
Vera
VULNERABLE ELEMENTS AND RISK ASSESSMENT

Layman Report VERA

Index

General Information and Consortium of VERA 2

Understanding Risks Better to Protect People More Effectively 3

What Has VERA Developed? 4

Tested in Real-World Situations 5

European Cooperation for Greater Resilience 6

Benefits for Society 6

What Happens After VERA? 7

European Funding 7

Contact 7

Funded by the European Union

General Information and Consortium of VERA

- VERA Project: UCPM/2023/101140339
- Starting date: 01/02/2024
- Duration: 24 months
- Call: UCPM-2023-KAPP-PV
- Topic: Knowledge for Action in Prevention and Preparedness (PV_PP)
- Estimated total cost: 898,149.44 €
- Maximum EU contribution: 763,426.96 €

Why Was VERA Created?

Europe is increasingly facing extreme events that can have serious impacts on people, infrastructure, and the environment. Wildfires, floods, heatwaves, severe storms, and industrial accidents are just a few examples of hazards that can affect multiple countries simultaneously and cause significant social and economic consequences.

In recent years, climate change, growing urbanisation, and the concentration of critical infrastructure have increased the complexity of these risks. Furthermore, many of these hazards do not stop at national borders. Smoke from a large wildfire can spread across countries, floods can affect several regions in different nations, and industrial or chemical accidents can have consequences far beyond the territory where they occur.



A wildfire in Portugal in the summer of 2025 affects an urban-forest interface area

Despite this reality, the tools, data, and methodologies used to assess risks and plan emergency responses are often developed independently by each country. This can make coordination more difficult when administrations and emergency services need to work together to respond to cross-border emergencies.

The VERA project was created to address this challenge. Its main objective was to improve the understanding of shared risks across European countries and to support more coordinated and effective emergency management in cross-border regions.

To achieve this goal, VERA brought together experts in civil protection, disaster risk management, environmental modelling, spatial planning, and information technologies from Spain, Portugal, and France. Together, they worked to develop innovative tools capable of integrating information from different hazards, identifying the most

Funded by the European Union

vulnerable areas and populations, and supporting decision-making before and during emergencies.

Understanding Risks Better to Protect People More Effectively

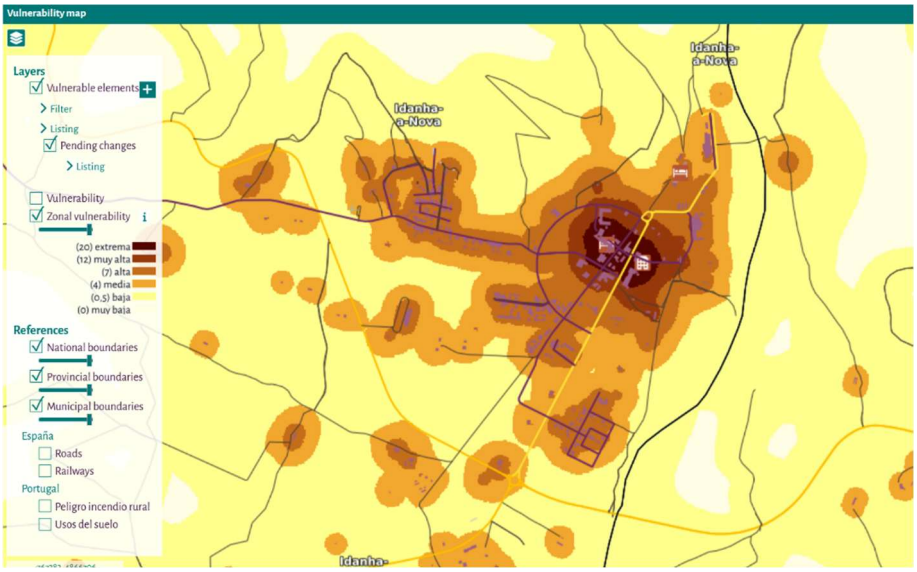
One of the most innovative aspects of VERA is its **multi-risk approach**. Traditionally, many risk assessment tools focus on a single hazard at a time. VERA goes beyond this approach by analysing how different hazards may occur simultaneously or interact with one another, providing a more realistic understanding of the challenges that emergency managers may face.

