CIÊNCIAS SOCIALMENTE APLICÁVEIS:

INTEGRANDO SABERES E ABRINDO CAMINHOS

JORGE JOSÉ MARTINS RODRIGUES
MARIA AMÉLIA MARQUES
(Organizadores)

VOL IX

EDITORA ARTEMIS
2023

CIÊNCIAS SOCIALMENTE APLICÁVEIS:

INTEGRANDO SABERES E ABRINDO CAMINHOS

JORGE JOSÉ MARTINS RODRIGUES
MARIA AMÉLIA MARQUES
(Organizadores)

VOL IX

EDITORA ARTEMIS
2023

Editora Chefe Profª Drª Antonella Carvalho de Oliveira
Editora Executiva M.ª Viviane Carvalho Mocellin
Direção de Arte M.ª Bruna Bejarano
Diagramação Elisangela Abreu
Organizadores Prof. Dr. Jorge José Martins Rodrigues
Prof.ª Dr.ª Maria Amélia Marques
Imagem da Capa cienpies
Bibliotecário Maurício Amormino Júnior – CRB6/2422

EDITORA ARTEMIS
2023
Editora Artemis
Curitiba-PR Brasil
www.editoraartemis.com.br
e-mail:publicar@editoraartemis.com.br

Editora Artemis
Curitiba-PR Brasil
www.editoraartemis.com.br
e-mail:publicar@editoraartemis.com.br

Dados Internacionais de Catalogação na Publicação (CIP)
(eDOC BRASIL, Belo Horizonte/MG)

C569 Ciências socialmente aplicáveis [livro eletrônico] : integrando saberes e abrindo caminhos: vol. IX / Organizadores Jorge Rodrigues, Maria Amélia Marques. – Curitiba, PR: Artemis, 2023.

Formato: PDF
Requisitos de sistema: Adobe Acrobat Reader
Modo de acesso: World Wide Web
Inclui bibliografia
Edição bilíngue
ISBN 978-65-87396-82-8
DOI 10.37572/EdArt_290523828

1. Ciências sociais aplicadas – Pesquisa – Brasil. 2. Abordagem interdisciplinar do conhecimento. I. Rodrigues, Jorge José Martins. II. Marques, Maria Amélia.

CDD 307

Elaborado por Maurício Amormino Júnior – CRB6/2422

EDITORA ARTEMIS
2023

Editora Artemis
Curitiba-PR Brasil
www.editoraartemis.com.br
e-mail:publicar@editoraartemis.com.br

APRESENTAÇÃO

O nono volume desta colecção segue a lógica dos livros anteriores. Procura apresentar ao leitor uma coletânea de artigos sobre problemáticas que são transversais ao campo das ciências sociais aplicadas.

Sendo discutível, na metodologia seguida na organização dos vários volumes procurou-se privilegiar artigos que abordassem novas tendências e/ou problemáticas transversais relevantes, adotassem metodologias mais holísticas e/ou modelos de investigação aplicada, apresentassem estudos de caso nacionais e/ou internacionais e procurassem ser reflexivos. Nesse contexto, o nono volume está organizado em quatro grandes eixos – Planeamento e informação, Turismo, Saúde e ergonomia, Direito.

Na construção da estrutura de cada eixo procurou-se seguir uma lógica em que cada artigo possa contribuir para uma melhor compreensão do artigo seguinte, gerando-se um fluxo de conhecimento acumulado que se pretende fluido e em espiral crescente.

Assim, o eixo Planeamento e informação, é constituído por um conjunto de quatro artigos. O planeamento dos territórios urbanos influencia a arquitectura das cidades e os seus equipamentos. Assim, o recurso aos sistemas de informação geográficos e cadastrais, enquanto sistemas geradores de informação e conhecimento, poderão ser bons preditores e auxiliares de gestão do risco, quer das cidades quer dos seus equipamentos.

O eixo Turismo junta um conjunto de sete artigos que, em comum, contribuem para optimizar os serviços e melhorar a imagem do turismo e do património cultural. A afectação ágil de recursos às actividades que mais deles necessitam, em cada momento, é um bom indicador de eficiência e de qualidade do serviço prestado. Esta flexibilidade permite redireccionar os diferentes imaginários e expectativas culturais e espaciais dos turistas, nas diferentes épocas do ano.

No eixo Saúde e ergonomia, composto por seis artigos, subjaz que uma política de avaliação de serviços de saúde necessita da medição dos seus efeitos, da comparação com outros indicadores e de incentivos. Este pressuposto contraria a falácia de quanto mais idade se tem mais se sabe sobre sexualidade e reprodução. Os riscos associados a tal ideia induzem à forte necessidade de formação contínua e treino de competências para a prevenção e promoção da saúde, onde se incluem os métodos ergonómicos, por forma a poupar energia.

O eixo Direito é composto por quatro artigos. Os normativos legais, em geral, obedecem a princípios éticos universais. Contudo, ainda há muitas lacunas a superar, nomeadamente quanto aos direitos femininos, com a ganância e a corrupção sempre à espreita.

Com a disponibilização deste livro e seus artigos esperamos que os mesmos gerem inquietude intelectual e curiosidade científica, procurando a satisfação de novas necessidades e descobertas, motor de todas as fontes de inovação.

Jorge Rodrigues, ISCAL/IPL, Portugal

Maria Amélia Marques, IPS/ESCE, Portugal

SUMÁRIO

PLANEAMENTO E INFORMAÇÃO

CAPÍTULO 1..1

IMPACTO EN EL ESPACIO PÚBLICO DE LAS EXTERNALIDADES PROVOCADAS POR LA DENSIFICACIÓN RESIDENCIAL EN ALTURA

M. Eugenia Pallarés Torres
Mirtha Pallarés Torres
Jing Chang Lou

https://doi.org/10.37572/EdArt_2905238281

CAPÍTULO 2..14

EQUIPAMENTOS: GERADORES DE URBANIDADE E CONSTRUTORES DE CIDADE: UMA ANÁLISE AO PATRIMÓNIO ARQUITETÓNICO DA CIDADE DO PORTO ENTRE 1930 E 2020

Ricardo Martins
Gonçalo Miguel Furtado Cardoso Lopes

https://doi.org/10.37572/EdArt_2905238282

CAPÍTULO 3..34

CHALLENGES IN BATHING WATERS DROWNING RISK MANAGEMENT – A CASE STUDY IN THE MADEIRA ISLAND

Paulo Falé
André Rodrigues
Carlos Hermenegildo
Johnny Reis

https://doi.org/10.37572/EdArt_2905238283

CAPÍTULO 4..52

ORGANIZAÇÃO E REPRESENTAÇÃO DO CONHECIMENTO CORPORATIVO

Maurício Barcellos Almeida
Christiano Pereira Pessanha

https://doi.org/10.37572/EdArt_2905238284

TURISMO

CAPÍTULO 5 .... **64**

ADECUADA ASIGNACIÓN DE LOS RECURSOS EN SISTEMAS DE SERVUCCIÓN BAJO ENFOQUE LEAN SERVICES: CASO DE ESTUDIO INDUSTRIA DE HOSPITALIDAD

Hernando Garzón Saenz
Andrés Redchuk

https://doi.org/10.37572/EdArt_2905238285

CAPÍTULO 6 .... **75**

MEGALITHIC TERM IN INDONESIAN CULTURE PROBLEM AND ALTERNATIVE FOR SOLUTION PROPOSED

Lutfi Yondri

https://doi.org/10.37572/EdArt_2905238286

CAPÍTULO 7 .... **86**

COORDINANDO INVESTIGACIONES INTERDISCIPLINARIAS: DE IMAGINARIOS A PRÁCTICAS

Mabel Silva

https://doi.org/10.37572/EdArt_2905238287

CAPÍTULO 8 .... **97**

SISTEMA FOTOVOLTAICO AISLADO, DISEÑO PARA UTILIZAR EN LA MACROPLAZA DEL MALECÓN VERACRUZ: CONTRIBUCIÓN DE TECNM VERACRUZ, A MICROEMPRESA MÓVIL O FIJA DE ARTESANÍAS

