WORKSHOPS OF THE INTERNATIONAL CARTOGRAPHIC ASSOCIATION

The International Workshop "GIS Support for Modernization. Organizational, Technological, and Human Resources Potential" (September 25–October 9, 2011) was conducted with financial support from the Russian Foundation for Basic Research. The workshop was attended by 78 students and experts in the field of GIS and remote sensing data to discuss challenges of sustainable development, integrated management, environmental management, and ecology. There were 16 reports, 8 workshops and role-playing games, as well as a conference of young scientists. Among lecturers and students attending the workshop, there were 11 doctors and 18 candidates of sciences with more than half of the participants under 35 years of age.

The International Workshop on geoinformatics and sustainable development, as part of the activity of the International Cartographic Association's Commission "GI for Sustainability" has been held for seven years (since 2005, in Ukraine, Turkey, and China [four times]). As a rule, visits to places of interest from the standpoint of geoinformatics are arranged during the workshops. The workshop conducted in Russia was structured under this scheme also; it was held, similar to the first workshop in 2005, on board a ship (Fig. 1), en route Perm-Astrakhan-Perm (covering a distance of 5,130 km) with reports delivered in the cities-stops: Kazan, Saratov, Astrakhan, Volgograd, and Samara. Each day, while the ship was sailing, invited instructors delivered lectures and workshops and role-playing games were conducted. During the day, students visited universities of the cities-stops, where they got familiar with the activities in the field of geoinformatics, listened to reports by local

experts, and made presentations to local teachers and students on the current topics of geoinformatics.

The Workshop's activities started in Perm (September 25) where several presentations were made, including a report on "Geoinformation support for sustainable development in Russia and the CIS" by Prof. V.S. Tikunov (Moscow State University). The report had a focus on the use of modern technologies in models of sustainable development. The need to integrate the efforts of Russian and foreign scientists in joint international projects, particularly in the Arctic, was specifically stressed. R. Stampach, Czech Republic, made a report on "Digital Earth – vision, progress and future" where he presented the idea of establishment and functioning of the International Society for Digital Earth and its development prospects. Issues of formation of spatial databases based on international experience were also addressed.

At Kazan (Volga) Federal University (September 28), issues of creating spatial data infrastructures in Russia (A.V. Koshkarev, Ph. D., geology; Institute of Geography RAS) and the use of GIS in ecology and environmental management (A.A. Saveliev, doctor of biological sciences; Kazan State University) were examined.

In Saratov, Professor A.N. Chumachenko, Provost for Innovation (Saratov State National Research University) made a presentation on "Integrated Regional GIS: the goal, objectives, and content". There he reviewed issues of analysis and synthesis of spatially distributed geo-environmental, geo-demographic, and socio-economic information of various territorial and sectoral levels of hierarchy necessary for implementation of measures to ensure sustainable economic growth in a stable economic environment with positive social and demographic processes. A report on "Sustainable Development and Education" (D.S. Ermakov, doctor of pedagogical sciences, University of the Russian Academy of Education [Novomoskovsk Branch], a private educational institution for higher professional education) outlined problems facing modern society in the implementation of the concept of sustainable development.

At Astrakhan State University (October 2), V.E. Gershenzon (Ph. D., technical sciences), director general of the Engineering Technical Center "ScanEx", spoke on modern technology and technical solutions in operational space monitoring and pointed to the geo-portal solutions and possible thematic application of remote sensing data of the Earth for the regional economy of Russia. A follow-up seminar on board confirmed the interest to the stated theme.

Scientists of Volgograd State University (October 4) shared their achievements in the introduction of GIS methods in practical and theoretical activities (Fig. 2). In particular, a report by S.S. Khrapov (Ph. D.) "A specialized geographic information system for management of computer modeling in monitoring and forecasting of the atmosphere and hydrosphere", was devoted to issues of development of mathematical modeling of the dynamics of surface water to describe flooding of the territories. It also discussed the development of computer models based on GIS methods to model the dynamics of surface water and particulate matter transport in air and water. A. Plyakin (Ph. D., economics), in his speech "A GIS-based approach to managing socio-economic development of the region (a case study for the Southern Federal District)", dealt with issues of improving the stability of the region. T.Yu. Gribtsova, a representative of the Government Information Technology Center of Volgograd region, described the experience of using GIS in the design of spatial data infrastructure, with emphasis on creating a system to monitor the use of agricultural land.

Representatives of Samara State Aerospace University spoke about mathematical methods used in the automated interpretation of remotely sensed data (Prof. V.V. Sergeev, doctor of physical-

mathematical sciences). A. Chernov, head of JSC "SamaraInformsputnik" (Ph.D, physical-mathematical sciences) emphasized the problems of spatial data infrastructures at the regional level. D. Mayer, a representative of company ProGIS (Austria), spoke about a practical implementation of GIS in agricultural management in the country. A tour to the Volga Center for Receiving and Processing Remote Sensing Data was organized and conducted.

