

CARTOGRAPHIC ACTIVITIES IN BULGARIA, 2015 - 2019

**NATIONAL REPORT
BULGARIAN CARTOGRAPHIC ASSOCIATION**

18th General Assembly of ICA, Tokyo, Japan, 2019

edited by Temenoujka Bandrova and Silvia Marinova

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1. Bulgarian Cartographic Association (BCA)

Bulgarian Cartographic Association (BCA) was established on 8th of April, 2011 by forty Bulgarian cartographers and specialists connected to cartography. They met in Sofia for establishment of BCA. The main tasks of the Association are:

- ☐ To consolidate and legitimize its members to the public, state and municipal administration and institutions;
- ☐ To represent and protect the interests of its members to the public administration and provide support for its activities;
- ☐ To offer motivated and reasoned opinions about changes in legislation on cartographic activities;
- ☐ To collect and disseminate information on the development of cartographic activities in Bulgaria;
- ☐ To promote and disseminate information on international cartographic activities;
- ☐ To assist in further training and to stimulate young cartographers;
- ☐ To participate in and organize national and international events and conferences;
- ☐ To organize a network of institutions to take joint decisions on the development of cartography in Bulgaria;
- ☐ To represent the Bulgarian cartographic society to the international organizations.

The establishment of BCA is approved by Bulgarian law-court and strongly supported by the National Agency for Geodesy, Cartography and Cadastre, Association for Geospatial Information in South-East Europe, many private GIS and cartographic companies, different institutions of Bulgarian Academy of Science and several Universities.

Our members are mapping companies, publishers, academics, researchers, map curators, individual cartographers, GIS specialists, geographers and ordinary members of the public with an interest in maps.

The executive board consists of 7 members: Prof. Bandrova, T. – president BCA, head of Laboratory on Cartography, University of Architecture, Civil Engineering and Geodesy (UACEG), Sofia; Col. Gladkov, G. – vice-president BCA, National Agency for Geodesy, Cartography and Cadastre; Prof. Vatseva, R. – vice-president BCA, National Institute of Geophysics, Geodesy and Geography, Bulgarian Academy of Science; Dr. Angelov, A. – manager of Geodetect Ltd.; Ms. Karadjova, E. – General Manager ESRI-Bulgaria, Dr. Marinova S. – Secretary BCA, KartGeo Ltd.; Prof. Penev, P., UACEG; (Bandrova T. and Marinova S., 2011).

Bulgarian Cartographic Association (BCA) is national representative of Bulgaria in the International Cartographic Association since 2011.

All information about BCA can be found at the web page and Facebook (see Fig. 1).

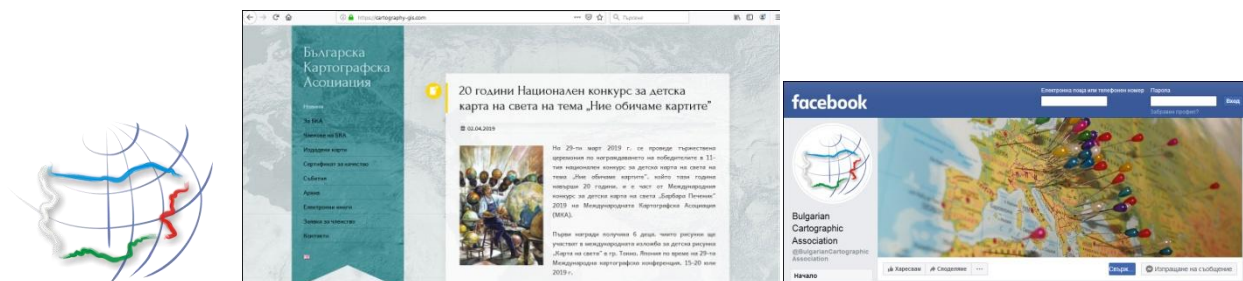


Fig.1. Logo, URL: www.cartography-gis.com and Facebook of BCA

Temenoujka Bandrova
President,
Bulgarian Cartographic Association

2.6th and 7th International Conferences on Cartography and GIS in Bulgaria

The 6th edition of the International Conference on Cartography and GIS (ICC&GIS) was held in Sozopol, June 2018 and the previous 6th one took place in Albena, June, 2016 (Fig. 3, Fig. 4, Fig. 5). The conferences are organized by International Cartographic Association (ICA), Bulgarian Cartographic Association (BCA) and University of Architecture, Civil Engineering and Geodesy (UACRG) - Sofia. The organizers' aim is to collect knowledge and information about the latest achievements of cartography combined with GIS in the region of the Balkan Peninsula, Europe by adding also global aspects. Another goal is to discover and offer decisions for satisfaction of the ever increasing demands for analyses and visualization of geo-spatial data in the area of science, economy, management, ecology, and crises situations in our modern times at a national, regional and global scale.

The main topics of the conferences are:

- ☐ GIS Technologies and Related Disciplines;
- ☐ GIS for Geology;
- ☐ Natural Sciences and Ecosystems;
- ☐ Web Cartography and Digital Atlases;
- ☐ Map Design and Production;
- ☐ Cartographic Visualization;
- ☐ Geodetic Coordinate Systems and Map Projections;
- ☐ 3D Cartographic Modelling;
- ☐ Cartography and GIS in Education;
- ☐ Geoinformation for Smart Cities;
- ☐ Geo-Spatial Analysis and Data Mining;
- ☐ Virtual Geographic Environment;
- ☐ UAV Applications and New Trends;
- ☐ Geospatial Data Acquisition by Remote Sensing Technologies for Cartographic Purposes.

Two-day SEMINAR WITH EU COOPERATION ON EARLY WARNING AND DISASTER / CRISIS MANAGEMENT was organized by Prof. Milan Konecny, Chair of Commission on Cartography on Early Warning and Crisis Management and ICA President (former). The seminar was conducted under the auspices of the Czech ambassador to Bulgaria His Excellency Mr. Dušan Štrauch. Co-organizer of the event was Masaryk University, Brno, Czech Republic.

6th International Conference on Cartography and GIS

The 6th International Conference on Cartography and GIS is dedicated to the International Map Year 2015-2016.

World-famous scientists were invited to present keynote speeches during the 6th ICCGIS: Prof. Laszlo Zentai, ICA Secretary General and Treasurer, Hungary "*ICA's Modern Cartography*", Prof. Liqiu Meng, Technical University of Munich (TUM), Germany, "*Cartography and Its Connecting Role*" and Aleksandar Todorov, HERE Ltd. Sofia, BULGARIA, "*HERE Maps and Mobility of the Future*".

Opening ceremony

Mrs. Meglena Kuneva - Deputy Prime Minister for European Policies and Institutional Affairs and Minister of Education and Science, Mr. Daniel Mitov - Minister of Foreign Affairs, Ms. Lilyana Pavlova - Minister of Regional Development, Mr. Petar Kanev - Chairman of the parliamentary

committee on economic policy and tourism sent greetings to the participants. Personal greetings headed prof. Milan Konecny - former ICA President, Prof. Laszlo Zentai - Secretary General of ICA, prof. Slaveyko Gospodinov - Vice-Rector of the University of ACEG and Mr. Alexander Todorov - HERE-Bulgaria. The opening ceremony was attended by Mrs. Zdenka Boevova - Honorary Consul of the Czech Republic in the town of Varna.

During the opening ceremony, the Secretary General of ICA prof. Laszlo Zentai handed a diploma and a prize of 5-year-old Alexandra Garkova whose painting was awarded at the Barbara Petchenik Competition during the 27th International Cartographic Conference in Rio de Janeiro, Brazil.



Fig.2. Participants in the 6th ICC&GIS

ICA commission meetings

Four of the ICA commissions hold meetings: Commission on Cartography and Children; Commission on Cartography for Early Warning and Crisis Management; Commission on Map Projections; Commission on Use, User and Usability Issues. The commissions had done a great job, taking important decisions for continuing the work of their members.





Fig.3. Participants in the ICA Commissions' meetings, 6thICCGIS

Publication

87 reports have been oral presented, divided into 17 sessions. 30 posters have been presented in five poster sessions. The papers are published in the e-Conference Proceedings <http://iccgis2016.cartography-gis.com/>.

Parallel meetings and workshops

The meeting of management committee and working groups of the project COST "Mapping and the Citizen Sensor" have been held during the first 2 days of the conference. An interactive workshop on "Designing and Conducting User Studies", organized by Dr. Kristien Ooms from Belgium, ICA Commission Chair was organized for young participants of the conference.

Prizes for young scientists

During the conference, the jury members Assoc. Prof. Lyubka Pashova, NIGGG, Bulgaria, prof. Cornet van Elzaker from the Netherlands and Assoc. Prof. Jesús Núñez from Hungary, had the difficult task to get acquainted with the reports of PhD students and young scientists, and to assess their presentations during oral presentation sessions. Jakub Havlicek from the Czech Republic won Young Scientist Award. The Jury decided to give another award for the young prosperous researcher to Shun Ikezawa from Japan.



Fig.4. Award for young scientist, 6thICCGIS

Social events

Besides the traditional trips to Balchik and Kaliakra, 2 social evenings were organized. During the Welcome reception, the participants had the opportunity to establish new contacts and exchange ideas. Gala dinner was held in Balchik city. A rich folklore program of the Bulgarian traditions and culture was presented to the participants. Prof. Ivan Markov - Rector of the University of Architecture, Civil Engineering and Geodesy greeted the participants. Prof. Temenujka Badnrova - President of BCA gave a special award to Mrs. Tanya Mihaylova - Director of the Diplomatic Institute at the Ministry of Foreign Affairs for her contribution to the development of Bulgarian cartography.

Technical excursion

The conference participants had the opportunity to visit the newly built complex for preventing and combating oil spills at the Naval Academy "Nikola Vaptsarov" – Varna city. They were greeted by Captain I rank Assoc. Prof. Kalin Kalinov Spasov - Deputy Head of the educational and scientific activities of the Naval Academy and Captain II rank Assoc. Prof. Miroslav Tsvetkov - head of the academic department. They were presented the history and traditions of the school. During the visit the conference participants visited the planetarium and got acquainted with simulators, material and scientific-technical base of the Naval Academy.

More information can be found here: <http://iccgis2016.cartography-gis.com/>

7th International Conference on Cartography and GIS

The 7th International Conference on Cartography and GIS was organized under the patronage of the President of the National Assembly of Bulgaria Mrs. Tsveta Karayancheva during Bulgarian Presidency of the Council of the EU, 2018. Co-organizers of the conference were Military Geographic Service, Bulgaria and Bulgarian Red Cross. The event was supported by the Bulgarian Science Fund.



Fig. 5. Mr. Yavor Notev handed honorary plaque of the National Assembly and the Bulgarian EU Presidency to Prof. Temenoujka Bandrova

The main international organizer was the International Cartographic Association (ICA) with the exclusive support of the Secretary General of ICA Prof. Laszlo Zentai, the Vice-President of ICA Prof. Lynn Usery, the Past-President of ICA Prof. Georg Gartner, chairs of ICA commissions – Prof. Milan Konecny (ICA president 2003-2007) and Prof. Miljenko Lapaine, vice-chairs of ICA commissions – Prof. José Jesús Reyes Nunez and Prof. Jiping Liu. This cooperation provoked intense interest among 200 attendees from more than 30 countries. They all contributed to the creation of a special map of the participants in the scientific event.

