



WORLD METEOROLOGICAL ORGANIZATION

# Building regional adaptive capacity and resilience to climate variability and change in vulnerable sectors in the Andes (ENANDES+)

## Fact Sheet

### At a glance

The ENANDES+ project, a contribution to the existing ENANDES project, will further build regional capacity and resilience to climate variability and change in the Andean region of South America.

### Goal

To reduce human and socioeconomic impact caused by hydrometeorological hazards such as floods, droughts, landslides and severe weather, through increased access to early warnings and risk information.

### Duration

November 2022 - October 2026

### Funding

CHF 5.8 million

### Beneficiary countries

Argentina, Bolivia, Ecuador, Peru



### Hazards Addressed

The ENANDES+ project will focus on climate adaptation to drought, floods and frost

### Donor



### Partners



## Background

The presence and influence of the Andes, the most important mountain range in the Southern Hemisphere, creates a large variety of climatic and environmental conditions in the Andean countries of South America, not only in the mountainous zones but also in its slopes and surrounding areas. Andean countries share distinctive climate, environmental and cultural characteristics that have led the United Nations Framework Convention on Climate Change (UNFCCC) to recognize them as particularly vulnerable to climate change.

In South America, 2020 was the second warmest year on record, with temperatures 0.6°C (33.08°F) higher than the 1981–2010 average. Rainfall was below normal across much of tropical South America, including the central Andes, the Amazon, the Pantanal, and the southeastern portion of the continent. Severe droughts in South America affected crop yields, increased the likelihood of wildfires, and created difficulties for river transportation. The potential effects of climate change in the Andean region are compounded by the marked interannual variability associated with the El Niño–Southern Oscillation (ENSO) phenomenon, with extreme phases (El Niño or La Niña events) that can have major impacts on the climate and productive sectors of the Andean countries.

## Objective

The ENANDES+ project has three main objectives:

- To improve the capacity of society and communities in the six participating Andean countries to adapt to a variable and changing climate, and contribute to reducing disaster risks associated with hydroclimatic hazards

- To strengthen the resilience of communities and productive sectors to hydroclimatic hazards, empowering social actors and institutions in each country to mitigate the negative impacts of extreme weather events and climate variability and change through the co-design and implementation of local adaptation practices based on the use of WWC information and services

- To improve coordination and planning among participating country institutions, WMO regional institutions, and other partners to maximize positive synergies and increase the efficiency of the combined projects, facilitating future scaling and replication in other contexts

## Expected Outcomes

It is anticipated that the project will improve capabilities to produce Weather, Water and Climate (WWC) services and information by delivering on three expected outcomes:

**Outcome 1:** Reduce the adverse impacts of hydroclimatic hazards

**Outcome 2 :** Take advantage of the benefits of favourable conditions

**Outcome 3:** Enhance adaptation to changing weather and climate contexts

## Regional technical coordination - Peru and MeteoSwiss

Building on the successful knowledge transfer under the now completed Climandes project, the WMO Regional

Climate and Training Centres in South America, the National Meteorological and Hydrological Service of Peru, and MeteoSwiss will closely collaborate to ensure technical knowledge is available and equally distributed amongst project stakeholders through a Regional Expertise Hub (NUREX).

## Argentina and Bolivia

In Argentina and Bolivia, an early warning system for flash flood warnings in the binational area of the Pilcomayo River Basin will be further developed, allowing for a unique transnational approach to improve climate resilience and adaptation in the region. The system will build upon existing resources, and the performance of current systems will be improved based on the countries' shared experiences. The service includes the automation of processes that both countries currently carry out manually. This will cut down operation times and allow for faster dissemination and timely response actions by communities in the Basin.

## Ecuador

In Ecuador, the National Meteorological and Hydrological Institute (INAMHI) will work in the upper Pastaza River basin.

INAMHI will cooperate with the Decentralized Autonomous Government of Tungurahua and with local governments to extend frost monitoring and warnings to small-scale family farms cultivating maize, peas and beans.

Hydrometeorological forecasts will also be developed to support the management of hydroelectric power plants. This service foresees a hydrometeorological monitoring system to provide an online and real-time view of relevant hydrological information.