Abstract book

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WATERWISE: Co-designing suitable management solutions for resilient alpine headwaters

Maria Vittoria Tenci[1*], Clément Roques[2], Florent Taberlet[3], Raphaël Trouiller[4], Terese Venus[5], Markus Noack[6], Helmut Pöll[7], Nina Rman[8], Gerald Hartmann[9], Sergio Capelli[10], Matteo Fioletti[11], Marie Arnoux[12], Monica Tolotti[1]

[1]Fondazione Edmund Mach, via Mach, 1 - 38098 - San Michele all'Adige, Italy
[2]Université de Neuchâtel, Avenue du 1er-Mars 26 - -2000 - Neuchâtel, Switzerland
[3]Réserves Naturelles de France, Allée Pierre Lacroute 2 - 21000 - Dijon, France
[4]TETRAKTYS, Rue Federico Garcia Lorca 5 - 38240 - Grenoble, France
[5]Universität Passau, Dr.-Hans-Kapfinger-Str. 30 - 94032 - Passau, Germany
[6]Hochschule Karlsruhe, Moltkestraße 30 - -76133 - Karlsruhe, Germany
[7]Alpinarium Galtür Dokumentation, Hauptstrasse 29c - 6563 - Galtür, Austria
[8]Geološki zavod Slovenije, Dimičeva ulica 14 - 1000 - Ljubljana, Slovenia
[9]EVTZ Geopark Karawanken, Hauptplatz 7 - 9135 - Bad Eisenkappel, Austria
[10]Legambiente Piemonte e Valle d'Aosta, Via Maria Ausiliatrice 45 - 10152 - Torino, Italy
[11]Agenzia Regionale Protezione Ambiente - Lombardia, via Rosellini 17 - 20124 - Milano, Italy

Corresponding author: *mariavittoria.tenci@fmach.it*

Climate change and human pressures are increasingly impacting availability and quality of mountain headwaters, the main sources of freshwater in the Alpine Space. The project WATERWISE aims to leverage recent advances in modelling techniques tailored to assess the vulnerability of headwaters to climate and land-use changes, and to make them accessible to local water and land managers. Through collaboration between scientists, communities and protected area managers, an innovative digital toolbox will be co-designed and tested in eight pilot sites located in six Alpine countries. This toolbox, accessible via a user-friendly web-platform, will facilitate the collection, analysis and visualization of in-situ climatic and ecohydrological data, while also enabling headwaters vulnerability assessments. Once validated, the toolbox will be implemented across a network of complementary sites covering the diversity of headwaters and challenges across the Alps. The project will provide local stakeholders with the necessary scientific basis for co-designing robust and participatory management strategies, thereby enhancing the resilience of mountain water resources, ecosystems and communities. WATERWISE also aims at strengthening the dialogue between scientific experts and policymakers and at stimulating the joint development of transnational solutions to secure water resources in the Alpine region.