

BOOK REVIEW SECTION

Kocsis, K., Gercsák, G., Horváth, G., Keresztesi, Z. and Nemerkenyi, Z. (eds.): National Atlas of Hungary Vol. 2: Natural Environment. Budapest, Hungarian Academy of Sciences, Research Centre for Astronomy and Earth Sciences, Geographical Institute. 2018. 183 p.

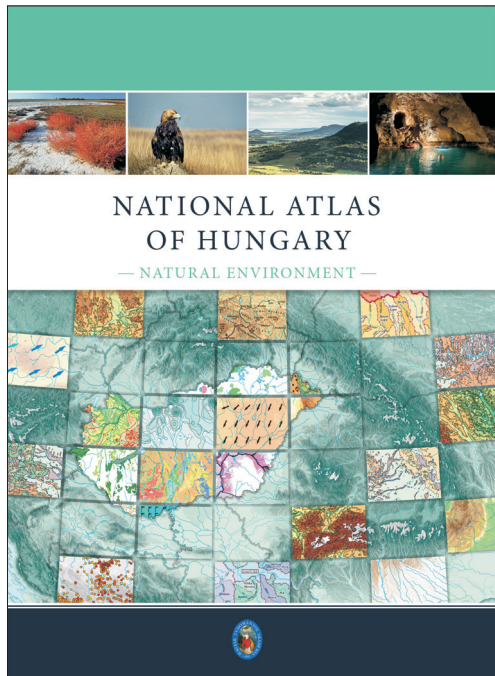
The current volume is Part 2 of the new “National Atlas of Hungary”, and the first volume that has been published out of the four volumes, for Part 1 (*The Hungarian State and Its Place in the World*) will arrive later. Part 3 (*Society*) comes next, very likely in 2019, and Part 4 (*Economy*) is also to be published soon, before Part 1. A digital version will accompany the hardcopy of each volume, which will be distributed in two editions, Hungarian and English.

The list of editors and authors reads like a ‘Who is who?’ in Hungarian geography and cartography. At the top is Károly Kocsis, director of the Geographical Institute of the Hungarian Academy of Sciences, who is well-known for his previous atlases and other map works. Leading contributors also include László ZENTAI, head of the Department of Cartography and Geoinformatics at Eötvös Loránd University and secretary general of the International Cartographic Association (ICA), as the head of the cartographic

advisory committee, and István KLINGHAMMER, an outstanding representative of Hungarian cartography, as honorary president of the editorial board.

The current four volume project constitutes the third generation of national atlases in Hungary after the first such work in 1967, edited by Sándor RADÓ, and the second atlas in 1989, which was edited by Márton PÉCSI and was later complemented by additional maps. Actually, one can also consider it the fourth generation if counting András RÓNAI’s “Atlas of Central-Europe” from 1945 as a national atlas. Thus, Hungary might be the only country in Europe where so many national atlases were created since World War II. What is the explanation for that? Firstly, Hungary owes a very robust and devoted scientific community as well as outstanding researchers in geography, cartography and related fields. Secondly, the country has undergone several significant political changes in these decades, which required that cartographic representations of the country were frequently updated. Thirdly, there is a feeling of necessity to present Hungary to its own public as well as to the outside world, perhaps due to the country’s fundamental political ruptures since World War I, the extreme temporal changes of the country’s role among the nations of Europe, its reduction to the core of a larger nation and (even more so) territory, and, in consequence, its delicate geopolitical position in this part of Europe. As Károly Kocsis in his preface rightfully writes, national atlases are not only scientific outputs, but also national symbols. They present an image of the self that will affect and strengthen the consciousness of the country’s population and shape the image of the country on the international scene, especially if the atlas, just like in the current case, also appears in a global language.

Who have already edited an atlas themselves know that editing atlases is the most demanding challenge in cartography. Contributors have to develop a comprehensive concept; find authors for the individual maps (137 units in the case of this volume); systemise and coordinate map and text manuscripts; provide for, if possible, distinct, innovative and also harmonious cartographic solutions appealing for potential readers; and, last but not least, they have to achieve the widest possible dissemination. In case of an English edition of an original work in a different language, as it is the case here, the editors also have to organise that native speaker scholars translate all ti-



ties, texts and legends, whereas the authors also have to check geographical and cartographic terminology.