Miguel Ángel Quiroz García
José Luis Fernando Palomeque Loyo
Alma Genoveva Castro Valdés
Cesar Von Putilitz Balderas
Enrique Sánchez Hernández
Angel Miranda Juárez
Reyna Matías Correo
Martha Bibiana Arriaga López

https://doi.org/10.37572/EdArt_2905238288

CAPÍTULO 9 .... **107**

SOME PRELIMINARY NOTES ON TOURISM: AN ANALYSIS TO START THE DIALOGUE

Antonia del Rosario Sánchez Gonzales
Marco Antonio Bazalar Hoces
Víctor Marcelino López Lino
Raúl Eleazar Arias Sánchez

https://doi.org/10.37572/EdArt_2905238289

CAPÍTULO 10 .... **116**

LA ECONOMÍA SOCIAL Y SOLIDARIA Y LAS NUEVAS ORQUESTAS DE TANGO: DE LA TRANSFORMACIÓN DE LA CULTURA A LA CULTURA TRANSFORMADORA

Walter Tejeda

https://doi.org/10.37572/EdArt_29052382810

CAPÍTULO 11 .... **122**

TRANSFORMACIÓN DIGITAL DEL TURISMO EN MÉXICO, 2023

Giuseppe Francisco Falcone Treviño
Zaida Leticia Tinajero Mallozzi
Joel Luis Jiménez Galán

https://doi.org/10.37572/EdArt_29052382811

SAÚDE E ERGONOMIA

CAPÍTULO 12 .... **136**

INDICATORS FOR QUALITY MONITORING IN HEALTH AND PATIENT SAFETY

Cristina Maria Antunes Martins d´Arrábida
Nuno de Almeida Alves

https://doi.org/10.37572/EdArt_29052382812

CAPÍTULO 13 .... **152**

SEXUALIDAD Y REPRODUCCIÓN, DOMINIO AJENO? PROSPECTIVA DE UN ESTUDIO CON MUJERES MILLENNIALS MEXICANAS

Martha Gálvez Landeros

https://doi.org/10.37572/EdArt_29052382813

CAPÍTULO 14 .... **161**

PREVENÇÃO DE RISCOS PSICOSSOCIAIS NO TRABALHO – DO ASSÉDIO E MOBBING À FORMAÇÃO HUMANA, EM VARIÁVEIS COMO STRESS, ANSIEDADE E DEPRESSÃO

Nádia Catarina Lima

https://doi.org/10.37572/EdArt_29052382814

CAPÍTULO 15 .... **169**

POSTURAL RISK ASSESSMENT OF OFFICE STAFF IN A PUBLIC UNIVERSITY

Julio César Cano Gutierrez
Alejandra García Becerra
Claudia Camargo Wilson
Jesús Everardo Olguín Tiznado
Juan Andrés López Barrera
Lidia Yolanda Ramírez Ríos
Melissa Ayrem Cázarez Manríquez
Abraham Aranda Avilés

https://doi.org/10.37572/EdArt_29052382815

CAPÍTULO 16 .... **180**

CALENTADOR DE AGUA SOLAR DE BAJO COSTO CON CIRCULACIÓN FORZADA AUTÓNOMA

Nicolás Di Lalla
Alejandro Luis Hernández
Andrés Emanuel Diaz

https://doi.org/10.37572/EdArt_29052382816

CAPÍTULO 17 .... **193**

IDENTIFICACIÓN DE LA PRESENCIA DE ESTUDIANTES DE GERONTOLOGÍA EN EL DESEMPEÑO DE LA PRÁCTICA PRIVADA

Jaqueline Guadalupe Guerrero Ceh
José Francisco Duarte Méndez
Elías Contreras Cordero
Claudia Beatríz Novelo Berzunza
Ana Mary Noh Delgado
José Luis Canto Ramírez

https://doi.org/10.37572/EdArt_29052382817

DIREITO

CAPÍTULO 18 203

LA RREVOCABILIDAD DE LA REMISIÓN A PROPOSITO DEL CÓDIGO DE RESPONSABILIDAD PENAL DEL ADOLESCENTE EN EL PERÙ

Alberto Pablo Soto Alfaro

https://doi.org/10.37572/EdArt_29052382818

CAPÍTULO 19 214

GÉNERO Y DERECHO: ANÁLISIS DE LA JURISPRUDENCIA ECUATORIANA EN TORNO AL DERECHO DE LAS MUJERES A UNA VIDA LIBRE DE VIOLENCIA DURANTE EL PERÍODO 1998-2008

Catalina Mendoza Eskola

https://doi.org/10.37572/EdArt_29052382819

CAPÍTULO 20 234

EL CONTEXTO DE VIOLENCIA EN MEXICO Y EL NUEVO MARCO INSTITUCIONAL PROPUESTO POR LA NUEVA ESCUELA MEXICANA, GENERANDO LA CULTURA DE LA PAZ

Jorge Alberto Vidal Urrutia
José Arturo Morales Juárez

https://doi.org/10.37572/EdArt_29052382820

CAPÍTULO 21 245

THE NAKED OPTION, DELTA BOYS AND *BIG MEN*: AN ANALYSIS OF CORRUPTION IN THE NIGER DELTA

Óscar Ortega Montero

https://doi.org/10.37572/EdArt_29052382821

SOBRE OS ORGANIZADORES 256

ÍNDICE REMISSIVO 257

CAPÍTULO 3

CHALLENGES IN BATHING WATERS DROWNING RISK MANAGEMENT – A CASE STUDY IN THE MADEIRA ISLAND

Data de submissão: 24/03/2023
Data de aceite: 10/04/2023

Paulo Falé
Faculty of Natural Sciences
Engineering Technologies
Lusófona University of Porto
Porto, Portugal
https://orcid.org/0000-0002-4494-6266

André Rodrigues
Faculty of Natural Sciences
Engineering Technologies
Lusófona University of Porto
Porto, Portugal
https://orcid.org/0000-0003-2158-3180

Carlos Hermenegildo
Faculty of Natural Sciences
Engineering Technologies
Lusófona University of Porto
Porto, Portugal
https://orcid.org/0000-0002-4065-4733

Johnny Reis
CESAM – Center for
Environmental and
Marine Studies &
Department Environment
and Planning
University of Aveiro
Aveiro, Portugal
https://orcid.org/0000-0003-4500-3937

ABSTRACT: Over 27 years (1992-2019), 6057 deaths by drowning have been recorded in Portugal, with a growing trend over the last decade. In 2022, eighteen fatal accidents directly related to bathing at sea occurred, on the river or lake beaches and in other maritime areas, with 10 directly associated with drowning. Madeira Island, and in particular the municipality of Machico, could not remain indifferent to this global scourge. Risk management in bathing waters and drowning prevention have represented an enormous challenge due to the lack of a standardized risk management model applicable to bathing waters. The weaknesses in the identification and risk management, combined with low water safety literacy, have significantly contributed to the high rate of drowning mortality. For this study Geographic Information Systems (GIS), ISO 31000 and ISO 13009 were used, conjugated with the beach risk assessment model developed by Peter Dawes. These tools allowed us to obtain a set of results from the risk analysis carried out on the bathing waters of São Roque, Banda d'Além, Prainha and Maiata. This analysis allowed the implementation of complementary measures to increase the awareness of users, who are not familiar with the beach environment, and thus are less aware of the coastal dangers and drowning risk.

KEYWORDS: Risk management. Risk of drowning. Bathing waters. Geographic Information Systems.

1 INTRODUCTION

Recreational uses of inland and marine waters are increasing in many countries worldwide. These uses range from whole-body water contact sports, such as swimming, surfing and slalom canoeing, to non-contact sports, such as fishing, walking, birdwatching and picnicking [1].

Risk management in bathing waters and aquatic spaces represents a huge challenge for all those who, in some way, are linked to the area of defence and protection of life, more specifically to the prevention of drowning accidents. In this context and due to the imperative need to improve knowledge about risks, the implementation of policies (policy, goals, mandate and commitment) and organizational provisions (plans, relationships, accountability, resources, processes and activities), allows the creation and implementation of risk monitoring and review measures, to maintain high levels of safety enhancement and drowning prevention. The Foundation for Environmental Education (FEE) [2], which oversees the regulations and procedures for awarding the Blue Flag, implemented a set of criteria which are now part of the assessment and risk management in bathing waters, under the guidelines of the International Lifesaving Federation (ILS) [3]. These criteria, which aim to ensure safety in bathing areas, including some of the measures and procedures are based on ISO 31000 [4] and ISO 13009 [5].

