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# ПРОБЛЕМИ НА ГЕОГРАФИЯТА

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БЪЛГАРСКА АКАДЕМИЯ НА НАУКИТЕ

## СЪДЪРЖАНИЕ

T. Dobrev, S. Dimovski, S. Kostyanev, V. Stoyanov, G. Aleksiev — A study of thermal field structure in the Earth's crust of Bulgaria. ....	3
T. Dobrev, S. Dimovski, S. Kostyanev, V. Stoyanov, G. Aleksiev — Characteristics of the surface heat flow density on the territory of Bulgaria and the neighbouring Black Sea shelf. ....	18
Владимир Власков — Антропогенни изменения на бреговата зона в северната част на Бургаския залив през периода 1966–2005 г. ....	27
Николай Цеков — Отражение на регионалната политика върху българското село през периода 1944–1989 г. ....	44
Piotr Eberhardt — Changes in the ethnic structure of Central-Eastern Europe in the last decade of the 20th century. ....	53
Чавдар Младенов — Демографски проблеми на селските територии в България	61
Маргарита Илиева — Безработица в селските райони на България през периода на преход към пазарна икономика. ....	67
Александра Равначка — Безработицата в селските райони на Югозападна България. ....	83
Konrad Czarjewski, Krzysztof Janс — Development potential of Polish regions	91
Przemysław Śleszyński — Suburbanisation processes in Poland after 1989. ....	105
Tomasz Komornicki — Regional dimension of car ownership in Poland. ....	118
Simon Kušar — Recent regional development and planning in Slovenia. ....	127

### Научни съобщения

Mirela Mazilu — Le tourisme roumain dans la perspective de l'integration européenne. ...	136
Mirela Mazilu — Les stratégies pour un tourisme durable et ses effets. ....	141
Стефан Велев — Североатлантическото колебание и режимът на температурата на въздуха и валежите в София. ....	146

### Юбилеи и годишнини

Георги Алексиев — Акад. проф. дгмн Тодор Николов на 75 години. ....	150
xxx Проф. дгмн Цанко Цанков на 70 години. ....	155

### Конгреси, конференции, симпозиуми

Petar Stefanov — First scientific forum in Bulgaria about protected karst territories. ...	156
--	-----

### In memoriam

Петър Стефанов — Проф. Мариан Пулина (1936–2005). ....	161
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## CONTENTS

T. Dobrev, S. Dimovski, S. Kostyanev, V. Stoyanov, G. Aleksiev — A study of thermal field structure in the Earth's crust of Bulgaria. ....	3
T. Dobrev, S. Dimovski, S. Kostyanev, V. Stoyanov, G. Aleksiev — Characteristics of the surface heat flow density on the territory of Bulgaria and the neighbouring Black Sea shelf. ....	18
Vladimir Vlaskov — Anthropogenic changes in the coastal zone of the Bourgas Bay northern part during 1966-2005. ....	27
Nikolai Tsekov — Regional policy in the rural settlements of Bulgaria during 1944-1989. ....	44
Piotr Eberhardt — Changes in the ethnic structure of Central-Eastern Europe in the last decade of the 20 <sup>th</sup> century. ....	53
Chavdar Mladenov — Demographic problems of the rural areas in Bulgaria. ....	61
Margarita Ilieva — Unemployment in the rural regions of Bulgaria during the transition to market economy. ....	67
Alexandra Ravnachka — Unemployment in the rural regions of Southwestern Bulgaria. ....	83
Konrad Czapjewski, Krzysztof Janc — Development potential of Polish regions. ....	91
Przemysław Śleszyński — Suburbanisation processes in Poland after 1989. ....	105
Tomasz Komornicki — Regional dimension of car ownership in Poland. ....	118
Simon Kušar — Recent regional development and planning in Slovenia. ....	127
<i>Scientific Reports</i>	
Mirela Mazilu — The tourism in Romania in the perspectives of the European integration	136
Mirela Mazilu — Strategies for sustainable tourism and its effects. ....	141
Stefan Velev — The North Atlantic Oscillation (NAO) and the regime of air temperature and precipitation in Sofia. ....	146
<i>Jubilees and Anniversaries</i>	
Georgi Aleksiev — Academician Todor Nikolov at the age of 75. ....	150
xxx Professor Tsanko Tsankov at the age of 70. ....	155
<i>Congresses, Conferences, Symposia</i>	
Petar Stefanov — First scientific forum in Bulgaria about protected karst territories. ...	156
<i>In memoriam</i>	
Petar Stefanov — Prof. Marian Pulina (1936-2005). ....	161

