Key Scientific Issues of Present Day Disaster Management Scenario

Orhan ALTAN, Turkey
President of ISPRS
Istanbul Technical University
Istanbul-Turkey
oaltan@itu.edu.tr

Governments, international organizations and research institutions worldwide have set to work to improve disaster management in all its phases: mitigation, preparedness, relief and response, and recovery and reconstruction. Many governments have put the formation of a hazard-resistant and disaster coping society on their political agenda as an important factor of sustainable economic development and better quality of civil life. In this respect, the awareness of new geospatial technologies and their successful utilization in disaster management is becoming crucial.

These technologies are emerging very fast.

Meteorological and earth observation satellites, communication satellites and satellite-based navigation and positioning systems may help to improve prediction and monitoring of potential hazards, risk mitigation and disaster management, contributing in turn to reduce losses of life and property. Global navigation satellites and earth observation satellites have already demonstrated their flexibility in providing data for a broad range of applications: weather forecasting, vehicle tracking, disaster alerting, forest fire and flood monitoring, oil spill detection, desertification monitoring, and crop and forestry damage assessment. Monitoring and management of recent natural disasters have greatly benefited from satellite imagery, such as the Indian Ocean tsunami in 2004, floods (Austria, Romania, Switzerland, and Germany in 2005), hurricanes (USA in 2005), forest fires (Portugal, France, Greece, Australia in 2005, 2008), earthquakes (Pakistan in 2005, Indonesia in 2006, Haiti 2010) and lastly in Japan and Turkey.

With this presentation the presenter will try to demonstrate how Space Technology (Geoinformation Technology) can be efficiently integrated into disaster management, encompassing data collection (remote sensing, sensor networks, mobile systems), data processing, and production of maps, which are further integrated, analyzed and visualized in GIS/Web-GIS.