

Line 44: “favorable condition at surface” is a bit vague. You can be more specific here, and note that this method only worked well in summer and fall.

Line 45: “accuracy of approximately ± 1 °C within the frozen zone”

Line 244-251 and figure 3: This would fit better in the results section at line 500 (Referee 5 also suggested more clearly separating methods and results, so this helps address their concern).

Line 267: “The cables installation was gradually” -> “Cables were installed gradually” or “The cable installation was gradual”

Line 300-301, Figure B1: This seems unnecessarily complex (especially since you do not analyze this further). I suggest removing dotted boxes and simply adding a vertical line on the plot to show the date you installed duplicate electrodes.

Line 302: Here, you only describe hardware issues, so I am curious what the software issues were.

Line 313-318, Figure 4: Move this to results section 5.1.

Figure 4: I suggest including directly on the figure the reason(s) for missing data, similar to how you have in Fig. B1

Figure 4: Include data from the north face here too on a separate subplot.

Line 341: I assume this is a typo, and the absolute error is $1e-5$ not $1e5$

Line 345: You can highlight here that this is a standard methodology by citing the literature. This demonstrates that your methodology is well-chosen and follows best practices

Line 346: Here, say something about how you report the root-mean-square (RMS) error with the tomograms, and explain what this number represents

Line 349: Cite literature to show that this cascaded inversion strategy is commonly used for time-lapse inversion

Line 382: Explain why you chose to show data collected on this specific date. I guess this is the first dataset?

Line 390-391: Please provide an explicit interpretation here of what the high and low resistivity zones mean. E.g., sun exposure leads to drier (high resistivity) surface conditions, and warmer wetter (lower resistivity) conditions at deeper depths?

Figure 6: Explain in the text how the fractured zone was interpreted. Is this just from ERT, or was there evidence on the rock surface too?

Line 407: "...NW and E profiles, collected on August 26 2020." Again, explain why you chose to show this date.

Figure 7: Label interpreted Fz on the figure and add to caption. Also it appears that the left side of the figure is cropped, cutting off E in elevation

Line 424: You can re-iterate here that the east profile was excluded from this analysis due to large data gaps from poor connections and rockfalls

Line 426: As reviewer 5 pointed out, it is not clear why you are showing these specific dates. I guess that these are just representative dates where you had complete datasets – if so, write that explicitly in the text. I suggest marking on Figure 4 (maybe with little arrows) which dates you are presenting later in the paper for detailed analysis. That way, your reader can more easily see what dates you've selected (and why). Include on Figure 4 also the data from the NW profile, so you can do this for both profiles.

Line 428: "remains relatively consistent over time" since it does change a bit

Line 446: This to me this phrasing is a bit weird, since I wouldn't expect the geology or topography to change over time. Maybe "reflecting consistent thermal/hydrological conditions"?

Line 460-461: I would move this info to line 426, something like 'Figure 8 shows the tomograms... along the NW profile at representative time intervals. A more complete time series is presented in appendix D.'

Line 472: I suggest making this a new section, something like 5.4 Virtual borehole analysis

Line 473: "P" -> "P1"

Line 484: Why would snow cause lower water content in the active layer? If anything, I would assume that snow increases water content due to spring thaw?

Line 489: "the whole" -> "detailed"

Line 490: "coherent" -> "consistent"

Figure 9: It would be more logical to show P1 on the left subplot

Line 497: "resistivities extracted" -> "resistivities are extracted"

Line 501: "are superimposed on borehole BH-NW" -> "are superimposed on co-located borehole BH-NW"

Line 505: No capitalization needed in temperature – resistivity relationship

Section 5.4: I like that you have now included a temperature model! I do wonder about the inconsistency between what you've done in Fig 10 and Fig 11 though. For Fig 10, you say that you can't estimate temperature in the active layer – but then you do this anyway in Fig 11. Maybe you could plot the full estimated temperature profile in Fig 10, explaining why it is inaccurate in the near surface (as you have already in the text), and then also explaining which areas of the temperature model (Fig 11) you expect to be more or less accurate. As it is, I feel the uncertainty in your full temperature model is not really discussed.

Line 517: This seems inconsistent – it's accurate only at depths between 4-10 m, but you can then estimate temperature across the whole model?

Line 517: Well, it's not always less than 1 degree error. Be more quantitative here. A mean absolute error would be a great metric to include. Then you can also be more precise in the abstract and conclusions as well.

Line 526: "It can be observed a coherent temperature gradient through depth and positive temperatures around and in the infrastructure." This is not clear, please rephrase

Line 528: Are you saying that the temperatures below -5 are not reliable?

Line 506-531: This paragraph is a bit clunky, please revise for flow and clarity.

Figure 11: There are a few things I don't like about this colour scale. I find the colour variability above zero distracting and would prefer something more perceptually uniform. I also think that the blue should start at zero – right now, the beige color represents frozen material, which is not intuitive. And by using the same color for everything below ~-3.5, you lose detail.

Figure 11: Why are some parts (in the lower part of the profile) blank?? This needs to be explained.

Line 547: "data measured in co-located BH-NW"

Line 583: Makes more sense to say "we interpret that seasonal variations in resistivity are influenced by the presence of fractures"

Line 585: "is exposed to strong insolation in summer"

Line 586, line 587: Did you mean to use fig 13a as an example of both high and low resistivity? Maybe this is a typo

Figure 13: Add tunnel to all subplots

Figure 13: It really feels like this figure belongs section 5.3 where you report the time-lapse ERT results. I suggest moving this figure and your observations to line 471, right after figure

8. However, I can see why it is relevant to your discussion of hydrological dynamics. If you opt to keep the figure in section 5.5, add a sentence at line 424 saying something like “Results from the south profile are shown later in Section 5.5”

Line 610: Consider rephrasing for clarity: “High CR is the main challenge preventing the year-round collection of high quality data at high altitude rockwall sites such as this.”

Line 618: “such as also revealed” -> “which has also been revealed”

Line 640: I’m not sure why this sentence is included “even though internal permafrost temperatures typically lie just a few degrees below freezing (e.g., Noetzli et al., 2024)”. What point is being made here? I would omit this.

Line 642: Change to “However, a precision of...”

Line 686: “coherence” -> “good agreement”

Line 691: Include caveats – only in frozen ground and only in summer/fall

Line 697: A-ERT does not require substantial maintenance everywhere! Rephrase to “Although installation of A-ERT system is relatively low cost, it can require substantial maintenance in high-risk areas like unstable high mountain rockwalls where rockfalls and lightning effects can damaging equipment.”