

Bologna, Italy,  
February 22<sup>nd</sup>, 2024

Editors

Solid Earth (SE)

Dear Editors,

We are writing to cordially submit two response letters in reply to the referee comment (RC) reports reviewing the manuscript titled "*Multiscalar 3D-temporal structural characterisation of Smøla Island, Mid-Norwegian passive margin: an analogue for unravelling the tectonic history of offshore basement highs*" submitted to the journal Solid Earth (SE). The manuscript was collaboratively prepared by Matthew Hodge, Guri Venvik, Jochen Knies, Roelant van der Lelij, Jasmin Schönenberger, Øystein Nordgulen, Marco Brønner, Aziz Nasuti, and Giulio Viola and originally submitted to Solid Earth in October 2023.

The first response letter addresses the review by Dr. Alessandro Petroccia (<https://doi.org/10.5194/egusphere-2023-2504-RC1>), while the second response letter pertains to the feedback by Prof. Deta Gasser (<https://doi.org/10.5194/egusphere-2023-2504-RC2>). Both reviewers provided valuable insights and constructive criticism, which we have addressed in our response letters.

The structure of our response letters follows a systematic approach to address each of the reviewers' comments comprehensively. Specifically, we have organised the response letters into the following sections:

**1. Responses to general comments:**

- Briefly summarising the key points raised by the reviewer.
- Responses to each of the key-points from the authors, and general revisions made to the manuscript. Our responses are the red text in the .pdf response file.

**2. Responses to general comments by each section (only in Prof. D. Gasser's referee report):**

- Providing responses to each of the reviewer's section-specific general comments, with additional context and necessary explanations where required.
- Providing details on general revisions implemented to each relevant section within the revised manuscript.

**3. Responses to the annotated comments within the text:**

- Providing detailed responses to each of the reviewer's comments within the original submitted manuscript (annotated .pdf). The referee comments are listed sequentially, with the page number and line number referencing to the original manuscript (annotated .pdf). The locations of each of these annotated (RC) comments in the original manuscript text may be now in a different location within the revised manuscript.

- We have also included details on the necessary revisions, clarifications, or additional data required to address concerns raised.

We believe that these response letters and the amendments to the final version of the manuscript adequately address the concerns raised by the reviewers and enhance the overall quality of our work. We hope that both you and the reviewers will find our responses satisfactory and consider the revised manuscript suitable for publication in Solid Earth.

Thank you for your time and consideration.

Sincerely,

Matthew S. Hodge

University of Bologna, Italy

Corresponding author, [matthew.hodge@unibo.it](mailto:matthew.hodge@unibo.it)