



1 Pipjitälli valley rock glacier



3 Examples of Turtmann glacier breakage



8 Turtmann glacial valley



The rock glacier at the very back of the Turtmann valley

GRUBEN – TURTMANNHÜTTE LODGE EXKURSION

The Turtmann valley: exploring the glaciers and permafrost

From an altitude of ca. 2,400 m, the climate in the Turtmann valley is sufficiently cold for parts of the subsoil to remain frozen year-round. We are here entering permafrost territory. In the Alps, permafrost covers an area twice as great as that covered by glaciers. Although permafrost is a phenomenon that is hidden below the surface, the landscape nevertheless bears signs of its existence. Of the non-consolidated materials, rock glaciers – as typical features of periglacial areas – represent a visible sign of the slow, continuous deformation of a permafrost body that is overloaded with ice. These are largely found directly below the talus and usually take the form in the landscape of large “tongues” of rock. Due to its cold and relatively dry climate, the Turtmann valley is a rock glacier valley, with countless rock glaciers! Two notable examples of these can be seen above the avalanche barrier in the Grüob valley 1 and in the Pipjitälli valley 2 near the Turtmannhütte lodge.

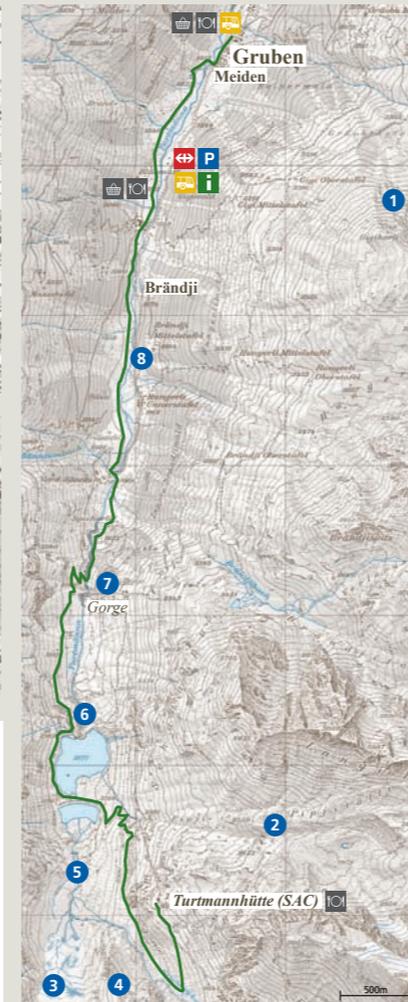
The backdrop changes at the very back of the Turtmann valley, where huge blocks of ice keep watch over this wild glacial valley 8. The Turtmann glacier, also known as the “4,000-m peak for women”, begins with the Bishorn (4,153 m) and extends, ending in various slopes, with spectacular examples of glacier breakage to be seen 3. During the Little Ice Age (1350–1850), the Turtmann and Brunegg glaciers moved as far as today’s dam. The moraines are still clearly visible today 4–6. In the 1960s, the tongues of each of these two glaciers were still touching. From 1885 to the present day, the tongue of the Turtmann glacier retreated by around 1,400 m, revealing a magnificent glacier foreland 5 and wonderful roches moutonnées 5–6. In this now frozen landscape of the Valais 4,000-m peaks, there

are still remains of a former ocean that separated Africa from Europe 150 million years ago. Above this dark, greenish rock, the peaks of the Bishorn and Les Diablons consist of crystalline rock of African origin which was pushed upwards during the formation of the Alps 40 million years ago.

- 1 Grüob rock glacier
- 2 Pipjitälli valley rock glacier
- 3 Examples of Turtmann glacier breakage
- 4 Medial moraine from the Little Ice Age
- 5 Glacier foreland
- 6 Mammillated rocks
- 7 Gorge
- 8 Turtmann glacial valley



Total distance: 18.5 km
Altitude diff.: 1,250 m
Hiking time: 6–7 h
Departing:
LTUO cable car from Turtmann to Oberems, then “Alpenbus” to Gruben.
Timetable:
www.oberems.ch
+41 (0)27 932 15 50



A long hike on mountain paths

INFORMATION & LEGEND

- Parking
- SBB railway station
- Bus stop
- Tourist office / Information
- Cable car
- Museum / Exhibition
- Hotel / Restaurant
- Shop
- Geomorphological sites of interest

Pfyn-Finges Regional Nature Park accepts no liability for accidents.