Opening ceremony

Prof. Temenoujka Bandrova – President of the 7thICC&GIS Organizing Committee welcomed all the participants to Bulgaria and noted that cartographers and GIS specialists from more than 30 countries came to share their knowledge, find their future partners, and benefit from cooperation with colleagues.

Mrs. Tsveta Karayancheva - President of the National Assembly of Bulgaria, Prof. Ivan Markov – Rector of UACEG, Mrs. Ivelina Vasileva – Chair of the Environment and Water Committee at the National Assembly, Mr. Petar Kanev - Chair of the Economic Policy and Tourism at the National Assembly, academician Hristo Grigorov - President of Bulgarian Red Cross and Dr. Sofia Stoimenova – Director of Bulgarian Red Cross sent greetings to the participants and wished them fruitful work.

Personal greetings headed Mr. Yavor Notev - Vice-President of the National Assembly of Bulgaria, Mr. Valentin Yovev – Vice-Minister of Regional Development and Public Works, Col. Rumen Dumitrov – Director of Military Geographic Service, Ministry of Defence, Prof. Lynn Usery – ICA Vice-President, Prof. Milan Konecny, President of the International Organizing Committee of 7 ICC&GIS and His Excellency Mr. Dusan Strauch - Ambassador of the Czech Republic in Bulgaria.

During the opening ceremony, Mr. Yavor Notev handed honorary plaque of the National Assembly and the Bulgarian EU Presidency to Prof. Temenoujka Bandrova – President of Bulgarian Cartographic Association and President of 7thICC&GIS Organizing Committee.

Children's folklore dance ensemble "Atanas Manchev" from Burgas city with artistic director Mr. Dimitar Tonev, greeted the participants with wonderful folklore performance that received great applause.

The Vice-chair of the ICA commission on Cartography and Children prof. José Jesús Reyes Nunez handed a diploma and a prize to Preslava Ivanova (8) whose drawing was awarded at the Barbara Petchenik World Map Competition during the 28th International Cartographic Conference in Washington D.C., USA.

ICA commission meetings

As usual, several commissions of the International Cartographic Association held their annual meetings during the conference: Commission on Cartography in Early Warning and Crisis Management; Commission on Map Projections and Commission on Cartography and Children. The commission meetings led to development of guidelines for future work of their members.



Fig. 6. Prof. Reyes Nunez handed a diploma and a prize to Preslava Ivanova (8)



Fig. 7. Participants in the ICA Commissions' meetings, 7thICCGIS

Keynote speakers

A great interest in the participants was inspired by the conference keynote speakers:

- ☐ Prof. E. Lynn Usery, ICA Vice-President, USA;
- ☐ Prof. Changlin Wang, Executive Director of International Society for Digital Earth, China;
- ☐ Prof. Wolfgang Kainz, University of Vienna, Austria;

- Mr. Nick Land, ESRI Europe, UK;
- Mr. Filip Kaderabek. Asseco - Central Europe, Czech Republic.

Presented right after the Opening ceremony, the speeches set a positive direction for the rest of the conference sessions.

Publication

122 oral presentations were given in 21 sessions and 12 posters were presented in 6 poster sessions. The papers are published in the e-Conference Proceedings:

<http://iccgis2016.cartography-gis.com/>.

Training course

A free training course *RUS: Exploiting Copernicus satellite data within a cloud computing environment for GIS and cartographic applications* was held on the fourth day of the conference. The coach Miguel Castro-Gomez, SERCO, Italy, demonstrated to the participants how to request a RUS Virtual Machine for Earth Observation projects and activities exploiting the Copernicus Sentinel data.

Memorandum for Future Cooperation between Bulgarian Cartographic Association (BCA) and International Society for Digital Earth (ISDE)

The President of Bulgarian Cartographic Association (BCA) prof. Temenoujka Bandrova and the Executive Director of International Society for Digital Earth (ISDE) prof. Changlin Wang signed a Memorandum for future cooperation between these two organizations.



Fig. 8. Signing a Memorandum for Future Cooperation between BCA and ISDE

Exhibitions

There was an Exhibition of ancient maps hosted by the Diplomatic Institute, Ministry Of Foreign Affairs, Bulgaria. A special selection of Bulgarian children's drawings, that took part in the National Barbara Petchenik Children's World Map Competition were exposed in front of the main conference hall.

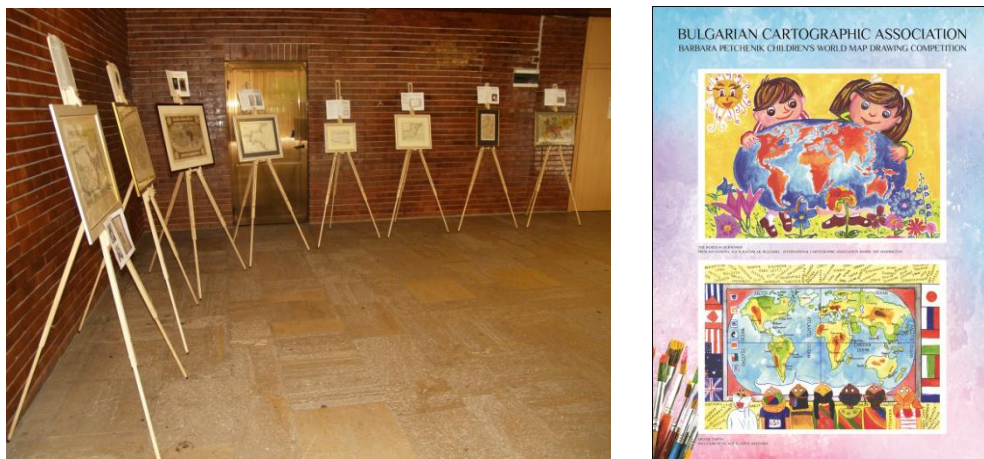


Fig. 9. Exhibitions of ancient maps and children's drawings

Awards

A Best Paper Award of 500 CHF sponsored by REMOTE SENSING Journal

During the conference, the jury members Prof. Lyubka Pashova, Bulgaria, prof. Georg Gartner, Austria, Prof. Lynn Usery, USA, Prof. Jie Shen, China and Prof. Bashkim Idrizi, FYRo Macedonia had the difficult task to evaluate all the papers according to various criteria and reward the best one. The price was awarded to prof. Ivica Milevski from FYRo Macedonia for his paper *Gis-Based Landslide Susceptibility Modelling for the Territory of the Republic of Macedonia*.

Young Scientist Awards

The papers and presentations of 35 young scientists were evaluated by a jury that includes: prof. Lyubka Pashova, Bulgaria, prof. José Jesús Reyes Nunez, Hungary and prof. Miljenko Lapaine, Croatia. The jury awarded two young scientists - Matjaž Štanfel, a PhD student in Croatia and Paulina Raeva – a PhD student in Czech Republic.



Fig. 10. Prof. Konecny awards the prize for best paper to prof. Ivica Milevski

Best papers in the Special Session Digital Earth for Smart Solutions

The papers of Prof. Jie Shen and Dr. Alexey Noskov presented during the Special Session “Digital Earth for Smart Solutions” will be recommended to International Journal of Digital Earth (IJDE) for peer-review procedure.

The organizers of the 7th ICC&GIS express their gratitude to all presenters, chairs, reviewers, sponsors, attendees and distinguished guests!

More information can be found here: <https://iccgis2018.cartography-gis.com/>.



Fig. 11. Participants in the 7th ICC&GIS

Temenoujka Bandrova and Silvia Marinova
Bulgarian Cartographic Association

3. International Map Year 2015-2016, Events in Bulgaria

Bulgaria set up a National Committee for organizing events to celebrate the International Map Year. Temenoujka Bandrova, President BCA, was chairing the committee. Members of the National Committee were Assoc. Prof. Rumyana Vatsheva – BPC organizer; Col. George Gladkov – vice-chair; Dr. Silvia Marinova – secretary; Dr. Stefan Peykov – exhibition organizer; Mag. eng. Stefan Georgiev – event organizer; Mag. eng. Stefan Bonchev – technical secretary.

Bulgarian postcard for IMY

On 14 April 2016, at the Museum of Communications in Sofia, Bulgaria pictorial postcard entitled “International Map Year 2015–2016” was put into use. The card was officially validated by placing the first postage stamp by Deputy Minister of Ministry of Transport, Information Technologies and Communications Mr. Valery Borisov, President of the Bulgarian Cartographic Association Prof. Temenoujka Bandrova and artist of the post card Mr. Georgi Pavlov.



Fig. 12. Bulgarian postcard for IMY

Bulgarian Cartographic Association initiated an event with the invitations to its members, guests and philatelists who had the opportunity to acquire the unique post edition – the first of its kind in the world dedicated to the International Map Year 2015–2016.



Fig. 13. Official validation of the IMY postcard by Temenoujka Bandrova, Deputy Minister of Ministry of Transport, Information Technologies and Communications Mr. Valery Borisov and artist of the post card Mr. Georgi Pavlov

Bulgarian Cartographic Association meets two Committees at the National Assembly of the Republic of Bulgaria

The Economic Policy and Tourism Committee of the National Assembly of the Republic of Bulgaria, chaired by Mr. Petar Kanev and the Culture and Media Committee, chaired by Ms. Polina Karastoyanova hosted a meeting with Bulgarian Cartographic Association (BCA). The meeting was the highlight of a series of events that Bulgaria organized on the occasion of the International Map Year 2015–2016.



Fig. 14. BCA meet Committees at the National Assembly of the Republic of Bulgaria

The main topic of the meeting was the use of geospatial information in the economic and cultural development of the country. Bulgarian Cartographic Association was presented by leading Bulgarian scientists and experts who opened the discussion on six main issues and achieved agreement on several action streams.

Both Parliamentary Committees supported the idea of organizing cartographic exhibition in the National Assembly building on the occasion of the International Map Year Map Day. The exhibition aimed to present the achievements of the Bulgarian cartography and its place at international level. It would also outline the cartography as an important pillar in the human knowledge.

The establishment of a National Committee for coordination of the GEO's (Group of Earth Observations) objectives and implementation of the strategic plan to build a global system for Earth observation (Global Earth Observation System of Systems, GEOSS) was fully supported by the Parliamentary Committees. The idea was also embraced by scientists, experts and MPs who attended the meeting. The participants were also convinced in the need for amendments to the Law of geodesy and cartography which goal would be to improve the quality and the competitiveness of the Bulgarian cartographic products.

BCA proposed the establishment of a national fund "Bulgarian cartographic heritage". The Committees fully supported the idea and the regulation of the fund as part of the cultural heritage of the country. With this regard, a BCA representative would be consulting the Parliamentary Committee on local names during the process development of knowledge base with geospatial information.

