

This paper shows that for tropical cyclones affecting South Korea, track is the main factor responsible for damages, being more important in a decision tree analysis than other factors such maximum wind speed or minimum atmospheric pressure level.

However, the manuscript needs to be extensively revised for being published. English (though understandable) needs to be improved, many sentences to be rephrased, several paragraph, in particular of the “Results” section to be better focused, figure captions to be more explicative, many typos to be corrected. Further the “Summary and conclusions” section does not deliver the main outcomes of the paper in a clear, direct and concise way. May be better to split it in two sections: ”Discussion” and “Conclusions”

Moreover, it should be discussed whether this strong sensitivity of the risk on the tracks is a general characteristic of tropical cyclones or a peculiarity of the South Korea territory, depending on its characteristics in terms of morphology, land use and exposure. Tropical cyclones in the Gulf of Mexico hitting the southern United States would exhibit a similar dependence on their track position?

The difference between the tracks of the (west and east) cyclone clusters is about 250km. Is this difference sufficiently large to be predictable for an individual cyclone in advance? How many days before reaching South Korea? Authors mention that uncertainty in track of future projections should, therefore, be accounted for. Is this distance among clusters larger or smaller than uncertainty of projections? In there any indication of such a change for South Korea?

The supplement material contains three tables and a figure to support the description of the decision tree. However, the methodology for construction and validation of the decision tree is not described. I suggest to add a very short text describing it in the main body of the manuscript (in section “Material and methods”) and use the supplement for providing more information.

Here is a list of minor comments (which is no way meant to be exhaustive)

Page 1

Line 6, delete “of”

Line 7 Rephrase the sentence.

Line8 comma missing before “while”. Delete “mainly”

Line 10 I suggest “to predict damage.” or “to predict the occurrence of damage.”

Insert “ ≤ 250 km” among brackets

Line 12 I suggest to replace “the other hazards developing from a potential to an active hazard” with “an hazard developing from a potential to an active one” But may be I do not understand the sentence. Please rephrase

Line 14-15 “physical geography experience, duration of influence, and relative position of dangerous semicircle side of the TC”, this phrasing looks strange to me

Line 16, add comma after “modeling”

“risk modeling” or “risk assessment”?

What is meant with “trivial”?

Line 16 authors, apparently , in the final sentence of the abstract consider “error “ and ”uncertainty” as equivalent terms. In general they are not. Please explain better.

End of section 1: a description the content of the paper is missing

Section 2 replace “Materials and method” with “Data and methods”

Page 3

Page 3 line 1, definition of TC size is unclear

Line 4 follwing, consist,

Line 5: “standardized to the value of money in 2005 and taking inflation into account” Should ”and” be replace with “by”? otherwise it looks a duplication of the same concept

Line 6 avoid repeating “collected”

Line 8 was including

Line 10 bad phrasing, The damage was likely indeed caused by waves, which in turn were caused by the TC

Line 16 bad phrasing .I suggest replacing “if there exist any” with “the presence of”

Probably “if” should be replaced with “whether”
“Line 11 what is the definition of “influence period”?”
Line 14 what is the “damage period”?
Line 25 delete “of”
Line 26 delete “of provinces”
Line 29 what is the “influence duration”? delete “also”
Line 31 rephrase “the range of duration was limited by the summation”. Sentence is not clear

Page 4

Line 1 “defined and distinguished” better “identified”?
Line 4-5 “influential” means having great influence on someone or something. This criterion does not account in any way for the size of the impact of the cyclone
Line 14 “more comprehensive” than what?
Line 18 replace “from” with “in”
“their intensity was above TS” replace with “their wind speed was above the TS threshold”
Line 29-31 The explanation of the grouping criteria and why four clusters have been used is not clear to me. What is here a validity measure? The definition of the used indices is missing
Line 26 replace “not for the whole tracks from genesis to disappearance, but for” with “considering only”
Line 26-28 long sentence

I stop here with comments on the English form

Line 30 “Xie and Beni index, and Dunn index” should be briefly described

Page 5

Line 16-17 what is meant here with stability and consistency of results? How was this checked?

Section RESULTS

Page 6

line 1 distance between types? How is defined the distance between two types
Line 11 “TC-based hazard ranking” on which variable is based? How is the ranking computed?
Line 15 ... apparently a self-contradicting statement
line 11-12 sentence: ranking based on which quantity?
In my view the second paragraph not well focused. It addresses some differences between hazards rankings among clusters, between this and previous studies, and among hazards ...all together . please explain better
I think that “damaged “ or “undamaged” can refer to the territorial units, to the population, to the exposed goods, but not to a “case”. The expression “damaged case” sounds odd to me

Page 7

line 2 “navigable”?
Third paragraph long and not well focused
Line 29-30 repetition

Section CONCLUSION

In the text I cannot find a precise definition of Active hazard (it should be provided). Anyway, my understanding is that they are hazard that actually produce some losses, victims, accidents emergency. In such case the sentence at line 5-6 page 9 is trivial as it follows for the definition of active hazard .Pease explain better or deleted it.
Line 11 “When local active hazard information is missing, TC track acts to bridge the information gap between the TC system and local risk” is not clear to me

FIGURES

figure 2

first and third quantile values are 0.25 and 0.75? please be specific
The sentence “The plotted whiskers extend to the adjacent value, which is the most extreme data point that is not an outlier.”is not clear
The panel G “property losses” seems to be inconsistent with the caption (in it there are no boxes, no whiskers 9 and an odd number of horizontal bars)
It is not clear which and whether differences among TC characteristics with reference to track patterns are statistically significant

figure 3

what is plotted here? the mean, the value of the centroid of each cluster? Infulence (typo), labels on panels are not used (should be deleted)

Improve the caption to explain the meaning of panels and annotations

Figure 4

The unit used “billion ($10^{-4}\%$)” is not clear

Figure 5 the meaning of abbreviations used is not explained in the caption. May be replace “damaged” and “undamaged” with “damage” and “no damage”? or specify in the caption what is damaged or “undamaged”