



Hazard awareness and risk mitigation in Integrated Coastal Area Management: Guidelines for coastal managers

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Following the establishment in 2005 of an Intergovernmental Coordination Group for the Tsunami Early Warning and Mitigation System in the North Eastern Atlantic, the Mediterranean and Connected Seas (ICG/NEAMTWS), parallel to similar efforts in the Pacific and Indian Oceans and in the Caribbean, the Intergovernmental Oceanographic Commission of UNESCO (IOC) has engaged in the development and coordination of multi-hazard strategies and interoperable systems for tsunamis and other sea-level related hazards in consultation, coordination and cooperation among all stakeholders with tsunami and related ocean hazard mandates.

As a result of this approach, a series of guidelines have been compiled by an international group of experts working under the auspices of the IOC. The group included specialists in the fields of sea-level related hazards, marine meteorology, vulnerability and risk in respect of natural hazards, early warning and preparedness, risk mitigation, and coastal zone management.

These guidelines aim to assist policy makers and managers in the reduction of the risks to coastal communities, their infrastructure and service-providing ecosystems from tsunamis, storm surges and other coastal hazards within the phased framework of Integrated Coastal Area Management (ICAM). As a context for the procedures presented in the Guidelines, the full framework of the ICAM process is used. This shows how the assessment of coastal hazards and the mitigation of the risks in respect of those hazards can be embedded within the four phases of ICAM, each with its respective procedural steps. Each step is described – including its purpose, its key considerations, the management challenges that it poses and its anticipated outputs.

A description of the physical features of the sea-level related coastal hazards is followed by approaches to assess the vulnerability of the hazard receptors – the coastal community and its supporting systems. The integration of the hazard probability and vulnerability (including preparedness) assessments produces assessments of the risks to the various community dimensions (human and social, physical (buildings) and economic and environmental) in respect of the identified hazards is then dealt with. These assessments take into account deficiencies in preparedness at the institutional level.

The guidance in the management of the assessed risks within the framework of ICAM aims to enhance public awareness of the risks and to improve the resilience of coastal communities for coping in emergency situations of the threat or impact of a hazard event. Finally, the guidelines describe the options for structural and non-structural responses within the framework of ICAM for the mitigation of the assessed risks by strategic management.