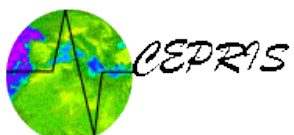


**ACCORD EUROPÉEN ET MÉDITERRANÉEN SUR LES RISQUES MAJEURS
 (EUR-OPA)**

PROJECT – BeachRisks (CERU + CEPRIS + ICoD)

Beach and Coastal Resorts Risks

		
Centro Europeu de Riscos Urbanos Lisboa - Portugal	Centre Euro-Méditerranéen pour l'Évaluation et la Prévention du Risque Sismique Rabat - Maroc	(ICoD) Euro-Mediterranean Centre on Insular Coastal Dynamics Valetta - Malta

***Report on the seminars and awareness activities
 Informative leaflets***

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 Malta)**

CERU – 2018

Introduction

During 2018 CERU was involved in some awareness sessions performed in several Portuguese municipalities (Lisbon, Setúbal, Torres Vedras and Cascais).

The activities developed CERU were performed in collaboration with the Civil Protection Municipal Departments and consisted in awareness sessions devoted to different target public (children, professionals and local citizens).

An informative session devoted to the trainers of rescuing swimmers (lifeguards), promoted in collaboration with the National Maritime Authority (Wrecked Relief Institute, *ISN – Instituto de Socorros a Náufragos*) to awareness for tsunami hazard, which was already performed in the aim of BEACHRISKS project, took place in November 2017.

In continuation of the project developed in 2017, the risks exhibition in Setúbal lasted until the end of March 2018 with the support of the CERU.

A seminar took place in Cascais, with the support of Cascais municipality (Civil Protection), on tsunami hazard and mitigation measures and where the leaflet with the main evacuation routes from Cascais historical centre, produced by CERU, was distributed.

CERU also produced and published two different leaflets on tsunami hazard and risk.

Following is a synthesis of these activities.

Workshop on Tsunami alert – Prevention and Response

In 2017 CERU starts dialog with the Portuguese Maritime Authority (AMN) proposing the inclusion of a tsunami hazard modulus on the existent training course for lifeguards. Following this initiative, the AMN promoted one day workshop on the tsunami hazard devoted to the trainers of lifesavers.

The workshop took place on November 18th, in the Hydrographic Institute, with the participation of the University of Lisbon and the National Maritime Authority (Wrecked Relief Institute, *ISN – Instituto de Socorros a Náufragos*), as well as other responsible entities as IPMA (Instituto Português do Mar e da Atmosfera – responsible of the Tsunami Alert System) and ANPC (the Portuguese National Authority of Civil Protection – responsible to transmit and diffuse the alert among the actors).

This workshop was attended by about 30 lifeguard's trainers and the discussion on the introduction of a tsunami modulus on the existent training course had the participation of all attendees. The agenda of this workshop is presented in the Annex.

Following CERU's dialog during 2018, the AMN agree to include a tsunami modulus (hazard, prevention and response) in the next edition of the training course manual.

