



Delft University of Technology

Foreword

Hein, C.M.

Publication date
2026

Document Version
Final published version

Published in
Waterfront Regeneration in a Time of Climate Change

Citation (APA)

Hein, C. M. (2026). Foreword. In R. Pernice, & T. Yaguchi (Eds.), *Waterfront Regeneration in a Time of Climate Change: Recent Japanese and International Experiences* (pp. xx-xxiv). Routledge - Taylor & Francis Group.

Important note

To cite this publication, please use the final published version (if applicable).
Please check the document version above.

Copyright

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

Takedown policy

Please contact us and provide details if you believe this document breaches copyrights.
We will remove access to the work immediately and investigate your claim.

**Green Open Access added to [TU Delft Institutional Repository](#)
as part of the Taverne amendment.**

More information about this copyright law amendment
can be found at <https://www.openaccess.nl>.

Otherwise as indicated in the copyright section:
the publisher is the copyright holder of this work and the
author uses the Dutch legislation to make this work public.

EDITED BY RAFFAELE PERNICE
AND TETSUYA YAGUCHI

Waterfront Regeneration in a Time of Climate Change

RECENT JAPANESE AND INTERNATIONAL EXPERIENCES



ROUTLEDGE RESEARCH IN PLANNING AND URBAN DESIGN



Designed cover image: View of Tokyo Bay Inner Harbour (Tsukishima-Harumi-Toyosu Area).
Photograph by Raffaele Pernice (2023).

First published 2026
by Routledge
4 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
605 Third Avenue, New York, NY 10158

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2026 selection and editorial matter, Raffaele Pernice and Tetsuya Yaguchi; individual chapters,
the contributors

The right of Raffaele Pernice and Tetsuya Yaguchi to be identified as the authors of the
editorial material, and of the authors for their individual chapters, has been asserted in accordance
with sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or utilised
in any form or by any electronic, mechanical, or other means, now known or
hereafter invented, including photocopying and recording, or in any information
storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or registered trademarks,
and are used only for identification and explanation without intent to infringe.

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

ISBN: 978-1-032-98134-5 (hbk)

ISBN: 978-1-032-98135-2 (pbk)

ISBN: 978-1-003-59720-9 (ebk)

DOI: 10.4324/9781003597209

Typeset in Times New Roman
by Newgen Publishing UK

Foreword

Carola Hein

At a time of climate related water system change, the form and function of waterfronts is gaining more attention. The book *Waterfront Regeneration in a Time of Climate Change: Recent Japanese and International Experiences*, edited by Raffaele Pernice and Tetsuya Yaguchi, brings the case of waterfront regeneration in Japan into a broader global context. **Building on an international symposium held at UNSW Sydney in 2022**, the book engages a much-needed theme as it brings climate change and particularly water systems into the broader conversation on climate related water system change for coastal cities (SOS Waterfront).

People have historically adapted to the local conditions of water, its abundance (such as in the Netherlands), or its limits (think of cities in the desert). Knowledge about oceans, rivers and seas was key to survival at the edge of sea and land. To obtain drinking water, to fish or to navigate required practice and understanding of water quality, of currents or of natural hydrological systems. The depth of this knowledge was handed down through generations often in select communities, among traditional leaders or seafarers. Some of this knowledge was captured in maps, paintings or literature in stories or music; for example, indigenous communities continue traditional practices. The 16th century maps by Piri Reis stand as examples of historic imaginaries of waterfronts.

With industrialization, politicians, planners or technicians have come to rely on technological solutions to control water, piping water, raising dykes, channeling rivers or reclaiming land. ‘Modern water’ as Linton (2013) termed it, is characterized by technological and economic approaches and a generalized loss of relevant imaginaries, a development that is well captured with the concept of Blankness (Couling & Hein, 2018). The establishment of multiple separate water related, i.e., water services (drinking, sewage), as separated from water management for irrigation or flood protection, or shipping, has led to a loss of conceptualization of water as a complex ecosystem. Through his concept of wetness and his research on rivers, Dilip da Cunha (2018) has promoted a broader understanding of water beyond its representation as a line from source to sea.

At a time of climate change, flood and drought catastrophes worldwide and changes in ground or rainwater level, the belief that higher sea walls, stronger locks and other technological solutions will protect cities and landscapes from water system change is not sufficient. We need new approaches to living with and on water that include nature-based solutions and a rethinking of water-land edges.

