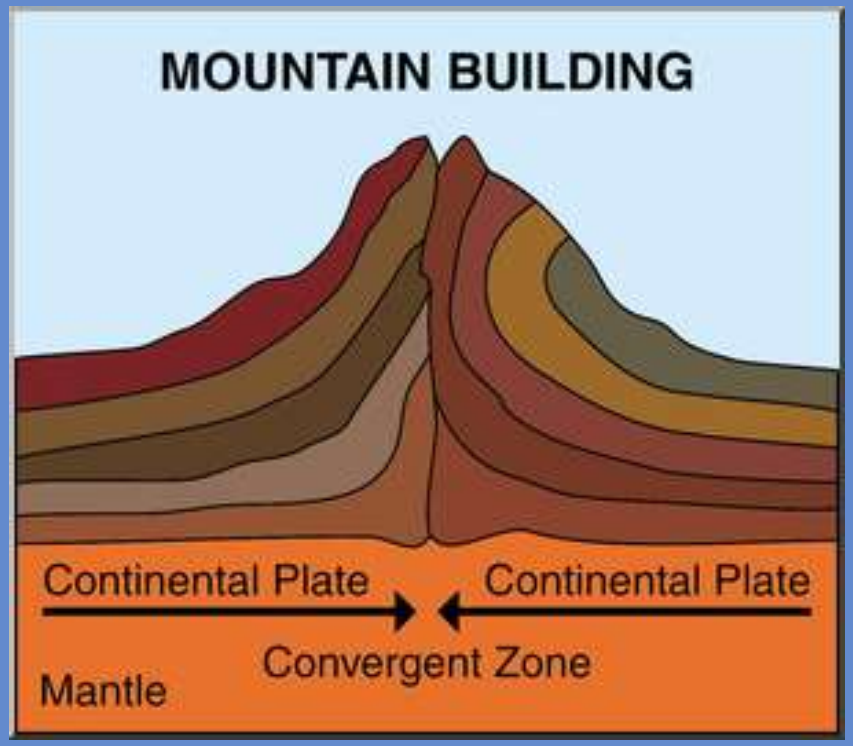
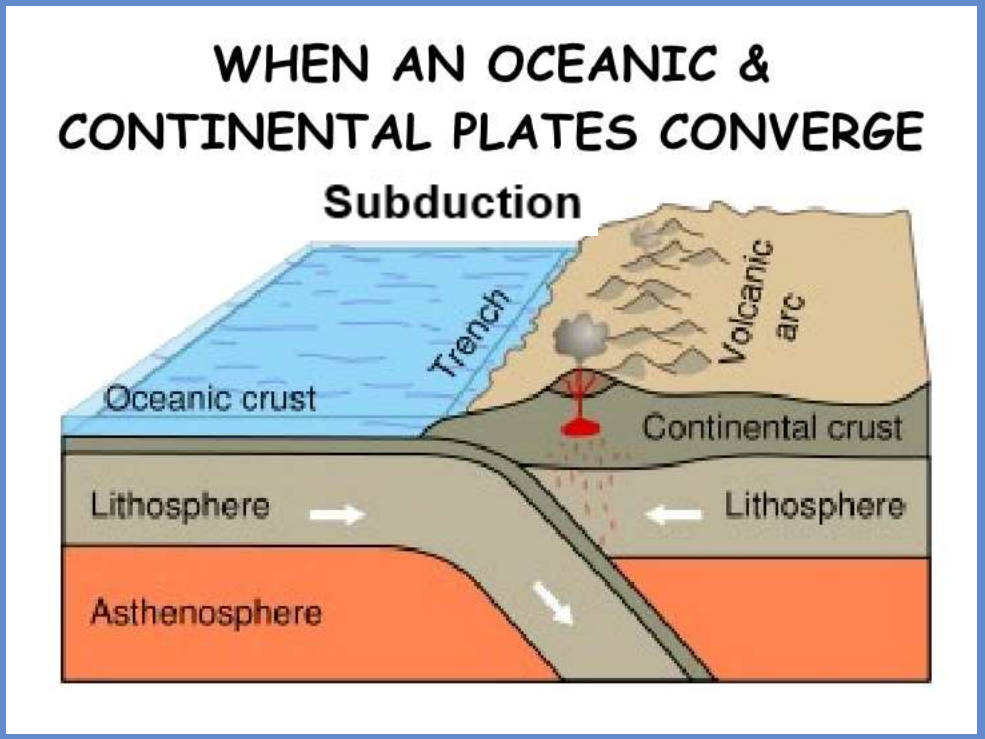
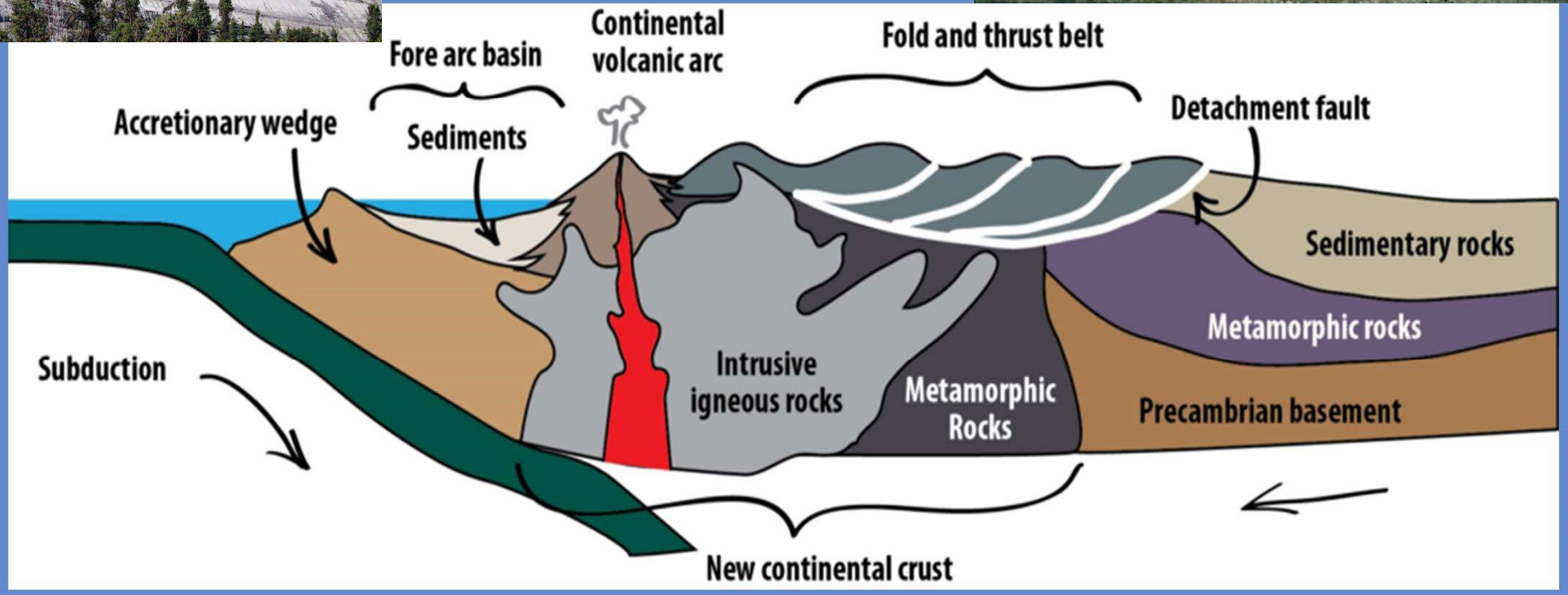
eTwinning Project “Discover Europe”.

Rock Formations in Austria

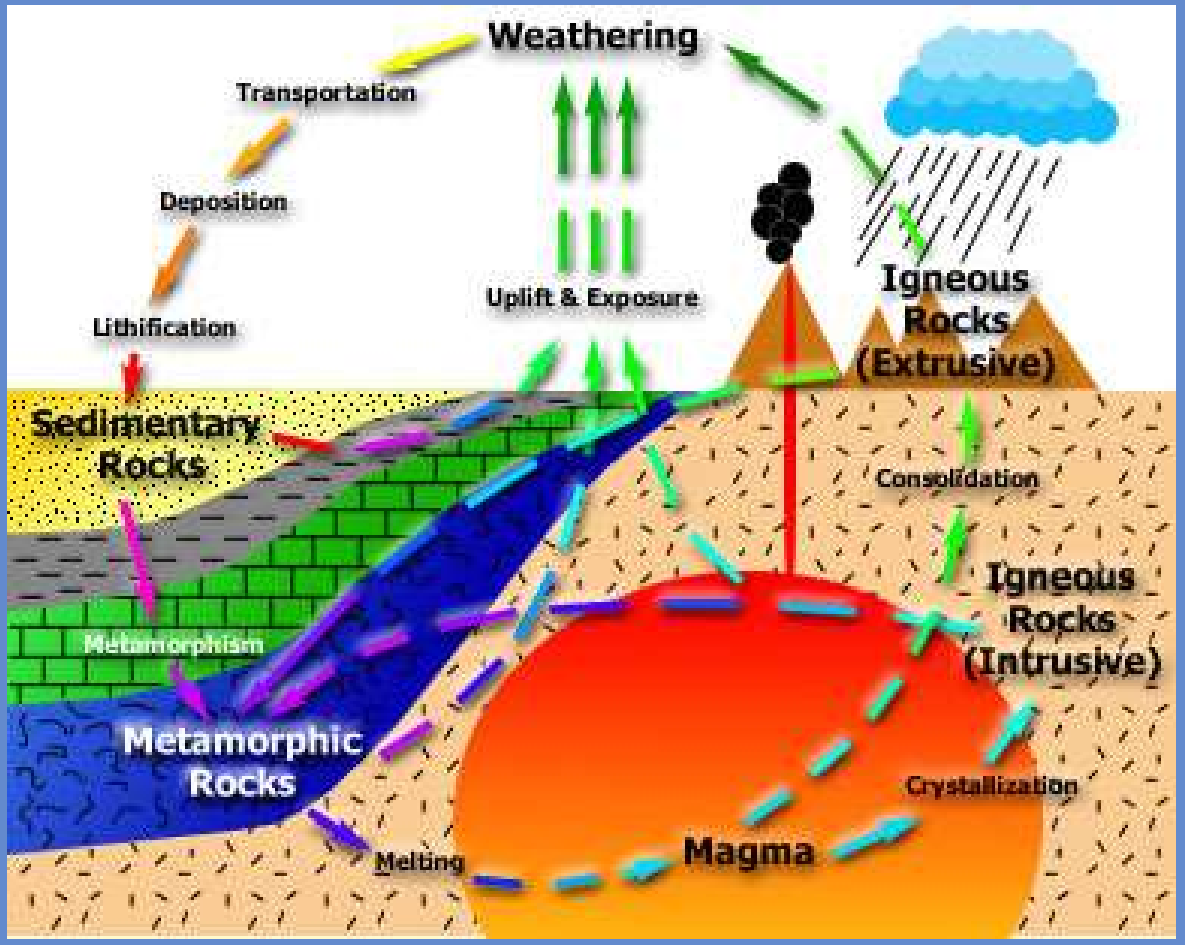
Education lesson made by students from HTL Rankweil.

