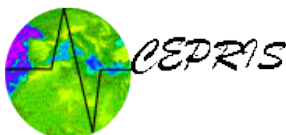


**ACCORD EUROPÉEN ET MÉDITERRANÉEN SUR LES RISQUES MAJEURS
 (EUR-OPA)**

PROJECT – BeachRisks (CERU + CEPRIS + ICoD)

Beach and Coastal Resorts Risks

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

Report on awareness activities and informative leaflets

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CERU – 2019

Introduction

During 2019 CERU was involved in some awareness sessions performed in several Portuguese municipalities (Lisbon, Lagos and Cascais).

The activities developed by CERU were performed in collaboration with the Civil Protection Municipal Departments and with the University of Lisbon (Instituto Dom Luiz - IDL), and consisted in awareness sessions devoted to different target public (children, professionals and local citizens).

By the end of the year CERU published an informative leaflet, in Portuguese and in English, on beach and coastal risks.

Following is a synthesis of these activities.

1. 50th Anniversary of the 28th February 1969 Earthquake

1.1 Inaugural session

During this year (2019), several institutions, including CERU, decided to develop different initiatives to mark this anniversary. These initiatives aim to raise awareness among the civil society and politicians on the problem of seismic risk and the need to implement mitigation measures. The inaugural session took place in Sagres, on February 28 at 11:00 am, with the presence of His Excellency the President of the Republic. It was an initiative of the Portuguese Society of Earthquake Engineering (SPES) and the Portuguese Association of Meteorology and Geophysics (APMG).

In the afternoon, at 2:30 p.m., a public session took place at the Auditorium of Paços do Concelho Séc. XXI of the Municipality of Lagos, under the theme "The Seismic Risk in Portugal". This session was organized in collaboration with the Lagos City Council.

CERU participated in this session through the presentation and exhibition of a poster displaying its activities (on seismic and tsunami risks and awareness sessions), including the projects sponsored by the EUR-OPA Agreement (see poster reproduction in the next page).



**CENTRO EUROPEU DE
RISCOS URBANOS**



EUR-OPA
EUR-OPA MAJOR HAZARDS AGREEMENT
ACORDO EUR-OPA RISCOS MAIORES

ORGANIZAÇÃO DE CONFERÊNCIAS E EXPOSIÇÕES

ICUR2016 – Conferência Internacional sobre Riscos Urbanos

ICUR2020 (em preparação)

Elaboração, participação e apoio a diversas exposições sobre Riscos promovidas por diferentes Câmaras Municipais (Lisboa, Setúbal e Lagos)







INICIATIVAS DE DIVULGAÇÃO

Promoção e participação em seminários de sensibilização dirigido a profissionais e ao público em geral (em colaboração com Serviços Municipais de Proteção Civil)

Participação em atividades de outreach dedicadas a jovens e à população em geral (em colaboração com o IDL - Universidade de Lisboa)







MATERIAL INFORMATIVO E AÇÕES NO TERRENO

Produção e publicação de desdobráveis informativos e de sensibilização (em português e em inglês)

Implementação de sinalética de perigo e evacuação em caso de tsunami (Praia da Batata, Lagos)

Rotas de evacuação em caso de tsunami (Cascais)











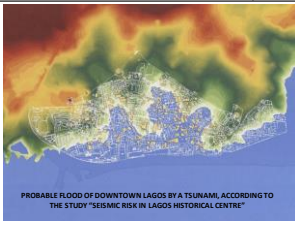
PROJETOS INTERNACIONAIS

Projetos internacionais desenvolvidos em parceria com outros centros do Acordo EUR-OPA (2013-2019):

- Estudos de risco sísmico e de tsunami (VULRESADA)
- Informação e sensibilização da população (INSPIRED)
- Estudo de rotas de evacuação em caso de tsunami (BAYWATCH)
- Estudo de riscos costeiros (BEACHRISKS)

