



Towards a multi-hazard approach in coastal meteo-marine monitoring

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Following the disasters occurred in the late 2004 and 2005, among which Hurricane Katrina and the Indian Ocean earthquake-tsunami, the issue of disaster reduction has been dramatically raised in order to cope with the threats of natural hazard in coastal areas. Disaster reduction is currently addressed by the understanding of physical phenomena, the assessment of potential impact, the development of early warning systems, the adoption of post-disaster strategies of crisis management. Natural hazards in coastal areas covers a huge scale of phenomena, ranging from sudden seismic and hydro-meteorological events to long-term erosive processes. The events which can turn to potential disasters often show a very low frequency and a spatial distribution which is scattered over large areas. Multi-hazard monitoring systems connected to regional data centers are needed both for the development of early warning systems and the quality of the extreme events analysis. In the Mediterranean area the development of large-scale, multi-hazard, monitoring networks is at the early stage, in particular where different scientific communities are involved, as it is in the assessment of tsunami hazard. The IOC has recently established the Intergovernmental Coordination Group for a Tsunami Early Warning System in the North-eastern Atlantic and the Mediterranean and Connected Sea. Italy, which recently hosted the first meeting of the ICG/NEAMTWS in Rome, is currently working at national level in the establishment of a multi-hazard coastal monitoring network and a multi-disciplinary archive of meteo-marine data. Currently, the sea wind-waves monitoring (RON - 15 buoys) and the tide-gauge and meteorological (RMN - 28 coastal stations) networks are part of the marine monitoring system. The ARCHIMEDE project, recently started by the APAT Coastal Protection Unit and supported by the Italian Civil Protection Department, is aimed at the standardization, storage, and dissemination of long-term marine data collected by public institutions and private companies along the Italian coasts.