

Mieczysław Kunz

Institute of Geography
Nicolaus Copernicus University, Toruń
met@umk.pl

**THE INTERNATIONAL GIS DAY – ANALYSIS
OF CELEBRATIONS IN POLAND AND ITS IMPORTANCE
TO GEOGRAPHIC EDUCATION**

Abstract. Geographic Information Systems were classified as one of the most important technological „inventions” of the 20th century for geography. GIS, as the content of lectures, and later as a university subject, was introduced at Polish universities and colleges relatively late – only at the beginning of the 1990s. At first, it was an extension of the content scope discussed within the framework of cartography and topography, and only later – as independent lectures and practical classes. An excellent supplement to the content of lectures and practical workshops, as well as an indication of proper students’ attitudes towards geoinformation is the International GIS Day organized every year in November for more than 10 years in Poland and worldwide. The objective of this event is to popularize the knowledge about geoinformation systems and their broad applications. The first celebration of this day took place on the 18th of November 1999 in several countries at the same time, and the proposed theme – ‘application of GIS is limited only by the imagination of people who use it’ – remains valid until now. Since the first shows, one can observe an increasing number of countries and academic, institutional and commercial centres introducing the modern geography to all who are interested in it through this open and interesting form. The research aimed at analysing the previous celebrations of the GIS Day in Poland (2000–2010), as well as making an attempt to determine the significance of this form of sharing the knowledge and skills in geographic education.

Key words: GIS Day, geographic education, geographic centres, geoinformation, analysis

INTRODUCTION

The previous (20th) century is a period of exceptional technical and technological discoveries, implementation of these new tools in civilian sectors and

the growth of their universality in the software application for all persons involved in the geographical space and researches on the surrounding reality. Among the most important of these discoveries for the development of geographical sciences in the 20th century (after Ciołkosz, 2007), one should certainly include the following: the intensive development of aerial (since the beginning of the 2nd World War) and satellite remote sensing (since launching the first environmental satellite LANDSAT in 1972), the first geographical information operating system (the so-called Canadian GIS in 1963) and making the Global Positioning System (GPS) available for civilian application in 1985. These new research tools influenced the thematic range of taught subjects, modified the curricula at nature science faculties, as well as changed the approach to methods (departing from the theoretical education towards practical skills) and the scope of education of present generation geographers.

Geographic Information Systems, as the content of lectures, and later as a university subject, were introduced relatively late at the Polish universities – only at the beginning of the 1990s, despite the fact that in other parts of the world, they had been applied since at least two decades. At first, it was an extension of the content scope discussed within the framework of cartography and topography, and only later – separate lectures. The first such lectures were initiated for technical majors – geodesy and later for nature sciences – geography or forestry. At present, GIS classes (lectures and parallel laboratories) are included among the so-called basic subjects, which comprise the introductory content implemented at the 1st degree studies at all Polish universities educating geographers (usually in the second year of studies). Depending on a specific character of a unit conducting the geographical studies at successive education years and a subsequent education level (the second degree, master's studies), an extension of this content is proposed with more specialist tools, functions or detailed application. The analysis of curricula regarding the GIS for geographical studies at three state universities – in Warsaw (UW), Cracow (JU) and Poznań (AMU) was discussed in the paper by Kozak et al. (2009), whereas at the private university in Bydgoszcz (University of Economy) in the paper by Kunz (2010). Changes taking place in the education of natural sciences (and especially geography) are observed in all educational centres in Poland. They aim, according to the accepted concept,¹ at distinguishing a new field of science – geoinformation and ultimately a new major (geoinformation or geoinformatics).

