Natural Hazards
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Sciences

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Discussions

Interactive comment on "Seismic Indirect Economic Loss Assessment and Recovery Evaluation Using Night-time Light Images – Application for Wenchuan Earthquake" *by* Jianfei Wang et al.

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The paper I have reviewed the manuscript which provide important insights to how remote sensing in particular night time light can be used to evaluate economic decline and economic recovery due to natural hazards. The manuscript is well written and suitable for publication in the journal Nat. Hazards Earth Syst. Sci..

I have a few comments for the authors to address in order to strengthen the manuscript: Comment 1 Citation from page 3 paragraph 5: "Although it has been widely proven

that there is a close relationship between night-time light and economic activity in the disaster area, due to the joint effect of economic suppression, which was caused by the earthquake damage, and economic promotion, which was caused by the reconstruction of the disaster area, the quantitative relationship between night-time light and economic statistics in the post-earthquake years is abnormal" Why is the relationship abnormal? Please explain better your point to why it is abnormal.

Comment 2 Citation from page 3 paragraph 10: "It is very important for recovery and reconstruction to understand the indirect economic loss assessment and recovery assessment of the Wenchuan 8.0 Ms earthquake, which is a significant earthquake in recent years." Why is this specific earthquake important to investigate? The reader needs more information about the earthquake. The authors need to put this specific earthquake in a better context.

Comment 3 This comment is rather general and it refers to the modelling (at page 4, 3. Method 3.2 Economic recovery evaluation model and 3.3 Economic expansion evaluation model) used to assess the economic recovery. Does the models take both increasing light intensity at one certain place and secondly, the increased spread of light i.e. new light sources at places where there were no light prior to the earthquake? Please clarify this in simple terms for the reader.

Comment 4 4.2 Economic recovery progress in Sichuan Province. Please start the paragraph with for example: Our results indicate that it has taken more than 5 years. . . Now the paragraph can be interpreted as a common observation. Make sure that this type of statement are done in line with your empirical results.

Comment 5 5 Discussion Citation from Page 7 Paragraph 5-10. "When considering the short-term impact of the stoppage of production after the earthquake, the indirect economic loss in 2008 evaluated by Lu (2008) was 168 billion yuan, which is 176% of the results found in this paper. According to the changes of economic growth rate after the earthquake, Sun (2011) predicted that the indirect loss after the earthquake in

2008 was 100.8 billion yuan, which is 105% of the results found in this paper." Please clarify this statement. What is the 176% resp. 105% telling us? Are your model overestimating the recovery? This is unclear in the present format.

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