Although each year at least 372.000 persons die from drowning worldwide, it is a neglected issue. There is a great need for research, covering all aspects of drowning reduction [1]. Drowning, which has been defined as death arising from impairment of respiratory function as a result of immersion in liquid, is a major cause of death worldwide, particularly for male children [6].

Although the number of people dying each year confirms drowning as a major problem worldwide, most studies relate to preventive and forensic aspects without integrating them within an overarching theoretical model [7].

In the year 2022, 654 bathing waters were identified in Portugal (surface waters, whether inland, coastal or transitional, where a large number of people are expected to bathe and where bathing has not been banned or permanently advised against), of which 57 are located in the Autonomous Region of Madeira [8], with a bathing season period running from March 1 to October 31 [9].

Despite the human and financial costs and the potential for action, drowning has largely been absent from the international political agenda [10].

The bathing water management administrative authorities are obliged to ensure information, surveillance, and support, to reduce the potential risk of occurrences and consequently of drowning in bathing waters, depending on the periods in which a greater inflow is expected, taking into account the meteorological conditions and the geophysical characteristics of each zone or place, as well as the social or environmental interests specific to the location, under the legal framework in force and based on the ISO 13009 standard [4], to the bathing beaches.

Successful whole-of-society approaches can help to ensure that important frameworks (e.g., national drowning-prevention plans) are well adapted to the risk factors and that full advantage is made of the communities that can inform understanding of the relevant risk factors. [11, 12]

The hazards that are encountered in recreational water environments vary from site to site, as do the nature and extent of exposure. [6]

In this context, it is important to increase knowledge about the specific risks of each bathing water, allowing the adoption of risk prevention and management measures, by the ISO 31000 standard [4] ensuring the objective of zero mortality, in terms of drowning episodes. ISO 31000 identifies that risk management is the practice of using processes, methods and tools for managing these risks and that the organizations that have identified risks and committed to the effective management of those risks will be better prepared to deal with them [4].

An extensive review of the drowning-incident literature revealed that drowning incidents can occur as a result of several factors that can be categorized [13] in human activity in, on, and around an aquatic environment, a drowning incident might happen to whomever, wherever, and under whatever circumstances [10].

The main objective of this study is the creation and validation of a risk identification, auditing and assessment model, which can be implemented at the national level to reduce the potential risk of occurrences and consequently of drowning in bathing waters.

The geological characterization of the municipality of Machico and the specific and peculiar characteristics of the bathing waters selected for this case study, allowed us to facilitate the interpretation of the concepts and methodology chosen, applicable to the model for assessing the risk of drowning in bathing waters.

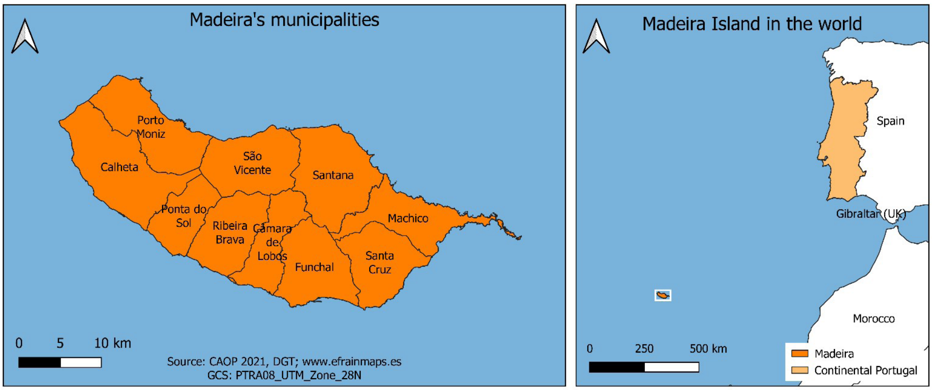
2 STUDY AREA FRAMEWORK

2.1 GEOGRAPHICAL FRAMEWORK

The Autonomous Region of Madeira (ARM) is located in the Atlantic Ocean, southwest of the Iberian Peninsula, and benefits from a privileged position, being 978 km from Lisbon and 700 km from the African coast. The Madeira Archipelago determines a geographic location in the Northeast (sector of the North Atlantic, between the parallels 30º 01’ and 33º 08’ N and the meridians 15º 51’ and 17º 16’ W, in an intraplate region, to

West of the African Continent, Southwest of Mainland Portugal and the Southeast of the Azores Archipelago (Figure 1). It comprises the island of Madeira (785.6km2), the island of Porto Santo (42.4km2) and the islets of Desertas and Selvagens, with an area of 14km2 and 4km2, respectively [14].

Figure 1. Territorial Framework of Autonomous Region of Madeira. Source: CAOP 2021 [15].



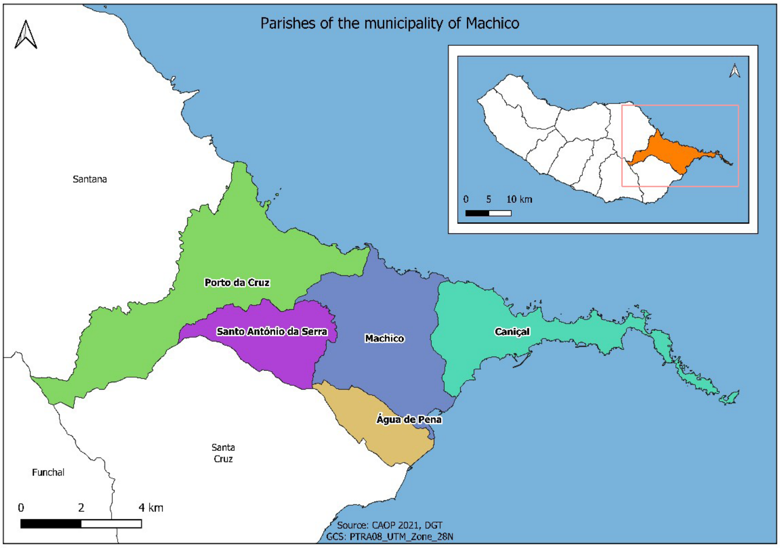
The island of Madeira, morphologically influenced by the volcanic structures that originated it, by the nature of its rocks, variations in sea level, climate and by the time of exposure to erosion agents [14], concentrates an enormous diversity of landscapes, from vegetation and microclimates, with 40% of its territory above 1,400 m altitude.

2.2 CHARACTERIZATION OF THE TERRITORY OF THE MUNICIPALITY OF MACHICO

The municipality of Machico, located at the eastern end of the territory of Madeira Island (Figure 2), at a latitude of about 32º N and longitude of 17º W, is constituted, on the north coast and in the innermost zone, by a territory of relief with the highest altitude at about 1,480 m, and, in the coastal zone of the south coast of the Island, by a territory of milder relief, marked by the broad valley of Ribeira de Machico (with a hydrographic basin of 25.43 km^2) [14]. This stream and the Ribeiro Frio, which forms the western limit of the municipality, constitute the main watercourses since the remaining hydrographic network of the municipality is made up of small streams of a non-permanent nature, with a torrential regime in winter, but which, in some summer months are dry [16].

