

## Feature of the building damage of Kumamoto earthquake by airphoto-interpretation

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In Kumamoto-ken, an earthquake of magnitude 6.5 (fore-shock) occurred on April 14, 2016 and an earthquake of magnitude 7.3 (main shock) occurred on April 16. Mashiki-machi and Nishihara-mura recorded seismic intensity 7 by this earthquake, and enormous building damage occurred. We investigated building damage targeted for Mashiki-machi, Nishihara-mura, Kumamoto-shi, Uto-shi, Uki-shi, Aso-shi, Kashima-machi, Kosa-machi, Ozu-machi and the minami Aso mura. Investigation method is the way by which watch reads building damage from the air photo taken a picture of after fore-shock and main shock. The large (collapse and tear), the medium (partial destruction) and the small (part damage) and without divided the degree of the damage into reading of building damage. When the distribution of the building of the damage large by the main shock is seen, the damage large is distributed over the northeast-southwest direction successively from the south Aso village to Kumamoto-shi Higashi-ku. Mashiki-machi excels with about 1,400 houses, and have a lot of number of houses of the damage large. Nishihara-mura, Kumamoto-shi Higashi-ku, Kashima-machi and the south Aso village are 150-180 houses. In Mashiki Town, the about 85% number of damage large is estimated by seismic intensity 7, the remaining is seismic intensity 6 strong. We calculated the collapse rate of the damage size of 250 m mesh. Looking at the relationship with constant seismic intensity, the collapse rate tends to increase as the estimated seismic intensity increases. However, even with the same seismic intensity value, the collapse rate has the largest width to the minimum and maximum.

Keywords: Kumamoto earthquake, airphoto-interpretation, building damage, seismic intensity, collapse rate