

Review of “Invited perspectives: An insurer’s perspective on the knowns and unknowns to face in natural hazard risk modelling.” By Madeline-Sophie Déroche

The paper provides i) an overview of current practices in NH (natural hazard) risk modelling in the insurance sector and ii) outlines some of the grand challenges that will need to be solved in order to make advances in NH risk modelling. Most of the paper focuses on the overview of the current practices, and rather less on the future challenges, which I think reduces the originality and potential impact of the paper. Nonetheless, since the paper is written from the perspective of the insurance industry, I imagine that it will be of wide interest to the wider community of NH researchers who would like some insight into the challenges and opportunities face by the insurance industry. Subsequently, I would recommend the paper be published subject to the comments below being addressed.

The following comments are not “major” in the sense of needing a major revision. A revised version of the manuscript should address each of these points.

1. The abstract reads more like a short introduction than an abstract. I appreciate that there are word limits, but it would be good to reword the abstract to cut down on the introductory sentences and to at least mention the future challenges facing NH risk modelling that are described later in the paper.
2. Section 4.1: I fully agree that quantifying uncertainty is one of the grand challenges facing NH risk modelling in the insurance industry. However, a key component of assessing uncertainty is having transparent and openly accessible risk models that can be compared and evaluated. This isn’t the norm in much of the insurance industry (important activities such as OASIS LMF being the exception). I think it would be very important to point this out in section 4.1.
3. There are a very large number of minor errors in the manuscript (e.g. repeated lines of text). I reviewed the Track Changes version of the revised manuscript as I could not find another version easily on the website, so perhaps there is another version with less errors. I would recommend that a revised manuscript receive a rigorous proof-read before being resubmitted.

Minor Comments

Title: I would suggest removing “to face” from the title for readability.

Line 14 “brokers and modelling firms” remove unnecessary “and” from the list

Line 21-24 This sentence is too long and difficult to read. It is also ambiguous, what are the two business segments?

Line 26 A paragraph break is not needed here.

Line 40-41 “be they natural hazards, financial or cyber” is repeated twice, which makes the sentences here very difficult to read. Please simplify the sentence structure to avoid repetition.

Line 57 “dire” a better word here would be “important”

Line 113 “(e.g. non-modeled loss)” Do you have an example of what such a non-modeled loss would be?

Line 116 Replace with “As more data..” for readability

Line 116, 117 It's not clear what is meant here. You need more data to look at extreme events, so the meaning is not clear. Can you rephrase?

Line 156 "was" should be "is"

Line 171 Should it be two or three components? Only two reasons are listed in the rest of the sentence.

Line 179 Repeated lines

Line 185-190 I'm not sure what is meant in this paragraph. What are these gaps?

Line 214 Repeated lines

Line 216 What is the nature of the these sensitivity tests?

Line 227 Repeated lines

Line 250 "ultimate" final would be a better word

Line 254 "rupture" damage would be a better word.

Line 272 Repeated lines

Line 289 Repeated lines

Line 296 "societal matter" I'm not sure what is meant by this – can you clarify. It seems to more about modelling and data handling in insurance than a matter for wider society.

Line 300. "modelling of loss modelling frameworks" should be plural as you're speaking more generally

Line 315. I'm assuming your talking about ensemble modelling here? If not, can you be more specific what you are proposing for this "uncertainty component"

Section 4.3 It is important to explicitly use the words "climate change" in this section