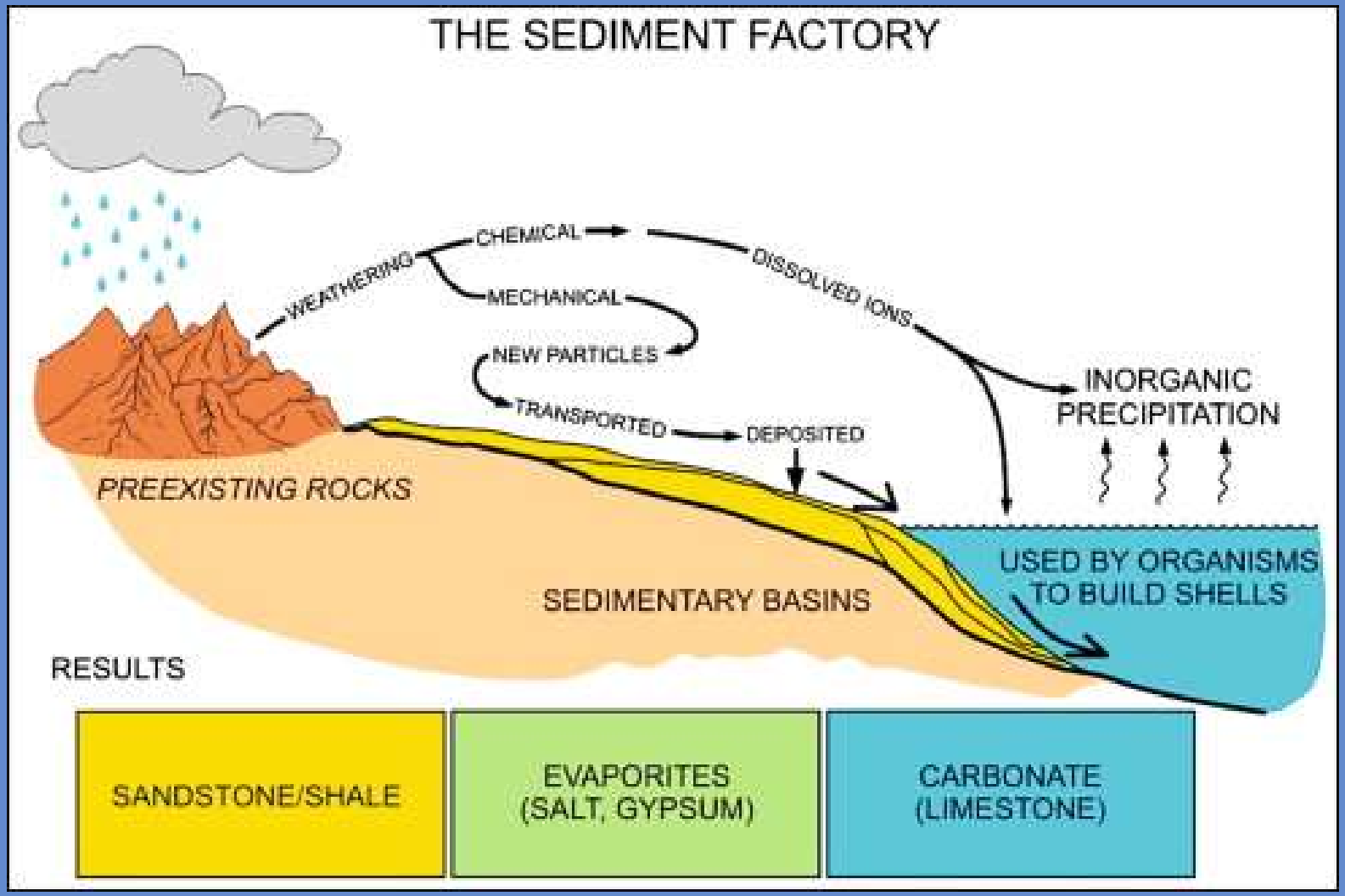

MOUNTAIN BUILDING
Continental Plate
Continental Plate
Convergent Zone
Mantle


WHEN AN OCEANIC &
CONTINENTAL PLATES CONVERGE
Subduction
Trench
Volcanic arc
Oceanic crust
Continental crust
Lithosphere
Lithosphere
Asthenosphere


Continental volcanic arc
Fore arc basin
Fold and thrust belt
Accretionary wedge
Sediments
Detachment fault
Sedimentary rocks
Metamorphic rocks
Subduction
Intrusive igneous rocks
Metamorphic Rocks
Precambrian basement
New continental crust

Rock – Cycle: Erosion of the rocks because of weather influence like rainfall, sunshine, glacier, snow, wind, eruptions and climate change.




THE SEDIMENT FACTORY
WEATHERING
CHEMICAL
MECHANICAL
DISSOLVED IONS
NEW PARTICLES
TRANSPORTED
DEPOSITED
INORGANIC PRECIPITATION
PREEXISTING ROCKS
SEDIMENTARY BASINS
USED BY ORGANISMS TO BUILD SHELLS
RESULTS
SANDSTONE/SHALE
EVAPORITES (SALT, GYPSUM)
CARBONATE (LIMESTONE)

Classification of Rocks

- Geological Classification
  - Igneous rocks
    - Formed by cooling of molten lava
    - Un-stratified rocks
    - E.g. Granite, Basalt, Trap
  - Sedimentary Rocks
    - Formed from weathering deposits (sediments)by wind or water
    - Stratified rocks
    - Solidified to rocks due to compaction caused intense pressure from overlaying sediments.
    - E.g. Sandstone, Gypsum, Lime stone, peat
  - Metamorphic rocks
    - Changed from igneous or sedimentary rocks
    - Foliated ricks
    - Changed due to intense heat or pressure inside earth
    - E.g. Marble, Slate, Laterite Gneiss, Quartzite

Sediment layers:
Sandstone, Gneis, Slate (Schiefer)

Lechtaler mountain range in the Alps
in the region Arlberg, in Austria.

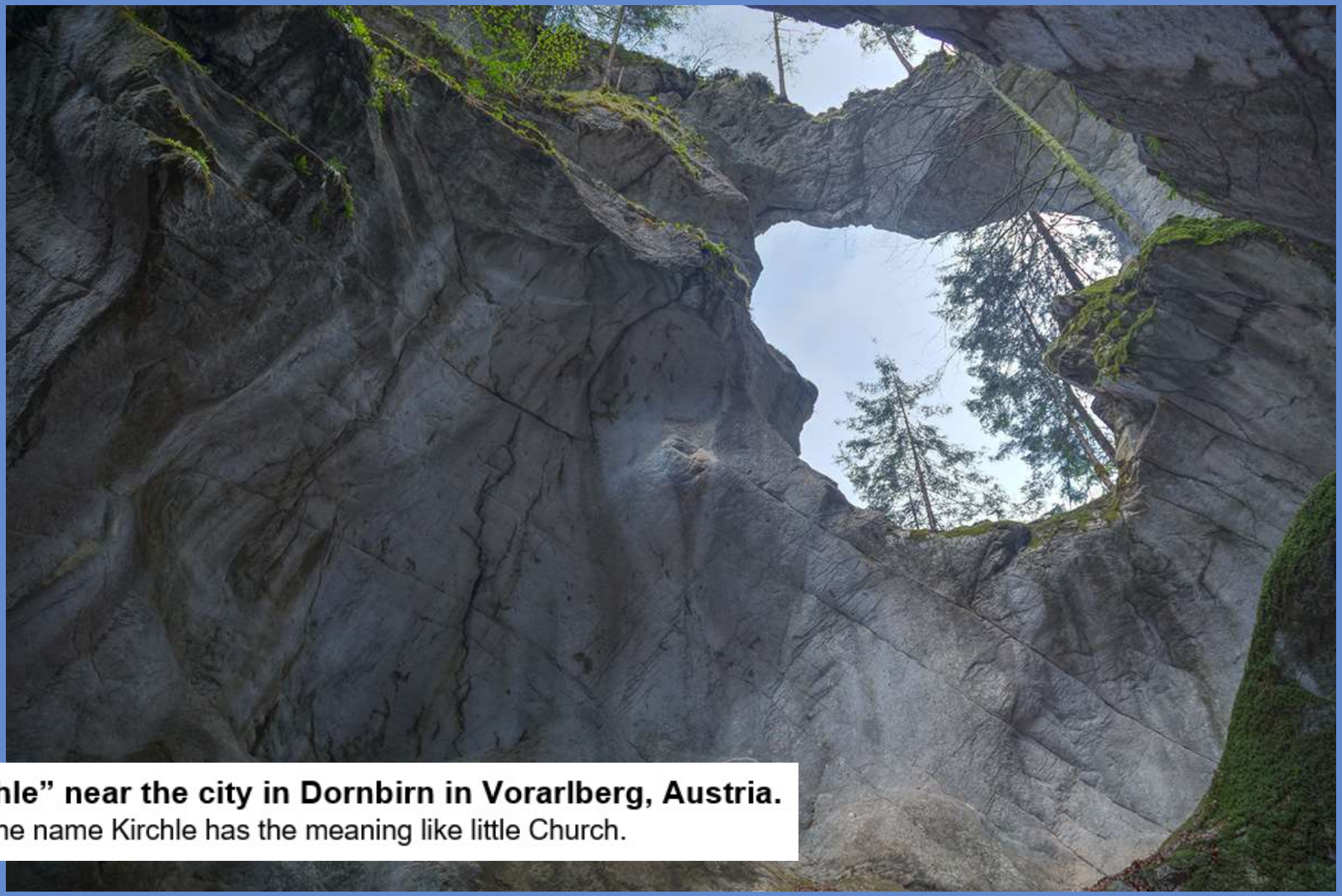
Nationalpark der Blockheide in Lower Austrian in the region Waldviertel.


