

Development of tephra GIS and its application for hazard mapping

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Information of tephra distributed in Japanese islands has been stacked and it was catalogued such as Atlas of Tephra in and around Japan by Machida and Arai (1992, 2003). However, electrical database of tephra in Japan has not yet established, compared with Quaternary Volcanoes, active faults and land slides and so on.

As the database of tephra is produced with location information in GIS, it is possible to identify each tephra easily in field works, for the researchers of Quaternary field sciences such as geomorphology, geology, volcanology and archaeology. In addition, it is expected the governmental utilization for disaster prevention such as the production of hazard maps and the estimation of environmental impact, because it is easy to analysis the distribution data of tephra combined with other spatial data such as DEM, NSDI and land condition map of volcano.

In this study, the authors are going to develop the tephra GIS data recording the tephtras originated from volcanoes in Tohoku District, northeast Japan and middle to late Pleistocene widespread tephtras. In poster session, the authors introduce the concept of tephra GIS and the results of case study for hazard map use in Tohoku District.