

Answers to the questions cited by the reviewers of the manuscript:

Uncertainties, complexities and possible forecasting of the Volcan de Colima energy emissions (Mexico, year 2013-2015) based on the fractal reconstruction theorem

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All changes on the manuscript have been written in red to facilitate the revision of the following answers.

- 1) The **Abstract** has been rewritten. The main objectives of this research, basically consisting on the results of the Reconstruction Theory applicable to future forecasting or multifractal processes of volcanic energy emissions, are summarised in this section.
- 2) Some changes are also added to the **Introduction**, with the aim of a more clear explanation of the objectives of every one of the other sections of the manuscript, being also cited the nowcasting process as a possibility of detecting the immediacy of a high volcanic energy emission.
- 3) Only a few changes have been introduced in the section **Database**. Concretely, with respect the possibility that the return period values could be in some way a complement of the nowcasting process.
- 4) The changes on the section **Reconstruction Theorem** have been minimum: two small changes on equations (2) and (5) with the aim of avoiding confusing points of view.
- 5) The section **Results** (of the Reconstruction theorem) has been revised with detail and only two very small changes appear in red types.
- 6) In the section of **Nowcasting** a notable change (2nd paragraph) has been introduced. A wrong explanation of the authors in the first version of the manuscript, concerning the minimum seismic magnitude accomplishing the Gutenberg-Richter law has been substituted by a new redaction of this paragraph.
 - a) Effectively, the minimum seismic magnitude accomplishing the G-R law for the years 1990-2020 could be 3.5 (new figure 10b added to the manuscript). The first minimum magnitude, 2.5, was assumed for a better applicability of the nowcasting process, but erroneously cited in the old version as the minimum earthquake magnitude accomplishing the Gutenberg-Richter law.
 - b) The reference proposed by the reviewer (Wiemer and Wyss, 2000) has been also added to this 2nd paragraph.
 - c) The previous nowcasting results (minimum magnitude 2.5) have not been changed given that the increment of the minimum magnitude up to 3.5 limits the results (the empirical cumulative distribution function, CDF, data of these “natural times”) due to a notable reduction of data to obtain coherent empiric CDF data.
 - d) The seismic data base was obtained from National Earthquake Information Database (New Zealand), <https://www.gns.cri.nz>
- 7) At the end of **Conclusions**, the useful application of multifractal analyses in several fields, such as seismology and climatology, is also proposed to the possible detection of imminent high volcanic emissions of energy.

8) It is also cited at the end of the Conclusions that *“The reconstruction theory applied in this research, together with nowcasting and forecasting algorithms and multifractal theory could be a very important processes to prevent extreme emissions of volcanic energy”*.