

Studies on the understanding of haiku composed by earthquake disaster of East Japan on 11. 3. 2011

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The damage of the Fukushima nuclear power plant and the East Japan big earthquake, the east part of Japan received big impact on the March 11, 2011. Many haiku poet composed haiku poems to the impact of the nuclear power plant accident and the earthquake disasters. Of these haiku what was published in the magazine, 234 haiku on the home page were to be used in the data. Copies of haiku were shown to 19 people of the general public and the poet, and we asked whether they can understand them, or they are impressed by them. 2354 haiku was chosen in total. 124 haiku was chosen average.

10.1 average people, understand of haiku and the distribution of the two-peaked mountain with 8 and 13 people was observed. Haiku understood by more than half of people were relatively large and 132 (56.4%), so it was found that haiku is yet the useful means of communication of mind for the Japanese today. As for the impressive haiku, it has the maximum value in 0 and at 1.4 person average, and decreases the distribution of people. 91 (38.8%) haiku were impressed by more than two people. To convey the emotion equally to many people, it showed difficulties. Taking the correlation of the number of people impressed with the number of people evaluated, it showed weak association of 0.515. The results suggested that haiku could be understood by a lot of people, but could give the impression variously.

According to the evaluation method in the Haiku Society, one point in haiku which was able to understand, to give two points to haiku that was impressed, we calculated the total score. Correlation of the number of people understood and the people impressed indicates 0.731, the stronger association was obtained. This is a result of the score added points. As it was not a very strong connection, so the individual differences affect the evaluation of haiku.

By the principal component analysis in the factors respondents, six-axis was obtained with eigen value greater than 1.0. This indicates that there are many different preferences in the evaluation by the respondents. The axis with maximum eigen value has the largest explanatory power, and showed the severity of the evaluation. We estimate 5-axis remaining as the evaluator's preferences for haiku.

The highest scored Haiku observed 2 haiku of 20 points.

(1) Mud certification of graduation, mud portrait digging under the debris by Tsunami (Sinogo SONE)

(2) Finding my mother in turning disaster's debris, light snow falling (Minu KASHIWABARA)

(3) Children crying bright hopes for their future a graduation ceremony (Nagahiko KAMIGORI)

(1) described the scenery that the photographs of deceased persons and the certification of diploma by deceased became muddy by the tsunami, people are digging them after the disaster in the damaged areas.

(2) described the scenery that light snow was falling, while people are removing the disaster debris of earthquake to find their mother of missing, at the neighborhood home.

(3) was praying for the pupil who were singing the graduation song with full of tears to be lighten

We thought that both of them were touched deeply by sadness.

Reference

Haiku: <http://blog.goo.ne.jp/humon007/e/fcc6b3e8f8dc3ca1cbc6a2177d6d0637>

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Keywords: earthquake disaster of East Japan on 11. 3. 2011, haiku poet, understandings and deep impressions

Hazard Mapping of Structurally Controlled Landslides in Leyte, Philippines Using High Resolution Digital Elevation Model

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Structurally controlled landslides are one of the most destructive natural hazards that have occurred in the Philippines. The 2006 Guinsaugon Landslide, which was produced by the displacement of the Philippine fault, is a classic example of such hazard that took more than 1,000 lives and displaced more than 19,000 residents in the municipality of St. Bernard, Southern Leyte. Frequent monitoring and assessment should be done across the Philippine archipelago. The purpose of this study is to locate structurally controlled landslide prone areas with the aid of Coltop3D, Matterocking and Conefall using a high resolution digital elevation model (5 m resolution Interferometric Synthetic Aperture Radar images). The study area is set in the municipality of Ormoc, Leyte where the Philippine fault also cuts through and trending northwest. Discontinuity sets were identified using Coltop3D software that simulates a 3D model of the digital elevation model showing the dip and dip direction of different discontinuities. Lineation analysis and rose diagrams were made to verify the discontinuity sets in the area. Matterocking computes and estimates the locations where rock instabilities can occur according to the identified discontinuity sets that may allow sliding. Conefall was then used to compute and estimate the potential rockslide extent. Results show that the area has zones of potential rockslides with generated simulation of rockslide propagation extent. There is a high probability of landslides in Ormoc area where continuous monitoring of such danger zones should be done.

