



**MOUNT
RESILIENCE**

Tackling water scarcity through water monitoring and improved governance

Climate change adaptation
in mountainous areas

Valais, Switzerland



MOUNT RESILIENCE



MountResilience supports European regions and communities located in mountainous areas to increase their capacity to adapt to climate change and to transition towards a climate-resilient society. The project is conceptualising, testing and scaling up climate adaptation and nature-based solutions to respond to policy and societal needs. Additionally, it seeks to influence citizen behaviours to effectively address specific climate impacts in mountainous regions.



Valais is Switzerland's third-largest canton and shares alpine borders with Italy and France. Often referred as the "water tower of Europe", it hosts most of the Swiss glaciers. Despite its image as a "water-rich" territory, Valais is **one of the driest regions** in Switzerland. As in many mountain regions, glaciers are retreating and precipitation patterns are changing, putting pressure on **water availability**, while increasing natural hazards. At the same time, water is a foundation of the regional economy in Valais, supporting hydropower, agriculture, winter tourism and industrial activities. A lack of availability therefore leads to growing **conflicts over water use** in the region.

Adapting to Climate Change

Climate risks:

Ice and snow changes, precipitation changes, flooding and droughts



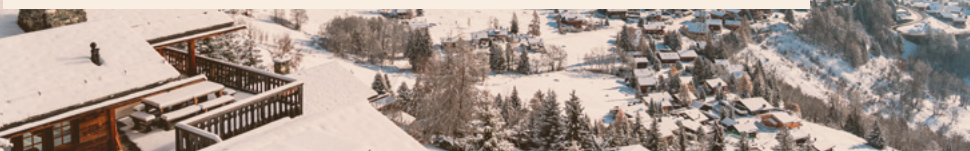
Improving water monitoring and governance for informed decision-making

Valais is **strengthening water governance** by improving how water resources are monitored and understood. MountResilience partners have deployed a sensor network implementing **technologies for continuous data collection** in remote and severe environmental conditions to monitor water reserves, water flows, water quality and soil moisture. This innovative monitoring system presents **real time water availability and actual demand** across sectors such as drinking water, irrigation, tourism and hydropower.

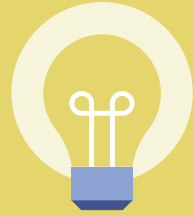
However, reconnecting stakeholders and citizens with environmental data and science is becoming an increasingly complex challenge. Although **data is available, it is often difficult to interpret** and not easily accessible to those without technical expertise. To overcome this challenge, the MountResilience partners in Valais have explored how **data can be transformed into clear, engaging, and understandable indicators** for all stakeholders and citizens, and presented in a freely accessible digital tool that facilitates informed decision-making.

This digital platform (accessible via a mobile app) also integrates **citizen observations** and **alerts regarding unusual or critical situations**, thereby encouraging the adoption of timely measures.

In addition, it includes a **catalogue of nature-based solutions** for water management to facilitate the implementation of proven measures, such as riparian reforestation and ecological restoration, to address identified risks. Ultimately, this digital platform raises awareness and supports behavioural change, promotes informed decision-making, and encourages the adoption of and investment in future water management projects.



How to use data to support local discussion and decision-making?



Valais demonstrates how digital tools can **translate complex climate and water data** into accessible and practical knowledge. By combining real-time monitoring and map-based visualisation into a smartphone app, the region is empowering local actors to **better understand risks, opportunities and actual situation**. It supports discussions to identify the most suitable responses to address these challenges. The co-creation process behind the app strengthens **trust, ownership, and long-term engagement**, making adaptation more practical, locally and scientifically relevant.



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