



ASSOCIATION OF POLISH CARTOGRAPHERS
INSTITUTE OF GEOGRAPHY AND REGIONAL DEVELOPMENT
OF UNIVERSITY OF WROCLAW

**The 2nd Professional Conference APC
„*Profession of Cartographer*”**

Poland, Wrocław, 23-25 November 2006

**EXPERIENCE OF EAST AND CENTRAL EUROPE
IN CARTOGRAPHY OF NEW ECONOMY
AND POLITICAL SYSTEMS.
LEGAL AND ORGANIZATIONAL PROBLEMS**

Program • Abstracts



Poland, Wrocław – Polanica Zdrój, 2006

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EXPERIENCE OF EAST AND CENTRAL EUROPE IN CARTOGRAPHY
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under the auspices of the

- SURVEYOR GENERAL OF POLAND
- MARSHAL OF LOWER SILESIAN VOIVODSHIP
- THE PRESIDENT OF INTERNATIONAL CARTOGRAPHIC ASSOCIATION
- THE PRESIDENT OF EUROPEAN CENTER FOR ARCHITECTURE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

The main aim of the conference is to present output of the Polish cartography and cartographies of the neighbouring countries, especially from the Eastern Europe.

New economies and political systems in these countries have brought a rapid development of private cartographic activities. Connected to this fact are arising and unavoidable legal and organizational problems.

The conference has an extraordinary chance to become an open and unique forum for presenting the output and the problems and enabling exchange of experience and good practice.

Short versions are published in this book. The full versions of chosen papers will be published in *Scientiarum Polonorum Acta in Geodesia et Descriptio Terrarum*.

Within Conference, the following will take place:

- 1) Sessions in two thematic groups:
 - a) **Administrative topographic and thematic cartography. Problems of actualization and visualization of maps.** Seminar organized within the target project no 6T122005C/06552*
 - b) **Situation of cartographic companies. Copyright and intellectual propriety rights**
- 2) Working meeting of ICA Commission on "Gender & Cartography"
- 3) Assembly of Section of Cartography of Committee on Geodesy of Polish Academy of Sciences
- 4) Open Assembly of Association of Polish Cartographers and Cartographic Department of Polish Geographical Society
- 5) Assembly of executive committee of Association of Polish Cartographers
- 6) Cartographic exhibition
- 7) 7th edition of "Map of the Year 2006" competition

We hope that our conference will be interesting and useful for your further works!

* „Methods and procedures of integration, visualization, generalization and standardization of referential databases available at geodesy and cartography sources; using these integrated procedures for creating thematic databases“ Financed by Geodesy and Cartography State Agency and Ministry of Education, realized by Agriculture University of Wrocław.

CONFERENCE PROGRAM:

23rd November, Thursday – Wrocław University

- 09.00-14.00 - Registration of participants
10.00- Opening of cartography exhibition
10.30-11.00 - Opening of the conference in Aula Leopoldina at University of Wrocław

11.00-13.15 - PAPER SESSION - language of instruction - ENGLISH

NATIONAL POLICY IN GEODESY AND CARTOGRAPHY IN EASTERN AND CENTRAL EUROPE

- 11.00-11.15 - Milan Konečný, President of ICA - Global Trends of Cartography. (Masaryk University, Czech Republic, Brno)

11.15-11.45- Coffee break

11.45-12.00 - Danuše Svobodová - Land Survey Office - central administrative body for surveying in the Czech Republic. (Zeměměřický Úřad Czech Republic, Prague)
12.00-12.15 - Hans Knoop - ISO based Integrated Geoinformation for Topography and Cadastre in Germany for ESDI. (Technical University of Braunschweig. PHARE-Expert)
12.15-12.30 - Jesús Nunez, Zentai László - Actual situation of the cartography in Hungary. (Eötvös Lorand University, Budapest, Hungary)
12.30-12.45 - Janis Strauhmanis - Activities of the state and private cartography in Latvia. (Riga Technical University, Latvia)
12.45-13.00 - Wiesław Potrapeluk, General Surveyor of Poland - Maps versus databases of topographic objects in Poland (Head Office of Geodesy and Cartography, Poland, Warsaw)