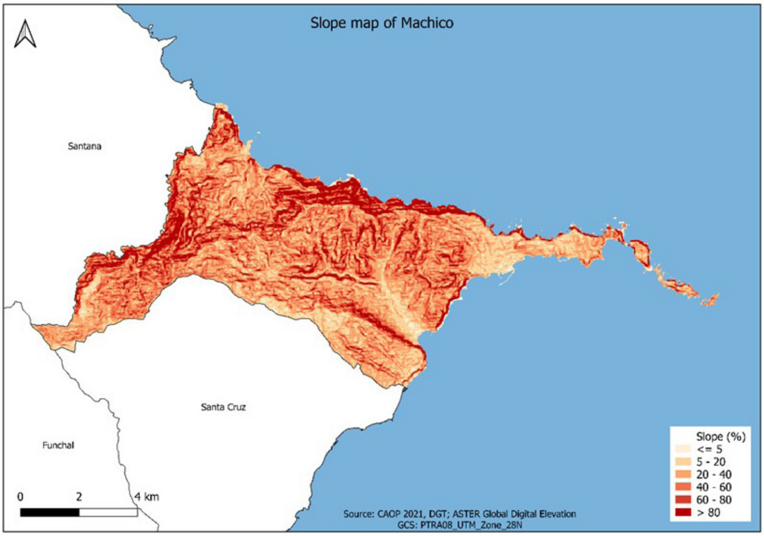
In the rugged relief, which characterizes almost the entire island, the central massif that extends through the interior of the municipality of Machico stands out, and in which there are several evidence of its volcanic origin, namely traces of volcanic apparatus, slag cones, pyroclastics and volcanic complexes. At the Eastern end of the municipality (and the island), from Caniçal to Ponta de São Lourenço, the territory extends into a narrow and low strip, with distinct geological characteristics, where dune formations made up of accumulations of continental sands are found, and limestone crusts formed by sands with incrustations of shell fragments, foraminifera and algae, which allowed the formation of one of the few permanent sandy beaches (Prainha) on the entire island [17].

Figure 2. Territorial Framework of Machico Municipality. Source: CAOP 2021 [15].



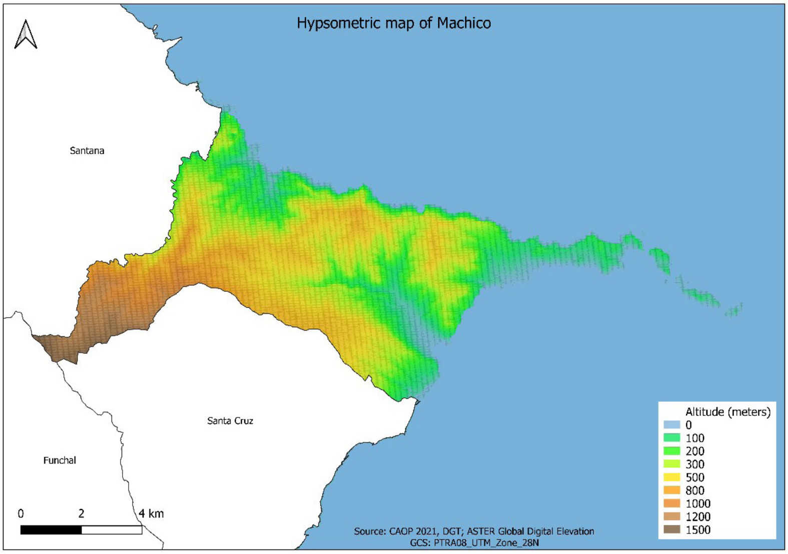
In terms of morphology, the municipality of Machico has a wide variety of slopes, divided into areas with slopes below 40% and above 40% (Figure 3). In areas with a slope of less than 20%, urban occupation predominates, excluding Ponta de São Lourenço, and areas with a slope of more than 80% correspond to escarpment zones [18].

Figure 3. Slope maps of Machico municipality. Source: CAOP 2021 [15]; Level curves and quoted points - Master Plan of Machico Municipality [18].



In the area defined for the risk assessment study, the altimetric variation is quite significant, with elevation intervals between 0 and above 1050 m (Figure 4). The lowest area corresponds to Ponta de São Lourenço, where elevations below 150 m predominate. This zone represents the eastern end of the Massif Central and the municipality and corresponds to a narrow, irregular and curved peninsula. Morphologically, it is distinguished from the rest of the Island by its smooth relief and low altitude and is characterized by the lack of vegetation [14].

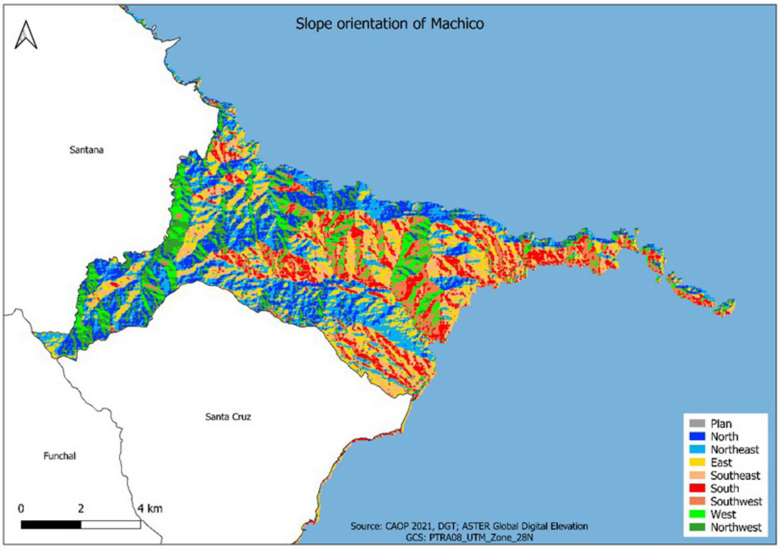
Figure 4. Hypsometric map of Machico municipality. Source: CAOP 2021 [15]; Level curves and quoted points - Master Plan of Machico Municipality [18].



From the global analysis of slope orientation, the municipality is divided into temperate and very hot slopes and cold to very cold slopes, giving rise to the existence of many microclimates, resulting from the relief complex not only of Machico but of the entire Madeira Island (Figure 5).

Slopes facing south have greater climatic comfort as they are warmer slopes, while those facing north have slopes with lower temperature values and less climate comfort.

Figure 5. Exposition Map of Machico municipality. Source: CAOP 2021 [15].



The general data on the average annual temperature in the municipality of Machico, recorded at the stations of Caniçal/Ponta de São Lourenço and Santo da Serra, for observations in the period 2000-2021, show that the average minimum temperatures in the coldest month are 14.6 ºC in coastal areas, with the average maximum in the hottest month in coastal areas being 23.7 ºC [12].

The average annual rainfall in coastal areas is about 400 mm, with a maximum in November 2021 (about 220 mm), with about 300 days a year without rain on the south coast. The municipality of Machico, due to its Atlantic location and orographic characteristics, exhibits climatic diversity, mainly through the dominant trade winds (which blow from the north/northeast) [19].

According to the above, the geological variety of the municipality leads to a greater diversity of hazards in bathing waters, which increases the probability of occurrences and, consequently, drowning episodes. In this way, the characterization of the municipality becomes essential, namely the analysis of slopes and hypsometry, which allow a better precession of the relief and subsequent interpretation of the hydrodynamics of bathing waters and the associated hazards. Likewise, the exposure, combined with the meteorological profile, allows the consolidation and interpretation of data referring to the affluence rates, essential for the analysis of exposure and the respective risk assessment.

3 METHODOLOGY

To carry out the risk assessment of bathing waters in the municipality of Machico, the data available in the Official Administrative Charter of Portugal (CAOP) [15] and the

Municipal Master Plan of Machico [18], will be collected and respective treatment, using Geographic Information Systems (GIS). Once the characterization of the municipality and its bathing waters has been completed, a risk assessment will be carried out, according to the Dawes and Scott model "Developing a beach risk assessment model" [20] and the ISO 31000 [4] and ISO standards. 13009 [5]. Figure 6 shows the Architecture design of the proposed methodology.

Figure 6. Architecture design of the Risk Management Process. Adapted from ISO 31000:2018 [4].

The characterization and identification of hazards in the bathing waters selected for the study, concerning the drowning risk, are divided into two broad categories [20]:

- Natural hazards
- Humans hazards

Natural hazards, within the scope of risk assessment in bathing waters, arise from the combination of the morphological and hydrodynamic characteristics of bathing water and their impact on the change in severity (eg currents, tidal amplitude, slope). The hazards, characterized as natural, but which do not imply a change in the level of severity, and the increased drowning risk, concerning the activities carried out in the water, are quantified through a model of bathing water audits, developed in addition to this project.

