

Population Movement in Close Proximity to the Coastline in the Tokyo Metropolitan Area

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- (1) **Introduction:** This study aims to examine the population movement in close proximity to the coastline in the Tokyo area in Japan. The purpose of this analysis is to examine the potential hazard of such movements in the event of a tsunami. As this research is still in its initial stages no concrete conclusions have been reached yet, but the pursued methodology will be described in the following lines.
- (2) **Data:** The data used in this study were provided by CSIS and offered to the Division of Spatial Information Science, the University of Tsukuba. The data describe the daily movement of 576,806 people as obtained by questionnaire for a single day in 2008, and are provided with a spatiotemporal resolution of 1 minute. Attributes of the data include the socioeconomic characteristics of the interviewees (age, gender, occupation, etc) as well as the structure of their daily movement (number of trips, sub trips, purpose, method of transportation, etc.)
- (3) **Premise:** This research assumes that there are people in movement in close proximity to the

coastline (1 km) throughout the whole day. It is also assumed that the people in movement might be at risk in case of a tsunami event due to their transportation means, and that different means of transportation can increase or decrease this risk.

- (4) **Analysis:** Using the CSIS person trip database this research will investigate:
 - The total amount of movements close to the coastline in hourly time slots
 - The age of the moving people in these hourly time slots in order to identify possible hours with a lot of sensitive age people at move
 - The means of transportation in these time slots, so as to determine hours with more hazardous transports
 - The purpose of these transports in order to determine whether or not potentially hazardous trips can be mitigated or rerouted, for better safety in case of a tsunami event.
- (5) **Future steps:** Analysis of the provided data as described above and initial assessment of the situation based on the research premise.

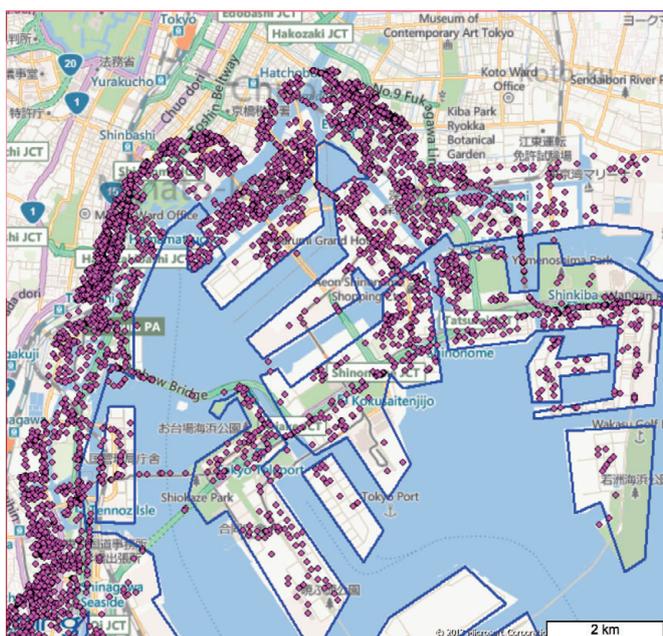


Fig. 1: People in movement, within 1 km of the coastline in Tokyo.