- Colaboração de investigadores do Instituto Dom Luiz da Universidade de Lisboa

- Apoio de Serviços Municipais de Proteção Civil

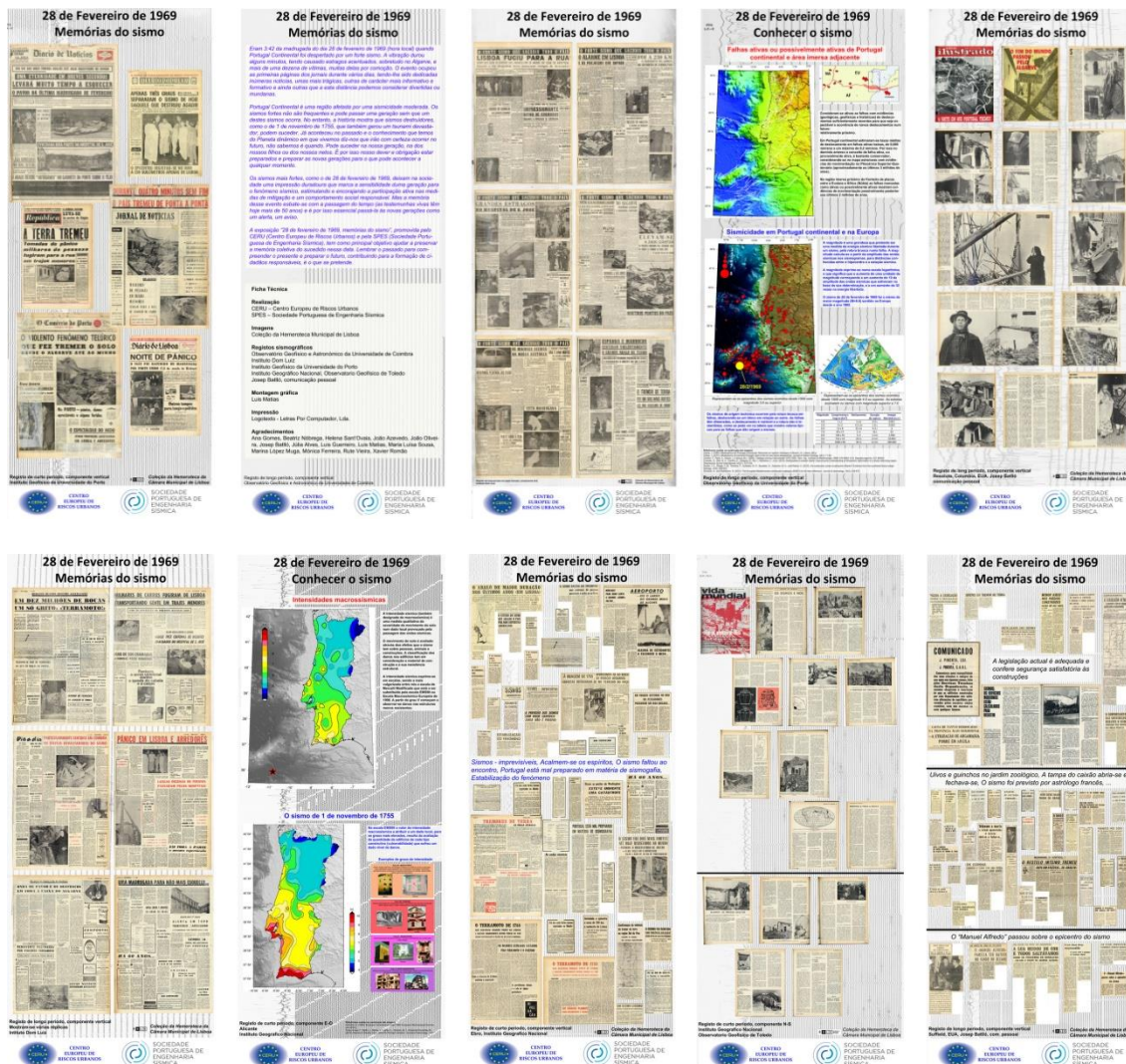





1.2 Itinerary exhibition

In the aim of this anniversary CERU prepared an exhibition on the memories of the earthquake, in collaboration with the Portuguese Society of Earthquake Engineering (SPES). The exhibition also presents some information on seismic risk and mitigation measures.

