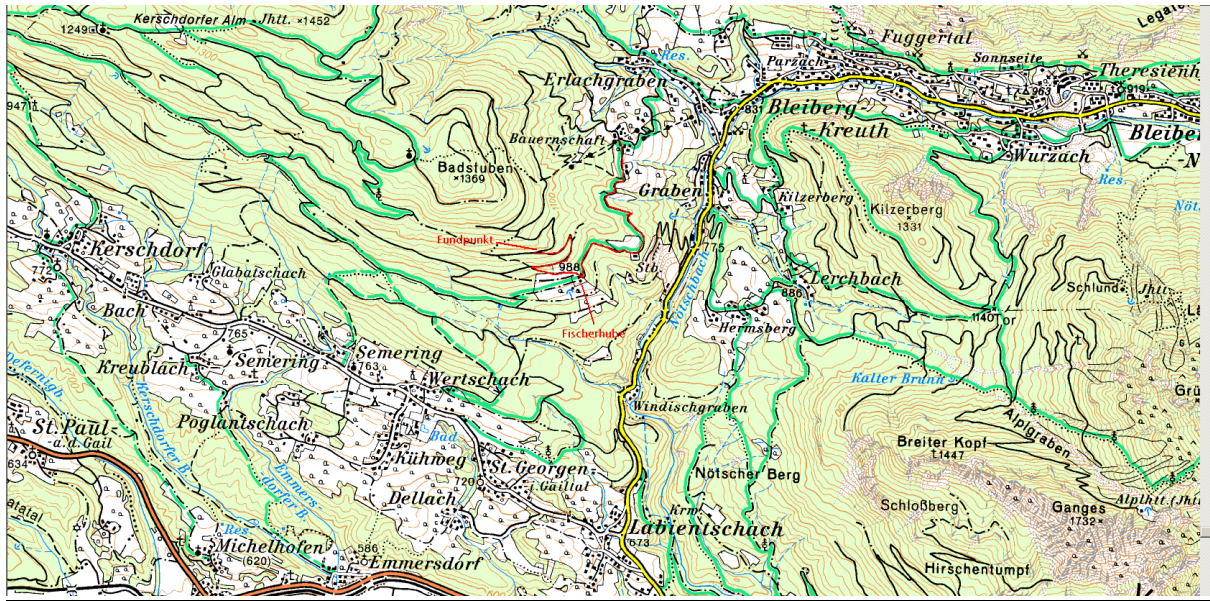


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## Geotope 18. Nötsch Badstuben – Nature's Studio



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

### Access:

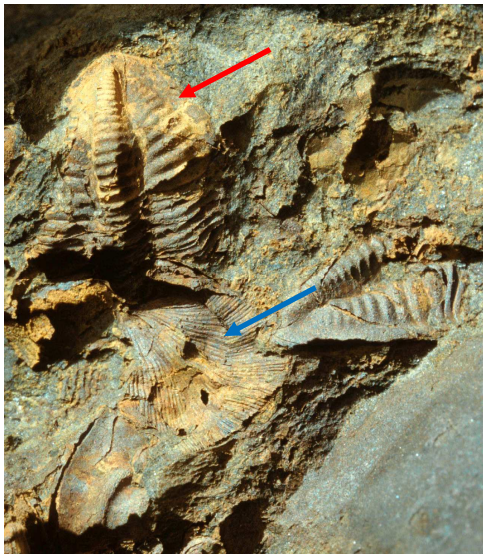
Road from “Bauernschaft” to “Fischerhube” and further on along the forest road in the direction to “Badstuben” to the fossil locality (see map).

## Description of the Geotope

The village of Nötsch in the eastern Gail Valley has long been known by geologists. Within the borders of the community the most fossiliferous strata of the whole Alps are exposed from the Carboniferous Period (360 to 290 m.y. BP). They were already discovered in the year 1807. The fossiliferous sediments comprise greyish shales which locally contain, among others, abundant remains of well-preserved brachiopods, bivalves, snails, sea-lilies, corals, trilobites, bryozoans, nautiloids, algae and other plants. The Geotope is a good example for the abundance of a highly diverse Carboniferous fauna and flora.



Fossil locality at the forest road.



Trilobite pygidium (red arrow) and brachiopods (blue arrow).



Cross section of a disarticulated crinoid fragment from the stem with the axial channel displaying the five-fold symmetry (for size comparison compare the head of a match).

For those who are interested in more details:

About 300 million years ago the whole Gailtal Alps did not exist. The Carnic Alps, however, were located several tens of kilometres in the south and were part of an ancient oceanic realm between northern Africa and the European Plate. During the start of the closing of this ocean huge amounts of mud, clay, sand and gravel were transported by rivers to the coast. These clastic sediments were deposited on the shelf upon crystalline bedrocks. The latter are exposed in the southern Gailtal Alps in the Lesach Valley and its eastern continuation including the area between Lake Presseggen and Nötsch.

After onset of the collision magma started to rise to the surface. This event was accompanied by deformation, escape of gas and earthquakes resulting in disruption and a mixture of previously accumulated sediments which were transported as gravel and mudflows into the nearby sea. The result was a greenish 500 m thick breccia named Badstub Breccia which is quarried between the villages of Nötsch and Kreuth.

During a short break in sedimentation favourable conditions in the sea gave rise to a highly diverse fauna and flora consisting of abundant brachiopods, corals, bivalves, bryozoans and nautiloids. After their death the hard parts including shells and other remains were embedded in the soft sediment.

A second phase of volcanism was responsible for a renewed formation of breccias. Following this event, some 320 million years ago, gravel and sand was transported to the sea and was laid down as coastal sandstones, shales and quartz conglomerates. The following 50 million years are neither recorded by rocks nor by fossils indicating a break in sedimentation. However, close to the end of the Paleozoic Era some 270 million years ago, red clastic continental sediments accumulated in this area and which are named Gröden Formation. During the following Triassic Period (250 to 210 m.y. BP) the whole area subsided considerably resulting in the deposition of up to 1000 m thick limestones and dolomitic rocks which form the Gailtal Alps of today.