*Конгреси, конференции, симпозиуми*FIRST SCIENTIFIC FORUM IN BULGARIA  
ABOUT PROTECTED KARST TERRITORIES

**condition, problems, perspectives**

INTERNATIONAL SCIENTIFIC CONFERENCE  
<http://karst.iit.bas.bg>

An international conference entitled "PROTECTED KARST TERRITORIES: STATE, PROBLEMS AND PERSPECTIVES" was held in the city of Shumen 18-21 October 2005. It was organized by the Institute of Geography of the Bulgarian Academy of Sciences and the Shumen Plateau Directorate, helped by the Foundation Center of Karstology "Vladimir Popov". This conference was dedicated to the Park 25<sup>th</sup> Anniversary. 41 research papers have been delivered from representatives of 9 countries: Bulgaria, Italy, Poland, Russia, Serbia, Monte Negro, the Czech Republic, Japan, Brazil, Columbia. The conference was hosted by the Shumen Municipality office.

Bulgaria is well known for the wide karst distribution (mainly carbonate types, i.e. limestone, dolomite, marble), occupying about one fourth of its territory. It spreads from the Black Sea coast to the highest peak of Pirin Mountain, which is the third highest mountain on the Balkan Peninsula (Mount Vihren, 2914 m). The long complicated palaeo-geographic development of this region as well as its transitional geographic situation have contributed very much for the remark-

able diversity and specifics of karst and karst landscapes. A part of the Bulgarian karst is unique on a worldwide scale. Drillings into the Rhodope Mountains' bowels have established the availability of hydro-thermal karst, as one of the caverns there is more than 1300 m deep! In North-Eastern Bulgaria one of the largest world kaolin sites of karst genesis has been discovered (area of 3000 square kilometers), formed in paleo-karst form complexes.

During the 76 years of organized Speleology in Bulgaria about 5000 caves have been explored and mapped. The longest one among them is the Duhlata cave in the Vitosha Mountain (17 600 m), while the deepest one is the Raichova dupka in the Stara Planina Mountains (-337m). About 800 types of cave animals have been described in the Bulgarian caves, some of them relict or endemic, as well as dozens of cave minerals, valuable archaeological and paleontological monuments of different epochs. The complex karst geosystems offer attractive objects of interest as well as diverse soil-vegetation complexes. All this makes karst geocomplexes in Bulgaria extremely valuable. At the same time they are extremely vulnerable, deserving special attention and skilful management. Some of them have already been included into protected areas of different ranks.

The Shumen plateau is one of these karst geosystems. It is a classical example of a karst region with millenniums-long history of land use. Its karst caves, explored for more than 40 years by the local speleological club, are most impressive in the entire North-Eastern part of this country. The Tainite Ponori precipice cave with its altitudinal difference of -101 m is the deepest one in this region. The longest cave is the Zandana (or the Pearl cave). It is about 3 km long water cave, considered as the most beautiful one, partially equipped for tourist visits. The Shumen Park situation close to the city of Shumen with its University and its role of an old cultural centre of Bul-

garia make it very attractive for recreation during the last 100 years. The Shumen plateau is a model karst region where systematic research has been held by the Institute of Geography of the Bulgarian Academy of Sciences — an institution of 55 years history, during which karst has been one of the priority fields of research.

