

# Swiss polar science

Since the early 20th century, Swiss explorers and scientists active in the Arctic, Antarctic and Alps have made decisive contributions to our understanding of the Earth’s climate.


Scientists based in Switzerland have proven leadership in research topics such as:

- Climate history and modelling
- Polar processes and global climate regulation systems, including oceans and atmosphere
- Ice and snow
- Human footprint in polar regions
- Modelling and data science
- Technology development for extreme environments
- Biodiversity and ecosystem functioning under climate change

## Cutting-edge examples

 **Beyond EPICA project**  
*Antarctica*

Prospecting for the oldest ice in order to extend our knowledge of climate history.

 **Tundra in the rain**  
*Siberia*

Measuring ecological changes in a warming and increasingly wet tundra.

 **Swiss Camp**  
*Greenland*

Gathering meteorological data on Greenland and providing new insights on climate change.

 **World Glacier**  
**Monitoring Service**

Providing standardised data on glaciers around the world.

# The Swiss Polar Institute – Supporting Swiss polar science

Science conducted in and around polar and high-altitude regions is critical to understand the evolution of the Earth’s climate. It provides the opportunity to make unique scientific observations in pristine conditions and to develop new technologies for research.

Due to the complex logistics, challenging access and difficult safety conditions in these extreme environments, the Swiss polar community requires specific competencies and dedicated support.

The Swiss Polar Institute (SPI) supports scientists based in Switzerland who work in polar regions and remote high-altitude environments. The SPI has established dedicated funding for logistics and field access, offers mechanisms to facilitate Swiss participation in large international initiatives, organises scientific expeditions, and develops customised training and data management solutions.

 @SwissPolar    [www.swisspolar.ch](http://www.swisspolar.ch)

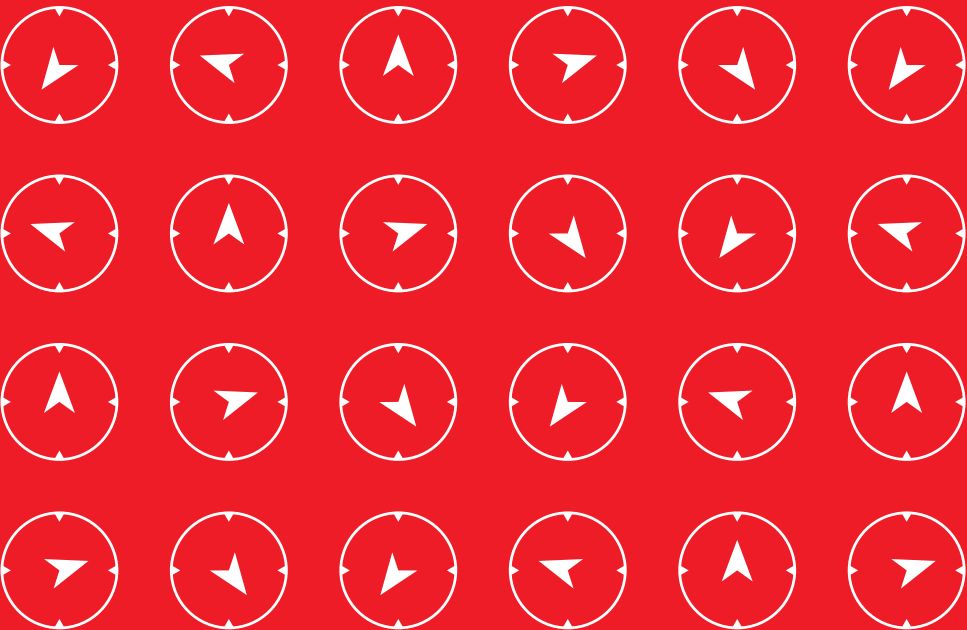
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# Polar Science in Switzerland





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Drawing from expertise in both polar and alpine regions, the Swiss polar community contributes to crucial research at both the local and global scale.

## Priorities for the Swiss Polar Institute up to 2025 and beyond

In a strategic document published in July 2019, the SPI identifies the key strengths and opportunities in Swiss polar science for the years up to 2025 and beyond. It proposes priorities and new initiatives to best serve the Swiss polar community and to fill gaps in Swiss polar science. With dedicated support and logistics, the Swiss polar community will be able to increase its international reach and scientific impact.

Under the term “polar”, the document addresses issues related to the Arctic, to Antarctica and to comparative studies in (remote) high-altitude regions. Together, these three “poles” build the focus of the SPI’s activities.

The development of polar science Flagship Topics will combine disciplines and competencies to increase impact, scientific outcomes and synergies between research and technology groups throughout Switzerland.

The document was prepared by the SPI Science and Technology Advisory Board on the basis of two stakeholder consultations carried out during workshops at the Swiss Polar Day 2018 and a Call for Ideas launched by the SPI in 2017-2018. A draft version was issued for community consultation in February 2019.

➤ More information and the full document “Polar Science in Switzerland” can be found at: [www.swisspolar.ch](http://www.swisspolar.ch)

## Flagship Topics



### Cryosphere through time: processes, feedbacks and responses

For a better understanding of polar glaciers and ice sheets in a changing climate and their use as climate records.



### The carbon, nitrogen, water cycle nexus: past, present and future

For a better understanding of the role of polar regions in the water, carbon and nitrogen cycles in the context of Earth system science and climate.



### Biodiversity and ecosystem functions

For a better understanding of polar ecosystems and biodiversity in a changing climate.



### Technology in extreme environments

For the development of innovative technologies to support polar science and deepen our knowledge of high-latitude regions.