Granit block

Rock Formations in Austria

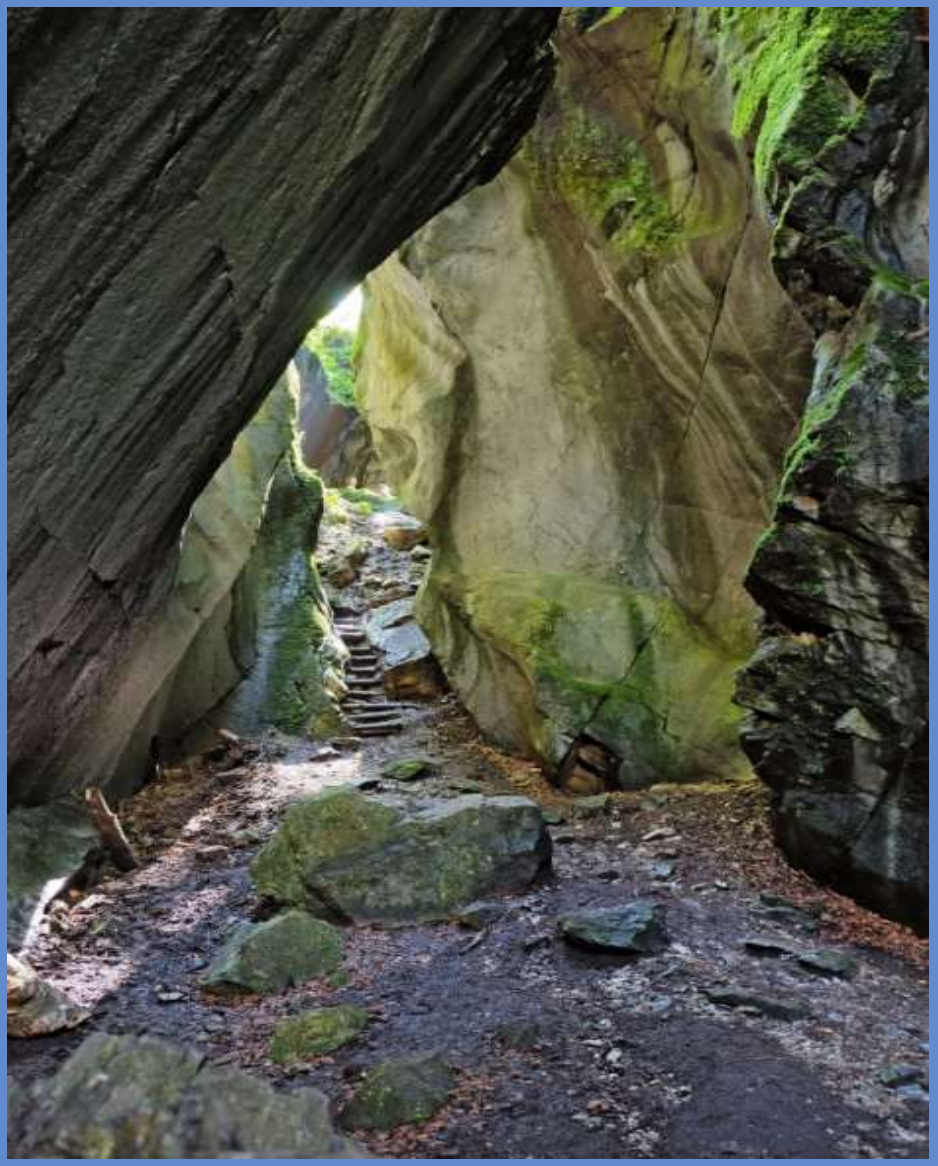
National Park Blockheide in Lower Austria, in the region Waldviertel.

Devils wall - rock formation near Dürnstein, Wachau, Lower Austria.



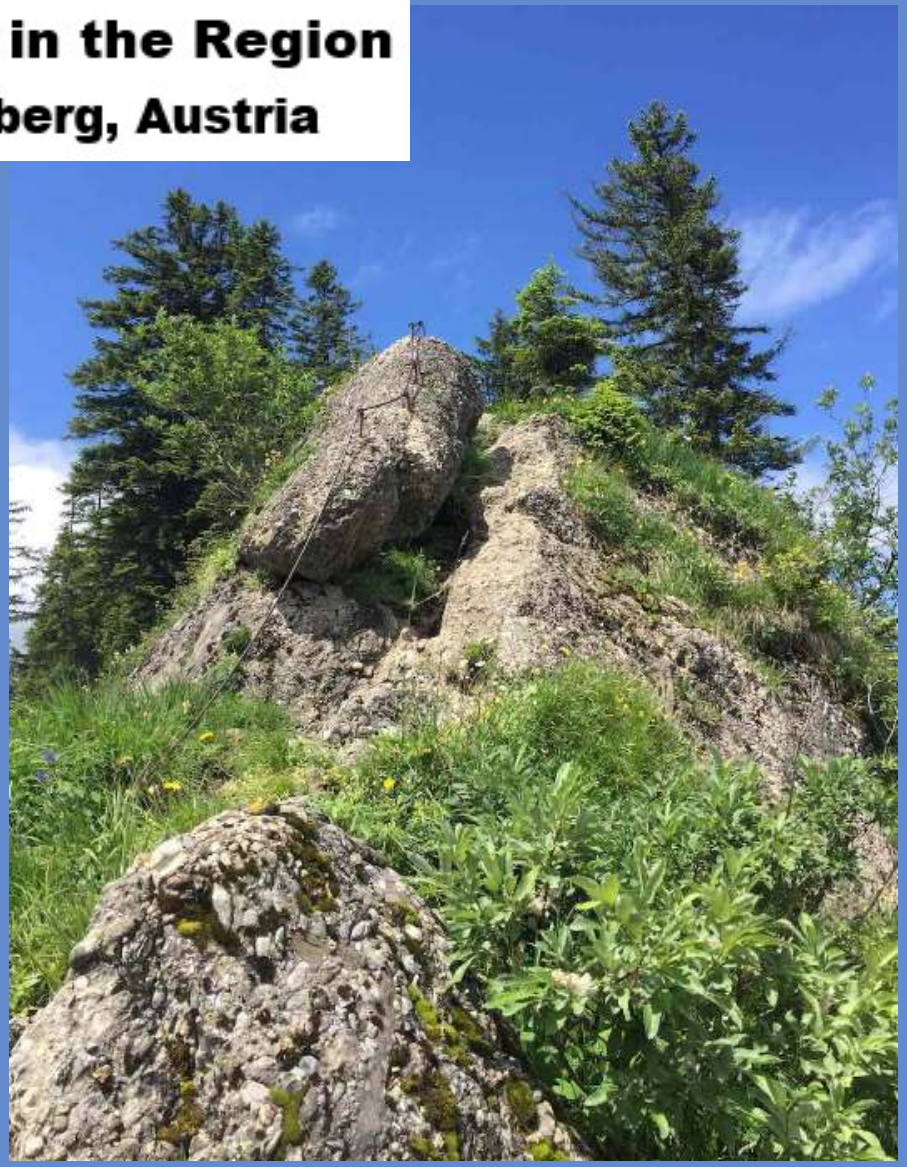
“Kirchle” near the city in Dornbirn in Vorarlberg, Austria.

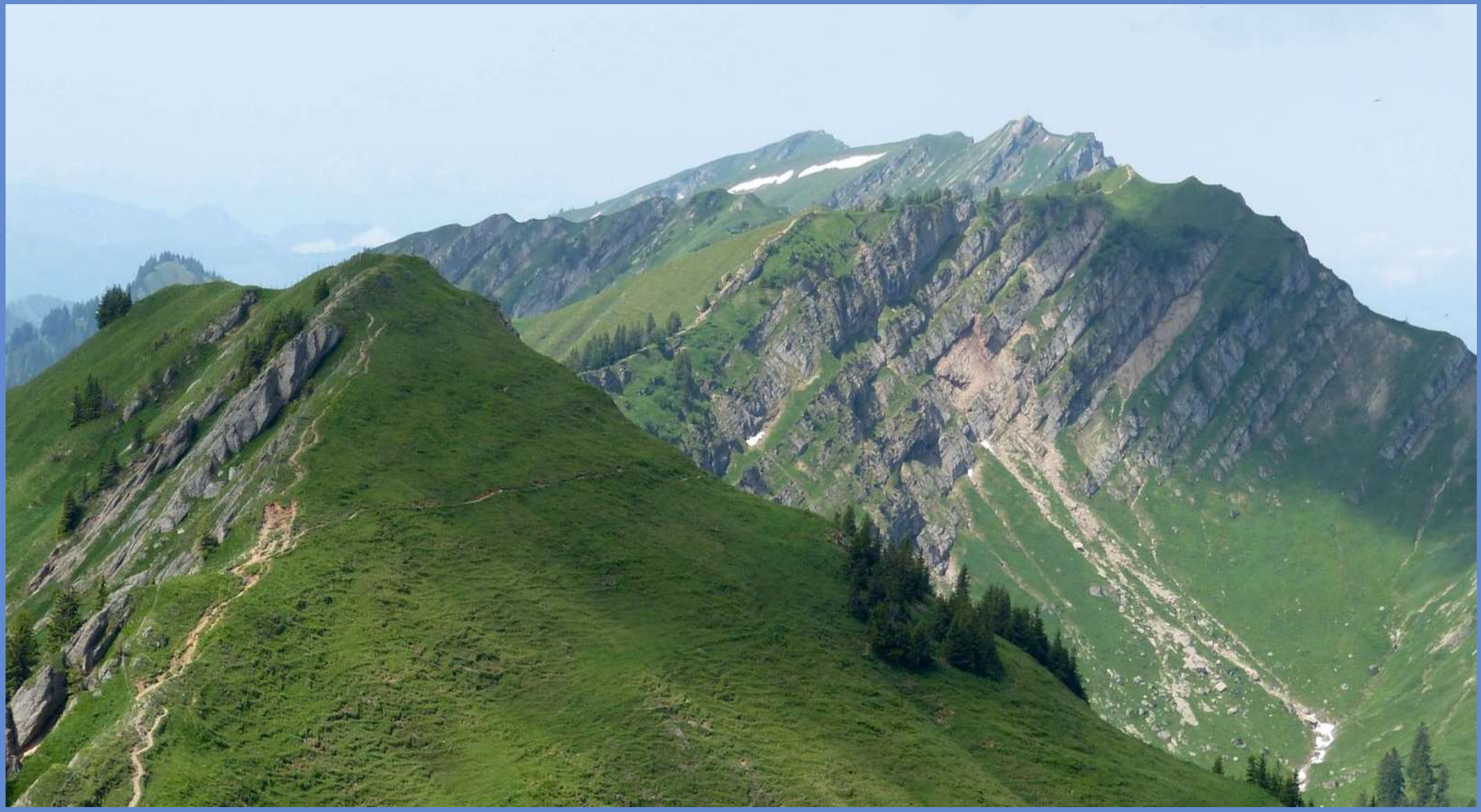
The name Kirchle has the meaning like little Church.



