

# 3rd IAA Planetary Defense Conference

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Consequence Management and Education

Lessons learned from regional and international disasters that provide insights for planetary defense

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## **IGMASS – PLANETARY MARKET OF KNOWLEDGE WITHOUT LINGUISTIC, NATIONAL OR CULTURAL BORDERS**

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Sustainable development of modern civilization is prevented by set of threats of natural and man-caused origin, requiring the adoption of effective preventive measures to predict and protect against them. The most common sources of natural disasters are meteorological, climatic and tectonic phenomena: floods, typhoons, hurricanes, droughts, forest and grass fires, earthquakes, volcanic eruption, tsunamis, landslides, mudflows and avalanches. To predict their beginning, to warn about such phenomena and disasters they cause, accidents and (or) man-caused emergencies, in all respects is more beneficial than to respond to the following destructive consequences.

The International Global Monitoring Aerospace System (IGMASS) is being created to provide well-timed warning of the international community about coming emergencies as well as natural and man-caused disasters through a global and operational monitoring and forecasting with the use of scientific and technical potential of earth-based, air and space monitoring all over the world and the further development and gradual integration of navigation, telecommunication and information resources of the Planet for solving global human issues.

The purpose of the IGMASS is a global and effective forecast of potentially dangerous natural and man-caused disasters on the Earth and in outer space, based on integrated global aerospace monitoring resources. The main tasks of the system, which will be solved by using ground, air and space facilities, are:

- continuous and uninterrupted space monitoring of the lithosphere, atmosphere and ionosphere of the Earth, near-Earth space to identify early signs of dangerous natural and man-caused disasters;

- obtaining, preprocessing on-board and transfer of monitoring data from satellite to the ground receiving stations;
- compilation and complex using of global monitoring data, received from space, air and earth assets, processing with use of national, regional and international situation centers, and its interpretation, storage and display;
- operating delivery of information on identified natural and man-caused threats to the relevant organizations of the countries at risk and the UN specialized structures;
- warning about global threats in and from outer space: asteroids and meteoroid threat and the abnormal phenomena of different nature;
- gradual formation of a united, planetary «information security space» in order to reduce the global risks and emerging threats.

Considering the challenges, threats and risks, with which the Humanity enters the post-industrial phase of civilization development, it is impossible to overestimate the importance of major international projects focused on receiving and expansion of information, which turned into economic and political categories, defines all types both national and planetary resources.