Reviewer 1

"Upon reading the revised manuscript again, I wondered if the expectation raised by the title (specifically the term "potential") as well as the introduction (c.f. the three research question posed in the intro) is sufficiently reflected in the conclusion. The outcome that SVM and NN perform better than logistic regression is not surprising. The authors could consider summarizing the actual potential of ML methods in the context of weather index insurance more concisely in the conclusion."

R: Dear reviewer,

We would like to thank you for the time and effort spent during this second round of review. We took into consideration your final comment and tried to address more directly the concern raised elaborating more in detail in the conclusion at line 616:

"Although several issues raised in this article warrant further research, there is clear potential in the application of machine ~~algorithms to take advantage of increasing amounts of available environmental data within~~ learning algorithms in the context of weather index insurance. The first reason for this is strictly linked to the performances of the models. Indeed, the capability of these algorithms to reduce basis risk with respect to traditional methods could play a key role in the adoption of parametric 620 insurance in the Dominican context and more generally for those countries that ~~detain~~ possess a low level of information about risk. ~~Indeed, being~~ The second aspect, perhaps the most intriguing from the weather index insurance point of view, regards the ability of these algorithms to utilise and improve their performances using a growing amount of information (i.e., increasing the number of input variables). Indeed, the significant advances in data collection and availability observed in the last decades (i.e., improved instruments, more satellite missions, open access to data store services) made it so that vast amount of data are readily and freely available on a daily basis. Being able to rely on global data that are disentangled from the resources of a given territory, both from the point of view of climate data (e.g., lack of rain-gauge ~~network~~networks) and from the point of view of information about past natural disasters, is an ~~appealing~~ important feature of the work presented that would make the ~~approach proposed feasible~~ proposed approach feasible and appealing for other countries. ~~The~~ Furthermore, similar technological improvements might be expected in the further development of machine learning algorithms. The scientific evolution of these models, and the possibility of establishing a pipeline that automatically and objectively trains the algorithm over time with updated and improved data (always allowing the monitoring of the process), are other appealing features of these kind of models. In conclusion, the framework presented and topics discussed in this study provide a scientific basis for the development of robust and ~~operationalizable~~ operationalisable ML-based parametric risk transfer products."

Reviewer 2

"Thanks for responding to all my questions, and for making the two new figures (C1 and C2). I just have one comment: my view is that the paper would be greatly improved by including those figures in the main text. They are much easier to understand than Tables 7 and 8, especially for people who don't think about sensitivity and specificity every day.
But I'll leave the final decision on that up to you"

R: Dear reviewer,

We would like to thank you for the time and effort spent during this second round of review. Upon your suggestion, we decided to include figure C1 and C2 into the paper in the result section in order to provide a better reading experience.