

Real-time Damage Estimation for the 2014 Nagano Kamishiro Fault Earthquake by J-RISQ

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It is extremely important to quickly assess the damage immediately after an earthquake for providing suitable disaster response. We have constructed a prototype of a Real-time Information System for earthquake (J-RISQ) for appropriate decision-making regarding the initial response at an earlier stage immediately after an earthquake by combining amplification characteristic data for subsurface ground as well as basic data such as population and building information accumulated in J-SHIS development and observation data including real-time strong-motion data observed by K-NET and KiK-net (Aoi *et al.*, 2013, Nakamura *et al.*, 2013). A part of J-RISQ information (including the estimated distribution of seismic intensity and the population exposed to each seismic intensity level) is published as a "J-RISQ Report" on <http://www.j-risq.bosai.go.jp/> immediately after the occurrence of an earthquake. In this study, we describe the estimations by J-RISQ for the 2014 Nagano Kamishiro Fault Earthquake.

J-RISQ issued five reports for this event. The first report was issued by using information from 12 observations approximately 27 seconds after the earthquake. J-RISQ estimated the population exposed to the seismic intensity of 5 lower or greater to be 20,000, one building was completely destroyed and 10 buildings partly destroyed. Eventually, the fifth report was made by using the information from 1567 observations approximately 11 minutes after the earthquake. J-RISQ estimated the population exposed to a seismic intensity of 5 lower or greater to be 200,000, the population exposed to a seismic intensity of 6 lower or greater to be 20,000, 46 buildings were completely destroyed and 186 buildings partly destroyed.

Keywords: J-RISQ, real-time, Damage Estimation, 2014 Nagano Kamishiro Fault Earthquake, K-NET, KiK-net