

ENVISIONING SEA LEVEL RISE ADAPTATION IN WAIKĪKĪ, HONOLULU

NEW CONSTRUCTION (2100)



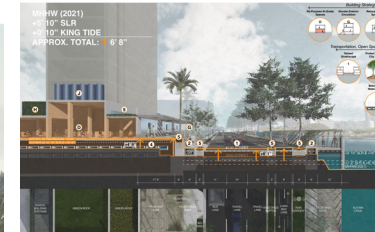
ADAPTATIONS (2100)



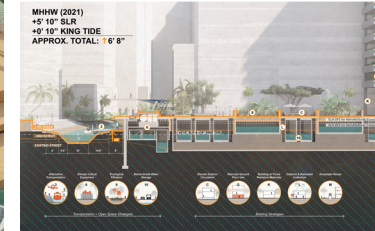
ADAPTATIONS (2100)



RETROFIT (2100)



ADAPTATIONS (2100)



UH School of Architecture Environmental Research and Design Laboratory
UH Sea Grant Center for Smart Building and Community Design
UH School of Ocean and Earth Science and Technology Climate Resilience Collaborative

In Hawai'i, a \$19 billion loss is anticipated due to sea level rise impacts. One approach to managing sea level rise in dense, economically-significant urban areas, like Waikīkī, is to assume an "in-place" flood adaptation strategy. This academic design research merges science with design to create conceptual urban and architectural design renderings to visualize sea level rise adaptation strategies over time for buildings, utilities, transportation, and open space. This visionary approach with innovative conceptual renderings aims to facilitate discussion and contribute to area plans, design guides, pilot projects, and new policies that prepare for future flooding in 2050 and 2100. The following transferable, replicable methods include gathering background information, soliciting public engagement, visualizing design concepts, and seeking public feedback. In 2020 and 2021, the research team reviewed flood resilience guides, identified relevant adaptation strategies, hosted six public presentations, gathered input from over 200 stakeholders, and recorded public feedback in reports. In 2022 and 2023, the team created site-specific renderings to illustrate potential future flooding and adaptation strategies. Publicly-available project resources include a summary booklet, public feedback reports, presentation slides, and videos. The work has been presented to over 700 people in professional, business, governmental, and academic settings and demonstrates excellence of thought, analysis, and graphics in the creation of proposed design criteria for the height of the building's occupied space. Positive social and economic impacts were a key driver in the development of the adaptation renderings, with an evident emphasis on enhancing the recreational, cultural, and business resources for Waikīkī.