Human hazards result from instantaneous affluence (bathers in the water), combined with conflicting activities practised simultaneously in the water (eg surfing, boat operation).

Although there are two different categories of hazard characterization, it is the interaction between both (people and environment) that triggers the risk of drowning in bathing waters.

Vulnerability, although not part of the present study, makes it possible to categorize the types of users, according to low, medium or high-risk levels. Table 1 presents the qualitative level of conflict for a set of activities carried out in bathing waters.

Table 1. Conflict level for a set of activities carried out in bathing waters. Adapted from Dawes [20].

Activity Localization	Activity type	Conflict level
Swash* e and *Surf areas	Paddling	Low
	Wading	
	Swimming	Medium
	Activities with inflatables	
	Bodysurfing	
	Bodyboarding	
	Wave dodging	High
	Cliff jumping	
	Surfing	
	Windsurfing	
	Kitesurfing	
	Recreational boats	
Besides the area of surf	Rowing	Low
	Diving	Medium
	Sailing	
	Snorkelling	
	Motor boats	High
	Water Ski	

3.1 BATHING WATER SEVERITY CLASSIFICATION MODEL

The quantification of severity (capacity of the process or action to produce conditions for drowning) will be carried out using the interpretation of the hydrodynamics of bathing water and the hazards associated with the exposure of bathers, as Table 2.

Table 2. Bathing water severity level calculator. Adapted from Dawes [20].

	Energy (severity)		Population (exposure)	
Classification	**Tide**	**Wave High**	**Water bathers***	**Activity conflict****
1	Normal tidal range (square)	0–0.25m	1–25	Isolated incidents
2	Amplitude of high tide (syzygy)	> 0.25–0.5m	> 25–50	Regular
3	Danger of overturning and dragging	> 0.5–0.75m	> 50–75	Persistent danger
4	High tide range, with danger of toppling and dragging	> 0.75–1.0m	> 75–100	Persistent and dangerous
5		> 1.0–1.5m	> 100–150	
6		> 1.5–2.0m	> 150–200	
7		> 2.0m	> 200	

* To calculate the number of people in the water including surfing activities, the following factors must be considered: beginner surfer=0.5; experienced surfer or bodyborder=0.25.

** Conflicting activities are defined as those where there is an increased danger of conflict with bathers (eg swimming, surfing, bodyboarding and operating motorized boats). Not applicable to bathing beaches.

The equation for calculating severity results from the arithmetic sum of the classifications associated with energy and population.

$$Severity\ level = Energy\ (Tide + Wave\ Amplitude) + Population\ (Water\ Bathers + Conflict\ Activities) \quad (1)$$

The severity level is subsequently classified qualitatively using Table 3.

Table 3. Severity level. Adapted from Dawes [20].

Qualitative definition	Severity level
High	> 15
Medium - High	12 - 15
Medium	8 - 11
Low - Medium	5 - 7
Low	0 - 4

The typified consequences for risk assessment in bathing waters are death and morbidity from drowning. To calculate the degree of risk of bathing water, Table 4 presents the qualitative definitions for the probability of occurrence of this event.

Table 4. Degree of probability of drowning in bathing water. Adapted from Technical Notebook PROCIV n.º 9, ANEPC [21].

Qualitative definition	Description
High	Expected to occur often (has occurred frequently)
Medium - High	Likely to occur sometimes (has occurred occasionally)
Medium	Unlikely, but possible to occur (uncertain, random periodicity and with little reason to occur)
Low - Medium	Very unlikely to occur (no previous occurrence known)
Low	Almost inconceivable that the event would occur

The simplified qualitative matrix, for risk management and prevention of drowning in bathing waters, will be the result of the probability of occurrence (death or morbidity by drowning), with the qualitative quantification of the severity level, according to Table 5.

Table 5. The qualitative risk matrix for bathing waters. Adapted from Technical Notebook PROCIV n.º 9, ANEPC [21].

		Severity				
		Low	**Low-Medium**	**Medium**	**Medium-High**	**High**
Probability	High	Low Risk	Moderated Risk	High Risk	Extreme Risk	Extreme Risk
	Medium-High	Low Risk	Moderated Risk	High Risk	High Risk	Extreme Risk
	Medium	Low Risk	Moderated Risk	Moderated Risk	High Risk	Extreme Risk
	Low-Medium	Low Risk	Low Risk	Moderated Risk	High Risk	Extreme Risk
	Low	Low Risk	Low Risk	Moderated Risk	Moderated Risk	High Risk

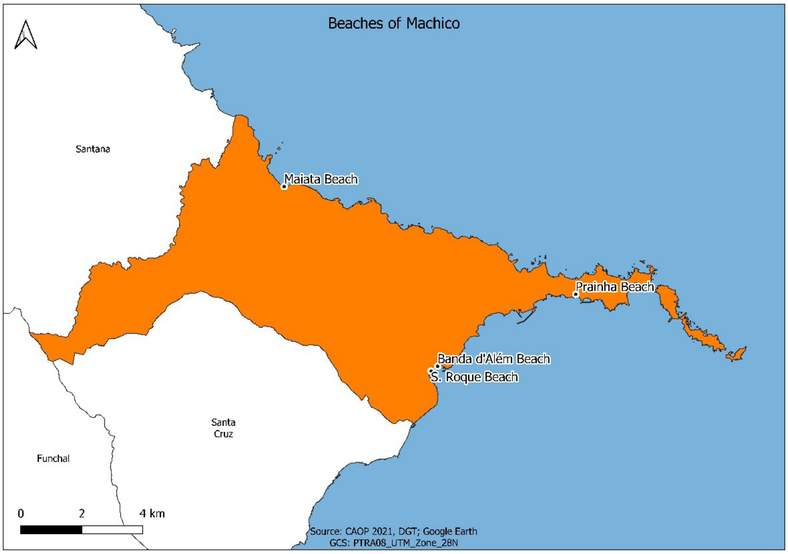
3.2 STUDY CASE – MACHICO BEACHES

The assessment of risk prevention and management measures in bathing waters will be carried out in the parishes of Machico, Caniçal and Porto da Cruz (Figure 7), integrated into the Hydrographic Region (RH10) watershed [22]. Although located in the same municipality, the enormous diversity of characteristics, combined with the possibility of carrying out a simultaneous analysis on the north and south coasts of the Autonomous Region of Madeira, led to the choice of beaches identified in Figure 7.

In terms of human dangers, the choice fell on the bathing waters of Banda d'Além and Prainha, not only because they present the greatest diversity of users, but also because of the interest in evaluating bathing water sheltered by the natural conditions of the bay where is inserted, compared to bathing water with the same gradient profile (flat), but artificially designed.

Concerning natural hazards, the choice of bathing waters in Maiata and São Roque stems from the type of gradient and profile of the seabed, which, combined with direct exposure to meteorological conditions, allow significant changes in the level of severity.

Figure 7. Bathing waters of the municipality of Machico. Source: CAOP 2021 [15].

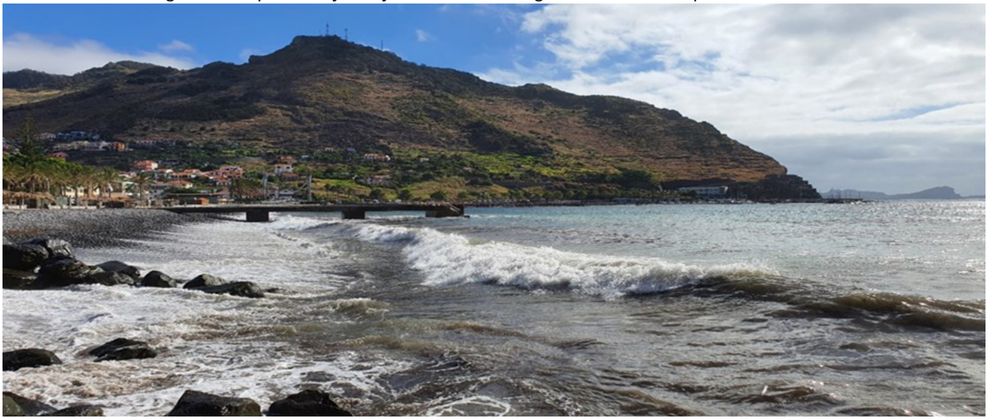


3.2.1 Bathing waters of São Roque

The bathing water of São Roque, characterized as an Urban Beach with intensive use [22], presents a hydrodynamic strongly influenced by the effects of the local maritime agitation. It presents a moderate slope, especially to the east of the access pier to the sea, which potentiates the occurrence of sprawling waves and the consequent return currents, which recurrently produce the displacement of sediments by entrainment, especially when exposed to the maritime agitation of the south quadrant, combined with greater tidal amplitudes (Figure 8).

