Boosting climate research at ETH

The polar regions play a key role in global climate change. Your support is helping ETH Zurich to gain a better understanding of the interaction between climate, land ice, marine ice and ocean currents in the polar regions.

Our climate is determined by the complex interactions of the earth's different spheres: the atmosphere, the oceans, the land regions, the biosphere and the ice in glaciers and marine ice. The polar regions play an important role here. On the one hand, they are being affected by global warming at an above-average rate: the temperature increases we are currently seeing in the
polar regions are twice the global average. On the other hand, the changes taking place in the polar regions are playing a significant role in reinforcing global climate change and its impact. Thawing permafrost, for example, releases methane, which adds to the warming effect. Melting ice masses are creating a rise in sea level
and affecting the currents in the oceans and in the atmosphere. The polar cryosphere – the areas in the polar regions that are covered with snow and ice – plays a particularly significant role, with marine ice forming an important link between ocean and atmosphere.

Their habitat is threatened by climate change too: penguins on the Siple Coast, the Antarctic coastline on the Ross Sea.

Enabling specialist research

Climate research at ETH Zurich is among the best in the world, and numerous leading professors are working on a range of different aspects of climate change. Up until now, however, cryosphere research at ETH has focused primarily on alpine and polar glaciers. In-depth research into polar marine ice and its interaction with the climate is currently lacking, not just at ETH Zurich but throughout Switzerland.

To promote precise modelling and simulation of the processes and interrelations involved in climate change in the polar regions, ETH is planning to create a new professorship in “Polar Cryosphere and Climate”.

Focal areas will include investigating the interaction between the polar cryosphere, oceans and atmosphere as temperatures rise, and researching the role that marine ice plays in the global climate system.

The latest developments in remote sensing, climate modelling and data science are opening up new possibilities for significant advancements in this challenging and important field of climate research. ETH and the Swiss Federal Institute for Forest, Snow and Landscape Research WSL are each contributing to the costs of setting up the planned professorship. Contributions from our partners and donors will enable us to make the professorship a reality.

find out more about climate research at ETH

“We will only find solutions to the enormous challenges involved in climate change by working together. By providing the science and the technical innovations, ETH Zurich is playing a crucial role.”

Doris Leuthard
former Federal Councillor,
member of the Board of Trustees, ETH Foundation

Valuable partnership for climate research

Support from donors and partners is fast-tracking important climate research. Since 2019, luxury skincare brand La Prairie has been supporting glaciology

research at ETH Zurich. Daniel Farinotti, head of the Glaciology Group run by ETH and the Swiss Federal Institute for Forest, Snow and Landscape Research WSL, is very appreciative of this support: “La Prairie’s contribution is enabling us to learn more about the impact of climate change on Swiss glaciers.”