



# The „Schwäbische Alb“

Our Students' Project  
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## General

- Deeply developed karst landscapes can have very dry soils despite abundant and sometimes high rainfall. This is basically due to increased corrosion and erosion under humid tropical climatic conditions. Karstification and erosion of karst relief are part of a global biogeochemical cycle of materials and geological rocks; in particular, the carbonate-silicate cycle is directly linked to the carbon cycle through biogenic and geological processes that are the result of the evolution of life.



## General

In geology and geomorphology, karst refers to subsurface terrains and surface terrains in carbonate rocks that have been formed primarily by solution and carbonic acid weathering and precipitation of biogenic limestones and similar sediments with high calcium carbonate content. The main feature is the predominantly subsurface water regime, which is not based on a primary porosity of the rock, but secondary and in geological time on a corrosion of the rock, the karstification. On a large scale, karst is found around the Mediterranean Sea as well as in Southeast Asia and South China, the Greater Antilles and the Indo-Australian Archipelago, on a smaller scale in the German low mountain ranges, the French and Swiss Jura, other parts of the Northern and Southern Alps as well as generally in Western Europe.



○ The “Schwäbische Alb” is one of the largest contiguous karst areas in Germany. They are formed, for example, when the erosion base is lowered in an area of water-permeable rock and the groundwater level drops - the rivers then leave the surface and now run deeper in the rock. Precipitation quickly disappears underground, where it drains through fissures and caves about 150 to 200 m below the surface. In the geological layer package of the “Alb”, water-permeable limestones alternate with damming clay marls, which is why two karst floors have formed in the “Alb” body. Marl is an earthy material rich in carbonate minerals, clays, and silt. When hardened into rock, this becomes marlstone.

## Karst and the formation



# The Caves

In the karst of the “Schwäbische Alb” are known about 2500 caves, one of the most famous caves is the “Blautopf” cave, which water drains there.



# The Sinkholes

The sinkholes, especially funnel dolines, are also a karst feature of the Alb. These are either solution sinkholes, which are formed by the dissolving effect of carbonic acid precipitation water, especially where fissures in the Upper Jurassic rock cross or where water temporarily accumulates in depressions. Collapse sinkholes, on the other hand, occur when caves that were also formed by lime dissolution over time collapse and the overlying rock and soil cave in. For this reason, the approximately 5,000 sinkholes in the Swabian Alb have been protected natural monuments under Baden-Württemberg's Biotope Protection Act since 1992.



# The „Blautopf“

The “Blautopf” in Blaubeuren in Baden-Württemberg is the second most water-rich karst spring in Germany. It is the source of the Blue River, which flows into the Danube after about 22 kilometers in the city of Ulm. The “Blautopf” in Blaubeuren in Baden-Württemberg is the second most water-rich karst spring in Germany. The “Blautopf” is known for the more or less intense, but always striking blue coloration of its water, depending on the incidence of light. Due to its small size, the blue light is preferentially scattered and creates the blue glow.



# The Legends

Numerous legends and folk tales refer to the “Blautopf”. Its characteristic colour was explained by the account that every day someone would pour a vat of ink into the “Blautopf”. Another myth stated that every time someone tried to measure the “Blautopf”'s depth with a leaden sounding line, a water nix stole the sounding line. Therefore, it was not possible to determine the depth of the “Blautopf”. Because of this tale, there is a rock called “Klötzle Blei” ("little block of lead" in the local dialect) in the vicinity of the “Blautopf”.



## Diving in the „Blautopf“

In 1880 the first helmet diver climbed into the “Blautopf”. The bottom was not reached by a diver until 1957. Several diving accidents among amateur divers, including fatal ones, caused the municipality of Blaubeuren to close the “Blautopf” to divers since the 1980s. Special permits have been issued to emergency divers from water rescue services such as the DLRG, the Association for speleology München. The last serious accident occurred in 2003, when a member of the Hasenmayer team could only be recovered dead. Diving in the “Blautopf” plays a role in the thriller “Rotkäppchens Traum” (Little Red Riding Hood's Dream) by Max Bentow and in the crime novel “Bienzle und die schöne Lau” (“Bienzle and the Beautiful Lau”) by Felix Huby, which was also filmed as part of the crime scene television series.