13.00-14.00 - Lunch

14.00-16.30 - PAPER SESSION - language of instruction - ENGLISH

TOPOGRAPHIC AND THEMATIC CARTOGRAPHY

- 14.00-14.20 - Elżbieta Bielecka, Dariusz Dukaczewski, Joanna Bac-Bronowicz - Comparison of the thematic scope of Polish and selected EU topographic databases. (Institute of Geodesy and Cartography, Warszawa)
14.20-14.40 - Wiesława Żyszkowska - The history of thematic cartography in Poland. (University of Wrocław)
14.40-15.00 - Piotr Przybyliński - Geospatial Assets for the Polish Armed Forces (Geographic Authority of the Polish Army)
15.00-15.20 - Maciej Rossa, Małgorzata Sikorska-Maykowska, Jacek Chełmiński – Possibilities of Integration of the MGSP, VMap_L2+ and TBD Bases in the Context of Creating Reference Data for the National Spatial Data Infrastructure
19.00- Working meeting of ICA Commission on "Gender & Cartography"
19.30- Dinner
20.00- Assembly of Section of Cartography of Committee on Geodesy of Polish Academy of Sciences

24th November, Friday – Polanica Zdrój

09.00-11.00 - PAPER SESSION - language of instruction - ENGLISH/POLISH

PROBLEMS OF ACTUALIZATION AND VISUALIZATION OF MAPS

09.00-09.20 - Krzysztof Owsianik, Iwona Nakonieczna - Problems with actualization of hydrographic and zoologic maps in scale 1:50 000. (Department of Geodesy and Cartography, Lower Silesia Marshal Office).

09.20-09.40 - Joanna Bac-Bronowicz, Tomasz Berus, Arkadiusz Kołodziej, Paweł Kowalski - The elaboration of methods of VMAP L2 database structure modification. (University of Agriculture, Warsaw University of Technology, Poland)

09.40-10.00 - Karel Staňek - Acquisition of rules in semi-automated cartographic generalization system for topographic maps (Masaryk University, Czech Republic, Brno)

10.00-10.20 - Discussion

10.20-10.50 - Coffee break

10.50-12.30 - PAPERS SESSION - language of instruction - ENGLISH/POLISH

SITUATION OF CARTOGRAPHIC COMPANIES

10.50-11.10 - Dolores Asoyan, Elena Belonovskaya - The Experience of the Complex Mapping of the High Mountains of the Greater Caucasus. (Institute of Geography RAN, Russia)

11.10-11.30 - Miroslav Mikšovský - Activities of the state and private cartography in the Czech Republic. (Cartographic Society of the Czech Republic)

11.30-11.50 - Nikolay Komedchikov, Alexander Khropov - Publishing of atlases in Russia in 2002-06. (Institute of Geography RAN, Russia)

11.50-12.10 - Oleksandr Barladin - Geoinformation technologies in cartographical manufacture in Institute of Advanced Technologies. (Institute of Advanced Technologies, Kyiv, Ukraine)

12.10-12.30 - Discussion

12.30-15.00 - Free time

15.00-16.00 - Lunch

16.00-18.00 PAPERS SESSION - language of instruction - ENGLISH/POLISH

SITUATION OF CARTOGRAPHIC COMPANIES. COPYRIGHT AND INTELLECTUAL PROPERTY RIGHTS

16.00-16.20 - Roman Janusiewicz, Jan Krupski - Commercial cartography in Poland 2000-2006. (Cartographic Publishing House „Eko-Graf”; University of Wrocław)

16.20-16.40 - Nikolay Komedchikov - Copyright on cartographic works in the Russian Federation (Institute of Geography RAN, Russia)

16.40-17.00 - Jan Krupski - „Terra incognita” of Polish authors’ law in cartography. (University of Wrocław)

17.00-17.30 - Joanna Lassota - Database protection in cartographic activity. (“Lassota & Partners”)

19.00- Gala Dinner

25th November, Saturday – Polanica Zdrój

09.00-11.00 - **PROFESSION OF CARTOGRAPHER IN THE NEAR FUTURE**

Open Assembly of Association of Polish Cartographers and Cartographic Department of Polish Geographical Society

Bogdan Wolak - Cartography, what are you driving at? (Uniwersytet Warmińsko-Mazurski, Olsztyn)

Wojciech Garstka - European standards of managing geo informatics projects.

