

web services that can be offered based on their needs. This option will be made available using advanced content-specific and user-oriented web services in the system.

By developing web services for sharing spatial data between public organizations and authorities (including EC and EU research and policy making institutions), as well as commercial stakeholders, the project will enable the creation of value-added services (such as demand-supply modelling) for the sustainable geo-energy and mineral supply of Europe.

## **Sources of base, precious and rare metals during the Tethyan Phanerozoic Evolution of the Caucasus and Pontides**

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Base, rare and precious metal deposits are widespread in the Caucasus and Pontides regions. They are the result of the Phanerozoic evolution of the Tethys Ocean, of various geodynamic settings, including oceanic, intra-arc, back-arc and island arcs. The various types of mineralization are discussed in terms of the participation scale of sialic, basaltic crusts and mantle sources. In oceanic settings, cupriferous Cyprus-type deposits occur, where the source of Cu is the mantle. In intra-arc settings, Beshi type Cu-Zn deposits were formed; the source of Zn is interpreted to be basaltic crust. As for the island arc and back-arc settings, Cu-Pb-Zn porphyry, stockwork, VMS and vein deposits are common. The source of Pb is interpreted to be the sialic crust. The rare metals (Hg, W, Sb) are related to post-collisional settings, where sialic crust is important. Mo is also related mainly to post-collisional settings, and it subordinately participates in the island arc settings. Precious metal mineralization (Au and Ag) predominantly developed in island arc and post-collisional settings. Therefore, in the process of mantle depletion and crust formation precious metals (Au and Ag) mainly accumulated in the sialic crust.

## **Geochemistry and petrogenetic features of the Early Cambrian volcanism in Telbesmi Formation, Mardin-Derik, SE Turkey**

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The Late Neoproterozoic/Early Palaeozoic successions in Southeast Anatolian Autochthon Belt, representing the northern edge of Arabian Plate in SE Turkey, occur in Derik (Mardin), Tut-Penbegli (Adıyaman), Samur Dag (Hakkari) and Amanos (Hatay) areas. In the Mardin-Derik area the Early Paleozoic rock-units are composed from bottom to top of Telbesmi, Sadan, Koruk, Sosink and Bedinan formations, respectively. The Telbesmi Formation is made up of slightly metamorphosed fluvial sandstone/ mudstones alternating mainly with andesitic and rarely spilitic lava flows and pyroclastic rocks. The base of the formation includes andesitic/spilitic lavas, tuffs and agglomerates with rarely rhyolitic lavas, interlayered with mudstones. The upper part of the formation includes very thin-layered cherty recrystallized limestones and red, violet meta-sandstones/meta-siltstone alternations. The ichno-fossils (*?Teichnus* isp., *Treptichnus rectangularis*, *Cocchlichnus* isp.) near the transition to the Sadan formation indicates to the Early Cambrian. Upwards, the formation is transitional to Early Cambrian siliciclastic rock of Sadan Formation. The discontinuous conglomeratic band near the transitional between the Telbesmi and Sadan Formations is a channel-fill and does not correspond to an unconformity, as previously suggested. The succession is conformably overlain by Middle Cambrian Koruk Formation, and Upper