The volume incorporates 13 chapters. Each chapter has its own colour code, and chapter numbers at the page margin as well as the numbering of maps and references to individual maps in the text also facilitate orientation. Contrary to the traditional concept, this atlas provides much more than a collection of maps. Maps catch the reader's eye, so they are dominant parts of the atlas, but detailed texts as explanations to the cartographic material constitute a much larger part of the volume than usual, and the plenty of very indicative photos also forms a crucial part of the project. A total of 33 maps represents the Pannonian or Carpathian Basin in the scale 1:800,000, going as far as Cracow [Kraków] in the North, Iași in the East, Zenica (Bosnia and Herzegovina) in the South and Linz in the West. Another 28 maps of Europe display Hungary in an even wider spatial context. Hungary as a cartographic island is represented in the scales of 1:1 million, 1:1.5 million, 1:2 million, 1:3.3 million, and sometimes even smaller. In addition, the atlas contains case study maps in larger scales. It is the editors' obvious intention not to show Hungary as an island, but to embed it into its wider neighbourhood, to which it was historically so closely connected, with which it has its intimate relations up to the present day, and with which it is, of course, also interwoven in terms of natural conditions. What would be the informative value of a drainage map or a map of natural landscapes confined to modern Hungary?

Cartographic design is excellent and very appealing as one can expect from Hungarian cartographers. Hill shading is decent, but applied not with many maps. In my experience, however, the fear of many cartographers that such shading makes more difficult to distinguish between areal colours is not a justified one. Hill shading in neutral grey never has a negative impact on visual distinction, while relief is important for the interpretation of almost all geographical topics, not the least those related to the nature sphere.

Place naming is always a challenging issue for national atlases targeting an international audience. An atlas with map titles, map legends and texts in more than one language can only work with endonyms, since multiple exonyms of all the languages applied would overburden the map face. With English as the only language of publication, like in the case of this atlas, a possible choice is to apply English exonyms. Taking this approach, the current atlas uses English exonyms for populated places, where they are available, in addition to the endonym. In minority areas with a minority's share of above 10 per cent the maps also provide additional endonyms from the minority language. Usually, only the English exonym is depicted to country names, names of natural features (e.g. relief and waters) and landscapes (with some exceptions), if such an exonym exists. In other cases, one or more endonyms are used.

This is a reasonable approach for mapworks for an international English speaking audience.

Thematically, the current volume of the new atlas pays more attention to flora and fauna, nature conservation and landscapes compared to earlier national atlases of Hungary. Beyond this general feature, I can only highlight a couple of examples among the many topics the atlas embraces.

Chapter I (*Hungary at a glance*) offers a short introduction to Hungary's overall structure and situation in three pages, including a map of the country's administrative divisions (regions, counties and districts) as well as a geographical map of the 'Carpatho-Pannonian Area' with an impressive relief representation and detailed naming. It was, however, not a good idea to stretch the relatively small letters of a short name like 'Alföld' to such a length that the distance between individual letters is four centimetres. It is possible only by chance to identify this name amongst a jungle of traffic lines, rivers and other names. Would not it have been more consistent (and helpful in terms of visibility) to also use here the English exonym ('Great Hungarian Plain') – certainly along with 'Kisalföld' ('Little Hungarian Plain')? Would not it have even corresponded to the naming principles of the atlas only to apply the English exonym for landscapes? At this point it deserves to be mentioned that the editors obviously use the designations 'Carpatho-Pannonian Area' and 'Carpatho-Pannonian Region' to avoid the terms 'Pannonian Basin' and 'Carpathian Basin', which, according to editor-in-chief Károly Kocsis, have a well-defined meaning. Namely, the 'Pannonian Basin' marks the natural feature of the basin between the Alps, the Carpathians and the Dinarides, while the 'Carpathian Basin' describes ("without irredentistic connotations") "the historical-cultural homeland, the autochthonous settlement area of Hungarians, in fact, the historical territory of the state" (p. 12). Nevertheless, some maps depicting purely natural features also refer to "the Carpathian Basin" in their titles (p. 111, p. 113).

Chapter II (*Geology*, 20 pages) comprises stratigraphy, tectonics, petrography, energy and mineral resources, water aquifers and thermal waters. The map of engineering geology is rather exceptional for showing compressive strength of the ground as well as waste heaps and tailing ponds of mining sites and power plants.

Chapter III (*Geophysics*, 6 pages) highlights, among others, occurrences of earthquakes between the years 456 and 2014 in the Carpathian Basin. Concentrations are not so much in Hungary, but in Friuli, the upper Save area and the Dinaric Range in Slovenia and Croatia, the southern part of Romanian Moldova, and the southern area of the Vienna Basin.

Chapter IV (*Relief*, 16 pages) is very much based on the works of the late Márton Pécsi and starts with a 1:50,000 scale map of the geomorphology of Budapest,

where the network of main streets enables a very good comparison with current urban structures. It impressively shows the exposed, but at the same time safe, frontier location of Buda. Maps like “Terrain types of the Carpatho-Pannonian Area” demonstrate the benefits of the redundant numbering of categories which otherwise are marked with areal colours for safe map reading.

Chapter V (*Climate*, 12 pages) compliments the conventional thematic range with maps on expected future temperature change and seasonal precipitation change up to 2100. Long-term courses of temperature and precipitation are also very indicative of climate change.