At the end of the meeting, BCA donated maps and atlases to the National Assembly Library. This is the second time BCA donates cartographic products to the community. The first donation was made

to the Library of the United Nations in New York.

Hand-embroidered map dedicated to the International Map Year



Fig. 15. Hand-embroidered map of the village Banichan, Bulgaria: 70 x 100 cm in size, 900,000 stitches using 5km of thread, 6 month of nonstop work by 3 tailors

The embroidered map has the size of 70 x 100 cm and covers the territory of the village Banichan in Bulgaria with an area of 13.1 square kilometers. Banichan is located in the valleys of the majestic Pirin and Rhodope mountains, which are crossed by two rivers and two mineral springs. It contains 23 symbols and unique embroidery relics of Banichan's woman suits. The map is produced from approximately 900,000 stitches made up of about 5km natural cotton thread. The time required to create the map was six month of nonstop work, accomplished by 3 tailors (11, 50 and 55 years old).

The map was created within the context of the project "The new old saying: The cultural symbols of the Banichan village", partially funded by the National Fund Culture program on folklore. One of the activities of the project included the creation of a map of Banchian with cultural symbols. The project was managed by Ms. Romyana Dzhibova in the community center "Izgreve-1930".

Small and unique land of nature, culture, traditions and rituals is this "living map" of the village Banichan. The map is a culture product with a social effect. As a method of inclusion it combines knowledge and experience in social integration lives of the small village on a piece of cloth. Like Geography it is an excellent and original landmark for the outside world. By underlying technical elements it allows for a parallel ethno-reading the living features of the settlement.



Fig. 16. Detail of the hand-embroidered map of Banichan

Already in the project proposal, the symbolic and thematic link between the real physical and embroidered map was set as a kind of cultural contribution to the International Map Year 2015–2016. Therefore this project product is an allegory to the social integration to convergence through awareness and education through the symbols on the map, such as educational resources on cultural heritage in the present.

Further IMY activities in Bulgaria: Map exhibition and National Map Day

“Bulgarian cartography in the International Map Year” – An exhibition in the National Assembly on November 17, 2016

Vice-chairman of the National Assembly Dimitar Glavchev, chairman of the Committee on Economic Policy and Tourism Petar Kanev and President of the Bulgarian Cartographic Association (BCA) Temenoujka Bandrova opened an exhibition “Bulgarian mapping in the International Year of the map” in the National Assembly building.

President of the BCA Temenoujka Bandrova awarded a special diploma to Mr. Petar Kanev, for his contribution to the development of Bulgarian cartography, on the occasion of the International Map Year 2015–2016.

The collection of exhibits contain cartographic works of old maps, military topographic maps, thematic, tourist, educational maps and atlases, panoramic maps made based on 3D models and navigation cartographic products.



*Fig. 17. Opening of the exhibition “Bulgarian mapping in the International Year of the map”.
Photo by Stefan Bonchev*



Fig. 18. The exhibition in the Bulgarian National Assembly building. Photo by Stefan Bonchev

Participants in the exhibition: corporate members of the Bulgarian Cartographic Association – DataMap-Europe, Cartographic Studio DavGEO, KartGeo, KartProekt, International Commercial and Cultural Centre GEOPAN, HERE Europe – Bulgaria, Military Geographic Service and the Diplomatic Institute at the Ministry of Foreign Affairs.

National Map Day on November 30, 2015 and November 7, 2016

The events were held in conjunction with the International Map Year 2015–2016 and were organized by the Bulgarian Cartographic Association, Sofia University and National Institute of Geophysics, Geodesy and Geography – BAS. A seminar was held on current cartographic topics. The events included an exhibition of Bulgarian cartographic productions.

On November 7, 2016 the president of BCA Temenoujka Bandrova awarded certificates and prizes to Rumyana Dzhibova from Banichan and Ivaylo Lisichkov, representative of Dryanovo municipality, for their contribution to Bulgarian cartography on the occasion of the International Map Year 2015–2016.



Fig. 19. Participants in the National Map Day, 2016

4.10th and 11th National Competitions for Children World Map “We Love Maps”

Organization of the National Competition

Bulgarian Cartographic Association (BCA) organized the 10th and the 11 th National Competition for Children's World Map, which were held according to the theme and rules provided by the ICA.

Co-organizers of the competition were the National Institute of Geophysics, Geodesy and Geography at the Bulgarian Academy of Sciences and the University of Architecture, Civil Engineering and Geodesy, Sofia.

Support was provided by the National Geographic KIDS Bulgaria, DataMap Europe Ltd. and ESRI Bulgaria. Media support was provided by the National DARIK Radio. The contest was announced also at the BCA web page: <https://cartography-gis.com/>.

Barbara Petchenik Children's World Map Competition 2017, 10th Bulgarian Competition for Children's World Map "We love maps"

Participants

208 drawings of children between 3 and 15 years of age from 22 towns in Bulgaria participated in the competition. Some schools participated for the first time and many art schools participated by tradition. All drawings are of very high quality in the meaning of cartography and art.

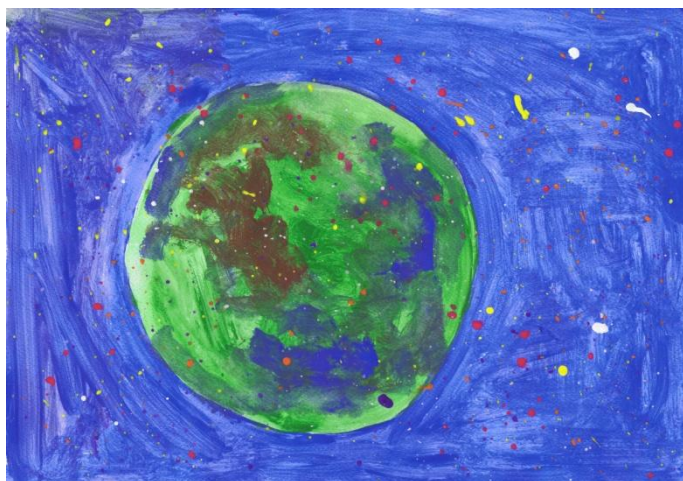


Photo: Stefan Bonchev (Note:
All photos in this chapter)

Fig. 20. Drawing by Stefani Ilieva, 3 years old from Kindergarten “Slaveyche”, Lesnovo village, Bulgaria received I-st prize. The title is “The Earth”.



Fig.21. Preslava Ivanova, 8 years old from Kazanlak town, Bulgaria titled her drawing „The world is in our hands”, received 1-st prize



Fig.22. Tsvetlena Stoyanova, 8 years old from Lovech town, Bulgaria, has 1-st prize. The title is “The Fairy Wonders of Bulgaria”



Fig. 23. Drawing by Selin Musa, 12 years old from Kazanlak town, Bulgaria received 1-st prize. The title is “Unity”.



Fig.24. Drawing by Desislava Dimitrova, 14 years old from Lovech town, Bulgaria received 1-st prize. The title is “Children love maps”.

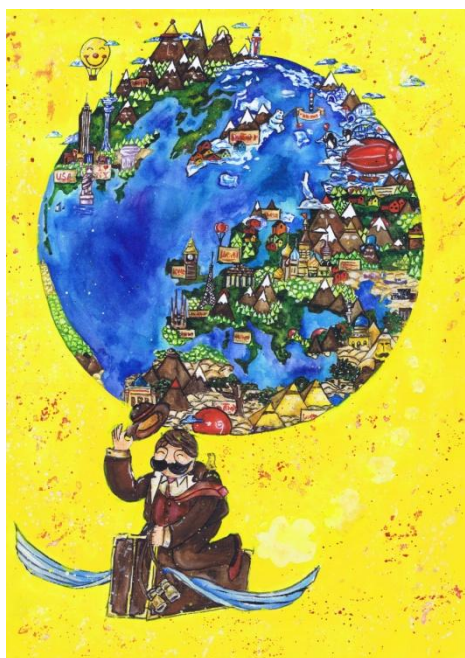


Fig.25. Denitsa Gospodinova, 15 years old from Kazanlak town, Bulgaria titled her drawing „ Motley world”, received 1-st prize

The Evaluation Committee

The members of the evaluation committee were:

1. *Assoc. Prof. Dr. Marian Varbanov*, National Institute of Geophysics, Geodesy and Geography at the Bulgarian Academy of Sciences (NIGGG – BAS)
2. *Assoc. Prof. Dr. Georgi Zhelezov*, NIGGG – BAS
3. *Assist. Prof. Dr. Silviya Marinova*, University of Architecture, Civil Engineering and Geodesy (UACEG)
4. *Assist. Prof. Dr. Nikolay Naydenov*, UACEG
5. *Assist. Stefan Bonchev*, UACEG
6. *Yoana Sandinska*, PhD student, NIGGG – BAS
7. *Boris Dimitrov*, student on Cartography, UACEG
8. *Atanas Stefanov*, student on Cartography, UACEG
9. *Mitko Mitev*, student on Cartography, UACEG
10. *Kristian Krastev*, student on Cartography, UACEG
11. *Pavel Pekarev*, student on Cartography, UACEG
12. *Jesika Mihaleva*, student on Cartography, UACEG
13. *Mariana Koleva*, student on Cartography, UACEG
14. *Georgi Zelenkov*, student on Cartography, UACEG

The commission awarded 6 first prizes, 6 second, and 8 third prizes.

The names of the winners who received the first prizes of the 10th Bulgarian Competition for Children's World Map "We love maps" 2017 are as follows:

1. **Stefani Ilieva**, 3 years old;
Address: Kindergarten "Slaveyche", 29 Str., Lesново village, Elin Pelin municipality, Bulgaria
Drawing title: "*The Earth*".
2. **Preslava Ivanova**, 8 years old;
Address: Art School Zhivopis, Municipality Children Complex "St. Ivan Rilski", 3 Kokiche Str., 6100 Kazanlak, Bulgaria
Drawing title: "*The world is in our hands*"
3. **Tsvetlana Stoyanova**, 8 years old;
Address: Art School "Geya", Municipality Children Complex, 5500 Lovech, Bulgaria
Drawing title: "*The Fairy Wonders of Bulgaria*"
4. **Selin Musa**, 12 years old;
Address: Art School Zhivopis, Municipality Children Complex "St. Ivan Rilski", 3 Kokiche Str., 6100 Kazanlak, Bulgaria
Drawing title: "*Unity*"
5. **Desislava Dimitrova**, 14 years old;
Address: Art School "Geya", Municipality Children Complex, 5500 Lovech, Bulgaria
Drawing title: "*Children love maps*"
6. **Denitsa Gospodinova**, 15 years old;
Address: Art School Zhivopis, Municipality Children Complex "St. Ivan Rilski", 3 Kokiche Str., 6100 Kazanlak, Bulgaria
Drawing title: "*Motley world*"

Exhibition and award ceremony

The exhibition and the award ceremony were held on March 10th, 2017 at the University of Architecture, Civil Engineering and Geodesy, Sofia.

