Response to Referees and Community Comments

Manuscript: *Integrated electrical resistivity tomography and geological characterization of the upper San José de Aloburo landslide, Pimampiro, Imbabura*

Dear Editor, Referees, and Community Commenters,

We sincerely thank the referees and community commenters for their careful, constructive, and detailed evaluations of our manuscript. Their comments led to a substantial revision of the original submission. We have revised the manuscript not only editorially but also conceptually, with particular emphasis on separating measured geoelectrical observations from geological interpretation, reducing claims that were not sufficiently supported by independent evidence, clarifying the spatial scope of the ERT survey, and documenting limitations in the archived instrumental and inversion metadata.

No new field measurements, boreholes, geotechnical tests, time-lapse surveys, or reconstructed instrumental parameters were introduced during the revision. Where information requested by the reviewers could not be recovered reliably from the archived project material, we explicitly report it as unavailable rather than infer values retrospectively.

Main changes made in the manuscript

The principal revisions are as follows:

1. The title was changed from **"Landslide evaluation applying electrical tomography techniques: case study San José de Aloburo, Pimampiro, Imbabura"** to **"Integrated electrical resistivity tomography and geological characterization of the upper San José de Aloburo landslide, Pimampiro, Imbabura."**

2. The scope is now explicitly restricted to the **upper and physically accessible sector** of the landslide.

3. Low-resistivity domains are no longer equated uniquely with saturation, fracturing, low cohesion, or mechanically weak material.

4. The terms *rupture plane* and *confirmed rupture surface* were removed from unsupported ERT interpretations and replaced with **potential instability-related boundaries** or **interpretive traces**.

5. The former "3-D model" is now correctly described as a **3-D fence diagram constructed from independently inverted 2-D ERT profiles**.

6. Profile 3 is treated only as a **spatial reference profile outside the mapped displaced area**, not as a pre-failure measurement.

7. The final acquisition geometry, electrode spacing, maximum Wenner separation, profile orientations, and role of each profile were clarified.

8. The Wenner-array advantages and limitations, particularly its comparatively limited lateral resolution, are now explicitly discussed.

9. Geological observations are used as independent shallow constraints rather than as a direct conversion of resistivity into lithology.

10. The stratigraphic columns are explicitly limited to approximately 19 m of geological control, whereas the ERT sections extend to approximately 35–40 m.

11. The single quantitative grain-size analysis is treated only as **local sedimentological evidence** and is not extrapolated across the landslide.

12. Seasonality is now discussed explicitly, including the difference between the wetter November 2021 failure period and the later, comparatively drier ERT survey.

13. Figure 10 was revised and its caption expanded to clarify the spatial relationship among the outcrop, geological sketch, Column A, ERT Profile 2, and the locator map.

14. The low-cost system is no longer presented as a new fully reproducible instrument design; the recoverable configuration and missing specifications are explicitly documented.

15. The inversion methodology now explicitly identifies which RES2DINV metadata are unavailable.

16. The previously reported mean inversion misfit of **15.78% was removed in Version 2.4** because its source could not be independently traced in the preserved revision archive.

17. The black interpretive traces in the ERT sections are explicitly described as **manual interpretations**, not outputs from an automated discontinuity detector.

18. Confidence is stated to decrease toward the deepest portions of the ERT sections because no archived depth-of-investigation, model-resolution, or sensitivity sections are available.

19. Appendix Table A1 now provides a systematic inventory of available, unavailable, and non-recovered acquisition/inversion information.

20. The Introduction and Discussion were strengthened with recent literature on ERT–landslide integration, uncertainty, low-cost/open hardware, geotechnical validation, Andean analogues, and time-lapse monitoring.
21. The Data Availability statement was expanded to specify the recoverable files intended for future deposition in a FAIR public repository.
22. English grammar, terminology, captions, abbreviations, and internal consistency were extensively revised.
23. A generative-AI-use disclosure was added to the Acknowledgements in Version 2.4.

Explanation of the title change

Original title:
Landslide evaluation applying electrical tomography techniques: case study San José de Aloburo, Pimampiro, Imbabura

Revised title:
Integrated electrical resistivity tomography and geological characterization of the upper San José de Aloburo landslide, Pimampiro, Imbabura

Response:
The title was changed to more accurately represent both the methodology and the actual spatial scope of the dataset. The original expression *"Landslide evaluation"* could be interpreted as implying a comprehensive evaluation of the entire approximately 25 ha landslide, including its complete geometry, failure mechanism, and stability conditions. However, as several reviewer comments correctly emphasized, the four ERT profiles were concentrated in the upper and physically accessible sector and do not provide volumetric coverage of the entire displaced mass.

