

^{14}C and ^{13}C of emitted CO_2 and CH_4 and peat at SPRUCE

Karis McFarlane^{1*}, Alexandra Hedgpeth^{1,2}, Geoff Schwaner³, Jana Phillips³, and Paul J. Hanson³

¹Lawrence Livermore National Laboratory; ²University of California–Los Angeles; ³Oak Ridge National Laboratory

Summary and Implications

1. e CO_2 treatments deplete $\Delta^{14}\text{C}$ and $\delta^{13}\text{C}$ of emitted CO_2 and CH_4 as well as in shallow peat.
2. Little evidence for increased use of old peat C with warming
3. Warming increases $\delta^{13}\text{C}$ of CH_4

Increased carbon emissions with warming result from faster cycling of recently fixed carbon, not older peat.

