

Biogeosciences Discuss., author comment AC2
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Reply on RC2

Elisabeth Mauclet et al.

Author comment on "Changing sub-Arctic tundra vegetation upon permafrost degradation: impact on foliar mineral element cycling" by Elisabeth Mauclet et al., Biogeosciences Discuss., <https://doi.org/10.5194/bg-2021-263-AC2>, 2022

We thank the anonymous referee for his careful reading and the constructive comments that will improve the quality of the manuscript. We are happy to apply revisions to improve our manuscript. Please find below the answers to the referee comments.

The article presents a succinct look at mineral element fluctuations for vegetation and soil litter in two contrasting permafrost-affected sites. One site was a shrub-dominated permafrost warming site and the other a natural thermokarst site actively experiencing permafrost degradation. The article presents clear findings that have significant importance for tracking landscape scale changes to vegetation as a result of controlled warming simulations.

Line items:

Section 1.3: State the background concentrations of the plastic cap used to affix the powder samples to. Was 1 cm chosen because of the x-ray penetration depth for the sample matrix?

Response: Because the X-rays emitted by the pXRF do not reach the plastic cap that supports the sample, the elemental composition of the plastic cap does not provide background concentrations for pXRF measurements. The 1 cm was chosen to ensure that the volume of sample explored by the X-rays is thick enough to allow a homogeneous sample volume for the measurement (Ravansari et al., 2020; Ravansari and Lemke, 2018).

Figure 2: It would be helpful in the caption to state how many samples these results stem from (n =...)

We fully agree with the referee and this has been modified in the new version of the manuscript.

Conclusions: Suggest reformulating the last paragraph to talk about future work first and then establish the link between this current work and how it fits into broader research.

This has been addressed in the conclusion of the manuscript (L. 546 to 551)

We thanks again the Anonymous referee.

Best regards,

Elisabeth Mauclet and co-authors