The new title therefore explicitly includes **"upper"** to define the spatial extent investigated. We also replaced the general phrase *"applying electrical tomography techniques"* with **"Integrated electrical resistivity tomography and geological characterization"** because the scientific contribution is based on the joint interpretation of ERT, field geology, stratigraphic columns, morphology, and local grain-size information rather than ERT alone.

The revised title consequently avoids overstating the scope of the investigation and better reflects the principal contribution of the manuscript: an integrated ERT–geological characterization of the accessible upper sector, together with explicit consideration of interpretive and reproducibility limitations.

Response to Anonymous Referee #1

We thank Referee #1 for the positive assessment of the integrated methodology and for the constructive recommendations.

RC1.1 — Accessibility of references

Comment: Some institutional reports are difficult to locate; DOIs and/or stable URLs should be provided.

Response:
We agree. The reference list was revised throughout. DOIs were added wherever available, and stable institutional or repository URLs were added for grey-literature sources when reliable links could be identified. Bibliographic information was also standardized.

Recent peer-reviewed literature was additionally incorporated where it strengthened specific aspects of the revised manuscript, including ERT uncertainty and depth limitations, geological–geophysical integration, geotechnical validation, time-lapse investigations, low-cost/open-hardware systems, and a recent Andean landslide analogue.

RC1.2 — Seasonality

Comment: The landslide occurred during a rainy-season window, whereas the ERT survey was obtained under comparatively drier conditions. Please discuss the information that wet-season ERT could provide.

Response:
We agree and substantially expanded the Discussion.

The revised manuscript now explicitly states that the ERT dataset is a **post-event temporal snapshot** and cannot be interpreted as a direct reconstruction of hydrological conditions during the November 2021 failure.

We discuss how a wet-season survey using the same geometry could test whether conductive domains:

- expand during infiltration,
- increase in lateral continuity,
- persist between wet and dry conditions,

- or remain spatially associated with the interpreted instability-related boundaries.

We also clarify that no repeated dataset is available and therefore lithological and transient hydrological contributions cannot be separated quantitatively in the present study.

RC1.3 — Location of Figure 10(a,b)

Comment: The location of the photograph and geological sketch relative to the ERT layout and stratigraphic observations was unclear.

Response:
We agree.

Figure 10 now integrates five components:

- field photograph,
- conceptual geological sketch,
- stratigraphic Column A,
- independently inverted ERT Profile 2,
- and a locator panel showing their map relationship.

The caption now explicitly states that the dashed connectors illustrate approximate spatial relationships only and **do not imply equivalence between stratigraphic contacts and iso-resistivity boundaries**.

The conceptual geological sketch is also explicitly identified as not being drawn to vertical scale.

RC1.4 — Reproducibility of the low-cost ERT system

Comment: Please provide injection frequency/waveform, current and voltage measurement procedure, multimeter specifications, CT ratio, and a calibration check.

Response:
We fully agree that these parameters are important for instrumental reproducibility.

The recoverable information has been reported explicitly. The archived configuration documents:

- a 12 V DC battery,

- conversion to approximately 220 V AC,
- current injection through A–B,
- potential measurement across M–N,
- a second multimeter associated with a current transformer for current monitoring,
- stainless-steel electrodes,
- and the field cabling.

However, the archived material available for this revision does **not** preserve reliable values for:

- exact injection frequency,
- waveform,
- multimeter models and bandwidth/accuracy,
- True-RMS characteristics,
- current-transformer ratio,
- field current and power range,
- number of stacks,
- or resistor-based calibration records.

We considered it scientifically preferable to report these parameters as unavailable rather than reconstruct them retrospectively.

Appendix A and Table A1 now explicitly document both the available and unavailable information and the consequence for reproducibility. The manuscript also states that the absolute instrumental accuracy cannot be independently reassessed and therefore constitutes an unquantified source of measurement uncertainty.

The system is consequently presented as the **acquisition platform used in this case study**, not as a new reproducible instrument design or metrological benchmark.

Response to Anonymous Referee #2

We thank Referee #2 for the detailed and critical review. We agree with the central concern that several interpretations in the original manuscript were expressed too strongly relative to the available constraints. The revised manuscript has therefore been extensively rewritten to separate electrical observations from geological interpretations.