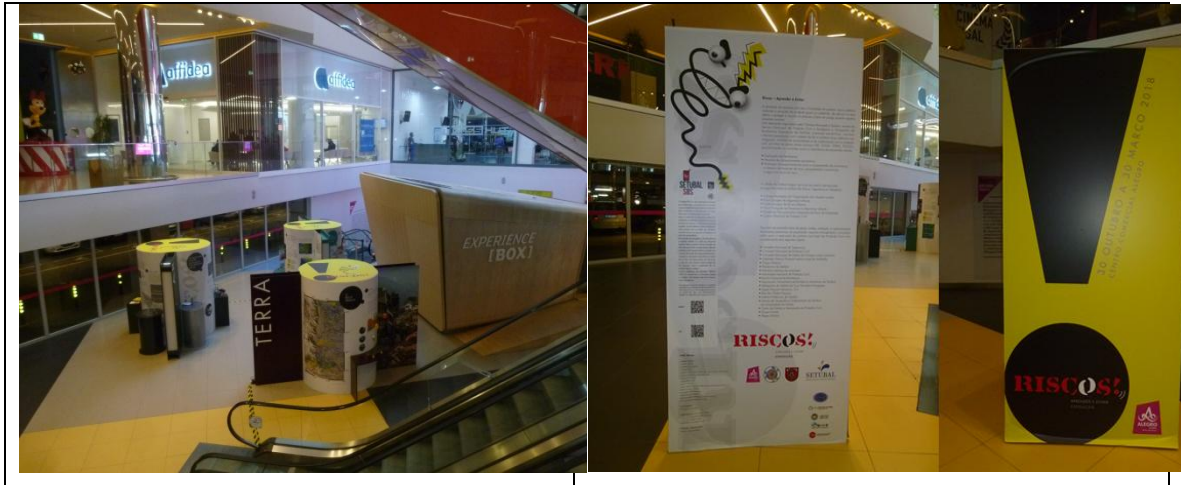
Setúbal exhibition on Risks

The exhibition "Risks –Learning and Avoiding", inaugurated on March 30th in Setúbal, was displayed in the exhibition hall of the hotel school "*Escola de Hotelaria*" and in the education high school "*Escola Superior de Educação do Instituto Politécnico de Setúbal*" up to the end of 2017.

At that time, it was moved to the shopping center "*Centro Comercial Alegro de Setúbal*", where it was visited by a wide range of public (from schools and anonymous citizens), up to the end of March 2018.

The exhibition was thematically organized, addressing the risks associated with the four elements: Earth, Air, Fire and Water. The collaboration of CERU was mainly in the Earth modulus where earthquake and tsunami hazard and risks were addressed.





Cascais Seminar on Tsunami hazard and risk

Meetings between CERU and the Cascais municipality (Civil Protection) resulted on the organization of a seminar in October 2018, dedicated to the tsunami hazard and mitigation measures that have been held in Cascais (warning sirens, planning of evacuation routes, definition of safe areas, etc.). During this seminar the leaflet with the main evacuation routes from Cascais historical centre, produced and published by CERU in 2017, was distributed.

In 2016 the Cascais municipality installed a warning and alert system for the population in case of tsunami occurrence, in close collaboration with the ANPC, composed by a siren and a voice-over message. In 2017 they finalized the communications system and now they are prepared to receive the warnings of IPMA (*Instituto do Mar e da Atmosfera*, institution responsible for giving the tsunami warning) and ANPC (*Autoridade Nacional de Proteção Civil*). This first siren is located in the Historical Centre, where it can reach at least three beaches existing in this area. Cascais municipality in now (2018) involved in a project, where other municipalities and the ANPC are also partners, to install two more sirens along the coast line.

The Mayor of Cascais municipality (Mr. Carlos Carreiras) opened the seminar. Experts from different institutions (University of Lisbon, ANPC – National Civil Protection Authority, IPMA – Portuguese Institute for the Sea and Atmosphere, AMN – National Maritime Authority and Cascais Municipal Civil Protection) made the presentations. Domenico Mangione, from the Italian Civil Protection, was the foreign expert invited by CERU and presented its experience on the Stromboli Island. At the end a general discussion, involving the public and the experts, was performed. The agenda of this workshop is presented in the Annex.

The seminar had about 100 participants, ranging from municipal technicians, responsible from hotels and beach restaurants, students, as well as anonymous citizens.



Leaflets on Tsunami hazard

CERU produced and published a leaflet named “Getting Ready for Tsunamis: A Guide for the coastal areas of Portugal”. This leaflet was inspired on a similar one published for the Caribbean and Adjacent Regions by the Caribbean Tsunami International Centre (CTIC) – Intergovernmental Oceanographic Commission (IOC) - United Nations Educational Scientific and Cultural Organization (UNESCO). This first edition was only published in Portuguese.

