

# 3rd International Conference on Cartography and GIS

The third "International Conference on Cartography and GIS" took place two and a half years after the second one, which was held in January 2008 in the Bulgarian winter resort Borovets. There were in fact two different conferences, since the cartography conference was preceded by a weekend of "Digital Earth", which was a conference in its own and only few participants attended both conferences.

The conference was thus turned into a summer conference, held at the Black Sea resort Nessebar, a town known for its beaches, and maybe even more for its rich history and culture. Nice summer weather seduced to taking a bath in the sun or the warm water, the historical town seduced for a cultural visit, all the more since at the same time of the conference, an international children's festival was held in Nessebar with songs and dances from all over the world. Nevertheless, the conference participants were eager to follow the presentations and the conference hall of the beach hotel Arsena was always full. Presentations alternated with the rich social programme and the evening hospitality with Bulgarian meal, folklore and dances.

The organizers have to be congratulated for bringing all this together, along with many pleasant surprises such as Bulgarian folkloristic dances at the opening ceremony of both conferences, many awards and certificates given to each presenter. This did not only attract many attendees but also many sponsors: both conferences were sponsored by ESRI, Eurosense Belgium, Intergraph and Geodis Brno (Czech Republic).

The conference "Digital Earth in the service of the society: Sharing information, building knowledge" took place from Saturday, 12 June to Monday, 14 June. This was the 3rd ISDE digital earth summit and also the meeting place of the International Society of Digital Earth (ISDE), the organizer together with the University of Architecture, Civil Engineering and Geodesy, (UACEG), Sofia. The vision of Digital Earth goes back to the then vice-president of the United States and is defined to be the virtual representation of the planet, encompassing all its systems and forms, including human societies, manifested as a multi-dimensional, multi-scale, multi-temporal and multi-layer information facility. ISDE, the society, was initiated by the Chinese Academy of Sciences and launched in 2006; the society includes today representatives of 14 countries and three international organizations.

There were nearly 100 researchers from 11 countries registered at this Summit and about 40 researchers gave presentations concerning new research topics on Digital Earth science and technology. Presentations dealt with topics such as the societal context of Digital Earth, the local, regional and global levels of Digital Earth, sustainable development, digital cities, the citizen as contributor and conditions of access to Digital Earth data. Between the sessions, ISDE met for private sessions and for a round table on Digital Earth in Europe. Alessandro Annoni, Director of the INSPIRE group at the European Commission's Joint Research Centre provided in his key note speech an overview of the European perspective of Digital Earth and put Europe in the context of global developments. It was in some way a pity that the conclusions of the ISDE meetings were not made public, nor had a roadmap for future Digital Earth activities been established at the closing of the summit. The ISDE gatherings will be continued with an International Symposium on Digital Earth scheduled to be held in Perth, Australia in 2011.

The main event, the 3rd "International Conference on Cartography and GIS" began on Tuesday, 15 June 2010, at the same place. The conferences consisted of a mix of scientific presentations, key note speeches, cartographic working groups, a seminar on Early Warning and Crises Management and a workshop on Spatial Data Infrastructures. The conference was under the patronage of Kristalina Georgieva, Member of the European Commission and it was sponsored by the same industrial organizations as the Digital Earth conference.

The conference opened officially on 15 June with the opening ceremony and greetings by Assoc. Prof. Dr. Dobrin Denev, the Rector of the University of Architecture, Civil Engineering and Geodesy, (UACEG), Sofia, the main organizer. His speech was followed by greetings by Prof. Dr. Milan Konecny, Brno University, Czech Republic, president of the international organizing committee, Mr. Martin Klepetko, Ambassador of the Czech Republic in Bulgaria, Mr. Nikolaj Dimitrov, Mayor of Nessebar, Mr. Eric Santkin, economic and commercial counsellor of the Belgium embassy to Bulgaria and Mr. Paul Hardy, ESRI Europe as a representative of the sponsors. The mayor of Nessebar presented the historic and cultural uniqueness of the city of Nessebar and expressed his gratitude that this conference took place in this city. All personalities emphasised the importance of cartography and geographic information for our world, with the Czech Ambassador reminding that this technology depends on basic facilities such as electricity and that maps have to be easily understandable. The latter point has been amply addressed in the conference by several research papers. Highlights of the opening ceremony were Bulgarian dances and songs by local groups and the official award for the best drawing in the Barbara Petchenik Children's World Map Competition, 2009, Santiago de Chile, which was delivered to the Bulgarian winner, the 15-year-old Daniela Karaivanova from Burgas by the ICA Immediate Past President and conference president, Prof. Milan Konecny.

111 participants from 32 countries had registered to the conference, with 110 presentations and 190 authors. There was a clear focus on Eastern Europe and the East: 26 participants were from Bulgaria, as the host country, 10 from Czech Republic, 9 from China, 8 from Iran, 7 from Russia, 6 from Turkey and Greece each, 3 from Albania, Republic of Macedonia, Germany, Hungary, the Netherlands, Spain each. Other countries represented were Australia, Belgium Egypt, Croatia, India, Romania, Argentina, Austria, Malaysia, Mexico, Nigeria,

Poland, Switzerland, United Arab Emirates and Kosovo. Unfortunately, many presenters did not arrive and many sessions had to be shortened; at the end, countries such as the Republic of Macedonia, Albania and Kosovo were not represented.

