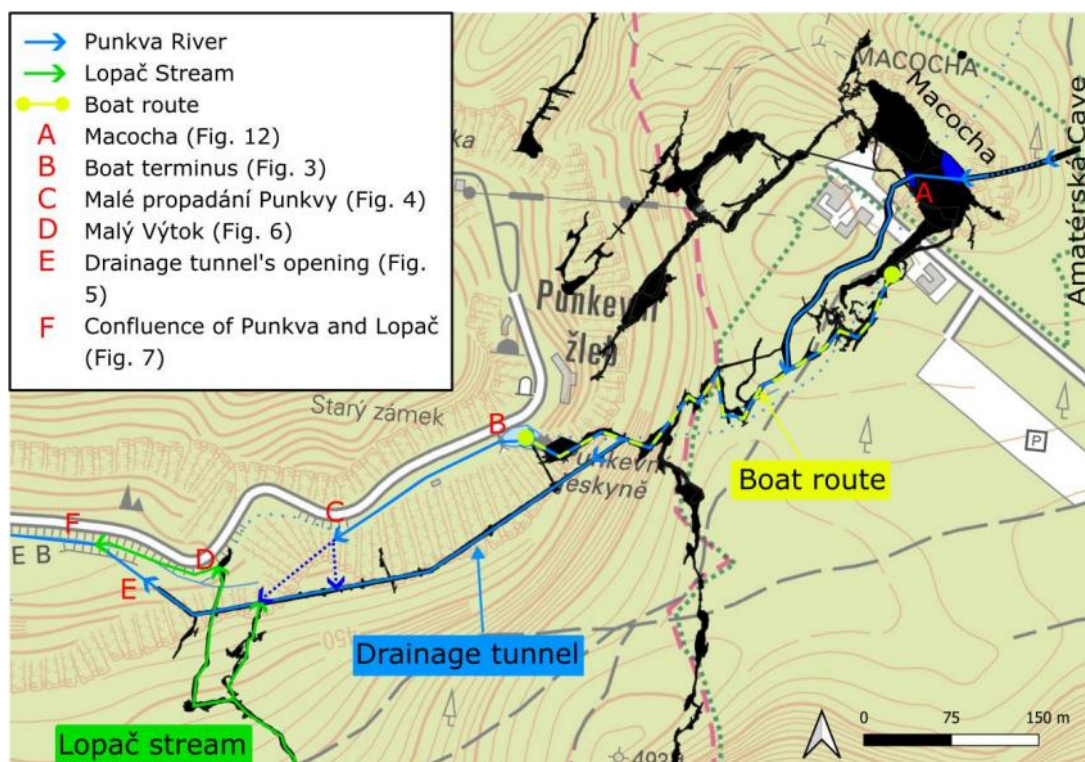




Country	MIKAS springs	Coordinates / Nearby City	Spring discharge (Q in l/s,min/av/max) / tapped or not	Criteria* in order / Main justification */ H-historic, A-aesthetic, S-scientific, E-Economic, Ec-ecologic	Data collected by
Czech Republic 	1. Punkva (vývěr Punkvy)	N 49,370678° E 16,725721° Z = 342 m asl Moravský kras, Vilémovice, Svitava River / Morava River	114/827/45300 Not tapped. Punkva stream enters to Punkva valley, where several fishponds are located. More downstream reaches Svitlava River, the main tributary of Morava River.	H, A, E, S, Ec <i>Punkva drains light grey limestones of the Macocha Formation of Early and Middle Devonian age. Surface area is c. 150 km². Punkva underground stream crosses 138.4 m deep Macocha Abyss, with two lakes at its bottom. The freshwater spring is of ascending – vauclusian-type, its orifice is an artificial gallery to which the original conduit was converted. Punkva Cave is a part of longest Moravian karst underground system Amatareska which is 40 km long. The Macocha Abyss was first mentioned in written documents in 1663. In 1855, the priest Jan Nepomuk Soukop, wrote a poem about Macocha, and three years later, he also wrote the first travel guide to the Moravian Karst: “Macocha and its surroundings.” The Macocha was artificially modeled with the help of the Czechoslovak army in 1920-1933. Explosives were used to open some siphons, and a 447 m long drainage tunnel was built to regulate the water flow.</i> <i>Few groups of species, classed according to their level of adaptation to life in caves, have been distinguished in the water of the underground Punkva river: Troglabionts - important are springtails and mites. The underground water stream and biota connected directly to water are protected as a Ramsar Site 1413 - Punkva subterranean stream. The surrounding area falls under the Protected Landscape Area (CHKO) Moravský kras (96.8 km²). It is specifically protected by the National Nature Reserve Vývěry Punkvy (5.55 km²) established in 1933. Vývěr Punkvy spring is nowadays an important tourist point, with organized boat trips entering the underground of the Punkva Cave systems as the single show cave in Czechia.</i>	Petar Malik

MIKAS – Punkva (vývěř Punkvy)



A map of the Punkva Caves system, the boat route waterway and the built regulation waterworks.



Vývěř Punkvy spring in the Moravian Karst is the point where the river Punkva leaves the Amatérská Cave system. On the left is the terminus with boats stationed after the underground trip along the Punkva River. The water part of the tour begins at a dock near the bottom of the Macocha abyss. On the right is the entrance to the service tunnel for the floodgate in the drainage tunnel, which regulates the waterway (photo by Pavel Pracný).



The drainage tunnel's terminal opening, where the Punkva River's underground flow ultimately reaches the surface (Photo by Antonín Tůma, archive of the Nature Conservation Agency of the Czech Republic).



Gauging station on the Punkva River in the Moravian Karst operating since 1923. In the background, the confluence of the Punkva River outflow from the drainage tunnel (photo by Peter Malik)



Bottom of the Macocha Abyss from the lower viewpoint. The upper lake is visible on the left side of the photo, and the smaller Lower lake is not visible from this vantage point. In the background is the walkway that descends away from the abyss and goes towards the boat harbour (photo by Pavel Pracný).