



Particulate carbon loss from eroding and restored peatlands at the plot and catchment scale

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There is significant disagreement within the soils and geomorphology literature over the degree to which particulate carbon losses represent a climatically active component of the terrestrial carbon cycle. One source of variability is the scale at which carbon gain and loss is measured relative to the rates of in catchment transformation of carbon between states. This paper presents POC loss data derived at two scales in peatland systems to assess the potential scale of the

The paper reports rates of particulate carbon loss from both eroding and restored peatland systems measured in two different ways. Catchment scale estimates of POC loss derived from direct water sampling demonstrate reductions in POC loss in excess of an order of magnitude to levels comparable to intact peatland systems. Plot scale measurements of surface recession show the same pattern of reduction but higher overall rates of loss. In the absence of significant in catchment storage of organic sediment the mismatch between POC flux at the two scales implies oxidative losses of POC either from the peat surface, or in transport within the catchment system.