ICAM8 Abstracts

Volcanic provinces, tectonics & terrane correlation

Tectonics, volcanism and geodynamic events of the Central and Eastern Arctic

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Geology and tectonics of the Eurasian margin of the Arctic Ocean are of high scientific interest because this territory is one of the least studied areas on Earth and has great potential for oil and gas and mineral resources. Research on arctic objects is difficult first due to their limited accessibility, since the key targets for research are located on the islands of the arctic continental shelf or are located below sea level. Magmatism associated with plume activity, rifting, subduction, or collision is an essential agent in geodynamics and tectonic history of any area on the Earth, including the Arctic region. Basalts are especially widespread igneous rocks in oceans: basaltic crust underlies marine sediments, and fields or provinces of basalts occur in old and young orogens, young plates and Precambrian terranes. In our report, we will use the latest geological and geophysical data of the Eurasia arctic continental margin to study the links between magmatism and tectonics of the High Arctic. There will be a different age magmatism, which is well correlated with tectonic events. Some of them led to the disintegration and reorganization of Precambrian terranes, which currently represent Ridges, Rises and Uplifts in the Arctic Ocean, others are closely related to the Mesozoic–Cenozoic history of plume magmatism. Solving these issues will be a significant contribution to understanding the tectonic evolution of the key structures of the entire Arctic Ocean.