



Policy Brief: Towards peatland restoration

Monitoring and accountability through remote sensing of surface motion

Policy recommendation:

Invest in the use of remote sensing of peatland surface motion monitoring of progress towards peatland restoration targets on a national scale. This will ensure that existing investments in peatland restoration is utilised accordingly.

for the foreseeable future. We have shown that peatland surface motion can be used for multiple purposes including change monitoring, baseline condition mapping, peatland landslide assessment and assessing the impact of infrastructure developments on peat (e.g. windfarms).

Alternative field observation and instrumental techniques are accurate but expensive and cannot scale up easily.

Other satellite and airborne remote sensing methods mainly depend on optical images, are highly disrupted by weather and cloud cover, and are not particularly sensitive to peatland condition. Peatland surface motion is therefore recommended as an efficient and effective way to monitor peatland condition.

Implications for National Peatland Monitoring

UK Government and the devolved administrations have been seeking a solution for large scale peatland. Government-funded work to date has focused on using landcover determined from optical techniques to quantify condition. This approach provides detailed information on vegetation and ecology, and by integrating it with surface motion monitoring, there is the potential to provide a balanced framework for monitoring that combines landcover characteristics with sensitive measures of the underlying peatland condition and associated risks. In turn, this supports the delivery of nature-based solutions and the economic potential of peatland restoration.

Further Reading

[Read more on the research by clicking here.](#)

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Context

To minimise carbon losses from land, the UK government and devolved administrations have pledged close to £1bn to fund peatland restoration. This requires accountability, which in turn requires national-scale monitoring. Working with NatureScot and Forestry and Land Scotland, we demonstrate that the most effective means of achieving this on a national scale is via remote sensing of peatland surface motion.

Towards peatland restoration:
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20m
pixel
resolution

Unaffected
by cloud
cover

Freely
available
Satellite data



Image: Towards peatland restoration: monitoring and accountability through remote sensing of surface motion

Research at Nottingham

Peatland surface motion is a sensitive indicator of peatland condition. It is measured using freely available satellite radar data obtained from the European Space Agency.

Measures of surface motion are made at 20m pixel resolution, and are sensitive to changes in the ecological, hydrological and physical condition of the peat. Regular surface motion measurements are unaffected by cloud cover, easily scaled-up and will provide regular measures