Summary discussion. Closing of the conference

09.00-11.50 - Trip for foreign guests

11.00-12.00 - Meeting of the Executive Committee APC

12.00 - Lunch

12.45 - Bus transfer to Wrocław

THE EXPERIENCE OF THE COMPLEX MAPPING OF THE HIGH MOUNTAINS OF THE GREATER CAUCASUS

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ABSTRACT:

The paper presents the novel complex methods of thematic mapping for the purpose of revealing the impact of geologic, geomorphological and climatic factors on the spatial distribution of vegetation communities in the alpine belt of the Greater Caucasus. Combined application of remote sensing and GIS methods is particularly effective for a complex survey and mapping in the regions difficult to access.

KEY WORDS: thematic mapping, remote sensing, GIS-technologies, geologic and geomorphological factors, climatic conditions, vegetation of alpine belt

Full text available on-line:

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<http://www.aqua.ar.wroc.pl/acta/pl/full/000040200700006000020000300011.pdf>

<http://www.aqua.ar.wroc.pl/acta/pl/main.php?p=8&sub=10&act=31&s=4&lang=en>

THE ELABORATION OF METHODS OF VMAP L2 DATABASE STRUCTURE MODIFICATION

Joanna Bac-Bronowicz, Tomasz Berus, Paweł J. Kowalski, Robert Olszewski

ABSTRACT

The primary goal of the elaboration of universal visualisation methods of VMap data was to obtain a readable and understandable cartographic composition, which might be reproduced by the user on any fragment of the VMap L2 database in the usable structure independently of the software used. Assuming that geodesic and cartographic companies will be the main recipients of the product, the authors chose the three most popular programmes of leading producers on the geoinformation market: ArcGIS by ESRI, GeoMedia by Intergraph and MapInfo Professional. Several preliminary assumptions were made, aiming at the universality and functionality of proposed solutions. The final cartographic presentation should fulfil the condition of readability, unequivocality and measurability both on the screen and in quick prints from the system. The drawn up methods of visualisation will enable the promotion and more extensive use of VMap L2 data in the GIS environment.

Full text available on-line:

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<http://www.aqua.ar.wroc.pl/acta/pl/full/000040200700006000030002700040.pdf> (i Polish)

<http://www.aqua.ar.wroc.pl/acta/pl/main.php?p=8&sub=10&act=31&s=4&lang=en>

GEOINFORMATION TECHNOLOGIES IN CARTOGRAPHIC PRODUCTION IN INSTITUTE OF ADVANCED TECHNOLOGIES (UKRAINE)

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Till the 90s years of last century there were no cartographic enterprises in Ukraine, which activity would be based on new technical and technological basis. Later licensed program products appeared that could be used by users working on computers. Utilization of computers took place on user's own judgment and was based on technical intuition and foreign language literature of theoretical rather than methodical direction [1]. In such conditions new cartographic enterprise formation needed aiming on utilization of new advanced technologies of computer techniques for developing cartographic products of highest quality in shortest terms, which have not been known by post soviet countries. This factors conditioned choice of JSC "Institute of Advanced Technologies" (IAT). Needles to mention, that on that time, computers were used only for placing the names of inhabited localities etc.

In Institute were carried out development of scientific basics of computer (electronic) cartography, experimental-practical implementation of geoinformation technologies into new cartographic production and practical spheres of production various cartographic products needed in different spheres – production (economical) and non-production (educational, recreational etc).

PROBLEM STATEMENT

To conform stages of development and formation of contemporary cartographic production on the basis of geoinformation technologies in Ukraine.

FIRST (ORGANIZATIONAL) STAGE

With organization of computer network and relevant scanners, plotters the first task was solved of institute development program. During next years this basis was renewed and broadened.

Second task – determination of software most appropriate for making cartographic works, its assimilation and implementation into the processes of creation maps of any scale and content.

Analysis of available program products represented on the world market by different developers (MapInfo, Intergraph, ERDAS, ESRI etc), enabled choice of ESRI software (Arc Info, Arc Press, Arc Map, Arc Gis), and also modules which broaden user's possibilities, as most appropriate for making different cartographic works on computers, particularly editing of maps, preparation them for publishing [2].

On the next **second stage of mastering and development of computer, electronic cartography methodology development** the following tasks were solved:

- Own search of means of display on monitors images from paper media using scanners, working out of electronic maps by rasterization and vectorization.
- Approbation of processing information of separate information layers, which of them represents geography elements of maps (hydrography, state borders and borders of inhabited localities etc) and complex of attribute data of any object system. These works were carried out on the basis of digital cartography methods, that ensure coordinate precision of geographic referencing for all the elements of general geographic basis and thematic elements of map content. Mastering of digital cartography products was made using existing state maps of Ukraine 1:500 000 та 1:200 000 scale. Owing to very short terms of works which were stated to state cartographic enterprises, which carried out the works of preparing such maps we were not amused by excessive generalization of geometric objects of images, but we had to define their location and configuration more exactly in order to use them for maps of middle and small scale.

