Magmatic evolution of the Hangay area, West-central Mongolia

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The Hangay area located in the western end of the Mongol-Okhotsk orogenic belt is one of key region for elucidation of complicated histories and geological developments of Central Asian Orogenic belt. In order to better understand not only about the timing of Mongol-Okhotsk paleoocean closure but also geotectonic evolution, our petrological and geochemistry studies have been carried out since 2002 on over 20 granitoid massifs and some volcanic areas in the Hangay region, and an absolute age dating some of them allow to detail and to change to certain degree the older accustomed thought on their compositions and origins. The results, which concerning the timing of a geotectonic evolution, magmatism and depositional types related to geodynamic environments within the Hangay region are shown in below. The chart summarizes the magmatic evolution in the Hangay region has been developed ceaselessly.

Geotectonic evolution chart of the Hangay area.

Age		Geodynamic environments	Deposition type	Magmatism	Magma association
Era	Period				
Cenozoic	Q	Within plate activities	Continental	Volcanism	K-alcalic basalts, subalkaline abasalts
	N				
	E_3				
Mesozoic	K_1 ?	Continental rifts	Lake and shallow water sediments (coal bearing	Volcanism	Trachybasalts, trachyandesitebasalts (latite-shoshonite), trachyrhyolites and subvolcanic bodies
	J	?	?		
	T_3–J_1			Intrusions	Granite-leucogranites
	T_{2-3}		Continental mollasa		
	P_3-T_2	Collision		Intrusions	Granite-granodiorites, granite-granosyenites, monzogranites
Paleozoic	P_{1-2}	Mongol-Okhotsk ocean	Seacoast, lake sediments	Volcanism	Trachyrhyolites
	C_3		Sea molassa		
	C_2		Flyschoids		
	D_1-C_1		Terrigenous-silicastones or turbidites	Volcanism	Oceanic arc tholeiitic basalts