

# Development and Operation of Social Media GIS for Disaster Risk Management in Japan

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**Abstract** Since natural disasters frequently happen all over the world, we must make effective preparations for such disasters. As the implementation of sophisticated computerization expands, the society now benefits from ubiquitous network and cloud computing. Consequently, we can utilize a variety of information systems effectively for disaster reduction measures. Based on the experiences of natural disasters, among a variety of information systems, the roles of GIS (Geographic Information Systems) and social media are considered important for collection and transmission of disaster information. Against the above-mentioned backdrop, the present study aims to classify disaster risk management for natural disasters into three stages – normal times, disaster outbreak times, and times of recovery and reconstruction – to introduce the results of development and operation of social media GIS during each of these three stages. The social media GIS targeted residents who were more than 18 years old in the Tama region of Tokyo metropolis and the neighboring area in Japan for two months. Subsequently, the systems were evaluated based on the results of an online questionnaire survey to users, access surveys using log data during operation of the systems, and an analysis of the submitted information. Based on the results of the evaluation, measures for improvement of the development and operation of social media GIS can be summarized into three areas regarding (a) participation of various users and partnership with local communities, (b) usability, and (c) long-term actual operation.

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