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The weather extremes of climate change

Hail and floods instead of hot and sunny – summer 2021 was a wet affair in Switzerland. Climate change is increasing the frequency of extreme weather events.

THEODORA PETER

While southern Europe sweltered in a heatwave, it rained almost non-stop in Switzerland this summer. The downpours – torrential at times – caused streams, rivers and lakes to burst their banks. Emergency services were on continuous alert, putting out sandbags and erecting barriers to keep the worst of the floods at bay. Switzerland was spared the brunt of the July floods that devastated entire valleys and claimed hundreds of lives in Germany and Belgium. However, the weather resulted in damage running into several hundreds of millions of Swiss francs. Farms were badly affected, as vegetables rotted on flooded fields. Hail ripped through entire vineyards and fruit plantations within a matter of hours. The only plus side was that the constant rain replenished reservoirs such as Lac de Brenets in the Jura, which had dried out completely in 2020. Forests were also able to recover from the effects of previous droughts.

Warning from the IPCC

From torrential rain to heatwaves – extreme weather will become more frequent and even more extreme in future. This is the conclusion reached by more than 200 scientists from 66 countries, including Switzerland, in the latest report of the Intergovernmental Panel on Climate Change (IPCC), which was published in August. Since the previous report in 2014, the effects of human-induced climate change have become even more evident as global warming continues to accelerate. Global temperatures have risen by 0.2°C in the last seven years alone. This may not seem like a lot, but every tenth-of-a-degree increase leads to even more extreme weather around the globe. Switzerland is especially affected by climate change, as temperatures here are rising almost twice as quickly as the global average. Back in 2018, the “Climate Scenarios for Switzerland” report provided detailed indications of how unchecked climate change may affect Switzerland, citing more frequent and intense heavy rainfall as one of the consequences. Since 1901, the level of precipitation associated with extreme rainfall events in Switzerland has increased by 12 per cent. This is because warmer air can hold more moisture – equating to some six to seven per cent more water for every degree Celsius rise in temperature.



CO₂ emissions must fall

As we know, greenhouse gases drive climate change. According to the IPCC report, CO₂ concentrations in the atmosphere in 2019 were 47 per cent higher than at the beginning of the industrial age – and higher than at any other time in the last two million years. Only if CO₂ emissions fall sharply in the coming years and reach net zero by 2050 will it be possible to keep global warming under the two-degree threshold set out in the Paris climate goals, warn experts. However, even just a 1.5°C increase will likely lead to more frequent heavy rain events as well as “unprecedented” heatwaves.

How serious is the international community about delivering on climate action? We will find out in November, when the next UN climate conference takes place in Glasgow.

[revue.link/climatescenarios](https://www.revue.link/climatescenarios)
www.ipcc.ch

These properties were in the lake instead of next to it in July: heavy and sustained rainfall raised water levels to record highs, such as in Lake Biel.

Photo: Keystone