The prizes were handed by Prof. Ivan Markov – Rector of UACEG, Prof. Temenoujka Bandrova from UACEG, Mrs Tatyana Grigorova from National Geographic KIDS Bulgaria, Mrs. Miglena Kuzmanova from ESRI Bulgaria, Mr. Chavdar Dinev from DataMap Europe Ltd. and Prof. Elena Peneva from UACEG.

The NATIONAL GEOGRAPHIC KIDS Bulgaria published an article for the 10th Bulgarian Competition for Children's World Map ""We love maps" 2017 in its edition in April 2017.

Rumiana Vatsseva,
National coordinator for Bulgaria, 2017

Barbara Petchenik Children's World Map Competition 2019, 11th Bulgarian Competition for Children's World Map "We love maps"

Participants

132 drawings of children up to 15 years of age from 15 towns in Bulgaria took part in the competition, along with a single participation from Ukraine and a solid migrant involvement from Algeria and Iraq. Some schools participated for the first time and many art schools participated by tradition. All drawings are of very high quality in the meaning of cartography and art.



Fig. 26. Drawing by Stefani Ilieva, 5 years old from Lesnovo village, Elin Pelin municipality, Bulgaria received I-st prize. The title is "Kid's world".



Fig. 27. Drawing by Anna Bukovska, 7 years old from Kazanlak town, Bulgaria received I-st prize. The title is "We love maps".



Fig. 28. Drawing by Petya Dimitrova, 8 years old from Ruse town, Bulgaria received I-st prize. The title is "With the maps you are always in the right place".



Fig. 29. Drawing by Slavena and Gabriela Izvorska, 12 years old from Varna town, Bulgaria received I-st prize. The title is "Bulgaria is our home".



Fig. 30. Drawing by Viktoria Govedarova, 12 years old from Kazanlak town, Bulgaria received I-st prize. The title is "We love maps".



Fig. 31. Drawing by Rada Skumova, 15 years old from Sofia town, Bulgaria received 1-st prize. The title is "Creating worlds".

The Evaluation Committee

The commission awarded 6 first prizes, 4 second, and 5 third prizes. The drawings that won the six first prizes are sent attached to this report. The names of the winners who received the first prizes of the 11th Bulgarian Competition for Children's World Map "We love maps" 2019 are as follows:

1. **Stefani Ilieva**, 5 years old;
Address: Kindergarten "Slaveyche",
1 29 Str., 2119 Lesnovo, Bulgaria
Drawing title: *"Kid's world"*.
2. **Anna Bukovska**, 7 years old;
Address: Art School "Zhivopis" - Municipality Children Complex "St. Ivan Rilski",
3 Kokiche Str., 6100 Kazanlak, Bulgaria
Drawing title: *"We love maps"*
3. **Petya Dimitrova**, 8 years old;
40 Mutkurova Str., 7000 Ruse, Bulgaria
Drawing title: *"With the maps you are always in the right place"*
4. **Slavena and Gabriela Izvorska**, 12 years old;
Address: Primary School "St. St. Cyril and Methodius",
19 Bratya Miladinovi Str., 9000 Varna, Bulgaria
Drawing title: *"Bulgaria is our home"*
5. **Viktoria Govedarova**, 12 years old;
Address: Art School "Zhivopis" - Municipality Children Complex "St. Ivan Rilski",
3 Kokiche Str., 6100 Kazanlak, Bulgaria
Drawing title: *"We love maps"*
6. **Rada Skumova**, 15 years old;
Address: National School of Fine Arts "Iliya Petrov",
62 Vasil Levski Blvd., 1000 Sofia, Bulgaria

Drawing title: *“Creating worlds”*

Exhibition and award ceremony

The exhibition and the award ceremony were held on March 29th, 2019 at the University of Architecture, Civil Engineering and Geodesy, Sofia.

The prizes were handed by Prof. Asen Pisarski – Dean of the Faculty of Architecture from UACEG, Mrs Elena Dunkova from DataMap Europe Ltd., Mr. Iliya Stanoev from ESRI Bulgaria, Assoc. Prof. Georgi Zhelezov from NIGGG - BAS, Chief Assist. Prof. Silvia Marinova from UACEG and Prof. Temenoujka Bandrova from UACEG.

The NATIONAL GEOGRAPHIC KIDS Bulgaria will publish an article for the 11th Bulgarian Competition for Children's World Map "We love maps" 2019 in its edition in May 2019.

Yoana Sandinska,
National coordinator for Bulgaria, 2019

5. Certificate of Quality for Cartographic Products

Since 2017 Bulgarian Cartographic Association (BCA) issues certificates of quality for cartographic products. Certification is based on an expert assessment of a three-member committee. To obtain a certificate, cartographic products must meet 12 criteria of accuracy, reliability and high-quality design and presentation. The scientific committee evaluates whether the map projection is appropriately set and whether the map scale is correctly selected and noted. It is important that the represented objects and phenomena comply with the legend. Text label placing, colour design, and overall map design should meet the scientific principles of cartographic design and be consistent with the users' needs (BCA, 2017). Each reviewer gives an overall assessment of the cartographic product based on the 12 criteria. The criteria can be applied to various types of products - wall maps, map leaflets, atlases, globes, raised relief maps, 3D maps, digital maps and others. When a certificate is issued a special badge of Certificate of quality can be placed on the cartographic product (Figure 9).



Fig. 32. Badge for Certificate of quality issued by Bulgarian Cartographic Association

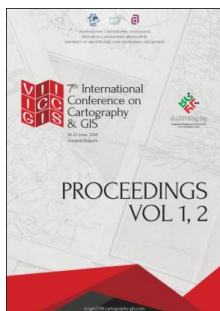
Each certified product receives a unique identification number including a serial number and date of issue. BCA maintains a database with information about the certified cartographic products, incl. serial number and date of issue of the Certificate, title of the cartographic product and type (paper map, atlas, etc.). Map scale and projection, language(s), format and number of pages are noted in special fields. The database contains also information about the author(s), publisher, date of issue, etc.

BCA meets understanding and support from its members and this idea is gaining popularity among Bulgarian map publishers. BCA prepares cooperation on this topic with the National Library and other institutions.

With these certificates publishers of maps, atlases or other cartographic products will avoid potential mistakes and inaccuracies and will also provide users with correctly presented cartographic information.

6. Publications and Projects

Proceedings 7th International Conference on Cartography and GIS



122 reports presented in 21 spoken sessions in 7th ICC&GIS were published in a conference Proceedings (Vol 1 and Vol 2) <https://iccgis2018.cartography-gis.com/proceedings/>.

Bandrova T, and Konecny M. (2018) E-Proceedings Vol 1 and 2, 7th International Conference on Cartography and GIS, pp. 986., 18-23 June 2018, Sozopol, Bulgaria ISSN: 1314-0604

Fig.33. Cover of the Proceedings, 2018

Book "Learning about Natural Disasters" for children, 7-10 year old



The book is produced under the Project "Modeling of natural disasters - modeling of forest fires", UACEG, in contest - regular doctoral students, No. 77 / 2015-2016. The author of the book is Denitsa Savova, a full-time PhD student at UACEG.

This book was created to present natural disasters in an interesting and accessible way to primary school children. Kids will find information, maps, illustrations to familiarize them with the natural hazards that. The different chapters of the book are devoted to floods, forest fires, earthquakes,

Fig.34. Cover of the book "Learning about Natural Disaster"

avalanches, storms and very hot and cold weather.

The book was published in the International Map Year, 2015-2016 map and on the 70th anniversary of UNICEF 1946-2016.

A Memorandum on Cooperation and Joint Activity Was Signed Between Bulgarian Red Cross and The Bulgarian Cartographic Association on 15. 06. 2017



Fig.35. Acad. Hristo Grigorov, Ph.D. and Prof. Dr. Temenujka Bandrova

The Parties have agreed to cooperate in:

- Disaster, emergency and crisis response, early warning of the population and risk reduction;
- Organizing and participating in national, regional and international meetings, conferences, seminars, exercises, etc .
- Cooperation in the field of education, science and the use of new technologies, including mapping and geoinformation technologies for

early warning of the population in disaster cases;

- Other activities that would be useful and would contribute to the development of both organizations and society.

7. Education

BCA supports educational courses organized in cooperation of GI companies or colleagues from ICA as well as of Erasmus teachers exchange frame. Other support is directed to PhD students in cartographic field.

Educational courses



Every year, HERE Bulgaria (member of BCA as a legal entity) organizes a practical work on the field including updating and filling the mobile map information. The head of the regional unit of the company award students from specialization Cartography and GIS, UACEG for their professional contribution.

Fig.36. Students participated in a practical work with support of HERE Bulgaria

Prof. Dusan Petrovic, Chairman of the Commission on Mountain Cartography, Ica Visited Bulgaria

On February 6, 2018, Professor Dusan Petrovic of the University of Ljubljana, Slovenia, gave a lecture on Erasmus + Program on a topic: "3D cartographic presentations - from source data to user's response" in UACEG. Among the guests in the hall were members of the Bulgarian Academy of Sciences, lecturers from the Faculty of Geodesy of the University of Architecture, Civil Engineering and Geodesy, as well as representatives of NIGGG - BAS and University of Forestry.

Dr. Karel Jedlička from University of West Bohemia, Czech Republic visited UACEG



Fig.37. Dr. Karel Jedlička gives a lecture at UACEG

On 26 February 2016, BCA members were invited to attend a lecture delivered by Dr. Karel Jedlička from University of West Bohemia, Czech Republic at UACEG. Among the guests in the hall were lecturers from the Faculty of Geodesy of the University of Architecture, Civil Engineering and Geodesy and representatives of NIGGG at the Bulgarian Academy of Sciences.

Lecture by prof. T. Bandrova at Vienna University

On January 11, 2017, at the University of Vienna, Prof. Temenujka Bandrova, President of the BCA, lectured on "3D maps – a new field of modern cartography". The seminar aimed to present and discover a discussion on one of the modern mapping areas - 3D mapping. The users of these cartographic products were presented, a 3D map definition was given, and the differences between 3D maps and 3D models were examined.

More lectures supported by the Programme Erasmus+

On March 7, 2019 Prof. Milan Konečný, Chair of the ICA Commission on Cartography and Early Warning and Crisis Management and professor at Masaryk University, Czech Republic. presented

at UACEG a lecture "Information and Knowledge Based Society and Role of Geoinformation";

On March 28, 2019 Dr. Karel Stanek, Member of the ICA Commission on Cartography and Early Warning and Crisis Management and lecturer at Masaryk University, Czech Republic presented at the UACEG a lecture "Geoprocessing Tools for Web Mapping";

On June 12, 2018 Prof. Jusus Nunez, Vice Chair of the ICA Commission on Cartography and Children and professor at Eotvos Lorand University, Hungary presented a lecture "The Latest Web-Based Geo-Visualization Solutions".



