MOVING
MOuntain Valorisation through INterconnectedness and Green growth

Dinaric Mountains

Vulnerability Matrix & Index

2024

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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 **Dinaric Mountains Region,** particularly focusing on the Participatory Vulnerability Matrix and the Spatial Vulnerability Matrix.

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 Dinaric Mountains Region are not equally vulnerable to identical threats, the Spatial Vulnerability Index 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: Dinaric Mountains

Mountain Reference Landscape: Dinaric Alps, Sjenica – Pester plateau

Value Chain: Sjenica lamb meat (PDO)

Land-use system: Mosaic cropland (extensive) and grassland with few livestock

Reference variable: Productivity and quality of the pastures on the highlands.

[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

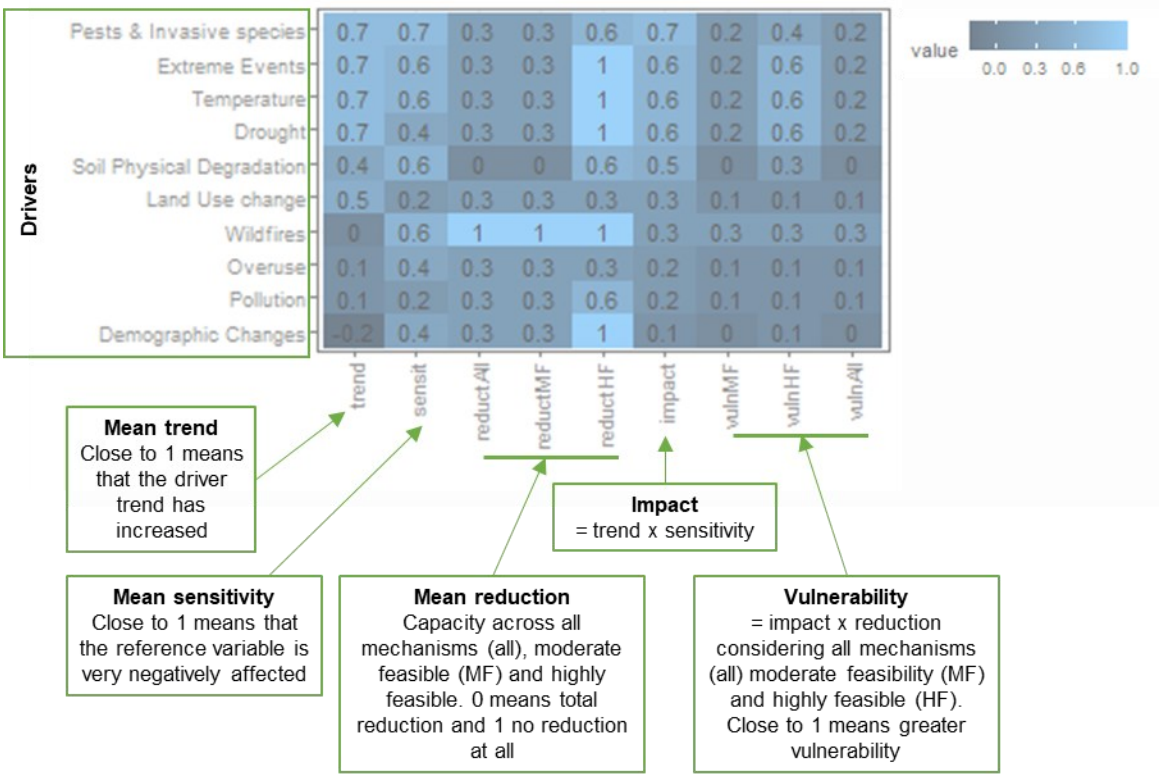

Figure 1. Vulnerability Matrix for the Dinaric Mountains MRL (below) and how to read it (above). Source: MOVING H2020

At a general overview, it can be observed that very high impact values are not perceived, with only extreme events, pollution and demographic changes standing out, due to the fact that sensitivity in general is medium and is accompanied by medium/low trends. In addition, for some drivers such as demographic changes, soil physical degradation has a full impact reduction potential capacity, which also contributes to a low overall vulnerability of the system. On the other hand, the application of adaptation mechanisms would not be sufficient for extreme events and pollution to significantly reduce their impact, with possible consequences derived from this.

1.1. List of adaptative mechanisms suggested by consulted stakeholders

- Improved water management » mini-infrastructure for water collection and storage
- Improved pastures
- Conservation tillage
- Definition of grasses harvest period
- Investment support for young farmers
- Monitoring of animal diseases

2. Spatial Vulnerability Index

Vulnerability drivers:

- Precipitation
- Temperature
- Extreme weather events

Spatial explicit factors:

- Mean precipitation in Spring and Summer
- Distance to villages and water sources

Table 1. Spatial Vulnerability Index for Mosaic extensive cropland and grassland in the Dinaric Mountains MRL.

Spatial Vulnerability Index			Spatial Explicit Factor 1		
			Mean precipitation in Spring and Summer (mm)		
			[0-70]	*]70-90]*	*]90-max]*
Spatial Explicit Factor 2	*Distance to villages and water sources (km)*	*[0-3]*	**3**	**2**	**1**
		]3-5]	**4**	**3**	**2**
		]5-max]	**5**	**4**	**3**

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