General comment — Survey design and interpretation

Comment: The survey design was constrained, the interpretation went too far, and additional contextual information was needed.

Response:
We acknowledge the limitations imposed by field accessibility, damaged terrain, agricultural infrastructure, and the manual acquisition system. Rather than describing the survey as representative of the entire landslide, the revised manuscript now explicitly limits its conclusions to the **upper and accessible sector**.

This change is also reflected in the new title.

We further revised the Abstract, Results, Discussion, Conclusions, and figure captions so that ERT is not treated as a direct measurement of saturation, cohesion, lithology, or mechanical rupture.

Detailed response to the annotated supplement of Referee #2

RC2.1 — Explain abbreviations

Response:
Abbreviations and technical terminology were revised and defined at first use. Language and terminology were standardized throughout the manuscript.

RC2.2 — "Which kind of landslide?"

Response:
The revised Study Area section explicitly states that the 2021 post-event assessment classified the event as a **complex landslide**, with a rotational component in the upper sector and partial flow-like behavior downslope.

RC2.3 — English language and wording

Response:
The complete manuscript was edited for grammar, wording, scientific terminology, and consistency. Several awkward constructions from the original manuscript were removed or rewritten.

RC2.4–RC2.5 — Electrode distance/spacing and change from 5 to 7.5 m

Response:
We agree that the original description was confusing.

The revised Methods and Table 1 now distinguish clearly among:

- profile length,
- base Wenner spacing,
- maximum (a)-spacing,
- maximum A–B separation,
- electrode number,
- measurement number,
- orientation,
- and profile role.

The final inversion datasets used 5 m base spacing for Profile 1 and 7.5 m for Profiles 2–4.

The manuscript no longer implies that all profiles were acquired using a single common spacing.

RC2.6 — Wenner-array sensitivity

Response:
The description was revised.

The manuscript now states that the Wenner array provides a comparatively strong signal response and is suitable for broad/layered changes with depth, while its lower lateral sensitivity relative to arrays such as dipole–dipole reduces the resolution of narrow or steeply dipping structures.

This limitation is now explicitly propagated into the geological interpretation.

RC2.7 — Injected current, waveform, multimeter sensitivity, stacks, and electrode separations

Response:
The available electrode geometry is now reported quantitatively.

For the Wenner configuration:

$$
AM=MN=NB=a,\qquad AB=3a.
$$

Maximum archived (a)-spacings are reported as:

- 55 m for Profile 1,
- 60 m for Profiles 2 and 3,
- 37.5 m for Profile 4,

corresponding to maximum A–B separations of:

- 165 m,
- 180 m,
- 180 m,
- and 112.5 m.

The requested waveform, current range, multimeter specifications, CT ratio, stacking, and calibration records could not be reliably recovered and are explicitly classified as unavailable in Appendix A rather than inferred.

RC2.8 — Landslide boundary and movement direction

Response:
Figure 4 was revised to include the documented **NW–SE movement direction**.

The caption now states that the red outline is the landslide boundary used in the archived project mapping. Because the full historical digitization workflow for this polygon is not preserved, we use it as a spatial reference rather than claiming that it was newly re-derived during this revision.

RC2.9 — Number of samples

Response:
This has been clarified explicitly.

Only **one sample, ANG-TOP-B-01**, is used for the quantitative sieve analysis reported in the manuscript. Other grain-size descriptions in the stratigraphic columns are field observations.

The quantitative grain-size result is therefore treated only as local sedimentological evidence.

RC2.10 — Geological materials involved and request for geological sketch

Response:
The revised manuscript provides a clearer description of the volcanic and volcaniclastic materials, including ash, pumice/lapilli-rich deposits, tuffaceous material, and reworked units.

Figure 10 includes a conceptual geological sketch showing the arrangement of exposed units and their relationship to Column A and Profile 2.

RC2.11 — How was the landslide border defined?

Response:
The revised caption explicitly distinguishes between the archived project boundary and a newly derived geomorphic interpretation.

Because the complete historical digitization workflow is unavailable, no unsupported new reconstruction was attempted.

RC2.12 — Inversion error of 15.78%

Response:
We agree that the value required better justification.

During the final revision we found that the current revision archive does not contain the individual profile logs or a traceable source file from which the previously reported aggregate 15.78% could be independently verified.

Consequently, rather than attempting to justify an untraceable number, **the 15.78% value has been removed entirely from Version 2.4**.

The revised manuscript explicitly states that no traceable per-profile or aggregate inversion-misfit metric is retained as a quantitative quality indicator.