The west front of the bathing water has a lower slope and the protection of a sandbar that absorbs part of the energy in the lower swell amplitudes, which allows the development of surfing/bodyboarding activities.

Figure 8. Slope and hydrodynamics of bathing water in São Roque. Own Source.



3.2.2 Bathing waters of Banda d'Além

The bathing water of Banda d'Além, also characterized as an Urban Beach with intensive use [22], is protected to the east by the Porto de Abrigo breakwater and to the west by the Ribeira de Machico breakwater, creating a protection zone for the effects of the maritime agitation, which minimizes the transport of sediments by the dragging component, being only visible and with little impact, the transport in suspension. With the effects of sea waves mitigated and a flat gradient (slope) profile, the surf zone is protected from the influence of return currents, as can be seen in Figure 9.

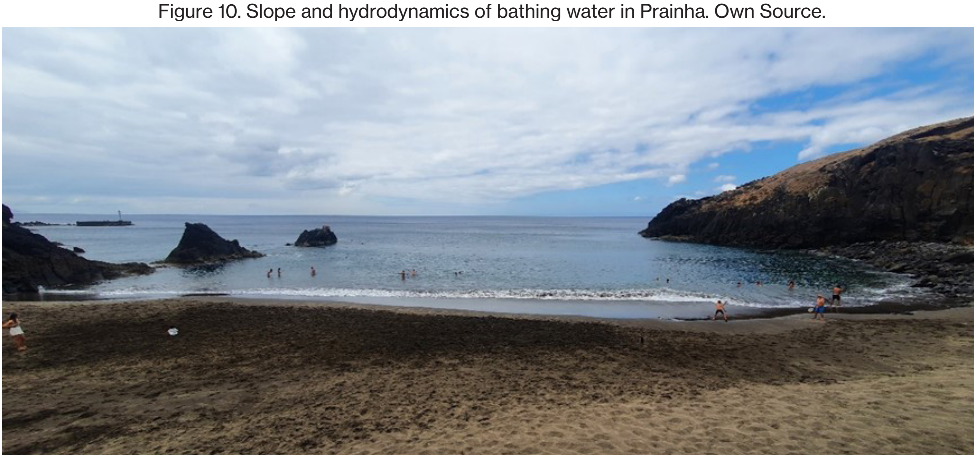
Figure 9. Slope and hydrodynamics of bathing water in Banda d'Além. Own Source.

3.2.3 Bathing waters of Prainha

The bathing water of Prainha is sheltered in a rocky cove in Ponta da São Lourenço, far from the urban centre. Characterized as a non-urban beach with intensive use – type II [22], it is one of the few permanent natural bathing waters with sand on Madeira Island (Figure 10), whose sandy sedimentary accumulation results essentially from erosion and transport of sand from deposits dunes [23].

The existing hydrodynamics is conditioned by the bay where the beach is located, which allows almost permanent protection and shelter against winter storms, allowing the existence of a sandy deposit of fine sediments.

Figure 10. Slope and hydrodynamics of bathing water in Prainha. Own Source.



3.2.4 Bathing waters of Maiata

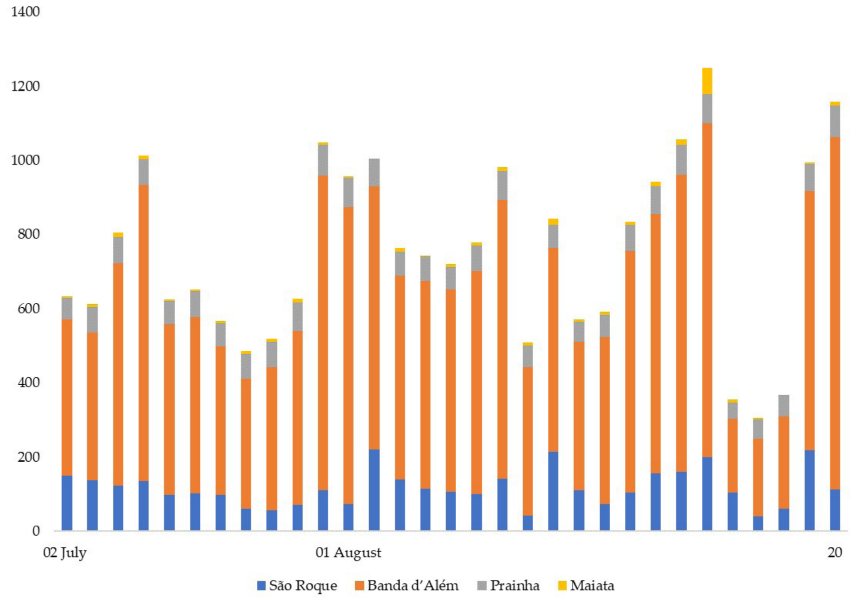
The bathing water of Maiata, characterized as a non-urban beach with intensive use – type II, presents a mixture of black sand and pebble and light waves (conditioned by the weather) [15]. Although considered an excellent place for nautical activities, the hydrodynamics of the beach of Maiata, aggregates the effects of the tidal current with the sea currents (Figure 11), especially in periods of greater tidal amplitudes, which provide the existence of tidal currents. return with greater intensity.

Figure 11. Slope and hydrodynamics of bathing water in Maiata. Own Source.

4 RESULTS

To allow greater precision in the exposure classification values (bathing in the water and conflict of activities), an effective user counting procedure was developed on July 2 to 20 of August 2022, and the instantaneous rate values were used for the classification of bathers in the water, according to Figure 12. Face-to-face counts were carried out by volunteers who counted beach users at 4 pm, between the 2nd of July and the 20th of August.

Figure 12. instantaneous rate values of the effective users of bathers in the water from the beaches. Own Source.



To calculate and qualitatively classify the risk, was used, the classification equation for the severity level in bathing water, combined with the classification assigned in Table 2.

Table 6 shows the methodology presented for the calculation and classification of the risks for the beaches of the case study. The severity level results for the identified bathing waters are presented in Table 6.

Table 6. Severity classification in bathing waters.

	Tide	Wave Amplitude	Water bathers	Activity conflict	Severity
São Roque	3	3	1	1	Medium
Banda d'Além	1	1	2	1	Low-Medium
Prainha	1	2	1	1	Low-Medium
Maiata	3	4	1	1	Medium

For the bathing water of the São Roque the following assumptions for the application of the methodology were considered:

Tide: 3 - Danger of overturning and dragging, due to the gradient and type of swell (sprawling).

Wave Amplitude: 3 – Ripple Amplitude between 0.5–0.75m

Water Bathers: 1 - (1 - 25)

Conflict of activities: 1 - Due to the inexistence of ripple in the period of analysis, there are no activities and respective conflicts.

A severity value of 8 was obtained through the calculation, which corresponds to Table 4, at a qualitative level of Medium severity.

It is important to mention that the qualitative level of severity changes in the bathing waters of São Roque and Maiata, through the variation of maritime agitation (wave amplitude) and tidal amplitude (tide). Low and low-medium severity levels can occur in the bathing waters of São Roque and Maiata during periods of slump tide or at low tide or syzygy tide periods, with little sea agitation. In this last period, the variation between low tide and high tide can quickly change the energy level and consequently the severity leading to the occurrence of accidents.

In the process of risk analysis, the occurrences of mortality and morbidity due to drowning in the identified bathing waters were considered. Although it was not possible to access more precise data, probability sampling was carried out using information from the media. Concerning the drowning probability, were considered the two deaths in the bathing water of Maiata in 2016 [24] and the lack of records of occurrences, with serious consequences in the other bathing waters. The qualitative risk matrix for the bathing waters evaluated takes the following from Table 7.