Nagelfluh Nature Park in the Region

Bregenzerwald in Vorarlberg, Austria



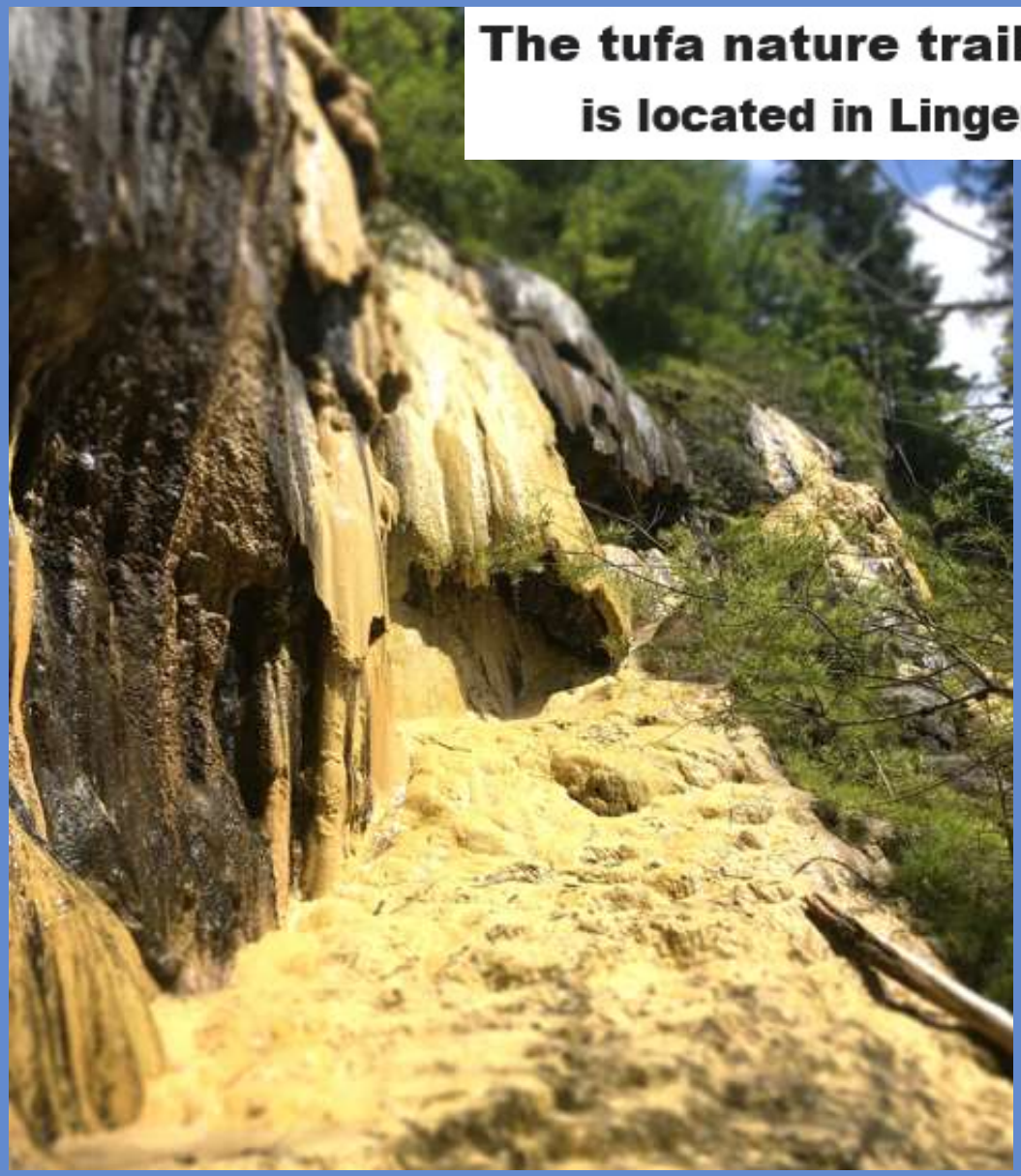


The mountains Gottesackerplateau & Hohe Ifen
in the region Kleinwalsertal in Vorarlberg, Austria.

The mountain "**Rote Wand**" in the Lechtaler Alps,
in the Arlberg mountains in Vorarlberg, Austria.

Gypsum Holes in Lech am Arlberg, Vorarlberg, Austria.
Nature reserve with a unique geological trail in the karst landscape.

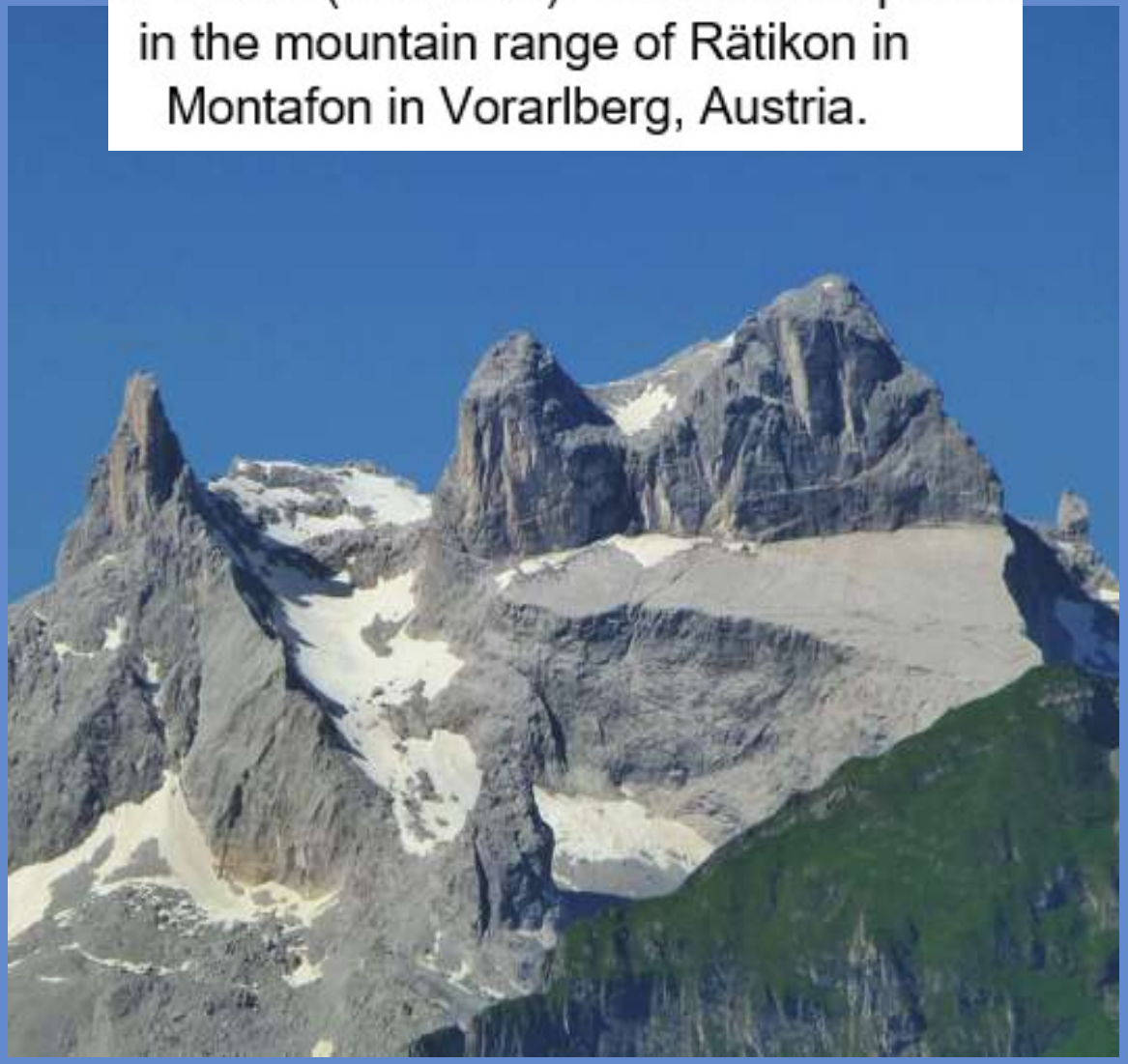
The tufa nature trail (Quelltuff-Naturlehrpfad)
is located in Lingenau, Vorarlberg, Austria.

