

# PYROTuR

## Uncovering the relation between wildfires and tourism in Portugal

Sandra Oliveira

Ricardo Garcia

José Luís Zêzere

Fiona Bakas

Inês Boavida-Portugal

Eduardo Brito-Henriques

CEG, IGOT-ULisboa

Project PYROTuR

**32<sup>nd</sup> APDR CONGRESS**

Effects of wildfires on tourism: co-producing  
data and knowledge to design climate-  
resilient tourist destinations

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# Team



Eduardo Brito-Henriques (IR), António Lopes, Fiona Bakas, Inês Boavida-Portugal, José Luís Zêzere, Mariana Casal-Ribeiro, Ricardo Garcia, Sandra Oliveira, Eduardo Aires

**Start date:** 15.jan.2025



**End date:** 14.jul.2026

1) Analyse effects of past wildfires in tourism activities

2) Estimate current and future wildfire exposure of tourism assets

3) Identify mitigation and adaptation strategies to increase resilience



# Stakeholders Steering Group



Soraya Imperial



João Pinto



Sérgio Guerreiro  
André Tomé  
Sandra Pires



Emanuel de Castro  
Fábio Loureiro  
Lucas Cezar



Fátima Bacharel  
Marta Rodrigues



# Why this topic?

- Socio-economic importance of tourism activities
- Recurrence of wildfires in Portugal and risk mitigation



Source: Expresso, 28.07.2023

Tourism Management 103 (2024) 104901

Contents lists available at [ScienceDirect](#)

 **ELSEVIER**

Tourism Management

journal homepage: [www.elsevier.com/locate/tourman](http://www.elsevier.com/locate/tourman)

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The tourism fire exposure index for the European Union

Christoph Neger<sup>a,\*</sup>, José Francisco León-Cruz<sup>a</sup>, Stefan Gössling<sup>b,c</sup>

PEER-REVIEWED ARTICLE [bioresources.cnr.ncsu.edu](https://bioresources.cnr.ncsu.edu)

**Wildfires and Tourism in the Mediterranean: Balancing Conservation and Economic Interests**

Josef Abrham,<sup>a</sup> Jana Soukupova,<sup>b</sup> and Petr Prochazka<sup>c,\*</sup>



## Tourism activities



- 247 Museums
- 2 777 Classified Heritage
- 5 532 Hotels
- 114 731 Short-term rentals

Sources: Rede Portuguesa de Museus, Atlas do Património Classificado e em Vias de Classificação, Turismo de Portugal

Sources: Turismo e Viagens, Portugal | Ver.Comunidades Portuguesas (20.02.2021)

# Wildfires in Portugal



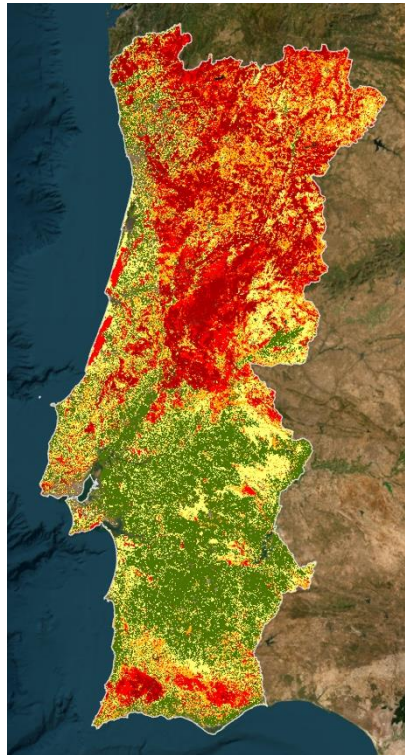
Source: Forest Service | USDA

- 20 465 fires/year
- 129 149 ha burned area/year

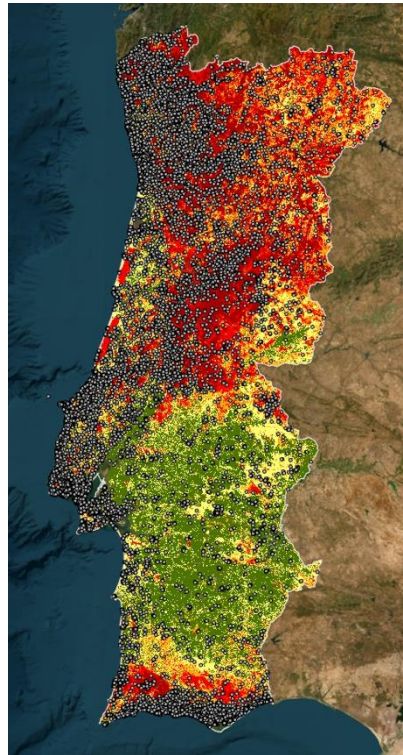
Source: ICNF/SGIF – Estatística Incêndios 2001-2023

