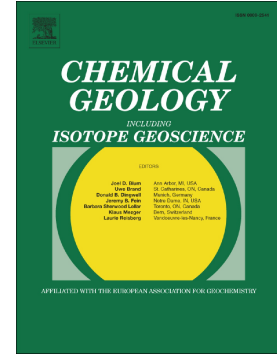


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Hydrogen isotope ratios of moss cellulose and source water in wetlands of Lake Superior, United States reveal their potential for quantitative paleoclimatic reconstructions

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Highlights

- Cellulose δD values for hollow species are significantly lower than those for hummock species.
- A simple mechanistic model applied to cellulose δD values accurately estimates modern δD values of source water.
- The same model applied to hollow species yields values for the $\delta D/\delta^{18}O$ ratio of source water that are consistent with those of local precipitation.
- This mechanistic model has paleoclimatic implications in that it could be applied to peat cellulose δD data to infer the isotopic composition of source water.

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