In the situation of the reduced teaching hours and the limited access to sources of investment funding (including funding of new technologies and pe-

¹ in 2009, on the initiative of Zbigniew Zwoliński, Ph.D., Professor of AMU, and Jacek Kozak, Ph.D., Professor of JU, a Polish Team was established, which is responsible for the major geoinformation/geoinformatics, and which consists of representatives of all scientific and educational units in Poland, educating in the major of geography.

riodic updating of laboratory equipment with geotechnical innovations), at Polish universities one can look for alternative, supporting methods of education that eliminate these processes, shortages or deficiencies.

The International GIS Day, organized every year in November for more than 10 years in Poland and worldwide, is an excellent supplement to the content of lectures and practical workshops, together with the indication of proper attitudes (i.e. expected by the job market), offered to students within the scope of geoinformation. The objective of this event is to popularize the knowledge about geoinformation systems and their broad applications. The author and the initiator of the project, which assumes different forms of GIS propagation and promotion (starting from the „open door” in various trade institutions, through workshops and training sessions, exhibitions of maps or posters, to lectures and shows) is the founder and the former president of the ESRI company² – Jack Dangermond.

The initiative of the GIS Day is perfectly integrated as a complementary element in the process of education within the scope of rudiments of *Geographic Information Systems*, implemented in all majors related to space and its exploitation.

The first celebration of this GIS Day took place on the 18th of November 1999 in several countries at the same time, and the proposed theme – „application of GIS is limited only by the imagination of people who use it” – remains valid until now. Since the first demonstrations, one can observe an increasing number of countries, as well as academic, institutional and commercial centres introducing the modern geography to all who are interested in it through this open and interesting form (Kunz 2007). At present, the GIS Day is celebrated worldwide in more than 80 countries at the same time, and every year over million participants take part in these celebrations.

GEO-COMPETENCE OF GEOGRAPHY GRADUATES

Modern graduates of the geography major (all specialities) should be „equipped” with proper knowledge, practical and professional skills, as well as proper attitudes. All these factors constitute the so-called *geo-competence* of geography graduates expected by employers (fig. 1) and bring about the fact that geographers can be (and are) competitive on the job market. In the recruitment process, there is yet another assessment of other significant characteristics (such as creativity, analytical thinking ability, pugnacity, etc.), but their evaluation

² The Company ESRI (*Environmental Systems Research Institute*) was created in 1969 in Redlands (California) in the USA, as one of the first consulting companies specializing, in the beginning, in the land use analyses.

