I appreciate the careful reading by Editor Hauck and the thoughtful comments from Dr. Perşoiu. The manuscript has certainly been improved by incorporation of their feedback.

In response to the brief comments from Dr. Hauck, changes were made as follows (line numbers refer to the document with changes accepted):

line 9: "Temperatures ...were not recorded..." (insert s ?)

This change was made on Line 9.

line 327 "of a breakdown" ?

-I did not make this change. Cave “breakdown” is commonly used as a noun describing, rubble that has fallen from the cave ceiling.

line 470: "did not change" ?

-I made this change (Line 471).

line 515: "observations ...suggest"

-I made this change (Line 516).

Caption Figure 6: insert "survey" after "Results of an 8-m long Ground Penetrating Radar (GPR)"

-I made this change (Line 778).

In response to the helpful comments from Aurel Perşoiu:

Please add info to the type and frequency of porosity (primary and secondary, including information on the presence of fractures and fissures). These info are important for the understanding of water and air circulation within the rock above the cave and ultimately on how water reaches the cave to freeze into the ice block

> -Unfortunately, not much is known about the fracture pattern and porosity in the host rock beyond what can be observed in the cave itself. I added some information to the cave description to provide a bit of additional detail about these fractures though (Line 79-80).

14C Calibration – please use the newest curve (IntCal 20). The differences are small compared to IntCal13, indeed, but than, why bother with advancements if we don't use them?

> -Point well taken. I recalibrated the ^{14}C results with IntCal 20 in Oxcal, updated Table 1, adjusted the text accordingly, and remade Figure 7.

Stable isotope nomenclature
E.g, lines 18-20 in the abstract: In line 18, δ18O and δ2H values are discussed and than in line 19 "depleted winter precipitation" are mentioned. Winter precipitation can be depleted in 18O relative to summer precipitation, not in δ18O. In general, depleted, enriched, less depleted etc should be avoided – being comparative words, every time the two terms of the comparison should be presented. This depletion does not usually refers to SMOW, as except for some highly evaporated samples or os, all others are depleted relative to SMOW. Please say something like "winter precipitated is depleted in heavy isotopes compared to summer one", "winter precipitations has lower δ18O values", "winter pp has lower 18O/16O ratios compared to summer one" or similar throughout the manuscript. Check also Sharp, Z. Principles on stable isotope geochemistry (2nd edition)

> - I understand your point and appreciate your help in improving the writing. I made numerous changes throughout to eliminate comments like "depleted winter precipitation". When I do mention depletion, I added mention of the benchmark to which depletion is relative. (e.g. Lines 351, 362, 363, 383, 469, etc.)

This should be mentioned in the article: "Possibly, but this cannot be proven or disproven from the available evidence. In reality I think that the central and forward part of the cave where the breakdown is concentrated probably represent a mixing zone between ice derived from water entering the rear of the cave and flowing forward, and ice derived from water that runs into the Icicle Room through the entrance."

-What was perhaps not clear in previous versions of the manuscript is the fact that the breakdown is along a slope; it is not a flat surface of ice mantled by rubble. This was always presented in Figure 2 (the cave profile), but I added additional language to the cave description to clarify this (Lines 80-81).

Line 382: please detail the mixing model and how the quoted percentage were obtained

– I updated the text to clarify that this was a simple linear mixing model between two end members, representing winter and summer precipitation (Lines 383-384).