Japan Geoscience Union Meeting 2014
(28 April - 02 May 2014 at Pacifico YOKOHAMA, Kanagawa, Japan)

HSC25-P01 Room:Poster Time:April 30 18:15-19:30

Reexamination of the 1960 Chilean tsunami disasters at the northern part of Amami Oshima island, Kagoshima Prefecture

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We've interviewed about the Chilean tsunami disasters of 1960 at the northern part of Amami Oshima island. Results of our investigation suggest that the 1960 Chilean tsunami heights exceeding 3-4 m were observed in the almost coastlines of the northen part of Amami Oshima island.

Keywords: Amami Oshima, 1960 Chilean tsunami, tsunami disasters

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HSC25-P02 Room:Poster Time:April 30 18:15-19:30

Utilization of the natural hazard database by NIED - a case of utilization at Typhoon Wipha (2013) on Izu Oshima island

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This study introduces a case study on utilization of natural hazard database by NIED for extracting historical hazard events on Izu Oshima island suffering Typhoon Wipha in 2013. This powerful typhoon attacked on Motomachi area, and caused large-scale landslides. We searched the historical hazard events in this place from the natural hazard database to investigate relation between hazard this time and old events. Keywords for searching the database were ”typhoon”, ”heavy rain” and ”landslide”. As a result, seven events were found between 1925 and present, and typhoon Ida in 1958 was a particularly massive scale. The typhoon Ida that caused large landslide in Motomachi area, which was devastated again by Typhoon Wipha, was named ”Kanogawa typhoon” in Japan. Through these unification processes, we found two problems in our database:

1) No records about typhoon, heavy rain, and landslide before 1925 in this area
2) Little information about the date and time of occurrence and the extent

We will enrich these event records and information.

Keywords: natural hazard database, utilization, typhoon Wipha in 2013, Izu-oshima

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HSC25-P03 Room:Poster Time:April 30 18:15-19:30

A new methodology to assess the impacts of precipitation change on flood risk in Tokyo 23 ward Area

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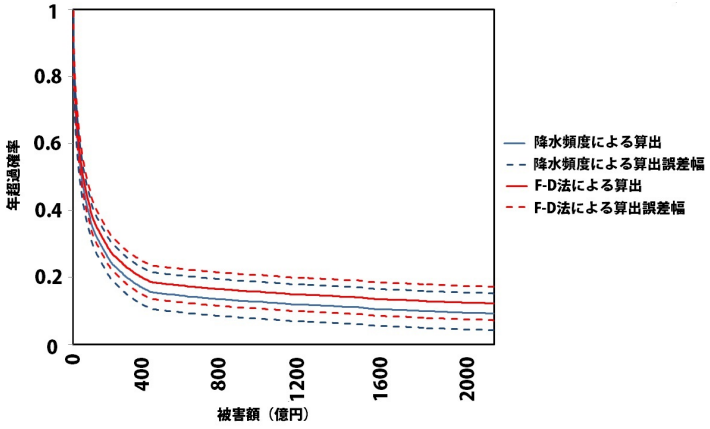
n this study, we attempted to develop a new methodology for flood risk assessment in the Tokyo metropolitan area by considering the effect of precipitation change. By comparing the statistical distribution of the daily precipitation frequency for the whole study period, and those for flood occurrence days, we found that the distributions of the precipitation frequency for the flood occurrence days are corresponding to those for the whole study period. These results indicate that we can estimate flood damage based on frequency of daily precipitation. Based on these results, we estimated the flood damage for Tokyo based on distribution of daily precipitation frequency. We then created a flood-risk curve that represents the relationship between damage and exceeding probability of a flood. By comparing the newly developed flood-risk curve, based on the precipitation frequency, with those in the previous studies, we indicated that a newly developed flood-risk curve could evaluate the potential flood risk in Tokyo with high accuracy.

Keywords: Flood risk, Precipitation change, Risk curve, Tokyo metropolitan area



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HSC25-P04 Room:Poster Time:April 30 18:15-19:30

Map Drilling of Disaster Prevention by Voluntary Group - An Example at Nasu Volcanic Area

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[1]National Association For Diaster Prevention, [2]Utusunomiya University, [3]Promotion Council of Distric Continuity Management, [4]Disaster Prevention Qualiged Counselor in Tochigi, [5]Manucipal Governmnet of Nasu Town

A map drilling of volcanic disaster prevention by voluntary groups: An Example at Nasu volcanic area was hold in the area of Nasu active volcano. This evacuation drilling at Nasu municipal government for voluntary groups of town people was supported by National Association for Disaster Prevention, Promotion Council of District Continuity Management, and Disaster Prevention Quailed Counselor in Tochigi. This project was managed financially to perform for last two fiscal years between 2012 and 2013. As a result, present drilling was very effective, especially for community people living near active Nasu volcano, in order to learn evacuation managements at the future volcanic emergency.

Keywords: Disaster Prevention, Map Drilling, Volcanic Diaster, Active Volcano, Eruption, Voluntary Group

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Disaster risk reduction workshop utilizing GIS and Saba-meshi: A practice of the Department of Geography, Oita Univ.

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The Department of Geography at Oita University held a disaster risk reduction workshop on November 3, 2013, for schoolchildren and their parents (A total number of participant was fifty one). The purpose of the event was to motivate the schoolchildren and their parents to aware of a disaster prevention and reduction in their daily life. The event consisted of the following two experiences: drawing a map using a geographic information system (GIS), and cooking rice using two 350ml aluminum cans and three 1L milk cartons (Survival *Meshitaki*). Survival *Meshitaki* is called *Saba-meshi* for short, and it is material for teaching about disaster prevention through practical experience.

