

Interactive comment on “Spatio-temporal analysis of nitrogen cycling in a mixed coniferous forest of the northern United States” by I. Howard and K. K. McLauchlan

Anonymous Referee #1

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General comments

This MS by Howard and McLauchlan explored temporal and spatial variability of N cycling in a mixed coniferous forest of the northern US, by examining long-term changes in N15 in both wood tissues and lake sedimentary. The authors demonstrated that N15 in wood tissues exhibited a synchronous decline since the 1920s, and N15 data from the lake sedimentary confirmed the declining trend. The authors ascribed the decline of N15 to fire suppression across the study area. These results are pretty interesting, and definitely deserve to be published. I carefully read through the manuscript, and did not find any significant flaw. The field sampling is reasonable, and the statistical analyses are robust. One minor point is that, the explanations for the observed N15

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patterns are too much speculative. I am wondering whether the authors could provide some fire dataset, and then explore the quantitative relationship between fire activity and N15 trajectory.

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