the area of Poland and remaining eight countries located in the Baltic Sea basin in 1997-2003. Agreement 439/05/Wn50/NE-GW-TX/D from 18 August 2005, 236 pages ordered by DPE ME, In: NFGW, IMGW Katowice.
[co-author of data compilation from Russia, Estonia, Latvia, Lithuania and Poland and of final conclusions – 33% contribution]
82. Ostojski M.: Implementation of the EU Water Framework Directive 2000/60/CE and government activities in the field of water management in Poland – current status. Scientific conference « Status of good water: eyes across Europe », French Water Circle. Paris, 17 October 2005, PowerPoint slide set.
83. Szczepański W., Jagusiewicz A., Ostojski M., Jarosiński W., 2006.: Assessment of changes in pollution discharges from rivers to the Baltic Sea from the area of 9 countries in 1995 and 2000, GIOŚ Warsaw, IMGW Katowice, 48 pages.
[co-author of data compilation from Russia, Estonia, Latvia, Lithuania and Poland and of final conclusions – 25% contribution]
84. Ostojski M.: Implementation of the European Water Framework Directive (WFD). 2006, 4th World Water Forum, 18 March 2006, Mexico City, 12 pages.
<http://portal.worldwaterforum5.org/wwf5/enus/ForumKnowledgeBase/4th%20World%20Water%20Forum/Programme%20of%20the%20Forum/Sessions/Session%20summaries.pdf>
85. Ostojski M.: Activities of the Helsinki Commission with regards to Chemical Munitions dumped in the Baltic Sea. Seminar of the Committee on the Environment, Agriculture and Local and Regional Affairs of the Parliamentary Assembly of the Council of Europe, Paris, France, 22 February 2007, PowerPoint slide set.
86. Ostojski M.: HELCOM's role as a policymaker in the Baltic Sea Region Seminar of Finnish Parliament Environment Committee. Helsinki, 6 November 2007, PowerPoint slide set.

87. Szczepański W., Ostojński M., 2007.: Assessment of the degree of eutrophication of water in rivers in Poland for 2006 with trends of changes, based on directive on water protection against pollution cause by agriculture sources (91/676/EEC) and national regulations with particular consideration of areas susceptible on agriculture pollutants. IMGW Katowice, part I/1- 30 pages, part I/2-43 pages.
[scientific leadership, preparation of assessment criterion determined by the directive 91/676/EEC and national regulations, participation in final conclusions compilation – 50% contribution]
88. Ostojński M., Wilk P., 2007.: The concept of a trading system of obligatory reductions of pollutants discharged to ground waters. In: IMGW-PIB, 19 pages.
[scientific leadership, co-author of the concept – 50% contribution]
89. Ostojński M., Jarosiński W., 2008. Program of monitoring research of phosphorus-polluted waters flowing into the Baltic Sea. IMGW-PIB, Warsaw, 12 pages.
[scientific leadership, co-author of the concept – 50% contribution]
90. Ostojński M., 2008: Estimation of reduction of total nitrogen and total phosphorus discharged into the Baltic Sea as a result of realization of National Program of Municipal Sewage Treatment and Baltic Sea Action Program HELCOM (BSAP). IMGW-PIB Warsaw, 10 pages.
91. Szczepański W., Ostojński M., 2008.: Evaluation of the degree of eutrophication of waters in rivers in 2004-2007 in profiles set by WIOŚ, according to the Ministry of Environment Regulation from 23 December 2003 on criterion of determining water susceptible on nitrogen compounds pollutions from agriculture sources, IMGW Katowice, 17 pages.
[participation in results evaluation and co-editing – 50% contribution]
92. Szczepański W., Ostojński M., 2008.: Evaluation of the degree of eutrophication of waters in rivers in 2004-2007 in profiles set by WIOŚ, according to "Guidelines for the development of Member States' reports" from realization of the Council Directive no (91/676/EEC) on water protection against pollution caused by nitrates of agriculture origin, IMGW Katowice, 149 pages.
[participation in results evaluation and co-editing – 50% contribution]
93. Ostojński M., Jarosiński W., Szczepański W., 2008.: Reduction of phosphorus and nitrogen discharged from the area of Poland into the waters of the Baltic Sea, GIOŚ Warsaw, IMGW Katowice, 7 pages.
[scientific leadership, co-author of methodology and final conclusions development – 33% contribution]
94. Ostojński M., Jarosiński W., 2008.: Program of monitoring research on phosphorus-polluted waters flowing into the Baltic Sea., IMGW Katowice, 7 pages.
[co-author of monitoring research program compilation – 50% contribution]

