

Building damage survey of the 2016 Kumamoto earthquake

^a Takuma Saeki

^a National Research Institute for Earth Science and Disaster Prevention, Japan, tsaeki@bosai.go.jp

In order to support making quick decision after an earthquake, NIED has been developing real-time damage estimation system. This damage survey of buildings has been conducted to verify the result of damage estimation of the 2016 Kumamoto earthquake calculated by the system. The survey was conducted by six NIED researchers from May 16th to 19th, 2016. The survey is consist of two parts. At first, survey of all buildings which are included in 3 grids in Mashiki town, near the epicenter. Secondary, survey of damaged buildings which are included in 12 grids in Kumamoto city. A grid size is approximately 250 x 250 meter.

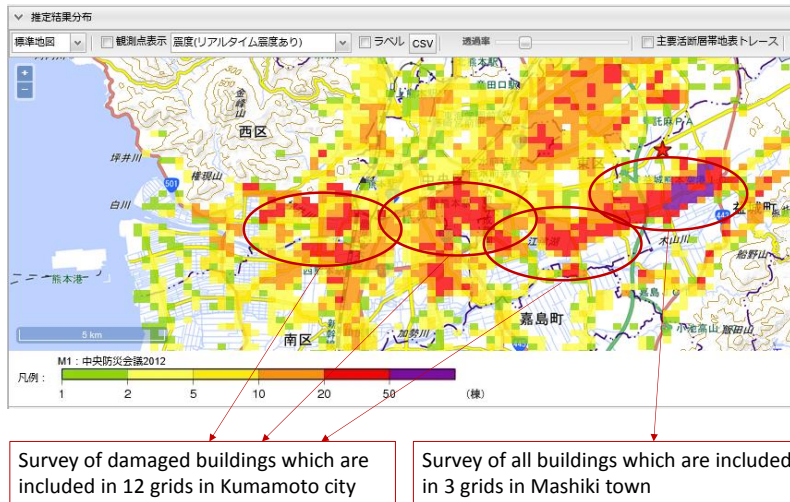


Fig. 1. Outline of the survey.

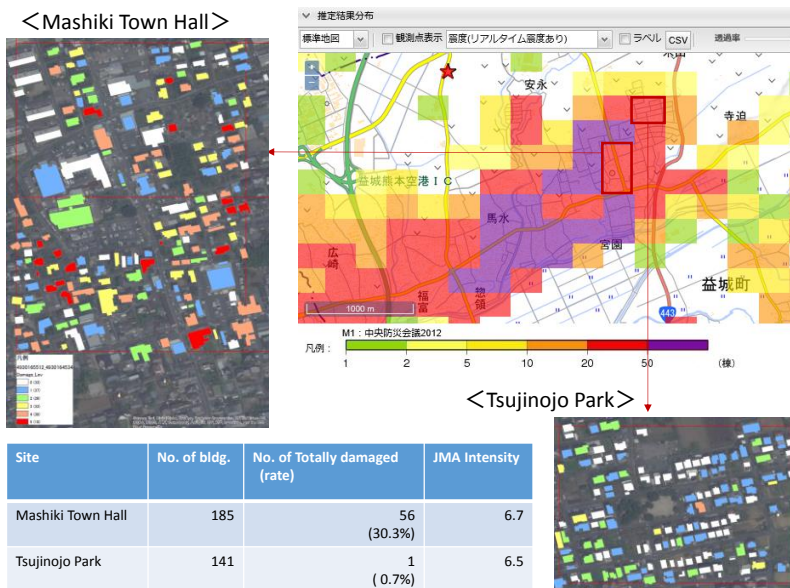


Fig. 2. The result of this survey and the estimation by real-time damage estimation system in Mashiki town.

The results of this survey are as follows.

- Around Mashiki town hall, there are totally damaged buildings in spite of those building code are after 1981. On the other hand, Around Tsujinojo park, there is no major damage.
- In Mashiki town, the result of the system can estimate the distribution of the earthquake building damage. But in Kumamoto city, the result of the system is over-estimated.

References

S. Okada and N. Takai (1999), CLASSIFICATIONS OF STRUCTURAL TYPES AND DAMAGE PATTERNS OF BUILDINGS FOR EARTHQUAKE FIELD INVESTIGATION, J. Struct. Constr.E., AIJ No.524, 65-72. (in Japanese)