



Environmental sensitivity of Hungarian karsts

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Besides the research of the classic karst-genetical and morphological problems these days there is an increased emphasis on the research of the effects of environmental factors on karsts. As it is widely known, the most important characteristics of karsts are their ability to drainage and store water and their role as water resource. These are also the most important risk factors concerning karst areas. Pollutants soon get into the system with the infiltrating waters; pollution and karst water level decrease phenomena have long been observed in karsts. This fact in itself verifies the complex investigations carried out on these extremely sensitive 3-dimensional-interfaced structures.

The reasons of changes within the karst system can mostly be found in the anthropogenic activities on the surface. The different land use characteristics of the karst surface i.e. agriculture, industry, settlements, tourism, and recreation affect the dynamics of the karst to a different extent. For example acid deposition changes soil properties that play an important part in karst corrosion, such as pH, nutrient balance and heavy metal stress. The consequent change in karst vegetation may result in the change of organic matter quality in the soil. All these changes have an impact on the quality of infiltrating waters and therefore endanger the springs serving as drinking water supplies. Pollutions also damage the caves. Since 1961 all caves are under protection in Hungary. 132 of our caves are strictly protected.

Thus the elements of the karstecosystem (Bárány-Kevei 1998) have multidirectional relationships. To define these is an important current scientific issue because this knowledge is the key to the sustainable use of karsts in the future.

The presentation shows some negative impacts on the karst environment, which in the long run might result in irreversible damage on these sensitive systems.