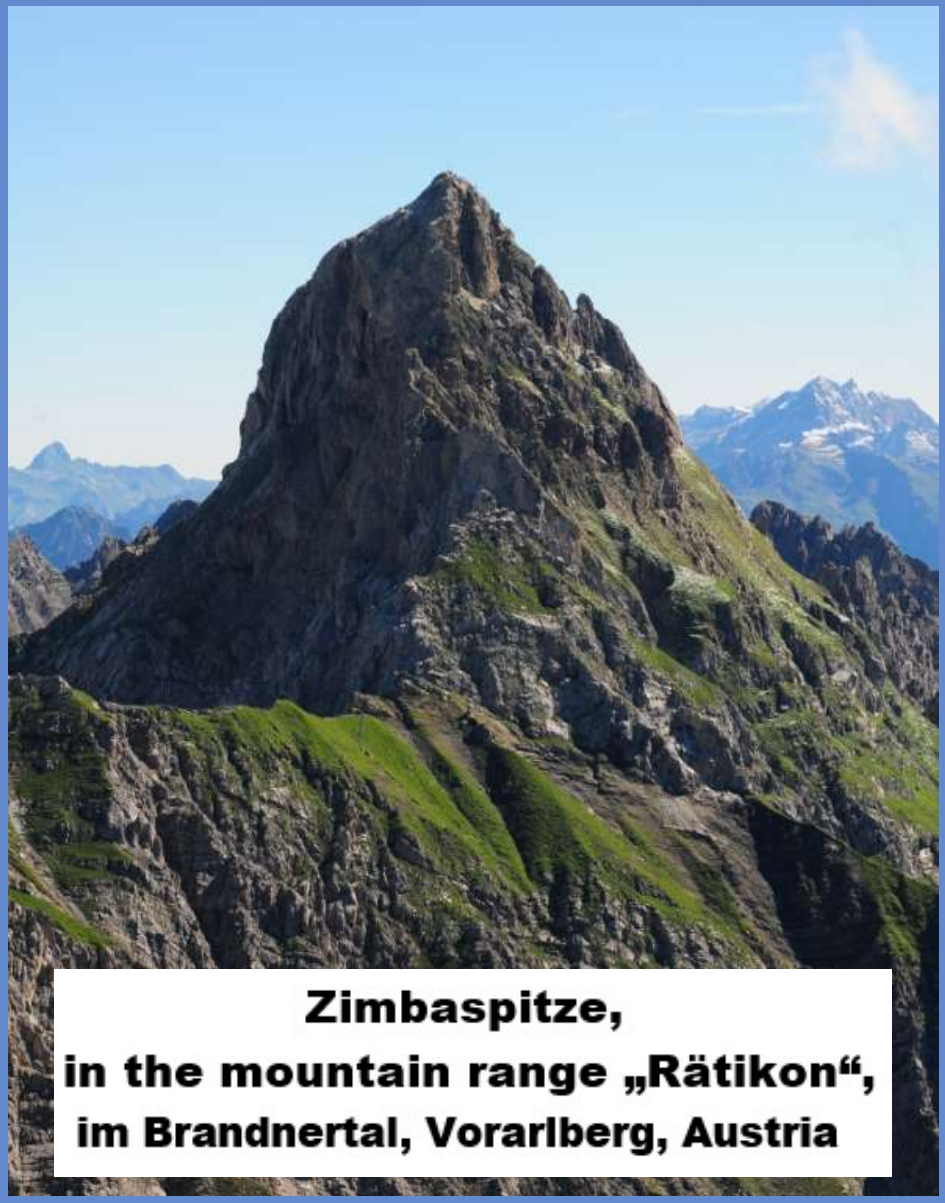


Kl. Valkastiel in Brandnertal, Vorarlberg, AT

Mountain range „Rätikon“

3 Türme (3 Towers) – 3 mountain peaks in the mountain range of Rätikon in Montafon in Vorarlberg, Austria.

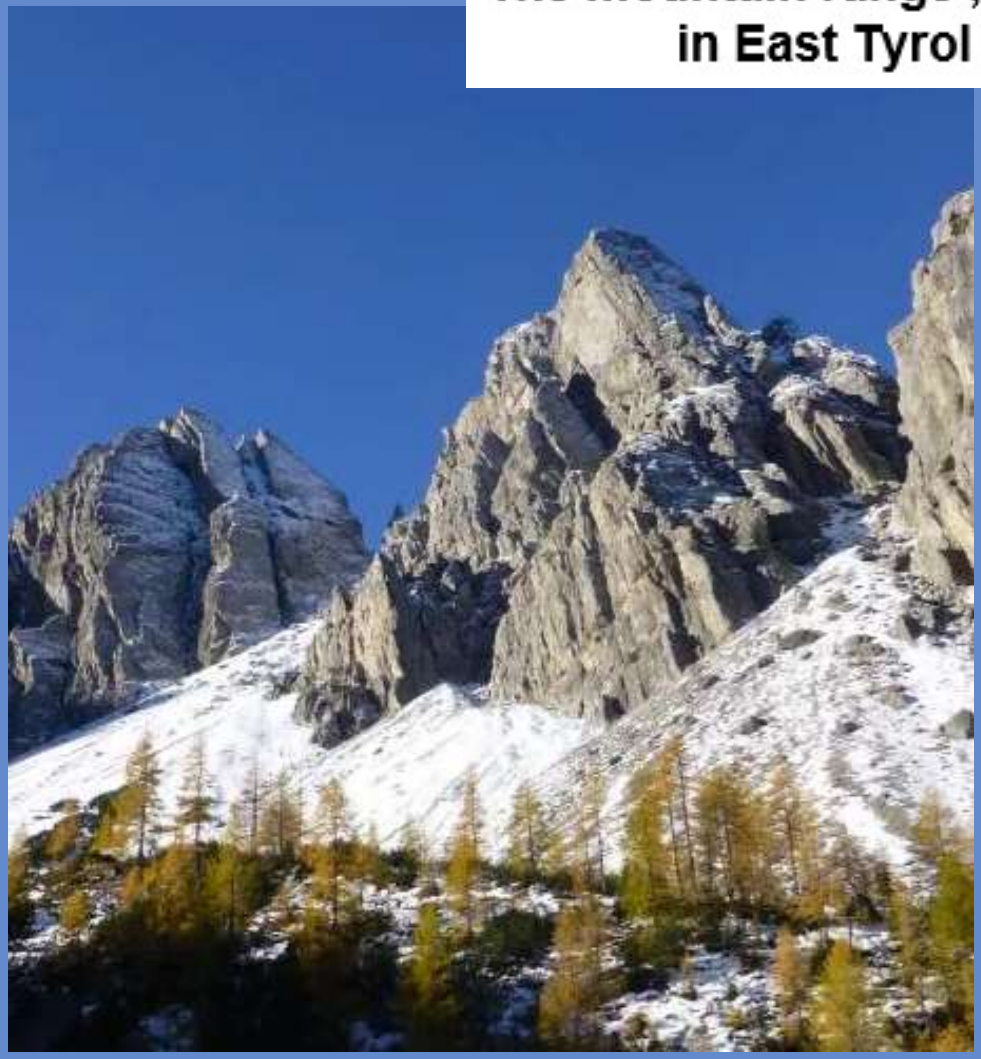


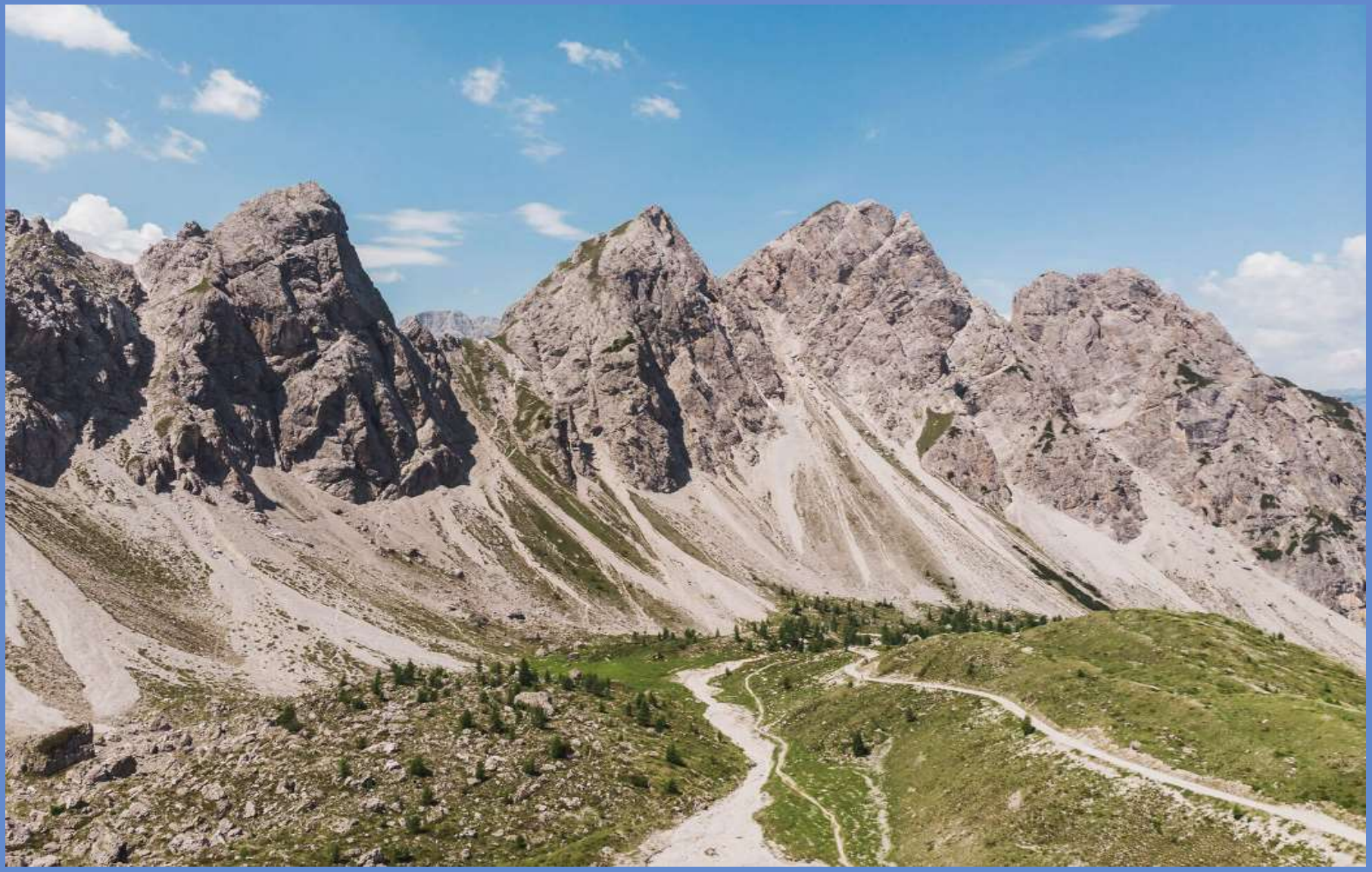


Zimbaspitze,
in the mountain range „Rätikon“,
im Brandnertal, Vorarlberg, Austria

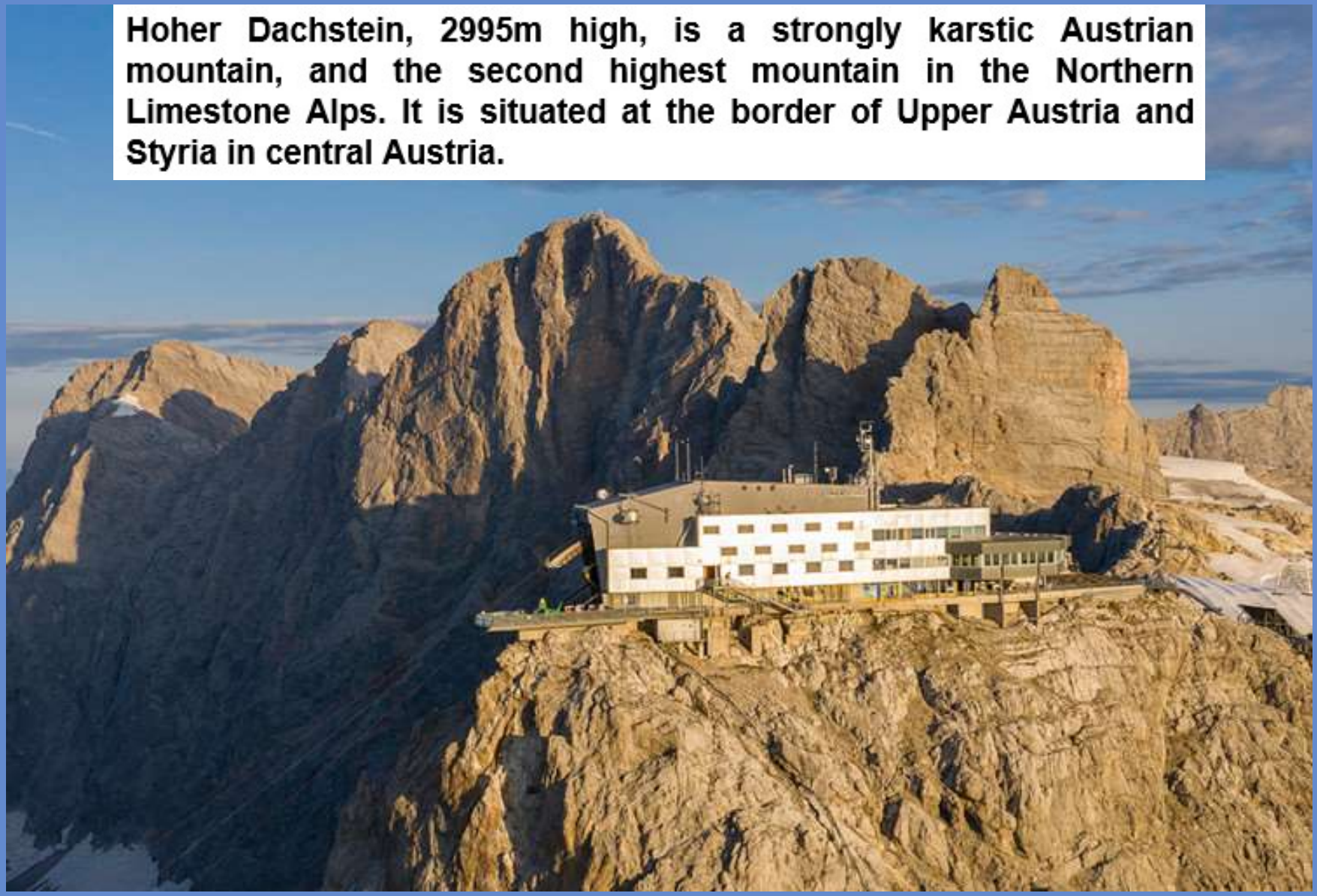
Mountain „Kl. Valkastiel“ in the region in Brandnertal, Vorarlberg, AT

The mountain range „Lienzer Dolomiten“,
in East Tyrol in Austria.

