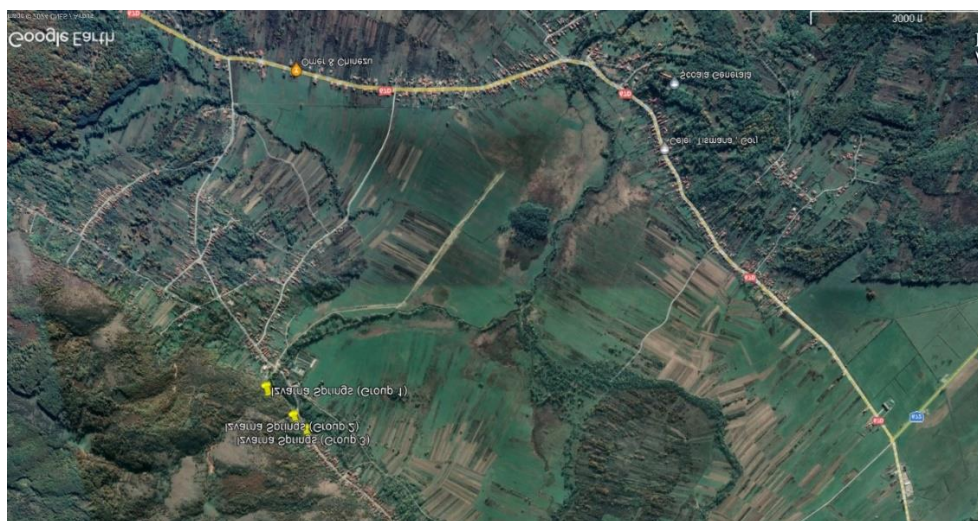


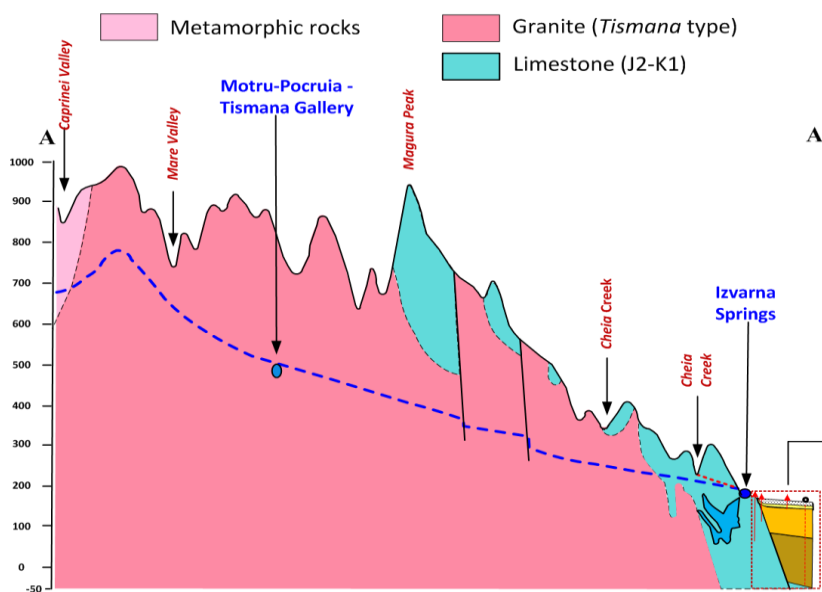
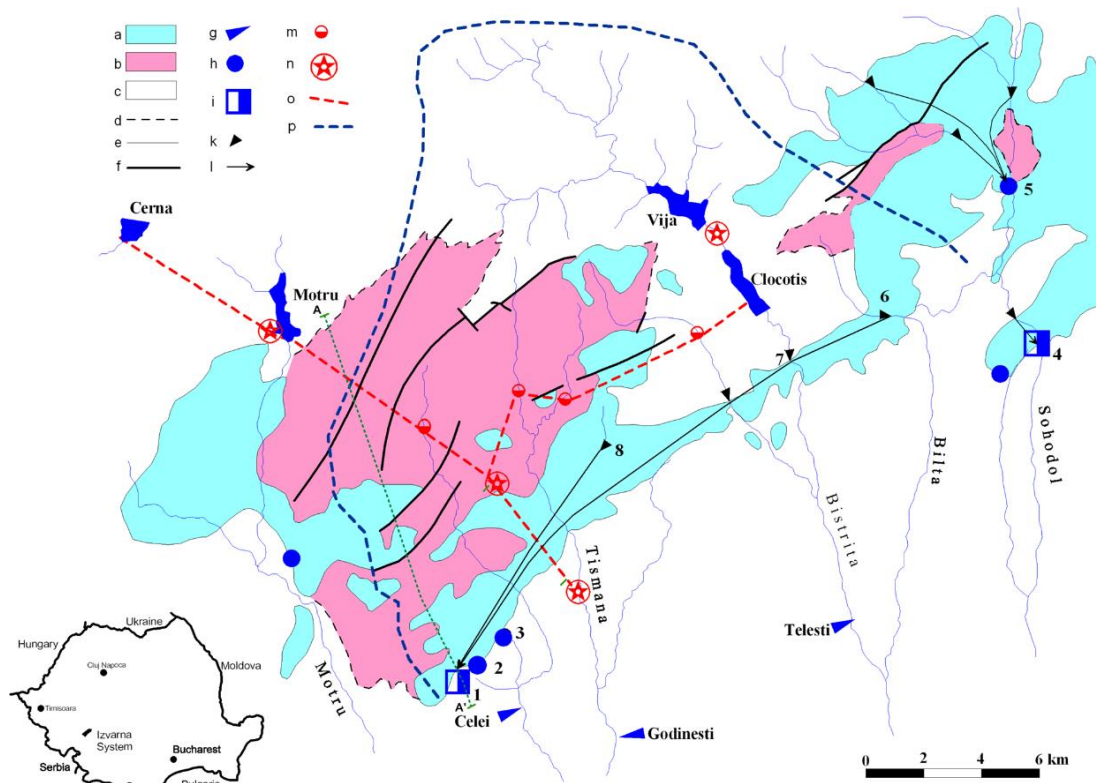


