

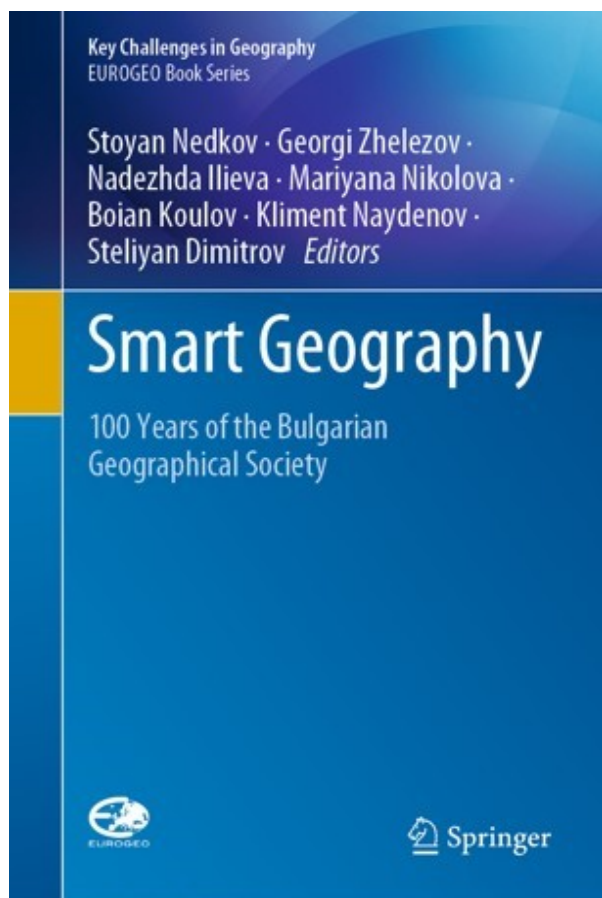
BOOK REVIEWS

SMART GEOGRAPHY: 100 YEARS BULGARIAN GEOGRAPHICAL SOCIETY

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The book “Smart Geography” is prepared as a response to the challenges of the 21st century to the geographers who are expected to contribute to the development of human capital and the knowledge society by spatial solutions for various problems. It contains selected contributions from the international conference “Smart Geography” dedicated to the 100th anniversary of the Bulgarian Geographical Society. This celebration was also an occasion to pay tribute and extend gratitude to the founder of the Society, Academician Anastas Ishirkov, as well as to all geographers who gave their best for its development in the past century. The book is focused on new and innovative spatial approaches based on smart solutions and developed in the field of geography and related interdisciplinary fields such as urban and regional studies, landscape ecology, and ecosystem services. It covers various themes related to smart spatial solutions in different geographical disciplines as well as interdisciplinary studies with a pronounced spatial aspect. The book illustrates the great variety of themes the contemporary geography is dealing with. Most of them have real potential to contribute by the smart spatial solution to human well-being. The examples presented in the book cover case studies from Bulgaria and many other countries worldwide. Such a volume is intended for the global geographical research community, as well as

professionals and practitioners in all fields that deal with space, including regional planners and environmental managers.

The book is organized into five parts, corresponding to the main conference themes. The first part includes contributions from the plenary session dealing with various aspects of the geographical science and the perspectives for its development. There is an overview of the history and development of geographical science and higher education in Bulgaria over the years and the important role of the Bulgarian Geographical Society in this process. Very interesting and topical is the work on the local consequences and responses to the changing geographies of economic governance. The structure and practice of these geographies have become more influential in response to the financial crisis of 2008, which led to the development of smart specialization strategies. The other contributions in this part are focused on cluster analysis for classification of general climate characteristics and modern education reform demonstrated by the shift from the classic teacher-centered model to one where interdisciplinary and holistic approaches play a central role in the curricula.

The second part of the book contains contributions to physical geography, which deal with the interaction between smart technologies and studies in Climatology, Hydrology, Geomorphology, and Geology. One of the most interesting is the study on the impact of climate change and other natural and man-made stressors on human health and the quality of the living environment. It discusses the climatic factors of the highest effect and gives "an idea about the general vulnerability of the human health sector in Bulgaria" to climate change. Other contributions present different aspects of climate change influences and the hydrological response, the use of microclimate data in students learning, flood hazard, as one of the most common natural disasters, the problems of water quality in the river, etc.