95. Ostojki M.: Activities and achievements of the Helsinki Commission. The IX International Environmental Forum Baltic Sea Day, St.Petersburg, Russia, 11-13 March 2008, PowerPoint slide set.
96. Ostojki M.: Realization of NPMST in the Noteć River catchment. Notice. Water Management Council, Warsaw, June 2008, PowerPoint slide set.
97. Szczepański W., Ostojki M., Jarosiński W., Rusek D., Iwaniak M., Moryc E., 2009.: Synthesis – detailed monitoring research order to determine the amount of phosphorus and nitrogen in waters of rivers flowing from the area of Poland to the Baltic Sea, IMGW-PIB Warsaw, 13 pages.
[Synthesis editing – 16% contribution]
98. Szczepański W., Ostojki M., Jarosiński W., Iwaniak M., Moryc E., Dudek R., Musioł J., Wajda B., 2009: Compilation of results of detailed monitoring research order to determine the amount of phosphorus and nitrogen and order to calculate the load of these biogenic in waters of rivers flowing from the area of Poland to the Baltic Sea. Um.331/08/Wn50/NE-GW-Tx/D z dn. 21 XI 2008 z NFEPWM, IMGW, 109 pages, Warsaw, 2009.
[scientific leadership, participation in edition of final conclusions – 12% contribution]
99. Ostojki M.: The status of implementation of the Water Framework Directive in Poland. The XXXVI School of Hydrology “Contemporary problems of hydrology”, Mądralin 11-15 May 2009, PowerPoint slide set.
100. Ostojki M.: Some aspects of the EU Water Policy implementation. Seminar of Water Management Committee PAS, World Water Day, Warsaw 22 March 2010, PowerPoint slide set.
101. Szczepański W., Ostojki M., 2010: The presentation “National Environment Monitoring in 2007-2008-2009”. Water Forum Seminar “Surface Water Monitoring in Water Cycle 2010-2015”, Cezdyna, 16-17 November 2010, 30 pages.
[article editing – 50% contribution]
102. Słysz K., Błachuta J., Ostojki M.S., Maciejewski M., Biedroń I., Bogdańska-Warmuz R., Boroń A., Czoch K., Długosz M., Konieczny R., Kosierb R., Kubacka D., Kulesza K., Kwiecień M., Łaciak J., Łudzik A., Picińska-Fałtynowicz J., Siudak M., Szopnicka M., Walczykiewicz T., Wróbel J., Zientarska B., Słysz K., Wiatrak W., Mądry T., Baścik J., Górka Z., Pawłowska K., 2011: Environment impact forecast for the program of flood protection in the catchment of Upper Vistula River in małopolskie, podkarpackie, śląskie, świętokrzyskie and lubelskie voivodeships. Work performed by consortium IMGW-PIB (leader), IEP, IRM, WRR Wrocław, 2011, 804 pages.
[co-author of final conclusions – 3% contribution]

