

CERU – Activity Report 2018

During 2018, CERU activities mainly addressed the development of the project *BEACHRISKS – Beach and Coastal Resorts Risks*. The project was coordinated by CERU and co-financed by the Council of Europe in the aim of EUR-OPA Agreement (European and Mediterranean Major Hazards Agreement - EUR-OPA).

In addition, CERU has developed, collaborated and participated in several campaigns to raise the population awareness on natural hazards and risks. These activities were performed in collaboration with Municipal Civil Protection Departments (Lisbon, Setúbal, Lagos, Torres Vedras and Cascais) and were adapted to different audiences, like children, professionals and citizens, in general.

CERU also participated in a research project, in collaboration with different Portuguese institutions, such as the University of Lisbon. The results were presented at an international scientific meeting. The participation of some CERU's members on different national and international meetings was also supported.

Two different leaflets on tsunami hazard and risk were produced and published by CERU.

Below is a summary of the activities developed.

1. Participation in awareness sessions, meetings, conferences and workshops

- Itinerant exhibition "*Risks - Learning and Avoiding*", between March 2017 and March 2018, which took place in three different venues in Setúbal: (i) at the Municipal Gallery of Setúbal - Hotel and Tourism School, between 30 March and 15 April, being also integrated in the International Conference on Risks, Security and Citizenship (30-31 March); (ii) at the School of Education of the Polytechnic Institute of Setúbal, from 20 to 30 September; and (iii) at the Allegro Shopping Centre in Setúbal, between December 2017 and 30 March 2018. The scientific content of the Itinerant exhibition was coordinated by Luís Matias. CERU supported the exhibition till the end of March 2018.
- Participation on the *IDL – University of Lisbon outreach activities*, for schools (first, second and third levels), addressing earthquake and tsunami hazards and risks (Paula Teves Costa and Luis Matias).
- *Lagos (Portugal) experience with tsunami warning and evacuation project*. Communication presented by Luis Matias to the Workshop on Beach and Coastal Resort Risks. St Julians, Malta, 24-25 September 2018.

- *Earthquakes* - Communication presented by Manuel João Ribeiro in the International Day for Disaster Risks Reduction – Resilience for All. Torres Vedras, 15 October 2018.
- *Seminar on Tsunami Risk – Cascais*. Awareness session on tsunami hazard and mitigation measures organized by CERU and the Civil Protection Department of Cascais municipality. Cascais, 27 October 2018. Paula Teves Costa moderated the *General Discussion* panel.
- *Tsunami hazard in Portugal*. Communication presented by Luis Matias. *Seminar on Tsunami Risk*. Cascais, 27 October 2018.
- "Shake Out exercise 2018" (November, 5th) - CERU was invited to participate in this initiative ("A Terra Treme"), promoted by the Portuguese National Authority for Civil Protection, on the Faculty of Sciences of Lisbon University.
- *Regulatory mechanisms in intergovernmental relations and citizenship in risk governance in Portugal*. Communication presented by Manuel João Ribeiro. *8th International Conference on Building Resilience – ICBR Lisbon'2018 (Risk and Resilience in Practice: Vulnerabilities, Displaced People, Local Communities and Heritages)*. Lisbon, 14-16 November 2018.

2. Institutional support to projects and conferences

- CERU supported the aftershocks monitoring survey following the Arraiolos, January, 15th, 2018 earthquake (Mw = 4.9).
- CERU was an Associate Partner of the 8th International Conference on Building Resilience, Lisbon (14-16 November), organized by the Faculty of Architecture of the University of Lisbon, in collaboration with the Center for Social Studies of the University of Coimbra, and with the Global Disaster Resilience Center (GDRC) of the University of Huddersfield (UK)

3. Projects

CERU was responsible for the *Classification of Seismic Behaviour of Soils of the City of Lisbon* projet, which was supported by the Lisbon Municipality (CML), between November 2017 and July 2018.

4. Activities developed in the framework of the project financed by the EUR-OPA Agreement, Council of Europe

The *BEACHRISKS* project "*Beach and Coastal Resort Risks*" is coordinated by CERU. This project aims to encourage the implementation of tsunami risk mitigation measures and other coastal risks, particularly those occurring on beaches. It

intends to contribute to *Tsunami Ready Community* through two programs: *Tsunami Ready Beach* (TRB) and *Tsunami Ready Hotel* (TRH). The project is developed in collaboration with two specialized EC Centers: *CEPRIS - Euro-Mediterranean Center for Evaluation and Prevention of Seismic Risk* (Morocco) and *ICoD - Euro-Mediterranean Center on Insular Coastal Dynamics* (Malta).