- One of the most difficult problem was solving of mathematical-cartographic task of building cartographic projection directly in electronic environment, transformation of different kinds of projections from one to another, transformation of basic element of image (for example coast line of continents, islands etc) in connection with transfer from projection to another, choice of central meridian for territories that has to be mapped. Possibilities of mathematical transformation of information and representation of computed number values in creation of geographical grid. There were realized on computer mathematical calculations of different cartographic projections, which were developed in USSR in pre-computer period of cartography development, particularly in CNIIGAİK. Some cartographic projections built on computer using those calculation were leaded to perfection.

Developed in Institute of Advanced Technologies by E. Gorodetskyi approaches enabled free choice of central meridian for any territory or define absolutely new projection that has not been used for that territory before. For example, azimuthal equidistant conic projection was used for Ukraine that has special sense for studying distances from Kyiv to any point on Earth by students. This original projection was used for representation of Ukraine in the World in educational atlases on geography [3].

Solving of mentioned above four problems gave possibility to form map-basics for general geographic and thematical maps, particularly their mathematical basic, in different scales, with different level of generalization of geographic and thematical element.

Third stage of development of IAT was conditioned by the idea of practical creation of new cartographic products on the basis of computer technologies in two main directions of mapping: production of wall maps and cartographic provision of Ukrainian secondary schools by educational atlases on geography and history. Actually this stage embraces 8 years, during which the scientific-technical problems were stated and solved, particularly:

- Assimilation of three dimensional (3D) mapping of relief in electronic environment and display of it by hill-shading methods. In IAT this attitude was realized on the map of Crimea in 1998. Nowadays almost all kinds of maps created in IAT have this kind of relief display, including political maps. This meets the world tendency of mapping.
- Simultaneously the development of educational atlases development for wide range of users was begun ("Look at Ukraine"). First of educational atlases – atlas on geography for the sixth form of Ukrainian schools "Our planet" (1999). During 8-year period were created new generation of 20 educational atlases: 6 – on geography for 3, 5, 6, 7, 8-9 and 10-11 forms; 7 – on history of Ukraine for 5, 7, 8, 9, 10, 11 forms; 6 – on the world history for 6, 7, 8, 9, 10 and 11 forms, and also one atlas of Ukrainian history (encompassing). In methodology of these works implementation important aspect was studying of former experience of predecessors. (all the system of school atlases, attitudes to development of map content etc), choice of map samples, created in Soviet Union. Novelty of works on creation educational atlases in IAT was in new work out of atlases content of every atlas, involvement of new materials and creation of maps according to new scientific concepts and requirements of schools; determination of own requirements to atlases created for general educational schools (size, quantity of maps, their thematical loading, conformity to school programs and textbooks, fullness of geographic and historical information, meeting the principle of knowledge development from junior classes to senior etc.) In this practical work the technology of building, editing and preparation to publishing of all educational atlases were crystallized [4].

The most important stage in this technology is creation of electronic maps and preparation them for poligraphic printing. The main technological links in mapping of natural phenomena is scanning of map sources and further their processing by vectorization of linear elements of content, specification of colors for elements pictured by raster grids, geographical of local objects. Processing of cartographic images on electronic maps was made using software ArcView, and also Adobe Illustrator, Free Hand, PhotoShop.

Types of maps, creation of which is based on different sources of information suppose *branching of single technological line for several technological stage, which consist of separate technological links* and form out their different complexes. Thus, kinds of maps, stage of primary information appearance, character of objects and their placement, peculiarities of different kinds of mapping usage, peculiarities of symbol systems condition the choice of technological links and their succession.

Technologies of the **third stage** of IAT activity development enabled creation of original **works on thematical mapping**. These are two wall maps "*Animals of the World*" and "*Countries, nations, culture*" of 1:26 000 000 scale and based on their content "*Atlas for children*", where for every continent two maps are: "*Living World of Nature*" and "*Countries, nations, culture*".