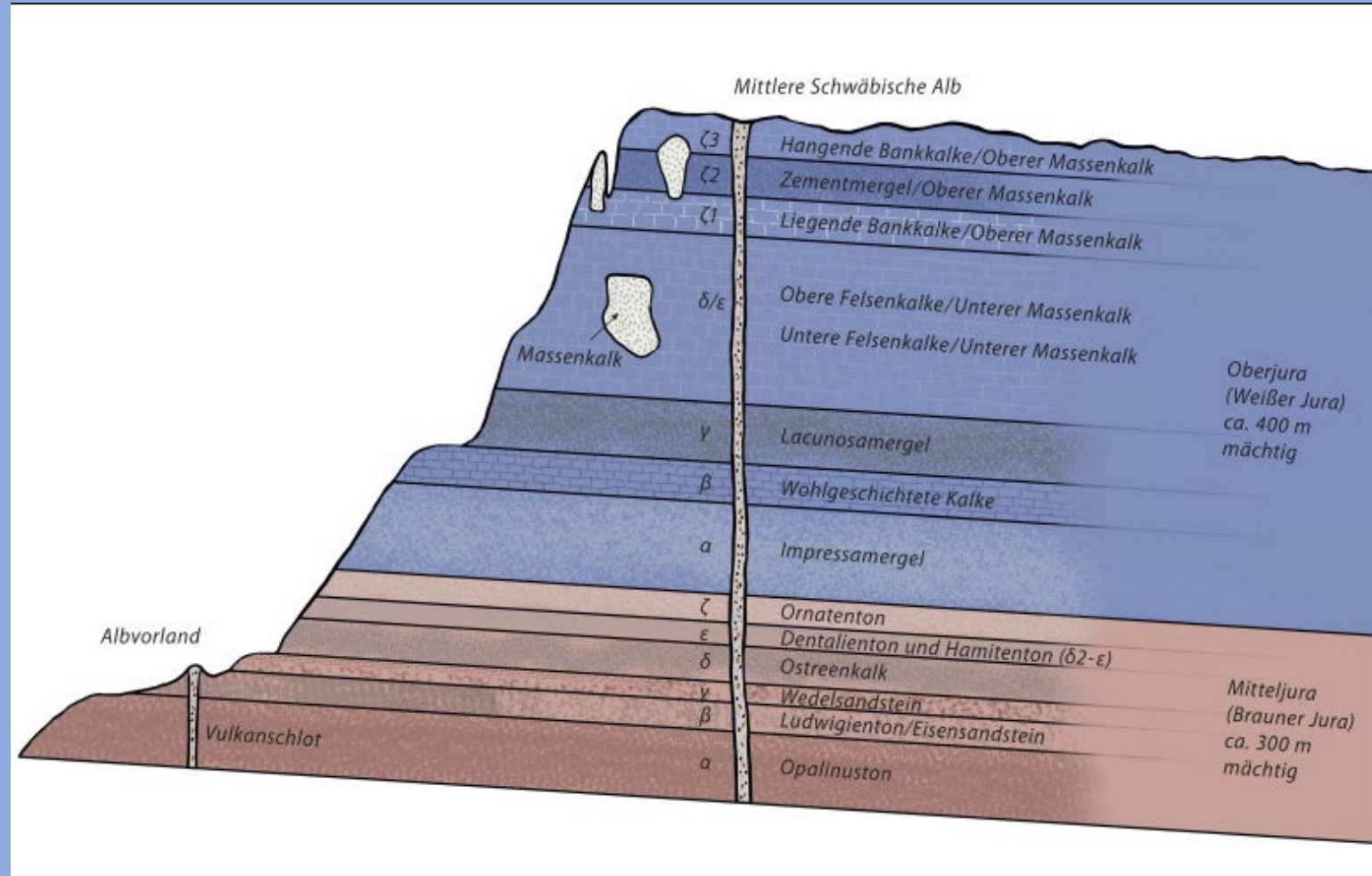
# The „Schwäbische Alb“ Karst Region

- The “Schwäbische Alb”, formerly also called Swabian Jura or Swabian Alb, is a low mountain range in southern Germany and with small parts in Switzerland. The mountain range consists of Mesozoic limestone from the Jurassic period and is considered one of the largest contiguous karst areas in Germany. Along with the Black Forest and Lake Constance, the “Schwäbische Alb” is considered one of the main tourist attractions in southwestern Germany. It is especially important as a hiking, climbing and winter sports region.



