

# Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



MIS036-P138

Room:Convention Hall

Time:May 26 14:15-16:15

## Low altitude aerial photographs of March 2011 tsunami damaged areas in Minamisanriku Town, Miyagi Prefecture, Japan

Hiroshi Inoue<sup>1\*</sup>, Hiroshi Imai<sup>1</sup>, Hitoshi Taguchi<sup>1</sup>

<sup>1</sup>NIED

We took low altitude aerial photos of the tsunami damaged areas in Minamisanriku Town in Miyagi Prefecture as a part of Tsunami Damage Record and Archive Project under ALL311 project coordinated by NIED. The purpose of the photographing is to record all of the disaster, studying damages of structures, tsunami inundation mapping, and providing materials to assist recovery and restoration of the cities.

Photographs taken from low altitude (up to 100m) provides more details of the objects as compared with ordinary aerial photos from 300 m or above in inhabited areas. It also gives overall images of the objects or the areas unavailable by pictures from the ground. We used a radio controlled helicopter, waterproof fish-eye full HD camera, GPS logger, and compass. We also tried to take photos from 4m high camera attached to the vehicle, and 10m high camera attached to a rod.

Photographs were taken in tsunami damaged areas all over Minamisanriku Town in about ten days. Images of completely demolished areas, half-damaged RC and steel buildings, road bridges and railroad trucks were taken from unique view angles. Several tens of thousands of the photos were obtained. We provide them to researchers and communities using the e-Community Map by NIED and those available on Google Map, in consideration of privacy of the suffered people as close-up photos of the residential houses are included.

We will continue the photographing in Kesenuma City and others, but the whole area is too wide to cover by our team. It would therefore be needed to cooperate other groups, using also simpler devices like kites and balloons with standardized procedures to collect the images of the whole suffered areas in a timely manner.



志津川地区 Shizugawa area



歌津地区 Utatsu area



航跡図 Flight tracks