

G121-001

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GIS-based quantitative assessment for hazard area of large-caldera-forming eruptions in Japan

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High-level waste has to be disposed of in a stable geological formation at a depth of more than 300 meters. Infrequent geological and climate processes and effect, however, can not be perfectly ignored in 105- to 106-years long-term future assessments. In such case, we must evaluate hazard area and probability of infrequent disruption which will not be excluded by selection program for final repository site. This study deals large-caldera-forming eruption as one of them and constructs GIS-tool for its scenario analysis. Our GIS-tool is composed of (1) data base of eruptive history of large-caldera volcano in Japan during Quaternary time and (2) program to calculate two-type circular hazard areas. First hazard area are defined as a crustal deformation zone due to a more than 100 km³ large-volume eruption using sill model. Second hazard area shows a run-out distance of a large-volume pyroclastic flow on the ground using subcritical flow model (Bursik & Woods, 1996).