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Using satellite data for hydrometeorology and environmental monitoring in the Far Eastern
Region of Russia

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Far Eastern region of Russia is not a simple one in terms of environmental, geographic and meteorological conditions. In the last few years it has been confirmed that there exist many natural phenomena, such as floods or forest fires, that should be monitored using remote sensing data. Typhoons have become more devastating, the Kamchatka volcanoes eruptions have become more frequent and intensive, which makes additional difficulties for the air traffic. All these conditions substantiate the increasing necessity of remote sensing data which enables both fast monitoring and deep analysis of a situation.

Development of state-of-the-art remote sensing technologies, and their introduction into the Center's everyday practice enables cheaper and more efficient collection of the required information about the nature. In lack of measured hydrometeorological data, a lot of attention is paid to the possibility of merging ground based, aircraft and satellite observations in different geographic information systems.

State-of-the-art satellite data processing algorithms used in the Center enable usage of remote sensing data in a variety of thematic projects and applications of regional, national and international level. Reconstruction of the atmosphere's vertical structure, monitoring the natural and anthropogenic emissions spread, distribution of satellite products by means of WEB and GIS-technology are just a few examples out of many.

The most important and promising projects used for solving problems of hydrometeorology and environmental monitoring in the Far East region of Russia are presented in the report.