

# Combe de la Valouse

## **A complex synclinal depression**

Nearly 2% of the Haut-Jura is covered by wetlands (mainly peat bogs and marshes). They are the fragile relics of glaciers which covered much of the Jura Mountains some 20000 years ago.

Apart from deposits formed during this ice age, rocks are mainly hard limestone formed mainly from calcite and softer marls made up of clays and calcite. Both arose from sediments deposited in a shallow sea some 130 million years ago.

These layers were pushed upwards and folded as the Alps formed and subsequently eroded by water runoff and glaciers.

Anticlines are where folds are bent upwards and generally form crests; synclines are where folds bend downwards to form valleys.

The Haut Jura has the particularity of having many synclinal valleys that are closed on all sides. In the case of the Combe de la Valouse, the valley bottom is partially waterproofed by clays allowing marshes to develop besides a short stream that flows from a spring before disappearing through the limestone.

Being in the part of the Jura that was covered by glaciers, the soil is relatively recent and the relief is marked by the presence of numerous outcrops.

The Valouse is one of three syncline depressions with different morphologies (dependent on the axis of the fold) which are located along the long (30 km) and very regular Amburnex syncline.

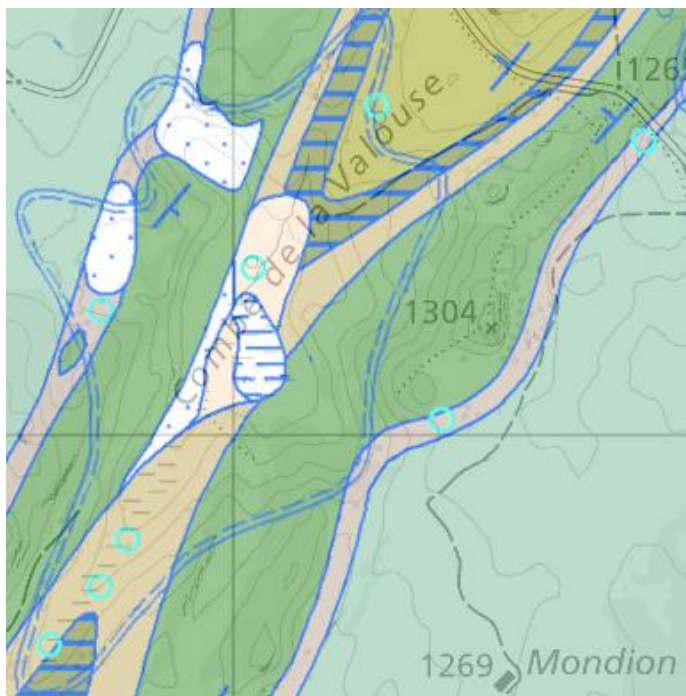
Being located on the culmination of the axis the Valouse is relatively short and narrow. Although relatively deep (70 m) since it cuts deeply into the hinges of a fold, only part of the valley bottom reaches marls which outcrop at the ends of the depression to north-east (marked as scrub in the enlarged map of the area) and the south-west. These softer outcrops give rise to bands in the terrain that are visible in aerial images.

The morphology of the Valouse is therefore complex, with a perimeter that spreads over several types of terrain (limestone, marl-limestone and marls) and subject to several processes. For the specialist the processes are karstic and structural (depression), glacial (morainic deposits), periglacial and gravitational (mass blocks), organogenic (marsh) and fluvio-karstic (loss).

The valley's main features are marshy areas, the most important being the marsh at the northern end where there is short stream arising from a spring. Bordering the marshes to the west are areas of rocky scree.

The geological origins of the various features are fairly obvious on the geological map of the area

[taken](#) from Switzerland's Geological Atlas. But it is nevertheless difficult to describe in detail the map.



The main marshy area is the area cross-hatched with blue bars at the centre of the map. Scree is marked with blue dots.