SOS no.: 144



You can investigate the geological history of the park further at the Nature and Landscape Centre in Salgesch! There, you can visit the Geological and Botanical Gardens and exhibitions dedicated to the region.

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Information

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The Raspille gorges



The wild Rhone and the rockfall hills of Siere



Feschel gorge



Glacial erratic near Erschmatt



Bratsch lateral moraines

SIERRE – SALGESCH EXCURSION

From Siere to Salgesch, along the hills of the rockfall and the wild Rhone.

On this excursion, we uncover an important prehistoric event that lends the region of Pfynges its appearance of a collection of “ruffled, pine-studded giants”. The hiking route partly coincides with the wine trail.

The shrinking of the large Rhone Glacier, which began to retreat towards the end of the last glacial period (around 15,000 years ago), has led to significant destabilisation of the slopes of the mountains that rest on the ice mass. As a result, on the right bank of the Rhone, an important event has made a lasting impact on the landscape: the Siere rockfall (around 1 km³). The rockfall originated in the Varner alp region and has probably covered the glacier tongue, where the glacier tapers out. The even, all-but-vegetationless, limestone slope of the Flottwald served as a “slide”. It is still easily visible today 1. Thus the small hills between Salgesch and Granges 2 8 and the Miège terrace 2 (deposited

masses from the rockfall) interrupt the monotony of the valley floor. In the Raspille gorges 4, the draining of the underground water through this broken-off mass cemented and strengthened certain parts of the deposited masses. The subsequent, uneven process of erosion has created magnificent pyramid structures. 3

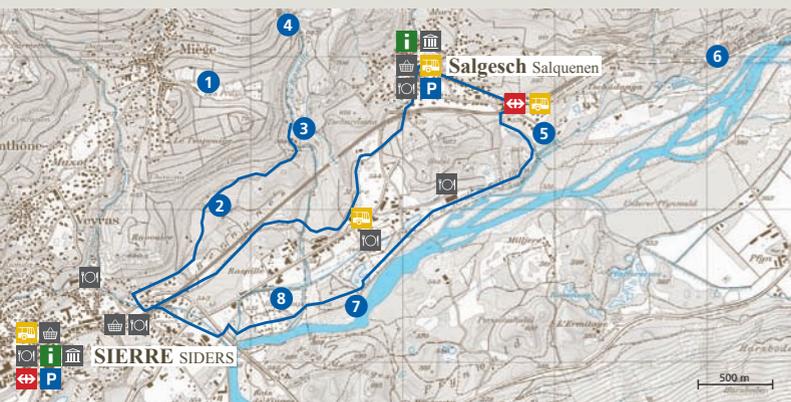
In Salgesch, we cast our gaze upwards, where we see the outline of the huge alluvial fan of the Illgraben, which cuts through the entire valley and dams the river. This has created rapids between Leuk and Siere. The wild Rhone weaves its way for a distance of 7 km, with a width extending from 110 to 300 m, and represents an alluvial site of national importance 7. This stretch of the Rhone also acts as a buffer between the Illgraben, which carries along large quantities of debris, and the start of the river correction in Chippis. The wild



Rhone’s powerful current has carved out grooves in the Pfynges hills. Its might stands in contrast to the clear, tranquil flow of the Russubrunnu 5, a tributary of the Rhone, which is constantly fed by karst springs 6. And these springs in fact have their source in the Gemmi pass region, 12 km north and 2,000 m higher!

