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ASSISTING REGIONAL DISASTER PREVENTION THROUGH OPEN DATA VISUALIZATION

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Abstract

GIS, which enables integrated analysis of various elements such as town planning, industry, and public and disaster prevention facilities, can serve as an extremely effective tool in reconstruction following the Great East Japan Earthquake. However, the effective use of GIS analysis results requires the visualization of information such that any user can easily share images of reconstruction plans.

This study focused on Google Maps and Google Earth. Its aim was the parallel use of GIS software and Google Maps, through KML data sharing with disaster-affected municipalities. It also visualized, using Google Earth, results of analysis conducted using GIS software, by converting these to KML.

On the other hand, in recent years, the use of open data has spread worldwide. Open data is the idea that some data should be freely available to everyone to use and republish as they wish, without restrictions from copyright, patents or other mechanisms of control. In Japan, various open data are released mainly by local governments. These data are numerical data, and some kind of visualization such as graphing and plotting is required. However, at present, effective visualization has not been performed and the value of open data has not been maximized.

Given this information, this study is aimed at assisting regional disaster prevention efforts by displaying open data about reconstruction plans or disaster prevention information in Miyagi Prefecture with Google Earth.

Keywords: GIS, Regional Disaster Prevention, Google Earth, Open Data, Visualization.
