Development of agent based evacuation simulators coupled with STOC-CADMAS

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In this paper, development of agent based evacuation simulators are described. The agent based model was coupled with STOC-CADMAS (Arikawa and Tomita, 2014), which connects tsunami propagation simulator and 3-D numerical simulator. The STOC-CADMAS system calculates detailed inundation processes occurring in a town from a tsunami source location.

By using this system, the effect of the vertical evacuation and seawall were verified. The three different parameters, which were the evacuation place, the existence of seawall and the beginning time to evacuate, were changed. The tsunami condition is given as the elevation velocity. In this paper, this velocity is assuming that 1.0m/min.

The results are the followings;

1) The result of comparison of existence of seawall indicated that the effect of the seawall depended on the beginning time to evacuate. If the people started to run away after tsunami overflow the seawall, then the mortality with seawall was larger than that without seawall.

2) The vertical evacuation is better than the horizontal evacuation in this paper. But this depends on the tsunami condition, of course. So, the numerical simulations with various conditions should be needed.

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