

## Introduction

# ADAPTATION IS ALSO AN EMERGENCY

The United Nations reports that July 2023 was the hottest month on record for the entire planet. Here are two examples among many: On August 2, 2023, the government of Iran, on the recommendation of its ministry of health, decreed two public holidays throughout the country to protect the health of its population. At the time, the country had been experiencing a heat wave for several weeks, and hospitals were faced with numerous admissions for heatstroke. Closer to home, in Canada, the country suffered record forest fires this summer, as well as flooding that was quite unusual for this time of year.

These increasingly frequent and prolonged extreme weather events are, unfortunately, entirely in line with the forecasts made since 1990 in the numerous reports by the Intergovernmental Panel on Climate Change (IPCC) on the possibility of a rise in global temperature linked to greenhouse gases (GHGs). In its *State of the Climate* report in 2021, the World Meteorological Organization indicated that the average global temperature had already risen 1.1°C since preindustrial times (1850–1900), and that the GHG emissions measured that year would lead to a warming by the end of the century well above that defined by the Paris Agreement (1.5 to 2°C above preindustrial levels).

This information confirms that it is more urgent than ever to reduce GHG emissions if we are to limit climate change and its consequences. However, it also tells us that a new climate reality has already set in, and that in addition to fighting against its amplification, we now need to adapt to these new conditions. It's a question of "survival," according to the IPCC.

As part of the Adaptation Futures 2023 conference being held this autumn in Montréal (see Editorial), we wanted to focus this fifth issue of *Climatoscope* on adaptation

to climate change, a truly global emergency. The IPCC defines adaptation to climate change as "the process of adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities" (IPCC, 2022). In this issue, you'll find texts identifying as "adaptation" covering a wide spectrum of issues and research disciplines. If we consider the increased risk of shoreline erosion due to climate change, adaptation can be achieved, for example, through nature-based solutions, such as a better association and use of the breakwater capacities of coastal vegetation (see article by Markov et al.). It can also be achieved by better integrating climate risks into decision-making when new developments and infrastructure investments have to be made (see article by Boyer-Villemare). At the international level, it would be desirable for the question of *responsibility* for climate change to be clarified at last, so that progress can be made on the question of *how to* help the countries and populations most vulnerable to the new climatic realities (see article by Wallimann-Helmer). The creation of a financial fund for loss and damage at the last COP27 in Egypt shows a notable advance on these issues within the international community (see article by Simard et al.).

While it's not yet past H-hour to meet the commitments of the Paris Agreement, a new climate context is already in place, and the first consequences are already being felt. Solutions will emerge from work and advances in all scientific disciplines, in consultation with public authorities and citizens to ensure their implementation. We hope this new issue of *Climatoscope* will facilitate this networking and the taking of appropriate action.

### The Climatoscope team