Geophysical Research Abstracts
Vol. 17, EGU2015-13022, 2015
EGU General Assembly 2015

Evaluating the impacts of re-vegetation of bare peat on blanket peat water tables

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Studies of the hydrological impacts of peat restoration in blanket peat systems have focused on the impacts of drain and gully blocking on water tables. However, in the South Pennines of the UK large areas of previously bare blanket peat have been restored by re-vegetation. The effects of this restoration treatment on water table behaviour have not been fully evaluated. Preliminary data from space-for-time studies indicate that re-vegetation leads to significant rises in water tables and decreases in water table variability. Here we present additional data from a before-after-control-intervention (BACI) study to validate these preliminary observations. We also present meteorological, net radiation and evapotranspiration data to test the hypothesis that water table changes associated with re-vegetation are driven by changing evapotranspiration rates as bare peat surfaces re-vegetate. The wider ecosystem service benefits of water table increases associated with re-vegetation of bare peat are discussed.