hardness testing and time-lapse photography. Such a field experiment approach provides an ideal way of testing links between climatic and environmental variables and stone deterioration and validating output from numerical modelling approaches (such as Hydrus, which has been used in this project). Further observations of moisture regimes and decay features have been made from CWG stones within cemeteries near our experimental sites.

Hand held resistivity and capacitance probe surveys, in conjunction with electrical resistance tomography, provide detailed, spatially-resolved data on moisture distributions which can be compared with mapping of the nature and severity of decay and monitoring of surface water patterns from time-lapse photography. Here we show direct evidence of damp conditions (both surficial and deep-seated) at the base and top of gravestones, associated with two types of deterioration, with a drier central area characterised by less weathered stone. Decay surveys indicate extensive surface damage within the upper parts of the gravestones, and considerably less damage below this.

The structural-metallogenic maps of ore districts of F.Y.R.O. Macedonia

Volkov A. V.[1], Serafimovski T.[2], Alekseev V.Yu.[1] and Tasev G.[2]

[1]Institute of geology of ore deposits, petrography, mineralogy and geochemistry of the Russian Academy of Science, IGEM RAS
119017, Staromonetny per., 35, Moscow, Russia, tma2105@mail.ru
[2]University "Goce Delcev"- Stip, faculty of natural and technical sciences of Institute of Geology, Goce Delcev 89, 2000, Stip, F.Y.Republic of Macedonia, todor_s2000@yahoo.co.uk

The metallogenic characteristics, tectonic setting, and structure of F.Y.R.O. Macedonian territory, Kozuf-Aridea and Kadica-Bucovic ore districts and its specific formation features are discussed in this paper on the basis of new results and data obtained by previous investigations. The interpretation of satellite images and morphostructural analyses were employed successfully for revealing the ore-concentrating structural features. The tectonic elements of the present-day topography were marked out and compared with the structural features that existed during the period of ore formation. The use of the present-day structural landforms of F.Y.R.O. Macedonia for reconstruction of the tectonic elements of ore-bearing periods became possible after substantiating their inherited evolution. The ring structure occupies a special position in southern F.Y.R.O. Macedonia and ore districts are controlled. Geological, geochemical, and morphostructural attributes allow interpretation of this structure as a center of long-term endogenous activity that evolved since the Jurassic-Cretaceous time.

Cretaceous magmatic evolution of the Srednogorie Zone (Bulgaria) and the continuous evolution into the Rhodopen Massif (Bulgaria, Greece)

von Quadt A.[1], Peytcheva I.[1,2], Sarov St.[3] and Heinrich C.A.[1]

[1]Institute of Geochemistry and Petrology, ETH Zurich, Clausiusstr. 25, Switzerland, vonquadt@erdw.ethz.ch
[2]Geological Institute, Bulgarian Academy of Science, 1113 Sofia, Bulgaria, peytcheva@erdw.ethz.ch
[3]Research Institute "Geology and Geophysics" Corporation, 23 Sitnyakovo Blv., 1505 Sofia, Bulgaria

The Apuseni–Banat–Timok–Srednogorie (ABTS) belt of extensive calc-alkaline magmatism and Cu–Au mineralization is related to the subduction of the Tethys ocean beneath the European continental margin during the late Cretaceous time. Major economic porphyry-style and high-sulphidation ore deposits are restricted to certain segments along the belt and are aligned on the Panagyurishte corridor (Central Srednogorie) in Bulgaria and the Timok region in Serbia. The resent study reviews the geology, geochemistry and geochronology of igneous events in the Srednogorie/Timok Zone, some features of the related Cu-Au mineralization and the continuos magmatic evolution to the South (Rhodope Masif).