

## Revision of “The influence of anthropogenic climate change on Super Typhoon Odette (Typhoon Rai) and its impacts in the Philippines”

### Overall summary

The overall scientific contribution by Clarke et. al is insightful. Using multiple attribution approaches is gaining increased attention and the manuscript shows a good use of 1) flow analogues, 2) wwa-style probabilistic attribution in multiple datasets and 3) probabilistic attribution based on a synthetic tropical cyclone model, to address the role of anthropogenic global warming on the Super Typhoon Odette. The major issue I have with the manuscript is the writing style. It seems as if the authors had based their manuscript on the structure of a scientific report (ex: (Clarke B. et al., 2024)) with minimal modifications to fit a scientific paper format. I would therefore advise a major revision focused on re-structuring the manuscript and conciseness. The manuscript still has a lot to be improved, in the current state, it is hard to follow the text flow. I still have comments and doubts about the scientific content itself that I would like to address after the authors have done a thorough revision of the structure. In the meantime, these are my comments:

### Major comments

1. Please structure the manuscript in a more appropriate format for a scientific paper. It is not usual to have different methodologies as sections with their own Data and methods, Results and Discussions subsections. I understand that the authors might find it as a way to separate them and be clearer about each of them, but as a reader, it is not ideal. I could advise following Barriopedro et al. (2025), to re-structure this manuscript into a more suitable article format considering multiple attribution approaches.
2. The reader shouldn't feel lost when trying to identify the key results. In Section 5, what the authors describe as Conclusion and Discussion is not clear, and separated in different subsections that are not targeted to the main results, but to the use of FAR in the probabilistic attribution and the indirect attribution of impacts.
3. In the conclusions, the authors argue that *“The circulation analogues analysis in section 2 does not provide a probabilistic assessment of hazards and is therefore not combined in the quantitative conclusions of this study.”* and very briefly mention its contribution in the conclusion with a sentence. If the results of this part of the study are not so relevant to be included in the manuscript's conclusions, why does it have a full section? Even though the analogues do not provide a probabilistic attribution, they present a quantitative attribution of the change in magnitude of events associated with a similar atmospheric circulation and show what can be expected in future climates. This should be discussed.

4. It is also puzzling, the emphasis given to the attribution of impacts in the conclusions, when only an indirect connection can be assumed through the change in likelihood of the associated extreme weather conditions studied in this research. The conclusion should be targeted at the main outcomes and results obtained. It is a nice add-on but deserving just 1 or 2 paragraphs (not a subsection) of what can be expected in terms of impacts in the case that there is an intensification and higher recurrence of events like the Super Typhoon Odette.
5. It is good practice to be transparent about uncertainty. However, some of the results presented raise questions regarding their interpretability and usefulness. Several estimates exhibit extremely large uncertainty ranges, which substantially limit their relevance. For example, the abstract states that the likelihood of Typhoon Odette has increased by “about 2 (0.1 to 290)”. If the event was historically a 1-in-100-year occurrence, the median estimate implies an increase to a 1-in-50-year event. But the uncertainty range also includes outcomes ranging from a 1-in-1000-year event (meaning that due to global warming it could also be significantly much rarer) to approximately a 1-in-4-month event (much more frequent), which makes the result difficult to interpret. The authors should therefore better justify the presentation of such results or provide additional discussion to clarify their practical meaning.

### General comments

1. Line 33: describe WNW in long.
2. Line 54: define TC before using abbreviation.
3. Line 54: Add apostrophe in Philippines’.
4. Sect. 3.1.3. define the Probability ratio ( $P_{\text{present}} / P_{\text{past}}$ ).
5. Line 830: the reference says al, et. Instead of et al.
6. Even in the current format, the sections are not consistent. Why only Section 3 has its own conclusion subsection?

### References

- Barriopedro, D., Jiménez-Esteve, B., Collazo, S., Garrido-Perez, J. M., Johnson, J. E., & García-Herrera, R. (2025). *A Multimethod Attribution Analysis of Spain’s 2024 Extreme Precipitation Event*. <https://doi.org/10.1175/BAMS-D-25-0049.1>
- Clarke B., Zachariah M., Barnes C., Sparks N., Yang W., Vahlberg M., Lagmay, A. M., Ybañez, R., Delmendo, P. A., Ybañez, A. A., Malaiba, C., Vrkić, P., & Otto, F. (2024). *Climate change increased Typhoon Gaemi’s wind speeds and rainfall, with devastating impacts across the western Pacific region*. <https://doi.org/10.25561/114170>