

ACID MAGMATISM AND RELATED TIN MINERALIZATION

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Tin deposits formation is related to the processes of acid magma evolution. Deposits are related to the multistage granitic and acid volcano-plutonic massives, especially to their final phases.

For metallogeny of tin are typical two global objective laws: 1. Heterogeneity of tin distribution in the crust and the upper mantle; 2. Multistage processing of the continental crust was accompanied by mobilization tin and its concentration in ore objects.

Large tin deposits are located mostly in regions with mature thick continental crust there they are predominantly of cassiterite-quartz, cassiterite-silicate and rare-metal pegmatite formations. In regions with the crust of the transitive type are mostly located deposits of cassiterite-sulfide formation. Deposits of pneumatolith-hydrothermal type are related to processes of crust's stable blocks activation.

In the Earth's history processes of tin concentration determined by stages of crust development: 1. Generation ancient nuclei of crust and main mass of crust - formation tin rare-metal pegmatites (Central Africa, Western Australia, Brazil) - and joining to them later the crust of transitive type and its evolution; 2. Crushing and pull apart formed continental masses with subsequent their congestion and joining; 3. Process of collision: continental crust (Cornwall, Ore Mountain), plates (Alpine belt - deposits of Alps, Caucasus, Middle Asia), continent - ocean and accretion with generation crust of transitive type (Asian part of Circumpacific).