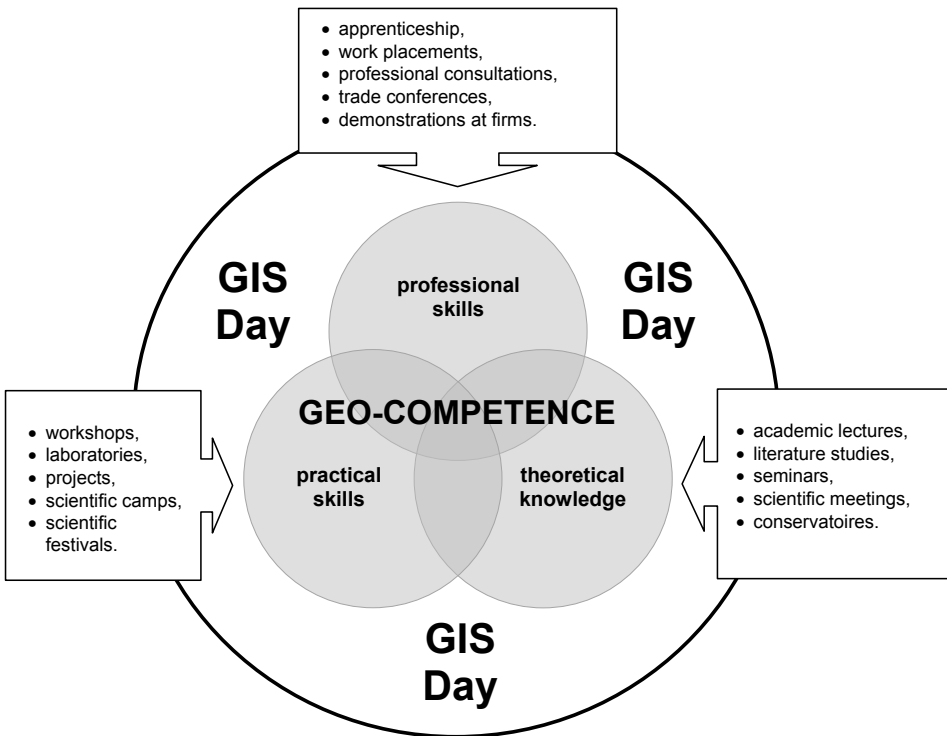


Fig. 1. The expected *geo-competence* of geography graduates

and description can be found in many journals or guide books. The aforementioned *geo-competence* are acquired by students during the entire educational process of geographic studies (including also researches carried out together with scientists and students, who are more and more often involved in them). Job offers addressed to geography graduates, apart from formal aspects (education, foreign languages, etc.), more and more often include necessary practical skills, which a candidate for a given position should have and usually those are skills in geoinformation, at least at the level of the knowledge and the use of the software.

This kind of relevant *geo-competence* are developed throughout the entire period of studies and they come into being at the meeting point of three crucial domains: theoretical, practical and professional. The former (theoretical knowledge) is conveyed in a relatively traditional way, mainly during lectures, seminars and recommended literature studies. This method of acquiring the adequate knowledge by students is known for years and practised to date (sometimes as the only possible method). The latter domain (practical skills) is connected with acquiring the necessary skills by a student regarding the use and exploita-

tion of the software, solving the assignments and thinking focused on tasks. Classes, workshops, scientific camps or implemented projects, as well as the certification process of ECDL GIS serve this purpose³. The third domain (professional skills) is the most significant in terms of a performed job and needs anticipated by an employer. It is gained during apprenticeships and work placements, as well as graduation consultations at companies. This domain is the most difficult to design and to develop in academic conditions.

It seems that all three domains can be successfully designed, developed, supplemented and consolidated during the GIS Day. This is possible when such symposia are held regularly, the programme of speeches illustrate the present-day trends, innovations and important implementation, and the form of proceedings is held in an accessible, interesting and modern way. And thus, the GIS Day can be a platform, which helps to acquire appropriate attitudes and behaviours related to the application of geographical information.

From the very beginning, this intention accompanied the organizers of the GIS Day at the Institute of Geography NCU in Toruń. In this respect, this academic centre has the longest experience in Poland (Kunz 2010a, 2011). Based on the 11th anniversary of the organization and celebrations, one can make a summary from the perspective of benefits to students. And thus, students of geography in Toruń during their entire study period (levels I and II) can participate five times in the Symposium on the GIS Day, as well as in a number of associated activities. During this period (5 years of studies), a student could listen to ca. 45 presentations presented by representatives of commercial companies, the state administration and local authorities, as well as academics from the whole country, which means more than 1,500 minutes of lectures, shows and demonstrations, as well as participation in exhibitions of maps, posters, products and technologies, and also training sessions and workshops. It is an extracurricular, free educational supplement for a student, which constitutes an equivalent of a few theoretical subjects or monographic lectures. Speakers during lecture sessions or workshops, apart from high-class experts from leading companies and geoinformation centres in Poland, were often young people (also Toruń graduates of geography), whose professional career is closely connected with geoinformation, which additionally stimulates and creatively influence students who are looking for their future professional development.

³ ECDL GIS (*European Computer Driving License Geographical Information System*) is a document certifying that its holder acquired and is able to apply the knowledge specified in the detailed syllabus (www.ecdlgis.pl) within the scope of Geographic Information Systems. This Certificate is awarded in European countries always and everywhere on the same terms.

