

## **Paleoproterozoic granitoids related to the Siberian craton assembly**

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The Siberian Craton (SC) was assembled in Paleoproterozoic by collisions of Archean and Paleoproterozoic superterrane. The granitoid magmatic activity accompanied each stage of the SC formation. Granitoids of each period are characterized by their own unique geochemical signatures controlled by tectonic settings during their emplacement. Ca. 2.06 – 2.00 Ga granitoids have been formed in active margins of Archean terranes of the southern SC and within Paleoproterozoic island arcs. These granitoids are geochemically close to subduction-related TTG-type granites and calc-alkaline I-type granites. They are characterized by positive and slightly negative  $\epsilon_{Nd}(t)$  values. The main stage of the SC assembly has been marked by the ca. 2.0 – 1.9 Ga syn- and post-tectonic granitoids. These granitoids were emplaced during few pulses in various parts of the craton. They indicate a multi-step assembly of several terranes into superterrane – building blocks of SC. These collision-type granitoids demonstrate geochemical characteristics of I-, S- and A-type granites. The granitoids show slightly positive and strongly negative  $\epsilon_{Nd}(t)$  values. The numerous ca. 1.88 – 1.84 Ga post-collision granitoids and coeval volcanics are widespread along the southern Siberian margin. These granitoids and volcanics were emplaced during the final stage of the SC assembly and possibly related to its incorporation into the Paleoproterozoic supercontinent. Most of these granitoids and felsic volcanics show geochemical characteristics of the A-type granites with negative  $\epsilon_{Nd}(t)$  values. However, the post-collisional granites and felsic volcanics of the Birusa block in the southern SC are close to TTG-type, calc-alkaline I-type, S- and A-type granites. They show mainly negative  $\epsilon_{Nd}(t)$  values and rarely slightly positive  $\epsilon_{Nd}(t)$  values. The ca. 1.76 – 1.70 Ga anorogenic granitoids and volcanics are locally distributed in southern SC. These rocks correspond to alkaline and peralkaline A-type granites. They are characterized by close to zero and negative  $\epsilon_{Nd}(t)$  values. These granitoids mark a local-scale intra-plate extension.