



## **Impact of anthropogenic and natural catchment characteristics on DOC export in an upland peat water supply catchment**

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Numerous studies show a long term increasing trend in water colour levels in many UK rivers, caused by increased levels of DOC in the runoff from upland peat catchments. DOC must be removed along with any other pollutants in the water at water treatment works, the viability of which will eventually be affected by continued increases in DOC concentrations. In addition the increased DOC raises questions about the changes in the net carbon fluxes of upland peats.

The present project seeks to identify within one such river catchment (River Tees, Northern England) the main source areas contributing to the observed increased colour, by sampling water in a series of campaigns from various localities on the river and numerous tributaries and subcatchments of varying sizes. Results from these campaigns are used to identify source areas. These results are then related in a GIS to data on land use, land management, and physical characteristics of those areas, in order to identify those natural (e.g. hillslope angle) and anthropogenic (e.g. moorland drainage) scenarios which lead to increased DOC and reduced quality of exported water. We present a model to predict DOC export from any area of the catchment, based upon mappable characteristics.