The following activities were carried out in the framework of this project:

- Organization of the Seminar "*Risco de tsunami – Cascais*" held on April 27th, in Cascais, in collaboration with the Civil Protection Department of the Cascais Municipality. The Seminar included an awareness session on tsunami hazard and mitigation measures and was attended by about 100 participants, with very different backgrounds, such as, municipal technicians, hotels and beach restaurants managers, other professionals, students and citizens in general. The Mayor of Cascais (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 his experience on the Stromboli Island. At the end, a general discussion involving the public and the experts took place. The leaflet produced by CERU, "*What to do in case of a tsunami*", with application to the municipality of Cascais was distributed to all participants.
- Distribution of the *Questionnaire* addressed to hotel managers to assess their awareness on risk of tsunamis and implementation of tsunamis preventive measures (in the Cascais council).
- Collaboration on the activities promoted by *Neptune Serenity – National Association for Drowning Prevention* (Drowning Prevention Wall - Inquiry performed in schools to evaluate signalling warning knowledge).
- Participation in the *Workshop on Beach and Coastal Resort Risks*, organized by ICoD. St Julians (Malta), 24-25 September 2018.
- Production and publication of 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.
- Production and publication of 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. This leaflet will be distributed to all participating coastal municipalities.

-

5. Publications and Communications presented at conferences

- 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>
- Ribeiro MJ (2018) Regulatory mechanisms in intergovernmental relations and citizenship in risk governance in Portugal. *Proc. 8th International Conference on Building Resilience – ICBR Lisbon'2018*. Risk and Resilience in Practice: Vulnerabilities, Displaced People, Local Communities and Heritages. Lisbon, 14-16 November 2018, Portugal
- Ribeiro MJ (2018) - Segurança e Proteção Civil: reflexão sobre cidadania e participação pública. *Revista de Direito e Segurança nº 11* do Instituto de Direito e Segurança da Faculdade de Direito da Universidade Nova de Lisboa, Lisboa (published online).
- Oliveira L, Teves-Costa P, Pinto C, Gomes RC, Almeida IM, Pereira TR, Sotto-Mayor M, Ferreira C (2018) Seismic microzonation based on large database of borehole data: Application to Lisbon. *ESC2018 - European Seismological Commission 36th General Assembly, Malta 2-7 September* (Poster Session S29 - Advances in seismic site response and microzonation for improving the resilience of urban centres) – Book of Abstracts S29-443, p. 422.
- Gouveia F, Fonseca AV, Gomes RC, Teves-Costa P (2018). Deeper Vs profile constraining the dispersion curve with the ellipticity curve: A case study in Lower Tagus Valley, Portugal. *Soil Dynamics and Earthquake Engineering* 109: 188–198.
- Teves-Costa P, Mendes JM (2018) Natural hazards, modelling, risk assessment and the role of scale (Editorial). *Natural Hazards* 93: S1-S3. <https://doi.org/10.1007/s11069-018-3416-7>
- Teves-Costa P & Mendes JM (Guest Editors). Natural hazards, modelling, risk assessment and the role of scale. *Natural Hazards* 93, Supplement 1, 2018 (ISSN 0921-030X).
- Mendes JM & Teves-Costa PT (2018). Virtual Special Issue (VSI): Urban Risks [Special issue Ed.]. *International Journal of Disaster Risk Reduction*, October 2018. <https://www.sciencedirect.com/journal/international-journal-of-disaster-risk-reduction/special-issue/10D9CTGSdT1>

Summary of the activities foreseen for 2019

During 2019 CERU intend to develop and participate in several activities:

- Continue to develop the project BEACHRISKS, supported by EUR-OPA Agreement;
- Hold specific seminars addressed to specific professionals and/or general public on earthquakes, tsunamis and other beach risks;
- Study on the implementation of evacuation signs and routes in Porto de Mós Beach (Lagos);
- Beach evacuation exercise, in Cascais, considering tsunami alert;
- Tsunami friendly hotel: continuation to distribute and compile answers to the questionnaire devoted to hotel managers to assess their sensitivity and support for tsunami risk awareness actions (Torres Vedras, Setúbal and Cascais municipalities);
- Study on informative posters and leaflets addressing different risks for different target public;
- Participation on several initiatives, developed by different entities, aiming at evoking the 50th anniversary of the 28th February 1969 earthquake;
- Updating and promoting the CERU website to contribute to more resilient communities;
- Dissemination of the results obtained on CERU's projects and by CERU's members;
- Preparation of the next ICUR (*International Conference on Urban Risks*) organization to be held in 2020 (ICUR2020);
- Collaboration in dissemination actions on risks promoted by the University of Lisbon (FCUL and IDL), by the municipal Civil Protection Authorities, and by local associations.

Lisbon, February 13th 2019

Paula Teves Costa

President of the CERU Board

NOTE - CERU general information, activities, deliverables of the projects, papers and communications can be seen/download on CERU webpage:

1. Home/ main page / HIGHLIGHTS <http://www.ceru-europa.pt/en/index.php>
2. Under "PROJECTS" page (deliverables, communications and papers):
BEACHRISKS project <http://www.ceru-europa.pt/en/projectos.php>
3. Under "ACTIVITIES" page (other activities: workshop programs and communications)
<http://www.ceru-europa.pt/en/atividades.php>