MOVING
MOuntain Valorisation through INterconnectedness and Green growth

# Cordilheira Central

## Vulnerability matrixes and vulnerability map

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# What will you find?

The MOVING (MOuntain Valorisation through INterconnectedness and Green growth) project stands at the forefront of climate resilience, aiming to fortify the sustainability of mountain areas against climate change. A key outcome of the project is the creation of tools that show susceptibility and vulnerability, ready to be used by both experts and the general audience[1].

This document synthesises crucial information for the **Cordilheira Central Region**, particularly focusing on the Participatory Vulnerability Matrix and the Spatial Vulnerability Map.

Using a participatory approach, the Vulnerability Matrix allows to downscale relevant information to the local level, offering a detailed view of how drivers of change impact this territory. Understanding that areas within the Cordilheira Central Region are not equally vulnerable to identical threats, the Spatial Vulnerability Map emerges as a critical tool. It showcases the varied susceptibility across the region, paving the way for more effective, targeted adaptation strategies.

**Mountain Reference Region:** Cordilheira Central

**Mountain Reference Landscape:** Serra da Estrela – Manteigas + Santa Marinha e São Martinho, Seia São ROmão e Lapa do Dinheiro (Seia) & Verdelhos (Covilhã)

**Value Chain:** Serra da Estrela PDO cheese

**Land-use system:** Permanent pastures

**Reference variable:** Pasture area

[1] Extended outputs are accessible through the following documents: 'Land Use Systems and Land Cover Map in 23 Reference Regions' and'Land use system vulnerability matrixes and vulnerability maps for the 23 reference regions'

# 1. Participatory Vulnerability Matrix

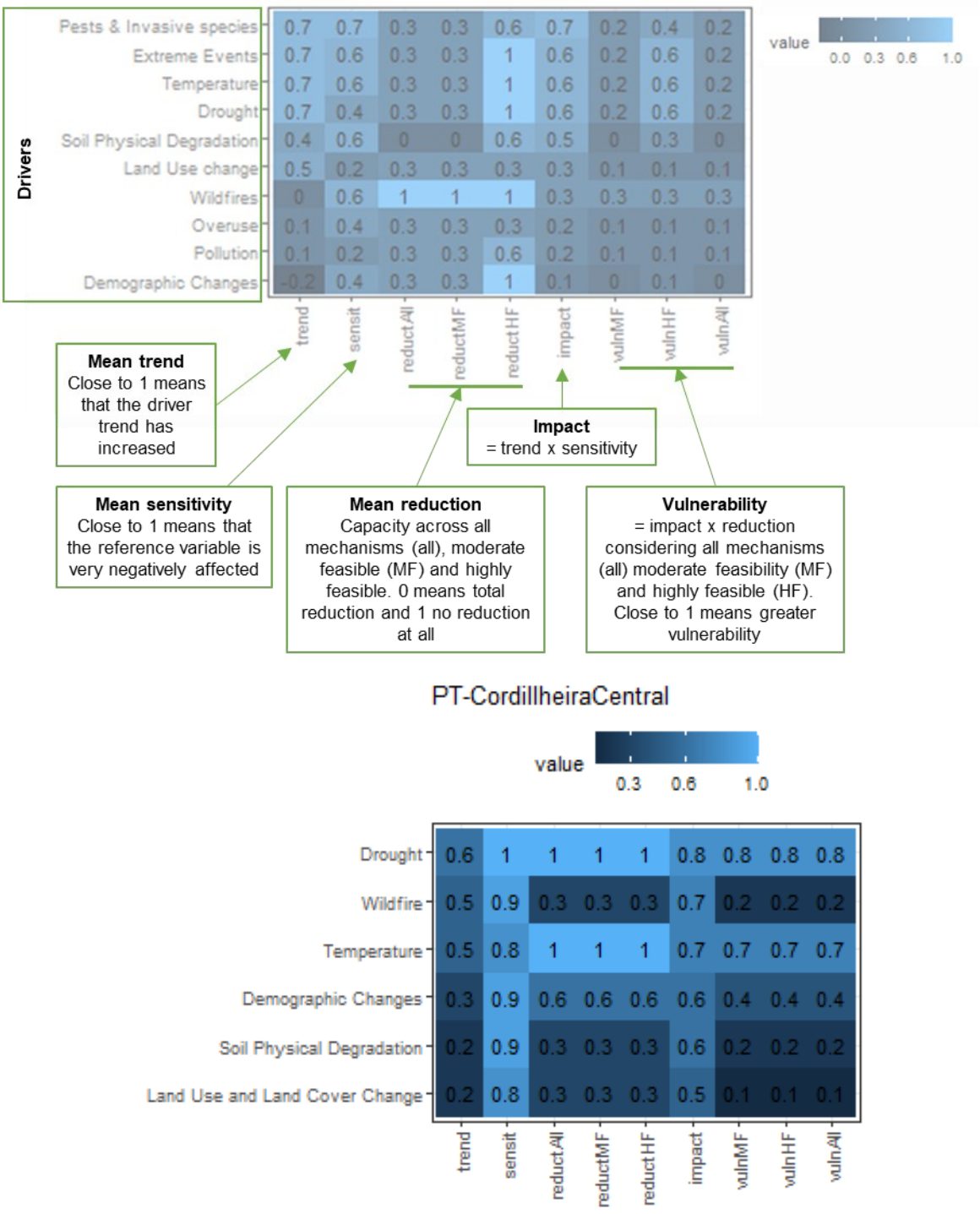


Figure 1. Vulnerability Matrix for Cordilheira Central MRL (below) and how to read it (above). Source: MOVING H2020

In this case study, the sensitivity of each of the drivers is so high that the system is potentially highly threatened, although this sensitivity is compensated by a tendency for some drivers to be lower. The adaptive capacity for the climatic drivers in this case does not seem to be effective, although it does seem to be medium effective and with high viability for the rest. The final result is a relatively high impact for the system, which translates into a medium vulnerability, due to the decreasing capacity of the adaptation mechanisms.

