

## **Changes in vegetation, peat properties and peat accumulation in Swedish peatlands as revealed by archive data.**

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In this investigation we have studied patterns in peat accumulation and changes in mire status since the early 1900s for two areas in Sweden. In the early 1900s the Geological Survey of Sweden collected a vast amount of peat and peatland data, including information on vegetation and land-use. We have used this archive data to evaluate changes in mire vegetation, mire wetness and surface peat properties, rates of peat accumulation, succession in young wetlands and the effects of cultivation on peatlands. In total 156 mires in an uplift area of eastern middle Sweden were included in the data-set, including both pristine mires and peatlands used for agricultural purposes. In this area new peatlands have continuously been formed during the past 7 000 years making it possible to evaluate changes in peat accumulation over time. The other study area is situated in the south Swedish Uplands where we have revisited some larger bogs. The results from our investigation show that many of the peatlands have underwent major changes since the early 1900s. In most of the small peatlands we have found important changes in vegetation where mire vegetation has been replaced by nutrient demanding and/or dry species flora while the tree stand on large mires in south Sweden have increased. In some mires humification has increased in the uppermost peat-layers and the mire surface have become drier compared to the early 1900s.

In eastern middle Sweden there are indications that the peat accumulation is lower 0,5 mm/year in older peatlands compared with younger ones 1,2 mm/year, although the mire vegetation in the older peatlands is dominated by sphagnum. The peat depth of the cultivated mires in this area shows a mean decrease of 40 cm since the early 1900s.