



Project Short Title

AdaptAlp



Priority 1
Competitiveness and
Attractiveness



Priority 2
Accessibility and
Connectivity



Priority 3
Environment and
Risk Prevention

Project Long Title

Adaptation to Climate Change in the Alpine Space

Lead Partner

Bayerisches Staatsministerium für Umwelt und Gesundheit (StMUG)

Project Partners

Bavarian Environment Agency (LfU), D
Federal Institute of Hydrology (BfG), D
Federal Ministry of Agriculture, Forestry, Environment and Water
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Autonomous Province of Bolzano (WBV), I
Ministry for the Environment, Land and Sea (MATTM), I
Geological Survey of Slovenia (GeoZS), SI
Cipra Deutschland e.V. (CIPRA), D
Regional Government of Carinthia (BWV), A
Office of Government of Tyrol (WWT), A
Piemonte Regional Agency for Environmental Protection, Regional Centre for
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Aosta Valley Autonomous Region (RAVA), I
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2.870.635

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2.031.202

Abstract

Climate change (CC) will largely affect the frequency and extent of natural hazards, enhancing the need of concerted management in the Alpine Space. AdaptAlp seeks to answer this demand by generating know-how, products and recommendations for natural hazard and disaster management.

The working group "Water Regime" aimed at improving the knowledge base on CC impacts on the Alpine water regime. A run-off data base for the Alpine Space was collected and harmonised, climate projections calculated for the Greater Alpine Region and impact analyses conducted for several Alpine river basins.

In order to assess, evaluate and harmonize approaches and methods of hazard mapping, the respective working group elaborated a multilingual glossary to standardize the terminology for geological hazards, defined minimum requirements for the development and definition of hazard and risk maps and developed tools to enhance the mapping of endangered areas.

The working group "Risk Prevention&Management" accomplished to integrate risk management, particularly risk dialogue, into the decision-making process. Analyses and further development of existing methods and tools in all sectors of the risk cycle were performed and the cross-border dissemination of specialised knowledge promoted. To raise awareness and bring risk communication to a local level, the knowledge acquired was transferred and put into practice in pilot regions, involving decision-makers and stakeholders, but also students and children

Relevance

Due to Climate Change (CC), the Alpine Space, more severely than other European regions, will be significantly and increasingly affected by natural hazards like landslides, floods and weather extremes. Due to the special topography of the Alps and as the impacts of CC do not stop at national borders, several countries are affected by similar risks at the same time. Thus a concerted, harmonized management on transnational, national, regional and local scale is required to effectively protect human life, settlements and infrastructure.

However, since precise data considering CC is lacking, there is a high level of uncertainty regarding the contributing factors and CC impacts. Therefore one of the main objectives of AdaptAlp was the provision of reliable data, knowledge concerning design events and innovative methods for modelling and prediction of natural hazards.

Taking the variety and cross-border aspect of CC impacts into account, the harmonization of terminology and a common transnational understanding of intersectoral hazard assessment, hazard mapping, risk prevention & communication is required in order to be effective and efficient. Thus transnational cooperation, enhancing the bundling of expert knowledge and exchange of experiences is indispensable to develop effective and practicable solutions and strategies.

Key Achievements

- Youth Information Campaign: to inform and sensitize children on climate change and natural hazards, the website of Biber Berti (www.biberberti.com) was established as educational tool and, based on the educational material of Biber Berti, two workshops for children were organized in South Tyrol (I) and Styria (A)
- Creation of the "AdaptAlp Dataset": to detect climate induced trends, observed river discharge data from the entire Alpine Space was collected, harmonized and analysed
- Water Regime Impact Analysis for river catchments in different climatic zones of the Alps
- Climate Projections for the Greater Alpine Region
- Creation of a multilingual glossary for geological hazards
- Definition of minimal requirements of hazard mapping as basis for the implementation of hazard maps as tool of hazard prevention and for the comparability of the results of mapping
- Development of the internet platform "on_alp_exchange", a tool supporting the cross-boarder exchange of practitioners between institutions responsible for natural hazards and risk management
- Common Strategic Paper summarizing the project's results and giving recommendations to policy makers, local stakeholders and experts
- Final Report, a synopsis of the results, methods used and recommendations in the working fields "Water regime", "Hazard mapping", "Risk prevention&management" and "Pilot activities"
- Final Conference presenting the major findings and outcomes of the AdaptAlp project to all target groups

Lessons Learnt

Climate models are currently the only but imperfect tool to assess the possible consequences of increased greenhouse gas concentrations and the resulting adaptation that will be needed. However climate projections must not be over interpreted. Adaptation measures and strategies should consider the uncertainty of the climate change estimates, including the possibility that the future climate could move outside the today's estimated range. Hazard mapping as tool to assess the risk of landslides and floods is generally accepted across Europe. To avoid problems and misunderstandings and support the comparability and international exchange of experience the harmonization of terminology, methods and descriptions are indispensable and need to be encouraged. Cross-border and intersectoral cooperation and networking have proven to be crucial to develop natural hazard risk management strategies and cost-effective and efficient adaptation measures. Participative planning processes and risk dialogue are highly important when dealing with climate change and natural processes and their impacts on citizens. These tools should be applied on a local level, involving political and economic decision-makers, planners and citizens. Within AdaptAlp, different tools and methods were successfully transferred on a local level in pilot regions. However, it is important to raise awareness and improve public preparedness in all municipalities in the Alpine Space that are prone to natural hazards.



Replication / Roll out

AdaptAlp helped to gain important knowledge and data on climate change (CC) and natural hazards and to develop new methods and recommendations in the fields of water regime, hazard mapping and risk management. As CC and natural hazards will be a significant topic in the coming decades in the Alpine Space but also in other regions, the continued development and improvement of data, models, knowledge and methods is required and should be replicated in a larger context. This also corresponds to the Territorial Agenda of the European Union, according to which "Trans-European Risk Management, including the Impacts of Climate Change" are to be promoted. In this context, transregional and integrated approaches and strategies shall be developed to face natural hazards, to adapt to CC and to improve the efficiency of risk management.

Through transnational expert hearings, workshops, publications but also through the vertically and horizontally integrated structure of the partnership, the project's topic and results were disseminated to different stakeholders like ministries, governments, technical authorities and experts, administration and decision makers. Thus and also within the pilot activities which involved regional/local authorities and other decision-making stakeholders, first steps were made to feed the activities into policy making. Now major focus needs to be put in transferring this approach to other municipalities and policy and decision-makers in the Alpine Space.

