

## **Tectonic evolution of the Aldan-Stanovoy Shield, Eastern Siberia, Russia: constraints on geochemical characteristics of metabasalts.**

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Tectonic model for the Aldan-Stanovoy Shield was created using the geochemical approach. For it, the petrochemical data on about of 2000 samples of metabasalts from the Early Precambrian complexes of the region were used. Basic rocks were chosen because, as it was shown by previous study, their metamorphism was close to isochemical (1) and their chemical composition is a good indicator of their tectonic setting (2).

Tectonic settings were defined using the original method, which allows to discriminate basic rocks from the main tectonic environments much better than the well-known petrochemical diagram after (Pearce et al., 1976). About 70% of studied metabasalts correspond to continental basalts, and 30% - to island arc basalts. Continental and island arc environments were mapped using the computer program SURFER. Obtained map show that continental associations compose two large areas (Aldan and Uchur microcontinents) separated by three linear zones of island arc associations, two of which have a submeridional extension, and the third zone – a sublatitudinal one.

Obtained data and the available geological information allow to interpret the origin of the Aldan-Stanovoy Shield as a result of interaction of two continental plates, which led to the subduction of oceanic crust under the Aldan microcontinent and to origin of two generations of island arcs. Age of the most young island arc is 2.2-2.4 Ga. Change of the extension of the ancient island arc could be connected with the rotation of the Aldan microcontinent. Plate movements were terminated by the collision of the Aldan and Uchur microcontinents, which took place about 1.9 Ga ago.