The paper “Spatial Distribution of Vulnerability to Extreme Flood: in provincial scale of China” concerns an interesting research topic that is the spatial variability of vulnerability to floods. Nevertheless, despite the good intentions, the paper does not face the problem with the necessary accuracy to reach reliable results, and does not explain enough neither methodology nor results.

I believe that this manuscript needs strong improvement to bring it up to an international level, in terms of both language and scientific approach, and from my point of view it should be rejected.

Main problems

1. Results and method presented in the paper are merged to results already published in literature, and the reader cannot understand what is literature and what is a result of this research.
2. The methodology is not clearly explained neither in terms of data nor procedures and calculations, and it is impossible its replication in another study area.
3. There is an unappropriated use of words as vulnerability and risk that already have specific definitions in literature. Authors combine them in unintelligible neologisms that generate a cascading effect of misunderstandings throughout the entire paper. According to IPCC (Intergovernmental Panel on Climate Change), the "Determinants of Risk are: Hazard, Exposure, and Vulnerability". Then, vulnerability is part of the risk, and terms as “flood risk vulnerability” and "Extreme flood risk vulnerability" for me are obscure.
4. The language used is not adequate to an international scientific journal and does not allow to readers to understand the topic.
5. Figures are not explicative, and show low graphical standard.

ABSTRACT

It is not clear. After a section related to flood damage and a not understandable description of the methodological approach, the results are presented as:

“*The spatial distribution of the EF risk vulnerability shows (1) a decreasing trend from the regions with high population density to regions with low population density, (2) a decreasing trend from economically developed regions to economically backward regions, (3) a decreasing trend from the eastern coastal regions to the central agricultural provinces and then to the southwest, northwest and northeast regions in China*”.

First of all, I cannot understand what is the “*EF risk vulnerability*”, and secondly it is unclear what are the “*factors of flood resistance*” and the “*four aspects including life, economy, environment and society*” listed in lines 13-16.

INTRODUCTION

It is confused and pertains papers of sectors not inherent to the research topic. The authors used here several unclear words (for example: L65 *Country-scale regions (country region or scale region?)*; L47 *vulnerability of life loss*; L56 *vulnerability of EF*…!) The authors do not relate their work to the broader literature, and then the reader cannot understand the context, what others have done, and what is the novelty of the submitted paper

From L90 to 94 the authors tried to explain the aim of the work, even if this explanation in not clear enough. Introduction ends with the 4th aim of the paper that is:

”*It will provides important decision-making basis for flood control, disaster reduction, disaster relief and disaster reduction, and provides reference for similar research in the future*”.

In my opinion, this is not an objective of the paper, maybe an application of results, with the repetition of "disaster reduction".

MATERIALS AND METHODS
From L99-105, the authors talk about the "evaluation method". But the sentence explaining it is unclear:

"*In this manuscript, we make full use of the expectation of cloud model and cloud entropy parameters, learn from the processing method of entropy weight method for index differences, take into account the subjectivity and objectivity of weight, and scientifically reflect the importance of risk factors"*.

The description becomes more intricate in INDEX SYSTEM section, where it is unclear the difference between quoted literature and the work carried out by the authors.
Basing on this premises, from here on I found great difficulties in reading the paper, and especially the "Calculating Model" resulted completely obscure to me.

L155 "*Evaluation indexes are constructed in the same type of data source for the consistency of data caliber*". I cannot understand the meaning.

L156: "2.2.1 Index value basis and its standard": also here, it is unclear the title of the section and absolutely obscure the entire section. The use of index (singular) means that the authors used a single index. Section starts declaring that "*disaster's impact on a region has a significant correlation with its population density*". It seems quite obvious.

L168: why POPULATION DENSITY is called Rp (risk population)??

L170: the authors stated that:
"*The young and middle-aged populations are physically stronger, so they tend to have the ability to rescue themselves and others when disasters occur. Therefore, they are regarded as the main social force for resuming production and life after a disaster. According to the China and international labor force classification standards*".
This is an opinion: why this opinion is reported here?

L178 "*Regional and urban-rural disparities are the important factors leading to regional disparities in disaster prevention in China. In terms of economic development, the eastern regions are the most developed, the central regions the second, and the western regions are the least developed. The economic development gap among these three regions is obvious. From the perspective of losses caused by disasters, the more intensive social and economic activities of an area, the more its social assets exposed to disasters due to the concentration of social wealth". Once damaged by disasters, the area will suffer greater economic losses*". It seems that the authors already know the results that they are looking for, even before try to assess them…

The section Discussion is merely made by one text line and one figure.

Conclusions, according to the style of the paper, describe things that the reader is unable to assess if they represent a result of the paper or an opinion of the authors in some way confirmed by the intricate combination of not well-defined parameters presented in the paper.