Társadalomföldrajzi kihívások és adekvát válaszlehetőségek a XXI. század Kelet-Közép-Európájában

Nemzetközi Földrajzi Konferencia
Beregszász, 2016. március 31–április 1.

«Соціально-географічні виклики в Східно-Центральній Європі на початку XXI століття і пошуки адекватних відповідей»

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Social Geographical Challenges and Search for Adequate Answers in East-Central Europe of the 21st Century

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Збірник включає матеріали міжнародної наукової географічної конференції „Соціально-географічні виклики в Східно-Центральній Європі на початку XXI століття і пошуки адекватних відповідей”, що відбулася 31 березня–1 квітня 2016 р. у м. Берегове.

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A konferenciát és a kiadvány megjelenését a Nemzetstratégiai Kutatóintézet és a II. Rákóczi Ferenc Kárpátaljai Magyar Főiskola támogatta.

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THE CARTOGRAPHIC BACKGROUND OF THE NATIONAL ATLAS OF HUNGARY

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Absztrakt

MAGYARORSZÁG NEMZETI ATLASZÁNAK TÉRKÉPÉSZETI HÁTTERE
Szabó Renáta – Nemerkényi Zsombor

Magyar Tudományos Akadémia Csillagászati és Földtudományi Kutatóközpont, Földrajztudományi Intézet koordinálásával készül az új Magyarország Nemzeti Atlasza (MNA). Az MNA nemcsak papír alapú atlasz formában, hanem Magyarországon először webes interaktív atlaszként is meg fog jelenni, ezért webes, illetve papíron való megjelenítésnek is meg kell felelniük a térképeknek.
Kulcsszavak: Nemzeti atlasz, interaktivitás, weben való megjelenítés, nyomtatott atlasz

Most countries around the world have published national atlases, but only a few countries have published web national atlases. In the last two decades the traditional, printed national atlases pushed into the background because of the electronic versions. The electronic national atlases can contain a lot of multimedia elements. Over the last years, several national atlases were published as combination of hard copy with CD and interactive web versions. In this case, the national atlases published by Switzerland, Germany, Ukraine, Russia and the Netherlands have received international recognition.

Introduction

In 2013, the launch of the project of the Hungarian Academy of Sciences, the National Atlas of Hungary *(MNA)*, was an event of outstanding scientific significance, preparing a new edition both in a traditional paper and online format enhanced with interactive options. A major aspect of MNA's cartographic fundaments is the user-friendly character of the paper and the digital formats. Regarding the achievements of this project we can declare it is a unique venture not only in Hungary but also in the international cartographic school

The project provides a framework for the solution to the recently appeared cartographical issues that are particular challenges for the cartographers and geoinformatics engineers because the concurrent editing process of the paper and digital editions. It also offers the opportunity for geographers and for the related sciences to present of natural, social and economic circumstances of the Carpathian Basin.

Definition of the national atlas

A national atlas is a series of maps which shows the natural, economic and social conditions of a country. Ferjan Ormeling, who later became president of the International Cartographic Association, wrote the next definition: *"A national atlas portrays the detailed and differentiated image of the geographical attributes of a country in a defined sequence of maps."*

Stefan Huber and René Sieber described the national atlas just like *"The main point of bringing all the various types of spatial information together in a national atlas is to make sure that this comparison can be fruitful."*

The brief history of national atlases

The first national atlas was published in Finland in 1899. At the time the country was looking for freedom from Russian control. The second national atlas was prepared in Canada in 1906. At this time the country tried to leave the British Empire. After World War I, several countries published national atlases for example Egypt (1928), Czechoslovakia (1935) and Italy (1940). Because of the growing interest about national atlases, the International Geographical Union (IGU) created a Commission on National Atlases which congress held in Rio de Janeiro in 1956.

The Great Soviet World Atlas was available since 1937 and 1940. The Soviet Union thought about preparing a new national atlas in the late 1950s. The socialist countries also published one-volume national atlases (Czechoslovakia 1966, Hungary 1967, 1989, Bulgaria 1973, Poland 1978, Romania 1979, German Democratic Republic 1981). From the 1980s, publishers expended several smaller-size volumes. In this time the ratio of maps in the atlases was decreased, and the ratio of texts, photos and graphics was increased.

The increasing use around the world of personal computers transformed the atlas cartography. The first national atlas on the web was published by Canada in 1994. The next online national atlas was published by United States in 1997.

National atlases of Hungary

The first National Atlas of Hungary was published in the second half of the 20th century, in 1967. This was followed by a second edition in 1989. The maps pertained only to the territory defined by the state boundaries of the former Hungarian People's Republic. The editing of this volume was coordinated by the Geographical Research Institute of the Academy. Despite two decades of essential economic and social changes the Republic of Hungary has not yet published a new national atlas.

The Editorial Board and advisory councils of the new National Atlas of Hungary

The recent edition of the National Atlas of Hungary was launched by the Geographical Institute of the Research Centre for Astronomy and Earth Sciences of the Hungarian Academy of Sciences in 2013 (the last edition was printed in 1989) to prepare the atlas both in paper and in digital format enhanced with interactive options.

The editorial board was formed along with the designation of the subjects to be covered and the invitation of representatives of the respective scientific fields. Therefore, the project run in strategic coordination of Geographical Institute of the Research Centre for Astronomy and the research institutions and external centers of Hungarian Academy of Sciences.

The Cartographic Advisory Council and GIS Committee coordinate the aspects of dual-use (paper and digital format). Task of this committee is to develop the digital version from system design to interactive interface.