RC2.13 — Geometry of the interpreted rupture plane / possibility of two landslides

Response:
We agree that the original "rupture plane" terminology implied a degree of certainty not supported by the data.

The manuscript no longer interprets the black traces as confirmed rupture planes, nor do we infer two separate landslides from their geometry.

They are now described as **manually delineated interpretive traces / potential instability-related boundaries**.

RC2.14 — ERT profile appears homogeneous

Response:
The revised Results acknowledge explicitly that Profile 3 is comparatively smooth and shares low-to-intermediate resistivity characteristics with parts of the other profiles.

This similarity is now used as an important constraint: conductive domains are **not unique to the displaced area** and may reflect regional lithological and hydrological controls.

RC2.15 — Interpretations were too strong

Response:
We agree.

The original deterministic relationships were removed.

The revised Discussion states that resistivity depends jointly on mineralogy, porosity, grain size, weathering, water content, fracture condition, and pore-fluid conductivity. Therefore, the 4–45 (\Omega) m domains cannot be uniquely assigned to saturation, fracturing, or low cohesion.

ERT is also explicitly stated not to measure cohesion directly.

RC2.16 — Survey covers mainly the crown; how deep and how large is the landslide?

Response:
This concern led to one of the most important revisions.

The study is now explicitly restricted to the **upper and accessible sector**, both in the title and throughout the manuscript.

We no longer claim that the four profiles define the complete geometry, volume, or basal surface of the approximately 25 ha landslide.

The maximum ERT imaging depth is reported as approximately 35–40 m, but this is not equated with the total depth of the landslide.

RC2.17 — Geological results should precede geophysical interpretation

Response:
We agree with the rationale.

The geological observations are now presented as independent constraints before they are used to interpret the ERT patterns. This makes the direction of inference clearer and reduces the risk of using the geophysical model to define the geology circularly.

RC2.18 — "It is not a 3D model"

Response:
We fully agree.

The terminology was corrected throughout.

The figure is now called a:

"3-D fence diagram constructed from independently inverted 2-D ERT profiles."

The manuscript explicitly states that:

- no volumetric 3-D inversion was performed,
- no resistivity values were interpolated between profiles,
- and the diagram cannot demonstrate continuity of a layer or slip surface between sections.

RC2.19 — Landslide type and apparent depth

Response:
The landslide classification from the 2021 post-event assessment is now stated explicitly as a complex movement with an upper rotational component and downslope flow-like behavior.

The manuscript does not infer total landslide depth from the ERT survey.

RC2.20 — Location of the landslide slope

Response:
The spatial maps, ERT-profile map, movement-direction arrow, landslide outline, and Figure 10 locator panel now make the relationship between the measured upper sector and the broader landslide setting more explicit.

RC2.21 — Orientation of the stratigraphic columns

Response:
We clarified the original field convention rather than artificially reversing the observations.

The vertical axes in the original columns represent **stratigraphic height measured upward from the local base of each exposure**. They should not be interpreted directly as depth below the topographic surface.

This is now explicitly stated in the figure caption and Discussion.

RC2.22 — Stratigraphic columns are shallow compared with the interpreted ERT boundary

Response:
We agree.

The maximum observed stratigraphic thickness is approximately 19 m, whereas the ERT sections extend to approximately 35–40 m.

The revised manuscript therefore states explicitly that the columns provide direct geological control **only for the shallow ERT interval**.

No deep lithological assignment is made from the columns alone.

RC2.23 — ERT profiles are concentrated at the landslide limit

Response:
We agree that spatial coverage is restricted.

This is now treated as a principal study limitation and is one reason the title and objectives were narrowed to the upper accessible sector.

The paper does not claim complete imaging of the full 25 ha landslide.

RC2.24 — Profile 3 is similar to the others; inversion iterations should be reported

Response:
Profile 3 is no longer interpreted as representing “pre-failure conditions.” It is used only as a spatial reference profile.

Its similarity to parts of the other sections is explicitly discussed.

Regarding iterations, the archived methodology documents at least three iterations, but final iteration counts for the individual profiles are not preserved. They are therefore reported as unavailable in Appendix Table A1 rather than reconstructed from software defaults.

RC2.25 — Correlation between geology and ERT was not sufficiently described

Response:
The integration is now discussed explicitly in the text and in Figure 10.

Importantly, the revised manuscript does not describe this as a direct lithological calibration. Geological observations constrain the interpretation of shallow resistivity patterns, but no one-to-one relationship between stratigraphic contacts and iso-resistivity boundaries is assumed.