Chapter VI (*Waters*, 12 pages) starts with a scheme of Hungary’s water balance, which visually quantifies surface water entering and leaving the country, precipitation, evapotranspiration, direct surface runoff, infiltration into subsurface aquifers etc. Also very interesting is a series of small maps on the formation of watercourses in the Carpathian Basin, showing development since 4.5 million years ago, when Danube and Tisza flew into the Pannonian Lake, through the Pleistocene, when the Danube crossed the recent Danube–Tisza interfluvium south of Budapest and the current location of the town of Szeged, up to a last stage before the contemporary pattern of watercourses emerged, when Danube as well as Tisza flew east of their current beds. Besides, the reproduction of a 1938 map is also very illustrative as it shows areas exposed to flooding in the Carpathian Basin before flood control and drainage works started. It is impressive to see that, especially in the Great Hungarian Plain, roughly half of the territory was subjected to occasional floods.

Chapter VII (*Soils*, 12 pages) contains a very instructive scheme of the typical soil top sequence of the Carpathian Basin with a curve of soil depths from higher to lower altitudes above sea level, with the profiles of typical soil types and pictures of the adequate scenery. There also are maps about land quality (soil bonitation values) as well as physical and chemical parameters of soils, with texts on their origin (natural vs. anthropogenic) and impact on agriculture.

Chapter VIII (*Vegetation*, 10 pages) starts with a map from Harald NIKLFELD’s “Atlas of the Danubian Countries”, which depicts the natural potential vegetation, i.e. the vegetation that would presumably develop if humankind abandoned land use. Three maps on habitat diversity of vegetation regions interestingly demonstrate that the saline grasslands and nearby natural floodplains of the eastern lowlands show at a small overall diversity, but an intensive variation on the spot, whereas in the hilly and mountainous regions it is rather the other way round. Further innovative topics are the naturalness of forests and vegetation regions as well as the share of abandoned lands by vegetation region.

Chapter IX (*Animals*, 8 pages) presents several maps of Europe (and beyond) about the distribution

of certain species also occurring in Hungary. In addition to these elementary-analytical maps, the chapter also provides synthetic maps of zoogeographical regions and faunal districts.

Chapter X (*Landscapes*, 18 pages) focuses inter alia on stability of land cover (or land cover changes) between 1990 and 2012 in Hungary. As it indicates, the most remarkable change in this period was the conversion of large areas of arable land to forests and close-to-natural areas. The 1:1.8 million map “Taxonomy of natural landscapes in the Carpatho-Pannonian area” at three levels is a most impressive one, and a successful attempt to harmonise various classifications of the wider area.

Chapter XI (*Environmental protection*, 14 pages) employs long time map series to reveal that the concentration of main air pollutants like sulphur dioxide or nitrogen dioxide has decreased since the Communist period, when Hungary belonged, especially due to its industrial belt in the North, to the countries with the highest air pollution in Europe. Still, there is a substantial amount of free of charge emission allowances as the map shows by industrial branches.

Chapter XII (*Nature conservation*, 12 pages) addresses various forms of nature protection. It also includes a double page about the most typical habitat types of the Pannonian Biogeographical Region as well as animal and flower species “of community interest”, which the authors present through photos, maps on geographical spread, and explanatory texts. Presentations like these are very likely to remain in the mind of a wide range of readers.

The final Chapter XIII (*Natural hazards*, 12 pages) shows that the part of Hungary east of the Danube is the most endangered, and that floods and droughts are the most important reasons for that.

A list of authors by map, a bibliography, a list of sources by chapter, and a list of figures, tables and pictures, along with English exonyms and all corresponding endonyms, complete the volume. In some cases, the list of place names exceeds even this range of categories, when it, for example, mentions the German and Czech names for the Pre-Carpathians in Poland and Ukraine. It would, however, also be convenient to see the names of map authors in every map (not only at the end of the volume), perhaps in the right lower corner of the map field. One automatically would like to see the author(s) of synthetic maps like “Taxonomy of natural landscapes in the Carpatho-Pannonian area” (pp. 122–123), which very much are constructs depending on scientific perspectives, and it is annoying to find the author names only in a list at the end of the volume.

An overall evaluation of the first volume of the new national atlas of Hungary can only be very, very positive. Today, macroregional, national, regional, city and thematic atlases in both print and digital versions are very likely to receive the widest public attention

and recognition among all outputs of geography as a science – in cooperation with cartography –, for many consider regional geography texts outdated, and geography has diversified into very specific fields producing highly specialised outputs. Yet, with the significant share of texts and pictures this volume of the National Atlas of Hungary shows that it has inte-

grated the functions of a written regional geography, and perhaps replaced it as well. Maps, also the dominant means of communication in this volume, have the benefit of urging systematic thinking while they provide a complete and homogenous coverage of the area. Therefore, one can expect the next volumes of this atlas series with great anticipation.

PETER JORDAN¹

¹ Institute of Urban and Regional Research, Austrian Academy of Sciences, Vienna, Austria.
E-mail: peter.jordan@oeaw.ac.at