Fig.38. Prof. Milan Konečný gives a lecture at UACEG

Meeting with Dr. Rossitsa Yaneva on topic: "My Way from UACEG to Antarctica"

On February 27, 2019, with the support of BCA, Dr. Rositsa Yaneva held a meeting with students, lecturers and members of BCA. Dr. Yaneva, a participant in the 27th Antarctic expedition, told about her professional development, the path from UACEG to Antarctica, the challenges and the scientific work during the expedition.

PhD theses

There are several PhD students that study cartography and the number of master students in cartography is growing up every year.

PhD students have modern topics on which they are doing their researches:

Educational and scientific degree Doctor in Cartography and GIS was awarded to **Denitsa Savova** in 2018 UACEG. Her topic was "Cartographic modeling of natural disasters for primary education". Doctor in Cartography and GIS was also awarded to **Imer Kuka** from Kosovo – "GPS and GIS techniques in cartographic analysis and applications" The books published on the base of their dissertations can be found here: <https://cartography-gis.com/dissertations>. Their supervisor was prof. Temenoujka Bandrova.

Another two young scientists have been awarded with Doctoral degrees on Cartography and GIS in 2018 at NIGGG – BAS: **Davis Dinkov** with PhD theses "Development of 3D Model of Nature Park 'Vrachanski Balcan' for Integration in Monitoring System" and **Joana Sandinska** with PhD theses "Development of Web-GIS Application for Nature Park 'Bulgarka'". Their supervisor was prof. Rumjana Vatseva.

8. Promotion of Cartography

World GIS Day

In November every year Bulgaria celebrates the World GIS Day. As an official partner of the event, the Bulgarian Cartographic Association supported the organization of the GIS Day in Bulgaria. At the event, organized by ESRI Bulgaria were presented posters with children's drawings, which took part in the competition for children's maps of the world "Barbara Pechenik". BCA encourage students and companies to participate in map exhibitions organized during the event.

On National Radio

The Bulgarian National Radio and the journalist Ms. Petra Taleva create radio broadcasts in which cartography is popularized and is becoming more and more accessible to the general public. The radio broadcasts include members of BCA (St. Peikov, V. Kotseva, T. Bandrova, etc.), their adherents and alumni. One of the broadcasts is Radio Cyclopedia "The Geographic Map Tells" <http://bnr.bg/hristobotev/post/100954678>; and other shows can be heard here: <http://bnr.bg/hristobotev/post/100684365/a-sega-nakade>; <http://bnr.bg/hristobotev/post/100642031>;

Awards for the 5 years celebrations since the establishment of the BCA

At the General Assembly of BCA held on April 14, 2016, legal and physical persons - members of the association - were awarded for contribution to the Bulgarian cartography on the occasion of the International Map Year 2015-2016 and 5 years after the establishment of the BCA.

Fig.39. Awards for BCA members



Award for Best Map



During the award ceremony of the GIS Day at Sheraton Hotel in Sofia, on 18 November 2015, award for the best map in the category of students was received by Yoana Sandinska, a graduate of the Cartography Laboratory, UACEG, at that moment member of BCA and PhD at NIGGG - BAS. BCA is one of the supporting organizations for organizing the GIS Day.

Fig.40. Awarded map, GIS Day, 2015

Exhibition "European rediscovery of the Black Sea. French pages"

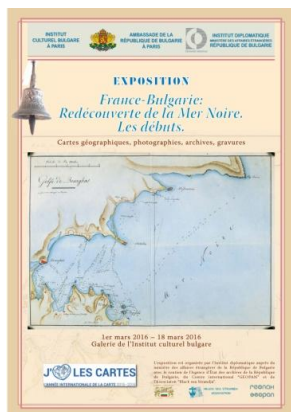


Fig.41. Poster of the exhibition

The exhibition "European rediscovery of the Black Sea. French pages" was organized at the Bulgarian Embassy in Paris by the Diplomatic Institute of the Ministry of Foreign Affairs, the Bulgarian Cultural Institute in Paris, in cooperation with the International Trade and Cultural Center GEOPAN, Bourgas (1-18 March 2016). It was celebrated on 3 March, the national holiday of Bulgaria.

The exhibition presents to the Parisian audience a part of the fruits of cooperation between French and Bulgarian, dating back centuries. Also it included old geographic and marine maps of the French cartographic school.

BCA reflected the event as one of those held in the International Map Year.

Terra Australis INCOGNITA supported by BCA

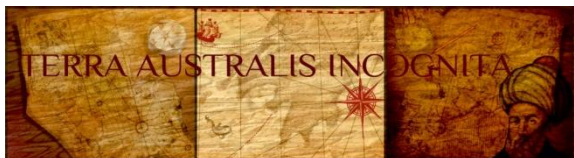


Fig.42. Poster of Terra Australis INCOGNITA

BCA supported Terra Australis INCOGNITA (The Unknown South Land) project of the EKOANTAR program of the Bulgarian Antarctic Institute, whose aim is to collect and make available all known

geographic maps depicting Antarctica from antiquity to this day and to show the modern maps of the Ice Continent, including topographic, geological, satellite imagery, maps of the ice and submerged surface of the continent, maps of the various research bases, etc.

by following their development through the centuries

BCA calendar for 2019 and 2020



Fig.43. Calendar of BCA

The Bulgarian Cartographic Association made a special edition of the calendar for 2019 and 2020 on the occasion of the 20th anniversary of the National Children Map Competition "Map of the World! The calendar contains 12 colorful children's drawings participating in the International Children's Map Competition Barbara Pechenik at the 27th and 28th International Cartographic Conference in Rio de Janeiro, Brazil, 2015 and Washington, USA, 2017.

9. Bulgarian Cartographic Products on International Exhibition, Tokyo, Japan, 2019

Maps on Panels

Title	Municipality of Sozopol – Tourist Map
Type of material	Paper
Scale	1:50 000; 1:15 000
Width (in millimeters)	1000
Height (in millimeters)	700
Author(s)	International Trade and Cultural Center GEOPAN and KartGeo Ltd.
Published by	KartGeo Ltd. and International Trade and Cultural Center GEOPAN
Date published (YYYY-MM-DD)	2018-06-01
Language(s) of the legend	Bulgarian and English
Abstract	The map represents the tourist infrastructure of the region, cultural and historical sights, as well as unique protected areas of Strandzha Mountain: 1 Nature Park, 3 Natural Reserves, 16 Protected Localities and 11 Natural Landmarks. The depicted area is an important part of the ancient Via Pontica, now known as the main migratory route of birds from Europe to Africa. A detailed map of the Town of Sozopol is presented on the reverse. The map received Certificate of Quality by Bulgarian Cartographic Association. It was awarded the first prize in the National Map Contest “Rediscover Bulgaria with GIS”, 2018.

Title	The Thracian Lands (in the 2nd and early 1st millennium BC). The Odrysian Kingdom (5th - early 3rd century BC)
Type of material	Paper
Scale	1:900 000
Width (in millimeters)	1000
Height (in millimeters)	1400
Author(s)	Prof. Dilyana Boteva
Published by	DataMap-Europa Ltd
Date published (YYYY-MM-DD)	2019-04-16
Language(s) of the legend	Bulgarian
Abstract	The Thracian Lands Contains: territory of Thrace, represented on shading relief; ancient and modern settlements with archaeological finds; fortified settlements; sanctuaries; dolmen; necropolises; archaeological finds of gold or silver vessels / jewelry, bronze sculptors, brass ingots, bronze swords of Mycenae type, bronze nails, stone anchors; etc. The Odrysian Kingdom. Contains: territories of the Odrysian Kingdom with King Sitalk at 429 BC. King Kotytis I (circa 383-360 BC) and King Seuthes III (about 330-nd 294 year BC); Thracian settlements; Greek colonies; archaeological finds of gold or silver treasures, ruler burials; Thracian tombs; sites from the UNESCO World Heritage List.; etc.

Title	Bulgaria during the Second World War (1939-1944)
Type of material	Paper
Scale	1:600 000
Width (in millimeters)	1400
Height (in millimeters)	1000
Author(s)	DataMap-Europa Ltd
Published by	DataMap-Europa Ltd
Date published (YYYY-MM-DD)	2018-09-09
Language(s) of the legend	Bulgarian
Abstract	Contains: geographic gratitude; hydrography; the territory of Bulgaria; territory returned to Bulgaria according to the International Agreement; a territory administered by Bulgaria during the war; territories occupied by Bulgarian troops, etc.; area of concentration of German troops; country borders; military action by German troops; Anglo-American bombing; acts of partisan detachments; capitals and cities; headquarters of the Bulgarian army; hydrographic inscriptions, countries, etc; legend. The rescue of Bulgarian Jews is represented by a special symbol.

Title	Ancient Rome, III century BC - II c.
Type of material	Paper
Scale	1:4 000 000
Width (in millimeters)	1400
Height (in millimeters)	1000
Author(s)	DataMap-Europa Ltd
Published by	DataMap-Europa Ltd
Date published (YYYY-MM-DD)	2018-09-16
Language(s) of the legend	Bulgarian
Abstract	Contains: geographic gratitude; hydrography; the territory of the Roman Republic at 264 BC, the territorial expansions of the Roman Republic, the territorial expansion of the Roman Empire after 30 BC, territories dependent on the Roman Empire, regions of rebellion of the slaves and the conquered peoples represented through background coloring and hatching; the border of the Roman Empire at Trajan; main strands of Roman conquests; Roman border fortifications; capitals, administrative centers of provinces and cities; inscriptions of hydrography, historical-geographical areas, tribes, etc .; legend.

Title	Izgrevev district, Sofia (rebuilding 1927-1944) – 3D panoramic map
Type of material	Paper/Laminated paper
Scale	-
Width (in millimeters)	1000
Height (in millimeters)	700
Author(s)	Davis Dinkov, Stefan Bonchev, Vasil Stanev
Published by	Cartographic studio DavGEO
Date published (YYYY-MM-DD)	2017-08-01
Language(s) of the legend	Bulgarian
Abstract	This paper presents an approach for generating 3D panoramic map - historical reconstruction of Izgrevev district in Sofia, Bulgaria for the period 1927-1944. For the investigated period, a geodatabase was developed, which includes: relief, land cover, buildings, roads and infrastructure. Furthermore, 3D models of relief, buildings and land cover were developed using obtained GIS data. Finally, all acquired GIS datasets and 3D models were processed in Visual Nature Studio (VNS) – 3D GIS software for creating a photorealistic terrain visualization and animation. The high-resolution 3D panoramic map was created with great details of landscape using the rendering tools in VNS software.

Title	Natural Park “Vrachanski Balkan” – 3D panoramic map
Type of material	paper
Scale	Added a linear scale in two coordinate directions
Width (in millimeters)	1450
Height (in millimeters)	950
Author(s)	Davis Dinkov
Published by	Cartographic studio DavGEO
Date published (YYYY-MM-DD)	2018-08-01
Language(s) of the legend	Bulgarian/English
Abstract	The map is based on a true digital three-dimensional model of the Vratsa Mountain and the valley of the Iskar River. The digital model of the relief is made using digital photogrammetry. UAVs are used to capture and produce detailed and very accurate 3D models of natural landmarks and sites of historical heritage. Three-dimensional modeling has been used to represent areas with trees, shrubs, rocks, soil and plant cover. A network of parallels and meridians in WGS 84 coordinate system and projection - UTM 35N are implemented for the realization of a map projection on the three-dimensional map.