To support this capability, the project integrated advanced numerical models capable of simulating:

- The spread and behaviour of wildfires.
- Wind patterns and atmospheric conditions.
- Smoke transport and dispersion across large areas.
- The consequences of chemical accidents and other technological incidents.

These simulations help authorities anticipate potential impacts, identify areas at risk, and evaluate different response scenarios before an emergency occurs.

Another major innovation of VERA is the incorporation of **vulnerability analysis**. Risk is not determined solely by the presence of hazards; it also depends on who and what may be affected. For this reason, VERA includes information on population characteristics and vulnerability indicators, allowing users to identify communities that may require special attention during emergencies, such as elderly populations or highly exposed urban areas.



A visualization from the VERA platform for analyzing vulnerable elements and vulnerability areas

The platform has been designed to be practical and accessible. As a web-based solution, it can be accessed from both computers and mobile devices without the need for specialised software installation. This facilitates its use by a wide range of organisations,

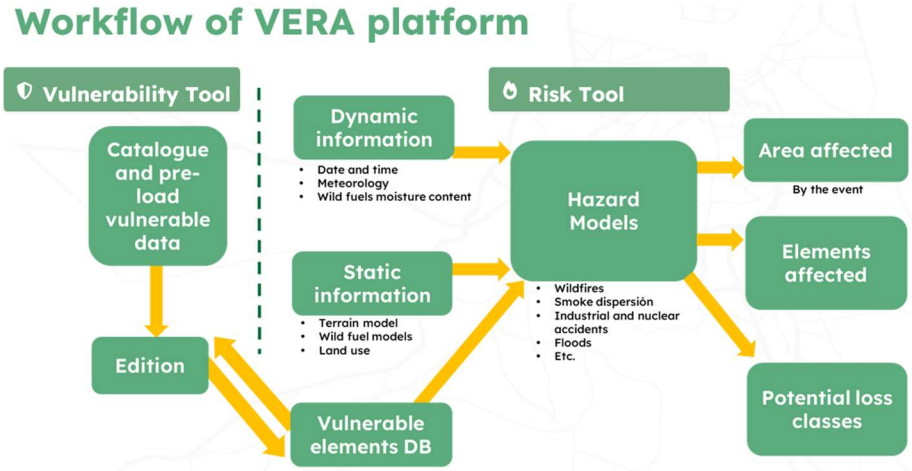
Funded by the European Union

from local authorities and civil protection agencies to regional planners and emergency response teams.

This work led to the identification of several European regions where multiple hazards and vulnerabilities converge, providing valuable evidence for future resilience-building initiatives and policy development.

What Has VERA Developed?

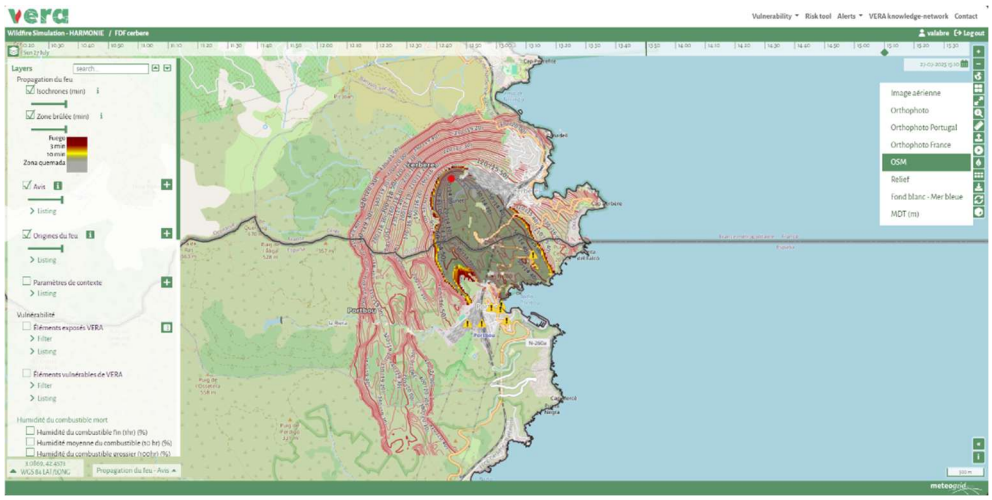
The main achievement of the VERA project has been the development of an innovative decision-support platform designed to help authorities, emergency services, and risk managers better understand and prepare for complex cross-border disasters.



