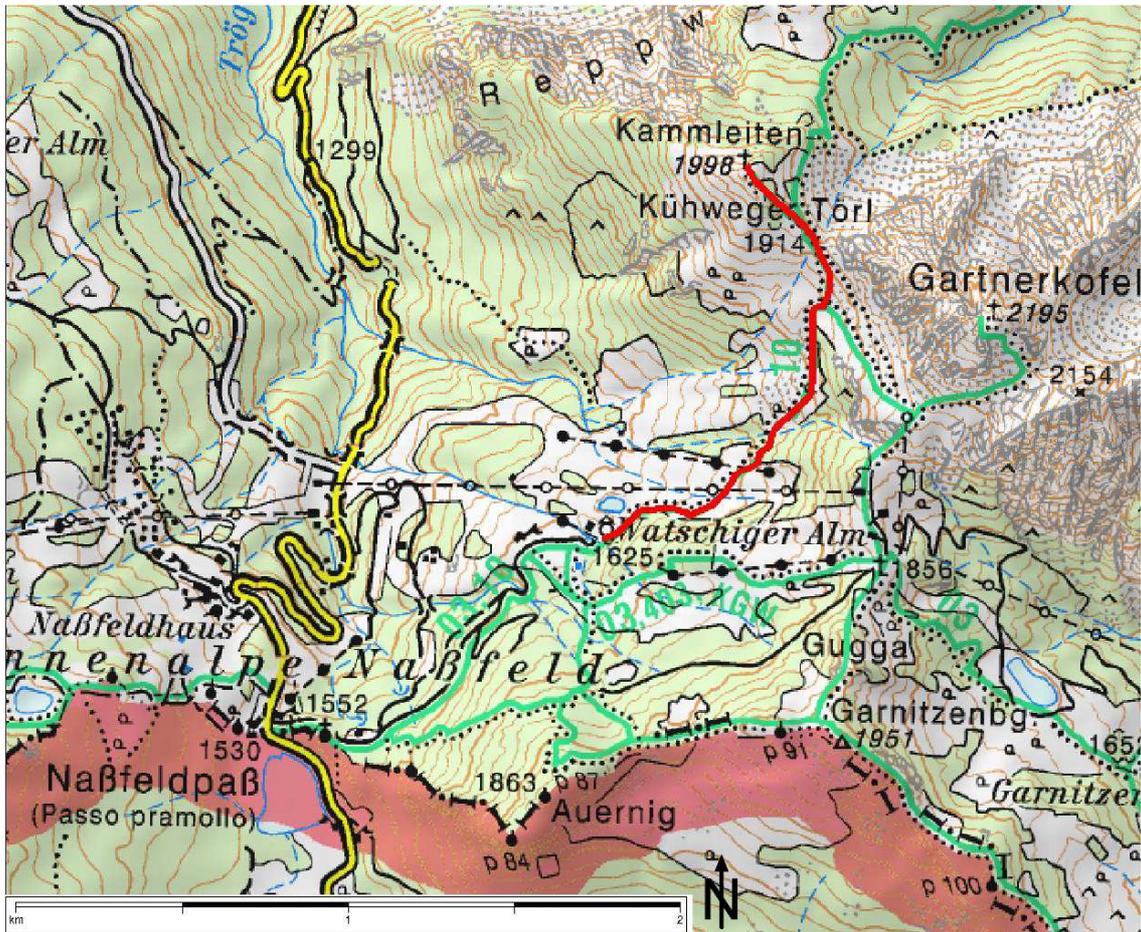


Geotope 24: KamMLEITEN – Colourful rocks



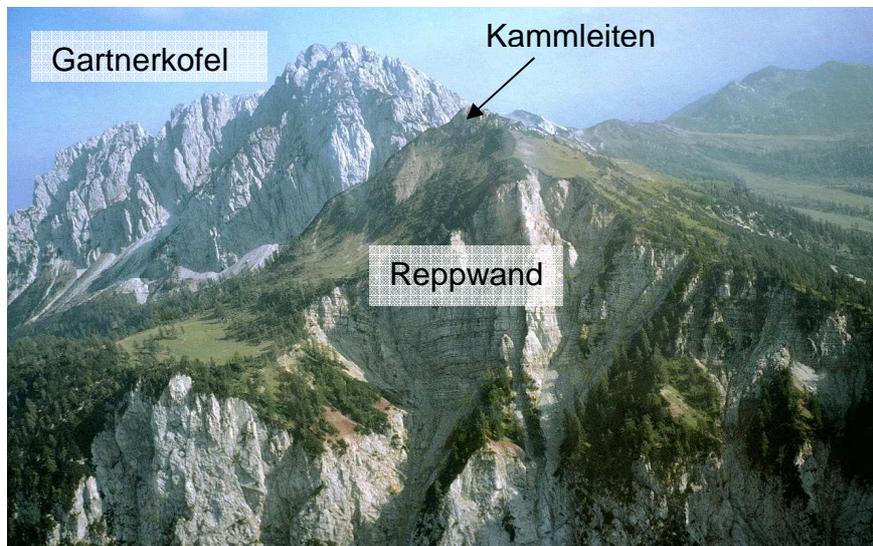
Red marking: Hiking route according to advance description; green tracks: hiking trails; ©BEV: Federal Office for Calibration and Measurement, 2005.

Access:

From Tröpolach ascent to Naßfeld on further on along the road to Watschig Alm. Further on along a trail via Kühweg Sattel to the summit of KamMLEITEN (1998 m).

Description of the Geotope

Along the trail from Watschig Alm to Kammleiten the path is passing a unique type of rock. It consists of variegated, dm-big, rounded and subrounded pebbles of limestones and dolomites. This rock named “Muschelkalk-Conglomerate” or “Uggowitz Breccia” was formed during the Lower Triassic some 230 m.y. ago. The 44 m thick horizon forms the peak of mountain Kammleiten, only in its lower part an up to 4 m thick volcanic tuff layer is intercalated.



View from Gail Valley to Reppwand and Gartnerkofel.

These tuffs may provide the explanation for the formation of the conglomerate. Either earthquakes or volcanic eruptions may have shaken the subsurface and were responsible for the uplifting of parts of the seabottom. Due to this disturbance angular gravel deposits were formed and accumulated as a kind of beach-rocks at the base of the uplifted rockwall where they were further reworked. Finally, they were cemented to become a hard conglomerate.



Muschelkalk Conglomerate from the summit of Kammleiten.

For those who are interested in more details: **conglomerates** are sedimentary rocks, consisting of rounded and more than 2 mm big cemented components. **Breccias** are similar to conglomerates but consist of angular clasts. Tuffs are more or less massive rocks consisting of volcanic ashes.

Gartnerkofel Drilling: During autumn 1988 a scientific drilling with a depth of 330 m was performed a few meters southeast of the mountain cross of Kammleiten (1998 m). The main purpose to drill a continuous core was to explore the nature of the Permian/Triassic boundary beds which are exposed in the subsurface (and the surface as well). At that time, some 251 m.y. ago, the Earth was affected by drastic environmental changes in the oceans including one of the 5 big mass extinctions in Earth's history. The latter was explained, among others, by a meteorite impact. At this time the organic world suffered from a massive demise of faunas and floras. Up to 96% of all [marine species](#) and 70% of the [terrestrial vertebrate](#) species became [extinct](#). The aim of drilling this core was to collect exact analytical data to explain and understand this environmental disaster. In short, there was no single cause but multiple effects arising from extensive volcanic eruptions in Siberia which caused the sudden demise of huge quantities of life in the sea and on the continents.