THE GIS DAY IN POLAND IN 2000–2010

From the very beginning, academic centres in Poland, where spatial information is used in the process of education, have participated in a very interesting form of promoting the knowledge about Geographic Information Systems (GIS), i.e. the GIS Day. Simultaneously in several selected cities (mainly capitals of provinces), on the third Wednesday of November, presentations and lectures are conducted, usually open to all interested persons, often combined with presentations of maps and posters, and lately also with practical workshops. The first such symposia were inaugurated in Poland in 2000 in four provincial cities (Cracow, Poznań, Toruń and Szczecin), and they were organized by certain academic centres educating geographers. Starting with this symbolic event, similar shows and presentations are being organized every year, which aim at promoting the tools and application of geoinformation (fig. 2). In 2001, the previous organizers were supported by the Municipal Council in Gdańsk. In the following years, similar symposia were organized by another academic centres in Warsaw (since 2002) and Łódź (2002 and 2003), Wrocław (since 2004), Bydgoszcz (2004 and 2005), Gdańsk and Olsztyn (since 2008), as well as Częstochowa, Lublin and Sosnowiec (since 2009). In 2002, organizers connected with the public administration were supported by the District Authority in the town of Polkowice, as well as by the Municipal Councils in Zabrze and Katowice, then the Municipal Council in Chocianów (2003), Bytom and WODGiK (the Provincial Centre for Geodesic and Cartographic Documentation) in Katowice (2004). In 2006, an interesting GIS Day was organized by the Tatras National Park in the town of Zakopane, and in 2008 by the Forest Division in Lubieszów as a closed meeting. In 2008, IMGW (the Institute of Meteorology and Water Management) in Cracow inaugurated the activity in popularizing the geoinformation and one year later, it organized a symposium together with RZGW (the Regional Board for Water Management) in Cracow. The Space Research Centre PAS (Polish Academy of Sciences) occurred on the map of organizers in 2009, and the latest supporters – the Municipal Council in Kielce and RDOŚ (the Regional Directorate of Environmental Protection) in Opole in 2010.

Also secondary schools participated several times (2003–2005, 2007–2010) in the promotion of the knowledge about Geographic Information Systems, mainly among their school children. Those were Groups of (mainly technical) Schools located in the cities of Toruń, Warsaw, Częstochowa and Bytom.

The number of symposia on the GIS Day in Poland has changed in recent years (fig. 3). For the first five editions, the number of organizers increased every year (from 4 in 2000 to 16 in 2004). In the following years (2005–2007),

