



Gorner glacier, the second largest Alpine glacier, at the end of the summer of 2017 (Credit: M. Huss)

Alps could lose most of their glaciers by 2100

The Alps are probably the most famous mountain range in Europe. The region, which crosses eight countries in central Europe, includes some of the continent's highest peaks. The range also has beautiful glaciers, large bodies of dense ice that cover some of the tops and slopes of the Alpine mountains. But these glaciers are at risk from climate change, according to a new study published in the EGU journal [The Cryosphere](#).

The world is becoming warmer, mostly due to human activities (such as industry, agriculture, transportation, and the cutting down of forests) that release greenhouse gases that, in turn, trap heat within the Earth system. A group of researchers in Switzerland – Harry Zekollari, Matthias Huss and Daniel Farinotti – wanted to know what might happen to Alpine glaciers over the coming decades, as global temperature increases and the climate changes. They found that, “the future evolution of glaciers will strongly depend on how the climate will evolve,” Harry says.

According to their study, if humans keep releasing greenhouse gases as we are doing at present (the ‘strong warming’ case), the Alps would lose more than 90% of their glacier volume by the end of the century. “In this pessimistic case, the Alps will be mostly ice free by 2100, with only isolated ice patches remaining at high elevation,” says Matthias. But if we reduce our greenhouse gas emissions (‘limited warming’ case), the glaciers would lose less ice: about one-third of their present-day volume would remain by 2100.

As Daniel says: “The future of these glaciers is indeed at risk, but there is still a possibility to limit their future losses.” It’s up to us.

Discuss with your teacher or parents

What is global warming or climate change? Learn more with National Geographic at [egu.eu/7211Y4](https://www.nationalgeographic.com/education/7211y4/).

What makes the Alps a special mountain range?

What will happen if glaciers in the Alps disappear?

How could we limit greenhouse gas emissions?

This is a kids' version of the European Geosciences Union (EGU) press release '[More than 90% of glacier volume in the Alps could be lost by 2100](https://www.egu.eu/education/planet-press/)'. It was written by Bárbara Ferreira (EGU Media and Communications Manager), reviewed for scientific content by Harry Zekollari (Researcher, Delft University of Technology, The Netherlands) and Aimée Slangen (Researcher, NIOZ Royal Netherlands Institute for Sea Research and Utrecht University, The Netherlands), and for educational content by Abby Morton (Earth Science Teacher, Woburn Memorial High School, USA). For more information, please check: <https://www.egu.eu/education/planet-press/>.

