

Peer Review Report

Review Report on Influences of geohazard susceptibility on geodiversity of Coromandel Peninsula, New Zealand

Original Research, Earth Sci. Syst. Soc.

Reviewer: José Luis Sánchez-Cortez

Submitted on: 06 Jun 2023

Article DOI: 10.3389/esss.2023.10083

EVALUATION

Q 1 Please summarize the main findings of the study.

In general, it is a well-structured work and the purpose of it is understood. I consider that it is an innovative proposal, easily applicable (or not, due to the results that the authors obtained) in other areas with high geodiversity. Comparative analysis is a very interesting proposal, however the comparative methodological process is not entirely clear.

Q 2 Please highlight the limitations and strengths.

It is necessary for the authors to review the way of making bibliographic citations. I recommend checking previous articles so that you can reference the way to make your citations correctly, in accordance with the journal's requirements.

It is understood that this work seeks to compare that the susceptibility values of the territory can be related to its geodiversity. The authors conclude that they have a 37% similarity between the geodiversity model for the recognition of geosites with the hazard susceptibility model, however, what does the similarity process consist of? How to define that 37% similarity? This process should be explained in methodology or in results.

The authors previously state that: our geodiversity model with a risk model to recognize if there is an overlap between potentially hazardous areas and those with high geodiversity. So, a 37% similarity affirms or denies this theory?

Q 3 Please comment on the methods, results and data interpretation. If there are any objective errors, or if the conclusions are not supported, you should detail your concerns.

The authors have tried to verify the similarity of the data obtained when evaluating geodiversity and hazard susceptibility applying the same methodology, demonstrating that models can be comparable, however they conclude that this has not been possible due to incompatibility, which is a problem. important input for future work, in which these comparisons are sought.

The authors in this work refer to the Hazard susceptibility analysis, however throughout the entire text they only refer to the aftermath of a meteorological event.

Q 4 Check List

Is the English language of sufficient quality?

Yes.

Is the quality of the figures and tables satisfactory?

No.

Does the reference list cover the relevant literature adequately and in an unbiased manner?

Yes.

Are the statistical methods valid and correctly applied? (e.g. sample size, choice of test)

Not Applicable.

If relevant, are the methods sufficiently documented to allow replication studies?

Yes.

Are the data underlying the study available in either the article, supplement, or deposited in a repository? (Sequence/expression data, protein/molecule characterizations, annotations, and taxonomy data are required to be deposited in public repositories prior to publication)

Yes.

Does the study adhere to ethical standards including ethics committee approval and consent procedure?

Not Applicable.

If relevant, have standard biosecurity and institutional safety procedures been adhered to?

Not Applicable.

Q 5 Please provide your detailed review report to the editor and authors (including any comments on the Q4 Check List):

Specifics Observations:

Line 37: Please, change this bibliographic citation according to what is established by the journal. Since it seems that it is a bibliographical reference. Website URLs should be included as footnotes.

Line 45: In figure 1, I think it is better to change the red letters to white or yellow, since the written names are not well appreciated with red.

Line 46: You must verify the way you write this appointment. Website URLs should be included as footnotes.

Line 67 to 69: It is possible to add a bibliographical reference there. It is a subject that can be deepened.

Line 100: I assume you mean your geodiversity model applying QQG? Please specify.

Line 112: Refer: Our previous Geodiversity study.

Line 122: You must check the way you write this quote.

Line 153: Do you have any bibliographic support to support this statement? If so, please place a citation.

Line 168: You must check the way you write this quote.

Line 174: Please, change this bibliographic citation according to what is established by the journal. Since it seems that it is a bibliographical reference. Website URLs should be included as footnotes. Furthermore, the author (LINZ) does not appear in the bibliographical references.

Line 178: Unify the way of writing values of thousands. On line 38 you used a space to indicate thousands figures.

Line 192: You must check the way you write this quote. Furthermore, the author (LINZ) does not appear in the bibliographical references.

