A Public Health Risk Assessment of Vulnerable Water Infrastructure in Coastal Cities

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Coastal infrastructure is becoming increasingly vulnerable to hazards from extreme precipitation events, storm surge, riverine flooding, and rising sea levels. Knowing that there is an intimate connection between infrastructure and public health, NOAA's Climate Program Office has taken the opportunity to engage local communities in assessing the susceptibility of their populations most vulnerable to health risks from failed water infrastructure. Our team has devised a four–step process to determine health–related impacts that result from impaired environmental conditions. We begin by collecting data relevant to water and waste water infrastructure from key stakeholders. Then we map and model hazard scenarios that could affect localized water infrastructure. Once we've refined our model, we identify the populations that are most susceptible to health impacts. Using that information, we will conduct interviews with local public health officials and infrastructure specialists to determine whether or not our conclusions have been reached in an appropriate manner. The pinnacle of this project involves the development of a Susceptibility Index, a user–friendly guide that can assess and summarize public health threats for decision makers from a variety of backgrounds.