

IHO RESPONSE TO DISASTERS	1/2005 as amended	IHO A-1	K4.5
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1 Introduction

In recent years, huge earthquakes, tsunamis, hurricanes and other natural disasters occurred all over the world and not only severely affected local communities through the widespread loss of life and the extensive destruction of most facilities, but also severely affected safety of navigation through the destruction of port facilities and the creation of new navigational obstacles. A huge number of refugees were created and immediately suffered from shortages of food, water and fuel. In such circumstances support by sea transport was vital and depended on the immediate restoration of appropriate hydrographic and charting services.

It should be noted that “the Sendai Framework for Disaster Risk Reduction 2015-2030” was adopted at the 3rd UN World Conference on Disaster Risk Reduction (WCDRR3), where international organizations are expected to implement activities to understand and manage disaster risks.

Various data and information obtained from hydrographic and charting activities are beneficial for sharing information right after a disaster, the development of restoration plans for damaged coastal areas and for strategies for disaster risk reduction. It would be important to provide hydrographic information effectively in the process from the occurrence of the disaster to the recovery.

The International Hydrographic Organization, its Member States and the Regional Hydrographic Commissions should ensure **adequate preparedness** so as to enable an immediate and appropriate response to any future disaster affecting coastal areas of the world.

Hydrographic Offices should therefore **be part of the National Plan developed beforehand** to respond immediately after the occurrence of such severe disasters **and participate in and cooperate in the development and implementation of the restoration plans for the damaged coastal areas and the strategies for disaster risk reduction** within their area of responsibility, which may vary from Member State to Member State. **As such following activities can be identified with the overarching framework of the IHO convention and general regulations.**

2 Activities

a) By Coastal States:

All Coastal States **are encouraged to develop** contingency plans in advance in order to be prepared in case a disaster occurs. **The specific roles and tasks of the Hydrographic Offices within these Coastal States depend on the individual national governance structures.** Contingency plans **may** contain the following key elements **as appropriate**:

i) Immediately upon the occurrence of a disaster, including tsunami, promulgate appropriate navigational warnings and necessary information and advice to shipping through existing channels (e.g. NAVTEX, SafetyNET, etc...) **using appropriate ways, such as graphical information on maps.** In addition and following

further monitoring and assessment, promulgate updated warnings, information and advice in accordance with the development of the event.

- ii) Co-operate with the NAVAREA Co-ordinator and other national co-ordinators so that warnings, information and advice can be made available to mariners beyond the area of national jurisdiction as soon as is practicable.
- iii) Assess the extent of damage to the coastal area particularly to ports, harbours, straits, approaches, and other restricted areas.
- iv) Assess, in co-operation with other national agencies, for example, lighthouse and port authorities, the extent of damage to navigational aids.
- v) Prioritize actions and allocate resources in order to identify requirements and undertake preliminary re-surveys starting with the most critical areas for navigation, aiming at ensuring the passage of support and supplies through maritime channels and ports, and the marking of new dangers where necessary.
- vi) Assess the specific effects on shipping of the existence of obstacles and any changes to the seafloor that can hinder navigation, taking full account of the effects of drifting obstacles which may also hinder preliminary survey results.
- vii) Take the following action to assess and define new hydrographic or cartographic requirements, including:
 - 1. Conducting hydrographic surveys in harbours and approaches as soon as practicable wherever the depth is likely to have changed due to geomorphic change, obstacles, or accumulation of sediment. Surveys should be progressed incrementally in support of progress in reconstruction of port facilities.
 - 2. Checking and confirming relevant benchmarks. Re-defining chart datum, if necessary.
 - 3. Providing nautical information as soon as practicable. Providing chart correction information or new editions of charts incrementally according to priorities and available resources. Indicating newly surveyed areas in chart correction information or on new editions of charts in order to highlight areas of more reliable information in areas where significant changes of depth have taken place.
 - 4. Noting that, in case of earthquake, the ground level may continue to change for many years due to post-seismic crustal deformation, which may accumulate and affect charted depths significantly.

Also, actions to be taken in ordinary period may contain the following key elements as appropriate:

- 1) Prepare equipment and information and conduct exercises to implement the contingency plan effectively.
- 2) Share information about disaster response with the Chair of the RHC and the IHO Secretariat at appropriate. This includes support requests for the immediate disaster response as well as the recovery response, for instance enabling entry survey or subsequent updating of nautical charts.

It is also very important for Coastal States to collect relevant coastal and bathymetric data in their areas of responsibility and to make this available to the appropriate organizations to support the establishment and improvement of tsunami early warning systems, protection of coastal areas and relevant simulation studies. In particular, Coastal States should cooperate and support the IOC Tsunami Warning Programme (www.ioc-tsunami.org) in setting up sea-level and tide gauges networks, procedures and systems for the exchange and transmission of near real time sea-level data. One to five minute transmission of sea-level data, properly sampled (~1 min rather than 15 min or 1 h) is recommended for specific gauges likely to provide early warnings of tsunamis and storm surges. Any necessary regional cooperation for the collection of data can be coordinated through the Regional Hydrographic Commission with other States in the Region and regional bodies of other International Organizations as appropriate, such as the IOC.

b) By Regional Hydrographic Commissions:

- i) Regional Hydrographic Commissions (RHC) should include disaster preparedness and response into Agenda item on RHC meetings as appropriate.
- ii) The Chair of a RHC may act as a broker for hydrographic demand (from the affected countries) and supply (by countries offering assets).
- iii) RHC should consider the implementation of capacity building for disaster preparedness and response as appropriate.

c) By the IHO Secretariat:

- i) The IHO Secretariat should enhance actions by member states and RHCs above as appropriate.
- ii) The IHO Secretariat should enhance sharing best practices regarding disaster preparedness and response provided by member states for the world resilience.

3 Diplomatic clearance

Effective disaster response predicates on diplomatic clearance to actually deploy the offered hydrographic assets in theatre. It is the responsibility of affected Coastal States to institute procedures to progress 'hydrographic' requests timely through their Nations Diplomatic channels. As it is the national responsibility of the Member States offering such support, to use those channels. The IHO secretariat and Chairs of the RHC have no means to absorb these national responsibilities.