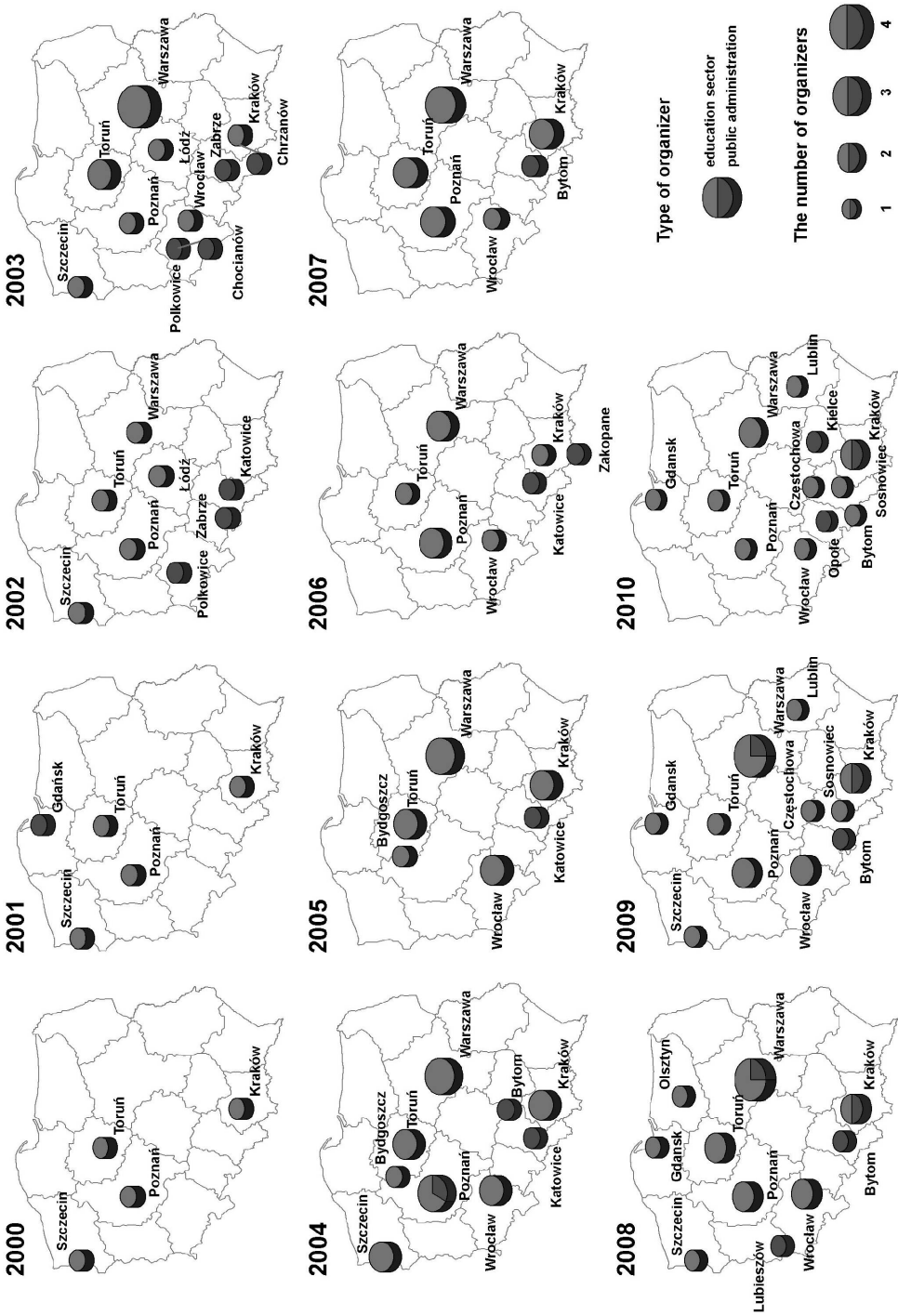


Fig. 2. Spatial distribution of the GIS Day Symposia in Poland in 2000–2010

there was a considerable decline in the number of centres⁴ interested in the organisation of this kind of events. In 2008 and 2009, the number of organizers increased up to the highest level (17 independent symposia), and this winning *streak* in the popularization of geoinformation continues until today. A unique undertaking was to „join the forces” in 2009 by three universities in Cracow (the University of Science and Technology – UST, the Agricultural University – AU and the Jagiellonian University – JU) and to organize one, so-called „Cracow” GIS Day, with the assumption that the main organizer will change in the subsequent years (2009 – JU, 2010 – UST and in 2011 – CUT).

In 2010, the aforementioned universities were joined by the Pedagogical University (PU) and the Cracow University of Technology (CUT), as well as certain scientific institutions (PIG – Polish Geological Institute, IMGW – Institute of Meteorology and Water Management). In terms of the number of participants⁵ and the presented thematic scope, it was the biggest GIS Day in Poland so far. In 2011, the Municipal Council in Bytom is going to be an organizer of the so-called European GIS Day, connected with the Polish presidency in the Council of the European Union.

