

ZAPPA Damien (2016): Impact des changements climatiques récents sur les hauts-marais de Suisse : une approche paléocéologie par l'analyse des communautés des thécamoebiens et de la composition de la tourbe le long d'un gradient altitudinal

ABSTRACT

Ombrotrophic mires fulfill many ecosystemic functions at different geographical scales. Locally, they are the essential links of the hydrological cycle and are also habitat of characteristic plant and animal species. At the global scale, these ecosystems play a crucial role in biogeochemical cycles, and especially for the carbon. As such, peatlands are major actors in the regulation of climate. Currently, ombrotrophic peatlands are threatened directly (by their exploitation or their drainage) and indirectly (by hydrological and climatic changes or atmospheric pollution). In Switzerland, bogs are being degraded in spite of official measures aiming to protect these ecosystems (drying up, eutrophication). This study is written in a context of climate change and takes into account the upcoming environmental stakes. It intends to describe the impact of recent climate change on Swiss raised bogs along an altitudinal gradient by taking a palaeoecological approach of testate *amoeba* communities (protists) and analysing peat composition. The objective of this research is to take part in the development of biological monitoring techniques, as well as in the management of those ecosystems.

Peat profile samples (50-100 cm) covering the industrial era up to modern times were taken in ten bogs at altitude located between 536 and 1742 m. Their profile was analysed and ecological modifications, such as the water table depth, were inferred based on subfossil testate amoebae by using transfert functions.

Statistical analysis show that the major ecological change affecting ombrotrophic peatlands in Switzerland is hydrological, which translates into a drying of all studied sites. Results also indicate that this trend is more pronounced for bogs located in higher altitude, although not significantly so.