103. Słyżak K., Błachuta J., Ostojński M.S., Maciejewski M., Biedroń I., Bogdańska-Warmuz R., Boroń A., Długosz M., Konieczny R., Kosierb R., Kubacka D., Kulesza K., Kwiecień M., Łudzik A., Picińska-Fałtynowicz J., Siudak M., Szopnicka M., Walczykiewicz T., Wiatrak W., Mądry T., Baścik J., Górka Z., Pawłowska K., Borzyszkowski J., Cichocki Z., Hajto M., Sienkiewicz J., Zaleski J., Nowak B., Korf T., Lisowiec G., Turzański K.P., Krawczyk M., Turzański M., Szłaga J., 2011: Strategic forecast of the assessment of impact of Program Odra 2006 on environment - update. Work performed by consortium IMGW-PIB (leader), IEP, IRM, WRR Wrocław, 2011, 722 pages.
[co-author of final conclusions – 2% contribution]
104. Ostojński M., Szczepański W., Niedbała J., Maciejewski M., Winter J., Sieiński E., 2011: Program of research on hydromorphological elements of surface waters supporting biological elements. Hydromorphological monitoring of surface waters. IMGW-PIB Katowice, 72 pages.
[co-author of selection of the hydromorphological elements in the research program – 16% contribution]
105. Ostojński M., Szczepański W., 2012: Comparative analysis of databases in scope of punctual pollution sources for PLC-6 needs. IMGW-PIB Katowice, 27 pages.
[author of comparative analysis methodology compilation, participation in final conclusions editing – 50% contribution]
106. Ostojński M.: System of monitoring, forecasting and alerting for water management purposes. PowerPoint slide set.

B.2. Expertises and opinions performed on behalf of Department of Environment Protection, Water Management and Geology of Urząd Wojewódzki in Gdańsk.

107. Ostojński M.: Analysis of a technical solution and expected effects of sewage treatment in a treatment plant type of BIOSEGMENTBLOK in Trąbki Wielkie, 1989, 14 pages.
108. Ostojński M., Geneja M., Kulbik M.: Evaluation of proposed solutions of modifying and extension of a sewage treatment plant in Żukowo. Gdańsk, 1989, 15 pages.
[analysis of proposed solutions in scope of possibilities of performing biological treatment process with project technological parameters – 33% contribution]
109. Ostojński M.: Verification of water-legal white paper for charging and discharging sewage from Państwowy Dom Pomocy Społecznej in Szpęgawsk in Stargard Gdański commune, 1989, 16 pages.
110. Ostojński M.S., Geneja M.: Localization conditions in scope of sewage management for a treatment plant for sewage from small slaughter house and butcher, 1989, 13 pages.
[participation in editing the opinion – 50% contribution]
111. Ostojński M.: Opinion on issuing a water permit for GS SCH Krokowa base in Minkowice, 1989, 6 pages.

112. Ostojki M.: Opinion on issuing a water permit for Nuclear Power Station Żarnowiec in built for sewage discharge from post-assembly etching and chemical cleaning of blocks, 1989, 8 pages.
113. Ostojki M.: Evaluation of possibilities of sewage discharge from PPIUR HEL in Hel for treatment type of BIOOXYBLOK, 1989, 10 pages.
114. Ostojki M.: Opinion concerning evaluation of update of technical project of sewage treatment plant for Ośrodek Wypoczynkowy KOMUNARD in Wieżyca. 7 pages, 8 lit. items.
115. Ostojki M.: Opinion concerning water-legal white paper for rainwater discharge from airfield part of BABIE DOŁY object. 1991, 6 pages lit. 1.
116. Ostojki M., Kulik-Kuziemska J., Mąkinia J. Opinion concerning possibilities of removal of organic pollutants and biogenic compounds in unified sewage treatment plant BIOOXYBLOK in Swarzewo. In: Gdańsk University of Technology, 1991, 24 pages, 4 figures, 3 tables, 35 lit. items.
[33% contribution]
117. Demczuk A., Ostojki M., Sadurski A.: Evaluation of "Expertise concerning impact of Metals Recovery Plants "ARGENTEX" and "AVANTI" in Kolbudy" on environment in scope of water-sewage management, atmospheric air and geological surface and groundwater. 1991, 15 pages.
[creating the evaluation of impact on environment in scope of water-sewage management – 33% contribution]
118. Ostojki M. Technological evaluation of modernization and expansion offerings for sewage treatment plant in Kartuzy. 1992, 6 pages.
119. Ostojki M.: Evaluation of impact of liquid fuel station in Gdańsk at 385, Kartuska Street on the environment. 1993. In: P.P.U. Promut Gdańsk, 12 pages.

