

HDS027-P07

Room:Convention Hall

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An attempt to construct hazard maps based on slope structures in the Koizu Coast, Shimane Peninsula

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Although slope hazard maps have been made all over the world, most of them are not sufficient and not effective for use. Then, the author attempted to construct effective slope hazard maps based on the slope structures and types of slope movements in the Koizu coast, where bedding plane dips almost same trend with that of the slope.

Results of field survey show that slope failures tend to occur along such bedding planes of alternating beds of sandstone and mudstone there. Although the rock slope has roughly 'slipping structure', dip angle of the slope is gentler than that of bedding plane in most portions, and therefore they are relative stable. However, dip angle is steeper than that of bedding planes along outer rim of cave portions due to gully erosion or wave erosion. Probably, unstable condition propagates from such portions to whole slopes.

Based on the mechanism mentioned above, that is slope failure occur along bedding planes, it may possible to evaluate the degree of the instability in each points by analyzing geometrical relationship between slope shape and bedding plane. Analyses were made by using Hoek and Bray method and geological and topographic data, which were obtained from strike map of bedding planes and 5m mesh DEM.

The slope hazard map constructed here shows that unstable regions tend to appear along the portions influenced by gully erosions or wave erosions, and the unstable zone will expand along whole slopes from such portions in this area.