

Depicting consequences of storm surge: risk communication opportunities and ethics.



Visualizations of percent damage in the community of Matunuck RI, based on the Coastal and Environmental Risk Index (CERI).(1)

This research seeks to understand the ways in which depicting the consequences of storm surge and sea level rise impact perceptions of risk. It provides guidance for creators of realistic and semi-realistic visualizations, emergency managers, planners, and policy makers.

Visualizations of storm surge and sea level rise play an increasingly important role in decision making processes as communities confront the challenge of rising sea levels.(2) Depicting inundation alone, however, may be inadequate as citizens and stakeholders tend to underestimate the consequences of storm surge.(3) As advancements in visualization technology make it possible to depict consequences such as damage or debris, it is important to understand the implications these practices.



A highly realistic visualization of the aftermath of a storm surge based on a simulation of consequences.

Realistic visualizations can better communicate complex and nuanced information to spur behavior change, such as taking adaptation measures.(4) There are concerns, however, that realistic visualizations distort perceptions of probability and mislead the public (5). This research thus measures the effects of visualizations on perceptions of risk to better account for these effects to support the development of effective tools for validating their use and the development of ethical standards.



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