

Generation of deep crustal rocks by re-organizing magmatic intrusives : implications from some Cretaceous granitoids in SW Japan

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SW Japan is a crustal cross section of the Cretaceous Eurasian continental margin. The Tenryukyo granodiorite represents the middle crustal component of 10-14km. It is coarse-grained hornblende-biotite granodiorite with strong foliation which is concordant with the gneissosity of the associated regional metamorphic rocks. The Naegi granite, a coarse-grained unfoliated biotite granite represents the upper crust. The Tenryukyo granodiorite has a fabric of uniaxial extension type with growth texture of minerals. A long deep-crustal residence time inferred with a SHRIMP U-Pb zircon age (86Ma) and a K-Ar biotite age (65Ma) re-organized them into orthogneiss. The Naegi granite was emplaced at 71Ma and cooled together with the orthogneissic Tenryukyo granodiorite.

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