# Creation of a new geopark in the Bükk Region (Hungary) – a bottom-up initiative

**Csaba Baráz[1], Sándor Holló[1], Tamás Telbisz[2]**

[1] *Bükk National Park Directorate, 3304 Sánc u. 6, Eger, Hungary; e-mails: eger.barazcsaba@gmail.com, HolloS@bnpi.hu*
[2] *Department of Physical Geography, Eötvös University, 1117 Pázmány Péter 1/C, Budapest, Hungary; e-mail: telbisztom@caesar.elte.hu*

**Keywords: geopark, geodiversity, geotourism, cultural heritage, landscape character**

**Introduction:** Due to the increasing awareness about geoparks, some mayors in the Bükk region initiated the creation of the third geopark of Hungary, hence it is a nice example of bottom-up initiatives. At present, Hungary has two UNESCO Global Geoparks, the Novohrad-Nógrad Geopark and the Bakony-Balaton Geopark. While the first is managed by an independent non-profit organization, the second works hand in hand with the Balaton Uplands National Park. The Bükk Mts are basically a national park, but there are many valuable geosites in the wider Bükk region, which are outside the territory of the national park. The Bükk region has high geodiversity, thus it is a sample area of Hungarian geodiversity research. The rich geological heritage and the bottom-up initiative provide a perfect base for the creation of a new geopark.

**History of the initiative:** On June 20th, 2017, after some preliminary negotiations, there was a meeting in Felsőtárkány for the mayors of settlements in the Bükk region to officially initiate the foundation of the Bükk Region Geopark. Mayors of 105 settlements signed a declaration, and they asked the Bükk National Park (BNP) Directorate to elaborate the scientific documents, coordinate the process and carry on the operative tasks. At present, the elaboration of these documents, delineation of the areal extent, designation of geosites (459 are in the list), and the outlining of management structure is in progress. According to the plans, the scientific leadership will be the task of the Bükk National Park similarly to the Bakony-Balaton Geopark.