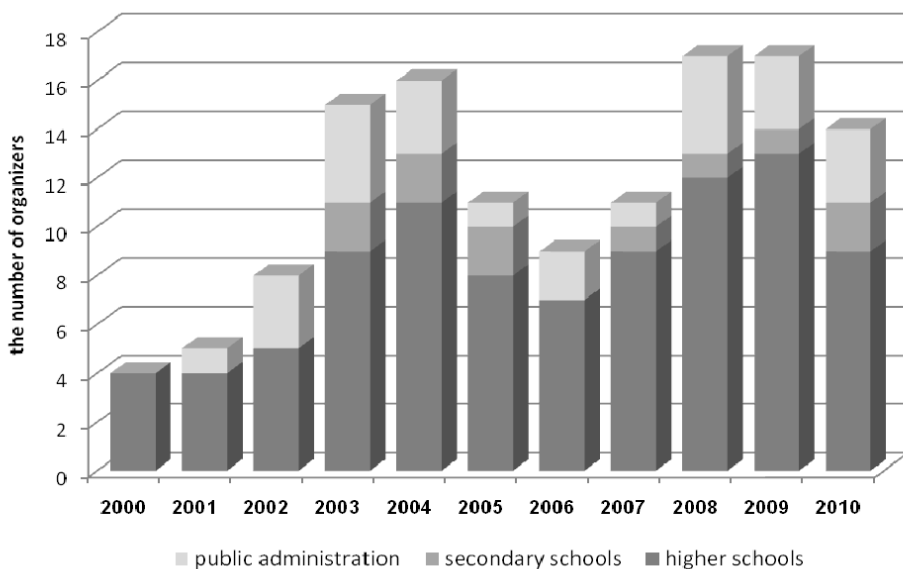


Fig. 3. The number of the GIS Day Symposia in Poland in 2000–2010 according to the type of organizers

⁴ according to the author, a shortage of „flexible” persons from commercial companies, which are main speakers at this type of shows, was one of the main reasons for the decreased number of symposia during the perceptible investment boom.

⁵ according to estimations by organizers of the „Cracow” GIS Day in 2010, 1,000 people participated in it.

On the map of Poland, however, there are provinces where, despite many existing and functioning universities and the common use of spatial data in offices and state institutions, no events are being organized to promote the geoinformation and benefits of its application at the specified time (fig. 2). The following provinces are certainly such a white card on the map of Poland: Lubuskie, Podlasie and Podkarpacie, as well as, except for „one-year spurts”, the Łódź province and the Warmia-Masuria province. One should hope that the list of such provinces will not be completed during the following years by the Świętokrzyskie, Lublin and Opole provinces. This could give the false impression that Eastern Poland *is poor in geoinformation*, which is basically untrue.

THE GIS DAY AT GEOGRAPHIC CENTRES IN POLAND IN THE YEARS 2000–2010

The education within the scope of geography is conducted at 17 academic centres in Poland, including two centres functioning within the framework of non-public universities (WSG – the University of Economy in Bydgoszcz and ACF – Alliance College of Family in Warsaw). The subject *Geographic Information Systems* is obligatory and includes lectures and parallel practical workshops (laboratories). Therefore, the GIS Day is a perfect complement to their content and constitutes a significant factor in the development of proper *geo-competence* among students of geography. Unfortunately, not all geographic centres appreciate the GIS Day as a complementary and modern form of education and training. Despite the fact that geographers are present among the organizers of the GIS Day since the very beginning, the contribution of geographic centres in this project is much too low (Table 1). The increase in the number of organizers of the subsequent editions of the GIS Day took place at the so-called *non-geographical* centres (technical universities or agricultural universities), rather than at those which by definition educate geographers – qualified experts who apply geoinformation.

After analysing the previous eleven celebrations of the GIS Day in Poland, one can say that a group of four geographical centres had developed (Table 2), which treat this event as a very important factor supporting the modern geographic education and a practical tool, with the knowledge of which every graduate of this major should be „equipped”, irrespective of speciality or specialization. The group of these centres includes: the Institute of Geography NCU in Toruń (11 editions), the Faculty of Geographical and Geological Sciences AMU in Poznań (8 editions), the Institute of Geography and Spatial Management JU in Cracow (7 editions) and the Faculty of Geosciences US in Szczecin (6 editions).