Keywords: structurally controlled landslides, geohazard, philippine fault, discontinuities, landslide mapping, structures

Developing Automatic Delineation of Alluvial Fans for Rapid Hazard Assessment in Aurora Province, Philippines

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On Nov. 14, 2004, flashfloods from Subsob River struck Barangay(village) Paltic in Dingalan, Aurora Province around 4 a.m. when most residents were asleep - leaving hundreds homeless and 135 people dead. The series of floods caused by Violeta, Winnie, and Yoyong until December 2004 killed at least 300 people in Dingalan, Aurora alone. Mud buried 300 houses and residents were forced to stay on rooftops or seek higher ground. Because of these incidents, measures were devised to improve available geohazard maps to raise public awareness about landslides, debris flows and alluvial fans. This study developed a method to rapidly identify alluvial fans, thereby, hastening geohazard mapping in the region. Alluvial fans are fan shaped geologic formations deposited from tributaries from a mountainous terrain which flows out from the sudden break of a slope. Intense rainfall increases the discharge of sediments and water on these areas which could induce disastrous events such as flooding and debris flows. In this study, manual and automated methods in delineating fans in Aurora Province were compared. Manual delineation of alluvial fan boundaries were done through the contour lines generated from the 10-meter synthetic aperture radar (SAR)-derived digital elevation model (DEM). However, manual mapping of alluvial fan boundary which makes use of topographic interpretation of geomorphic features is subjective and time consuming. Biases were addressed by the second method by including factors such as 1) fan area of slope ranging from 1 to 8 degrees, 2) contributing stream networks from fan apex to fan toe , and 3) the fan potential lateral extent within the buffer zones based on the relief of the sediment source area in the GIS-based model. The outputs were compared with the manually delineated fans. Manual delineation identified 14 alluvial apex of 14 alluvial fans in 6 municipalities affecting 36 barangays . On the other hand, automated method identified 183 apex of 126 alluvial fans in 7 municipalities affecting 105 barangays. Although greater number of fans and wider fan area were identified using the automated method, manual delineation is still needed to check the results especially in volcanic regions. In addition, inactive alluvial fans are not accounted by the automated method.

Keywords: alluvial fan, natural hazard mapping, geohazard, GIS, Aurora, Philippines

Strong Explosive Eruptions of Kamchatkan Volcanoes in 2013

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There are 30 active volcanoes in the Kamchatka, and three of them (Sheveluch, Klyuchevskoy, and Karymsky) continuously active. In 2013, two of the Kamchatkan volcanoes - Sheveluch and Klyuchevskoy - had strong explosive eruptions.

Powerful explosive eruption of volcanoes is the most dangerous for aircraft because in a few hours or days in the atmosphere and the stratosphere can produce about several cubic kilometers of volcanic ash and aerosols. Ash plumes and the clouds, depending on the power of the eruption, the strength and wind speed, can travel thousands of kilometers from the volcano for several days, remaining hazardous to aircraft.

The eruptive activity of Sheveluch Volcano began since 1980 (growth of the lava dome) and is continuing at present. Strong explosive events of the volcano occurred in 2013: on June 26, on October 18, and on December 03: ash plumes rose up to 10 km a.s.l. and extended about 200-400 km, respectively, to the south-west, south-southeast, and north of the volcano. A form of pyroclastic flow deposits with run-out 12 km accompanied these explosive eruptions. Ashfalls occurred at Klyuchi Village (on June 26) and Ivashka Village (on December 03). Activity of the volcano was dangerous to international and local aviation.

Klyuchevskoy volcano had two eruptions in 2013: moderate Strombolian explosive eruption from October 14, 2012, till January 15, 2013; and strong Strombolian-Vulcanian explosive and effusive eruption from August 15, 2013, till December 20, 2013. There were four lava flows to effuse on the north-west, west and south-western volcanic flanks. Probably a flank eruption began at the pass between Klyuchevskoy volcano and Kamen volcano on October 06. Culmination of strong Vulcanian explosive activity of the volcano occurred on October 15-20: ash column rose up to 10-12 km a.s.l. and ash plumes extended to the different directions of the volcano according to cyclonic activity in the this area. Phreatic ash plumes on the fronts of lava flows rose up to 5 km a.s.l. Weak ash falls were noted at Klyuchi Village on October 09 and 13, and Mayskoe Village on October 16. Activity of the volcano was dangerous to international and local aviation.

Keywords: explosive eruption, volcano, Kamchatka, Sheveluch, Klyuchevskoy