In atlas developments of IAT (in total 22) there is a thematical atlas of more complex content. This is **the regional complex scientific-reference Atlas of Autonomous Republic of Crimea**. Author development of maps was carried out by scientists of Tavria national university named after V.I. Vernadsky, scientific editing – Institute of Geography of NAS of Ukraine. Maps were prepared in IAT. High scientific, cartographic and poligraphic quality of this atlas was noted by foreign colleagues on International cartographic fair of IMTA in Tours (France) in 2004. The atlas was awarded by first prize in nomination "Best Atlas".

Fourth stage of IAT activity was begun with edition of CD-atlas "Ukraine and its regions", which were prepared for poligraphic edition but was made only in electronic form. Experience of this atlas creation and production was the basis for production of series of electronic educational atlases on geography and history made on compact discs (CD-Rom). During these works the bases of reprocessing of electronic versions of poligraphically published educational atlases [5].

Fifth stage is filled with new technological and practical developments and gained results in production of globes and use of space images for production of space photomaps. Participation of IAT in international cartographic exhibitions gave possibility to get acquainted with the best samples of the world globe making, particularly with products of such well-known producers Stella Nova, Columbus Globus, Replogle Globes, Leipziger Globus Manufaktur, Nova Rico etc. The wide variety of globes by themes, quality, construction elements, general design, sizes was impressive. Comparing to such abundance there were few globes produced in Ukraine – only 5-6 kinds globes different by sizes, mostly geographic and political.

All the technological stages of globe production were developed in IAT. Needles to say that usage of digital technologies in processing and preparation of cartographic image for globes in IAT ensures its highest quality. [6].

As the results of searches and experiments in IAT were developed four series of different by size and scales globes: small – 12 cm in diameter – 1: 105 000 000, small – 21 cm – 1: 60 000 000, medium – 32 cm -- 1:40 000 000, and large – 42,5 cm – 1:30 000. Mandatory for every series are physical and political globes. In general in every series there are five kinds, and among 15 kinds there 7 sorts: physical, general geographic, political; with white oceans and violet, "antique", view of Earth from space. The technological line of globe creation has many prospects to vasten the assortment by size and theme, appearance of new solutions in construction of bases which for sure will have further development and branching.

There was also and is very prospective for development and approbation technological line of geographic technologies application to cartographic processing of Earth remote sensing data (RS data). There are many known directions of RS data application to scientific researches and economic practice, particularly in the field of environmental monitoring [7].

In researches connected to **development of geoinformation systems for large cities** so called municipal GIS, comparatively recently satellite images of high resolution begun to use. Satellite images are used nowadays as operational basis for updating of large scale cartographic materials: plans and atlases of large cities. In view of IAT works con-

nected to creation of Kyiv maps in different scales and fast map becoming of date it is obvious that IAT tried to develop technological line of information actualization about general geographic situation in the capital of Ukraine. IAT developed large scale computer space photomap of city. This term is used for maps created on computers by processing high-resolution space images.

Development of space photomap in IAT was based on the space images QuickBird with the spatial resolution 60 cm. In the result of such works the technological line was developed, which gave practical results: at first experimental fragments of space photomap in format of Kyiv spacephotomap in A4 format; next – map of Kyiv center "View from space", that was published together with folded map of 1:30000 scale and finally spacephotoatlas of Kyiv [8].

CONCLUSIONS

Implementation of geoinformation technologies to cartographic production, which was developed and realized in Institute of Advanced Technologies proved the high efficiency of this direction of cartography development. Nowadays we can admit that new digital cartographic attitudes, which ensures high quality of maps and their usage in poligraphic and electronic view were formed. Simultaneously with this the requirements for specialists-cartographers were raised, who should be acquainted not only with cartographic basics but also contemporary program products, including geoinformation systems.

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COMPARISON OF THE THEMATIC SCOPE OF POLISH AND SELECTED EU TOPOGRAPHIC DATABASES

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ABSTRACT

In 2007 in European Union 18 national topographic databases at the level of details corresponding to the 1: 10 000 (or bigger) scale were identified. In 8 EU countries these databases are not completed as yet. One of the main factors that can slow down its creation is an excess of thematic information. To avoid this problem in the case of Polish Topographic Database (TBD) the authors have compared and analysed the thematic scope of the Polish TBD and 11 EU national civil vector topographic databases with the corresponding level of details. To achieve this goal it was necessary to identify similar topographic databases, to analyse its thematic scope, to create its typology, to analyse the similarities and differences between them and to analyse employed multirepresentation solutions and data exchange scenarios. This paper proposes the typology of 1: 10 000 (or bigger) scale topographic databases. The analysis allowed authors to show the similarities and differences between TBD and other databases, concerning their thematic scope. The authors discuss the possibility of adding some objects into the TBD and to generalize the identified group of less frequently used objects and attributes. To reduce the amount of effort, time and expenditure put into the creation of the TBD they propose to ponder the problem of the completion of TBD using data collected in specialized Polish databases.

