

Living with climate change

Global warming is happening. Temperatures have already risen by 0.76 degrees since the industrial revolution and are projected to rise further by 1.8 - 4 degrees by the end of the century. The last time climate change happened at this pace was 125,000 years ago and led to a 4-6 metre sea level rise.

Global warming at the upper end of the scale predicted by the Intergovernmental Panel on Climate Change would have catastrophic consequences for Europe. Up to 30% of plant, animal and bird species would be wiped out and the threat of natural disasters such as landslides, floods and mudslides would increase significantly.

Article

The Arctic would be the most adversely affected by climate change, with temperature rises of 4.8 to 7.8 degrees predicted. Sea levels have already risen by 20cm and could surge by as much as 80cm by the end of the century and by up to seven metres if the Greenland ice sheet melts. This would leave much of southern England, Belgium, and the Netherlands under water and would destroy major cities such as London, Amsterdam and Hamburg.

Temperature increases are also having a devastating effect on the Alps. Europe's highest mountain range is already warming three times faster than the rest of the globe and if the mercury keeps rising scientists estimate that only 20% of the region's glaciers will be left by the end of the century. Melting glaciers would mean more floods and landslides in spring and less water for Switzerland's agriculture and energy needs in summer. Global warming is also bad news for the Alpine economy, which depends on tourism. 60-80 million tourists descend on the Alps every year, mainly for skiing holidays. But lack of snow could lead to the closure of dozens of low-lying resorts such as Megeve in France and Kitzbuhel in Austria.

Southern Europe is another region that would be hard hit by climate change if greenhouse gas emissions are not cut drastically. Countries such as Spain could see temperature rises of up to 4-5 degrees and 40% less rainfall. This would turn large parts of the country into desert, result in plummeting crop yields, more forest fires, droughts and heat waves and irreparable damage to the tourist industry. In Europe, 77,000 people died prematurely during the 2003 heat wave and increased temperatures could lead to thousands more deaths a year across the continent.

Poor countries will suffer the most from climate change as soaring temperatures, melting glaciers and falling rainfall leads to lower crop yields, less drinking water and greater starvation. The prospect of tens of millions of environmental refugees escaping harsh climatic conditions is no longer the realm of science fiction; it is for real.

The costs of adapting to a warming world will be high for at least a century. Studies show that the price of doing nothing to protect against sea level rises could be up to four times higher than the cost of additional flood defences. Preliminary estimates also suggest adapting infrastructures and buildings to climate change could increase costs by between \$15-150 billion a year for rich countries.

Swinging reductions in greenhouse gas emissions are urgently needed to prevent a climate catastrophe, but this will not solve the problem in the short term. The negative effects of

global warming will be felt for centuries due to the inherent inertia in the climate system. The real question is not how to stop the damage, but how to limit it. The most cost-effective way to do this is to act now, rather than later.

This is the central message of a European Commission green paper on adapting to climate change. It urges authorities to avoid building on flood plains, design higher bridges and more resistant buildings and use precious water resources more efficiently in arid areas. It also calls on EU states to integrate adaptation measures into strategies for poverty reduction and development aid.

The threat to our way of life in Europe is real. However, it is not all doom and gloom. Many are already adapting to the effects of climate change. In the Danube basin between Vienna and Bratislava authorities are removing artificial boulders to allow the river to flood naturally, creating a wildlife-rich natural park and preventing flooding in cities. And in the Murcia region of Spain, farmers irrigate their crops using a computerized water card that has helped reduce water consumption by 30%.