

The Mesozoic-Cenozoic continental metallogenic framework in China

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The characteristics of the Mesozoic-Cenozoic geological setting of China's continent include (1) thicker crust and lithosphere in the west than in the east; (2) complicated structure and components of the crust; (3) existence of mantle-rooted feeder zones and (4) common presence of low Vp horizons.

Subduction of the Pacific Ocean Plate beneath the Eurasian Plate created metallogenic belts at the continental margin and triggered metallogenic processes. In response to the movement of the Pacific Ocean Plate and activities of mantle plumes, older tectonic belts and structurally weak zones in the continent were remobilized and regenerated block-faulting, which has been a major control over the continental metallogeny. Mantle-derived materials and heat were introduced into the continental crust, which became a significant contribution to endogenic metallogeny in the continental regions. Mantle-crust interaction created 26 major tectonic-metallogenic belts and has resulted in the grid framework in the east and semi-circle framework in the west of the Chinese continent.