A 5-year collaboration between the Institute of Geography and the Shumen plateau Directorate gave birth to the idea of organizing this conference. Its basic purpose was to invoke a discussion about the sustainable development and protection of specific karst territories. It was expected that this discussion could bring to the initiation of concrete measures and actions, including legal ones, to achieve optimum land use on karst territories in Bulgaria. In the current political and economical transformation of this country, with a legal system still inadequate as far as environment is concerned, karst territories become too vulnerable to unprecedented thoughtless, unregulated, even covetous exploitation. During the short time before Bulgarian's association to EU this conference provided a platform for all specialists of karst to hold an open discussion about what principles and concepts should be dominant as far as karst territories management is concerned. These territories should be considered not only national, but also European treasure. That is why it was very important to hear the voice of many foreign specialists, who might have prompted some rational ideas about karst resource management in Bulgaria.

The conference main themes involved different aspects of protected karst territories, such as:

1. Management. Legal basis. Sustainable development.

2. The role of research. Documentation and cadastre. Monitoring.

3. Recreational and touristic potential: evaluation for use.

4. Cognitive and educational importance of protected karst territories. Good practices.

5. International collaboration. A network of protected karst territories: an attempt and potential.

The conference first day was dedicated to the Shumen plateau park 25<sup>th</sup> Anniversary. A grand opening spectacle was held, under the motto of "The Traces of Time", followed by a visit to the park sites of greatest interest, as well as opening of some new infrastructural objects<sup>1</sup>.

The conference working part was held busily. Within 3 days (19-21 October) 5 scientific meetings were held, where 26 papers delivered and discussed.

Some of the significant research problems, discussed at the conference meetings included:

- A concept for karst geosystems and principles for protection and management of karst territories

- Informational provision, cadastre and modelling of karst geosystems.

- Biodiversity and protection of karst territories (Shumensko plateau, Vitosha and Pirin national karst parks).

- Land use in karst territories and problems of their protection (in Japan, Poland, Bulgaria).

- Survey monitoring of local population about their attitude to karst use (exemplified by the Devetaki karst plateau and the Shumen karst plateau in Bulgaria).

- Tourist potential and forms of tourism and recreation on karst territories.

- Park planning and landscape design.

- Legal protection of karst.

- International experience in protection and management of karst territories of special statute.

Some specific problems have also been tackled, such as the contents of heavy metals in the PP Vrachanski Balkan soils, radioactive dating of karst sediments of Bulgaria (a mutual report of the Bulgarian Academy of Sciences and the Czech Academy of Sciences).

A special meeting was dedicated to the role of karst education in Secondary and University education. The reported results from surveys held in karst regions in Bulgaria were representative and alarming: more than half of the surveyed young people had no idea about the nature of karst. This is the main reason why local communities show low interest in applying ecologically sound and protective activities in their native karst areas. Together with the already established inadequate learning about karst in school, as well as the lack of special courses covering karst in Bulgarian Universities, some good examples of karst and education have been reported, such as one 8<sup>th</sup> grade textbook. An original Japanese experience about learning karst as a home region in Japan has been reported and discussed, as well as similar practices in Scotland and Bulgaria. In addition, students from the Nature-Mathematics High School of Shumen took part in the meetings, showing their multimedia presentation about the Shumen plateau.

All conference participants united about the idea, that what has been done is not enough to make children living in karst territories learn and value their unique nature. Much more could be done, using modern Information technologies and GIS. Unfortunately, a lot of problems exist in this respect, such as administrative limitation, as far as open field lessons are concerned, as well as the lack of knowledge of teachers about karst.

Along the conference program a field discussion was held on the territory of the Shumen plateau on 20 October, which proved to be very effective. Some results of the common research carried out by the Institute of Geography and the

<sup>1</sup> The conference materials and moments of its work can be seen in Internet at: <http://karst.iit.bas.bg>

Shumen plateau Directorate have been reported on the spot, using large scale color maps. Discussions took place in the Zandana and the Tainite ponori caves. Problems such as methodology of karst monitoring, models of underground karst speleo-genesis, legal problems and practices in cave equipment, using of caves as research and educational centers, perspectives for tourist exploitation, etc, have been discussed in the field. Some interesting presentations have been held about: the use of this territory as a military stronghold (the Chengel tabia) during the Ottoman rule); some historical aspects of use of karst territories; soils and modern land use; biodiversity of karst; religious karst objects such as rocky churches and monasteries, etc.

