



## **Estimating Losses from Volcanic Ash in case of a Mt. Baekdu Eruption**

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We will present the preliminary result of economic losses in South Korea in case of a Mt. Baekdu eruption. The Korean peninsula has Mt. Baekdu in North Korea, which will soon enter an active phase, according to volcanologists. The anticipated eruption will be explosive given the viscous and grassy silica-rich magma, and is expected to be one of the largest in recent millennia. We aim to assess the impacts of this eruption to South Korea and help government prepare for the volcanic disasters. In particular, the economic impact from volcanic ash is estimated given the distance from Mt. Baekdu to South Korea. In order to scientifically estimate losses from volcanic ash, we need volcanic ash thickness, inventory database, and damage functions between ash thickness and damage ratios for each inventory item. We use the volcanic ash thickness calculated by other research groups in Korea, and they estimated the ash thickness for each eruption scenario using average wind fields. Damage functions are built using the historical damage data in the world, and inventory database is obtained from available digital maps in Korea. According to the preliminary results, the economic impact from volcanic ash is not significant because the ash is rarely deposited in South Korea under general weather conditions. However, the ash can impact human health and environment. Also worst case scenarios can have the significant economic impacts in Korea, and may result in global issues. Acknowledgement: This research was supported by a grant [NEMA-BAEKDUSAN-2012-1-3] from the Volcanic Disaster Preparedness Research Center sponsored by National Emergency Management Agency of Korea.