Nat. Hazards Earth Syst. Sci. Discuss.,
https://doi.org/10.5194/nhess-2018-214-RC2, 2018

Natural Hazards and Earth System Sciences
Discussions

Interactive comment on "A Statistical Analysis of TIR Anomalies extracted by RST in Relation with Earthquake in Sichuan Area with Use of MODIS LST Data" *by* Ying Zhang and Qingyan Meng

Anonymous Referee #2

Received and published: 26 September 2018

I find the topic of the paper very interesting and promising. In my opinion it can be considered for publication but there are many issues that must be addressed. The paper needs to be rewritten in better English as it is incomprehensible in many cases, distracting from the authors' primary contribution. I suggest the authors substantially revise, through elimination of ancillary matters (reduce the extend of the text and try to eliminate any repetitions). In addition, some suggestions that I hope to help authors: Fig.1: The faults cannot be well discriminated. You should change the color or the width of the symbol. Page 3: You repeat the same information about the study area. You should fix it. Page 3, last line: What do you mean with the word "scope"? Page 4, first line: The coordinates have been given in the previous page. Page 4, lines 30-35: I

think it would be more helpful to give a distance radius. Page 4, line 42: Please give the year of Eleftheriou et al publication. Page 6, lines 8-10: "And because the blizzard, forest fire and the large area of clouds usually cause the abnormal increase or decrease in LST with a magnitude that far bigger than the change caused by earthquakes." I think you must provide at least one reference for this statement. In your methodology section it is not clear whether you use RETIRA index or not. In the abstract you write: "In this paper, a refined RST data analysis and Robust Estimator of TIR Anomalies (RETIRA) index were used to extract the TIR anomalies from 2002 to 2018 in Sichuan 20 area with use of Moderate-resolution Imaging Spectro-radiometer (MODIS) Land Surface Temperature (LST),. . .. ." but I cannot find any reference to RETIRA index in the main text. I think that RST methodology must be re-written in order to become clear where the already known RST RETIRA methodology stops and how your refinements have been implemented. Page 6, lines 37-38: The sentence is . . ..strange??? Eleftheriou et al., 2016 applied the RST RETIRA index and not the ALICE index. As far as I know, these are two different indexes. In pages 6 and 7 you mention ALICE. Page 7: The conditions need to be refined using better syntax. Page 7, line 29: Please correct the sentence: one of 5) and 5) mean that there are TIR anomalies but no corresponding earthquake. Page 7, line 30: What do you mean? Please explain. Page 8, first paragraph: Please refine your English or exclude this paragraph. In my opinion, Fig. 2 is enough. Fig. 3: Its caption needs refinement. I propose to move this fig and the first two paragraphs of page 10 in the STUDY AREA Section. Fig. 4: Please, rewrite the caption of the Figure. Page 13, line 12: " . . ..is far from enough". I don't understand. Is it good? Is it Very good? or the opposite? Section 4.3: (The evaluation of earthquake prediction ability for RST). It is very complicated. I think that you must make this section more attractive and easy to be read. Page 19: "Conclusions" and not "Conclusion". Using bullets from the first line is not recommended. And of course one simple question: Many researchers and among them Eleftheriou et al., use to call "thermal anomaly" the pixels with $4\sigma\Delta\hat{I}d'(x,y) > 4$. The fact that you selected a threshold equal to 2 instead of 4, makes the results comparable?

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., https://doi.org/10.5194/nhess-2018-214, 2018.