Atlases

Title	Atlas “Geography and Economics” for 6th grade
Number of pages	32
Width (in millimeters)	240
Height (in millimeters)	310
Author(s)	Prof. Temenoujka Bandrova
Published by	DataMap Europe Ltd.
Date published (YYYY-MM-DD)	2017-09-01
Language(s) of the text	Bulgarian
Abstract	The Atlas is compiled on the new curriculum of the Ministry of Education (2016). It represents South America, North America, Asia, Australia and Oceania. For each continent, maps represent geographic location, explorers, nature, climate, waters, soils, plant and animal world, population, religion, countries and economy. The Earth's oceans are represented on a map using an appropriately projection that allows easy comparison and analysis. The cartographic information is done on the basis of the latest statistical data using Geographic Information Systems. The pages are complemented by photos and realistic drawings that make the Atlas an informative, beautiful and interesting learning issue.

Title	Atlas “History and Civilizations” for 6th grade
Number of pages	40
Width (in millimeters)	240
Height (in millimeters)	310
Author(s)	Dr. Nikola Djulgerov and prof. Temenoujka Bandrova
Published by	DataMap Europe Ltd.
Date published (YYYY-MM-DD)	2018-09-01
Language(s) of the text	Bulgarian
Abstract	The Atlas is compiled on the new curriculum of the Ministry of Education and Science (2016). It contains 45 maps representing the medieval history of Europe and Bulgaria. The content is presented in 3 sections: Medieval Europe, V-XI Century. Bulgaria until the beginning of the XI century; The Medieval World, XII-XV Century. The Bulgarian state, XII-XIV century; Ottoman Empire and the Bulgarian Lands, XV-XVII Century. The maps have been designed on the basis of the latest historical research and data. The Atlases' pages are complemented by more than 100 medieval miniatures, engravings and photos.

Title	Atlas “Geography and Economics” for 8th and 9th grades
Number of pages	64
Width (in millimeters)	155
Height (in millimeters)	240
Author(s)	Prof. Temenoujka Bandrova
Published by	DataMap Europe Ltd.
Date published (YYYY-MM-DD)	2018-08-01
Language(s) of the text	Bulgarian
Abstract	The Atlas contains maps representing the nature of the Earth, its natural resource potential, the political and socio-economic organization of society, population, settlements, economy, regions of the world and countries in 64 pages. The content is grouped into five parts: Planet Earth; Geography of nature; Geography of society; Geography of continents and countries; Contour maps. Maps are compiled on the latest statistical and geo-data using Geographic Information Systems. The pages are completed with charts, graphics, profiles, photos and text. At the end of the Atlas contour maps for exercise will be found.

Educational Cartographic Products

Title	Atlas “Man and Society” for 3rd and 4th grades
Author(s)	Prof. Temenoujka Bandrova
Type	Atlas
Width (in millimeters)	240
Height (in millimeters)	310
Published by	DataMap Europe Ltd.
Date published (YYYY-MM-DD)	2018-08-01
Language(s) of the product	Bulgarian
Abstract	The Atlas contributes to the studying and visualization of lessons in the subject Man and Society. It is structured in two parts - geographical and historical. The developed topics concern the world, the symbol systems, the map colors and other cartographic elements. Historical maps follow the logical and historical sequence of the subjects. They are related to the rich history of the Bulgarian state, with its glorious past. The design combines children's drawings, photos and illustrations of artists. The Atlas is designed after research of children understanding of maps and some maps and symbols are corrected according the scientific results.

Title	Atlas “Geography and Economics” for 7th grade
Author(s)	Prof. Temenoujka Bandrova
Type	Atlas
Width (in millimeters)	240
Height (in millimeters)	310
Published by	DataMap Europe Ltd.
Date published (YYYY-MM-DD)	2018-08-01
Language(s) of the product	Bulgarian
Abstract	The Atlas represents Europe, the Balkan Peninsula and Bulgaria in 40 pages. It provides rich information on nature, water and soils, climate, vegetation and animal life, population, economy, transport, trade and tourism, countries, state planning and other topics covering the full curriculum. Individual maps of some European countries - Sweden, Great Britain, France, Germany, Italy and Russia, as well as the Balkan Peninsula - Romania, Serbia, Greece and North Macedonia are also represented. Latest statistical data from Eurostat and the National Statistical Institute in Bulgaria were used.

Title	Atlas “History and Civilizations” for 7th grade
Author(s)	Dr. Nikola Djulgerov and prof. Temenoujka Bandrova
Type	Atlas
Width (in millimeters)	240
Height (in millimeters)	310
Published by	DataMap Europe Ltd.
Date published (YYYY-MM-DD)	2018-08-01
Language(s) of the product	Bulgarian
Abstract	The Atlas represents the Bulgarian history from the Renaissance to the 21st century. The 38 maps chronologically represent the struggles, the achievements and the development of the Bulgarians, the territorial changes of the country and others in 40 pages. The content is divided into four themes: Bulgarian Revival, XVIII-XIX Century; Bulgaria from the Liberation to the end of the Second World War; Bulgaria after the Second World War until 1989; Bulgaria since 1989. The Atlas ends with a chronology of the most important events of the period. Atlases' pages are complemented by more than 100 images, illustrating the historical events.

10. DataMap-Europe Ltd. (2015-2019)

DataMap-Europe Ltd. was founded in 1991. Some of the cartographic products of DataMap-Europe for the period 2015 - 2019 are:

Establishment and expansion of the United States, 1775-1861. The Civil War, 1861-1865

Scale 1:5 000 000

Creation And Extension Of The United States, 1775-1861

Thirteen rebelled British colonies and their boundaries; ceded territory from the British to the US under treaty of 1783; territorial expansion of the United States until 1861; US borders to 1783 and to 1861; important battles; proclamation of independence.

The Civil War, 1861-1865

Areas of slaveholding States; States of the Union, rejected slavery, slave states left the Union, etc.; borders at the end of 1861; border between Confederate (Southern) and the Union (North); important battles.



*Fig.44. Map
"Establishment and
expansion of the United
States, 1775-1861. The
Civil War, 1861-1865"*

Appearance of Agriculture and Livestock. Discovery of metals

Scale 1:4 500 000

Appearance of Agriculture and Livestock.

Contains: reticule; hydrography; hill-shading relief; state borders; the earliest finds from agriculture; earliest finds from livestock, Archaeological finds from pre-ceramic Stone Age and Stone Age; prehistoric temples; pictures of important historical monuments of the period with a guide to their location.



*Fig.45. Map
"Appearance of
Agriculture and
Livestock. Discovery of
metals"*

Discovery of metals.

Contains: hydrography; hill-shading relief; state borders; Archaeological finds from the Stone-Copper and Bronze Age gold objects from Stone-era gold treasures from the Bronze Age; continents depicted objects, etc.; pictures of important historical monuments of the period with a guide to their location.

Map of the world - plants and animals /face/;

Map of Bulgaria - plants and animals /back/

Scale 1:34 000 000 for world and 1: 550 000 for Bulgaria

Hill-shading relief is build on the base of 3D models of the territories; some rivers and capitals are represented; plants and animals are represented with realistic paintings drawn by artists. The maps are composed on the base of approved programme



*Fig.46. Map of the world - plants and animals, Map of
Bulgaria - plants and animals*

for education in children garden by Ministry of education. The information is presented on readable way, close to the young children age.

The Thracian Lands (in the 2nd and early 1st millennium BC). The Odrysian Kingdom (5th - early 3rd century BC).

Scale: 1:900 000

The Thracian Lands Contains: territory of Thrace, represented on shading relief; ancient and modern settlements with archaeological finds; fortified settlements; sanctuaries; dolmen; necropolises; archaeological finds of gold or silver vessels / jewelry, bronze sculptors, brass ingots, bronze swords of Mycenae type, bronze nails, stone anchors; etc.

The Odrysian Kingdom. Contains: territories of the Odrysian Kingdom with King Sitalk at 429 BC. King Kotytis I (circa 383-360 BC) and King Seuthes III (about 330-nd 294 year BC); Thracian settlements; Greek colonies; archaeological finds of gold or silver treasures, ruler burials; Thracian tombs; sites from the UNESCO World Heritage List.; etc.



Fig.47. The Thracian Lands (in the 2nd and early 1st millennium BC). The Odrysian Kingdom (5th - early 3rd century BC)

Bulgaria during the Second World War (1939-1944)

Scale: 1:600 000

Contains: geographic gratitude; hydrography; the territory of Bulgaria; territory returned to Bulgaria according to the International Agreement; a territory administered by Bulgaria during the war; territories occupied by Bulgarian troops, etc.; area of concentration of German troops; country borders; military action by German troops; Anglo-American bombing; acts of partisan detachments; capitals and cities; headquarters of the Bulgarian army; hydrographic inscriptions, countries, etc; legend. The rescue of Bulgarian Jews is represented by a special symbol.



Fig.48. Map "Bulgaria during the Second World War (1939-1944)"

Ancient Rome, III century BC - II c.

Scale: 1:4 000 000

Contains: geographic gratitude; hydrography; the territory of the Roman Republic at 264 BC, the territorial expansions of the Roman Republic, the territorial expansion of the Roman Empire after 30 BC, territories dependent on the Roman Empire, regions of rebellion of the slaves and the conquered peoples represented through background coloring and hatching; the border of the Roman

Empire at Trajan; main strands of Roman conquests; Roman border fortifications; capitals, administrative centers of provinces and cities; inscriptions of hydrography, historical-geographical areas, tribes, etc .; legend.

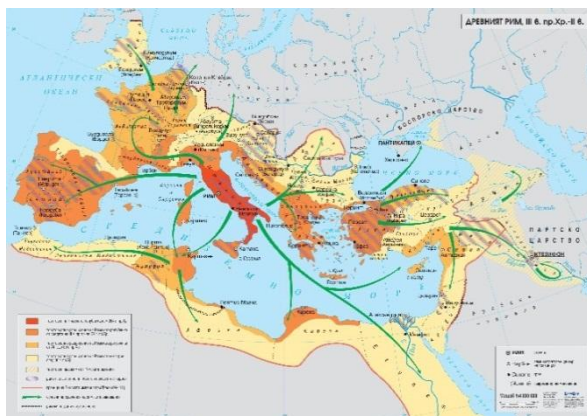


Fig.49. Map "Ancient Rome, III century BC - II c."

Bansko - Tourist map

Scale 1:10 000

Realistic picture of the Pirin mountains slopes and facilities around Bansko city; map of tourist routes and trails map of the city; tourism information centers, car parks, lodges, restaurants, exchange offices, hotels and other useful information. The map is compiled on the base of rich cartographic sources: topographic, touristic, maps, satellite images, photos and geodetic measurements on the place.

