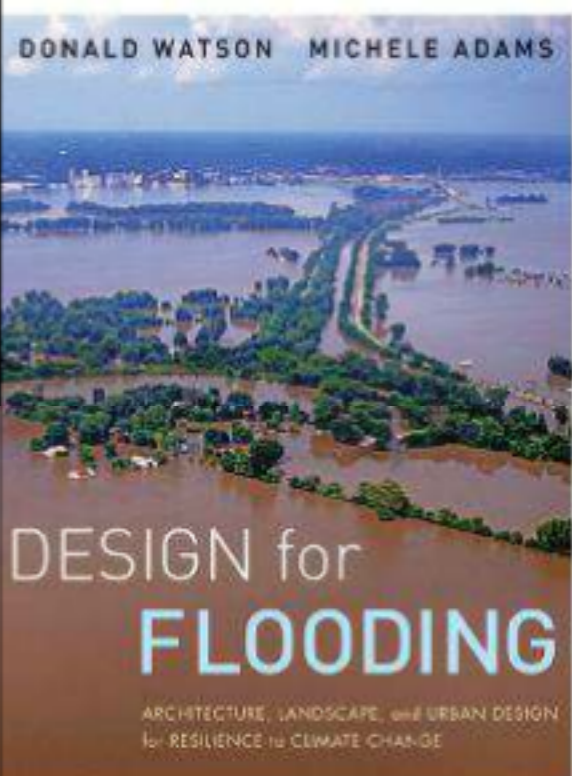


DESIGN FOR FLOODING: ARCHITECTURE, LANDSCAPE, AND URBAN DESIGN FOR RESILIENCE TO CLIMATE CHANGE

BY DONALD WATSON AND MICHELE ADAMS;
HOBOKEN, NEW JERSEY: JOHN WILEY & SONS, 2011;
336 PAGES, \$85.

REVIEWED BY FREDERICK R. STEINER, FASLA



In late 2010 and early 2011 we saw floods inundate large swaths of Australia, Brazil, and Japan with considerable property damage and loss of life. In the January 2011 flooding in the state of Rio de Janeiro, at least 842 people died, with another 8,777 left homeless. The toll from the March flooding after the tsunami in Japan is still being tallied.

Flooding is a natural phenomenon with many positive benefits such as the deposition of silts that develop into productive soils. However, unwise human settlement can intensify the negative effects of flooding—we routinely see the way paved surfaces can increase storm runoff and accelerate river flows, and we know by now, or you would think we know, of the inherent danger of placing buildings in flood zones. As Donald Watson, an architect, and Michele Adams, an engineer, note in *Design for Flooding*, flooding “is a disaster because of the way we have built upon areas susceptible to flooding.”

Watson and Adams ground their fine book in conventional approaches such as watershed planning, floodplain management, and flood-resistant design, but they go further by employing the emerging notions of resilience, or the ability of landscapes to absorb disturbances; ecosystem services, or the benefits the environment provides to human beings; and the precautionary principle, which is the imperative to consider human and environmental health closely in design decisions.

This combination of conventional and new concepts makes *Design for Flooding* particularly useful. Watson and Adams advocate water as a central focus for resilient design. Their book has four parts: the basics of weather and water-related events, the concept of water balance, building designs that avoid or resist flood hazards, and the question of sea-level rise.

The authors clearly explain key concepts, including climate, the water cycle, carbon sequestration, watersheds, and biodiversity, and discuss

how the natural and altered landscapes differ. They give considerable depth to design approaches, observing that “Each building site is part of a watershed problem or a part of a watershed solution.” Whereas the site design discussion is quite good, the chapter on flood design practices for buildings is outstanding. The detailed design discussion is supported by useful diagrams, illustrations, and photographs. The authors link design to flood and coastal zone planning and policy in the United States. Although much of the design material is transferable to other nations, international readers will need to reference their own flood and coastal management laws.

“EACH BUILDING SITE IS PART OF A WATERSHED PROBLEM OR A PART OF A WATERSHED SOLUTION.”

The book has a few minor weaknesses. The authors profile several “case studies” involving good examples of design and planning for flooding that offer relevant lessons, but they are poorly organized and of uneven depth. The examples would benefit from a consistent case-study method and format. And I have a minor quibble with the subtitle: Some architects seem to be unable to use the full name of the landscape architecture profession.

Design for Flooding contains considerable useful information for practitioners and students. Watson and Adams fill the void for new thinking that has developed since Thomas Dunne and Luna Leopold’s classic *Water in Environmental Planning* (1978), and they advance our ability to create more sustainable, regenerative, and resilient places. ●

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