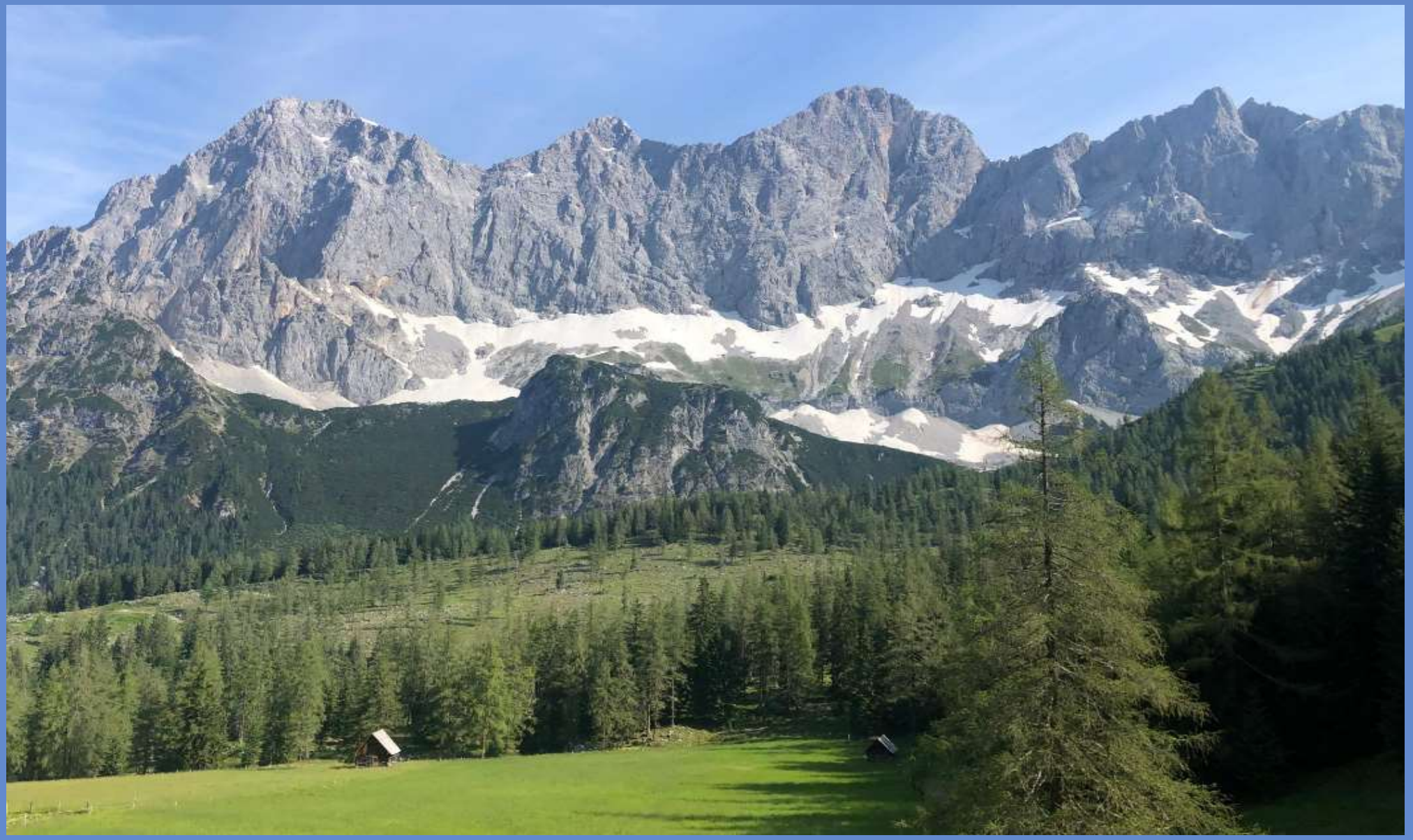





The peak Sommerstein is a 2308m high mountain,
in the Berchtesgadener Alps, in the region
“Steinernes Meer” in Salzburg.

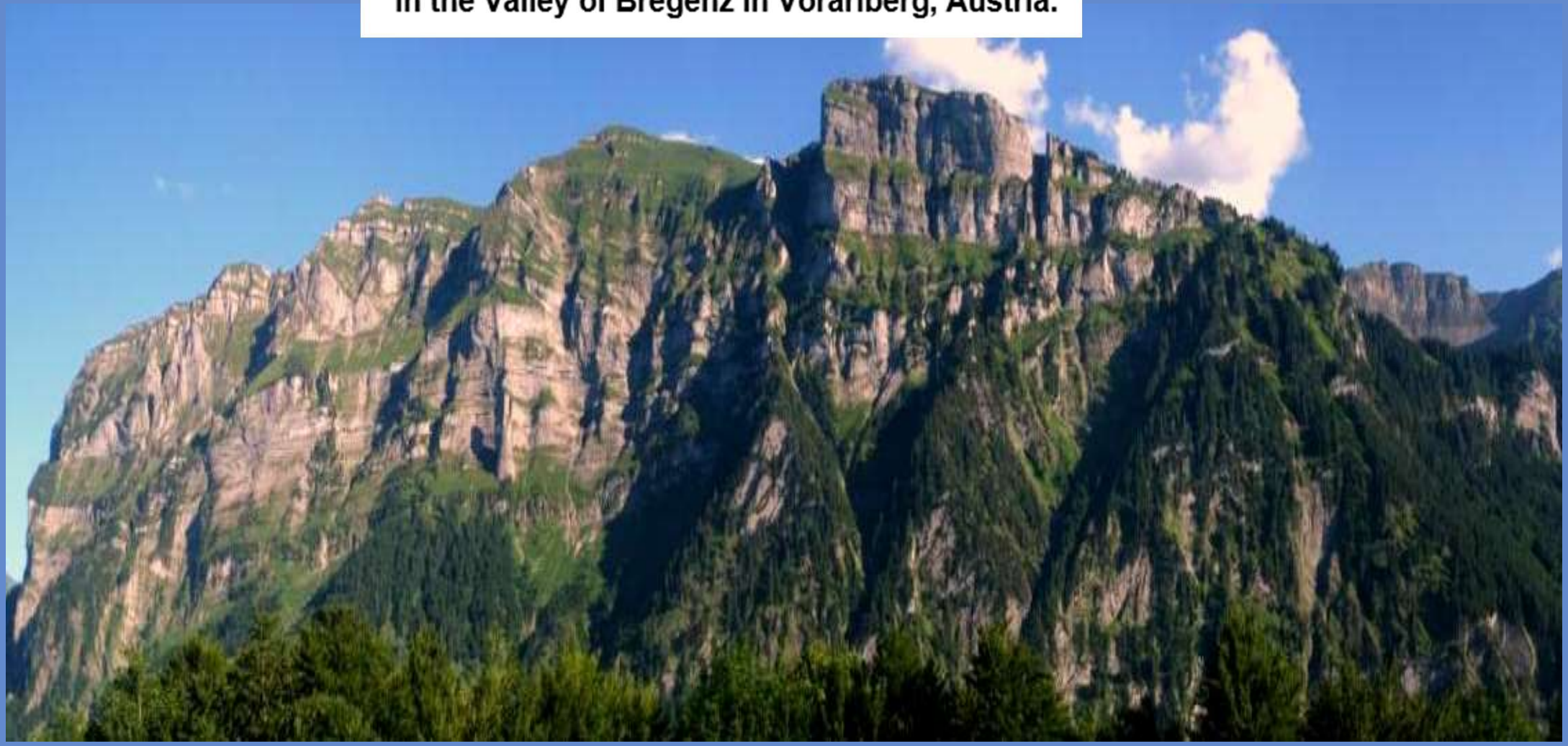

Hoher Dachstein, 2995m high, is a strongly karstic Austrian mountain, and the second highest mountain in the Northern Limestone Alps. It is situated at the border of Upper Austria and Styria in central Austria.

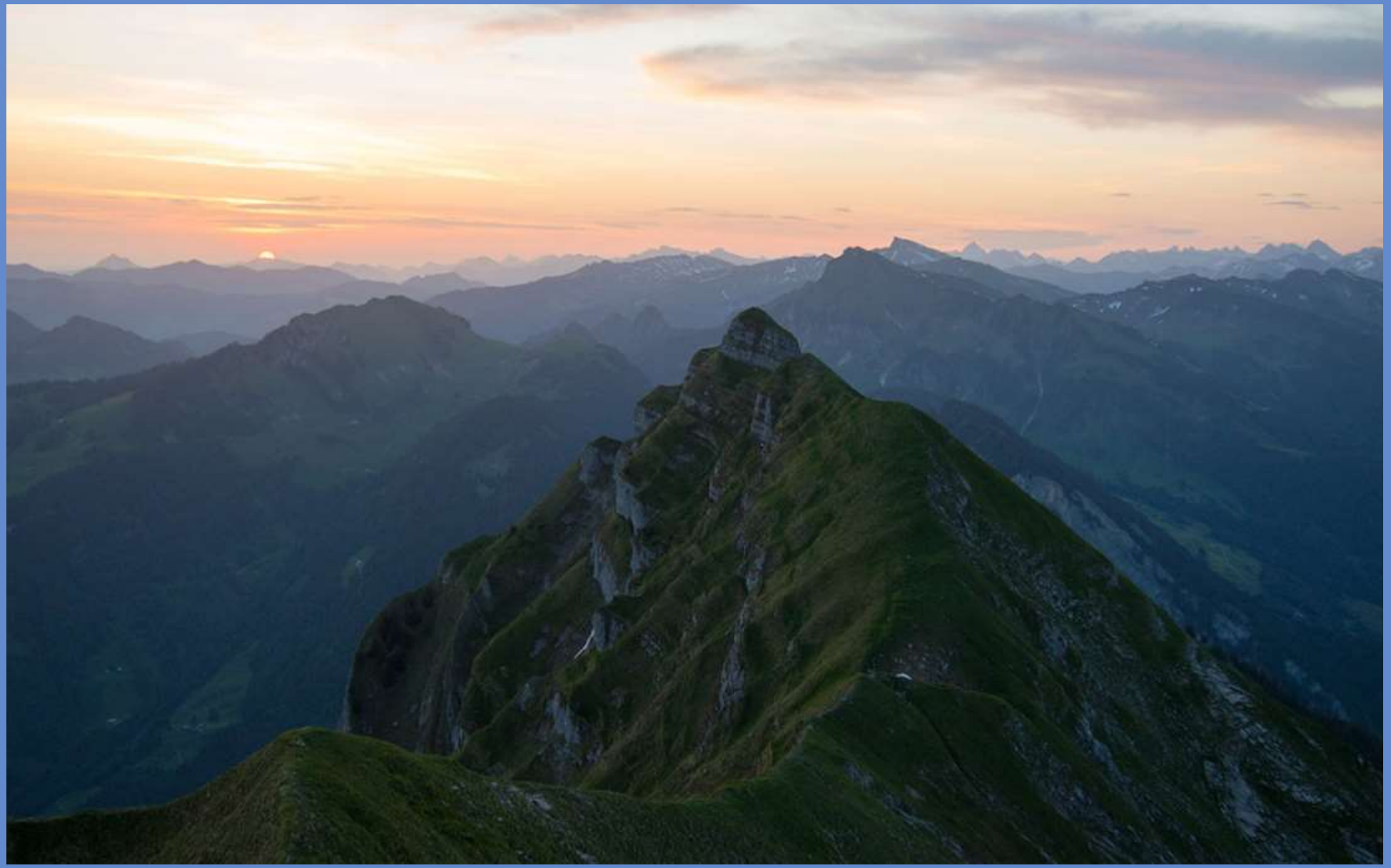

Hoher Dachstein, 2995m high, in Styria in Austria.