After the event, the participants were requested to respond the questionnaires in order to evaluate the event. The results of the questionnaire showed that we received high evaluations from many participants on the experiences offered at the event. Therefore, we were able to raise the participants' awareness of disaster prevention and disaster reduction.

Furthermore, thirteen university students, who intend to become schoolteachers, participated the event as assistant staffs. They acquired in advance the fundamental skills of GIS and *Saba-meshi* by a preliminary training workshop. These are useful skills in the field of school education. The event, in conclusion, has given the participants and the students intending to be schoolteachers' very effective experiences and practical knowledge respectively and the experience-based event such as this workshop is worth to be held repeatedly.

Keywords: Geographic Information System, Saba-meshi, Disaster risk reduction workshop, The 2011 off the Pacific coast of Tohoku Earthquake, Students intending school teachers, Oita Prefecture

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Liquefaction occurrence ratio and geomorphic conditions in the inland area caused by the Great East Japan Earthquake

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The area ratio of liquefied sites in the inland area caused by the 2011 off the Pacific coast of Tohoku Earthquake was estimated from the field survey and Google Earth images interpretation. In the Tone River lowland, the occurrence of liquefaction concentrated in the former river channel and pond, and the area ratio of liquefied sites is about 23%. The ground consisting of younger landfill age is more susceptible to liquefaction than that created by the older ones. Area ratio of Liquefied sites in the Tone River lowland is larger than the Osaki plain, Miyagi Prefecture. In the Osaki plain, the area of former river channels and ponds buried by loose sandy soils is less than the Tone River lowland.

Keywords: liquefaction, geomorphic classification, former river channel and pond, landfill age, 2011 off the Pacific coast of Tohoku Earthquake

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HSC25-P07 Room:Poster Time:April 30 18:15-19:30

Problems on the disaster mitigation plan of the elementally and junior high school - a case study of Ishikawa Prefecture

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Keywords: Elementally and junior high school, Manual for disaser mitigaion, Hazard Map, Evacuation

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HSC25-P08 Room:Poster Time:April 30 18:15-19:30

Tsunami hazard inventory survey of utilize for municipalities

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A tsunami hazard inventory is important for tsunami disaster mitigation due to earthquakes, and also for a Tsunami hazard assessments. The tsunami hazard assessments project for Japan was started since 2012 by NIED (Fujiwara, *et al.,* 2013, Hirata, *et al.,* 2014). We performed inventory survey on utilization of the tsunami hazard assessments to Ibaraki and Chiba prefectures, which damaged municipalities of the tsunami during the 2011 off the Pacific Coast of Tohoku Earthquake. First stage, we surveyed the crisis management departments of the Ibaraki and Chiba Prefectures. Second stage, we surveyed 10 municipalities of Ibaraki prefecture and 18 municipalities of Chiba prefecture. Tsunami hazard inventory was carried out with a description of the Tsunami hazard assessments as the introduction. To discuss the possibility of the use of the municipality of tsunami hazard assessments current status and Issues of tsunami measures, organize the opinion and negative opinion aggressive to report the problem extraction.

Keywords: tsunami, hazard, public disclosure, disaster mitigation, probabilistic

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Reconstruction of paleo earthquake intensity

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Many drastic earthquakes have been occurred historically in Japan. In order to reduce damages caused by those earthquakes, data concerning frequency, magnitude and influenced areas of each earthquake are inevitable. Here, we report measuring method of paleo intensity of historic earthquakes at arbitrary selected stations based on empirical formulas. Based on data regarding position of epicenter and magnitude of each paleo earthquake, intensity of paleo earthquake at arbitrary site is estimated. At the beginning, these data were used to recognize earthquake triggered turbidites at several lakes. The results show that lower threshold of triggering turbidites are 45gal in Lake Biwa and 79gal in Lake Inawashiro, respectively. Usage of this kind of method will enable us to reconstruct paleo earthquake data which have no written record.

Keywords: paleo earthquake, intensity of quake, sediment

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An overview on current status of public disclosure for tsunami hazard information in and around Japan

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A probabilistic tsunami hazard assessment research work is currently conducting by the National Research Institute for Earth Science and Disaster Prevention (NIED) (Fujiwara et al, 2013, Hirata et al., 2014). It is well recognized that output from such assessment should be transferred to the public as understandable and utilizable informations in various stages on hazard prevention works. From this point of view, as part of this project, we make a brief survey on how and what sort of hazard informations local residents are receiving from administrative authorities or agencies in and around Japan. Survey is focused on hazard map which is reachable through internet. In this paper, results are summarized in two categories, 1) type of maps and 2) distribution methods. Category 1 is able to divide into four subgroup; 1a is due to tsunami height map at shore (ex. Australia), 1b is tsunami inundation depth map which are based on the simulations on worst, most probable case, or probabilistic case (ex. most of Japanese prefectures, Indonesia, Oregon and Washington, USA), 1c is tsunami evacuation map in which zones to be quit are shown according to the warning level (Wellington, NZ, Oregon and Hawaii, USA), and 1d tsunami regulation map which prohibits (Oregon, USA). These maps are based on probabilistic or deterministic assessment outputs. Tsunami hazard informations are available mainly in style of the poster (downloadable in PDF format) although Web mapping (ex. Hawaii, USA) or GIS format (ex. Australia) can be found. Later seem to urge a user to secondary or further utilization. This survey suggests that it should be to provide tsunami hazard assessment results in various ways of presentations which meet user’s purposes.

Keywords: tsunami, hazard information, disclosure, hazard map, utilization