I appreciate this work and I think a lot of thought has gone behind instrumentation, field set-up and acquisition procedures. However, I am just not sure if this work fits the scope of the journal. The authors are trying to highlight the dataset and its potential usefulness. However, I don't know if this solitary dataset is comprehensive enough. I would normally expect a collection of repeated surveys of this kind at different times of year, reflective of different temperature/precipitation/river level conditions. These variables would all influence your results and strengthen the value of your dataset. Furthermore, different types of engineered embankments could be included to show a range of ground conditions.

Thank you for your general comment and observations, which are indeed to the point. For sure the proposed dataset does not include climatic and engineering variables at the moment, as you correctly comment. All the activity you are proposing are indeed planned in the near future by our research group to increase the knowledge on the effect of these variables in the geophysical response and will be hopefully object of further publications. Nevertheless, we strongly think that the present dataset has a scientific merit by itself. The evaluation of a climatic or engineering variable response of the embankments from geophysical data requires indeed a robust analysis of the geophysical data themselves in order not to mix the potential uncertainties in the interpretation of the latter in the analysis of the other independent variables. With this respect, the availability of an extended dataset, like the one here proposed, over which researchers can test alternative interpretation approaches and evaluate their limitations and/or related uncertainties, is of paramount importance, in our opinion. Therefore, the proposed dataset is specifically directed to the geophysical community, similarly to other manuscripts published in ESSD. Among the latter, however, an extended dataset combining resistivity and seismic data like the one here reported is still missing. From the moment of publication of the first discussion draft in ESSD we have already received some requests regarding the dataset as a demonstration of the interest that it has among geophysicists. As an answer to and observation from reviewer 1, we have added a devoted paragraph in which the climatic conditions at the time of execution of the surveys are reported. We have added in this same paragraph and at the end of the discussion some of the above considerations.

For these reasons I personally don't think the value of this work lies with the originality of the dataset. This work should be reframed and resubmitted, as it would be best presented as a research article where the innovative aspect of this method of acquisition, together with in-depth methods of processing and visualisation of such surveys are discussed (rather than leaving it at a "preliminary" stage).

We have tried to better include above commented motivations with respect to the specific importance of the dataset in the discussion of the paper and in the paragraph related to the climatic conditions at the moment of execution of the surveys. Hope you are convinced by the usefulness that we see in this dataset. With respect to the "preliminary" data visualization proposed in the paper, also considering your later questions, we have better elaborated the fact that we indeed see a value and potentiality even in the proposed data analysis.

I also have a concern regarding the use of embankment topography/geometry for inversion. I think this is paramount to obtain a representative result. I am not sure the authors have done this, and I think it needs further discussion in text.

We are conscious of the importance of this aspect, for this reason we have extensively commented on that in the text and presented a specific comparison of 2D and 3D resistivity inversion, to evaluate the effect of topography/geometry of the embankment on the data interpretation. These "preliminary" inversions (which are not anyway so trivial, due to the complexity of the 3D embankment shape and the huge amount of data) were performed for two reasons: first, to test if they work, as a quality assurance of the dataset, and then, to hint for future research directions regarding the usage of this dataset. Nevertheless, we also think that less sophisticated data visualization approaches could be still valuable

for a first fast screening of potentially critical parts of the embankments. We have further commented on that in the discussion section. Moreover, this is a dataset presentation paper, not a data elaboration paper, therefore going really in depth in performing several inversion tests with complex topography/geometry constraints is partially out of scope of the paper, in our opinion.

I will detail line specific comments below.

Thank you for your careful revision of the paper, we have addressed all the comments reported in your revision letter. Hereafter you find some discussion on the few ones on which we judged that a comment was necessary. All the other ones requiring simple typo corrections or small modifications, that we have performed, are removed from this response but our intervention on them can be seen in the marked paper attached to the revision.

L19: Preliminary screening of what? Please be clear for the readers.

"for the identification of potential localized anomalies", added to the text.

L23: When you say "systems" I assume you mean long linear assets such as river levees.

No, here we refer to the above mentioned acquisition systems. This statement is indeed important also with respect to your general observation on the usefulness of the dataset. We think that the peculiarity of these acquisition systems requires devoted analysis and calibration of specific interpretation techniques, hence the utility of the present dataset for geophysical operators. We have reformulated the statement in order to be more explicit.

L50: I think you need some references that build up to this statement, i.e. other cases where geophysical surveys inform geotechnical testing.

L54: I think you need a few references here to back up "have been the most adopted".

On both points we have added supporting references.

L55: Complementary to what? Please be clear for the readers.

As explained in the text following this statement we here intend complementary to each other. We have reformulated the statement.

L59: Correlations or through petrophysical relationships?

Indeed, both can be adopted and have been tested in the referenced publications within this statement. We have explicitly included the "petrophysical relationships" as suggested.

L61: I think you need a reference here.