Table 7. Qualitative risk classification.

	Severity	Probability	Risk Rating
São Roque	Medium	Medium	Moderated Risk
Banda d'Além	Low- Medium	Low- Medium	Low Risk
Prainha	Low- Medium	Low- Medium	Low Risk
Maiata	Medium	Medium-High	High Risk

5 CONCLUSIONS

Over 27 years (1992-2019), there were 6,057 drowning deaths in Portugal, with an increasing trend in the last decade. In 2022, according to data from the National Maritime Authority, there were up to 18 fatal accidents directly related to bathing on sea, river or lake beaches and in other maritime areas, of which at least 10 were caused by drowning. The Autonomous Region of Madeira and, in particular, the municipality of Machico, cannot remain indifferent to this global scourge.

The municipality of Machico, due to the existence of different hydrodynamic profiles of bathing waters, presents a huge challenge in risk management and drowning prevention. The application of the exposed methodology for the assessment of risk in bathing waters made it possible to classify the risk for the different bathing waters and validate the model through the presentation of qualitative classifications. It was possible to verify the difference in severity between bathing waters as a function of hydrodynamic characteristics and exposure to the effects of adverse weather conditions. In this case, the bathing waters sheltered by bays (banda D'Além and Prainha), present a lower risk level and less impact of waves and respective sea currents, presenting a low-medium level of severity. Bathing waters with direct exposure (São Roque and Maiata) presented hydrodynamic characteristics of greater risk, with a medium severity level. The Medium-High probability of drowning occurrences for bathing water of Maiata, associated with the medium severity quality level, increases the qualitative value of the risk to High.

The main difficulties in carrying out this work stemmed from the need to articulate the doctrine of ISO 13009 and ISO 31000 standards, with the concepts of identification, analysis and risk assessment applicable to bathing waters.

The risk assessment model described and validated through the case study, will be integrated into a more comprehensive bathing water risk management model, currently under development, which includes the implementation of municipal bathing water risk management policies and provisions for organizational risk management and mitigation. An audit system is also being developed to assess the implementation of risk mitigation and management measures, which will integrate the requirements for the annual risk assessment of bathing waters.

6 AUTHOR CONTRIBUTIONS

Conceptualization, P.F., A.R. and C.H.; methodology, P.F., A.R., C.H. and J.R.; validation, P.F., A.R., C.H. and J.R.; investigation, P.F. and J.R.; data curation, P.F., C.H. and J.R.; writing-original draft preparation, P.F., A.R. and J.R.; writing-review and editing, P.F., A.R. and J.R.; supervision, A.R. and J.R.. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement: Not applicable.

7 ACKNOWLEDGEMENTS

Johnny Reis thanks the Foundation for Science and Technology / Ministry of Science, Technology and Higher Education FCT/MCTES for the financial support to CESAM (UIDP/50017/2020 + UIDB/50017/2020), through national funds.

Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

1. Carballo-Fazanes, A., & Bierens, J. J. L. M. (2020). The Visible Behaviour of Drowning Persons: A Pilot Observational Study Using Analytic Software and a Nominal Group Technique. International Journal of Environmental Research and Public Health, 17(18), 6930. MDPI AG. http://dx.doi.org/10.3390/ijerph17186930

2. Environmental Education Activities Handbook 2013. Blue flag programme, Foundation for Environmental Education. https://www.blueflag.global/publications (accessed on 31 August 2022).

3. International Life Saving Federation of Europe (ILSE), ILSE Risk Assessment Guidelines: 2007.

4. ISO 31000:2018, Risk management – a practical guide. 2018.

5. ISO 13009:2015. Tourism and related services – Requirements and recommendations for beach operation. 2015.

6. Guidelines for safe recreational water environments (2003) Coastal and Fresh Waters, Volume 1. World Health Organization, WHO, WHO, Geneva. ISBN 92 4 154580 1. Available in: http://whqlibdoc.who.int/publications/2003/9241545801.pdf

7. Avramidis, Stathis; Butterly, Ronald; and Llewellyn, David J. (2007) “The 4W Model of Drowning,” International Journal of Aquatic Research and Education: Vol. 1: No. 3, Article 5. DOI: https://doi.org/10.25035/ijare.01.03.05

8. Portaria n.º 141-A/2022, de 5 de maio, que procede à identificação das águas balneares, costeiras, de transição e interiores para o ano de 2022.

9. Decreto Legislativo Regional n.º 24/2021/M de 30 de agosto de 2021.

10. David R Meddings, Justin-Paul Scarr, Kelly Larson, James Vaughan, Etienne G Krug, Drowning prevention: turning the tide on a leading killer, The Lancet Public Health, Volume 6, Issue 9, 2021, Pages e692-e695, ISSN 2468-2667, https://doi.org/10.1016/S2468-2667(21)00165-1

11. Peden AE, Franklin RC, Leggat PA. Developing drowning prevention strategies for rivers through the use of a modified Delphi process. Inj Prev 2020; 26: 240–47.

12. Peden AE, Scarr JP, Mahony AJ. Analysis of fatal unintentional drowning in Australia 2008–2020: implications for the Australian Water Safety Strategy. Aust N Z J Public Health 2021; 45: 248–54.

13. Avramidis, S. (2004). The Model 4W of drowning & lifeguarding. In B.B. Barrosso, L.M.P. Gomez, M.A.G. Marinas, & P.S. Velaso (Eds.), VI Jornadas 2004, VI ESS Congress of Lifesaving book of abstracts (pp. 221-223). Segovia: Spain: Escuela Segovia de Socorisimo.

14. Ribeiro, Orlando – Le Portugal Central. Livret -Guide de l'Excursion C, Congrès International de Géographie, LISBONNE, 1949 (Reimpressão, 1982).

15. Carta Administrativa Oficial de Portugal - CAOP2021 (RAM). Available in: https://www.dgterritorio.gov.pt/dados-abertos (accessed on 31 August 2022).

16. Ribeiro, M. Luísa e Ramalho, Miguel, Uma visita ao Arquipélago da Madeira. Principais locais Geo-turíticos, Direcção Regional do Comércio, Indústria e Energia, Laboratório Nacional de Energia e Geologia, I.P, Lisboa: 2009.

17. Cancela d' Abreu, A. O., Análise Biofísica – Síntese Fisiográfica, Universidade de Évora, Évora: 1982.

18. Plano Diretor Municipal – Revisão – Relatório de caracterização e diagnóstico, Machico: 2018. Available in: https://www.cm-machico.pt/municipal/machico-atua/urbanismo/pdm-plano-diretor-municipal.

19. Dados meteorológicos – Available in: https://estatistica.madeira.gov.pt/download-now/ambiente-territorio/dados-meteorologicos/dados-meteorologicos-serie-retrospetiva.html (accessed on 31 August 2022).

20. Peter Dawes, RNLI, Poole, UK Developing a beach risk assessment model for practical application in the UK: 2007.

21. Caderno Técnico PROCIV n.º 9, ANEPC (2009). Available in: http://www.prociv.pt/bk/Documents/CTP9_www.pdf (accessed on 31 August 2022).

22. Direção Regional do Ambiente e Alterações Climáticas, Perfis de Águas Balneares. Available in: https://www.madeira.gov.pt/draac/pesquisar/ctl/ReadInformcao/mid/1920/InformacaoId/136145/UnidadeOrganicaId/14/LiveSearch/%c3%a1guas%20balneares (accessed on 31 August 2022).

23. Geodiversidade Madeira, "Prainha". Available in: https://geodiversidade.madeira.gov.pt/geossitios/madeira/machico/m01psl03-dunas-da-prainha.html (accessed on 31 August 2022).

24. Journal Sábado. Available in: https://www.sabado.pt/portugal/detalhe/madeira-mares-vivas-matam-duas-pessoas-na-praia-da-maiata (acedido em 22-08-2022).

