

Discussion: Utilization of Advanced Remote Sensing and GIS Technologies for Disaster Risk Management and Emergency Response

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Natural disaster under climate change is increasing with extreme weather events and emerging a serious threat to sustainable development in recent years. Mega disasters, i.e., hydro-geo-meteorological hazards and risks, have been frequently experienced by both developing and developed countries. In this circumstance, advanced remote sensing and integrated GIS (geography information system) can play a vital role in effective disaster risk management and risk reduction. Space-based sensors enable to monitor and detect the changes of the earth surface in widespread areas and to assist hazard mapping with potential risk information from local to global scales.

In this session, we, experts and scientists, will discuss about how to utilize both remote-sensing fundamentals and its applications in disaster risk management using advanced satellite data and integrated GIS data. Earth observation (EO) products may include monitoring information and in-situ observations covered all levels of regional and global mega-disasters under climate change; for example, land surface dynamics, land cover and land use changes, numerical simulation, and social applications between near-real time and long-term change observations. We try to find the best solution of risk information from EO products in a decision making process to create and support the compatible nexus of science, policy and public consensus for effective risk reduction and emergency response through novel approaches in natural disasters, such as mega-floods with tropical cyclones (typhoons), coastal erosions with storm surges, and earthquakes.

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