

CARTOGRAPHY OF COMPLEX BIOGEOPHYSICAL-CHEMICAL LOCALITIES, LINEAMENTS AND PROVINCES

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Pathogenic, neutral and favourable structures of the earth surface may be divided into localities, sites, lineaments and provinces of various size. The best investigated are biogeochemical provinces which were first studied by the academician A.P.Vinogradov. The most important among them are deficient biogeochemical provinces. Some of them cover territories of whole countries. The examples are widespread iodine and selenium-deficient provinces in Asia and zinc-deficient ones in Europe and North America. The neutral biogeochemical provinces are territories with optimal content of vitally-important chemical elements in the environment and living organisms. They also occupy large territories. Excess biogeochemical provinces of natural and anthropogenic origin are usually more local. The biggest among them are global mercury-biogeochemical provinces which may be connected with the corresponding global mercury-metallogenic zones. Typical excess biogeochemical localities and lineaments 1-10 sq. km in size are ore deposits and environment of industrial enterprises. Large surplus lineaments and provinces may be ore knots, ore metallogenic zones and also industrial agglomerates and countries. Biogeochemical fields of ore deposits and ore knots usually have very complicated, often zonal and rhythmic inner construction controlled by ore bodies and mineralized zones of tectonic faults. By our data local monoelemental biogeochemical anomalies 1-20 m wide, caused by separated ore bodies 0,5-5 m wide coincide with biogeophysical and geophysical ones. These data witness that cartography of geopathogenic structures must include geological, geophysical, biogeochemical and biogeophysical surveys.