# Geology

Geologically, the “Schwäbische Alb” is a strata in the southwest German strata country. Like the “Fränkische Alb”, which continues it to the northeast, it is a table Jurassic mountain range. Together with the “Faltenjura”, which follows in the southwest, it is part of the Jurassic mountain ranges between Geneva and Coburg.



# Floor

The soils of the “Schwäbische Alb” are considered poor, dry and stony. So called stone fields characterize the agricultural landscape, especially on the plateaus. The soils originating from the White Jurassic are predominantly heavy and loamy, locally also loose and crumbly. In addition to deep soils, there are also sites with very little soil cover. The “Schopflocher peat bog is the only larger raised bog in the “Alb” with boggy soils.

The typical soils of the Alb include: Rendzina, Terra fusca and brown Earth pelosol.



The term Alb is thought to derive from the Middle High German “able” or Old High German “alpâ”, meaning "mountain meadow" or "high-altitude pasture." A second, less probable origin of the term would be the Latin color adjective albus, with the meaning "white" or "bright". This would be suggested by the light limestone rocks on the “Alb” ridge, which were more prominent during earlier epochs due to the less wooded environment. "Rough" here probably meant not primarily the climate, but the unevenness of the ground. On older maps the “Rauhen Alb” means approximately the area between Engstingen, Bernloch to Laichingen, Feldstetten to Blaubeuren. In 1933, Eugen Nägele, editor of the "Blätter des Schwäbischen Albvereins", demanded that the allegedly derogatory term "Rauhe Alb" be abandoned. Soon after, the Württemberg Minister of Culture Christian Mergenthaler issued a ban on the term “Rauhe Alb”.

## Etymology



# Geography

## Location, boundary and altitude

- The “Schwäbische Alb” is mostly located in Baden-Württemberg, but its northeastern foothills also extend into Bavaria and its southwestern foothills into Switzerland with the cantons of Aargau and Schaffhausen. In the northeast, the low mountain range ends at the “Nördlinger Ries”. To the southwest, it can be delimited in terms of cultural space with the Swabian-Lower Alemannic dialect border near Tuttlingen and Spaichingen, but often other areas are the subject of consideration. NN in the northeast to just above 1000 m a.s.l.



## Partial landscapes of the Swabian Alb

Some, but not all areas of the “Schwäbische Alb” have traditional proper names. The regions of the Table Jura from Baaralb to the Basel Table Jura are strictly speaking no longer part of the “Alb”, nevertheless, especially areas north of the High Rhine are often counted to it for geological reasons.



Mannheim

Heidelberg

Kraichgau

Hohenloher Ebene

Heilbronn

Karlsruhe

Pforzheim

Stuttgart

Reutlingen

Ulm

Freiburg i. Br.