This exhibition was already presented in several municipalities of Portugal (Torres Vedras, Albufeira, Loulé, Almada, Coimbra, Portimão, Viseu and Lamego) and it will be displayed in Lisbon on January 2020. In each of these municipalities the exhibition was open in public spaces (city hall atriums, museums, local associations and other exhibition spaces) and its presentation was always preceded by an information and awareness action dedicated to the general public.

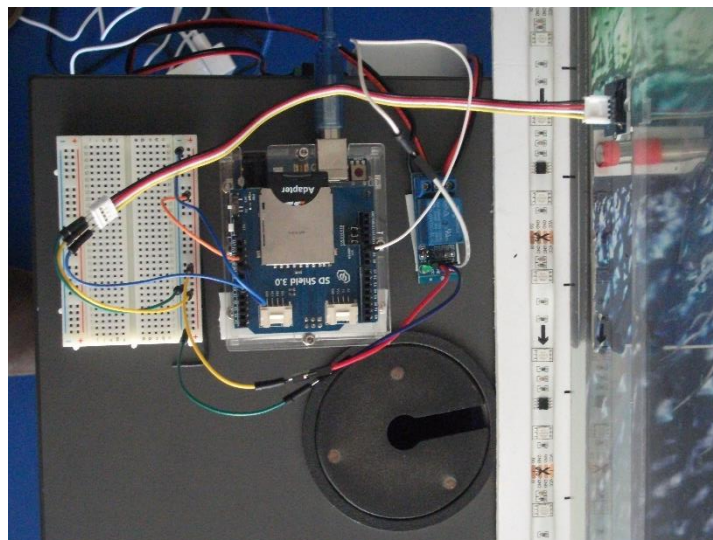




2. Outreach Sessions

CERU participated, in collaboration with the Instituto Dom Luiz (IDL, Lisbon University) on several outreach sessions devoted to the scholar public.

In particular, CERU developed a prototype, that was implemented on the tsunami tank, to simulate the tsunami warning system. In the prototype when the tsunami is generated a led sends a light to the lighthouse turning on the light and ringing a siren (see photo below).



3. Civil Protection Exercise (Cascade'19) - Cascais

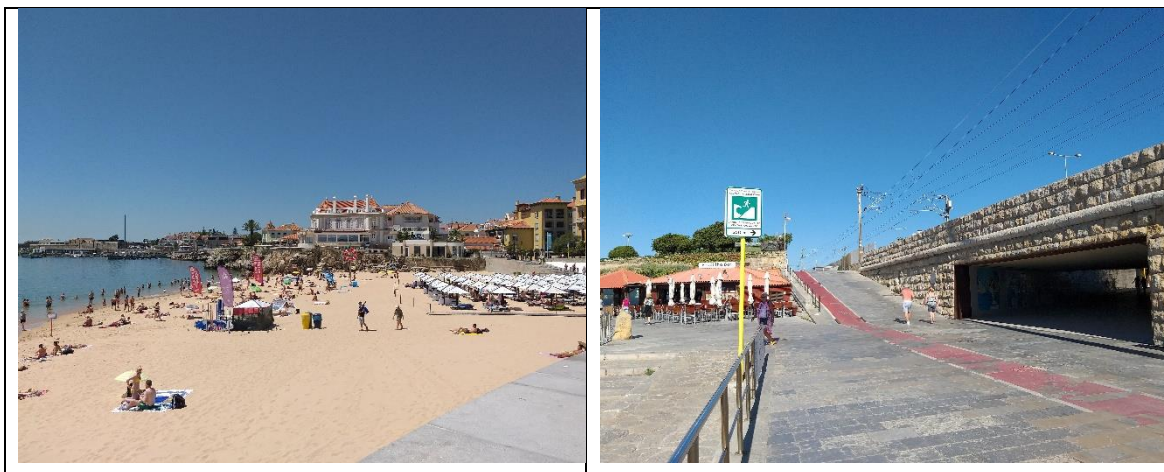
Cascais Municipal Civil Protection Department participated in the European Civil Protection Exercise Cascade'19 performing several disaster simulations. One of the scenarios was the occurrence of a tsunami alert conduction to the evacuation of two beaches. CERU also participated in this scenario, observing behaviours of the people present at the beaches and of the different authorities involved (lifeguards, maritime authority, municipal police, firefighters, etc., and the civil protection technicians that conducted the exercise). It should be highlighted that the signs on tsunami warning and evacuation were proposed by CERU in the aim of previous projects co-sponsored by the EUR-OPA Agreement. Also, the implemented evacuation routes and respective signs, have been proposed by CERU.