RC2.26 — Geological sketch has no vertical scale and ERT location is unclear

Response:
Figure 10 now explicitly identifies the geological sketch as **conceptual and not drawn to vertical scale**.

The ERT location is shown in panel (e), together with Column A and the approximate outcrop position.

RC2.27 — Interpretation of the 0–19 m stratigraphic scale

Response:
This has been clarified.

The stratigraphic column records height upward from the local exposure base; it is not a depth-below-ground scale.

RC2.28 — ERT is not a seismic image; geological layers cannot simply be correlated with iso-resistivity layers

Response:
We completely agree with the underlying methodological concern.

This was one of the central conceptual revisions.

The manuscript now states explicitly that:

a direct one-to-one correlation between stratigraphic contacts and deeper iso-resistivity contours is not justified.

The dashed lines in Figure 10 show only approximate shallow spatial correspondence. They do not convert electrical contours into geological contacts.

RC2.29–RC2.31 — "It is not true" comments on the Conclusions

Response:
The relevant conclusions were extensively rewritten.

The revised Conclusions no longer state that:

- low resistivity proves fine-grained material,
- granulometry validates a site-wide resistivity–grain-size relationship,
- ERT uniquely identifies the rupture surface,
- or water accumulation is demonstrated as the sole controlling factor.

Instead, the manuscript concludes that ERT resolves broad geoelectrical domains and that selected gradients are **consistent with potential instability-related boundaries when jointly considered with field morphology and shallow stratigraphy**, while remaining indirectly constrained.

Response to the Community Comment

We thank the community commenter for the positive assessment of the figures and integrated approach and for the useful recommendations.

CC1 — More literature is needed

Response:
We agree.

The Introduction and Discussion were substantially expanded with recent and directly relevant literature, including studies on:

- integrated ERT–geology and geotechnical validation,
- deep ERT and resolution limitations,
- time-lapse monitoring,
- low-cost/open-hardware resistivity acquisition,
- and a recent Andean ERT–landslide example.

CC2 — Equipment subsection and lack of current/power information

Response:
The equipment description was streamlined and integrated into the acquisition methodology.

We agree that current and power information would be useful. However, reliable field current and power ranges are not preserved in the archived project material. These values are therefore explicitly reported as unavailable rather than estimated retrospectively.

CC3 — Inversion models deserve greater discussion

Response:
We agree.

The Discussion now evaluates each profile more critically and addresses:

- non-uniqueness,
- depth-dependent sensitivity,
- Wenner resolution,
- the similarity of Profile 3 to the other profiles,
- shallow geological constraints,
- and the lack of deep geotechnical verification.

CC4 — Fence diagram, not 3-D model

Response:
We fully agree.

The terminology has been changed throughout the manuscript to **3-D fence diagram** and no 3-D inversion is claimed.

Response to the Additional Review Comment

We also thank the reviewer who provided the five detailed recommendations concerning presentation quality, uncertainty, figure integration, literature, and granulometry.

Comment 1 — Writing quality and redundancy

Response:
The manuscript was extensively edited for grammar, concision, terminology, and readability.

The Introduction was restructured to eliminate repeated explanations of the advantages of ERT and instead emphasize:

- non-uniqueness,
- the need for independent geological constraints,
- the specific contribution of the San José de Aloburo dataset,
- and the limitations of the non-commercial acquisition system.

Comment 2 — Qualitative interpretation and limited uncertainty analysis

Response:
We agree.

The revised manuscript explicitly discusses inversion non-uniqueness, decreasing sensitivity with depth, missing inversion metadata, instrumental uncertainty, and lack of deep geotechnical control.

The previously reported 15.78% aggregate misfit has now been removed because it could not be independently traced.

Appendix Table A1 systematically identifies available and unavailable reproducibility information.

Comment 3 — Figures insufficiently integrated into the Discussion

Response:
The ERT profiles, fence diagram, and integrated Figure 10 are now discussed explicitly.

Figure 9 is treated only as a qualitative spatial comparison of independent 2-D sections, and Figure 10 is used to demonstrate the appropriate level of ERT–geology integration.

Comment 4 — Comparison with previous studies and methodological limitations

Response:
The Discussion was substantially expanded.

New literature now includes examples involving:

- geological and multigeophysical integration,
- direct geotechnical validation,
- deep ERT/resolution,
- water-related reactivation,
- time-lapse electrical monitoring,
- low-cost/open hardware,
- and an Andean landslide comparison.