# Tourism & Wildfires

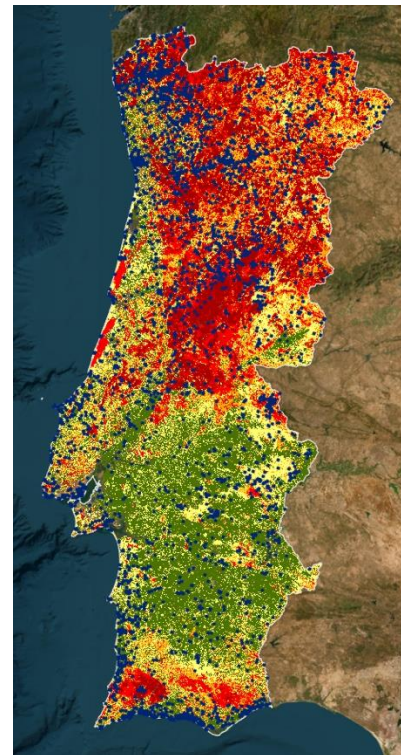
Structural fire hazard



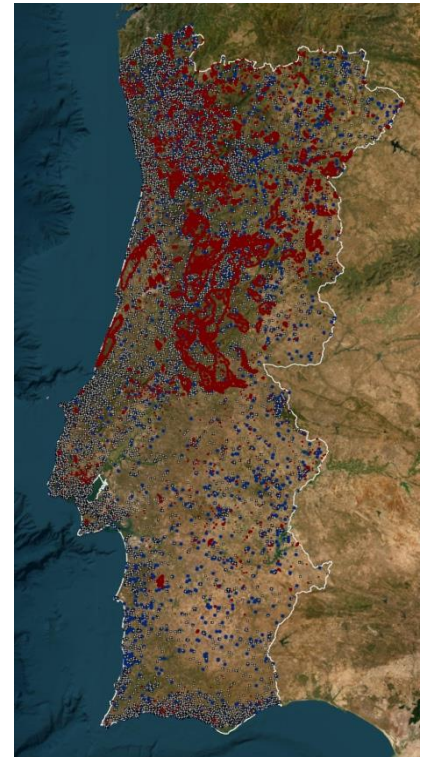
Short-term rentals (AL)



Hotels



**230 AL + 166 Hotels**



Burned Area 2017



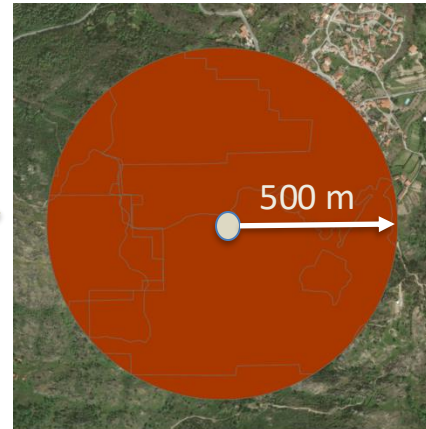
**15%**  
High + Very High



## Classified Heritage

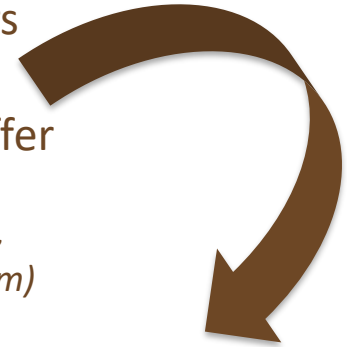


Spatial detail



Fire perimeters  
intersecting  
surrounding buffer

*Embers & spotting,  
Smoke exposure (1 km)*



**220 heritage assets affected**  
(2000-2023)

- 109 1 or 2
- 47 3 to 5
- 49 > 10





Source: Castelos de Portugal

1

Castelo de Lindoso,  
Ponte da Barca (4)

17 🔥



Source: Turismo de Portugal

2

Aqueduto do Convento  
de Cristo, Tomar (5)

12 🔥

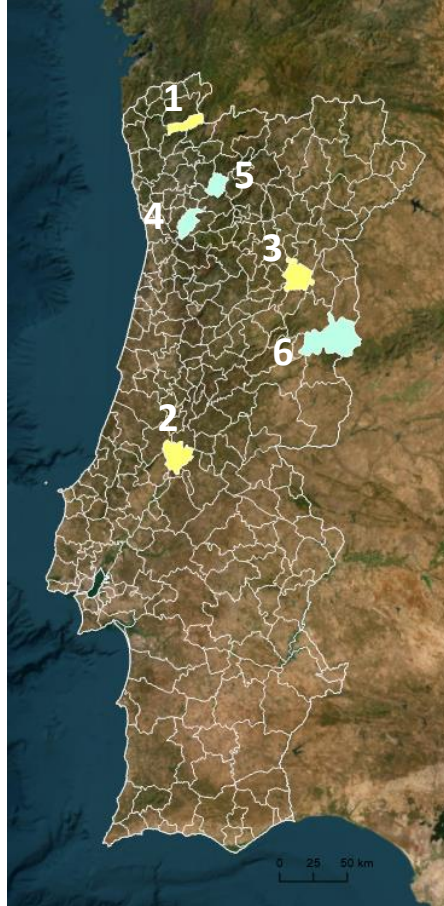


Source: Castelos de Portugal

3

Castelo Vila de Moreira  
de Rei, Trancoso (6)

