The grasslands on the Hauts Plateaux of the Vercors in this western part of the French Alps are strongly influenced by the pastoral system known as transhumance. Over many centuries, shepherds took their flocks in summer up to the mountain pastures. One third of these more than 16,000 hectares is covered by alpine and sub-alpine grassland. The area lacks any permanent settlement, and consists of grasslands alternating with *Pinus uncinata* groves and rocky outcrops. It offers the visitor vast views. The landscape is the result of a long historic interaction between sheep grazing and forest exploitation. The recent major changes in both activities and the rise of new social expectations are putting pressure on the local authorities to adapt their management goals and to find the means to meet them. The Vercors Hauts Plateaux were designated as a nature reserve in 1985 and are included in the French Natura 2000 network. About 6,000 ha are the property of national and regional public authorities, the rest is owned by local authorities or a few private individuals. The whole Vercors Massif, the Hauts Plateaux and their neighbouring inhabited parts, belong to the Parc naturel régional du Vercors which was created in 1970.

At present, the Hauts Plateaux are widely visited by tourists as the area is easily accessed by a few hundred kilometres of paths, designed for walking, biking, pony trekking or cross-country skiing. Counts conducted on some main entrances stated between 10,000 and 25,000 crossings (vice versa) in a year.

The area has benefited from many years of scientific research and practical investigations, the latter to inform the development of management plans. Additional new investigations have been recently launched in order to include the area in a Long Term Ecosystems Research network.

The Vercors and its Plateaus

The Vercors Massif is the most western sub-alpine chain in France. This north-south orientated range links together the northern rainy Alps of the Isère to the southern dry Alps of the Drôme. The calcareous folds extend over 70 kilometres between Grenoble in the north-east and Valence in the south-west. Several plateaus fit together with an increasing altitude from west to east, until the so-called Hauts Plateaux are reached. Villages are situated on lower plateaus, between 900 and 1200 metres above sea level. Stretching over 30 by 6 kilometres, the Hauts Plateaux appear like a large westerly sloping slab, whose axis slightly rises southwards. They roll between 1400 and 1900 metres above sea level, with an average altitude of 1650 metres. The eastern ridge, of which the Mont Aiguille is an exceptional isolated outlier, reaches 2,341 metres at the Grand Veymont. The massif is almost totally surrounded by steep cliffs which are 200 to 400 metres high. It looks like an island dominating the surrounding plains.

Spanning the 45th parallel, the Hauts Plateaux are subject to combined climate influences: their inland position leads to continental features such as large ranges of temperature; as the first alpine barrier, the massif readily intercepts western oceanic rainfalls; their southern position adds Mediterranean characteristics such as dry summers and heavy autumn rainfall; and finally the altitude gives a real mountain climate. The annual rainfall varies from 1400 to 1600 mm, the average annual temperature is under 5°C and the snow period lasts 6 to 7 months (from November to May). However, the height of snow can vary a lot from one year to another. Three weather stations were set up in 2004 and 2005 along a north-south line and the first results are confirming the climatic gradient (Bigot et al., 2006). All the major karstic landforms can be seen, such as a lack of surface water, limestone pavements (lapies), sinkholes (dolines), caves and a complex underground drainage network. Water springs are scarce and quite often intermittent. As limestone is always on or near the surface the soils are only superficial (rendzinas on the main grasslands and skeletal soils or lithosols with acid humus in resinous woods on lapies).

The Hauts Plateaux span the climatic border between the northern and southern Alps which crosses them in the middle. The region is thus situated in a confrontation and combination area between northern and Mediterranean species elements (Ritter, 1969). The tabular morphology means that the timber line is spread over almost the whole width of the Plateaux and the montane (from 900 to 1600 m) and sub-alpine belts (from 1600 to 2200 m) are widely interlocked. The evidence for an alpine level is controversial and may rather be due to a crest location, where the strong wind can influ-