The Fifth concluding plenary session summed the main research, methodological, legal and educational problems concerning the problems raised by this conference. A discussion was held, involving all conference themes (21 October). Common problems experienced in many countries, concerning the conference problems crystallized and a number of offers and initiatives rose. They have been registered in a special document, supplementing this paper.

Field discussions as well as the initiatives for future joint research continued during the second research excursion, held after the main conference. It was held 22-23 October along the following route: Shumen—Beloslav (the Battered stones), Varna—Aladzha Monastery—Kaliakra Cape—Yailata reserve—Kavarna—Balchik—The Devnya karst springs — Pliska — Madara-Shumen. There were two basic themes of discussion during this excursion:

1. *Protected karst territories as destinations of maritime tourism and recreation.*

2. *Protected karst territories as destinations for cultural/historical and rural tourism.*

All the conference participants agreed that the Shumen region has a great potential of development, incorporating both natural and historical features of high value. It is highly supported by the proximity to the Black Sea with its famous resorts near the city of Varna, as well as the world-known historical sites as the Madara monument.

The conference offered also a rich social program, prepared by the hosts from the Shumen plateau park. It gave a chance to the foreign participants to experience the Bulgarian hospitality and to learn more about the local life, culture and history, as well as to have a direct contact to local people. A special event was held, which gave a chance of the local people to meet directly the conference participants, — that was the official opening of the international exhibition entitled "Karst under protection — gift for the future generations". It was held in the modern building of the Regional Library. This exhibition was orga-

nized by the Foundation Center of Karstology "Vladimir Popov", The Shumen Park Directorate and the Bulgarian Ministry of Education through its journal "Geographical Education". Special attention deserve the pictures of the Japanese pupils from the Chuho Cho — a town in the Japanese Akiyoshi karst plateau, as well as the Shumen pupils, who offered original pictures made of natural materials. The winning pictures can be seen in the conference Internet site of the Geography 21 journal ([www.geography.it.bas.bg](http://www.geography.it.bas.bg)). This exhibition hosted also an original exhibition, inspired by karst, composed by Art students from the Yamaguchi University, Japan.

The media made this conference aims and results widely known. Newspaper reports explained the problems and needs of deeper knowledge about karst territories as a national treasure. The first positive result was an invitation from the Shumen governor to the conference participants to discuss karst problems. The hosts of this meeting gave a high praise to this conference. Some important ideas were discussed as well as some recommendations, suggested by the conference participants. The Shumen governor assured the participants that both the Oblast government as well as the Shumen community would take common actions to optimize the Shumen plateau management. The Conference participants recommended the following actions: 1. To finish the visitors' centre of the park in the Kyoshkovete area. 2. To restore the Zandana (Pearl) cave furnishing applying a modern project, opening the underground research station, creation of a specialized information center about karst.

The conference announced the basic problems of protected karst territories and started a wide national discussion about these problems in Bulgaria. It formulated some alarming symptoms about the role and responsibility of some national state institutions, authorized to observe the protection of such territories. Officials from the Ministry of Environment did not attend this conference, while a lot of the discussions concerned its duties. A lot of karst park administrations did not show up either. This fact, as well as the government attitude shows, that there is a lot of efforts to be made in the future to reach an optimum karst management in this country. As the conference discussions showed, scientific research and monitoring should play a major role in the future. This defines the important role and high responsibility of the Bulgarian scientific institutions, especially the Institute of Geography of the Bulgarian Academy of Sciences, with its long-term experience in dealing with karst problems.

P. Stefanov  
Institute of Geography  
Bulgarian Academy of Sciences

## CONCLUSIONS, RECOMMENDATIONS, INITIATIVES

Based on the research papers and discussions, as well as the shared expertise of the participants in the International conference "PROTECTED KARST TERRITORIES: STATE, PROBLEMS AND PERSPECTIVES", held in Shumen (18-21 October), the following decisions have been formulated:

Wide karst distribution in Bulgaria makes protected karst territories important objects of scientific, ecological, recreational and educational **significance**.

