

Dear Dr. Mani,

We would like to extend our sincerest thanks for your exceptionally thorough, insightful, and constructive review of our manuscript. We are particularly grateful for your positive assessment of the core contribution and methodology of our work. Your detailed feedback and the provided annotated PDF have been incredibly valuable in guiding our revisions.

We have undertaken a major revision of the manuscript, carefully addressing every point you raised. We believe the paper is now substantially stronger, clearer, and more impactful as a result of your guidance.

Below, we provide a point-by-point response to your comments, detailing the changes we have made.

Sincerely,

The authors

Point-by-point response

General comments :

- **Title:** We agree that the original title was not clear enough. As suggested, we have revised it to better reflect the core of our analysis.
 - New Title: *“Tracing the Evolving Actor Network: A Social Network Analysis of the 2018 Mayotte Crisis in the Press”*
- **Visual Timeline:** We propose to quote the following figure which has been already published by one of the co-author in NHESS (Deves et al., 2022). This timeline illustrates perfectly the key phases of the eruption and the disaster response. If the editorial team of NHESS agrees, we can add this figure to the manuscript.

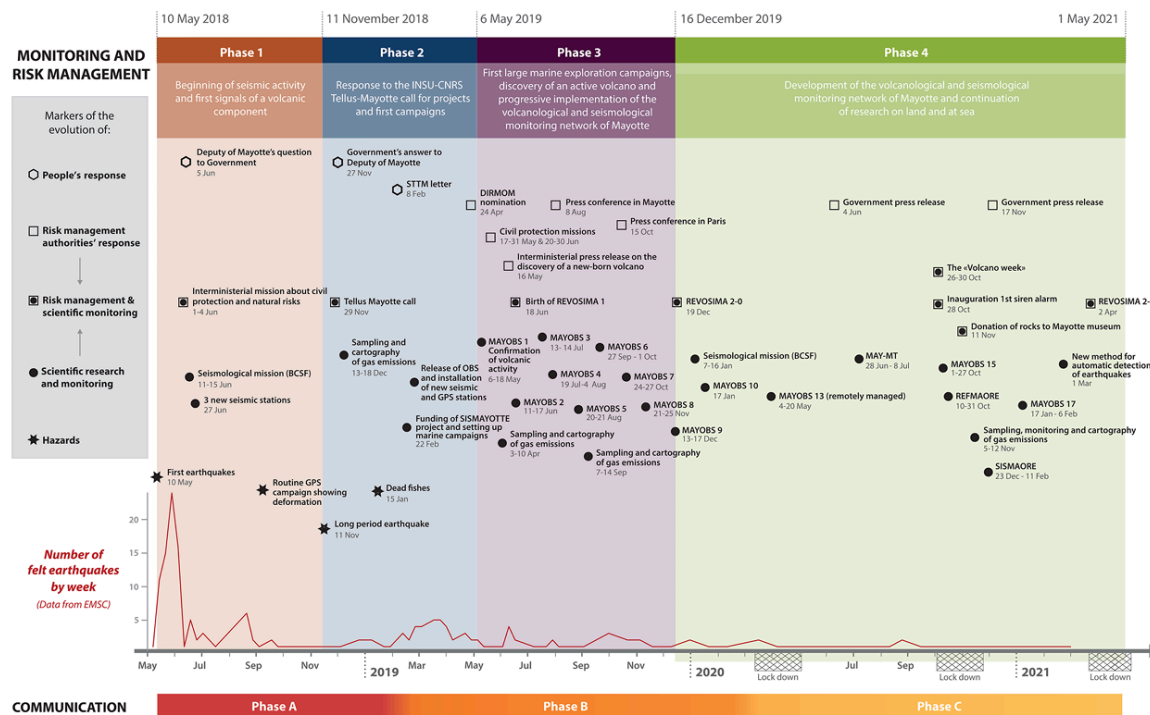


Figure in Deves et al., 2022 : Major phases and markers of the response by local and national authorities in charge of risk and crisis management and by scientific experts in charge of monitoring the seismo-volcanic activity in Mayotte. Our period of study extends from the 10th of May 2018 to the 1st of April 2021. SISMAYOTTE, REFMAORE, MAY-MT, and SISMAORE are acronyms of scientific campaigns. SISMAYOTTE was funded by "Tellus Mayotte" and the others by REVOSIMA's institutional partners. The lockdown periods that are shown are those of metropolitan France during the Covid-19 pandemic (note that most of the scientific institutions involved in monitoring are located in metropolitan France). Mayotte endured longer lockdowns in spring 2020 and 2021, but there was no proper lockdown in autumn 2020 (Devès et al., 2022).

- **Use of 'Corpus':** Thank you for this linguistic advice. To ensure clarity and use more common terminology, we have replaced "corpus" with "selection of articles" throughout the manuscript. This sub-section is now titled "Selection of articles"
- **Stylistic Preference (avoiding "we"/"our"):** We appreciate this stylistic guidance. The manuscript has been revised to adopt a more objective, third-person tone, with first-person pronouns removed wherever possible.
- **Actor Context:** This point is important for contextualising the results. However, a detailed explanation would disrupt the flow of the article. Instead, we propose to refer (in section 3.2.1.) to a published article by one of the co-authors (Devès et al., 2022a), which offers a more comprehensive account of the main actors and actor categories listed in Table 4, outlining their expected roles, responsibilities, and capacities during the crisis, thereby providing essential context for the subsequent network analysis.
- **Consistency (Figures, Tables, Dates):** Thank you for spotting these inconsistencies. We have performed a careful check of the entire manuscript to ensure uniform formatting for all figure/table references (using "Figure" and "Table"

