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## Tsunami flow on the Sendai and Ishinomaki plains in relation to their geo-environment

Masatomo Umitsu<sup>1\*</sup>, Kyouhei KITAMURA<sup>1</sup>, Masahiro SUGIMOTO<sup>1</sup>, Kenya TAMURA<sup>1</sup>

<sup>1</sup>Nara University

Mapping on aerial photos taken just after the tsunami disaster shows characteristics of tsunami flow on two coastal plains: the Sendai and the Ishinomaki plains in northern Japan. Landforms of the plains are characterized as the strand plain with several rows of beach ridges. The run-up tsunami flow invaded into the plains about 4.5 km from the coast. Strong tsunami flow severely washed the villages located along the coast and damaged the area further inland. The tsunami inundation spread out over the plains with the depth of 4.5 m along the coast and 1-2 m even in the area about 2-3 km from the coast. In the southern part of the Sendai plain, direction of the back wash flow is almost towards the coast and perpendicular to the coastline. But the directions of the back wash flow in the central and northern part of the Sendai plain were various, whereas the run-up flow direction was almost perpendicular to the coastline. The direction of the back wash flow might be controlled by the regional topography and structures on the region.

In the Ishinomaki coastal plain, directions of the back wash flow were indicating mostly towards the southeast and east. There is not many places where the direction of the back wash flow were towards the direction of perpendicular to the coastline. This extraordinary direction of the back wash flow might be related with the tsunami waves in the Ishinomaki Bay.

Keywords: Tsunami flow, Sendai Plain, Ishinomaki Plain, Landforms, Geoenvironment