Line 197: Please, change this bibliographic citation according to what is established by the journal. Since it seems that it is a bibliographical reference. Website URLs should be included as footnotes. Furthermore, the author (LINZ) does not appear in the bibliographical references.

Line 204: Please, change this bibliographic citation according to what is established by the journal. Since it seems that it is a bibliographical reference. Website URLs should be included as footnotes. Furthermore, the author (LINZ) does not appear in the bibliographical references.

Line 205 to 211: Unify the way of writing numbers of thousands. On line 38 you used a space to indicate thousands figures.

Line 215: You must check the way you write this quote. Furthermore, the author (LINZ) does not appear in the bibliographical references.

Line 232: Table 1 I think should be modified a bit. The values column (8 points) should go to the top. While the row of elements of Geodiversity must be above the Main values of Geodiversity and Additional value. In the last line, I don't understand why Sed. (Precambrian), Met. and Intr. (Cenozoic, Mesozoic, Palaeozoic), Extr. (Palaeozoic, Precambrian) covers the additional geology and hydrology columns (I guess it only corresponds to geomorphology).

Line 284 and 285: What do the numbers 21 and 20 found in these lines correspond to?

Line 301: Table 2 must be made with the same modifications as recommended in table 1.

Line 336: Please, change this bibliographic citation according to what is established by the journal. Since it seems that it is a bibliographical reference. Website URLs should be included as footnotes. In addition, the author does not appear in the bibliographical references (Ministry for Primary Industries).

Line 352: Please, change this bibliographic citation according to what is established by the journal. Website URLs should be included as footnotes.

Line 376 to 393: In the geodiversity map it is possible to properly observe the areas defined as having greater or less geodiversity (considering the parameters), it would be interesting to know the percentage values of geodiversity in these areas, thinking about the possibility of doing comparative analysis of geodiversity with other areas, applying the same methodology.

Line 395 to 399: You must check the way you write this cite. In addition, the author does not appear in the bibliographical references.

Line 401 to 421: As in the geodiversity map, it would be interesting if the hazard susceptibility model of Coromandel Peninsula map (figure 7) could also know the percentage values of susceptibility in these areas.

Line 427 to 431: You need to check the way you write this cite. In addition, the author does not appear in the bibliographical references.

Line 435 to 436: Unify the way of writing numbers of thousands. On lines 38 and 435 he used a space to indicate figures of thousands, on other occasions he does not use a space.

Line 444 to 448: You must check the way you write this cite. Furthermore, the author (LINZ) does not appear in the bibliographical references.

Line 451 to 463: Unify the way of writing numbers of thousands. On line 38 and 435, he used a space to indicate values of thousands, on other occasions he does not use a space, and now in these rows he is using a comma. Likewise for figure 9 and table 3.

Line 465 to 469: You must check the way you write this cite. Furthermore, the author (LINZ) does not appear in the bibliographical references.

Line 473 to 483: It is understood that this work seeks to compare that the susceptibility values of the territory may be related to its geodiversity. In this part you conclude that you have a 37% similarity between the geodiversity model for geosite recognition with the Hazard susceptibility model, however, what does the similarity process consist of? How do you define that 37% similarity? This process should be explained in methodology or in results.

Line 487: Table 4 does not seem to be the most appropriate to show the information in a comparative way, as proposed.

Line 551: You must check the way you write this cite. In addition, the author does not appear in the bibliographical references.

Line 565 to 569: The authors conclude geodiversity and hazard susceptibility are two parameters which should be calculated separately. The authors mean that they should not be developed applying the same method. If so, it is necessary to specify it.

Line 609 to 616: It is important to point out that the evaluation methodologies cannot or should not be similar.

Line 627: Review the way in which bibliographic references are made, in accordance with the provisions of the journal's guidelines.

QUALITY ASSESSMENT

Q 6 → Originality	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Q 7 → Rigor	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 8 → Significance to the field	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 9 → Interest to a general audience	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Q 10 → Quality of the writing	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Q 11 → Overall quality of the study	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>