Responding to the comments

Thanks for the reviewer's comments.

Under the recommendation, we added a subsection into Section 3. In this subsection named Sect. 3.5, we discussed how our model was extended to the medical emergency and combined into the existing rescue system.

Subsection 3.5

Component of earthquake relief

Earthquake relief not only needs the systematic and scientific management but also the key activities that make the plan into practice. Researching regarding the management improved the knowledge-bank of earthquake relief. The framework is being matured graduated. Some keys activities was developed deeply , such as the triage and transport of the injury. Besides, casualty and affected area prediction, rescuing materials and staff distribution and transport, on-site rescue technology, rear distance support are also key activities. Prediction of casualty and its change along with time is very essential during the whole rescue phase.

The system of earthquake relief has made a well integration of manage science, information technology and data-analyzed theory to enhance the speed of information mining and sharing, but it is not enough. Enlarging the coverage of information is needed and can upgrade the existing system. Technique of remote sensing that will be used to predict the casualty number is a good component. Real-time information of casualty can be share with administers on the GIS information platform and help administrators make a more detailed, accuracy and flexible rescue plan.

The detailed corrections of grammar, punctuation, and spelling are listed below.

1. In the line 22 of page 7139, the sentence "but also make a preliminary statistics" is corrected as "but also made a preliminary statistics".

2. In the line 20 of page 7140, the sentence "access the risk or the loss caused" is corrected as "assess the risk or the material loss caused ".

3. In the line 29 of page 7140, the sentence "valuable to know the change of survivor number in the scene." is corrected as "valuable to know the change of survivor number on the scene."

4. Form the line 10 to 15 of page 7141, the sentence "the affected area were collected. In idea situation, the DI (Damage Index) of one building was calculated by the high change of the pixel on a building before and after a earthquake. Due to the reasons such as the resolution of images and so on. Other alternative methods, such as visual interpretation (Shalaby and Tateishi, 2007), automatic (Benz et al., 2004) were appropriate methods. In the second part, attributions of buildings including materials and structure were collected from local GIS database" is corrected as "the affected area were collected. In idea situation, the DI (Damage Index) of one building was calculated by the height change of the pixel on a building before and after a earthquake. Due to the reasons such as the resolution of images and so on, other alternative methods, such as visual interpretation (Shalaby and Tateishi, 2007), automatic (Benz et al., 2004) were appropriate methods. In the second part, attributions of buildings including materials and structure were collected from local GIS database"

5. In the line 19 of page 7141, the sentence "next sections." is corrected as "next subsections."

6. In the line 3 of page 7142, the sentence "rather than five group" is corrected as "rather than five groups".

7. In the line 4 of page 7142, the sentence "damaged buildings belong to" is corrected as "damaged buildings

belonging to".

8. In the line 8 of page 7143, the sentence "buildings have high relationship with earthquake casualty" is corrected as "buildings had high relationship with earthquake casualty".

9. In the line 4 of page 7144, the sentence "People who were buried" is corrected as "People who are buried".

10. In the line 10 of page 7147, the sentence "how many casualties in one building rather than in a group of buildings" is corrected as "how many casualties in one building but in a group of buildings"

11. In the line 5 of page 7150, the sentence "After consult Fig. 2, The MSIs of these four kinds of damage building" is corrected as "After consulting Fig. 2, the MSIs of these four kinds of damage buildings".

12. In the line 2 of page 7152, the sentence "Casualty estimation helps administrators properly respond this crisis and limit its" is corrected as "Casualty estimation helps administrators properly respond this crisis and limits its".

13. In the line 8 of page 7152, the sentence "The methods used in our model are similar with the work" is corrected as "The methods used in our model were similar with the work".

14. In the line 11 of page 7152, the sentence "And the parameter could be modified accordance with the actual situation, Using this" is corrected as "And the parameters could be modified accordance with the actual situation, Using this".

15. Errors in table 3 is corrected as following:

Table 1.   Comparison of different methods

Method	Time-used[1]	Case-involved[2]	Error rate	Real-time[3]
Aghamohammidi et al.	More than 1 week	One case	2.1%	No
Coburn and Spence	More than 1 week	More than 5 cases	32%	No
Feng et al.	less than 2 days	One case (three subcases)	10%	No
Method of this study	less than 2 days	3 cases	10%(0.1%,25%)[4]	Yes

[1]The time used to estimate the earthquake casuslties
[2]The number of cases to evaluate the model
[3]Whether considering the essence of real-time estimation
[4]Mean(minimum, maxium)

16. The captain of figure 3 is corrcted as "Areas of study".