11 🔥



Source: CM Penafiel

4

Igreja S. Miguel Entre-  
os-Rios, Penafiel (3)

26 🔥



Source: CM Celorico de Basto

5

Castelo de Arnóia,  
Celorico de Basto (2)

36 🔥



Source: Castelos de Portugal

6

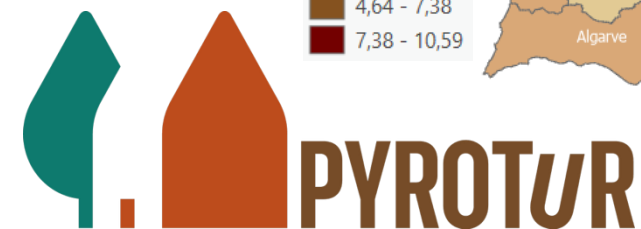
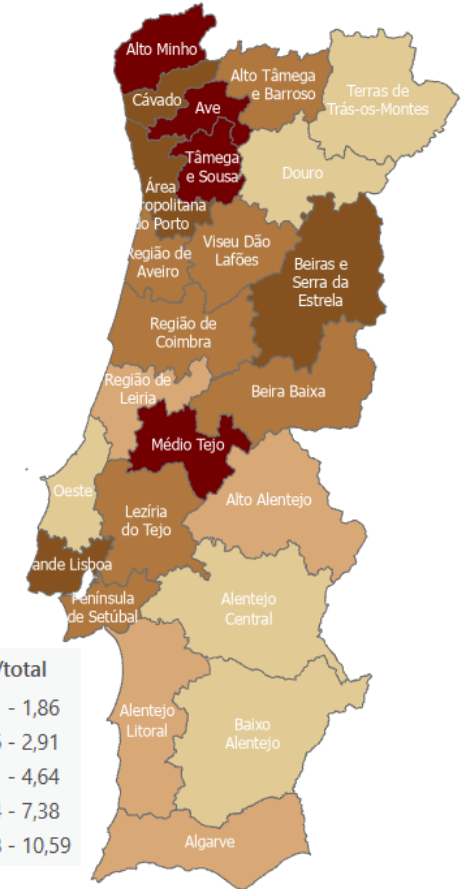
Castelo de Sortelha,  
Sabugal (1)

45 🔥



# Distribution by sub-region (NUTS3)

NUTS3	BA in buffer	% assets	affected/total	max affected	max year
Alentejo Central	348	6,9	1,80	42	2011
Alentejo Litoral	62	0,9	2,58	17	2023
Algarve	326	4,0	2,91	49	2003
Alto Alentejo	348	5,3	2,37	55	2003
Alto Minho	1702	6,3	9,67	174	2005
Alto Tâmega e Barroso	287	2,5	4,16	33	2005
Área Metropolitana do Porto	1151	6,8	6,06	207	2017
Ave	837	2,8	10,59	81	2016
Baixo Alentejo	96	2,7	1,26	20	2009
Beira Baixa	194	1,9	3,66	34	2003
Beiras e Serra da Estrela	990	6,3	5,63	224	2017
Cávado	550	3,4	5,85	66	2016
Douro	415	8,2	1,81	45	2017
Grande Lisboa	2468	12,0	7,39	361	2016
Lezíria do Tejo	155	1,6	3,44	18	2019
Médio Tejo	633	2,6	8,79	112	2016
Oeste	135	3,8	1,29	23	2002
Península de Setúbal	246	1,9	4,64	45	2022
Região de Aveiro	143	1,4	3,67	27	2016/2017
Região de Coimbra	525	5,1	3,72	206	2017
Região de Leiria	89	1,4	2,34	34	2017
Terras de Trás-os-Montes	175	3,4	1,86	46	2013
Tâmega e Sousa	1153	3,9	10,58	112	2010
Viseu Dão Lafões	545	4,6	4,22	163	2017



# Questions to answer...

- What are the impacts of wildfires in tourism infrastructures and activities?
  - ✓ *Economic and environmental consequences, for how long*
- Which territories and tourism destinations are more exposed to wildfires?
  - ✓ *Now and in the future (climate change)*
- How can we increase the resilience of tourism destinations and infrastructures to wildfires?
  - ✓ *What conditions influence vulnerability and recovery*

# Thank you!

Sandra Oliveira

sandra.oliveira1@edu.ulisboa.pt



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DE LISBOA

IGOT  
Instituto de Geografia  
e Ordenamento do Território  
UNIVERSIDADE DE LISBOA

CEG  
Centro de Estudos Geográficos

TERRA