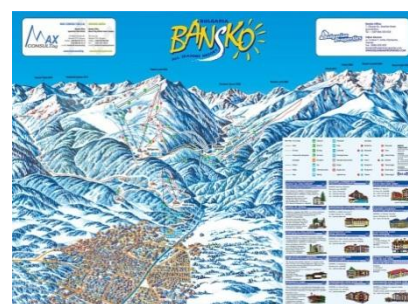


Fig.50. Bansko - Tourist map

Borovec - Tourist map

Scale: 1:12 000

Realistic picture of the Rila mountains slopes and facilities around Borovec resort; map of tourist routes and trails map of the region; tourism information centers, car parks, lodges, restaurants, exchange offices, hotels and other useful information. The map is compiled on the base of rich cartographic sources: topographic, touristic, maps, satellite images, photos and geodetic measurements on the place.



Fig.51. Borovec - Tourist map

Nessebar - Tourist map

Scale: 1:10 000

Realistic picture of the Rila mountains slopes and facilities around Borovec resort; map of tourist routes and trails map of the region; tourism information centers, car parks, lodges, restaurants, exchange offices, hotels and other useful information.

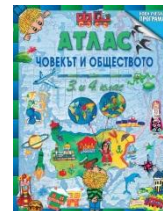
The map is compiled on the base of rich cartographic sources: topographic, touristic, maps, satellite images, photos and geodetic measurements on the place.



Fig.52. Nessebar - Tourist map

Atlas “Man and Society” for 3rd and 4th grades

The Atlas contributes to the studying and visualization of lessons in the subject Man and Society. It is structured in two parts - geographical and historical. The developed topics concern the world, the symbol systems, the map colors and other cartographic elements. Historical maps follow the logical and historical sequence of the subjects. They are related to the rich history of the Bulgarian state, with its glorious past. The design combines children's drawings, photos and illustrations of artists. The Atlas is designed after research of children understanding of maps and some maps and symbols are corrected according the scientific results.



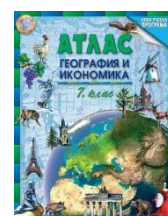
Atlas “Geography and Economics” for 6th grade

The Atlas is compiled on the new curriculum of the Ministry of Education (2016). It represents South America, North America, Asia, Australia and Oceania. For each continent, maps represent geographic location, explorers, nature, climate, waters, soils, plant and animal world, population, religion, countries and economy. The Earth's oceans are represented on a map using an appropriately projection that allows easy comparison and analysis. The cartographic information is done on the basis of the latest statistical data using Geographic Information Systems. The pages are complemented by photos and realistic drawings that make the Atlas an informative, beautiful and interesting learning issue.



Atlas “Geography and Economics” for 7th grade

The Atlas represents Europe, the Balkan Peninsula and Bulgaria in 40 pages. It provides rich information on nature, water and soils, climate, vegetation and animal life, population, economy, transport, trade and tourism, countries, state planning and other topics covering the full curriculum. Individual maps of some European countries - Sweden, Great Britain, France, Germany, Italy and Russia, as well as the Balkan Peninsula - Romania, Serbia, Greece and North Macedonia are also represented. Latest statistical data from Eurostat and the National Statistical Institute in Bulgaria were used.



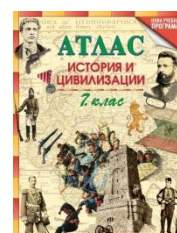
Atlas “History and Civilizations” for 6th grade

The Atlas is compiled on the new curriculum of the Ministry of Education and Science (2016). It contains 45 maps representing the medieval history of Europe and Bulgaria. The content is presented in 3 sections: Medieval Europe, V-XI Century. Bulgaria until the beginning of the XI century; The Medieval World, XII-XV Century. The Bulgarian state, XII-XIV century; Ottoman Empire and the Bulgarian Lands, XV-XVII Century. The maps have been designed on the basis of the latest historical research and data. The Atlases' pages are complemented by more than 100 medieval miniatures, engravings and photos.



Atlas “History and Civilizations” for 7th grade

The Atlas represents the Bulgarian history from the Renaissance to the 21st century. The 38 maps chronologically represent the struggles, the achievements and the development of the Bulgarians, the territorial changes of the country and others in 40 pages. The content is divided into four themes: Bulgarian Revival, XVIII-XIX Century; Bulgaria from the Liberation to the end of the Second World War; Bulgaria after the Second World War until 1989; Bulgaria since 1989. The Atlas ends with a chronology of the most important events of the period. Atlases' pages are complemented by more than 100 images, illustrating the historical events.



Atlas “Geography and Economics” for 8th and 9th grades

The Atlas contains maps representing the nature of the Earth, its natural resource potential, the political and socio-economic organization of society, population, settlements, economy, regions of the world and countries in 64 pages. The content is grouped into five parts: Planet Earth; Geography of nature; Geography of society; Geography of continents and countries; Contour maps. Maps are compiled on the latest statistical and geo-data using Geographic Information Systems. The pages are completed with charts, graphics, profiles, photos and text. At the end of the Atlas contour maps for exercise will be found.



Temenoujka Bandrova
Datamap – Europe Ltd.

11. KartGeo Ltd. (2015-2019)

KartGeo Ltd. is a modern, creative company founded in 2004. Its main activities include map design and publishing; design, development and integration of information systems, GIS, GPS and communication technologies; software applications development; survey; remote sensing.



KartGeo works with a wide variety of clients on custom map projects. It provides services and products to the National Assembly of the Republic of Bulgaria, the Ministry of Environment and Waters of Bulgaria, the National Railway Infrastructure Company, the Geodesy, Cartography and Cadastre Agency, Bulgarian Tourist Union, Bulgarian regional and local authorities; companies; tourist, geographic and sport societies.

In the field of cartography KartGeo is specialized in tourist and mountain mapping, as well as mapping for Disaster Management. The company aims to design and produce accurate, up-to-date, useful and attractive maps.

In the period 2015-2019 the company worked on the production of a wide range of high quality cartographic products. Some of the cartographic projects of KartGeo are:

Raised Relief Map of Bulgaria

Scale: 1:570 000, vertical scale: 1:90 000, size 82x108 cm.



Fig.53. Raised Relief Map of Bulgaria

3D relief representation is combined with hypsometry and contour lines for heights and depths. The map depicts all the mountains in Bulgaria with their main ridges, peaks and passes. It represents seas, lakes and rivers; towns, village and administrative centers; railways, highways and roads with their category; state borders and border crossing points; tourist resorts; main airports and ports. The topography diversity is highlighted through three-dimensional representation of the terrain and its extra-large scale increase.

The map can help users better understand the topography of Bulgaria and plan journeys and adventures. A great addition to classrooms, educational centers, offices and homes.

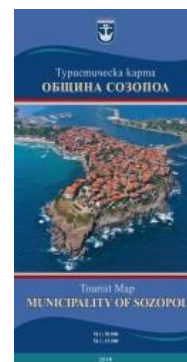
The raised relief map of Bulgaria received Certificate of Quality by Bulgarian Cartographic Association. The map is included in the list of certified Bulgarian cartographic products.

Municipality of Sozopol

Scale: 1:50 000, 1:15 000, size 70x100 cm (12x22cm), Languages of the legend – Bulgarian and English.

Publishers: KartGeo and Geopan.

The map covers the Municipality of Sozopol and parts of its neighbor municipalities: Burgas, Kameno, Sredets, Malko Tarnovo, Tsarevo and Primorsko. It represents the tourist infrastructure of the region, cultural and historical sights, sand dunes, shipwrecks, as well as unique Protected areas of Strandzha mountain: 1 Nature Park, 3 Natural Reserves, 16 Protected Localities and 11 Natural Landmarks. The depicted area is an important part of the ancient Via Pontica, now known as the main migratory route of the birds from Europe to Africa.



A map of the Town of Sozopol in scale 1:15 000 along with additional information about the tourist potential of the region is presented on the reverse.

The map received Certificate of Quality by Bulgarian Cartographic Association.



Fig. 54. Municipality of Sozopol – tourist map (fragment)



Fig. 55. Municipality of Sozopol – tourist map

Strandzha

Scale: 1:110 000, size 70x100 cm (12x22 cm), Languages of the legend – Bulgarian and English.

Publishers: KartGeo and Geopan.

A detailed tourist map of Strandzha Mountain with the Western Black sea coastline from cape Phoros to Igneada that represents a territory of 7356.8 square km. The map covers the whole physic-geographic boundaries of Strandzha Mountain on the territory of the Republic of Bulgaria and part of the mountain on the territory of the Republic of Turkey. It represents road network, trekking routes, protected areas, tourist chalets and shelters, hotels, archaeological sites, shipwrecks, waterfalls, springs and other natural landmarks and places of interest. The logo of the International Map Year 2015-2016 is included.

The map received Certificate of Quality by Bulgarian Cartographic Association.

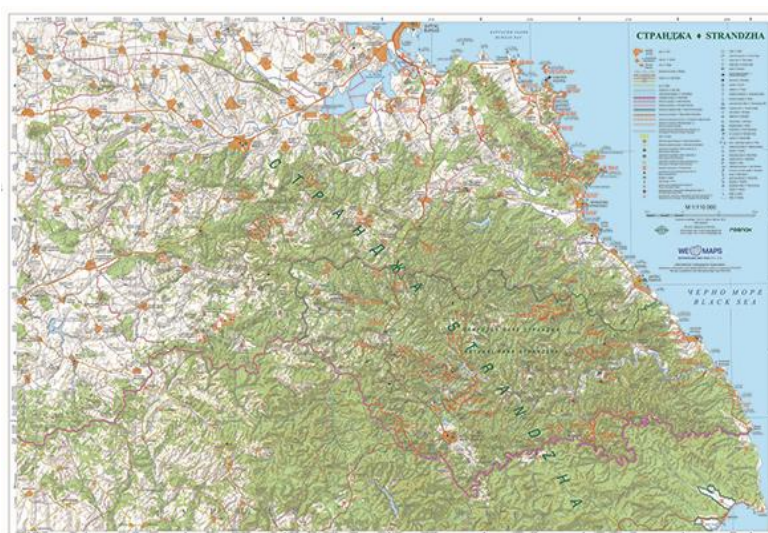
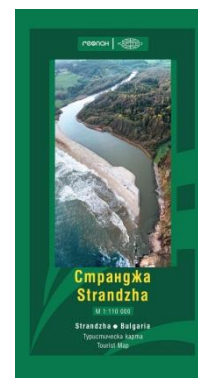


Fig. 56. Strandzha – tourist map

100 National Tourist Sites

Scale – 1:800 000, size: 50x70 cm (9x12 cm).

A new issue of a compact, pocket sized tourist map covering the territory of Bulgaria. It shows the most significant cultural, historic and natural landmarks of Bulgaria. The map aims to promote the National movement “100 National Tourist Sites”. It contains attractive individual paintings of all the sites. An index listing visitor information and contact details is included on the reverse. The map publishing is ordered by the Bulgarian Tourist Union.