## 1.1 List of adaptative mechanisms suggested by consulted stakeholders

- Create tax or other benefits for people living – willing to move into the region
- Maintenance and improvement of accessibility and infrastructures
- Landscape and shrub management
- Education and technical support for shepherds
- Better adjusted CAP – favour native species, pay for grazing services, adapt the extensive grazing payment to minifundium
- New governance models
- Control of boar population

# 2. Vulnerability Map

**Vulnerability drivers:**

- Wildfires
- Land-abandonment

**Spatial explicit factors:**

- Distance to forest and shrublands
- Elevation

Table 1. Spatial Vulnerability Index for Permanent Pastures in Cordilheira Central MRL

| **Spatial Vulnerability Index** | | | Spatial Explicit Factor 1 | | |
|---|---|---|---|---|---|
| | | | *Distance to forests and shrublands* | | |
| | | | *[0-250]* | *]250-750]* | *]750-max]* |
| Spatial Explicit Factor 2 | *Elevation (m)* | *[0-1000]* | **4** | **3** | **1** |
| | | *]1000-max]* | **5** | **4** | **2** |

Vulnerability levels: 1 – very low, 2 – low, 3 – medium, 4- high, 5 – very high.
Source: MOVING H2020

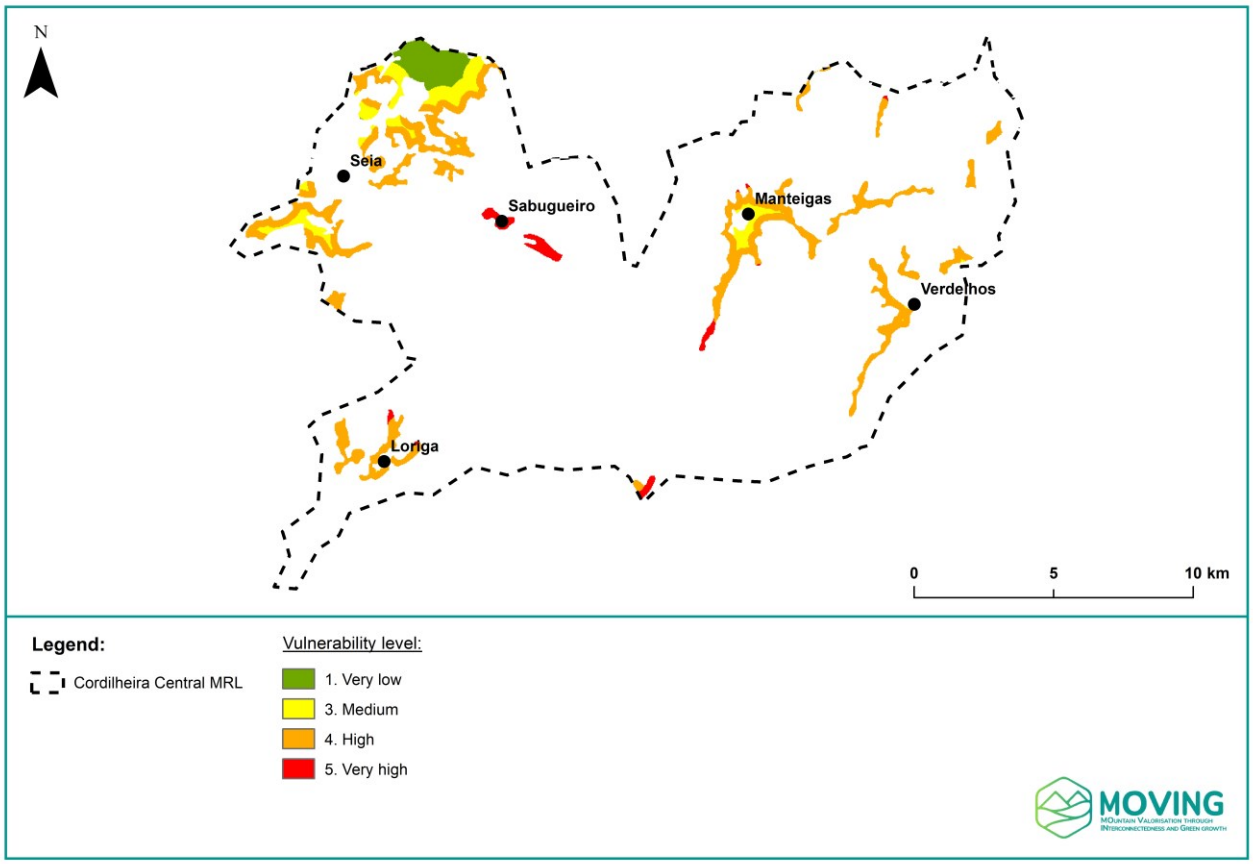


Figure 2. Vulnerability Map for Permanent Pastures in Cordilheira Central MRL. Source: MOVING H2020