
**Security and resilience — Emergency
management —**

Part 3:
**Guidelines for the implementation
of a community-based early warning
system for tsunamis**

Sécurité et résilience — Gestion des urgences —

*Partie 3: Lignes directrices pour la mise en œuvre d'un système
d'alerte précoce des tsunamis à l'échelle de la collectivité*

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 292, *Security and resilience*.

A list of all parts in the ISO 22328 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

In tsunami-prone countries, a tsunami causes catastrophic disaster, loss of lives, damage to the ecosystem and great socioeconomic losses.

The Tsunami Early Warning Systems framework, which was developed by the United Nations Office for Disaster Risk Reduction (UNDRR, formerly UNISDR) and agreed in Bonn, Germany in 2006, underlines the people-centred aspect of an early warning system (EWS).^[9] To build a tsunami-resilient community, this idea has been translated in this document into more explicit guidance for a community-based tsunami EWS. The guidance gives more crucial roles for the community in managing the tsunami risk reduction activities, which are fully supported by the existing system and infrastructure that have been built by the local government.

The goal of the development of a tsunami EWS is to empower individuals and communities who are vulnerable to hazards to act in sufficient time and in appropriate ways to reduce the possibility of injuries, loss of life, and damage to property and the environment.

This document complements the generic guidelines on EWS given in ISO 22328-1^[5] with specific information related to tsunamis. It is also complementary to the guidelines on public warning given in ISO 22322^[4] as well as the guidelines on planning mass evacuations given in ISO 22315^[3].

The Intergovernmental Oceanographic Commission (IOC) of UNESCO coordinates the global development of end-to-end tsunami early warning systems, which have been adopted, tailored and implemented by several countries. This document complements the international standard for evidence-based community preparedness for tsunamis of the UNESCO-IOC Tsunami Ready program and indicators, and Guidelines for Indian Ocean Tsunami Ready Program.^[7]

Security and resilience — Emergency management —

Part 3:

Guidelines for the implementation of a community-based early warning system for tsunamis

1 Scope

This document gives guidelines for the implementation of a community-based disaster early warning system (EWS) for tsunamis. It complements the generic guidelines in ISO 22328-1^[5]. It describes the methods, procedures, implementation measures and activities specifically related to tsunamis.

This document is applicable to communities vulnerable to tsunamis, without taking secondary/indirect effects into consideration.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 22300, *Security and resilience — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22300 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

official warning

warning issued by the national or regional authority to enable the local authority to consider and/or initiate evacuation of the people at risk

3.2

earthquake

sudden and violent shaking of the ground, sometimes causing great destruction, as a result of movements within the earth's crust or volcanic action

3.3

tsunami

series of travelling waves of extremely long length and period, usually generated by disturbances associated with an *earthquake* (3.2) occurring below or near the ocean floor, volcanic eruptions, a submarine landslide, liquefaction, melting glaciers, coastal rock falls or meteorites