Fig. 57. Map of 100 National Tourist Sites

Tourist Region Yundola

Scale: 1:30 000, size 50x70 cm (11x23 cm), Languages of the legend – Bulgarian and English.

Authors: KartGeo and Bikearea.

A tourist map presenting up-to-date information about the territory of Yundola Training and Experimental Forestry. It includes a huge amount of information about tourist chalets and shelters, protected areas, natural landmarks, historical sites, etc. The map shows all marked trekking and bike routes with colors and approximate hiking / biking times.

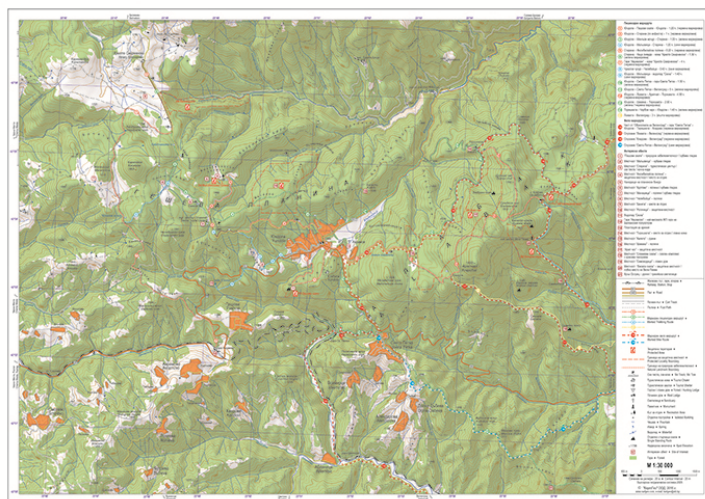


Fig. 58. Tourist Region Yundola – tourist map

Wild Rodopi

Scale: 1:70 000, size: two parts of 70x100 cm (12x22 cm), Languages of the legend – Bulgarian and English.

Authors: KartGeo and Bikearea.

A detailed tourist map representing the territory of West Rodopi Mountain. It includes a huge amount of information about tourist chalets and shelters, protected areas, natural landmarks, historical sites, etc. The map shows all marked trekking and bike routes with colors and approximate hiking / biking times.

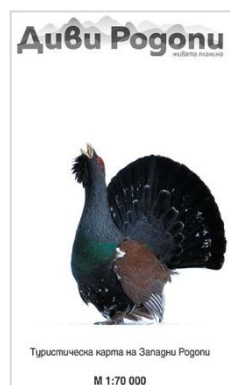


Fig. 59. Wild Rodopi – tourist map (fragment)

e-mail: kartgeo@dir.bg

www.cartgeo.com

Silvia Marinova
KartGeo

12. KartProekt Ltd. (2015-2019)

KartProekt is a Bulgarian company established in 2001. The company provides a wide range of services in cartography, topography, survey, publishing.



KartProekt

In the field of cartography the company is specialized in: design, production and publishing of a great variety of tourist maps; design and production of custom maps ordered by regional and local authorities, companies, tourist, geographic and sport societies.

Some of the cartographic products of KartProekt Ltd. published in the period 2015-2019 are:

Troyan Municipality

Scale: 1:115 000; Size: 35 x 50 cm; Languages of the legend: Bulgarian and English.

An attractive tourist map covering the territory of Troyan Municipality. It depicts museums, archaeological sites, monasteries, churches, chapels, tourist chalets and shelters as well as natural reserves boundaries, protected areas, natural landmarks. The map presents sport attractions such as horse-riding school, motopolygon, ski center, cross-country ski center, biathlon center, swimming pool, aquatic center. The tourist sites are divided into 5 main groups: Cultural and religious sites; accommodation; Historical and archaeological sites; Sport sites; Natural sites and Protected areas. The most attractive sites are presented by color paintings.



Fig. 60. Troyan Municipality – tourist map

Tourist map of Troyan Balkan – East and West part

Scale: 1:60 000; Size: 21 x 29,7 cm; Language of the legend: Bulgarian

The maps represent tourist chalets and shelter, marked tourist routes with approximate hiking time, sport centers, ski tracks, protected areas (National Park, Natural Reserves, etc.), natural landmarks and tourist sites.

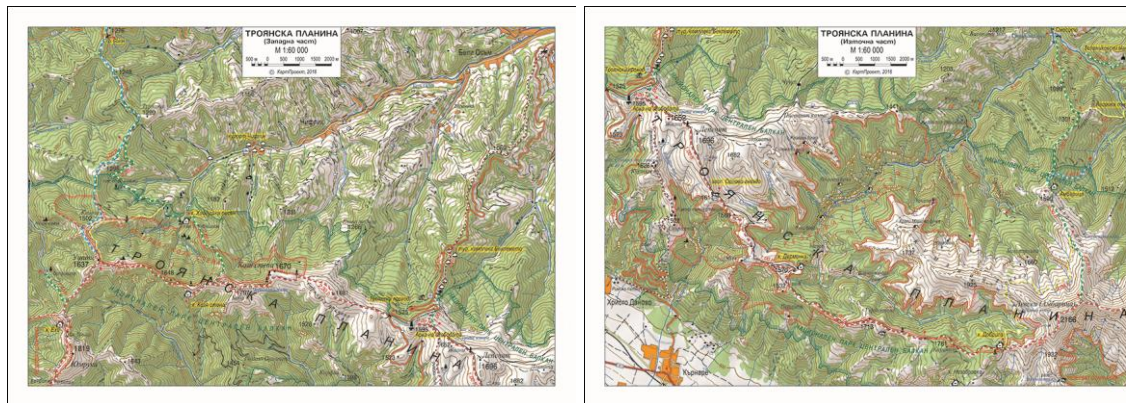


Fig. 61. Tourist map of Troyan Balkan – West part and East part

Map “Municipality of Hisarya – Sites and Routes for Tourism”

Scale: 1:15 500; Size: 200 x 140 cm; Language of the legend: Bulgarian and English

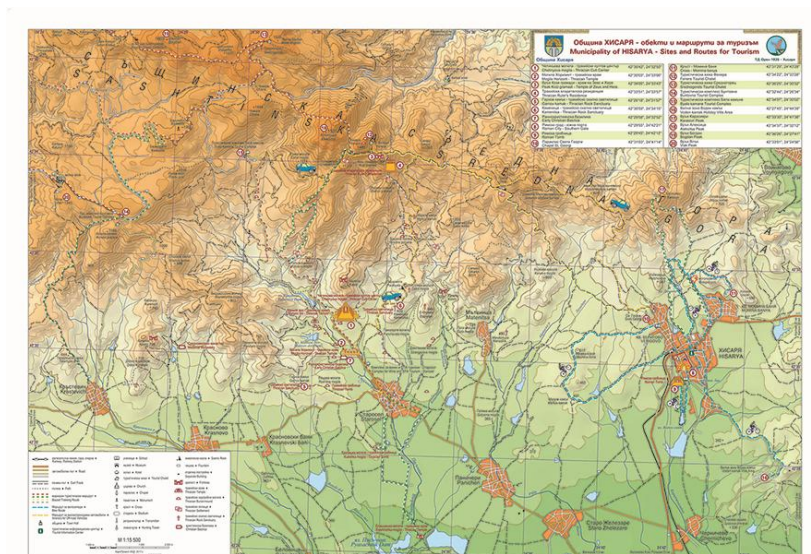


Fig. 62. Map “Municipality of Hisarya – Sites and Routes for Tourism”

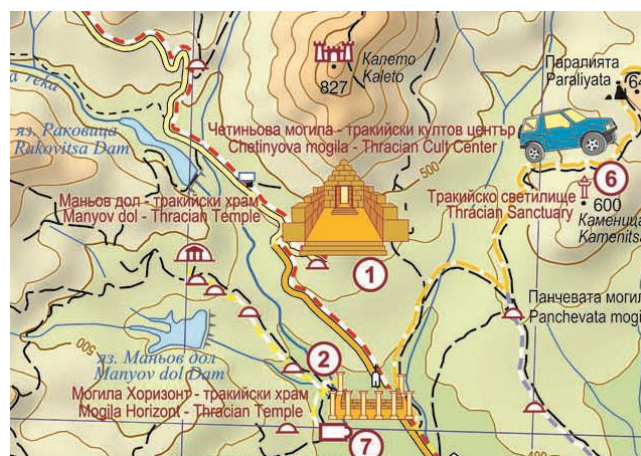
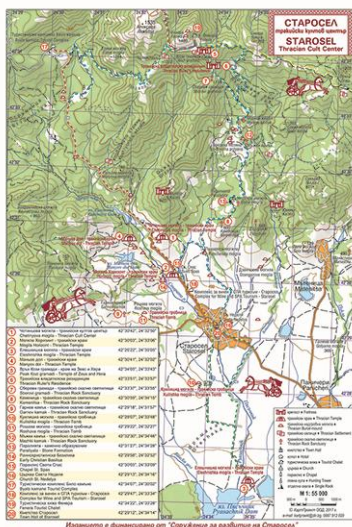


Fig. 63. Fragment of the map “Municipality of Hisarya – Sites and Routes for Tourism”



Tourist Map “Starosel – Thracian Cult Center”

Scale: 1:15 500; Size: 23 x 33 cm; Language of the legend: Bulgarian and English

The map presents the Thracian cult center Starosel. It depicts fortresses, Thracian temples, sanctuaries, settlements, etc. The map also represents the tourist infrastructure in the region.

Fig. 64. Tourist Map “Starosel – Thracian Cult Center”

Thematic maps for the Museum of Folk Art Crafts and Applied Arts - Troyan

Map of the Folk Crafts in the Region of Troyan (19th and early 20th century)

Scale: 1:40 000; Size: 125 x 98 cm; Language of the legend: Bulgarian

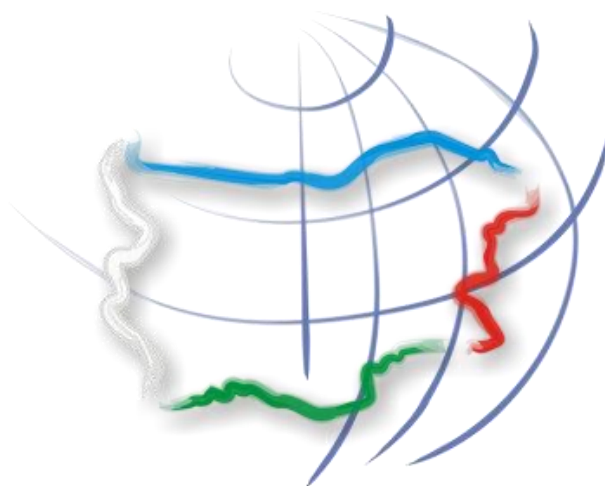
Schools and Centers for Ceramics through Bulgarian National Revival

Size: 70 x 50 cm; Language of the legend: Bulgarian



Fig. 65. Detail of a map of Schools and Centers for Ceramics through Bulgarian National Revival

Toty Angelov,
KartProekt



Bulgarian Cartographic Association

<https://cartography-gis.com/>