B. 3. Opinions and expertises performed on behalf of Biuro Projektów Budownictwa Morskiego in Gdańsk

120. Ostojki M., 1989 Opinion on the compilation of Gdańsk University of Technology "Development of technological assumptions for sewage treatment technology using low-waste method with aluminum sulphate", 5 pages.
121. Ostojki M., 1989 Opinion concerning the technological part of technical project of modernization of mechanical-biological sewage treatment plant for SSR GRYPFA in Szczecin, 3 pages.

B. 4. Other opinions and expertises

122. Ostojski M., 1989. Opinion about usefulness of the range of measurement-research works proposed by Biuro Usług Ekologiczno-Inżynierskich Eko-Geo in Gdańsk related to environment protection program of MiG Kościerzyna. In: Polkompleks Ltd. Kościerzyna, 12 pages, 1 appendix.
123. Ostrowski S., Kulbik M., Ostojski M. 1984. The reasons of flooding a building of Faculty of Electronics of Gdańsk University of Technology, 14 pages.
[co-author of the expertise, participation in the local vision, analysis of the hydrological network setup in the nearest vicinity, participation in final conclusions editing – 33% contribution]
124. Ostojski M., 1991. Opinion concerning small-size chemical treatment plant of industry waste water according to PIW EKOBUDEX project, 2 pages.
125. Ostojski M., Geneja M., 1991. Opinion concerning possibilities of post production waste water treatment from Warszawskie Zakłady Drobiarskie in Karczewie. In: PI-W EKOBUDEX, Sopot, 7 pages, 1 table, 2 lit. items.
[scientific leadership, planning and participating in laboratory research, conclusions co-editing – 50% contribution]
126. Ostojski M., 1992. Opinion concerning the evaluation of impact of Zakład Sortowania Jelit w Dąbrowce gm. Luzino on environment. Gdańsk, 4 pages.
127. Ostojski M., 1992. Opinion concerning shortened technical and economic assumptions of the treatment plant in Dzierżgoń. In: ECOBALTIC Foundation, Gdańsk 9 pages.
128. Ostojski M., 1992. Technological evaluation of offerings for the sewage treatment plant building in Stargard Gdański. 10 pages; Evaluation of offerings for building the sewage treatment plant in Stargard Gdański. Stage II. 3 pages, 1 table.
129. Parteka T., Ostojski M.S., 1992. Co-paper for assessment of impact of designed gas pipeline Włocławek – Gdynia on environment. In: Ministry of Environment Protection, Natural Resource and Forestry, 10 pages.
[co-editing of the co-paper – 50% contribution]
130. Ostojski M., 1992. Selected practical guidelines concerning preparations to realization of a sewage treatment plant. In: Ekobaltic. 7 pages, 1 appendix.
131. Ostojski M., 1992. Technological evaluation of modernization and expansion offerings for sewage treatment plant in Kartuzy. In: Urząd Miasta i Gminy Kartuzy, 6 pages.
132. Ostojski M., 1992. Evaluation of offerings for a complex solution and re-arrangement of water-sewage management in Wdzydze Kiszewskie, com. Kościerzyna. In: EKO-KONSULT Gdańsk, 5 pages.
133. Ostojski M., Geneja M., 1993.: Opinion concerning technological branch of technical documentation of the sewage treatment plant in Wdzydze Kiszewskie. In: MEKO s.c. Agencja Ekologiczna Gdańsk, 9 pages.
[co-editing of the opinion – 50% contribution]