The third part of the book covers the human geography field concerning the profound demographic transformation that has taken place in Europe since the Industrial Revolution, evidenced by the changes in the reproductive attitudes and values and human migratory behavior. The dynamics of various social-economic processes affect both the number and geospatial distribution of the population, as well as the transformation of ethnic and national identities. One challenge, which requires smart decisions, is urban shrinkage. While this process is typical for many developed states, the dramatic political, economic, and social transformations in the postsocialist countries since the beginning of the 90s, have led to changes in the settlement patterns, caused by large-scale external

and internal migrations to metropolitan and the largest regional urban centers at the expense of the remote, mountainous and peripheral regions. Three different contributions deal with minority issues. The first one states that Roma integration and the intensifying geo-spatial segregation processes affecting that ethnic group as another issue that requires the application of smart decisions. It analyzes geospatial development trends and the internal structure of the Roma quarters aided by remote sensing and field research methods. The other one identifies the reasons for the difficulties that face Europeans in their attempts to integrate the Roma into their cultural system. The authors review and analyze successful integration policies towards the above ethnic group in Europe and points to those that can be adapted and implemented successfully in Bulgaria. One of the crucial problems is the smart decisions in the respect of specifically related to the integration of the Roma minority, is education should target the disbandment of segregated schools and the creation of mixed school establishments. The third contribution analyzes the specifics and the trends of the Roma school segregation in Bulgaria, based on a case study of the Roma children from Harman Mahala in the city of Plovdiv. Further, in this part there are works on a grouping of the Bulgarian cities, according to the causes and the dynamics of their shrinkage throughout the last century and up until 2017, assessing of the quality of life of the population, the socio-economic and political development of the rural town of Orania in the Republic of South Africa. Special attention should be paid on the regional geospatial and statistical analyses of the urban-rural relationships in Romania. The study results help identify areas with different rural development potential and allow for a better understanding of the urban-rural interactions in the last several decades.

The fourth part of the book is focused on various problems in the field of landscape ecology. There are studies on the presence of tree cover on agricultural land monitoring heavy metals in the river sediments, structure, and peculiarities of the karst and development of geospatial reconstruction models of the landscapes in wetlands. An empirical study of the geoecological state of selected landscapes in North-Central Bulgaria aims to reveal the contemporary geoecological problems, based on semi-stationary and field investigations. The results show nine categories of geoecological problems, grouped into three main groups.

The application of the ecosystem services (ES) concept, as a tool for smart geospatial solutions of human-environmental problems, features in the fifth part of the book. The ES concept is based on the assumption that ecosystems provide a range of services of fundamental importance to human well-

being and their sustainable use could balance environmental conservation and economic activities and interests. The geospatial aspects of ecosystem services attracted significant attention in the last years through the development of various mapping and modeling methods and tools. The contributions in this part deal with various aspects of mapping and assessment of ecosystem services based on field observations, remote sensing data, geo-spatial proxy methods, modeling approaches for the generation of geo-spatial data, and production of ES maps. It is stated that climate change, together with other stressors, decrease the capacity of ecosystems to buffer impacts from extreme events, like fires, floods, and storms. Some case studies illustrate the advantages and challenges of both the deterministic and holistic approaches to cost-benefit analysis for climate change adaptation. Another work is focused on mapping wetlands in the trans-boundary river basin which provides baseline knowledge on connected areas of high value for biodiversity and seeks to support management and conservation interventions. The important topic on the societal demand for ES, due to the construction of an open-pit mining project in the semi-arid is analyzed using the well-known matrix approach. It produces

supply/demand maps which reveal a geo-spatial understanding of the ES, in the hypothetical judgments of the involved stakeholders. There is also a study on the role of mountain forest in the provision of a wide range of ES which uses a LPJ-GUESS Ecosystem Model to analyze carbon sequestration in mountain forests. It defines tendencies in the vulnerability and adaptive potential of the mountain forests. Another work focused on forest ecosystems deals with their ability to supply erosion control services. The investigators use field observations, direct measurements, and data of growing stock, basal area, and soil erodibility to assess the statistical relationships of soil properties and forest inventory data. The results show that the higher number of trees per unit area reduces the erosion rates. The book illustrates the great variety of themes the contemporary geography is dealing with. Most of them have real potential to contribute by smart spatial solutions to human well-being. The examples presented in the book cover case studies from Bulgaria and many other countries worldwide. The geographical scope of the studies ranges from the USA to Singapore and from Romania to South Africa.