Special Issue

Post-Disaster Resilience and Repair Cost Modelling for Sustainable Construction

Message from the Guest Editors

The escalating impacts of climate change and extreme weather highlight the urgent need to integrate resilience and sustainability into the built environment. Post-disaster resilience is the ability of infrastructure to absorb shocks, recover rapidly, and adapt to future hazards, while sustainable construction ensures that recovery efforts minimise environmental impact, optimise resource use, and support community well-being. We invite researchers, practitioners, policymakers, and industry experts to contribute original papers that advance knowledge and practice in this field. We welcome theoretical, empirical, and case-study-based submissions that address innovative tools, methodologies, and policy frameworks for resilient and sustainable recovery. **Key topics include (but are not limited to):**

- Post-disaster damage assessment methodologies
- Repair cost estimation models and uncertainty analysis
- Life-cycle costing in disaster recovery
- Integration of low-carbon and durable materials in reconstruction
- Digital technologies (BIM, GIS, AI) for resilience and cost modelling
- Policy and insurance frameworks for sustainable rebuilding
- Case studies of resilient reconstruction in disaster-affected region

Guest Editors

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Dr. Hong Xiao
Prof. Dr. Colin Booth

Deadline for manuscript submissions

closed (20 May 2026)

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About the Journal

Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

Editor-in-Chief

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