

Risk Management for Volcanic Island using GIS-A Case Study of Hazard in Izu-Oshima-

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This report shows the test case fuses in the geographical information about natural phenomenon and humanities and considered the risk management method of the volcanic disaster in the islands region.

Izu-Oshima the study area of this research is located in the south of Tokyo on Pacific. The volcano is regarded as preliminary stage. And Society in this island changes in comparison with time of the last eruption in 1986. It is necessary to think about the future of the island with a management of volcanic disaster.

Using GIS for risk management provide the most comprehensive and accessible reference source available to figure out the reality of various features of disaster and the damage quantitatively.

In this report, It is analyzed the network of evacuation route with detailed population and land use by the field work and existing geographical information. In consideration of the network analysis, it is set a high value the capacity of the existence of the communal living bases such as a elderly persons or the school which cannot perform a refuge action quickly, the sheltery site or port area which were last arrival point of the evacuation. It is tried the analysis by the spacial density calculation of the crater and the function of the GIS such as the buffering of the distance from the crater using an existing study and published hazard map about the disaster results and the prediction level.

The results of simulated evacuation network and analyzed population and land-use is showed a result as new type hazard map using visualization function of the GIS.