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## **Submission and dissemination of geological data for the territory of the Russian Federation using the CGI standards to ensure international data exchange**

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One of the Russian Federal agency of mineral resources problems is to provide the geological information which was delivered during the field operation for the means of federal budget. This information should be present in the current, conditional form. Before, the leading way of presenting geological information were paper geological maps, slices, borehole diagrams, reports etc. Technologies of database construction, including distributed databases, technologies of construction of distributed information-analytical systems and Internet-technologies are intensively developing nowadays. Most of geological organizations create their own information systems without any possibility of integration into other systems of the same orientation.

In 2015, specialists of VNIIGeosystem together with specialists of VSEGEI completed the creation of the system of providing and distribution of digital geological materials with using modern and perspective internet-technologies together with CGI standards. The system is based on the web-server and the set of special programs, which allows users to efficiently get rasterised and vectorised geological materials. These materials are: geological maps of scale 1:1M, geological maps of scale 1:200 000 and 1:2 500 000, the fragments of seamless geological 1:1M maps, structural zoning maps inside the seamless fragments, the legends for State geological maps 1:200 000 and 1:1 000 000, full author's set of maps and also current materials for international projects «Atlas of geological maps for Circumpolar Arctic scale 1:5 000 000» and «Atlas of Geologic maps of central Asia and adjacent areas scale 1:2 500 000».

The most interesting part of the system is the block of providing structured and well-formalized geological digital data, based on Gosgeolkart database (NGKIS), managed by Oracle and the Internet-access is supported by web-subsystem NGKIS, which is currently based on MGS-Framework platform, developed by VNIIGeosystem. One of the leading elements is the WMS and WFS services, which realise the interaction of all parts of the system and control whole the way of the request from the user to the database and back, in the GeoSciML view. According to the complete set of maps by the sheet of State geological map of Russian Federation scale 1:1 000 000 and scale 1:200 000, every set has the mineral deposits map, which is created at the same time with geological map. The special WFS- and WMS-services, which provide the special data from mineral deposits map in the EarthResourceML-view is also created and published.

The experience of creation the Internet-based information system of digital geological data submission and dissemination, and also previous works, including the developing of web-service of NGKIS-system, allows to realise, that technological realization of presenting Russian geological-cartographical data with using the CGI-standards (GeoSciML and EarthResourceML) is possible and useful for international geodata interchange. This allows to integrate Russian geodata into the large international project, such

as OneGeology. The data from mineral deposits map, published according to the EarthResourceML view, could be easily integrated into the Fennoscandian Geodata Framework project. The integration into the international projects reaches developing of the correlation schemes between Russian and foreign classifiers and vocabularies. Using the integrated geodata could give the answers for much questions of regional geological studying, crossing the borders.