Table 1. The number of organized GIS Day Symposia in 2000–2010 in relation to geographic centres in Poland

Year	The number of Symposia – Poland	The number of Symposia – geographic centres	The detailed list	% contribution of geographic centres
2000	4	2	NCU, US	50
2001	5	2	NCU, US	40
2002	8	4	AMU, UL, NCU, US	50
2003	15	5	JU, AMU, UL, NCU, US	33
2004	16	5	JU, AMU, NCU, US, KWU	31
2005	11	3	JU, NCU, KWU	27
2006	9	3	JU, AMU, NCU	33
2007	11	3	JU, AMU, NCU	27
2008	17	4	UW, AMU, NCU, UG	23
2009	17	8	JU, UW, AMU, MCSU, NCU, US, UG, USI	47
2010	14	6	JU, UW, AMU, MCSU, NCU, UG	43

where the applied abbreviations of geographic centres denote as follows:

ACF (Alliance College of Family in Warsaw, Faculty of Geography),
AMU (Adam Mickiewicz University in Poznań, Faculty of Geographical and Geological Science),
JKU (Jan Kochanowski University of Humanities and Sciences in Kielce, Institute of Geography),
JU (Jagiellonian University in Cracow, Institute of Geography and Spatial Management),
KWU (Kazimierz Wielki University in Bydgoszcz, Institute of Geography),
MCSU (Maria Curie-Skłodowska University in Lublin, Institute of Earth Sciences),
NCU (Nicolaus Copernicus University in Toruń, Institute of Geography),
PA (Pomeranian Academy in Słupsk, Institute of Geography and Regional Studies),
PU (Pedagogical University of Cracow, Institute of Geography),
UG (University of Gdansk, Institute of Geography),
UL (University of Łódź, Faculty of Geographical Sciences),
US (University of Szczecin, Faculty of Natural Sciences),
USI (University of Silesia in Sosnowiec, Faculty of Earth Sciences),
UW (University of Warsaw, Faculty of Geography and Regional Studies),
UWr (University of Wrocław, Department of Geography and Regional Development),
WSE (Warsaw School of Economic, Economic Geography Department),
WSG (University of Economy in Bydgoszcz, Institute of Geography and Spatial Management).

Table 2. Activity of geographic centres in Poland in the organization of the international GIS Day in 2000–2010

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
geographic centre	ACF	X	X	X	X	X						
	AMU											
	JKU											
	JU											
	KWU											
	MCSU											
	NCU											
	PA											
	PU											
	UG											
	UL											
	US											
	USI											
	UW											
	UWr											
WSE												
WSG	X	X	X	X	X							

Denotations of abbreviations for academic centres were included under Table 1.

For three consecutive years, this symposium has been organized also by the Faculty of Geography and Geographical Studies UW in Warsaw and the Institute of Geography UG in Gdańsk. One can only hope that the winning *streak* will continue during the following years, and not only in these centres.

Nowadays, when Geographic Information Systems are ubiquitous in the surrounding reality, the organization of the GIS Day is a responsibility of all geographical centres in Poland. This practical way helps to present how the modern GIS functions and how it can be applied in selected situations, particularly in our everyday life.

SUMMARY AND CONCLUSIONS

In order to increase the activity of geographical centres in Poland in the popularization of geoinformation through celebration of the GIS Day, one-day unification of geographers and joint organization of this symposium will be legitimate at each of the seventeen academic centres educating the geographers. Each of such centres could then present its specificity regarding the local and regional application of Geographic Information Systems. Such actions should be jointly proclaimed, signed by the management and included on the list of duties by geographic units.

It is worthwhile to consider a common „theme” for the subsequent editions of the GIS Day with which the symposium will be celebrated at all geographic centres. This will certainly expand the discussion at the decision-making levels (among the management of geographic units) and the joint action will result in the accession of further centres educating geographers to this unifying idea.

