Name of the Journal: Ocean Science
https://doi.org/10.5194/egusphere-2025-1547

Dear Reviewer#,
below are reported responses to Reviewer. All answer and changes are highlighted in blue and will report in the doc tracked changes. Please note that all line numbers mentioned in the responses refer to the version of the manuscript with tracked changes.

Reviewer# (https://doi.org/10.5194/egusphere-2025-1547-RC2)
This is a well-researched paper with a robust methodology and as a technical note a useful addition to the present literature related to coralligenous bioconstructions and marine habitat mapping. There is a strong rationale which is clearly explained in the study. (Lines 62-74). I think it should refer to some standards which have in fact been developed such as the GEOHAB backscatter manual- "Backscatter measurements by seafloor-mapping sonars. Guidelines and Recommendations" (https://zenodo.org/records/10089261) and look at the framework proposed in the recent terminology paper by Jardim et al. (https://onlinelibrary.wiley.com/doi/full/10.1002/aqc.70121) as well as authors' own previous work on terminology. I feel the title could be clarified to replace "functional to geobiological researches" to something more methodological as it is unclear what geobiological researches means by the general audience. The quality of the figures is high and it is a useful technical note utilising the latest GIS tools. I would recommend publication after few changes suggested above.

We thank the reviewer for the positive feedback and helpful suggestions. As requested, we have revised the section 2.1 "Bathymetric and backscatter data" to clarify that MBES-backscatter data were processed according to the GEOHAB Backscatter Working Group guidelines (Lurton et al., 2015), which are now explicitly cited in the manuscript. The updated version (lines 154-159) now reads:
"Backscatter data were processed using QPS Fledermaus, based on time series data and applying standard corrections for sonar configuration (e.g., source level, beam pattern, receiver gain) and environmental factors (e.g., absorption, slant range, footprint geometry). The processing was performed according to the general principles outlined in the Backscatter Working Group guidelines (Lurton et al., 2015), which provide detailed recommendations for the acquisition, correction, calibration and processing of MBES-backscatter data. The final output, exported as an 8-bit raster file with a 0.05m cell size, was used to extract morphological and acoustic patterns of the seafloor."

In the "Introduction", a reference to the recent terminology framework proposed by Jardim et al. (2025) has also been added, highlighting the current terminological uncertainty but clarifying that the term "coralligenous bioconstructions" is widely used in the geobiological literature, as supported by several citations. Furthermore, additional references to recent studies (Ingrosso et al., 2018; Ferrigno et al., 2024) have been included to reinforce the adopted terminology and contextualize his definitions within the broader scientific literature. The updated version (lines 48-52) now reads:
"Although recent studies highlighted some terminological uncertainty in the definition of coralligenous habitat (e.g., Jardim et al., 2025 and references therein), within the geobiological literature the term coralligenous bioconstructions is widely and consistently adopted to indicate these biodiversity-rich, three-dimensional biogenic structures characterized by several layers of encrusting coralline algae (e.g., Ingrosso et al., 2018; Bracchi et al., 2017, 2022; Basso et al., 2022; Cipriani et al., 2023, 2024; Ferrigno et al., 2024)."

With regard to the suggestion to modify the title, we acknowledge reviewer's observation concerning the potential ambiguity of the expression "functional to geobiological researches". However, we have chosen to retain the title "Mapping benthic marine habitat featuring coralligenous bioconstructions: a new approach to support geobiological research", as the term "geobiological" reflects an emerging

interdisciplinary approach that integrates geological and biological perspective in the study of marine benthic habitat, such as coralligenous bioconstructions. This research field has become increasingly relevant in recent years, and the proposed approach has been specifically developed to address the methodological requirements of this discipline, as also documented in recent literature. We believed that the current title adequately represents both the conceptual and methodological framework of the manuscript and is consistent with recent trends in the discipline.