134. Ostojski M., 1993.: Assessment of impact of fuel station in Grzybów on environment, In: Kołobrzeg Commune, 13 pages.
135. Ostojski M., Geneja M., 1993.: Expertise on the way of discharging rain water accumulated in the landfill during its initial period of exploitation. In: MEKO s.c. Ecological Agency, Gdańsk, 15 pages.
[co-editing of the expertise – 50% contribution]
136. Ostojski M., 1993.: Assessment of impact of fuel storage in Łysina, Czaplunek commune located in the area of Zakłady Przemysłu Zbożowego in Łysina on environment, 12 pages.
137. Ostojski M., 1989. Diagnosis of the applicability of biological sewage treatment plant type of POSTEOR for OSM Praga Division Radzymin. In: Posteor Oddział Gdańsk, 40 pages.
138. Ostojski M., 1991. Water-legal white paper for Ośrodek Sportu, Rekreacji i Wypoczynku GZE UNIMOR in Łączno. 30 pages, 3 figures, 4 tables.
139. Ostojski M., Geneja M., Kulbik M., Czerwionka K., Mąkinia J., 1991. Water-legal whitepaper for issuing a water permit for modernization of biological sewage treatment plant in Żukowo. In: Aquados Ltd. Gdańsk, 64 pages, 7 tables, 1 figure + appendixes: 30 tables, 48 pages.
[scientific leadership, co-editing of the white paper – 20% contribution]
140. Ostojski M., 1992: Water-legal whitepaper for sewage discharging from Zakład Sortowania Jelit in Dąbrówka Młyn to ground. In: ELJOT Gdańsk, 9 pages, 1 table, 3 appendixes.
141. Sztoldo M., Ostojski J., Ostojski M., 1993.: Manual of the technological line. In: AQUADOS Kościerzyna, March 1993, 21 pages + 6 appendixes: app. 1- 60 pages, appx.2 -8 pages, app. 3 -1 page, app. 4- 4 pages, app. 5- 7 pages, appx.6-8 pages.

C. Patents

142. Ostojski M., Karkosiński D.: A device for collecting liquid samples especially from an open sewage channel. Patent of PPR nr 148659 /copyright certificateno 253896 from 9 May 1990/.
[co-author of the device concept – 50% contribution]

D. Technical projects developed in AQUADOS Project Team in Kościerzyna

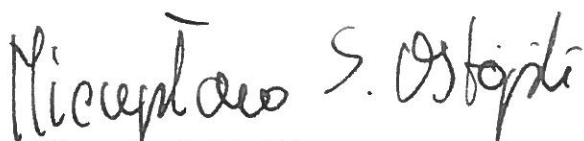
143. TP of sanitary sewerage for Sienkiewicza street in Kościerzyna. Principal: UMiG Kościerzyna, 1989, assistant designer.
144. TP of rain sewerage for Sienkiewicza street in Kościerzyna. Principal: UMiG Kościerzyna, 1989, assistant designer.
145. TP of external rain and sanitary sewerage system in Kościerzyna: Słowackiego, 22 Lipca, Mickiewicza, Gałczyńskiego, Orzeszkowej streets. Principal: UMiG Kościerzyna, 1989, assistant designer.
146. TP of sanitary, rain sewerage, external water supply for Sędzickiego, Karnowskiego, Mała Dworcowa streets in Kościerzyna. Principal: UMiG Kościerzyna, 1989, assistant designer.

E. Conferences, seminars and scientific missions

In total, participation in tens of conferences and seminars domestic and foreign. The most important are:

