

## Extreme weather: floods, droughts and heatwaves

Extreme weather events pose an increased risk to nature, buildings, infrastructure, and human health. These events, expected to increase in frequency and intensity because of climate change, are already causing substantial damage and loss. We must adapt and prepare for life in a changing climate.

### Overview

The summer of 2023 was the hottest on record globally. Over 460.000 hectares of forest have been destroyed by wildfires this year. Latest data for April and May 2024 also show that we might be breaking new records this year too.

Over the past decades, Europe has been experiencing frequent and severe weather and climate-related natural hazards like droughts, forest fires, heatwaves, storms and heavy rain. Climate change will make these events even more intense and more frequent.

Extreme temperatures do not only impact the health of vulnerable groups but also cause sleep disturbance for everyone. Rivers and lakes are drying up, impacting all life dependent on them. Soils are also getting drier, increasing fire risks and reducing agricultural productivity.

Other parts of Europe are experiencing intense downpours, sometimes flooding buildings and damaging property and infrastructure within a matter of minutes. Coastal zones will be at risk of more frequent storm surges, also resulting in flooded buildings or agricultural lands. Wind speeds are reaching levels never seen Europe before, causing accidents and serious damages to property. Other parts are seeing severe cold spells. These events are unfortunate reminders of the changing and volatile climate that Europe needs to adapt and prepare for, while acting to drastically reduce carbon emissions in order to slow down and limit climate change.

### Key facts

In the past four decades, extreme weather has been responsible for:

- Half a trillion euros in economic losses.
- 85,000 to 145,000 human fatalities.
- Heatwaves alone have caused tens of thousands of premature deaths in Europe since 2000. Their length, frequency and intensity are expected to increase, leading to a substantial increase in mortality, especially in vulnerable populations, unless adaptation measures are taken.
- Cold-related mortality is projected to decrease owing to better social, economic and housing conditions in many European countries. There is inconclusive evidence about whether or not the projected warming will lead to a further substantial decrease in cold-related mortality.

Different regions in Europe will experience different changes in the patterns of extreme weather:

- In northern Europe, annual precipitation and heavy rainfall are likely to increase, with droughts becoming less frequent.

- Central Europe is likely to experience lower summer rainfall, but also harsher weather extremes (heavy precipitation, river floods, droughts and fire hazards), with mixed changes in annual precipitation and aridity.
- In southern Europe, annual precipitation and summer rainfall are projected to decrease, whereas aridity, droughts and fire hazards are all likely to increase.

### **EU action**

Climate-related extreme weather events vary by region. This means that one-size-fits-all responses are no match for the growing threat that these hazards pose to property and lives.

The EU's adaptation strategy aims to ensure that Europe is better prepared to manage **the risks** and adapt to the impacts of climate change. Closing the climate protection gap by **increasing insurance coverage** can be a crucial tool for improving recovery, reducing vulnerability, and promoting resilience. EU Member States are also responding with **national adaptation policies**, including national, regional and sectoral climate risk assessments.

**Preparedness activities** are also in place at the EU level to help Member States prepare for extreme weather events. Early warning systems are essential parts of these activities. The European Civil Protection Pool helps advance European cooperation concerning warning systems for a faster, well-coordinated and effective response to weather-related disasters and natural hazards.