consistently) and for all dates (using the "Day Month Year" format, e.g., the 5th of October 2018).

- **Results vs. Discussion:** We had inadvertently included interpretive statements in the Results section. We have now moved these sentences (formerly lines 350-351, lines 374-379, lines 416-419) to discussion in order to maintain a clear and logical structure.
- **Name Consistency** (Said Hachim): This oversight has been corrected. The name "Saïd Hachim" is now used consistently throughout the text and in all relevant figures.

Specific Comments

We thank you again for the line-by-line suggestions in the attached PDF, which we have implemented almost entirely. Below we address the main specific points.

Introduction:

- **Literature Review Style:** We have revised the introduction to integrate the literature more fluidly. The parenthetical explanations have been removed, and the relevance of cited works is now woven directly into the narrative of the text.
- **Recent References:** This is an important point, thank you for highlighting it. We have revised our literature review and incorporated several recent, key studies on crisis communication and media analysis in the opening paragraphs, in order to better frame our work within the current state-of-the-art.
- **Sentence Rephrasing (L60, L88, etc.):** All sentences you highlighted have been rephrased for clarity and grammatical accuracy. For instance, the sentence on L88 now reads "as the approach allows for: i) gaining insights into the actual organisation of actors by providing a comprehensive view of all cited actors and their interactions, allowing the detection of communities (e.g. Park et al., 2015 and Williams et al., 2015)". We have also clarified the use of the expression "blur messages", which we quote from previous articles : "The way journalists tend to juxtapose the accounts of heterogeneous sources, while important for depicting a variety of viewpoints, has been shown to "blur" messages (e.g. Lejeune, 2005, Léglise and Garric, 2012, and Devès et al., 2022a), thereby reducing their clarity."

Case Study Description:

- **Formulations :** We have implemented all the suggested changes regarding titles, phrasing (e.g. "monitoring network," "earthquakes"), and sentence structure (e.g. in L113, L258-262, L206, ...). Speculative statements have been removed (L185). L117-125 have been restructured as follows : "From a scientific perspective, uncertainties were exceptionally high, especially in the first months of the seismic crisis, due to scarce knowledge of the geodynamical context in the area and a poor monitoring network (Saurel et al., 2021; Bertil et al., 2021; Feuillet et al., 2021). The recorded signals were poorly constrained in terms of location and magnitude and

remained difficult to explain in this region. The volcanic hypothesis to explain the origin of the seismic activity did not emerge until several months later, in October 2018, and was not confirmed until May 2019. This made public communication particularly difficult and led to the development of a “technicalist bias”, with frequent, but minimalist communication from institutions that did little to help the population gain situational awareness (Devès et al., 2022a).” L127 has been revised to “Another sign of this still ongoing activity is the detection at 10 to 15 km off the coast of acoustic plumes associated with geochemical anomalies (22 sites observed in July 2022, MAYOBS 23)”, in order to highlight the fact that this activity is still ongoing.