The effects of Wenner lateral resolution, electrode spacing, inversion smoothing, and decreasing sensitivity with depth are now discussed explicitly.

The approximately 1.3 m stratigraphic layer not resolved in the ERT is no longer attributed solely to electrical contrast; its thickness relative to the 5–7.5 m base electrode spacing and inversion smoothing are also considered.

Comment 5 — Limited granulometric dataset

Response:
We agree.

The quantitative analysis of ANG-TOP-B-01 is now treated strictly as **local sedimentological support**.

The manuscript explicitly states that one quantitative sample cannot establish a site-wide grain-size–resistivity relationship.

Accordingly, the Abstract, Results, Discussion, Figure 7 caption, and Conclusions were revised to avoid extrapolation.

Responses to recurring comments raised during subsequent review rounds

Several later assessments raised additional issues regarding reproducibility and traceability. These have also been addressed in Version 2.4.

Inversion metadata and reproducibility

Per-profile RMS values, final iterations, inversion norm, damping/regularization, error model, rejected-data counts, and detailed mesh parameters cannot be recovered from the supplied archive.

Rather than reconstructing them from default RES2DINV settings, they are explicitly reported as unavailable.

Traceability of the previously reported 15.78% misfit

Because the aggregate value could not be traced to preserved per-profile logs or a source file, it has been **removed from Version 2.4**.

This was done to avoid retaining an unverified quantitative quality metric.

Sensitivity and depth-of-investigation information

No archived sensitivity, model-resolution, or quantitative depth-of-investigation sections are available.

The manuscript consequently states that confidence decreases qualitatively toward the deepest portions of the sections.

No new sensitivity results were fabricated.

FAIR data repository and persistent identifier

The Data Availability statement has been expanded.

The authors intend to deposit all **verifiably recoverable machine-readable study files** in a FAIR public repository, including, where available:

- raw (\Delta V/I) measurements or apparent-resistivity data,
- electrode geometry/elevation files,

- stratigraphic data,
- grain-size data,
- and surviving RES2DINV input/output/model files.

No DOI has been inserted because a verified persistent identifier is not yet available. It will be added once the deposit is completed.

Table A1

Appendix Table A1 now explicitly distinguishes among:

- available metadata,
- unavailable metadata,
- and files not present in the current revision archive.

It includes specific entries for:

- raw (\Delta V/I),
- apparent-resistivity data,
- electrode coordinates/elevations,
- RES2DINV files,
- instrumental specifications,
- inversion parameters,
- and sensitivity/resolution information.

Recent bibliography

The manuscript now incorporates recent literature relevant to the remaining methodological limitations, including work on:

- deep ERT and resolution,
- geological–geophysical integration,
- geophysical–geotechnical validation,
- water-related reactivation,
- time-lapse monitoring,
- low-cost/open-hardware ERT,

- and an Andean landslide analogue.

Cartographic coordinate provenance

Because the corresponding historical GIS project files were not included in the archived manuscript package, no unsupported numerical reprojection was introduced.

The revised manuscript explicitly states that the raster-map coordinate annotations are retained from the archived exports and are used only for spatial context, not in the inversion or other quantitative calculations.

Figure 10 panel lettering

Some later review notes suggested that the locator map remained labeled “c)” instead of “e)”.

We carefully rechecked the final figure used in Version 2.4. The locator panel is correctly labeled **(e)** and the caption consistently identifies panels (a)–(e). Therefore, no further panel-letter modification was required.

Additional editorial changes in Version 2.4

In addition to the scientific revisions above:

- all figure terminology was standardized;
- all raster figures meet or exceed the requested publication resolution;
- the Data Availability statement was strengthened;
- and a Generative AI use declaration was included in the Acknowledgements describing the tool and extent of its use.

Closing statement

We again thank the referees and community commenters for their detailed and constructive evaluations. Their comments substantially improved the manuscript.

The most important change in the revised paper is a shift from a deterministic interpretation of the ERT sections toward an **integrated, uncertainty-aware interpretation**. The revised manuscript now distinguishes clearly among:

(1) measured and inverted electrical properties,
(2) independently observed geological information, and
(3) geological interpretations inferred from their integration.

The final manuscript therefore presents the ERT survey as an integrated observational dataset from the upper accessible sector of the San José de Aloburo landslide, rather than as a complete three-dimensional or geotechnical reconstruction of the entire landslide.

We believe that Version 2.4 now provides a more rigorous, transparent, and appropriately constrained interpretation of the available data.