



Mapping of peatland conditions in Scotland

Laura Poggio (1), Alessandro Gimona (1), Patricia Bruneau (2), Sally Johnson (2), Andrew McBride (2), and Rebekka Artz (1)

(1) The James Hutton Institute, Aberdeen, United Kingdom (laura.poggio@hutton.ac.uk), (2) Scottish Natural Heritage, Silvan House, 231 Corstorphine Rd, Edinburgh (UK)

Large areas of Scotland are covered in peatlands, providing an important sink of carbon in their near natural state but act as a potential source of gaseous and dissolved carbon emission if not in good conditions. Data on the condition of most peatlands in Scotland are scarce and largely confined to sites under nature protection designations. They are often biased towards sites in better condition. The best information available at present is derived from labour intensive field-based monitoring of relatively few designated sites (Common Standard Monitoring Dataset). In order to provide a national dataset of peat conditions, the available point information from the CSM data was modelled with morphological features and information derived from various remote sensing Copernicus products, in particular derived from Sentinel 1 and Sentinel 2 data. A scorpan-kriging approach was used, using Generalised Additive Models for the description of the trend. The model provided the probability of a site to be in favourable conditions and the uncertainty of the predictions was taken into account. The derived dataset was then used, among others, in the decision making process for the selection of sites for restoration.