

## Is Scotland's soil disappearing into thin air?

## Using isotopes to determine the sources of soil respiration

Different colours are used to represent different 'Carbon' isotope signatures

Green = Respiration from roots and microbial use of root exudates Brown = Respiration from microbial turnover of soil organic matter



The point at which the total respired CO<sub>2</sub> lies between the two extreme signatures indicates whether its source is from root respiration or microbial turnover of soil organic matter



## Total Respired CO<sub>2</sub>