

Bulgaria, “Zlata”. It was mined from the beginning of the 20th century by English companies and in 1939-1974 by Bulgarian companies. The EurOmax Company has been exploring a license in the region of the Lutzkan magmatic complex since 2004. EurOmax classifies these deposits as Intrusion Related Gold (IRG) deposits with gold mineralisation related to the CO₂-rich gold bearing fluids produced by the cooling of the intrusion at depth (www.euromaxresources.com/projects). Although the deposit is not directly dated based on the type and the characteristics of the Au-Ag±W mineralisation we suggest a link with the differentiated Carboniferous granitic intrusion of LMM.

Climatological assessment of atmospheric instability indices for southeastern Europe

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Atmospheric instability indices are routinely used in operational forecasting for identifying the possibility of convective storm activity. This study focuses on the long-term temporal assessment of Showalter Index, SWEAT Index, K- Index and CAPE at three coastal (Athens, Istanbul and Brindisi) and at one inland station (Sofia) of southeastern Europe. The indices are calculated from daily archived radiosonde observations for a 36-year period, from 1973 to 2008. In order to identify meaningful temporal trends, a two-phase methodology is applied. The first step contains the assessment of the monthly, seasonal and yearly averages. The yearly trends of Showalter and SWEAT indices indicate an increase of atmospheric instability mean values for Athens, Brindisi and Sofia after mid 1990s. The second step, which is the primary focus of this study, is the assessment of index extremes. After the selection of index threshold levels, index extremes are studied in terms of threshold exceedences. The analysis reveals long term trends for some combinations of indices and stations.

Fe-Mn Nodular Concretions Associated with Middle Jurassic Oceanic Melange (Argolis, Greece)

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Fe-Mn nodular concretions from Angelokastron and Lykotroupi areas, Northern Argolis Greece, are friable and compact types. They are associated with Middle Jurassic radiolarian red chert and red siliceous shale matrix slivers, originated and detached from a Middle Jurassic oceanic mélange. Friable Mn concretions consist of poly- or mononucleate nodules lacking primary botryoidal microstructures and possessing a unique composition. They form by the replacement of chalcedonic jasper by cryptomelane and todorokite; these concretionary crystalline manganese-structures are dissected by a birnessite phase oxidized to ntsutite and then crosscut by veinlets of hollandite and manganese carbonated fluoroapatite during late-stage hydrothermal alteration. The resultant composition consists mostly of manganese with a very low content of iron and transition metals. The mineralogical and chemical compositions differ from those of recent or fossil manganese nodules and are related to a hydrothermal field. Compact Fe-Mn concretions consist of jasper and chert dissected by veinlets of hydrothermal todorokite. Sulphides with magnetite characterize these concretions, even when altered and silicified. Some enclose scattered fragments of magnesiochromite with Ni-rich todorokite as veinlets and as concretionary crystalline structures. Some others, such as silicified basaltic fragments, contain remnants of copper mineralization such as sulfides, oxides, and hydroxide copper minerals, generated by an older hydrothermal event with subsequent oxidation. Furthermore, a few compact concretions, which were chemically treated, revealed that they contain equal amounts of iron and manganese similar to the