This exercise comes as a natural follow-up of the municipality of Cascais addressing the tsunami risk, namely the definition of assembly areas and evacuation routes and deployment of 3 alerting sirens. The preparation of this exercise involved previous information to the beach concessionaires, local lifeguards and the population. This was made together with the distribution of the leaflets, in Portuguese and English, produced by CERU.

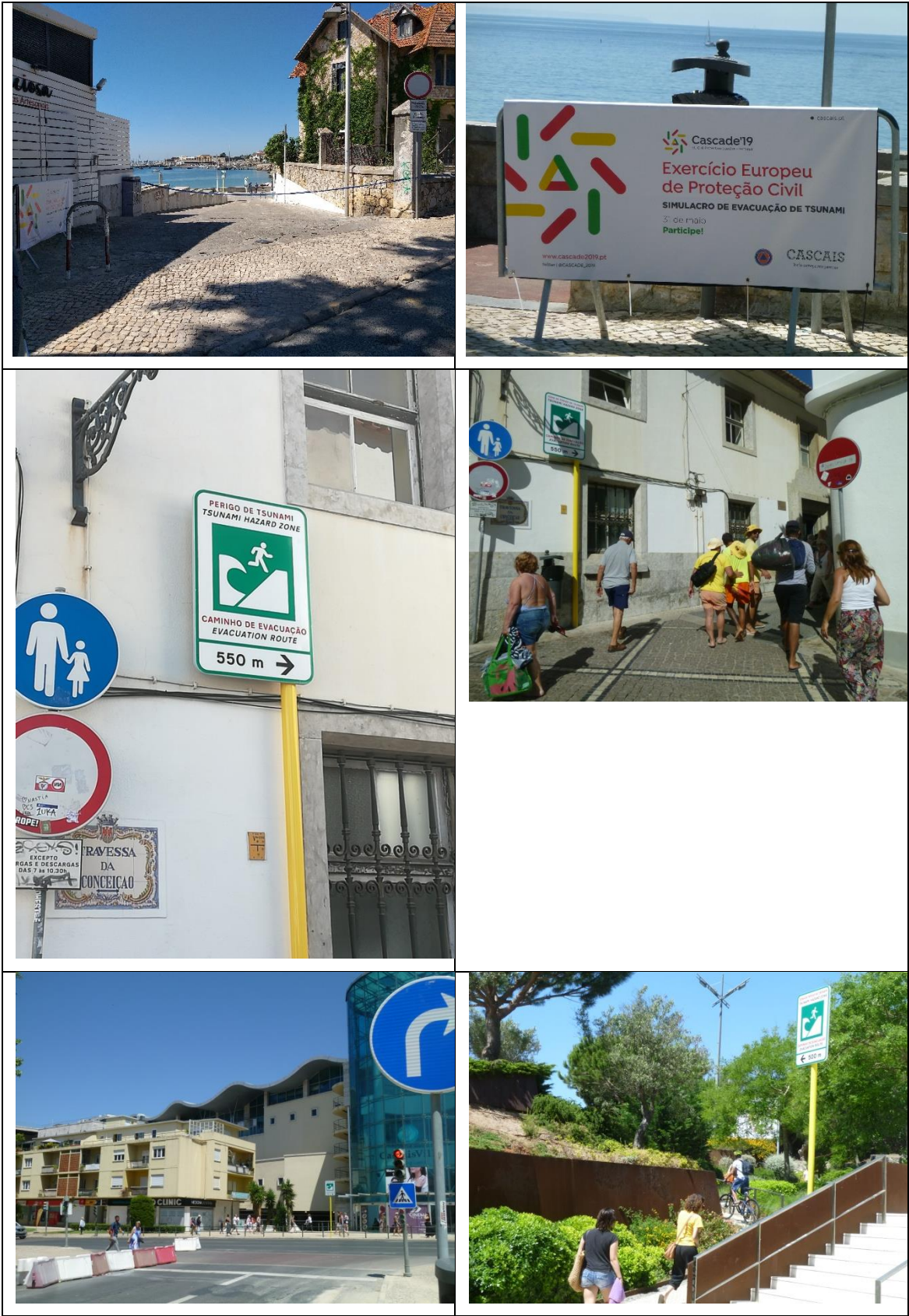
The tsunami scenario chosen for the exercise considered that the tsunami waves would arrive short after 11:00 the 31st May. At 11:00 the 3 sirens announced the beginning of the evacuation exercise, with loud signals and messages broadcast in Portuguese and English. The evacuation was conducted on the beach by the lifeguards and the Coast Guard that also informed the boats facing the beach and in the Marina. Outside the beach evacuation was guided by the Police and Municipal Police. At the assembly point the evacuated people were received by the Municipal Civil Protection and Fire Brigade.

