

# **Investigation of the Earth Catastrophes from the International Space Station**

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Catastrophes arisen repeatedly in many countries give an impetus to the development of global Ground-Air-Space Service to monitor dangerous natural and man-made phenomena. To study basic principles and different components of such system from the International Space Station (ISS) a new concept has been developed: Concept of the ISS Investigations Management with the Purpose to Design Ground-Space-Based System of Natural and Man-made Catastrophes Prediction and Their Damage Mitigation. On the base of this concept appropriate URAGAN program has been prepared. The program developed to study catastrophes from Russian Segment of the ISS is described. Its place and possibilities among the other investigations on the ISS are considered. Analysis of ISS technical and methodological features applicable for catastrophes investigation is given. The URAGAN program is implemented aboard ISS RS. URAGAN experiment is a study of the Earth natural resources, monitoring of natural and man-made catastrophes. The URAGAN program scope includes investigation of both natural and man-made catastrophes: earthquakes, eruptions of volcanoes, floods, forest fires, hurricanes, piping; accidents, aircraft catastrophes, etc. Data on catastrophes are important in many fields: for experts on the specific type of catastrophes, for state structures, for various services to inform people and government, for researches to optimize models of catastrophic phenomena, etc. The experiment has been performed since first days of the ISS operation with crew aboard the station. Cosmonauts working on the program mostly during their spare time, in holidays and before going to bed, manage to observe all major ecological disasters of the Earth. The program is a logical continuation of the Earth visual-instrumental observations program started in the early 1970s during missions of the space stations of the Salyut series and Shuttle-Mir mission. The results of catastrophes investigation from the ISS in 2004-2005 are presented.