



Investigating Peatland Hydrology and Stratigraphy using Geophysical techniques

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In order to understand the effects of carbon dynamics within the peat systems and their response to climate change, it is very important to understand hydrology, structure and composition of the peatlands. Geophysical surveys and chemical analyses on peat cores from the River Dyke catchment in Northern Scotland were carried out. Geophysical investigations have been carried out to understand the peat properties that control the geophysical responses and to evaluate peatland hydrology and stratigraphy. Electromagnetic (EM) survey was performed using Geonics EM31 and EM38 meters with a line spacing of 10m at sites. Two DC Resistivity profiles were obtained and 2D resistivity images were generated. The electrical conductivity images depict the extent and variability of peat across the catchment. Findings from geophysical surveys were integrated with the information obtained from augering to verify the stratigraphy of the area, depth and thickness of peat in the study area. Geophysical survey proved to be an effective method in providing subsurface information and the results helped us in identifying the thickness of peat, bedrock, fluvial sediments confirming an abandoned river channel enabling us to model subsurface stratigraphy of the study area.