



Land-use change, climate and conservation of peatlands: lessons from the high-resolution palaeoecology peat archives of the southern Baltic region

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Conservation of peatlands and other issues connected with carbon sequestration and the global change have been increasingly challenging during the last decade. However, the reliable conservation can only be based on the interdisciplinary approach to the peatland ecosystem functioning. Good understanding of a present state is impossible without looking into the past conditions using various palaeoecological methods (e.g. analyses of: plant macrofossils, testate amoebae, pollen and spores and non-pollen palynomorphs). Natural developmental trends can only be recognized, having a long-term perspective (decadal, centennial or millennial scale). This perspective can be used to identify the past human impact. Many peatlands possess the state that is apparently pristine, but when we look into their past it is often obvious that their state was disturbed long time ago. Consequently, geological and palaeoecological study is prerequisite to begin a neo-ecological study. Furthermore, the past perspective is useful to start measurements of the modern processes e.g. hydrological monitoring or carbon exchange. We present high-resolution multi-proxy data from three raised bogs located in southern Baltic region. The quantitative reconstructions show the gradual disturbance connected with increasing human impact (deforestation and local peat cutting). We also show the extent of peatlands' degradation and difficulty of the recovery after stress. Differences of preservation on the example of three different bogs with the different Holocene histories will be presented. We paid an exceptional attention to the last thousand years as and the transition to the anthropocene.