

**Dear Reviewers,**

With this letter, we are submitting our revised manuscript entitled “Spatial characteristics analysis of drought disasters in North China during the Ming and Qing Dynasties” to the journal of Natural Hazard and Earth System Sciences.

We are grateful to you for your insightful and helpful comments. We have revised the paper very carefully according to the comments. The detailed replies to you and detailed revisions of the manuscript are given underneath.

We have done the revision on it and listed as below. All the modified words in the paper are also marked in red color.

### **Reviewer 1's comments:**

This paper investigates the spatial characteristics of drought disasters in North China during the Ming and Qing Dynasties, and it is very important for the ancient climate research. However, there are many spell mistakes in this paper, please revise it again and again, and then to publish in minor review. Some mistakes are listed as follows:

1. Page 1, in Abstract, line 5: “on”, delete;
2. Page 1, in Abstract, line 6: “into”, delete
3. Page 1, in the Introduction, line 7 : “present” to “presents”;
4. Page 2, line 21: “on”, delete;
5. Page 2, line 22: “is” should be “are”;
6. Page 3, line 29: “big” should be “the highest”;
7. Page 4, line 19 : “low” should be “the lowest”;
8. Page 8, line 4: “region” should be “regions”;
9. Page 11, line 19: “receive” should be “receives”;
10. Page 12, the first reference: “40(9)” to “40 (9)”;

#### **Response:**

**Many thanks! All the listed mistakes have been modified.**

**And the revised manuscript has been checked by Editage Company.**

### **Reviewer 2's comments:**

The authors perform a spatial analysis of the variability of drought disasters throughout China. They use a EOF analysis explaining the spatial every EOF map.

1) The authors should add figures with time-series of the most relevant principal components (e.g. the leading 5) i.e. projections of the drought intensity fields into the EOFs and then discuss them.

#### **Response:**

**Many thanks! That is a good idea.**

**As in this paper we mainly focus on the spatial distribution of grade sequence of drought disasters in Ming and Qing Dynasties in North China, so here we may not pay much**

**attention to the time series analysis of drought disasters. The time series analysis of drought disasters in this region in Ming and Qing Dynasties will be discussed in our next paper.**

2) There are many typos and syntactic errors that must be corrected. Some examples are:

- a) space models —> space modes
- b) line 32 and 33 (pg 11) The phrase is incomplete.
- c) line 1 (pg 12) law —> low

**Response:**

**All the listed mistakes have been modified.**

3) The authors should improve considerably the english text.

**Response:**

**The revised manuscript has been checked by Editage Company.**

Finally, we would like to thank you again for the excellent comments and suggestions for improving the paper.

Shuoben Bi

2017/1/28