On the web the aim is that there will be opportunity to zoom to higher than 1:500 000 scales. The map also will be suitable to compare the SRTM elevation model and satellite images, and for further interactive analysis too. Besides the digital appearance the analog version is also very important for the available paper format.

The recent achievements

The *National Atlas of Hungary* (MNA) program is a unique undertaking in international cartography, producing an analog and GIS-based atlas in the same time which covers the entire discipline of geography. There is a great demand for a product available in printed format and in the same time as a user-friendly digital version based on the same cartographic sources.

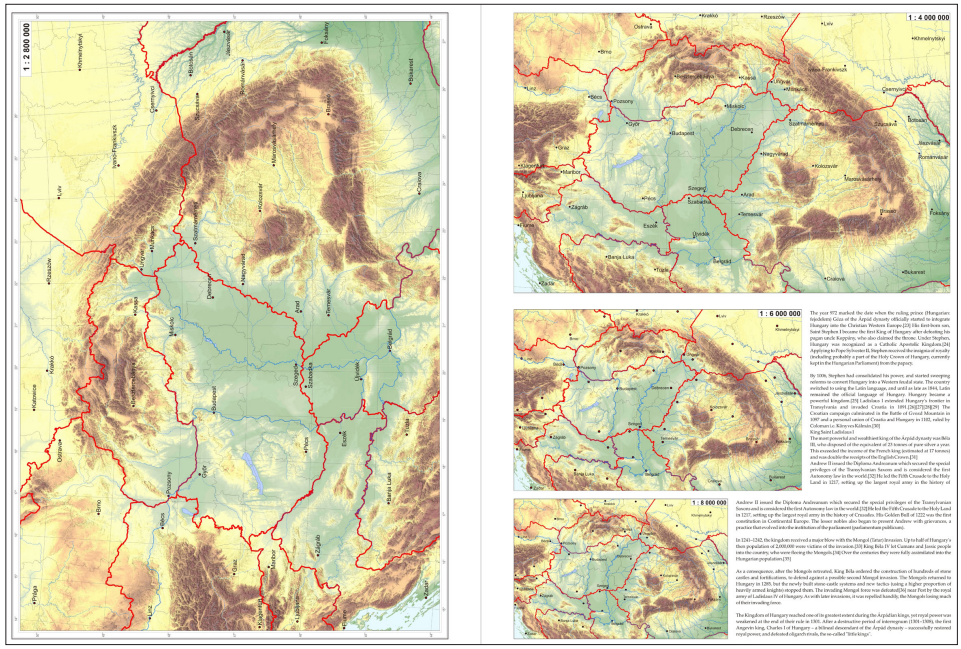
Base map

In the conventional atlas cartography – mainly in case of national atlases – it is a common method when the thematic content shows on island-like map (where only a selected area is mapped fully). On the contrary, the conception of the recent atlas editing is the maps in the atlas show the whole Carpathian Basin, not only within the boundary lines of the country (Figure 1). Depicted by location there is two type of map in printed version: one of them show the Carpathian Basin and the other represent Hungary. The scales of Carpathian Basin maps are as follows: 1: 1 800 000, 1: 2 800 000, 1: 4 000 000, 1: 6 000 000, 1: 8 000 000. The scales of the country maps are the next: 1: 1 000 000, 1: 1 500 000, 1: 2 000 000, 1: 3 300 000, 1: 7 000 000, 1: 4 500 000. On the web the aim is that there will be opportunity to zoom to higher than 1: 500 000 scales.

In the first step the base map will be made to paper printed format, but in this work phase also will be took into consideration the criteria of electronic version.

Figure 1

The map layout of the Carpathian Basin along different scales



Analog version

The paper printed format of the atlas include the most important thematic. Display of text and picture is modern, readable and informative. The analog format shows the geography in four volumes.

Thematic contents of the National Atlas of Hungary

Nowadays the geopolitics is very important. It examines the economic and politics role of a country. This provides a basis for *"The state of Hungary and its place in the world"* first volume. This volume presents geographical setting of Hungary, general geographical environment, historical geography of the state, role of Hungary in the world economy, cross-border relations and international partnership.

"Natural environment" is the second volume. This volume displays natural environment of Carpathian basin.

"Society" is the third volume. This volume shows demographic processes, migration, demographic synthesis and prognosis, living conditions and life in Hungary.

"Economy" is the fourth volume. The electronic version of this volume is very important because of these themes show the most changing process. This volume presents economy, agriculture, industry, transport, domestic and foreign trade, tourism, finances, education, science, research and development.

Electronic version

The main achievement of this project is – beside the traditional analog format appeared on paper or in DVD – the online edition furnished with interactive features. To carry out the project one of its greatest challenges is the editing of products in various technologies on a single source map.

Concidering the international antecedents in the family of national atlases, map users prefer the so-called *„dynamic – interactive – predetermined"* format as a licensed application most extensively. It means that the readers get a map generated on the basis of a database on their own tools, where they can run limited types of searches.

The electronic atlas is not static not like analog format. On the web National Atlas of Hungary there are place to collect the national significances, community information, local historical data and memories.

User-center cartographic information structure, the spatial-related information build up is the key of an interactive mapping system.

The fast spreading of the latest communication tools changed the user habits which can not be ignored neither in the cartography nor in the GIS-developments. These expectations have to be considered during the production of the new atlas. In the case of MNA, we examine its extension to enhanced the system to be capable of receiving data from the user's side. Thus the project leader will create the possibility of involving the user – in controlled circumstances – in the circle of data providers. It will also make the MNA Digital more popular, rich in its content, and up to date.

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