As a follow-up and to maintain and improve community awareness the sirens are sounded every 15th day of a month, exactly at 11:00 framed by advertising and awareness activities. More advertising and awareness campaigns are also planned, as well as extending the tsunami signalling and siren coverage to other areas of the municipality. The objective of Cascais Municipality is to cover the entire coastal zone with siren alert and tsunami signalling.

Below some photos of the exercise.







4. Study on tsunami risk and evacuation route signalling

4.1 Signalling compilation

CERU developed a study on tsunami risk and evacuation routes signalling that exist in Portugal. Until now, 4 municipalities implemented these kinds of signalling in one or more beaches. However, there is still no national directives on the design and size of these signals. So, each municipality designed their own signs, mainly based on the signs presented in the Guide to Tsunamis for Hotels: Tsunami Evacuation Procedures (2012), UNESCO/IOC, following ISO-20712.

From the compilation, CERU identified the heterogeneity of signage, as well as problems related with bad visibility and maintenance (see photos below).







4.2 Implementation in Porto Mós beach

CERU participated in Porto Mós beach tsunami signalling and evacuation routes planning. However, signage should only be implemented next year.

5. Coastal and Beach Risks Leaflet

CERU produced and published a leaflet on Coastal and Beach Risks.

A broad set of coastal and beach risks are included in this leaflet: (1) Solar Exposure; (2) Unstable cliffs and dunes; (3) Safe swimming area; (4) Rip Currents; (5) Drowning; (6) Tsunamis; (7) Thunderstorms; and (8) Gelatinous organisms.

Besides, the Beach Swim Safety Flags are also presented and information on useful links and contacts, as well as the Portuguese National Emergency Number (112) is also included.

These leaflets will be distributed to all coastal municipalities, in Portugal, that wish to join this project.



6. Other awareness sessions (workshop participations)

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

(i) Invited talk given by Luis Matias, from CERU's Direction, on a seminar promoted by Ilumiano Association and the Portuguese Seismic Engineering Society (SPES) that took place in Ponte de Lima (Portugal) on January 26th, 2019. The theme of the seminar was "If Portugal shakes again?"

(ii) Invited talk given by Paula Teves Costa, from CERU's Direction, on a workshop promoted by the University of Évora and that took place in Évora (Portugal) on March, 2019. The workshop title was "If it was today?" and the communication title was "The seismic risk in Portugal"

(iii) XII National Risk Meeting: "Seismic Risk – Learn from the past". Luis Matias presented a communication entitled "Risk education and the creation of more resilient societies". Faro (Portugal), April 2019.