

## Expand various disaster risk information and sophisticate methods to disseminate on the Hazard Map Portal Site

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### 1. GSI of Japan

#### I. Introduction

In June 2006, it was necessary to prepare the portal site about hazard maps which anyone can search on the internet, according to the policy established by Ministry of Land, Infrastructure Transport and Tourism. Geospatial Information Authority of Japan, in cooperation with Water and Disaster Management Bureau and so on, began to operate Hazard Map Portal Site since April 2007. This latest site has two main contents. One is Layered Hazard Map which enables users to layer various maps and disaster risks, and another is Published Hazard Map showing links to hazard maps made by each local government.

#### II. Questionnaire about Hazard Map Portal Site

A questionnaire was conducted in 2015 for 18 local governments and about 1,000 residents to figure out these things: how much they recognize and use it, needs, and to know the problems of this site. Various needs and requests were made clear, for example, the addition of the function displaying all disaster risk information by clicking map, implementation of browsing feature by mobile device, preparation of download page published data on this site, expanding the data about disaster risk information and evacuation facilities, making the data open for public on the Internet and machine-readable (hereinafter referred to "Open Data" ) and so on.

#### III. Three activities

Three activities were carried out based on this questionnaire.

##### 1. Improvement of function

Three functions were mainly added on this site. One is the function displaying multiple risks, which were inundation, landslide, sediment disaster and so on, at arbitrary point on Layered Hazard Map, another is the compatibility with smartphones which enable to access this site away from home, and the other is function of downloading list files of URL linking to Published Hazard Map.

##### 2. Expanding Data

Designated Emergency Evacuation Area (flood from river, storm surges, tsunami, debris flow, steep slope failure / landslide, fire disasters), expected inundation areas of ministry-controlled river due to statistical heaviest rainfall, expected inundation areas of tsunami, and landform classification of Fundamental Land Classification Survey were released.

##### 3. Open Data

Raster tiles of expected inundation areas of ministry-controlled river due to statistical heaviest rainfall, Landslide Prone Areas and dangerous site by sediment and landslide disaster was added to Open Data list. Furthermore, these raster tiles data started to be converted to vector tiles data and will be distributed as Open Data by June 2019.

#### IV. Future perspective

We carried out improvement of this site system, expansion data of disaster risk information and Open Date of raster tiles covered on Layered Hazard Map. Due to this effort, tasks revealed in 2015 questionnaire survey were solved and this site became more useful. This result led to further publicize

disaster risk and contributed to raise awareness of disaster prevention.

In order to expand data and make the site more useful, various information including expected inundation area maps classified by duration time and expected inundation areas by reservoir break will be disclosed and more functions, for example 3D page of Layered Hazard Map, will be added.

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