STUDY OF INFLUENCE OF THE FAULT ZONES ON VEGETATION COVER OF STATE TERRITORY OF THE NATURE SANCTUARY "DOLINSKY" (SAKHALIN ISLAND) USING EARTH'S REMOTE SENSING DATA

Olesya V. Kuptsova

Sakhalin State University, 2, Pogranichnaya St., Yuzhno-Sakhalinsk, 693023, Russia, Ph. D. Student, Department of Geology and Oil and Gas Business, phone: (924)190-00-08, e-mail: Korsuncevaolesy@gmail.com

Inna I. Lobishcheva

Sakhalin State University, 2, Pogranichnaya St., Yuzhno-Sakhalinsk, 693023, Russia, Senior Lecturer, Department of Geology and Oil and Gas Business, phone: (914)757-99-26, e-mail: slalinna@mail.ru

Alexey A. Verhoturov

Institute of Marine Geology and Geophysics of the Far Eastern branch of the Russian Academy of Sciences, 1B, Nauki St., Yuzhno-Sakhalinsk, 693022, Russia, Ph. D., Senior Researcher, Center for Collective Use, e-mail: ussr-91@mail.ru

Vyacheslav A. Melkiy

Institute of Marine Geology and Geophysics of the Far Eastern branch of the Russian Academy of Sciences, 1B, Nauki St., Yuzhno-Sakhalinsk, 693022, Russia, D. Sc., Leading Researcher, Laboratory of Volcanology and Volcanic Hazards, e-mail: vamelkiy@mail.ru

Fault zones on the territory of Nature Sanctuary "Dolinsky" (Sakhalin Island), which are characterized by high geodynamic activity, are generally well distinguished when analyzing satellite imagery materials. In any territory, it is not difficult to identify the various plant communities that occupy it, as well as to determine their state by the content of phytomass determined by the vegetation index NDVI. The aim of the study is to test the validity of the hypothesis about the formation of abundant vegetation cover within the fault zones by analyzing the state of various plant communities by the volume of phytomass. Methods: decryption and analysis of Earth remote sensing data from Sentinel, Landsat and SRTM generation, geoinformation mapping on the ArcGIS platform. Results. In the course of the study, the state of the Nature Sanctuary "Dolinsky" analyzed by Landsat-8, Sentinel-2A satellite surveys, as well as SRTM data. Fault zones identified using the software systems ArcGIS, QGIS, and PyLEFA by lineament analysis, vegetation was classified by the maximum likelihood method, and its condition was determined by the values of the NDVI index, which reflects the content of phytomass in the study area. As result of the work carried out, an increase in phytomass revealed, and, consequently, good conditions for the growth of plant communities confined to the zones of distribution of faults of the earth's crust, and the reliability of the working hypothesis confirmed.

Keywords: Earth's remote sensing, aerospace image decoding, geographic information thematic mapping, geodynamic activity, Sentinel, Landsat, SRTM, NDVI, PyLEFA

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