Key words: Topographic Databases, Polish Topographic Database, TBD, Topographic Object.

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<http://www.ejpau.media.pl/volume10/issue2/art-23.html>

COPYRIGHT ON CARTOGRAPHIC WORKS IN THE RUSSIAN FEDERATION

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The paper presents problems connected with copyright in Russia, especially in cartographic works. There are described Laws and Articles related to copyright in general and to copyright in cartographic works in detail. Some instructions, rules, legal and law regulating copyright in relation to cartographic works are described in the paper.

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<http://www.aqua.ar.wroc.pl/acta/pl/full/000040200700006000030001500018.pdf>
<http://www.aqua.ar.wroc.pl/acta/pl/main.php?p=8&sub=10&act=31&s=4&lang=en>

PUBLISHING OF ATLASES IN RUSSIA IN 2002-2006

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More than 100 titles of various geographical atlases were issued in Russia during the last five years. The article explains what is the reason of this extraordinary boom of atlas mapping in Russia. There are given some factors, themes, purposes and new phenomenon responsible for this development. Some kinds of complex geographical atlases, thematic (branch) atlases, public and governmental estimation of Russian atlases are described in the article.

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<http://www.aqua.ar.wroc.pl/acta/pl/main.php?p=8&sub=10&act=31&s=4&lang=en>

ACTIVITIES OF THE STATE AND PRIVATE CARTOGRAPHY IN THE CZECH REPUBLIC

Assoc. Prof. Miroslav Mikšovský, MSc. PhD.

Cartographic Society of the Czech Republic

INTRODUCTION

Digital methods of map elaboration are substantially asserted as in the state sphere as well in the private cartographic publishing houses. While in the state sphere are used for the map compilation predominantly digital databases (ZABAGED, DMU25), in the private sphere are mostly used various graphic programmes, which are suitable for the computer map design over various graphical sources (especially the Swiss programme OCAD).

Substantially expanded the map presentation on CD-ROMs and on Internet, where many map servers are in function and serve for search of villages and of addresses. Apart of maps are here for disposal the aerial photographs as well.

The Czech Office for Surveying, Mapping and Cadastre introduced the web inspection into the real estate cadastre, where many information connected with the ownership can be gained. Into operation was introduced the geoportal, which contains the mapping service (an on-line access to data), the commercial module (orders of maps and digital data) and old maps (inspection of records of the Central Archives of Land Surveying and Cadastre) – <http://geoportal.cuzk.cz>.

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<http://www.aqua.ar.wroc.pl/acta/pl/full/000040200700006000030000900014.pdf>

<http://www.aqua.ar.wroc.pl/acta/pl/main.php?p=8&sub=10&act=31&s=4&lang=en>

THE POSSIBILITIES OF USING SELECTED DATABASE RESOURCES OF THE LOWER SILESIA VOIVODSHIP TO UPDATE HYDROGRAPHICAL AND SOZOLOGICAL MAPS OF POLAND IN 1:50 000 SCALE

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ABSTRACT

Decision making process and province's management require from the local government possessing and using actual and systematical spatial information. The official bases from the territory of the Lower Silesian Voivodship, i.e. sozological and hydrographical maps of Poland in 1: 50 000 scale, are kept by the Provincial Centre of Geodetic and Cartographic Documentation in Wrocław which operates in structures of the Department of Geodesy and Cartography of Marshal's Office of the Lower Silesian Voivodship. The Department of Geodesy and Cartography of Marshal's Office creates and partly runs province's databases, which are used above all to support actions of the local government. In the last two years the Lower Silesian Voivodship expanded its resources of two new databases: soil-agricultural map in 1:25 000 scale and database of water registry and melioration appliances.

The authors of the paper present the possibilities of direct use of information contained in newly created databases to update official thematic maps. Moreover, they analyze contents of both databases and show final visualization of the results.