- 1 The Flottwald “slide”
- 2 The Bernunes hills
- 3 The Raspille pyramids
- 4 The Raspille gorges
- 5 Russubrunnu tributary
- 6 The source of the Russubrunnu
- 7 The wild Rhone
- 8 The Katzenhubel

Total distance: 10 km
Altitude diff.: 200 m
Hiking time: 3h
Departing: Salgesch railway station
Timetable: www.sbb.ch



A gentle hike, with an adapted version also offered for wheelchair users. (Blue path)

LEUK – ERSCHMATT – GAMPEL EXCURSION

The traces of glacial activity in the Rhone valley

This excursion begins from Leuk railway station, taking us across the limestone nappes of the Helvetic system 1, which have been cut through by the deep structural gorge of Feschel 2, and on up to the village of Erschmatt, finally ending in Gampel-Steg, the ancient crystalline basement of the Aar Massif 5. This excursion offers panoramic views of the Valais Alps. This landscape has been significantly shaped by glacier activity which can be traced back more than 15,000 years.

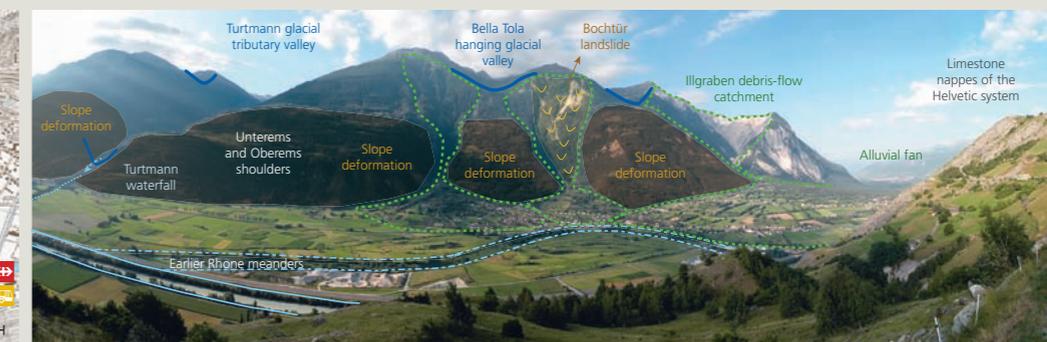
In the Turtmann region, the bedrock is 400 m below the current level of the valley. Due to the various forces of erosion between the large Rhone valley glacier and the side valley glaciers, the valleys have been overdeepened in different ways. After the retreat of the glacier, the main valley was lower than the mouths of the side valleys, which had been less strongly eroded. Suspended 1,600 m above the current valley floor, a U-shaped glacial valley bears witness to the activity of the small hanging glacier of the Bella Tola, whose destructive power was much less than that of

the valley’s large glaciers. The shoulders (lateral moraines) of Unterems and Oberems, which have developed in the area of a slope deformation (sackung), and the Turtmann waterfall are also morphological indications of uneven erosion. The glaciers also left behind material towards the end of the last glacial period. In the Erschmatt region, there are numerous masses of crystalline rock 3, while lateral moraines are to be found in Bratsch 4 and Feschel. Picture a valley right in front of you, filled with a large, moving ice stream...

- 1 Limestone nappes of the Helvetic system
- 2 Feschel gorge
- 3 Glacial erratic near Erschmatt
- 4 Bratsch lateral moraines
- 5 Crystalline basement of the Aar Massif



Total distance: 15.5 km
Altitude diff.: 800 m
Hiking time: 5h
Departing: Gampel-Steg railway station
Timetable: www.sbb.ch



Another great geomorphological drama has left its mark on the landscape today: the Illgraben, a gaping, pale-yellow-and-reddish wound, “the negative of a mountain”, as the author Corinna Bille described it, is the largest debris-flow catchment in the Alps. The Illgraben seems tranquil, yet can overflow and produce vast debris flows. Tens of thousands of square metres of mud, debris and rocks, some a formidable size, are washed away every year. Over time, these repeated debris flows have formed one of the largest alluvial fans in the Alps. This fan has pressed the Rhone against the Leuk slope and formed a natural dam in the valley. Upstream, the current is slower and has created meanders, and an old arm of the river is still visible in Leukerfeld.