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

MIS23-P06 Room:Poster Time:May 2 16:15-17:30

Relationship between the inundation limit and the maximum extent of the sandy tsunami deposit in Sendai Bay coasts

ABE, Tomoya[1*] ; GOTO, Kazuhisa[2] ; SUGAWARA, Daisuke[2]

[1]Department of Geography, Nagoya University, [2]IRIDeS, Tohoku University

Maximum landward extent of the sandy tsunami deposits can be regarded as the minimum inundation limit. Before the 2011 Tohoku-oki tsunami, recent post-tsunami field surveys along low-lying coastlines showed that sandy tsunami deposits commonly extend to approximately over 90% of the actual inundation limit (MacInnes et al., 2009). On the other hand, after the 2011 Tohoku-oki tsunami, some researches of the 2011 tsunami pointed out that the significant gap (0.6-2.0 km) between the inundation limit and the maximum landward extent of the sandy tsunami deposit where the inundation distance was more than 2.5-3.0 km (Goto et al., 2011; Abe et al., 2012; Shishikura et al., 2012). However, it is uncertain why the gap appeared. This study focuses on the relationship between the maximum extent of sandy tsunami deposits and inundation limit of the 2011 Tohoku-oki tsunami.

Inundation limits of the Tohoku-oki tsunami were assessed over 15 shore-normal transects in the Sendai Bay coast. Inundation distances of the 15 transects were found to range from 0.60 to 5.07 km. The maximum limit of the sand layer extended to 2.3-3.0 km (55-74% of the inundation distance) along 6 transects in the wide coastal plain in the northern-middle part of the Sendai Plain. Absence of the sandy tsunami deposits over 3.0 km inland may explained by the limitation of the sand supply from sand beach and sand dune.

Keywords: 2011 Tohoku-oki tsunami, Sendai Bay coast, Inundation limit, Maximum extent of sandy tsunami deposit