

Space Monitoring of Dagestan and Taman Peninsula Geological Faults

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Investigations of active geological faults of two opposite Caucasus regions, Dagestan and Taman Peninsula, were held. Radar space images from Almaz satellite made in 1991 and digital space images made onboard Russian Segment of the International Space Station in 2003-2004 were used. Surface investigations of Taman faults were held simultaneously. It was discovered their close connection to mud volcanoes and landslip near Black Sea coast activity. Hydrogen flows and composition of mud volcanoes gas were measured. Eruptions of mud volcanoes and landslips were observed. That data was compared with 1991 data, received from radar Almaz images. Changes of coast line and relief, caused by eruptions of 2001-2002 were discovered. In Dagestan geological faults near Chirkey hydroelectric power station and Makhachkala city were investigated. Hydrogen flows and electromagnetic fields were measured. A dangerous by its landslips mountain within the Makhachkala city was found. Place of 2002 pipeline explosion was fixed. In the region of Chirkey hydroelectric power station wide area of historic and modern landslips was revealed. In 2003 a small landslip, overlapped the string that run to the water resort, was discovered. Investigations showed high efficiency of dangerous geological faults investigation using satellite radar and photo images.