In the subsequent years, an interesting solution would be a migration of speakers of certain geographic centres to other ones, in order to demonstrate different implementation, applications and examples. Additionally, inviting graduates as lecturers, whose professional activity is directly or indirectly connected with geographical information systems, has a stimulating and constructive influence on younger students. Watching live „professional careers” of people who graduated from the same university results in a perceptible increase of interest in the application of information science tools, irrespective of the speciality chosen.

Extension of the programme for the GIS Day with a workshop part (computer laboratories) will certainly revive the interest of students in this initiative. Introduction of participation certificates will additionally increase the target group.

High participation of academic centres in the total number of organizers is a characteristic phenomenon. On the one hand, this is good news, because those are the institutions that educate future users, but on the other hand, it is disturbing that units of public administration or private companies (which nevertheless exist on the market) do not want to present their technology and experience (and offices should be friendly and open to customers) or worse, have nothing to show.

If we, geographers – for the promotion of modern geography and the development of necessary and expected by the job market *geo-competence* of our students and future graduates – will not use the chance and the potential offered by the GIS Day, then (media and nowadays ubiquitous) geoinformation tools will be unfortunately used by other faculties and scientific disciplines. For the author of this paper, Geographic Information Systems are not only interesting,

but also absolutely necessary tools and skills applied, if not commonly in geography of the late 20th century, then certainty in highly transformed geography of the 21st century.

References

- Ciołkosz A., 2007, *Nowe narzędzia i metody badawcze w geografii i ich rola w rejestracji i wyjaśnianiu zjawisk i zmian w skali globalnej* [New tools and research methods in geography and their role in acquiring data for understanding phenomena and changes at global scale], [in]: Maik W., Rembowska K., Suliborski A. (ed.), *Geografia a przemiany współczesnego świata [Geography and the changes in the contemporary world]*, 3, Wydawnictwo Uczelniane WSG, Bydgoszcz, pp. 103–118.
- Informator geografii polskiej* [Directory of Polish Geography], 2006, Komitet Nauk Geograficznych PAN, Łódzkie Towarzystwo Naukowe, Łódź.
- Kozak J., Werner P., Zwoliński Z., 2009, Kształcenie w zakresie geoinformatyki na kierunku geografia [Education in the field of Geographic Information Science and Technology in geography curricula in Poland], *Annals of Geomatics*, VII, 3 (33), pp. 57–73.
- Kunz M., 2007, Ogólnoswiatowy Dzień GIS-u [International GIS Day], [in]: Kunz M. (ed.), *Systemy informacji geograficznej w praktyce (studium zastosowań)* [Geography Information Systems in practice (study of application)], Wydawnictwo UMK, Toruń, pp. 9–15.
- Kunz M., 2010, Kształcenie w zakresie systemów informacji geograficznej w Wyższej Szkole Gospodarki w Bydgoszczy [Education in the field of geography information systems at University of Economy in Bydgoszcz], [in]: Maciołek R., Maik W., Sikora K. (ed.), *Problemy nauki i szkolnictwa wyższego w społeczeństwie opartym na wiedzy* [The problems of sciences and higher education in society on knowledge based], Wydawnictwo Uczelniane WSG, Bydgoszcz, pp. 207–216.
- Kunz M., 2010a, Dni GIS-u na uniwersytetach w Toruniu i Warszawie [GIS Day at universities in Torun and Warsaw], *Polski Przegląd Kartograficzny* [Polish Cartographical Review], 42 (1), pp. 77–78.
- Kunz M., 2011, 'XI Kujawsko-pomorski Dzień GIS-u w Toruniu' [11th Kujawy-Pomerania GIS Day in Torun], *Polski Przegląd Kartograficzny* [Polish Cartographical Review], 43 (1), pp. 98–99.