This is the first statement of a longer paragraph discussing in details these new acquisition systems. We do not think that a reference is necessary here given that many references are then reported later both with respect to seismic and electric streamers.

L63: Again, preliminary screening of what? Please be clear for the readers.

As in your comment above. The statement was reformulated.

L64: Could you perhaps list the environments of these case studies to give the reader an understanding of where seismic streamers can be used?

The environments of application of the seismic streamers is quite variable in the referenced case studies, covering different embankments heights and on a variety of conditions of the survey road on top of them

(e.g., grass, asphalt road, compact gravel track). A general statement was added in this respect when citing the references but we think that an in depth discussion of all the referenced papers is partially out of scope. We are available to further discuss this if the reviewer requires that mandatory for publication.

L77: Do you mean EMI – Electromagnetic Induction? If you say EM that implies a wider range of geophysical methods, which could include EMI, TEM, GPR, AMT.

We here intended mainly EMI and TEM as it was already indicated later in the same paragraph within the parenthesis. We have more explicitly clarified the specific methodologies to which we refer.

L78: "comparable detail" is a vague term.

This statement is on purpose non quantitative since the resolution of the different methodologies depends on specific acquisition settings. However, it is usually accepted that EM methods generally have lower spatial resolution than ERT. Indeed, ERT injects current into the ground through electrodes with relatively focused sensitivity patterns while EM methods measure secondary electromagnetic fields generated by subsurface conductivity contrasts and their response is inherently averaged over a larger volume of ground. We have not performed specific modifications to the text here. We are available to do that and better elaborate if the reviewer requires that mandatory for publication.

L91: i) What kind of limitations? ii) Reference to the software?

We here refer to the fact that with hundreds of thousands of electric potential data to manage most inversion software is slow and/or would require specific computational capabilities to be properly manage and invert the data. This is common to any inversion software adopted for tomographic inversion so we do not need there is the need to indicate the software specifically, we referenced later to ResIPy which is the software we have adopted. We have partially reformulated the statement to be more clear. Also, we have included further details on the computational requirements of the data and of the computation times with respect to the 2D and 3D resistivity data analyses in the devoted paragraph.

L104: I don't understand what you mean by: "through specific inversion problem solution". Do you mean parameters obtained as a result of inversion?

Yes, the statement was reformulated as suggested.

L260: Seismic-electric or seismo-electric? Please decide and be consistent throughout the manuscript.

Thank you, we have uniformed through the whole text the term "seismic-electric".

L289: Do you mean self potential or resistance readings or voltage readings - electric potential difference ?

We here intend the voltage readings (i.e. electric potential difference readings at the measuring quadrupole), the statement was reformulated.

L357: It is electrical resistivity, not electric resistivity. Please replace where needed in the manuscript.

Thank you, we have uniformed through the text the term "electrical resistivity".

L360: What are gap-fillers? Can you please be specific or rephrase.

In the acquisition system we are using gap-fillers refer to a sequence optimization feature created using the Electre Pro software. To increase data acquisition speed, when creating an acquisition sequence, the software inserts extra measurements (called gap-fillers) to optimize channel switching within the multi-electrode system. We agree that this is a technicality of the specific system adopted and not strictly necessary in the description. We have therefore removed the statement.

L362: What happens when you don't have a water source nearby?

Given that the measuring system is specifically devoted to the characterization of river embankments it is almost impossible that there is not a water source nearby.

L381: What does this mean? Are you saying that this analysis is available upon request?

We agree that this statement was general and not particularly informative, we have removed it from the text. We intended to mention that we are available to discuss with eventual database users on the different interpretation attempts that could be adopted on the data and share our approaches.

Section 4.2: What about contact resistance data?

Contact resistances were checked during the acquisition in order to ensure uniform and low values along the streamer, as commented in the text, but not stored during acquisition in order to speed up the surveys. A clarification was added in the text when discussing the acquisitions.

L429: i) how is the embankment depth estimated? ii) …is superimposed over …

The embankment depth was estimated by computing the difference between the elevation of the top of the embankment and the average elevation of the two toes from the topographic data. A statement was added in the text and the previous statement reformulated as suggested.

Figure 11: i) Are the blue crosses results from the DPSH test? This is not specified in the caption. Also, how do I know the number of blows for each depth if there is no axis for that?

Yes, a clarification was added in the figure caption in this respect. Adding the axis of each DPSH test in the figure would greatly increase its confusion in our opinion. Moreover, the specific blow count values are in our opinion not strictly important here but more the blow count trend with depth and this last can be clearly seen in the figure in our opinion. The specific blow count values were however detailed in the text in the geotechnical data section and in the related Figure 2 and are available in the database as text files, as mentioned in the paper.

ii) These results show no topography variations. Was topography used in the inversion? As you say, the embankment is not straight, so this must be a 2D projection. Could you elaborate the projection process? Do you think this projection might have distorted some features?