- **Title of Section 2.** : This section was renamed “The 2018 Mayotte seismo-volcanic crisis”

Method

- **Building on previous studies** : In our method L165-168, we quote two studies (Deves *et al.* 2022a ; Devès *et al.*, 2022b) that were indeed not well summarised. We propose the following reformulation to precise the importance of these studies for the method we use here and better build upon their works : “This study builds on two previous studies. The first, by Devès et al. (2022a), focused on public information processes and identified shortcomings in both scientific and state institutional communication. The second study, by Devès et al. (2023), illustrated how newspapers implicitly reproduce asymmetrical power relationships between actors (e.g., local versus national authorities, experts versus lay public). Building on these findings, this study aims to identify and compare the presence of actors according to their role in the risk reduction network, the geographical scope of newspapers (local versus regional versus national), and whether there are significant differences between newspapers.”
- **Double-reading method:** As our original formulation was not entirely adequate, since this approach cannot strictly be described as a ‘method’, we have clarified our process with the following sentence: “To study the press coverage of different categories of “actors”, a double-reading process was employed. Two researchers independently reviewed the articles to identify each actor or group of actors mentioned, even when they were identified by professional status, by nicknames, etc.”
- **Figure 1** : This figure has been expanded for better readability and is now labelled as Figure 2.
- **Table 2:** We have expanded the caption of Table 2 to better explain the logic of the adjacency matrix, including a precise definition of the rules applied.
- **Added lines** : We have added line breaks where suggested (e.g. L182, L234, L343)
- **Methodological Definitions** (e.g., Louvain clustering): We thank the reviewer for their careful reading and insightful comments. We would like to clarify that the mention of global network indicators and the Louvain clustering method, which may have appeared in earlier drafts, was already removed from the version submitted for review. However, we recognize that the wording of the paragraph may have caused confusion, and we sincerely apologize for that. Following the reviewer’s helpful

suggestion, we have revised the paragraph to explicitly state the use of the *igraph* package in R for computing node-level centrality indices. The updated paragraph now reads: “We study the system of actors depicted by the network of citations to better understand the relationships between individual actors, actor categories and their evolutions. This is accomplished using node-level centrality indices, including in-degree, out-degree, and betweenness centrality, computed with the *igraph* package in R. Network diagrams plot citation links with arrows, and the size of the nodes, as well as the font size of generic names, are weighted according to their degree, representing the number of direct connections each node has within the citation network. Unidentified actors are removed from the graphs to avoid generating false co-citation relationship structures.”

Results:

- **Figure Quality (Figures 1, 3, 5-11):** We acknowledge that the figures were not legible. All figures have been completely recreated at a higher resolution, with larger font sizes, improved layouts, and clearer captions when technically possible.
- **Figure 5 (The "unreadable" network):** This is a critical point that was also raised by Reviewer 1. As mentioned in the introductory remarks of our response to Reviewer 1, we have taken your suggestions into account in revising this figure. Specifically, we reduced the font size and repositioned labels where overlaps occurred. While we made these adjustments to improve readability, we would also like to emphasize that the visual density of the network is intentional and represents a key result of our analysis. The figure's initial "illegibility" is meant to illustrate the multitude of actors and the unstructured, “hairball” nature of the communication network during the crisis. This visual evidence supports our argument about the challenges of communication and coordination.
- **Figure 3 :** This figure has been relocalized correctly. Figure 3 – can you find a way to plot this so we can see the nuance of the data in the bottom left more clearly? E.g. break the X axis
- **Figure 6 :** We've moved the labels that touch each other to make them easier to read. However, we are awaiting discussions with the editors at the time of the final layout to decide on the size of this figure.
- **Actor Clarification (Prefect, Rectorate):** Thank you for highlighting this ambiguity for a non-French audience. We have clarified these roles in the text (e.g., “ which is the body representing and implementing government policy at the local level”, "the Prefect (the State's representative in the department" and “the rectorate, the decentralized government department for education, and teachers”). However, we kept this denomination, since there is no good equivalent in the Anglo-Saxon systems.
- **Other populations :** This formulation refers to all populations living outside of Mayotte and France (mostly non Mahorese). A detailed definition of each category is provided in the Supplementary Information.

