

TONALITE-TRONDHJEMITE MAGMATISM OF THE KORYAKYA - KAMCHATKA REGION

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On the active continental margin of NE Russia (Koryakya-Kamchatka region) tonalite-trondhjemite magmatism manifests itself in different geodynamic settings. We distinguish two main types: accretional and supra-subduction zone. Accretional type is considered on the examples of the Econay terrane (Koryak Upland) and Vakhtalkinsky terrane of the Ganalsky Ridge (Eastern Kamchatka). The supra-subduction zone type is represented by plagiogranites of Kuyul ophiolite terrane (Koryak Upland). The Econay terrane have composite fold-and-thrust structure, where the older Pz and Mz1 oceanic complexes occupy upper structural position, and the younger J3-K1 complexes, lower structural position. Formation of such structure occurred in several stages of accretion. We have two plagiogranite complexes, that fix the stages of accretion at the J2 and K time. The Vakhtalkinsky terrane of the Ganalsky Ridge have fold, imbricated-thrust structure, where metamorphosed oceanic and island-arc complexes and non-metamorphosed island-arc complexes were juxtaposed at the K2-Pg1. Gabbro-plagiogranite intrusions mark tectonic contacts between all structural-lithological units. Kuyul ophiolite terrane is a huge serpentinite melange, where Gankuvayam slice with fragment of full ophiolite section of the J3 age is distinguished. Plagiogranites form tectonic slice at the contact of gabbroids and sheeted dike complex. Accretional magmatism of Koryakya-Kamchatka region is similar to near-trench (fore-arc) tonalite-trondhjemite magmatism of Southern Alaska. They manifest themselves simultaneously with typical Andean calc-alkaline magmatism. The composition of accretional magmatism products depends on the character of melting substrate in different accretional structures. Tonalite-trondhjemite magmatism of Koryakya-Kamchatka region characterizes the initial stages of the transformation of the oceanic crust into subcontinental.