As described in the text the data presented in the former Figure 11 are NOT inverted. They are "filtered apparent resistivity … and the DCs represented in the form of 1D time average Vs models". The topography along the embankment is not a major issue since the embankment top is relatively flat compared to the extension of the executed surveys. Conversely we agree that embankment curves may be an issue and with this respect we have later discussed the comparison of these preliminary projected data with specific inversions in a position of the embankment where a relevant curve is observed. Also considering your following questions, we have further discussed these comparisons in the text and explicitly mentioned the eventual distortions deriving from the projections. We have also more detailed the projection process adopted for the data presentation. For both the resistivity and seismic surveys the data are visualized as a function of the progressive distance of the survey (i.e. with an 8 m survey stem among the different acquisitions).

L453: Could you indicate the areas mentioned?

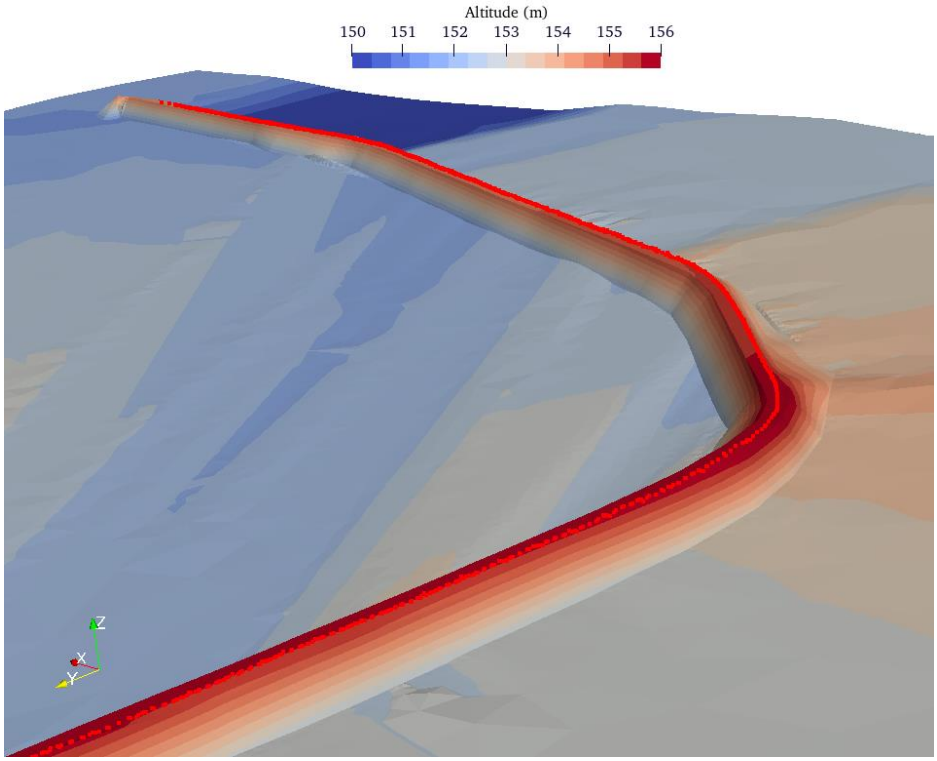
We have circled in black some of the areas mentioned.

L460: I disagree; inversion set-up is not immediate. Did you use use topography from the UAV dataset for this? This would have added time to your processing.

As clarified above these data are NOT inverted. It is clearly mentioned in the text that this is a "data visualization" so it does not require specific details nor specific processing.

L501: Perhaps showing a mesh used for this inversion would help understand what you mean by 3D. Have you incorporated the embankment's geometry?

Yes, the embankment geometry was incorporated in the 3D inversion. More details were added in the text in order to better understand the inversion approach adopted for both 2D and 3D inversions. Given the aims of this paper as a database presentation paper we do not think that the addition of the specific mesh adopted would be necessary in the main text. We are available to include it if the reviewer requires that mandatory for publication. We provide hereafter a mesh sketch with the electrode positions in red.



We also have to thank the reviewer for his observations on this point since with the task of checking the mesh and the 3D model we noticed some minor mistakes in the data inversion due to a non perfect meshing in some positions along the embankment curve and reduced convergence in some of the data. With this respect we have partially modified the results reported in the actual Figure 14, specifically with respect to the 3D data inversion, not changing the general outcomes of the work. Again these results are only hints for future research directions regarding the usage of this dataset.

L505: I notice a distinct resistivity area 2500-2900 (below -2m depth) in Fig13 b. Are you saying that the 2D inversion was overestimating this resistivity value?

Yes, but not only. As it can be seen in the comparison also the whole embankment is depicted with higher resistivity values in the 2D with respect to the 3D inversion. Some further comments were added in the text in this respect.

Section 5: Joint inversions (seismic and electrical data) are possible, please suggest that in text.

Thank you or the suggestion, we have added a specific mention to the possible use of the dataset to test alternative joint inversion and/or clustering approaches for a more consistent understanding of the acquired data.