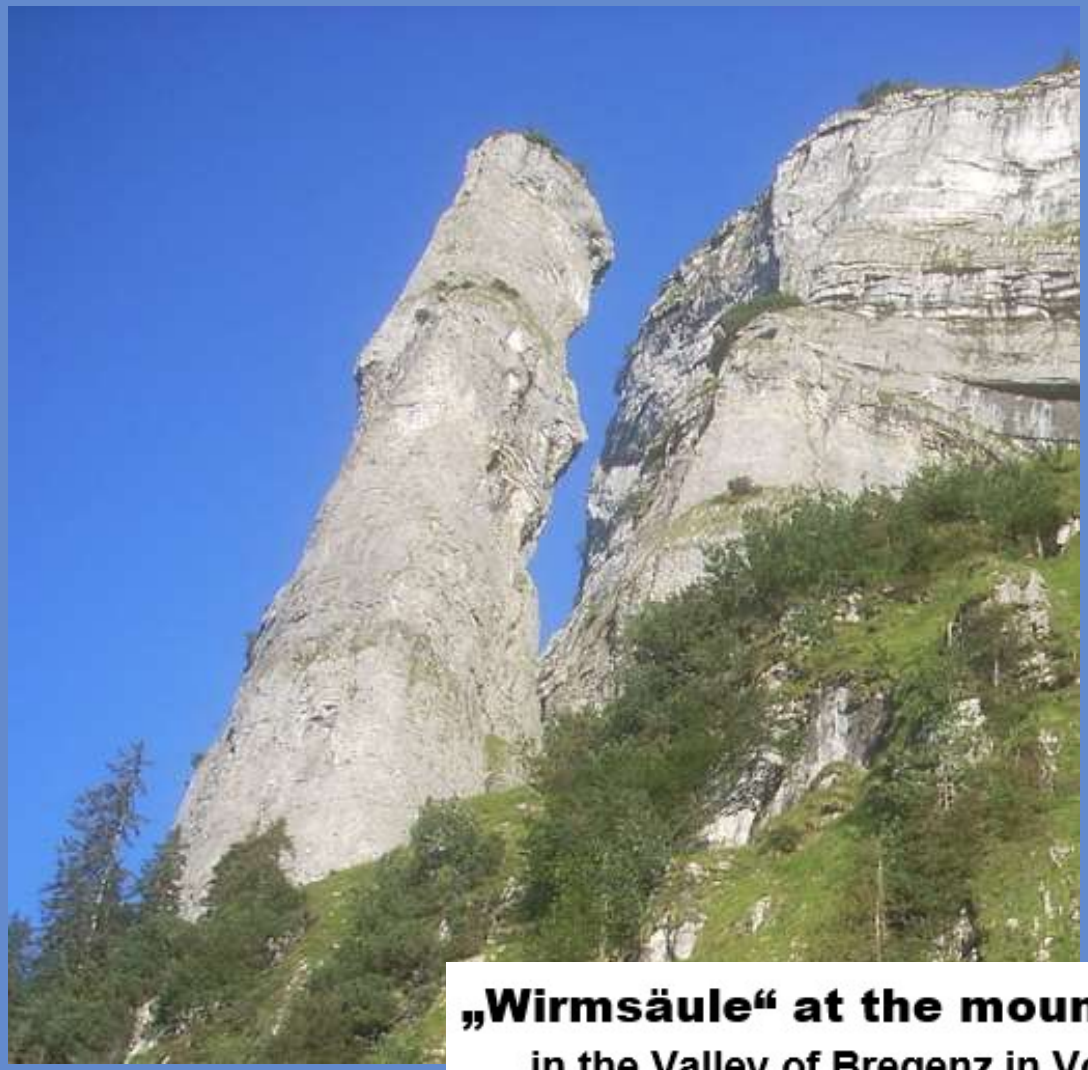


Stubaier Alps in Tyrol in Austria

The mountain peak Kanisfluh,
in the Valley of Bregenz in Vorarlberg, Austria.