Key note speeches were arranged each day as the most important presentations. The sponsor ESRI, represented by Paul Hardy, presented new technology such as cloud computing and volunteered geographic information and how ESRI reacts to these. Eurosense explained their role for a revised cartography, new data acquisition technologies and their activities in disaster management and related European programmes such as GMES. Joachim Rix, Technical University Darmstadt, Germany and co-ordinator of the European project eSDI-Net+ (<http://www.esdinetplus.eu/>), a network initiative to bring together stakeholders of spatial data infrastructures and create awareness, presented the project and in particular the status of spatial data infrastructures on local level in Europe. Prof. William Cartwright, president of ICA, the International Cartographic Association, spoke about a research project evaluating historic maps of one phase of the war between the Ottoman Empire and the Western Powers and illustrated that France and England lost the war at Gallipoli in 1915 because they did not have maps of sufficient quality. Assoc. Prof. T. Bandrova, of the University of Architecture, Civil Engineering and Geodesy in Sofia, Bulgaria, presented the history of Bulgarian cartography with an emphasis on education in schools and thus the development of geographic education in Bulgaria with an outlook to future school atlases. Finally, Athina Trakas from OGC Europe presented in her key note speech the importance of standards and possibilities of participation in the OGC standards process.

One important part of the conference was the Seminar with EU Cooperation on Early Warning and Disaster / Crises Management, organised as part of the activities of the ICA Working Group on Cartography for Early Warning and Crisis Management and under the auspices of his Excellency Mr. Martin Klepetko, the Ambassador of the Czech Republic in Bulgaria. The seminar began with a presentation of the research agenda by the chair of this working group, Prof. Milan Konecny. He stressed the importance of the development of cartography, geoinformatics and other GI disciplines for Early Warning and Crises Management and pointed to the connection with other initiatives such as Digital Earth, the newly formed EU idea about Digital Europe and Digital Countries. The scientific presentations of this seminar presented various aspects of mapping and cartography for several types of disasters and their management. Aspects of standardization and relation to legislation were discussed. Visualisation of risk maps emerged as interesting topic with the goal to help users, in particular layman users, to better understand maps in the case of a disaster.

A Workshop on Spatial Data Infrastructures (SDI) took place on Wednesday, 16 June, organized by the Association for Geospatial Information in South-East Europe (AGISEE) with the support of the EU funded project eSDI-Net+ (<http://www.esdinetplus.eu/>). The workshop targeted especially SDIs at sub-national - local or regional - level, and was an excellent summary on GIS and SDI development on local and regional level with an emphasis on South-East Europe. Actors in the region, with the representatives of municipalities in particular, could meet and exchange information; they appreciated very much to obtain information on what is happening in other cities and countries in the region. Presentations were given by representatives of municipalities in Albania, Bulgaria and Turkey, and the SDI of the region of Catalonia was presented as a successful best case example of SDI development. During the workshop, it was announced that OGC, the Open Geospatial Consortium (<http://www.opengeospatial.org>) and AGISEE, the Association for Geospatial Information in South-East Europe (<http://www.agisee.org>) have established a cooperative relationship to promote the importance of open standards in the development of spatial data infrastructures and raise the awareness of interoperability in South-East Europe. The workshop is continued with a mailing list offered by OGC and AGISEE, and future meetings are envisaged.

The main part of the conference consisted of scientific presentations in the area of cartography; topics covered were Cartography and GIS in Education, Internet Cartography and Digital Atlases, Map Design and Production, Cartographic Visualization and, what this conference is special for, Planetary Cartography. Other presentations addressed GIS Technologies and Related Disciplines, such as GIS for City Traffic, GPS Technologies, Remote Sensing Technologies. As could be expected, many presentations dealt with traditional aspects of cartographic or GIS research, or with applications in areas such as tourism, environment or civil engineering. There was on the other hand a good number of papers focussing on the use of the Internet in cartography, and those papers presented not only how to create maps for Internet use but also aspects of collaborative mapping, neo-geography or virtual geographic information; one author introduced the term neo-cartography, although it was criticised by the audience with the argument that the presentation and preparation of maps does not change with computer displays.

Prof. Milan Konecny, at the closing of the conference, remarked that this conference clearly strengthened the role of cartography and of ICA in the region, and the conference has also demonstrated the importance of spatial data infrastructures to bring data from various sources together, which is also necessary for producing maps, and as well the importance of standardisation in the field. Digital Earth is an initiative that can be very influential to cartography and provide new ideas and new solutions, especially for the management of crises, which has been an important part of the conference, not the least since it is essential for human life. Prof. William Cartwright, in his closing words, pointed to the activities of ICA and cartography in various region of the world and introduced the next ICA conference that will take place in Paris, France, 3 - 8 July 2011 (<http://www.icc2011.fr/>).

Overall, it was a very interesting and fruitful conference that offered many contacts and exchanges with different groups working in cartography, GIS and SDI and that was also very well organized. We can look forward to the next conference and hope that it will discover other treasures of Bulgaria. Detailed information and the proceedings are available at the conference web site, <http://www.cartography-gis.com>.