

Case study of Volcano Survey using the Airborne Electromagnetic survey

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The distribution of the active volcanos as much as 110 are confirmed by Japan at present. The part of the volcanic collapsed at Mt. Ontake (1984) and Mt. Kurikoma (2008) in recent years, and large-scale sediment related disasters occurred. Then, serious damages occurred Mt. Aso (2012) and Izu-oshima (2013) by debris flow which were caused by the simultaneous multiple surface failure. On the other hand, risk management of low probability and high consequence disasters are the problems after the Great East Japan Earthquake, and understanding of the slopes tending to cause landslide is required in each volcano. Hence, the Ministry of Land, Infrastructure and Transport, has conducted volcano survey using the airborne electromagnetic survey from fiscal year 2013 at 15 volcanos out of 29 volcanos (Emergency Hazard Mitigation Measures Plan against Sediment Related Disaster Induced by Volcanic Eruption decision target volcano) where volcanic activity is active, and the social influence is serious.

In this study, we collected the results of volcano survey and extracted the slopes tending to cause landslide based on the topography, geological information and the structure of specific electrical resistance. Additionally, the sediment volume by landslides had been estimated.

A case will be introduced by this presentation, which are Mt. Hokkaido Komagatake, Mt. Azuma, Mt. Asama and Mt. Ontake.

Keywords: Airborne Electromagnetic survey, Volcano Survey, specific electrical resistance, topography, geology, active volcano