

The climate-resilient urban design engineering responsibility has become central as a multifaceted and inseparable commitment that is beyond technical expertise and includes ethical agency, cross-sectoral practice, and active responsiveness of the built environment to rising climate risks. The ability to prepare, absorb, recover, and adapt to cities and climate shocks, including floods, heatwaves, and city infrastructure failures, is also increasingly becoming defined as urban resilience as cities continue to face various types of climate shocks, and as recent scholarly synthesis of urban resilience models and empirical evidence continues (Xi et al., 2025). The challenge of climate-resilient urban design is to take on engineering responsibility through a proactive integration of adaptive, ethical, and sustainable planning, technology, and governance solutions to mitigate climate risks and promote long-term urban resilience. Engineering responsibility in climate-resilient design fundamentally involves foreseeing the risks of climate change and instilling an adaptive capacity at every phase of design and building, instead of responding to the disasters once they happen. Research indicates that traditional engineering practices based on a consistent ground on a climate basis are no longer effective, but rather, resilient civil engineering should change its orientation to adaptive, sustainable, and integrative design methods incorporating climate forecasts into sound structure planning (Madan, 2025). This involves the use of climate-conscious information and forecast modeling, a combination of renewable energy systems, and the construction of resilient constructions that can withstand temperature extremes, precipitation, and water rise. In such a way, engineers help to minimize systemic vulnerability directly, so that essential infrastructure, both in flow and in transportation systems, can sustain operations during and after climatic perturbation. The role of engineers also spills

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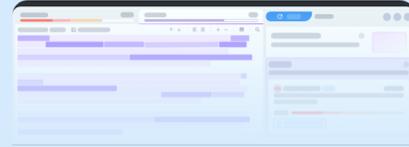
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