fireurisk

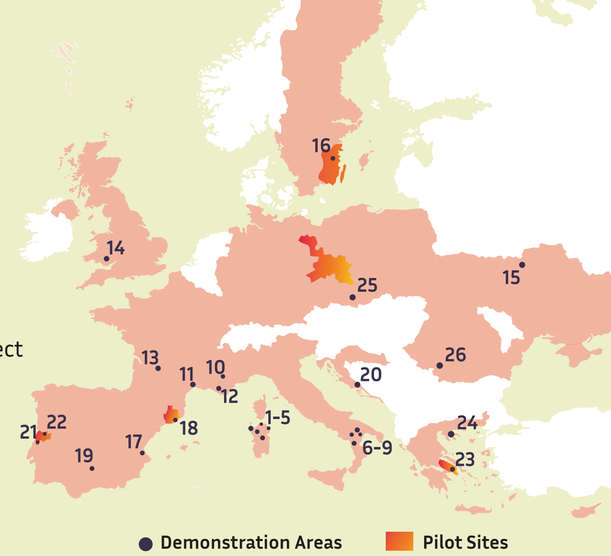
Mitigating the impact of wildfires

FirEUrisk is a European Research project aiming to develop an integrated **science-based strategy**, aggregating knowledge on risk assessment, risk reduction and risk adaptation to tackle the **risk of extreme wildfires** in Europe. Such fires often lead to **loss of human lives**, **natural resources** and **economic assets.** Their frequency and severity are increasing continuously due to **climate change**. To manage this situation, it is necessary to assess the **biophysical background** as well as the **socio-economic conditions** in the areas prone to wildfires. That is why FirEUrisk involves a **variety of actors** from different sectors spanning from first responders and researchers to insurance companies, policy makers and citizens.

Testing results in realistic scenarios

Pilot sites and demonstration areas

The technological components and methods developed in the project will be tested and evaluated jointly with **local stakeholders** in the 26 **Demonstration Areas** of FirEUrisk, established across Europe. The project will demonstrate the **scalability** of its solutions, applying results in larger areas through **Pilot Sites**.

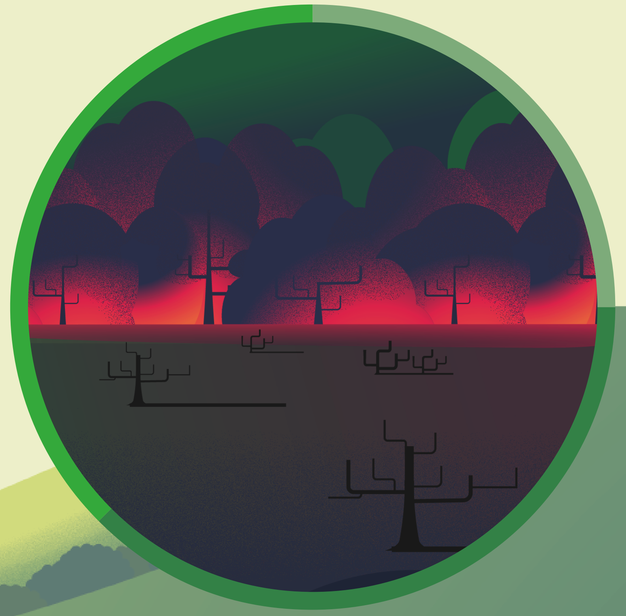


1 | Risk assessment

Improving preparedness for extreme fires

FirEUrisk aims to analyse the **vulnerabilities** of the landscape to extreme wildfires and **mitigate their potential impact**. The project will integrate current danger **monitoring systems** and adapt their output taking into consideration **socio-economic and health factors**.

- **Physical vulnerabilities** of the landscapes, such as fuel load available, temperatures or how prepared houses are.
- **Ecological impacts**, such as soil features, water bodies, biodiversity present and surrounding protected areas.
- **Human health impacts** due to air pollution and poor visibility.
- **Danger estimation** of lightning fires and prediction of extreme weather conditions.
- **Socio- economic impacts**, with a focus on how the damage of agricultural crops, roads, power lines or water delivery systems in the area would affect the population.
- **Human drivers of fire**, from accidents and arson to land management uses like stubble burning and rural abandonment.
- **Innovative instruments** usage, such as satellites, geospatial analysis, meteorological models and social interviews.



2 | Risk reduction

Tackling the societal factors of fire risk

FirEUrisk will consolidate **practical guidelines** to reduce extreme fire risk conditions by evaluating and **harmonising different strategies** that are used around Europe.

- **Fire policies**, such as total fire bans or agricultural uses of fires.
- **Risk reduction trainings** for landowners with the support of first responders and experts.
- **Citizen science apps** and websites for public awareness.
- **Land management strategies** that can reduce wildfire risk, such as prescribed burning, mechanical brush clearing or fuel modification.
- **New tools** to improve fire response by predicting extreme wildfire behaviour, directed at first responders.
- **Technical solutions** to reduce the vulnerability of houses and infrastructures, like non-combustible roof materials or thermal glass for windows.

3 | Risk adaptation

Anticipating future conditions

FirEUrisk will estimate how the ongoing **climate** and **societal changes** will impact extreme wildfires' risk in Europe, to allow the relative areas to adapt accordingly.

- **Future climate scenarios** with expected weather conditions, complemented with projections of possible changes in demography to identify new fire-prone areas.
- **Future land-use scenarios** and their impact, like how abandonment and reforestation will change fuel abundance and composition.
- **Epidemiological models**, to assess the impacts of wildfires on public health in the long term.
- **Future environment policy models** such as the European Union biodiversity strategy and the Green Deal, as well as their effect on extreme wildfire risk.

The project in numbers

38 **Partners** Academia & Research Centres (29), Public Authorities (2), Companies (6), First Responders (1)

4 **Years** 2021-2025

10 **Million €** in funding

18 **Countries** From Europe, North America and Oceania

Find out more

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