Country	MIKAS springs	Coordinates / Nearby City	Spring discharge (Q in l/s,min/av/max) / tapped or not	Criteria* in order / Main justification */ H-historic, A-aesthetic, S-scientific, E-Economic, Ec-ecologic	Data collected by
Romania 	1. Izvarna group of springs	N 45° 1' 23.50" E 22° 53' 51.93" Z = 202 m asl Gorj County, Izvarna-Celei Villages, Orlea River basin	720/1570/4760 Tapped and supply water to city of Craiova. Large building hosting the intake room (600m ²), with two compartments surrounding the main group of artesian spring and a gallery collecting the water of second group of springs. Distribution system consists of the two pipelines of 1m in diameter and around 120 km in length to the Municipality of Craiova.	E, S, Ec, H, A <i>The group of springs drains long and elongated strip of Middle to Lower Cretaceous limestones dissected by numerous surface streams intimately associated with granite bodies. Total catchment of c. 270 km². The three group of springs are: 1. Costeni – the main intake leading to the main pipe; 2. Gorgani is connected to the main tapping structure through an underground gallery of 190m that is collecting numerous smaller springs (of around 0.4 m³/s). 3. Mill is still freely flowing downstream representing the ecological flow of the whole system supplying also a trout nursery. It is main source for about 350.000 inhabitants. Izvarna springs belong to complex binary type of aquifer (coupled karstic-granitic) with a particular hydrodynamic behaviour (discharge fluctuation spanning over two or more hydrologic years). Spring water represents the main discharge contribution in the upper reach of Orlea River. Water is of high quality, low mineralized and only chlorinated before distribution to consumers. The main threat is related to the amount of spring discharge that is affected by the Hydropower System of Cerna – Motru – Tismana in the upstream catchment.</i>	Adrian Iurkiewicz

MIKAS – Izvarna group of springs



Google Earth image with pinned Izvarna Springs



Izvarna Karst System map and cross-section (modified from Iurkiewicz)

(a) Limestone, (b) granitoids, (c) metamorphic or sedimentary rocks (mainly impermeable), (d) discordant geologic boundary, (e) geologic boundary, (f) fault, (g) hydrometeorological station, (h) karst spring, (i) spring intake structure, (k) swallet (ponor), (l) proved underground drainage, (m) surface stream intake/storage, (n) hydropower plant, (o) water transport galleries, and (r) A-A', hydrogeologic cross-section); Karst springs: 1, Izvarna (tapped); 2, Mill; 3, Bolborosu; 4, Sohodol (Valceauna, tapped); 5, Picuiel (group); swallets (ponors); 6, Balta Creek; 7, Bistrita Valley; and 8, Pargavu Creek.



Main building of Izvarna intake structure hosting the two basins tapping the ascending springs of Group 1 - Costeni (photo by Carlan Constantin)



Intake basins for Group 1 – Costeni (photo by Carlan Constantin)



Old mill at Izvarna spring course (www.alpinet.org)