Protected karst territories have **unique** diversity and attractiveness. At the same time they are sensitive and quite vulnerable to human impact, which makes them **risk territories**.

It is recommended all activities concerning management and conservation of protected karst territories and objects to be based on prior interdisciplinary **research**, held through unified methodology, complying with the **concept of karst geosystems**.

– **Borders** of protected karst territories should comply with the existing borders of karst geosystems in their real spread, as discrepancies should be corrected.

– Specialized complex **monitoring** should be launched in the protected karst territories, which should include both natural processes and human activities with their impact.

– Protected karst territories' management and control should take into account the **local population's** opinions, expertise and the interests. At the same time, information provision about these territories state and potential should be optimized for both local people and visitors.

Karst **specialists** should get priority in the process of development of management plans for protected karst territories.

The role of researchers in the various scientific councils about karst territories should be optimized. They should be provided for additional access to means of active **research work, monitoring and education**, including educational practices of university students.

Ways should be sought to form mutual **research-production** enterprises, which will include both park administrations and research organizations and specialized educational centers.

It has been suggested the respective ministries to expand the administrative **park directions** authorization, allowing them some rights for economic activities in the spheres of tourism and recreation. Income resulting from such activities can be invested in the enhancement of the park infrastructure, additional research, education and advertising.

Initiatives should be undertaken to improve **co-ordination** among:

– **karst researchers** and karst research organizations;

– researchers and **administrative bodies** concerning karst resources;

– **authorities** which manage and control karst territories.

All efforts to provide for a legal basis about karst management and control have been positively appreciated. But taking into account the now existing legal frame, the new draft law offered by the Ministry of Environmental protection is considered an unnecessary legal act; in the present Bulgarian conditions rendering caves to concession may bring to a great danger.

– It is offered to set up a working group of karst researchers, lawyers, and representatives of authorities concerned about karst use and management with the following tasks:

– To analyze and evaluate the extent to which the Bulgarian laws reflect the karst specifics, as well as how much it complies with the respective laws abroad;

– To offer new changes and additional clauses in the respective Bulgarian laws in this field.

– In case of proven and well grounded necessity, to suggest a **draft law for karst territories**, which should regulate their use, effective management and control.

To work together actively to include the Bulgarian protected karst territories into the existing **international networks** of such territories, aiming at exchange of information and expertise. To initiate a **Balkan network of protected karst territories**.

*An initiative has been offered for discussion about organizing an international network under the title "MANAGEMENT OF KARST TERRITORIES", which may include all interested in management and rational use of karst regions.*

To suggest to the Ministry of Education to reconsider the topic about karst in the Secondary schools curriculums of Geography and Biology, aiming at more wide consideration of karst phenomena in school education, including through elective courses, green schools, school excursions, etc.

*Two new international initiatives have been offered, aiming at attraction of children to the topic of karst:*

– The "**KARST UNDER PROTECTION: GIFT FOR THE NEXT GENERATIONS**" competition to become a regular annual forum for pupils and their teachers to show their skills and knowledge about karst. For this purpose connection may be established with the respective educational commissions of the Interna-



*tional Geographical Union (IGU) and the International Speleological Union (UIS), as well as other international organizations working with children.*

*- To begin setting up an international children's network "THE CHILDREN OF KARST", using the already established contacts between Japanese and Bulgarian children through this conference.*

\*\*\*

About the Natural park of "Shumensko plateau" it has been recommended:

- To restore work on building up a **visitor's information center** in the park part of "Kyoshkovete";

- To look for ways to finish and update furnish-

ing of the Zandana cave, as a basic element of the tourist and educational potential of this natural park. Specialized information center should be set up at the cave about underground karst, as well as a research monitoring station;

- The park Direction should be furnished with up-to-date information/communication and multi-functional **facilities**.

\*\*\*

*This conference decisions should be made public and offered to the respective institutions, authorities and specialized international organizations.*

*21 October, 2005  
Shumen, Bulgaria*