



Floods in the Lake Skadar region Credit: Red Cross Montenegro

Who are we?

The Zurich Flood Resilience Alliance (ZFRA) is a multi-sectoral partnership focusing on finding practical ways to help communities in developed and developing countries strengthen their resilience to flood risk.

Our definition of resilience:

The ability of a system, community, or society to pursue its social, ecological, and economic development and growth objectives, while managing its disaster risk over time in a mutually reinforcing way.

Vision: Floods have no negative impact on people's and businesses' ability to thrive.

Goal: To increase social, political, and financial investment in community-based flood resilience-building through public, private, and third sector partnerships.



Different stakeholders visiting the community
Credit: Red Cross Montenegro

Impact of flooding in Montenegro

Heavy rainfalls, long-lasting rains for several days in a row, and melting of existing snow in mountainous regions at a certain time of the year are meteorological phenomena characteristic of the territory of Montenegro. These conditions can lead to a sudden rise of water levels in rivers and lakes (especially Skadar Lake) with extreme hydrological parameters, causing floods and material damage, and endangering the normal functioning of infrastructure systems.

Two types of floods are characteristic of Montenegro. First, floods that occur due to continuous heavy rainfall with significant quantities of rain, which in extreme cases can reach up to 500–1,000 litres/m², affecting a large area. The second type of flood is the meteorological flash floods, which typically occur in urban areas. Flash floods do not last long but they can be very aggressive and destructive; they are difficult to predict and locate in time and space because they are the result of highly dynamic clouds. Over 100 litres/m² of rain can fall in only a few hours. Dramatic examples were the floods in 2010 and 2011. Half-century records of water levels in rivers were reached, and Skadar Lake reached a historic maximum level of 10.44 m.

Numerous settlements, industrial facilities, and agricultural land are affected by water waves along the valleys of most rivers. Farmland in these areas, although quite modest, significantly contributes to agricultural production, since the total area of agricultural land in Montenegro is quite limited.

Considerable areas of agricultural land and settlements have been affected in the region of Skadar Lake for a long period of time. Due to the duration of floods, there are areas of swamp here.

Skadar Lake and the River Bojana form a very complex hydrological system. Downstream from Skadar, the River Drim discharges into the River Bojana. Enormous quantities of water that join the Bojana almost completely block the outflow of water from Skadar Lake and portions of the water from the Drim flow into Skadar Lake. This, in combination with flows from all the other creeks, causes floods in the area of Skadar Lake.

Owing to the concentration of livelihoods in these valleys along the lake and rivers, damage caused by even smaller-scale floods can be devastating. Floods have a severe impact on the people living in the area, especially their livelihoods – crops and cattle. In most cases, this is their only source of income and any type of support to decrease vulnerability to floods is highly valuable.



First aid training in school
Credit: Red Cross Montenegro

ZFRA partner working in Montenegro



Red Cross of Montenegro is a unique, independent, and voluntary humanitarian

organization. It is the oldest Red Cross organization in the Balkans, founded in 1875 in Cetinje.

In its role as auxiliary organization to the state in the humanitarian area, Red Cross of Montenegro has a mandate to participate actively in conducting measures and tasks in relation to protection and rescue, as the integral part of the disaster management system in emergency situations. This includes, among many others, activities in the areas of disaster preparedness and response, disaster risk reduction, and climate change adaptation.

ZFRA objectives in Montenegro:

Overall objective: Increase community resilience to floods in selected communities of Skadar Lake basin in Montenegro.

This will be achieved through the following specific objectives:

- Facilitate communities' assessment of risks, capacities, needs, and priorities regarding flood preparedness.
- Inform, involve, and empower communities to develop and implement flood preparedness activities and small-scale mitigation projects.
- Enhance capacity of Red Cross of Montenegro staff and volunteers to support community resilience activities in flood-prone communities.

The communities we are working with

Many resilience-building actions can be taken at community level, as communities often know best how and where they need to build resilience. Working with communities, we can demonstrate tangible impact on people's lives and learn from best practices, which can help to shape policy at a higher level.

In Montenegro, we work in three communities located in the area of Skadar Lake. The communities were chosen because of their exposure to floods, repeating floods, and because the local authorities adopted a flood protection plan, which enables work in the community to be aligned with the adopted documents.



Zabljak Crnojevica community
Credit: Red Cross Montenegro

Duration of the Montenegro ZFRA programme: November 2018–June 2023



First aid training in school
Credit: Red Cross Montenegro

The Flood Resilience Measurement for Communities



FRMC Workshop
Credit: Red Cross Montenegro

The Flood Resilience Measurement for Communities (FRMC) framework comprises two parts: the Alliance's framework for measuring community flood resilience and an associated tool for implementing the framework in practice.

Uses of the FRMC:

- As the first measurement of resilience to be applied on a large scale, fully integrated into community programming
- To help analyse problems before seeking solutions
- To support impact measurement
- To generate data for empirical evidence on flood resilience

The Flood Resilience Portals

The Alliance's Flood Resilience Portals are online spaces for sharing practical knowledge about why and how to build community flood resilience. They bring together the knowledge generated and exchanged through the Zurich Flood Resilience Alliance and beyond.

 www.floodresilience.net

 [@floodalliance](https://twitter.com/floodalliance)



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