Rhein

Neckar

Donau

Schwarzwald

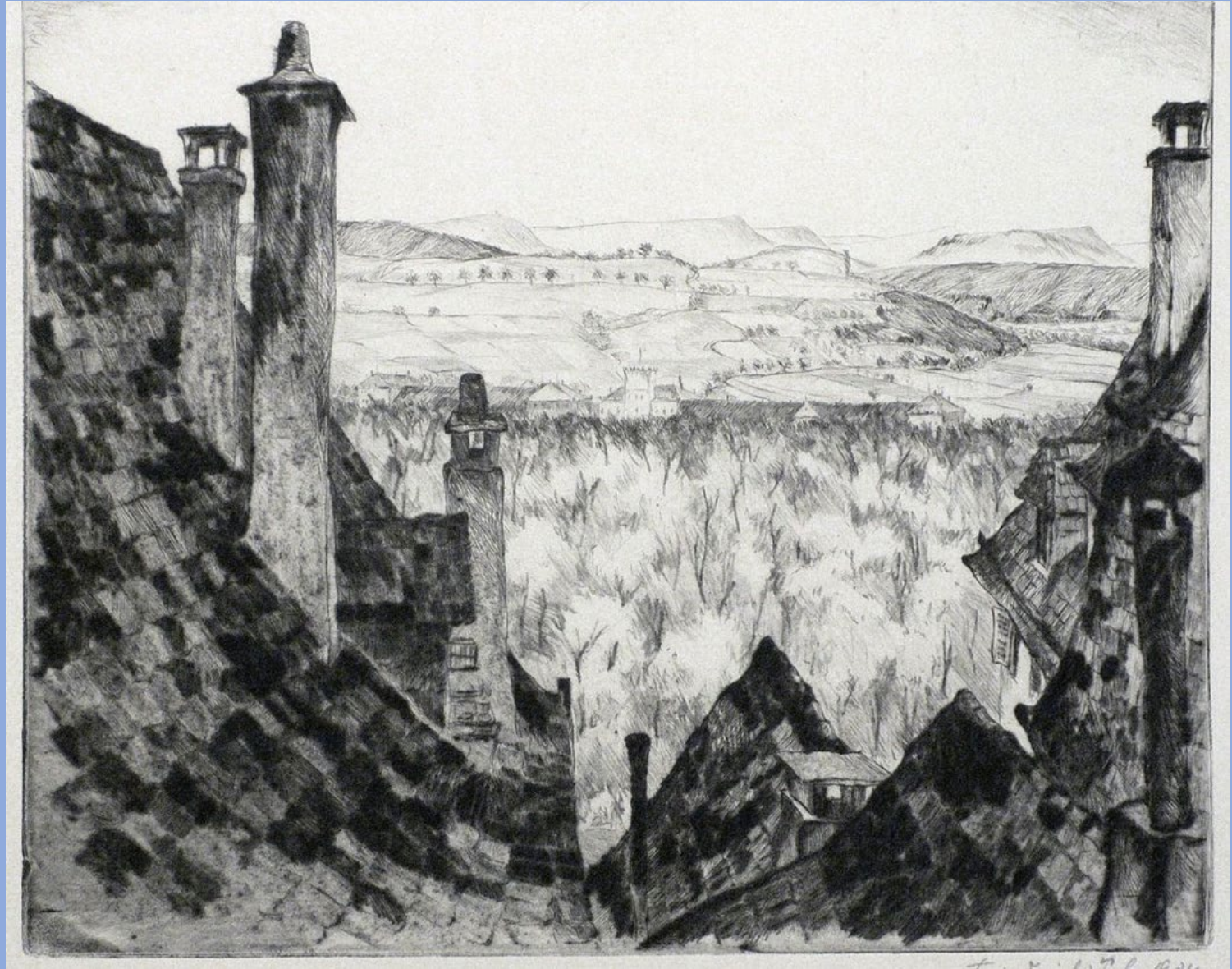
Schwäbische Alb

Oberschwaben

# Culture

## Archaeopark

- Significant archaeological finds originate from “Schwäbische Alb”. In the “Vogelherd Archaeopark”, the rich Stone Age culture of the Alb is comprehensively presented and made tangible for the public, starting with the cultural stage of the “Neanderthals”. The oldest figurative representations of mankind, made of mammoth ivory, were found in caves of the “Alb”. In addition, three-dimensional representations of animals and the oldest flutes of mankind were discovered there, made from bone material of the whooper swan and the griffon vulture.



# Questions

- Which is the largest karst area in Germany?
- How long is the “Schwäbische Alb”?
- How many caves are there in the “Schwäbische Alb” ?
- Where is the „Blautopf“?
- What is the legend of the “Blautopf”?
- When was the first dive?
- What is the geology of the “Schwäbische Alb” like?
- What is the soil like in the “Schwäbische Alb”?
- What is the geography like in the “Schwäbische Alb” ?

Thank you for your attention!

Dear greetings!

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Resources: Wikipedia

