GIS application for volcanic hazard mapping and risk assessment on Myoko volcano

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Volcanic hazard map is effective in volcanic disaster mitigation and creation is advanced in each volcano. But, the greatest problem in mapping is that it is difficult to get to know the scale and type of the eruption started to the next beforehand. The Myoko volcano which is an object of this research has held various eruption type for every activity period. Therefore, also in hazard mapping, it must be based on two or more eruption assumption. Moreover, An old hazard map only shows the range of disaster, and there are little consideration about the damage to society. In order to solve these problems, creation of the hazard map which used GIS was tried. Each volcanic hazard map and population mesh data were piled up, and the population contained in the disaster range was computed. From the land use mesh contained in each disaster region, the disaster area for every land use was computed. In addition, various social information was read and the situation of damage was considered. Using GIS, damage was considered from many sides, and grasped quantitatively, and, thereby, it was able to observe that the Myoko volcano which is a calm aspect had high disaster potential now. Through research, the creation method of the volcanic hazard map based on a complex eruption assumption could be shown, and quantitative assessment to the influence on the human society based on it was able to be performed.