SOBRE OS ORGANIZADORES

Jorge Rodrigues é economista. Licenciado, mestre e doutor em Gestão (ISCTE-IUL), com Agregação (UEuropeia). Mestre e pós-doutorado em Sociologia – ramo sociologia económica das organizações (FCSH NOVA). Professor coordenador com agregação no ISCAL – *Lisbon Accounting and Business School* / Instituto Politécnico de Lisboa, Portugal. Exerceu funções de direção em gestão (planeamento, marketing, comercial, finanças) no setor privado, público e cooperativo. Contabilista certificado. É investigador integrado no Instituto Jurídico Portucalense. Ensina e publica nas áreas de empresa familiar e família empresária, estratégia e finanças empresariais, gestão global, governabilidade organizacional, marketing, planeamento e controlo de gestão, responsabilidade social e ética das organizações.
https://orcid.org/0000-0001-7904-0061

Maria Amélia Marques, Doutora em Sociologia Económica das Organizações (ISEG/ULisboa), Mestre em Sistemas sócio-organizacionais da atividade económica - Sociologia da Empresa (ISEG/ULisboa), Licenciada (FPCE/UCoimbra), Professora Coordenadora no Departamento de Comportamento Organizacional e Gestão de Recursos Humanos (DCOGRH) da Escola Superior de Ciências Empresariais, do Instituto Politécnico de Setúbal (IPS/ESCE), Portugal. Membro efetivo do CICE/IPS – Centro Interdisciplinar em Ciências Empresariais da ESCE/IPS. Membro e Chairman (desde 2019 da ISO-TC260 HRM Portugal. Tem várias publicações sobre a problemática da gestão de recursos humanos, a conciliação da vida pessoal, familiar e profissional, os novos modelos de organização do trabalho, as motivações e expectativas dos estudantes Erasmus e a configuração e dinâmica das empresas familiares. Pertence a vários grupos de trabalho nas suas áreas de interesses.
https://orcid.org/0000-0002-7196-3838

ÍNDICE REMISSIVO

A

Ansiedade 161, 162, 163, 164, 165, 166

Anthropocene 245, 254

Asignación de recursos 7, 64, 70, 71

B

Bathing waters 34, 35, 36, 40, 41, 42, 43, 44, 45, 46, 48, 49, 50

Bioética 194

C

Calentador de agua solar 180, 181, 182, 183, 184, 191

Calentamiento global 97

Cidade 14, 15, 17, 19, 21, 22, 23, 24, 25, 27, 28, 29, 30, 31, 32, 33

Constitución 92, 214, 215, 216, 217, 221, 228, 229, 230, 231, 233, 240

Coordinando 86, 87, 92, 95, 96

Corporações 52, 53, 54, 55, 56, 57, 59, 60, 61

Corriente Directa CD 97

Corruption 245, 246, 247, 248, 251, 252, 253

Covid -19 64, 65, 66, 72, 71, 73

Cuidador formal 194

Culture 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 108, 234, 235, 247, 254, 255

D

Densificación residencial 1, 2, 4, 5, 7, 12

Depressão 161, 162, 163, 164, 165, 166, 167

Derechos de las mujeres 214, 215, 216, 229, 230, 231, 232, 233

Desenvolvimento urbano 14, 15, 16, 18, 21, 23, 25, 27, 33

E

Economía social 116, 117, 118, 119, 121, 128

Economic disparity 245

Economy 107, 114, 130, 138, 247

Energía solar 98, 100, 106, 181, 182, 192

Equipamento 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33

Ergonomics 170, 172, 178
Escuela 51, 120, 158, 206, 210, 226, 234, 235, 236, 237, 239, 241, 242, 243, 244
Espacio público 1, 4, 5, 6, 7, 9, 10, 11, 12, 13, 120, 209, 217, 232
Estudiante de gerontología 194
Expression 75, 76, 81, 83, 113
Externalidades urbanas 1

F

Formação 15, 19, 161, 163, 164, 165, 166, 167, 168
Formación continua 194, 201

G

Género 118, 152, 155, 156, 159, 160, 162, 165, 167, 196, 214, 215, 216, 217, 220, 221, 222, 224, 227, 229, 230, 231, 232, 233
Geographic Information Systems 34, 41
Gestão da informação e do conhecimento 52, 53

H

Harassment 161, 162, 164, 165, 168
History 76, 79, 107, 113, 177

I

Imaginarios 86, 87, 88, 89, 94, 117, 155
Indicators 112, 115, 136, 137, 138, 139, 140, 149, 150
Indonesian 75, 76, 77, 79, 83, 84
Industria de la hospitalidad 64, 66, 67, 71
Instituciones 65, 95, 152, 157, 158, 159, 196, 199, 205, 207, 208, 209, 210, 234, 235, 237, 239, 240
Integración sociolaboral 116, 117
Interpretación judicial 214, 231
Investigaciones interdisciplinarias 86, 87, 96

L

Lean Services 64, 65, 67, 74

M

Megalithic 75, 76, 77, 78, 79, 80, 82, 83, 84
Mercantilism 107
México 95, 96, 101, 103, 115, 122, 123, 125, 130, 133, 134, 135, 152, 160, 169, 170, 193, 196, 202, 234, 235, 236, 239, 240, 241, 243, 244
Mobbing 161, 162, 163, 164, 165, 167, 168
Modelo de negocio 122, 127, 129, 130
Musculoskeletal disorders 169, 170, 177, 178
Músicos autogestionados 117

N

Nueva 5, 6, 73, 74, 127, 131, 215, 217, 221, 231, 234, 235, 236, 239, 243, 244

O

Offices 170, 171
Ontologia 52, 53, 54, 56, 58, 59, 61
Orquestas de tango 116, 117, 118

P

P2P 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 134
Patient Safety 136, 137, 138
Patriarcado 152, 158
Políticas 6, 12, 73, 114, 116, 120, 121, 125, 136, 137, 154, 158, 159, 160, 161, 163, 165, 166, 198, 212, 214, 216, 217, 228, 229, 231, 232, 234, 235, 237, 240, 244
Postural stress 170
Prácticas 86, 87, 88, 89, 92, 93, 94, 119, 152, 154, 156, 157, 195, 197, 215, 216
Progresividad 203, 211, 212

Q

Quality in Health 136, 138, 139

R

Radiación 97, 101, 104, 105, 183, 184, 188, 190
Relação 14, 15, 16, 18, 19, 21, 23, 25, 28, 29, 30, 55, 57, 58, 88, 162, 163
Remisión 203, 204, 205, 206, 207, 208, 209, 210, 211, 212
Resistance 141, 148, 245, 248

Revocabilidad 203
Riscos Psicossociais 161, 162, 163, 164, 165, 166, 167, 168
Risk management 34, 35, 36, 41, 43, 49, 50
Risk of drowning 34, 36, 41

S

Secretaries 170, 171, 172, 173, 174, 175, 176, 177
Sentencia 214, 218, 219, 220, 221, 222, 223, 224, 226, 227, 228
Servicios 2, 7, 64, 65, 66, 67, 68, 70, 73, 74, 108, 119, 122, 123, 126, 129, 130, 131, 134, 195, 197, 210
Servucción 64, 65, 73
Sexualidad 152, 153, 154, 156, 160, 227
Sistemas de informação 52, 53, 54, 59, 61
Solar 12, 97, 98, 100, 101, 103, 104, 106, 180, 181, 182, 183, 184, 186, 188, 189, 190, 191, 192, 212, 213
Stress 161, 162, 163, 164, 165, 167, 168, 170

T

Term 75, 76, 83, 251
Trabalho 18, 19, 53, 60, 61, 161, 162, 163, 164, 165, 166, 167, 168
Transformación digital 122, 133, 134, 135
Transnational corporations 245
Turismo 64, 66, 73, 74, 86, 107, 110, 111, 113, 114, 115, 122, 123, 124, 125, 127, 128, 129, 131, 132, 133, 134, 135

V

Verticalización residencial 1, 6, 7
Violencia 156, 160, 162, 214, 215, 216, 217, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 237, 238, 239, 240, 243, 244
Violencia de género 214, 216, 220, 221, 222, 224, 227, 229, 230, 232, 233

W

West 37, 45, 78, 80, 107, 248