



## **How hydrology and vegetation modify microclimate of a Sphagnum peatland?**

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Climate and hydrology are key factors influencing peat accumulation and decomposition. This, in turn have strong influence on carbon sequestration what is nowadays the central aim of peatlands ecology. However, peatlands are not homogenous ecosystems. There are often a mosaic of vegetation patterns. Differences in depth of groundwater tables are also common at one object. We designed a long-term ecological study site in a Sphagnum peatland in the Northern Poland. We used five meteorological micro-stations and eleven piezometers located along two transects at 5,95 ha area.

We have focused on microclimatic and hydrological changes during two growing seasons - 2012 and 2013. Significant differences in radiation, air temperature and humidity were recorded between plots, which were mainly a result of reduction of light availability by trees in two of five plots. That also influenced on surface wetness of Sphagnum mosses. Range of groundwater table changes varied between plots but trends were similar. Further research will focus on the synthesis of relationships between climate, hydrology and vegetation. A separate work will be concentrated on testate amoebae response to wetness, temperature and light availability.

Our study is very important to better understand peatland functioning in transition climate in small spatial scale.

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