Comments on paper ‘Earthquake Catalog and Continuous Waveforms from a Two-Week Distributed Acoustic Sensing Experiment on Kefalonia Island, Greece’ by Gian Maria Bocchini and co authors, submitted for publication on Earth System Science Data.

This paper accompanies the distribution of a high-resolution earthquake catalog for the Kefalonia region in Greece, leveraging a brief yet data-rich, two-week-long observation window in August 2024. The authors used Distributed Acoustic Sensing (DAS)—converting a 15 km underwater telecommunications cable into a dense seismic array—and integrated this data with recordings from a traditional, regional seismic network.

Overall, the paper presents the outcome of a huge amount of work, which has been conducted in a rigorous and consistent manner. The resulting dataset is valuable both from a methodological perspective, as it features simultaneous observations via DAS and traditional seismometers, and from an observational standpoint, as both systems captured a vigorous seismic sequence whose spatio-temporal evolution certainly deserves further in-depth studies.
Given these considerations, I undoubtedly recommend the publication of this paper and associated dataset in *Earth System Science Data*. I attach a list of comments aimed at improving clarity and readability of the manuscript, which can be easily assessed in a round of minor revision.

General Comments

- A first, general comment concerns the mixing of different objectives, and the repeated statements about what users could (or should) do with the data set. Considering the scope of the journal, the distribution of a high-quality and, in some respects, unique dataset is inherently the principal scope of the paper. Then, future end users should be kept free to choose the most appropriate utilization of that data. As a matter of fact, the objectives of the work are stated in the abstract (L28-30), then in the Introduction (L97-101), in the Discussion (L380-384) and finally in the Conclusion section (L463-467). I suggest synthetizing the objectives according to a few statements, and presenting them just once. The same holds for the possible utilization of the data set.
- It would be helpful to include a short Section describing the metadata accompanying DAS and seismic recordings.

Specific Points

L39-41. Please control the paragraph: there’s something missing

L58-65. The paragraph does not read very well, and there are repetitions. Please rewrite in a more concise and clear manner

L59. Please define here the KTF acronym, so that it can be freely used in the following sections (e.g., at line 72).

L80-82. '...*and interpret the sequence as being complex with swarm-like behavior, highlighting the important role of fluids in its triggering*.' The sentence does not read very well; in addition, not necessarily a seismic sequence exhibiting a complex behaviour is triggered / driven by fluids.

L89-90. The NOA acronym should be defined in full here

L97-101. The objective of the work is to provide documentation and supporting information about the data set to be . Please don't be too assertive in stating how users should use the data.

L106 HUSN acronym has already been defined earlier

L79, 89-90, 105. Please sort out the reference to the NOA catalog. First time you mention it, provide the URL and define in full the acronym. Then, you can use just the acronym.

L135 '...*an amplitude ratio of ~230–240 between events of ML 0.6 and ML 3.0'.* Please invert the order of the magnitudes; the amplitude ratio of ~230-240 is between events with ML of 3 and 0.6, respectively

L106,138: The acronym HUSN has already been written in full earlier (L67), no need to rewrite it.

L153-154. Please be less cryptic, by writing for instance '... *removal of wavenumber equal to zero, corresponding to signals not exhibiting any phase delay throughout the different DAS channels.'*

L195. Insert an '*and*' in between 'cable' and 'are'

L207 *Figure 5. Example types of event detections.* -> Figure 5. Typical examples of event detections.

L212-213. This does not read well, please rewrite

L235 What is the clustering algorithm used for selecting the cable segments ?

L245 The reasons why the original 1D velocity model by Haslinger et al. (1999) has been modified should be better argumented.

L266-267. Were seismic traces convolved with Wood-Anderson's response prior to amplitude measurements ?

L280. Linear correlation is not sufficient to define the mutual consistence between the estimates. Other metrics are more appropriate, e.g. the distribution of the differences between the two sets of measurements.

L288-290. This paragraph is not clear, please rewrite.

L291-294. Methods and parameters used for correlation analysis should be moved above, at the beginning of the Section.

L296 an -> a

L315-316. We do so by cross-correlating all template events with one another -> We perform this task by cross-correlating all independent pairs of template events

L318-319 *Because only absolute locations are available, our inter-event distance estimates for given CCC values should be considered conservative.* The meaning of this statement is not clear.

L320. The logical order of this statement should be reversed. CCC is the dependent quantity, which diminishes for increasing inter-event distances.

L320-324. The choice of the particular CCC threshold (0.52) should be better described and motivated.

L431-432 *Furthermore, DAS recordings acquired on the ocean floor may exhibit a higher signal-to-noise ratio compared to more distant land-based seismometers.*
This statement is a bit out of context; I suggest removing it.

Conclusion section. See above, General Comment #1.

30 April, 2026