



## Youth education and empowerment through outdoor experiential learning and peer-to-peer communication

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Anthropogenic climate change is a daunting issue facing today's society. In recent years, youth have shown a growing interest in preserving the planet by becoming involved in political demonstrations and school strikes. It is thus of paramount importance that youth are well-informed on the topic and equipped with the necessary skills to share information with their communities. We seek to educate youth, particularly those from traditionally underrepresented genders in the sciences, about geosciences, art, and mountaineering, especially in the context of ongoing climate change.

At Girls on Ice Switzerland, we believe that first-hand experience is the key to both learning and motivating scientific concepts. We offer tuition-free glacier expeditions for teenage girls\*, where the selection process is independent of academic performance, giving equal opportunities to all interested youth, and ensuring socio-cultural diversity within the team. During the week-long expedition, participants conduct artistic and scientific modules with professionals, learn new techniques and carry out an experiment in small groups, and finally present their work to the public. Following the expedition, school workshops led by participant-scientist tandems build upon the scientific content of the expedition, allowing participants to share their knowledge with peers and distribute scientific information to a broader audience. This fosters self-confidence in the participants, helping them to become scientific ambassadors for their peers, and also provides them with invaluable networking and mentoring opportunities through their interaction with female scientists.

Through these steps, participants are exposed to the scientific process: experimental design and performance, resiliency in the face of unforeseen challenges, and analyzing and communicating findings. The expedition experience has been shown to be empowering for participants: it boosts their confidence, motivates them at a critical stage in their lives, and provides them the opportunity to learn from female role models. School workshops and expeditions allow former expedition participants to be leaders amongst their peers and further deepen their understanding

of the topics. In this way, we prepare future generations of scientists and members of society to think critically, and this experience gives them the knowledge and power to dispense information within their communities as scientific ambassadors.

\*cisgender girls and transgender, agender, nonbinary, intersex, and genderqueer youth

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