

Remote sensing basis of digital information/analitic system "State geological map of Russia"

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Creation of information/analitic system "State geological map of Russia" (Karpusov, Morozov et al., 1999) is a strategic direction of geological cartography at the beginning of XXI century. This system includes six-levels hierarchy of cartographic scales and has to provide with remotely sensed data at relative generalization level. 1. Global level is provided by scanning satellite systems fixing electromagnetic radiation in visible, infrared and microwave bands with resolution higher than 2 km. Cartography scales are 1:7 000 000 and smaller. 2. Continental level is provided by multispectral scanning and radar satellite systems with average resolution non worse than 200 meters. Cartography scales are 1:5 000 000-1:2 500 000. 3. Regional level is provided by multispectral photographic, scanning and radar satellite systems with resolution 40 m and higher. Cartography scales are 1:15 000 000-1:500 000. 4. Local level is provided by multispectral photographic, scanning and radar satellite systems with resolution 20 m and higher. Cartography scales are 1:200 000-1:100 000. 5. Detailed level is provided by satellite and aerial surveys with resolution 10 m and higher. Cartography scales are 1:50 000-1:25 000. 6. Super detailed level is provided by precise photographic satellite and aerial surveys with resolution 5 m and higher. Cartography scales are 1:10 000 and more detailed.

At the each level remotely sensed data provide capability to detect linear, circular and area geological objects corresponding to this level in size and in depth, which have certain metallogenic content, as well as capability to evaluate geoecological state of environment with definite degree of generalization.