Response to CC1

If you take a look at the syntheses we have done, soil δ15N also appears to reflect the degree of decomposition of the organic matter. δ15N increases with processing. Warmer sites have soil N that is elevated in 15N, but has lower C:N. Once you control for C:N, there is little pattern in 15N across temperature gradients. similar interpretations could be applied here. You need to take a look at the syntheses and reviews we have done on how to interpret plant and soil 15N. there are important data here, but interpretation is important too.

Answer: Thank you very much for your efforts on our paper submitted to the “Soil” (Manuscript ID soil-2021-40). We have checked the manuscript and revised it according to the comments carefully.

In the Introduction section of the revised paper, we have stated that the larger the δ15N value, the higher degree of openness of N cycling. In addition, soil δ15N also appears to reflect the degree of decomposition of the organic matter, showing that δ15N increases with processing (Craine et al., 2015) (P4L58-60).

In the Discussion section, we have indicated that warmer sites have soil N that is elevated in 15N, but has lower C:N. Once C:N is controlled, there is little pattern in 15N across temperature gradients. In other words, the relationship between soil δ15N and climate is indirect, and mediated through climate effects on soil properties (e.g., the concentrations of organic carbon and clay) (Craine et al., 2015) (P10L207-211).

Finally, the relationships between the $d$ values and environmental variables for plant δ15N were weaker than those for soil δ15N (Fig. 3). The possible reason is that several other factors (e.g., plant N concentrations and species richness) might co-regulate plant δ15N (Wu et al., 2019). This is consistent with the study of Craine et al. (2009), who found different inflection points in soil and plant δ15N relationships with MAT. In addition, plants are generally depleted in 15N relative to soils (P11L222-224).