



**INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS
UNION GEODESIQUE ET GEOPHYSIQUE INTERNATIONALE**

Statement on the Great East Japan Earthquake and Tsunami

*(proposed by the IUGG Commission on Geophysical Risk and Sustainability and
adopted by the IUGG Bureau on 18 April 2011)*

At 14:46 on 11 March 2011 a magnitude 9.0 earthquake occurred off the Pacific Coast of Tohoku, Japan. It induced the catastrophic tsunami that hit the coasts of Tohoku and Kanto killing a huge number of people and destroying countless houses and infrastructure. The toll of dead and missing people as at 7:00pm 10 April is 27,621. The tsunami also hit some of the Japanese nuclear power plants and damaged some reactors, which are still out of full control thus threatening people in a wide area around the site. The International Union of Geodesy and Geophysics expresses deep heartfelt condolence and sympathy for the victims and sufferers of the Great East Japan Earthquake and Tsunami.

Because of the concatenation of risks – from earthquake to tsunami and nuclear power station failure – the disaster was unexpected and more severe than one event on its own. The disaster impact is not only nation-wide but also international-wide affecting industry, market economy, the nations' energy policy, and disaster management policy. It thus poses the basic question of how to live with nature and manage societal sustainability. It is a disaster that occurred in the country with the world's densest network of geophysical observations, a state-of-the-art earthquake early-warning system and the biggest tsunami barriers where people are most experienced and trained, sciences are highly advanced and knowledge based disaster management is well implemented. Yet we face tragic consequences that were unexpected and turned out to be unprecedentedly serious.

IUGG takes this difficulty as a new challenge. A challenge for us to contribute scientifically for society to become more resilient, prepared and less damage-prone so as to result in less suffering should another hazard of this magnitude hit anywhere in the world in the future. The challenge is for us to measure our achievement by the reduction in disaster risk and actual damages rather than the amount of knowledge accumulated. Our challenge is to make geosciences truly integrated with the end users in the societal system. To this end IUGG fully supports "Integrated Research on Disaster Risk (IRDR)" - the major research program of the International Council for Science (ICSU) co-sponsored by the International Social Sciences Council (ISSC) and U.N. International Strategy on Disaster Reduction (UNISDR).

Geoscience information is a key to preparation for, and management of, disasters. More advanced knowledge needs to be acquired and used in a way that is integrated with all other disciplines and players especially with social sciences and public administration. In addition, geoscientists should revise their existing knowledge so as to avoid “false comfort” in dealing with infrequent extremes that, though hardly possible, keep occurring regularly.

On this direction IUGG resolves to:

1. contribute scientifically for society to become more resilient, prepared and less damage-prone so as to better manage concatenated risks.
2. strengthen its collaboration with the ICSU, ISSC, UNISDR and any other relevant national/regional/international/intergovernmental organizations on the program of Integrated Research on Disaster Risk (IRDR).
3. measure the achievement of science by the reduction in disaster risk and actual damages rather than just the amount of knowledge accumulated.
4. promote more actively geoscience knowledge use among policy makers and end-users in operational disaster management bodies to ensure effective risk and vulnerability reduction.
5. revise existing knowledge to avoid “false comfort” in dealing with infrequent extremes.
6. develop an international and trans-disciplinary project on modern global time-dependent earthquake and tsunami hazard/risk assessment, that would take into account a variety of multidisciplinary data and methods related to long-term risk mapping.