GEOSPATIAL INFORMATION ASSETS FOR THE POLISH ARMED FORCES

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ABSTRACT

The Polish Armed Forces (PAF) while performing traditional duties of the national territory defender in addition participate in various multinational military operations all over the World. This require activity refocusing of the military geographic service headed by the Military Geography Division (MGD). MGD as a producer, analyst, and distributor of geospatial products maintains the military assets of geospatial information (GI), which is complementary to this one possessed and developed by the Head Office of Geodesy and Cartography (HOGC).

Taking into account the PAF missions the military GI assets can be split into national territory and external areas coverage. The national territory is Poland's area of responsibility within the North Atlantic Treaty Organization (NATO). This makes an obligation to MGD to produce, reproduce and distribute analog maps according to the allied requirements matrix. This encompasses standardized land maps and aeronautical charts as well as digital geospatial information (DGI).

DGI over national territory is composed of a stockpile of vector NATO standardized products known as VMap1 and VMap2. For selected areas, important for national defense, more detailed VMap3 (1:25 000) is being produced. Currently digitization of vector data is based on orthorectified imagery. Such approach require geometric calibration of vector data derived previously from cartographic sources. This has already been done with regard to the thirteenth edition of VMap1 and times come for the existing VMap2 data. Hopefully necessary efforts will be shared between MGD and HOGC. The latest MGD challenge is detailed 3D models of urban areas. The relevant prototyping work is under way and the technical specification supported by an example data will be available soon. The data will conform pertinent NATO standardization requirements to preserve interoperability with the rest of the military designated DGI. On the other hand it is going to be informational equivalent to the Topographic Database developed by the civilian party.

Over the recent years the high priority task for MGD was collecting of analog products and DGI over external crisis areas, especially those where Polish troops were fulfilling their foreign missions. Well known examples are: Iraq, Afghanistan, Pakistan, Lebanon and the Democratic Republic of Congo. For that purpose MGD produces small scale geographical maps over different regions and countries. This is sufficient for the political and strategic level military decision makers. For the real military planning medium scale maps and DGI are necessary. The greatest challenge is to accordingly support tactical activities conducted by the troops in the area of operation, which is expected to be covered by the high resolution DGI and/or topographical paper products. The measures enabling MGD to be successful in this task is an exchange of geo-products with foreign counterparts based on concluded Memorandums of Understanding. The latest initiative is the participation in the Multinational Geospatial Information Coproduction Program aimed to share the burden of the production of high resolution vector data over areas being likely an arena of existing or future crisis.

ACTUAL SITUATION OF THE CARTOGRAPHY IN HUNGARY

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KEYWORDS: Hungarian cartography, national and international organizations, map production, cartographic education, map collections

ABSTRACT

Beginning from 1989 the Hungarian cartography is under an intensive process of diversification and significant changes. This paper tries to delineate in a very general way the present structure of the Hungarian cartographic society from the tasks filled by the state cartography to the multifaceted activities of the private map companies. In interest of describing all the sectors related to this field are presented also national organizations, our representation in international organizations, periodicals, higher education institutions and the most important public map collections in the country.

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POSSIBILITIES OF INTEGRATION OF THE MG P, VMAP_L2+ AND TBD BASES IN THE CONTEXT OF CREATING REFERENCE DATA FOR THE NATIONAL SPATIAL DATA INFRASTRUCTURE

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ABSTRACT

As the INSPIRE Directive concerning creation of the European Spatial Data Infrastructure (ESDI) came into force on 15th May, 2007, the Polish geodetic service has to face new challenges and tackle new goals. One of the more important and priority tasks is to prepare and harmonize a set of topographic reference data for Poland. The current situation, resulting from the lack of appropriate topographic reference data, forced the State Geological Institute (PIG) to collect its own spatial data necessary for performing its statutory activity. It developed its own standards and definitions of objects connected with spatial information. Topographic data collected by PIG are of relatively high quality and accuracy, thanks to field work carried out by documenting geologists permitting data verification in the field. This paper is devoted to a detailed comparative analysis of selected PIG databases carried out by the PIG Team, a geoenvironmental map of Poland, scale 1:50 000 (MGŚP) and a geologic and economic map of Poland, scale 1:50 000 (MGGP) with the TBD and VMap_L2+ bases (VMapL2 of the so-called second edition) as well as an assessment of possibilities of their integration within the confines of the future Multi-Resolution Topographic Database (WBDT). The PIG Team activities are connected with the implementation of a task within the confines of the designated grant KBN No 6T 12 2005C/06552 entitled „Methodology and procedures of integration, visualization, generalization and standardization of reference databases available from the state geodetic and cartographic resources and their use for creation of thematic databases”.

