

Decision-making and evacuation planning for flood risk management in the Netherlands

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Abstract

A traditional view of decision-making for evacuation planning is that, given an uncertain threat, there is a deterministic way of defining the best decision. In other words, there is a linear relation between threat, decision, and execution consequences. Alternatives and the impact of uncertainties are not taken into account. This study considers the 'top strategic decision-making' for mass evacuation owing to flooding in the Netherlands. It reveals that the top strategic decision-making process itself is probabilistic because of the decision-makers involved and their crisis managers (as advisers). The paper concludes that deterministic planning is not sufficient, and it recommends probabilistic planning that considers uncertainties in the decision-making process itself as well as other uncertainties such as forecasts, citizens responses, and the capacity of infrastructure. This results in less optimistic, but more realistic, strategies and a need to pay attention to alternative strategies.

Keywords: decision-making, evacuation, flood risk, the Netherlands.

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