

HIGH MOUNTAIN INSTITUTE



**PATAGONIA FRONTIERS
DESIGNS AND LEADS
WILDERNESS EDUCATION,
LEADERSHIP, SKILLS AND
SCIENCE PROGRAMS.**

THE PROGRAM



PATAGONIA FRONTIERS

A Wilderness Education, Adventure,
and Nature Conservancy Ranch

Patagonia Frontiers designs and conducts field courses and multi-year research programs for the High Mountain Institute's gap year students. The HMI course is designed for students to explore breathtaking mountain regions, immerse themselves in Patagonian culture, and engage with grassroots efforts that improve environmental and social sustainability.

The Patagonia Frontiers portion of the gap year explores a region adjacent to the Northern Patagonia Icefield. Students from HMI attend a two-week course in physical geography and climate change conducted by Patagonia Frontiers staff in the Solér Valley near Puerto Bertrand. Students and instructors are field based and travel by foot each day, carrying their own food and equipment and holding a series of daily classes while tent camping each night.

CURRICULUM HIGHLIGHTS

- Personal Development
- Cultural Exchange
- Physical Geography
- Leadership Skills
- Teamwork
- Climate Change

PROGRAM ITINERARY

The program consists of eight days of student-led, instructor-supervised wilderness travel with daily classes and training. It culminates in a four-day LNT camp amongst the morainal crescents at the foot of the Solér Glacier where the research project is carried out.

Academic classes are designed to enable students to gain a greater appreciation and knowledge of glacial processes including glacier formation, dynamics, melt and hydrology, mass balance and the key elements relating directly to the fieldwork component, namely glacial landforms formation and vegetation succession following de-glaciation of a landscape.



Under the guidance of Patagonia Frontiers' Academic Program Lead, Cambridge University Department of Geography graduate Felix Koninx, students selected, cored and measured 40 *Nothofagus Betuloides* trees in the direct vicinity of the snout of the Solér Glacier. Field counts of the number of annual growth rings were conducted to give a first estimate of tree age. The fieldwork aspect of the research project was successful in building on, and extending upon the dendrochronology of the area, first described by T. Sweda in 1987. In doing so, valuable data has been collected to elucidate the recent dynamic recession of the Solér Glacier.

The fieldwork component just completed represents the first steps of a multi-year project. There remain further steps to complete before a more precise description of the recent dynamics of the Solér Glacier can be produced. Namely, these include estimating the tree age below the height of the coring scar, and research to validate and refine the estimate of *Nothofagus Betuloides* colonization delay following de-glaciation. These steps are well suited to fieldwork investigation by future groups of student-researchers, and allow the opportunity to integrate other scientific methods, such as lichenometry and satellite remote sensing.

Patagonia Frontiers would like to thank CONAF, governing body of Chile's protected lands, for its authorization of the research and the learning opportunities it afforded the program's students.

TESTIMONIALS

- “ I have a much better understanding of “place” now... landscape, terrain, culture, geography.
- “ I've been inspired to continue learning!
- “ The instructor has a tangible passion for geography. It's clear an awful lot of work went on beforehand.
- “ This was an opportunity to see how much we are capable of with appropriate challenge.
- “ I gained a whole new perspectives on climate change.
- “ I like how teaching and learning are viewed as a collaborative effort.

Patagonia Frontiers brings 30 years of wilderness education, knowledge and experiences.