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ACQUISITION OF RULES IN SEMI-AUTOMATED CARTOGRAPHIC GENERALIZATION SYSTEM FOR TOPOGRAPHIC MAPS

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ABSTRACT

In semi-automated system for generalization of topographic maps we are focused on design of tool for cartographic generalization. This system is combination of algorithmic methods to generalization of cartographic features and measurement tools for evaluation of map face consistency and readability. Important role in the system play a rule base which is used for proposal of the generalization solution. Selection of potentially useful rules is based on feature geometric parameters and topological constellation of the feature. Rules are collected either during man controlled generalization process or through comparison of maps in different scales. Construction, acquisition and use of such rules are focused in this article.

ACTIVITIES OF THE STATE AND PRIVATE CARTOGRAPHY IN LATVIA

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KEYWORDS: state cartography, topographic maps, private companies

ABSTRACT

Beginning from the 1990s, after regaining the independence, the Latvian cartography began to develop successfully. This paper shows in a very general form the present structure of the Latvian state and private cartography. There are described first cartographical works connected with Latvian topographic maps, kinds of maps and data distribution, problems disturbing cartographical works. Currently used methods of cartographic presentations, data collecting, digital databases, state and private companies and cartographical projects are mentioned.

During the years of soviet occupation when the Baltic States – Latvia, Estonia and Lithuania were incorporated in the USSR, the development of national cartography was hindered because the territory of these countries was a special region where thematic cartography was under strict control and censorship, but topographic cartography was banned. After the Baltic States regained their independence at the beginning of the 1990s, national cartography began to develop successfully. In the public sector, cartography was concentrated in the Latvian State Land Service and the first work was the topographic map at the scale of 1: 50 000, which was prepared in cooperation with the Swedish experts. It was made using the space images and topographic maps of the former USSR. Now the topographic maps made by the cartographers of the Agency of Geospatial Information of the Ministry of Defence of Latvia are at scales 1: 10 000, 1: 50 000, 1: 100 000, 1: 250 000.

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WHERE ARE YOU GOING TO CARTOGRAPHY?

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ABSTRACT

Cartography, one of the oldest scientific disciplines, has always played an important role in human life. Maps, thanks to their characteristics, allow reviewing the space within the selected frameworks of study. They also form a source of information on terrain and environment for many aspects of life, including tourism, construction or agriculture. They also play an important role in school education. Maps are important as a tool in scientific research. The method and scope of maps use expands with development in science and technology. That is why it is important that the people preparing cartographic documentation should perform the job with due diligence, according to the principles of current technical knowledge and effective legal regulations.

The paper presents selected issues of contemporary techniques for creating cartographic documentation in Poland. It presents the basic legal acts, guidelines and technical instructions currently in force. It discusses the intended uses for maps, requirements for topographic maps and relations between the GIS and cartography.

Analysis of map contents, agreement of the map with reality and assessment of the scope of information were presented using as the example selected sheets of 1:10000 topographic maps prepared according to 1965 and 1992 systems.

The paper presents observations concerning cartography and its role in contemporary world. It discusses the geodesic and cartographic service in Poland as well as the tasks of bodies of administration and geodesic and cartographic supervision. The objective of the paper is to draw attention to hazards resulting from inappropriate and erroneous preparation of maps.

(Polish)
HISTORIA URZĘDOWEJ KARTOGRAFII TEMATYCZNEJ W POLSCE

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Kartografia tematyczna jest stosunkowo młodą dziedziną kartografii, wyodrębniła się ona bowiem z kartografii ogólnej w XIX w. Rozwój kartografii tematycznej ma swoje źródła przede wszystkim w rozwoju nauki, zwłaszcza nauk przyrodniczych i społeczno - ekonomicznych oraz statystyki, przy czym dominującą rolę odegrały mapy geologiczne, których gospodarcze znaczenie spowodowało powstanie w wielu krajach specjalnych służb państwowych, zajmujących się prowadzeniem badań i opracowywaniem map w dużych skalach. Pojawienie się wielkoskalowych, wieloarkuszowych map tematycznych stało się najbardziej charakterystyczną cechą rozwoju kartografii na przełomie XIX i XX w.