Relationship between Resistivity Distributions by Airborne Electromagnetic Method and Underground Structure

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Frequency of Deep-seated catastrophic landslide is less. However, this phenomena have potential to add serious damage by a lot of sediment. Therefore, it is important to develop extraction method of scale and areas tending to cause deep-seated catastrophic landslide. In previous studies, they studied about how to estimate depth of collapse in the areas tending of cause deep-seated catastrophic landslide using airborne electromagnetic method. As these results, in the areas of past deep-seated catastrophic landslide, it confirmed that there were values of high resistivity at shallow layer. However, there are lack of further studies that how resistivity is affected by geology and groundwater. Therefore, purpose of this study is to understand relationship between resistivity distributions and underground structure.First, we created figures of resistivity distributions of airborne electromagnetic method in pluvial period and not pluvial period. Then, we compared these figures. Next, we estimated groundwater level in studies areas using results of borehole surveys. Last, we compared figures of resistivity distributions and estimated water level. Then, we considered about relationship resistivity distributions and groundwater level.In this study, it was found that the following. In pluvial period, ground plan of resistivity distributions have many low resistivity than not pluvial period. Then, in pluvial period, it confirmed that changes zone of resistivity were unclear. Therefore, it confirmed that there was difference in distribution of resistivity between pluvial period and not pluvial period. It is assumed that groundwater distribution are affected. Then, it confirmed that changes zone of resistivity were generally consistent with ground water level by results of compared with cross section of resistivity and borehole.

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