**Location of the planned geopark:** The Bükk Mts are found in the North Hungarian Mts, which

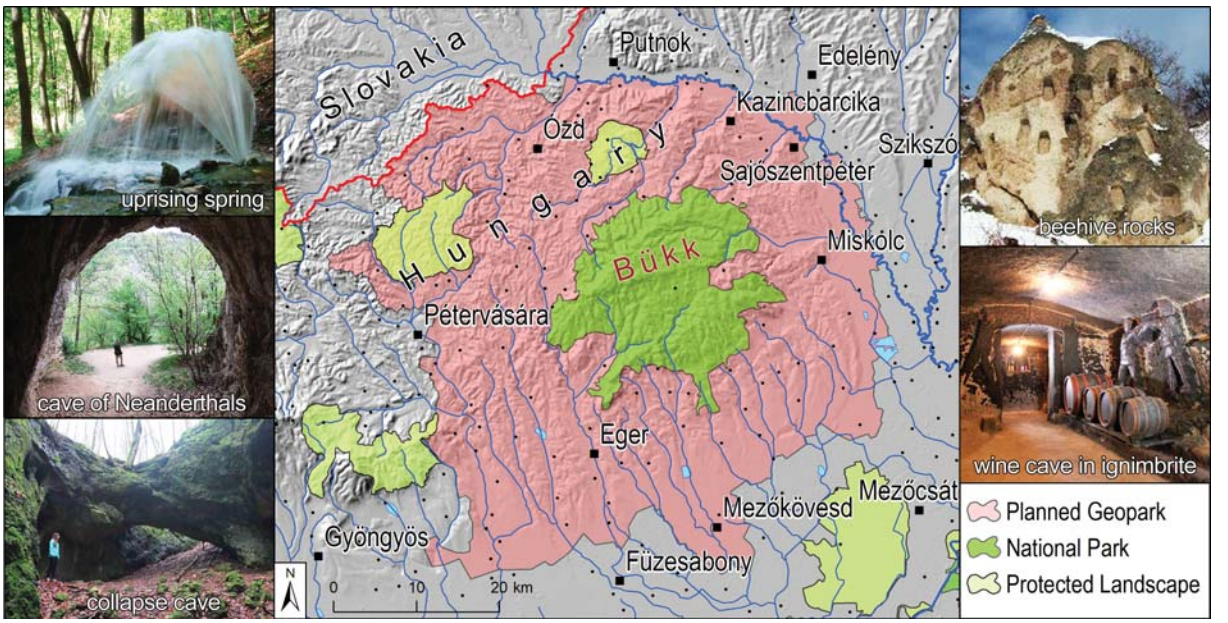


*Fig. 1. Map and some images of the planned Bükk Geopark.*

are the southernmost part of the Northwestern Carpathians. In the north and west, the Bükk Mts are surrounded by rugged hills. In the east and south, the topography gradually lowers towards the Sajó river valley and towards the Great Hungarian Plains. The Bükk region includes not only the mountains but the surrounding hilly areas and piedmonts as well. The planned geopark would cover roughly the whole Bükk region, a much wider area than the present national park. The Bükk region is highly diverse from geological, geomorphological, landscape and cultural viewpoints. Altogether, 108 settlements and 2817 km$^2$ would become part of this geopark.

**Characters of the planned geopark:** The high (geo)diversity of the Bükk region is briefly presented here according to its four main characters:

(1) Geological character: the Bükk Mts and the adjacent Upponyi Mts at its northern side are characterized by fold-and-thrust structures, which have mainly formed during the Cretaceous tectogenesis. The rocks are mostly of Ordovician to Jurassic age. Predominant rock types are Triassic limestones, but there are many interesting smaller geological formations, such as Jurassic pillow lavas in the South Bükk. The hilly areas around the Bükk are rich in Tertiary and Quaternary sedimentary rocks, but volcaniclastics related to large explosive Miocene events are also widely distributed.

(2) Geomorphological character: the Bükk Mts are rich in karst phenomena. Surface karst features are mostly formed on Triassic limestones. There are two plateaus with karrenfields, sinkholes and stream sinks. The plateau margins have spectacular rockwalls, and at their bottoms, springs and different forms of travertines are found. The Bükk Mts exhibit the highest number of caves in Hungary, there are 1300 caves in the cave cadaster, including 52 specially protected sites. Caves with large entrance halls are typical in the area that have provided good shelter for prehistoric people. There are 46 caves with archeological material.

(3) Hydrogeological character: there is a connected large hydrodynamic karst aquifer within the carbonate rocks of the Bükk region. The recharge area is basically the higher, karstified terrain of the Bükk Mts, but the carbonate rocks have a subsurface continuation below the hills around the mountains, and even below the young rocks of the Great Hungarian Plains. Hence, the infiltrating water moves within this aquifer from the mountains towards the lower areas and it uprises along natural faults or artificial wells as thermal water. This the reason for the famous spa locations (*e.g.* Cave Bath of Miskolctapolca or Eger thermal springs).

(4) Cultural character related to geology: The Bükk region is rich in historical and architectural monuments, *e.g.* the aforementioned caves of prehistoric people. It is also noted that the Bükk Mts were the cradle of Hungarian prehistoric people research. Several objects of paleolithic or neolithic cultures have been preserved at these sites. Later in history, there was iron ore mining and quarrying in the Bükk region, and several related industrial monuments are preserved. In the southern piedmont, there are lots of beehive rocks, whose origins are still not perfectly understood, and ignimbrite rocks were highly appropriate for the creation of cellars used for wine production, but there are also cave flats, which were inhabited up to the 20th century.

**Suggested geosites:** At present, there are 459 suggested geosites in the list, mostly caves, artificial caverns, but protected geological outcrops are also abundant, and it is noted that there is an ongoing project to clean and secure these outcrops. Further on, beehive rocks, exogenic karst features and industrial monuments related to mining and quarrying are also in the list.

**Conclusions:** The Bükk region is much larger than the Bükk National Park, and it is a highly variegated area from geological, geomorphological, biological, landscape and cultural viewpoints. The Bükk region has good availability, two large cities (Eger and Miskolc) are at the outskirt, and even the capital, Budapest is not far away. The present tourism is already significant, but the geopark may increase the awareness of tourists. In addition, by joining the UNESCO Global Geopark network, the international reputation can be also improved and potentially, geotourists would arrive here from other countries. So, we hope that this bottom-up initiative will become a success story.

*This publication is supported by the research project No. 124497 of the National Research, Development and Innovation Office, Hungary.*