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A field survey of coastal disaster in South Fukushima and Ibaraki by the 2011 off the Pacific Coast of Tohoku Earthquake

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We conducted a field survey of coastal disaster from South Fukushima to Ibaraki by the 2011 off the Pacific Coast of Tohoku Earthquake. Focusing damage due to Tsunami and liquefaction, we did it from Itako, Ibaraki to Hitachinaka, Ibaraki on 1 April, and from Yotsuura, Fukushima to Takahagi, Ibaraki on 8 April.

The large damaged regions in Fukushima are Yotsukura, Usuiso, and Onahama, and those in Ibaraki are Nakaminato, Ooarai, Kyouchigama, and Kashima (from north to south in order). The Maximum wave heights in Fukushima are about 5-10 meters, and those in Ibaraki are about 3-8 meters.

The most damaged region due to Tsunami is Usuiso, Fukushima. The damage was caused mainly by levee crevasse. However, the neighboring region, Tomigami had small damage. The amount of damage is considered to be decided by local topography and Tsunami direction. Similar tendency can be seen in the regions neighboring the other large damaged regions.

The most damaged region due to liquefaction is Kashima, Ibaraki. Although Kashima is located in the southernmost on the surveyed area, therefore, the maximum wave height of Tsunami is inferred to be the smallest, liquefaction caused a destructive damage in Kashima. On the other hand, damages due to liquefaction are small in the north of Ooarai. The amount of damage is considered to be decided by firmness of the ground.

In the presentation, we will show the summary of another field survey (on 14 and 15 April) of coastal disaster in Iwate by the 2011 off the Pacific Coast of Tohoku Earthquake.

Keywords: the 2011 off the Pacific Coast of Tohoku Earthquake, Tsunami, Liquefaction, Field survey, Fukushima, Ibaraki