The VERA platform brings together large amounts of information that were previously scattered across different sources and systems. By integrating this information into a single environment, the platform provides a comprehensive overview of risks affecting cross-border regions and supports more informed and coordinated decision-making.

The platform combines data from more than 45 datasets, including information on:

Natural hazards such as wildfires, extreme weather events, heatwaves, floods, and drought conditions.



A visualization from the VERA platform for analyzing vulnerable elements, along with a fire simulation to identify the affected elements.

Funded by the European Union

Technological hazards associated with industrial facilities, hazardous substances, and critical infrastructure.

- Population distribution and demographic characteristics.
- Transport networks, energy infrastructure, and other critical assets.
- Environmental and geographical information from European and national services.

Tested in Real-World Situations

One of the project's priorities was to ensure that the developed tools were useful under real conditions.

To this end, VERA organized several cross-border exercises between Spain, Portugal, and France, involving:

- **Civil protection services**
- **Emergency services**
- **Local and regional administrations**
- **Spatial planning experts**
- **Law enforcement agencies**

During these tests, the platform's ability to support decision-making and facilitate information exchange among different organizations was evaluated.



Civil protection personnel and firefighters' teams using the platform during a training exercise conducted on the border between Spain and France on December 3, 2025

Additionally, the platform was used during the forest fires that occurred in the Portuguese region of Beira Baixa in the summer of 2025, demonstrating its practical utility in a real emergency situation.

Funded by the European Union

European Cooperation for Greater Resilience



VERA has contributed to strengthening cooperation among European countries in disaster risk management.

Throughout the project, international workshops, training activities, and meetings with experts and public officials were organized to share knowledge and experiences.

A group of specialists from the Government of Catalonia (Spain) and South of France Firefighters participating in training on the VERA system held on the border between Spain and France on December 3, 2025

More than 200 specialists from different countries participated directly in these activities, helping to improve the developed tools and fostering the creation of new collaborative networks.

Benefits for Society

The results of VERA contribute to:

- **Improving preparedness** for natural and technological disasters.
- **Facilitating a faster and more coordinated response** between neighboring countries.
- **Better protecting** people and critical infrastructure.
- **Helping authorities** make decisions based on reliable information.
- **Incorporating the protection** of the most vulnerable groups into emergency planning.



A group of specialists from the Government of Catalonia (Spain) participating in training on the VERA system held on the border between Spain and France on December 3, 2025

In the long term, these improvements can reduce the human, economic, and environmental impacts of future disasters.

Funded by the European Union

What Happens After VERA?

The project partners will continue to promote the use and development of the tools created.

The VERA platform will remain available after the completion of the project, and its results will serve as a foundation for future European initiatives related to civil protection, climate change adaptation, and territorial resilience.

Likewise, the knowledge generated will continue to be disseminated through scientific publications, collaborative networks, and new international projects.

European Funding

VERA has been funded by the European Union through the **Union Civil Protection Mechanism (UCPM)**.

Funded by the European Union

The project has contributed to the common European goal of building a society that is better prepared, more resilient, and capable of facing future risks and challenges.

Contact

VERA Coordinator:

Meteogrid SL

Address: Modesto Lafuente 45 1C Madrid

E-mail: ediego@meteogrid.com