Discussion and Conclusion:

- **Temporal Perspective in Discussion:** This is the most crucial intellectual point of your review, for which we are sincerely grateful. You are absolutely right in noting that our initial discussion did not fully engage with the temporal dynamics revealed by our findings. In response, we have added a paragraph to the discussion section that addresses the observed shifts in actor relationships and prominence across the different phases of the crisis. This new paragraph focuses in particular on the evolving position of REVOSIMA over time, in relation to the local figure Saïd Hachim, who occupies a notably central position within the network.
- **Associated press:** We included a short passage reminding the role of the associated press and its use in international and national press practices : “with local journalists relying more on local actors and national journalists adopting alternative strategies, such as using social networks (e.g., X and Facebook for national dailies like *Le Figaro* and *Le Monde*) or relying on news agencies like AFP (Agence France-Presse), or their local counterparts (Lecheler and Kruikemeier, 2016), directly, or indirectly, via associated press (e.g. Reuters) who provide articles for international media based on local reporting.”
- **Interest of two-way communication :** We added a sentence explaining why two-way communication could be important and beneficial (“Two-way communication has the potential to facilitate cooperative decision-making (Renn, 2009), to draw upon local knowledge in order to improve understanding of field-level dynamics (Lindell et al., 2006), and, in turn, to strengthen public engagement and contribute to the development of trust (Leiss, 1996; Renn, 2009)”)
- **Mention Sentiment (Positive/Negative):** This is an excellent point and a fascinating avenue for research. While a full sentiment analysis is beyond the scope of the current study, we agree it is a key perspective. We have acknowledged this in our discussion and discussed our results with other studies using qualitative analyses methods on the same case in order to overcome this limitation. We also mention this in the “Conclusion and perspectives” section as a perspective for further work.
- **Analysis versus planned crisis communication for Mayotte:** At the time of writing, no official volcanic crisis communication strategy has yet been established for Mayotte. However, based on what exists in other departments, such a strategy would likely prioritise top-down, institutional communication channels. In contrast, our findings highlight the central role played by identified individuals—particularly local figures—as key sources within the communication network.
- **Future uses of this method:** These considerations have been retained in its final paragraph of the 'Conclusion and Perspectives' section.
- **Limitations of the Study:** Several limitations of this study have been identified and presented in the text, including the likely gap between the perspectives of journalists and those of local populations, the absence of clear indications regarding each actor’s stance in relation to specific statements or other actors, and the decision to focus solely on six French-language daily newspapers. In the 'Conclusion and Perspectives' section, we outline several points for consideration for further research to address these limitations. These include refining the methodology to identify whether actors are cited in support of or in opposition to particular statements, examining how actors perceive one another, expanding the selection of articles, and exploring the use of AI to automatically map actor networks and information flows

from larger and more diverse corpora. We also suggested conducting sociological field studies to investigate local populations' perceptions.

- **Conclusions and Perspectives:** We have corrected the title of the section to "Conclusion and Perspectives".
- The conclusion has been revised to be more focused and impactful and to only mention points that have been developed above in the discussion.

We believe these extensive revisions have substantially improved the manuscript's clarity, rigor, and overall contribution. We are very grateful once again for your expert guidance and for the opportunity to strengthen our work.

Sincerely,

The Authors