

News from



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Resilience to extreme fires in Europe

Dear reader,

The devastating blazes of Los Angeles are a stark reminder: with the climate crisis, large and devastating wildfires are no longer a distant threat, but a pressing reality.

These wildfires, characterized by an extremely aggressive and unpredictable evolution, and often unprecedented size, are becoming increasingly common in our times.

In front of this threat, refining fire extinguishing tools is no longer enough. We must thoroughly reconsider our relationship with the territory, understanding the rich and complex ecology of forests, where even fire - simultaneously an extreme threat and guardian of balance - plays a crucial role.

Our outlet, and the European Data Journalism Network that it coordinates, are partners with [Fire-Res](#), a project within the Horizon2020 innovation and research program, dedicated to extreme fires and the challenge they pose in Europe and worldwide, often overwhelming civil protection systems and causing catastrophic damage.

Our goal is to build together a new, integrated approach that unites challenges previously treated as separate: scientific research, sustainable forest heritage management, development of advanced technologies to improve emergency response. Always keeping local communities at the center, recognizing that only by involving them can we develop tools to create resilient territories.

Achieving a culture of prevention comes through correct information. For this reason, every two months, we will send this newsletter, which we invite you to follow. In each issue, we will offer a scientific in-depth analysis, written in clear and accessible language, and a selection of journalistic works on the topic that we have produced with our partners across different corners of Europe.

Enjoy your reading



Fire in Underwood, USA 2023 -
Christian Roberts-Olsen © Shutterstock

Europe Discovers Extreme Fires

Due to their high intensity, rapid evolution and vast scale, extreme wildfires are by definition almost impossible to predict and control. Climate change and widespread, short-sighted land management are making these phenomena more frequent and severe. While Mediterranean Europe ranks among the world's most vulnerable regions, northern and eastern countries in the continent are facing these devastating events for the first times.

[Read the full article](#)



“Portugal leads the count, but northern countries see the sharpest increase in extreme wildfires”

Vanda Acácio is a forest engineer at the Instituto Superior de Agronomia (ISA), partner of Fire-Res, with 20 years experience in landscape ecology, focusing on Mediterranean forests. Within Fire-Res, she is in charge of the project's wildfire database. With her team she identified 137 extreme fires that occurred in Europe from 2000 to 2022

Which data did you use for your database?

We based our analysis on the EFFIS (European Forest Fire Information System) reports, which contain yearly wildfire information from EU countries and examined the reports from 2000 to 2022 identifying fires that were described as catastrophic or extreme, and compare it with the existing scientific literature.

Large and destructive wildfires are extremely diverse in different conditions and countries. How did you manage to decide which ones were “Extreme Wildfire Events” according to Fire-Res criteria?

We classified the fires into four categories: those exhibiting a pyroconvective behavior, those showing anomalous fire size for their region (at the European or at the national scale), those that proved impossible to firefight, and those causing severe negative impacts. A pyroconvective fire typically represents the most extreme category, and often meets all criteria. However, even without pyroconvective behavior fires might be classified as extreme for a specific country if their size was unprecedented within that region's historical fire regime. Through this classification we identified 137 fires that met our criteria.

Have extreme fires increased across all areas of Europe?

Yes, especially in Northern countries. Netherlands, Latvia, Ireland, Norway and Sweden in the dataset had no recorded extreme fires before 2015, then began experiencing new fire regimes. However, Mediterranean countries remain the primary hotspots, with the Iberian Peninsula leading by far. Portugal has the most frequent and extreme fires, followed by Spain and Greece.

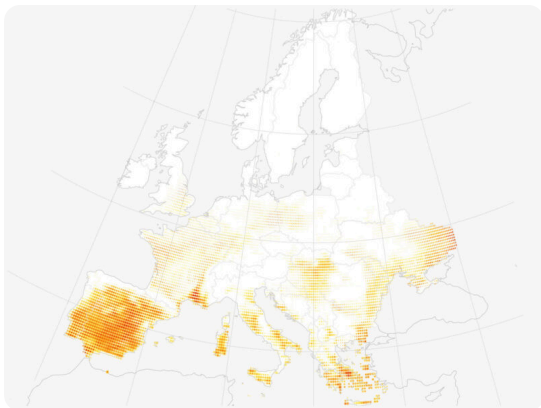
Your work emphasizes both climate change, and the role of forest management and land cover in increasing fire risks. How did you analyse these landscape factors?

By comparing the land cover before and after fires, using the European Corine Land Cover database, we found that areas with extreme wildfires had lower landscape diversity than the surrounding unburned areas, used as controls for comparison. Landscapes with varied land cover types, like agricultural land mixed with forests, are less likely to experience extreme fires. Generally, conifers burn more readily than broad-leaf trees, with Portugal's Eucalyptus being a notable exception.

Do the Mediterranean and the northern countries show different patterns?

In Mediterranean countries extreme fires occurred more in areas with shrubs and struggling vegetation, highlighting the need to manage fuel loads. Northern countries experienced more extreme fires, which were associated with peatlands - a pattern linked to climate change, as rising temperatures are causing these traditionally wet ecosystems to become increasingly dry in the summer.

Our investigations



[The share of Europe's territory at high risk of fire has doubled in the last 50 years](#)

María Álvarez Del Vayo, Adrian Maqueda, Carmen Torrecillas – Civio

Since 1971, the share of Europe that experiences high or higher weather risk has risen from 20% to almost 40%. But there are big differences between countries.



[Preventing and managing extreme wildfires in Greece via the FIRE-RES project](#)

Mary Drosopoulos – OBCT

The region of Kassandra, Halkidiki, is one of the fire-prone areas in Greece. In the aftermath of the extreme weather phenomena that hit the country in the last months, a holistic approach involving prevention and civic education is now seen as necessary



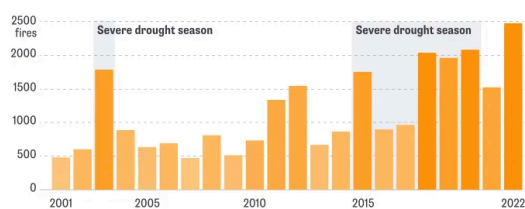
[In Croatia, firefighters brace for climate change](#)

Chiara Marchesini – OBCT

Among the effects of climate change are so-called extreme wildfires. In Croatia, large fires in open spaces present a particular problem. We met with the Croatian Association of Firefighters to find out how they are facing up to new challenges

What was an extreme situation 20 years ago is now the new standard

The graph shows how the number of forest fires has been increasing over the long term.



[Forest fires are on the rise in Czechia as in the rest of the world: timely action is needed](#)

Anna Absolonová – Deník Referendum

The high number of highly flammable spruce monocultures in Czechia is mainly due to conservative forestry and poorly framed legislation. But while the climate is already shifting, the laws that are holding back forest conversion have remained unchanged on the books for decades.

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