



Natural hazards and urban infrastructure in coastal cities: Conceptual model

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It is important to include natural hazard risk into urban infrastructure planning. This should be done in a multi-criteria manner, using multiple hazards effects and evaluation of economic and social consequences. The paper focuses on coastal cities attractive for tourists. In this case there might be two additional threats that are important for long run investment in infrastructure: hazards from tsunami and global warming. In both cases there is a trade-off between risk and attractiveness that depends on particular location. The paper extends the previous works of Egorov (EGU05-A-02153 (US7), EGU06-A-09282 (NH9.08)), which were addressing the question of optimal location of hotels, taking into account the risk of their destruction by tsunami waves. The trade-off is between profits flow from tourism and risk to buildings and tourists. It uses both economic methods (investment and optimisation theory) and stylised facts from the theory of tsunami waves. The optimal location of hotels can be found for tsunami hazard. It depends on local topography (slope of relief), probability distribution of tsunamis with different wave heights in current location, preferences of tourists and time discount for a country.