In the cities-stops, the participants met with a number of organizations' leaders. Thus, they met with different deans in Perm (Prof. A.I. Zyryanov), in Kazan (Prof. O.P. Ermolayev), in Saratov (Prof. V.Z. Makarov), and in Astrakhan (Prof. A.N. Barmyn) and with the university president in Samara (V.A. Soifer, corresponding academician, RAS).

On board the ship, a role-playing game was conducted based on the results of the presentations (Fig. 3). The game focused on features of designing spatial data infrastructure, using an international project in the basin of the river Amur as a case study. A discussion of the usage of modern technology in practical activities has led to a conclusion that it is necessary to develop national standards for spatial data infrastructure.

A class "Visual and aesthetic representation of a base map for online mapping services" was held by the staff of the Engineering Technical Center "ScanEx"; the class demonstrated features of presentation of web-maps and the structuring of their content and symbolic space. A subsequent seminar has reinforced the students' skills in creating digital cartographic symbols.

Among other seminars there was a seminar on a forecast of the world's population with an emphasis on Russian reality, where students, divided into six groups, had the opportunity to develop a computer system with demographic scenarios (optimistic, pessimistic, and average) for Russia, as well as to consider possible scenarios of changes in Latvia and Tajikistan.

S. Pyankov (Ph. D., technical sciences), head of the GIS Center of Perm State University, spoke on development of geoinformatics in the Perm region; its relationship with the development of the GIS-technologies' market in Russia was demonstrated. The resulting discussion was devoted to the geoinformatics' place in the Earth Sciences and characteristics of the object of research. Then, the main on-going projects and the nearest future of the GIS Center were presented.

On board the ship, there was also a two-day conference of young scientists "The use of GIS and remote sensing data in solution of spatial problems". Young scientists from Russia, Belarus, and Czech Republic actively participated. There were 11 reports by eight organizations that use modern technical and software solutions in their work. Active discussion of the results of scientific studies has shown wide interest of the participants to the topics covered at the workshop. The most interesting to the participants were the reports by the Belarus team on the use of remote sensing data for the internal land management and by S.A. Timonin (graduate student, Moscow State University) "Geovisualization and spatial-statistical analyses of the population forecast».

The workshop participants recognized excellent organization and the success of the first experience of conducting the Workshop in Russia and stated that it is necessary:

1. to support organizational-management efforts to create new teaching units (departments) in "Cartography and Geoinformatics" and to increase a number of students in this specialty in the higher educational institutions in the Russian Federation, considering that, currently, the demand for specialists is two to three times greater than the number of graduates in this field in the universities of Russia;

2. to intensify the implementation of inter-institutional and inter-regional scientific and educational projects, as well as to promote more active participation of students,

teachers, and professionals in international educational projects (e.g., UNIGIS, etc.);

3. recognizing the importance of participation in international conferences, to use the "InterCarto-InterGIS" conferences more widely as the platform for scientific, practical, and educational exchange;

4. to recommend to the future workshops addressing issues of interdisciplinary studies with geographic information technologies; of creation of distributed databases; of the use of mobile GIS, of unmanned aerial vehicles, of high-precision positioning systems, of cloud technologies, and of GIS in urban planning and design activities (territorial planning schemes);

5. to recognize the need for publishing in journals on geoinformatics of high rating; e.g., "GeoInformatica. An International Journal on Advances of Computer Science for Geographic Information Systems», "International Journal of Digital Earth», "ISPRS International Journal of Geo-Information», "Geographical Systems. The International Journal of Geographical Information, Analysis, Theory and Decision», etc.;

6. to consider new forms of participation of experts in the workshop including the use of Internet technologies;

7. to support the promotion of this form of training in the future and to propose the next workshop in Abrau-Dyurso, Krasnodar kray (September 2–7, 2012).

Sergey V. Pyankov, Vladimir S. Tikunov

INSTRUCTIONS FOR AUTHORS CONTRIBUTING TO "GEOGRAPHY, ENVIRONMENT, SUSTAINABILITY"

AIMS AND SCOPE OF THE JOURNAL

The scientific English language journal 'GEOGRAPHY, ENVIRONMENT, SUSTAINABILITY' aims at informing and covering the results of research and global achievements in the sphere of geography, environmental conservation and sustainable development in the changing world. Publications of the journal are aimed at foreign and Russian scientists – geographers, ecologists, specialists in environmental conservation, natural resource use, education for sustainable development, GIS technology, cartography, social and political geography etc. Publications that are interdisciplinary, theoretical and methodological are particularly welcome, as well as those dealing with field studies in the sphere of environmental science.

Among the main thematic sections of the journal there are basics of geography and environmental science; fundamentals of sustainable development; environmental management; environment and natural resources; human (economic and social) geography; global and regional environmental and climate change; environmental regional planning; sustainable regional development; applied geographical and environmental studies; geo-informatics and environmental mapping; oil and gas exploration and environmental problems; nature conservation and biodiversity; environment and health; education for sustainable development.

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