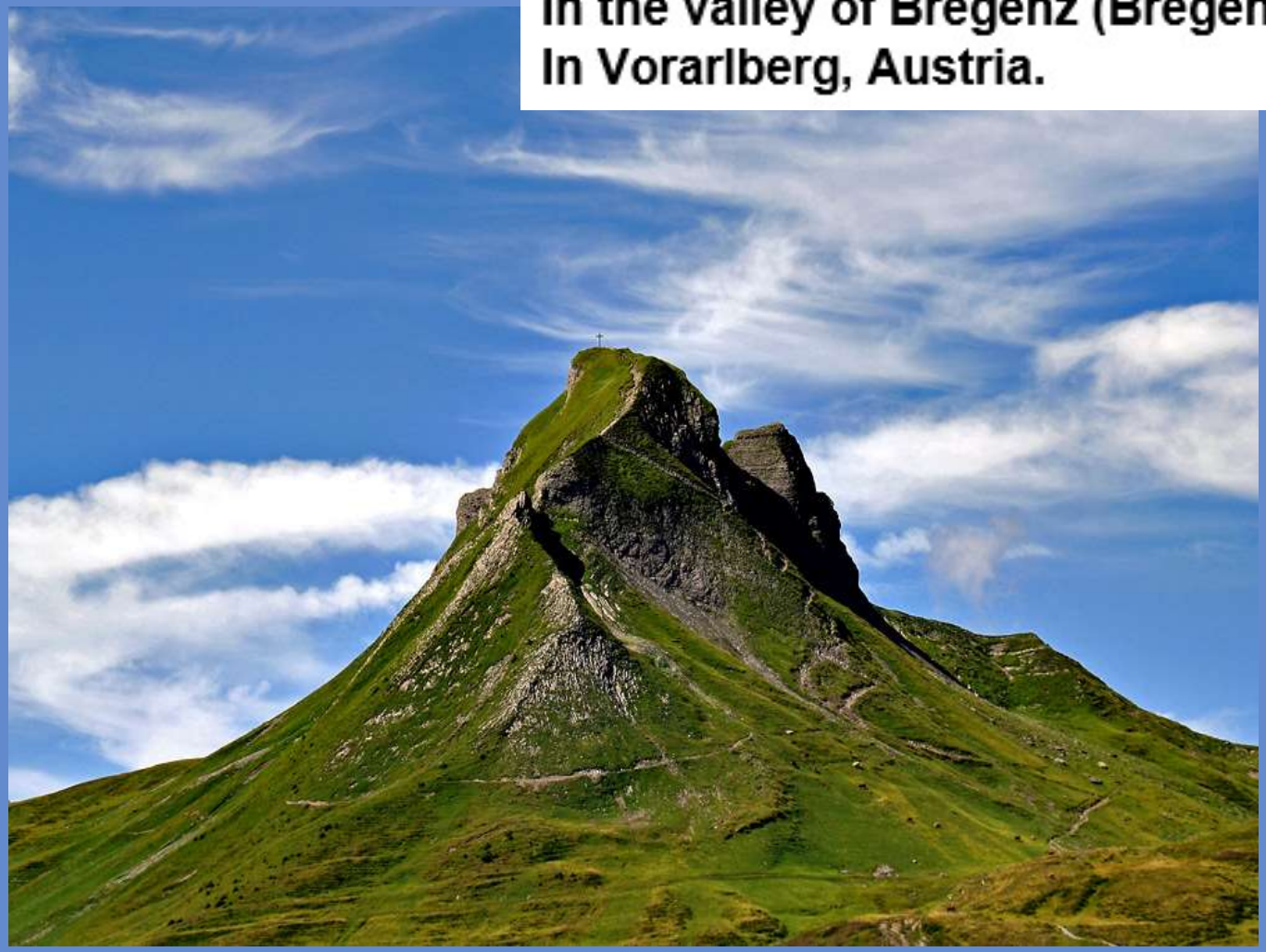


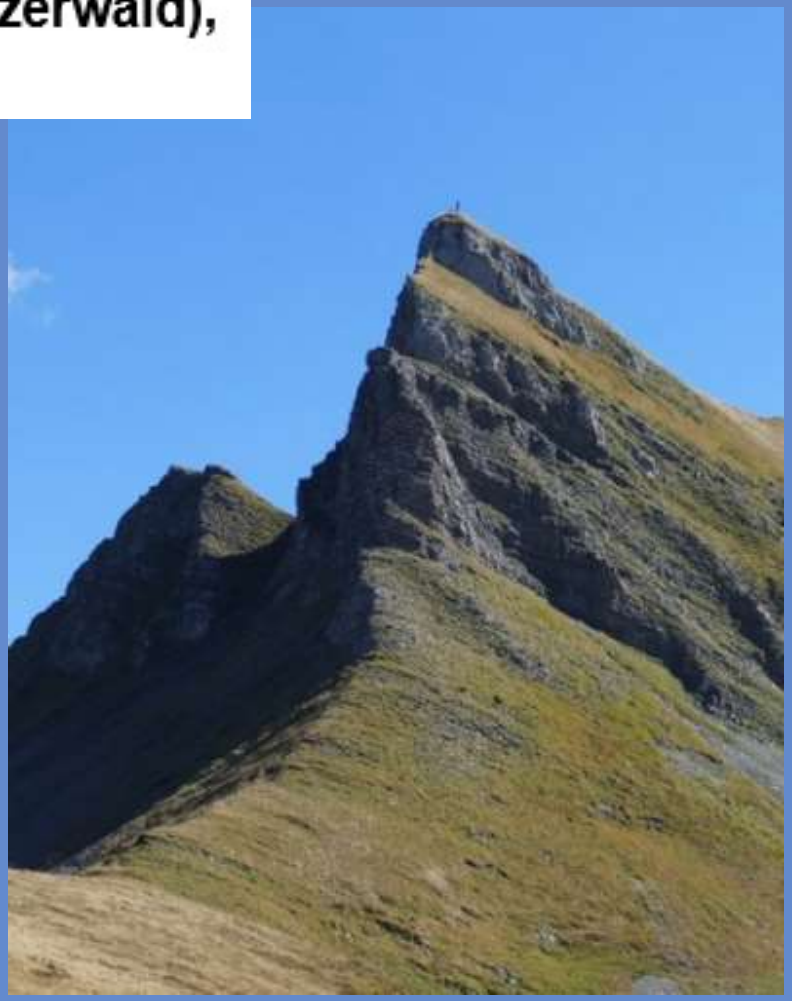




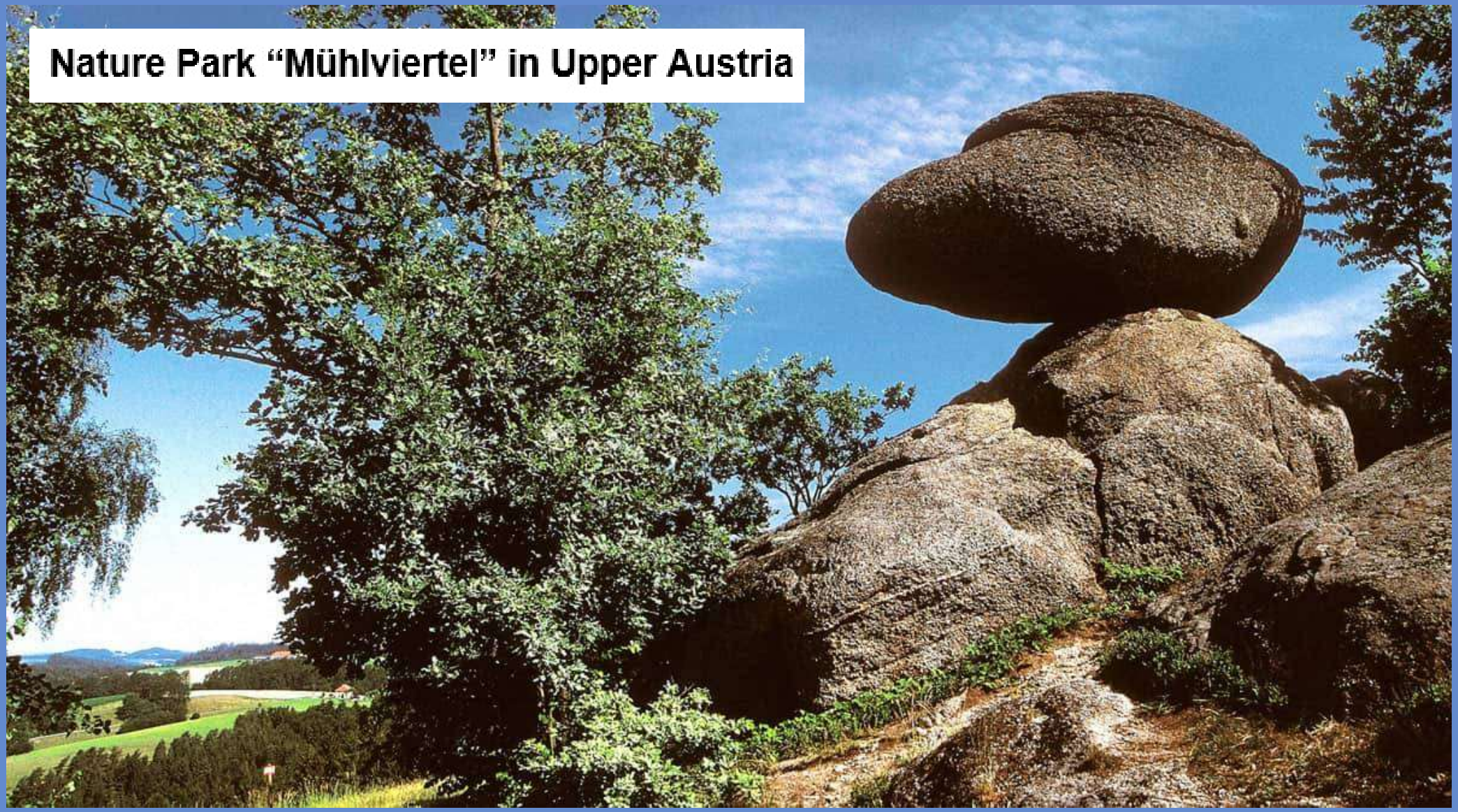
„Wirmsäule“ at the mountain Kanisfluh,
in the Valley of Bregenz in Vorarlberg, Austria.

Mountain peak “Damülser Mittagsspitze”,
In the valley of Bregenz (Bregenzerwald),
In Vorarlberg, Austria.



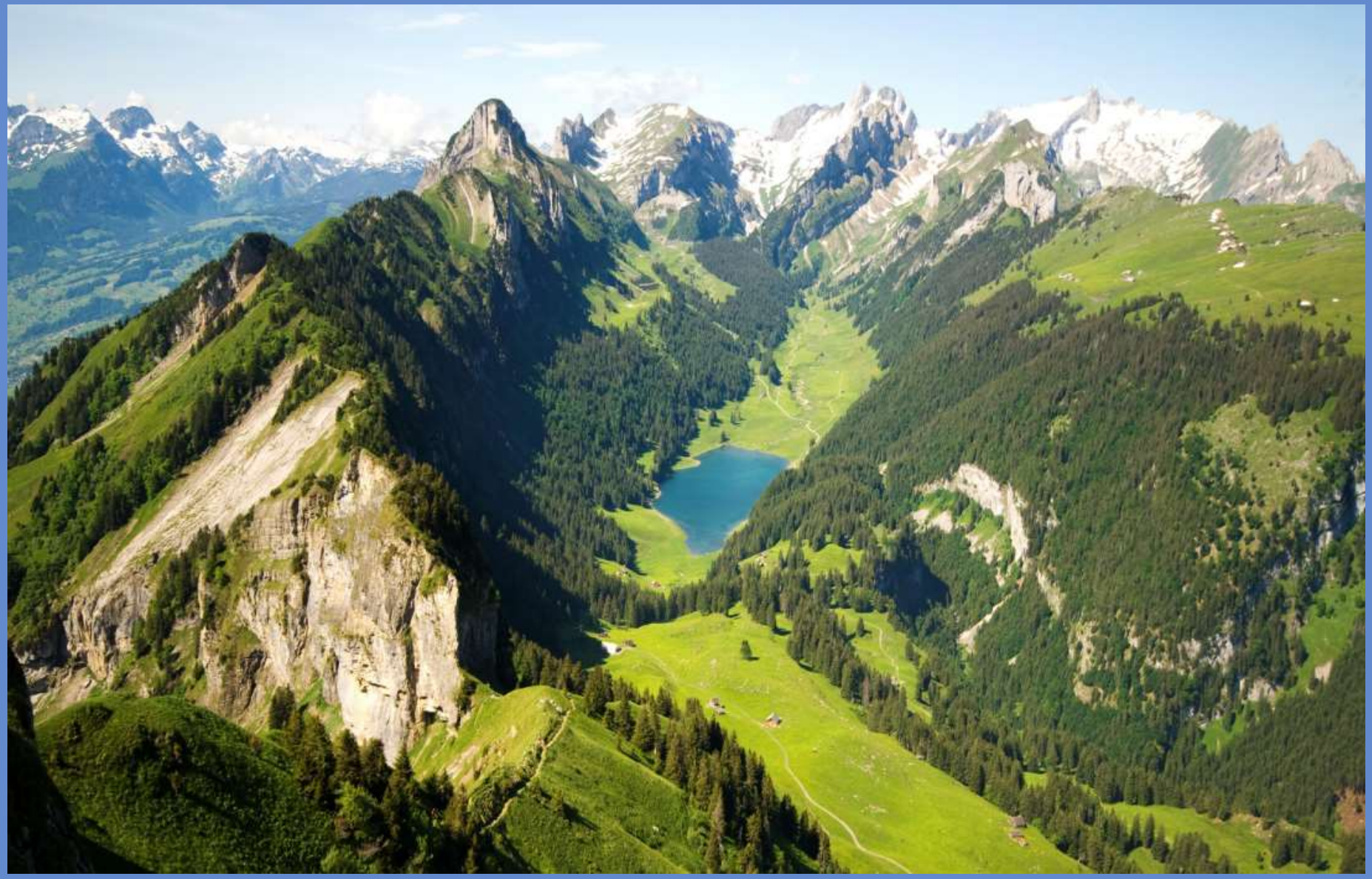


Nature Park “Mühlviertel” in Upper Austria

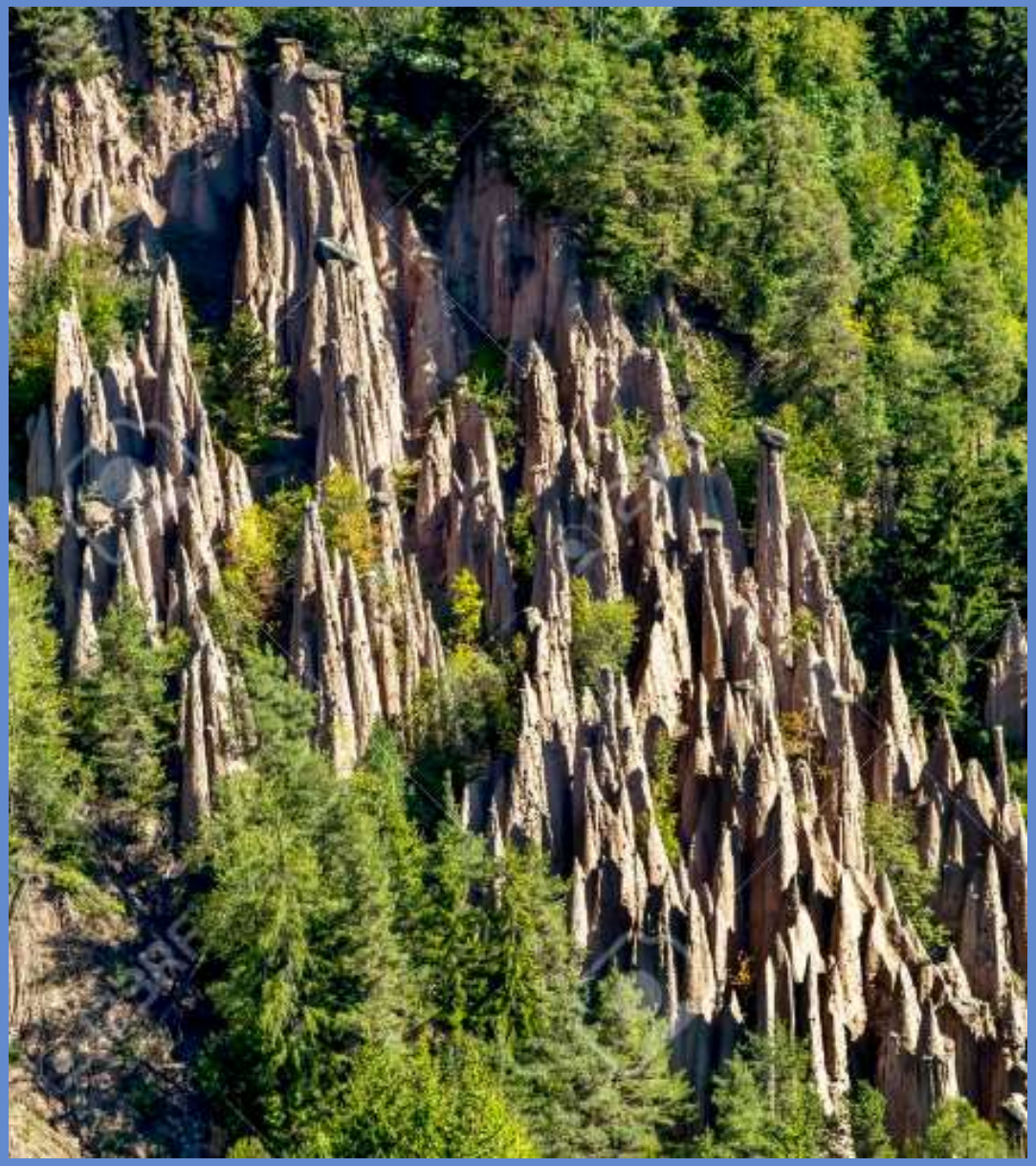


Alpstein mountain range in Appenzell

In Switzerland, near the border to Vorarlberg in Austria.



The earth pyramids of Ritten in Bozen, South Tyrol.
(Erdpyramiden am Ritten in Stüdtirol), Italy.



Rock Chapel in Mattrei in East Tyrol, Austria.