147. Science Days of National Institute of Applied Sciences in Toulouse, Toulouse, France, paper, 15 June 1990; one session lead, participation in a round table discussions,
148. Scientific Seminar Lyonnaise des Eaux, Bordeaux, France, 24 June 1990, one session lead
149. Scientific mission in High Technical-Technological School in Prague, Czechoslovakia, 5-11 November 1990
150. The III Congress of Polish Sewerage Engineers "POLKAN 91". Łódź, 22-23 September 1991, paper [7],
151. Seminar: Actual status and perspectives of water supply in Gdańsk, 1992, paper [8],
152. Scientific missions in Nation Institute of Applied Sciences in Toulouse, France, 4-10.12.1991 and 19-21.09.1993,
153. Conference ASPD de Paris, Paris, Francja 25 September – 1 October 1993;
154. Scientific Seminar of Water Management Committee PAS, Warsaw, October 2003, paper [63],
155. The IV Conference "Europe of Water, Water of the Europe", Paris, 2-7 February 2004, session lead, participation in a round table discussions,
156. The VIII Ecological Forum of Wielkopolska, Poznań, 16 March 2004, session leadership,
157. The VIII International Ecological Meet, Poznań, 15-16 November 2004, paper [65]
158. Seminar and Fair Water + Gas, Berlin, 7-9 September 2004, one session leadership,
159. Founding Congress of the European Network of Basin Organizations EURO RIOB, Cracow, 27-30 September 2004, scientific session leadership,
160. Seminar of Water Management Committee PAS, Warsaw, March 2004, paper [65].
161. Conference: National Program of Municipal Sewage Treatment – investment financing of water-sewage companies and local governments. Organizer: Chamber of Commerce "Polish Waterworks", Warsaw, 9 March 2005, session co-leadership,
162. World Water Day 2005, Conference of the Water Management Committee PAS, Warsaw, 30 June 2005, paper [2]
163. Protection against flood. National training. Ministry of Environment, National Headquarters of the State Fire Service, Silesian Council of Technical Organization FSNT in Katowice, Szczyrk, September 2005, paper [3]
164. Conference « Status of good water: eyes across Europe », French Water Circle. Paris, 17 October 2005, one session lead, participation in a round table discussion,
165. Conference EURO RIOB "Exchange of experience related to flood protection", 19-21.10. 2005, Wrocław, conference co-leadership,
166. The IX International Ecological Meet "Poland in new Europe", Poznań, 14-15 November 2005, 2 papers [69,70], seminar leadership.
167. Polish-German Conference "Implementation of the EU directives on water and sewage management – for Polish and German representatives of local governments", Urząd Marszałkowski Województwa Wielkopolskiego, Poznań 8-10 November 2005, paper [69],
168. International Conference: Water management in the Noteć River basin. The Water Framework Directive Program. In: HSEP Bydgoszcz, 7-8 March 2005, Bydgoszcz-Prądocin, paper [73],

169. Scientific Conference « Status of good water: eyes across Europe », French Water Circle. Paris, 17 October 2005, paper [74]
170. 4th World Water Forum, Mexico City, 18 March 2006, Mexico, paper [76],
171. Seminar of the Committee on the Environment, Agriculture and Local and Regional Affairs of the Parliamentary Assembly of the Council of Europe, Paris, France, 22 February 2007, paper [77],
172. Seminar of Finnish Parliament Environment Committee, Helsinki, 6.11.2007, paper [78],
173. The IX International Environmental Forum Baltic Sea Day, St. Petersburg, Russia, 11-13.03.2008, paper [87],
174. Water Management Council, June 2008, Bulletin [88],
175. Congress of American Meteorological Society (AMS) and International Seminar NWS NOAA: The Socio-Economic Benefits of National Hydro-Meteorological Services: Making a Business Case for Support, 11-15 January 2009, Phoenix, Arizona, USA
176. Seminar of Ministry of Environment: Is Polish water management system good? Warsaw, 10 December 2009, seminar leadership.
177. The XXXVI School of Hydrology "Contemporary Problems of Hydrology", Mądralin, 11-15 May 2009. paper [91],
178. Seminar of Water Management Committee PAS, World Water Day, Warsaw, 22 March 2010, paper [92],
179. 90 Congress of American Meteorological Society (AMS) and International Seminar NWS NOAA: Cooperation between National Hydro-Meteorological and Public Health Services, 16-21 January 2010, Atlanta, Georgia, USA.
180. 91 Congress of American Meteorological Society (AMS) and International Seminar NWS NOAA: 21st Century Challenges In Communicating Weather and Climate, 21-26 January 2011, Seattle, Washington, USA
181. The VI National Training Conference: Rain water – legal, economical and technical aspects. Abrys, Toruń, 4-5 April 2011, paper [22],
182. The XVI International Conference of Technical Control of Dams: Safety of dams – new challenges. Conference leadership, 2011, paper [29]
183. The XXI National School of Water Management, 21-23 September 2011, paper [30]
184. The XXXIV Symposium Contemporary Business and Public Administration. Ustroń, 13-15 January 2012, paper [101].
185. 92 Congress of American Meteorological Society (AMS) and International Seminar NWS NOAA: Friend and Foe: Documenting the Successes, Failures and Opportunities of Technology in the Hydro/Met Community, 22-26 January 2012, New Orleans, Louisiana, USA.


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