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SPACE-BASED DISASTER MANAGEMENT: THE NEED FOR INTERNATIONAL COOPERATION

Abstract

Natural disasters are events, caused by purely natural phenomena and bring damage to human societies. Space based Disaster Management System has the distinct advantage of being unaffected by disasters on the ground and provides unbiased, synoptic and timely information on different components of the disaster management cycle. However, even with the availability of a large spectrum of Earth Observation (EO) data, development of communication technologies, and building of international networks; availability of right information to right people at right time in right format is still a major challenge.

In this context, International Academy of Astronautics formed a Study Group on Disaster Management/ Natural Hazards. This group generated a study report to outline the current status of the space-based disaster management technology for different disasters, identify the gap areas, and suggest possible improvements for real-time integrated solutions. The major recommendations of the study include:

- Strengthen existing network of earth observation satellites (optical and radar sensors) through virtual constellations, ensuring their continuity and establish a mechanism for proper orbit allocation, satellite tasking for emergencies and meeting rush access of EO data. A possible satellite constellation of 20 EO satellites shall provide temporal resolution of 3 hrs for global coverage.
- Strengthen existing mechanism of International Co-operation
- Strengthen collaborative efforts for developing early warning models.
- Strengthen communications network by including low earth orbit communication satellites/Data Relay Satellite System (DRSS) and make available adequate band widths so that availability of data becomes easier.
- Create a policy for data sharing and making available all EO data in standard format, along a common framework with properly defined meta-data and processed to useful derived products with different thematic layers in the same format.
- Improve efforts for capacity building.
- Strengthen regional/national level Networking of Stakeholders (Government and non-government).

The recommendations of the study group were presented to the Heads of Space Agencies Summit on November 17, 2010, discussed and approved.