

## **GEOCHEMICAL MAPPING IN RUSSIA: RESULTS AND DEVELOPMENT**

BURENKOV, E.K., GOLOVIN, A.A., KOCHETKOV, M.V., MOROZOV, A.F.,  
FILATOV, E.I.

A national geochemical mapping project has been started in Russia in 1992. The project is based on an inter-disciplinary studies of the natural geological environment as an ecological entity. Two stages of the project are fulfilled since its start: A set of 12 special-subject 1:5,000,000 maps of Russia is designed and printed. Methods and techniques of the multi-purpose geochemical mapping on 1:1,000,000 scale are developed and tested. The usage of geochemical data combined with the techniques and methods developed opens the following possibilities: Geology of an area studied can be circumstantiated, including its geotectonic, landscape, metallogenic and ecological peculiarities, Prospectivity of the known and newly-discovered metallogenic units can be predicted. Recommendations can be given on the meaningful integration of the exploration methods for the territories to be studied. The geochemical endemism of a territory can be predicted. The environmental pollution grade of a territory with respect to toxic chemical elements and compounds can be assessed, along with contouring of hazardous areas. Agrigeochemical appraisal of soil (its fertility and pollution grade) can be carried out. The cartographic principles of the multi-component cadastres of natural resources and quantitative estimation of their costs can be developed. Recommendations on the sustainable land use can be substantiated. Currently, the multi-purpose 1:1,000,000-scale geochemical mapping is carried out in Russia, with 1:200,000 insets for some zones. Results of the systems analysis-based approach proved to be efficient both in fundamental and practical respects.