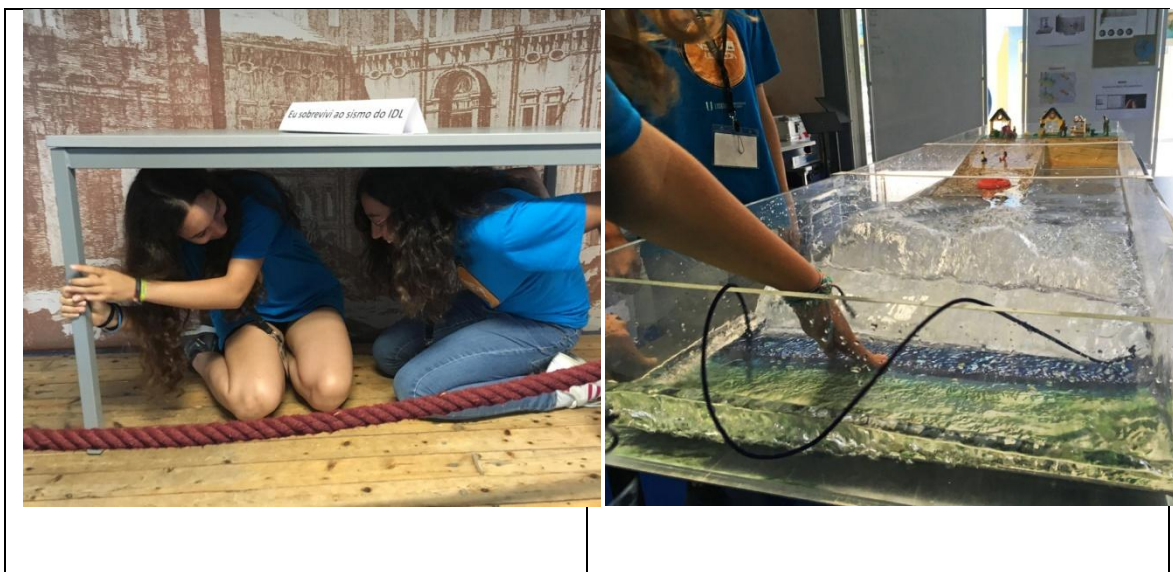
CERU also produced and published a leaflet on the tsunami hazard, tsunami signals, evacuation routes and safe areas for a beach (Praia da Batata) in Lagos. This leaflet, that was published in Portuguese and English, will be distributed by the municipality during informative sessions. It will be also available in the tourism office in Lagos.

Both leaflets are reproduced in the Annex.

Other awareness sessions and conference participations

CERU participate in several awareness sessions, mainly devoted to earthquake hazard and risk, but where the tsunami hazard subject was always presented:

- (i) an awareness session, devoted to general public, in the aim of safety days conferences promoted by *Santa Casa da Misericórdia de Lisboa* (collective entity with administrative public utility) on seismic risk and cultural heritage. This session took place in November 2017 but it was not mentioned in the last report (that referred only the activities done up to the end of October);
- (ii) Conference on the International Day of Disaster Risk Reduction promoted by the Torres Vedras municipality devoted to all population;
- (iii) participation on the IDL – University of Lisbon outreach activities, for schools (first, second and third levels), concerning the development of earthquake and tsunami modulus;



- (iv) Collaboration on the activities promoted by Neptune Serenity – National Association for Drowning Prevention, on the 2nd National Drowning Prevention Campaign and in the Drowning Prevention Wall project.



CERU also participated in the project's workshop promoted by ICoD (St Julians, Malta, September 2018), on Beach and Coastal Resort Risks.

The agenda of the awareness sessions and workshop are presented in the Annex.

Publications

Trindade A, Teves-Costa P, Catita C (2018) A GIS- based analysis of constraints on pedestrian tsunami evacuation routes: Cascais case study (Portugal). *Natural Hazards* 93: S169-S185. <https://doi.org/10.1007/s11069-017-3152-4> (Published online: 23 January 2018)

ANNEX

1. Agenda of the Workshop on Tsunami Alert – Prevention and Response
2. Agenda of the Cascais Seminar on Tsunami hazard and risk
3. Leaflet on Getting Ready for Tsunamis: A Guide for the coastal areas of Portugal
4. Leaflet on tsunami hazard, tsunami signals, evacuation routes and safe areas for Batata Beach (English version)
5. Agenda of safety days conferences promoted by *Santa Casa da Misericórdia de Lisboa* to cultural heritage protection
6. Agenda of the Conference on the International Day of Disaster Risk Reduction promoted by the Torres Vedras municipality
7. Agenda of the Workshop on Beach and Coastal Resort Risks (St Julians, Malta, September 2018).