
**Granitoids of Mongolia and metallogeny:
GIS database**

S. MYAGMARSUREN, O. GEREL, S. OYUNGEREL,
AND B. SOYOLMAA

*Mongolian University of Science and Technology, P.O. 46, Box 520,
Ulaanbaatar 210646, Mongolia and Department of Geology,
Saint Mary's University, Halifax, NS, B3C 3C3*

Granitoids occupy the major part of Mongolia's territory forming elongated Phanerozoic accreted belts. The major ore deposits and mineral occurrences in Mongolia are associated with granitoids and the interpretation of accreted belts plays a key role for mineral exploration and mineral deposit prognosis and assessment, particularly with respect to porphyry copper-molybdenum and gold deposits.

The integrated GIS, geology, petrography and petrochemical databases for the territory of Mongolia provide a geodynamic framework and tectonic interpretation of key magmatic arcs in Mongolia. The use of these data with the available mineral deposit database connects the evolution of magmatic arcs with metallogeny. The GIS package has been used to illustrate the evolution of magmatic arcs during the late Paleozoic to late Mesozoic.

A GIS product includes terrane maps, consisting of a series of time slices describing the spatial distribution of different terrane types with a georeferenced set of spreadsheets. The spreadsheets contain whole rock geochemical data of granitoids and some volcanic rocks for the major arc successions, information on petrography, post-magmatic alteration, metamorphism, structure, geochronology, occurrence of mineralization, and many others. The system is highly flexible, compiled in ARC and MapInfo formats with databases in the form of Excel spreadsheets. It can be used not only to outline prospective belts for exploration but can also be used as a tool for petrological, tectonic and metallogenic research in the region. Examples of the maps and interpretation will be demonstrated for the Mongolian Altai and southern Mongolia.