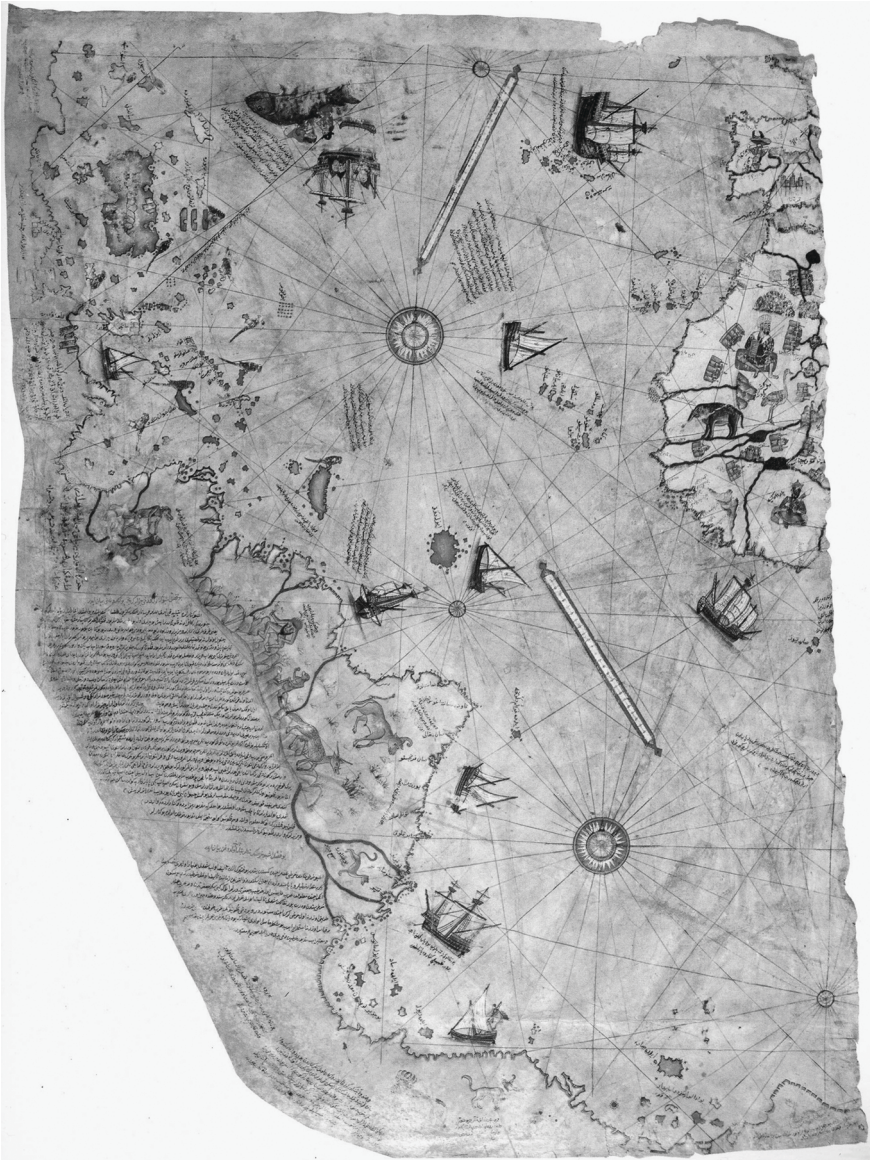


Figure 0.1 Piri Reis world map.

Source: Public domain.

The Dutch Room for the River Project stands out as an attempt to reimagine living with rivers (Sijmons et al., 2017). Such a rethinking of water management requires also a change in socio-cultural approaches such as ones considered in the Interreg Project (Connected River). Comprehensive rethinking of water and interactions should include the physical form of water–land edges; spaces that can take a multiplicity of forms as documented by Bres and Krosnicka for Gdansk (Bres and Krosnicka 2021). This also means developing more comprehensive understanding and methodologies for the multitude of water uses and interests as well as their potential frictions (Hein, 2023).

The waterfront, as the edge between sea and land, has long attracted particular functions, uses and designs. The waterfront facilitates the transmission of goods and people from sea to land and land to sea. Quaywalls, cranes, warehouses, seamen's housing and other equipment and infrastructures are specific to these locations and to the transmission of goods and people from sea to land and land to sea. They are also home to specific practices that are uniquely located at the edge of water and land, think of rope making historically or the production of food for offshore platforms.

The waterfront has long been a place of safety concerns. Lighthouses have facilitated navigation along treacherous coasts, natural harbours and man-made ports have provided safe havens for centuries. Waterfronts have also been places of protection. Dykes have been built to avoid flooding to protect people on land from the sea. In the case of Japan, historic ports such as Kobe, Yokohama or Nagasaki have been hubs for foreign access even as the centres of power, Kyoto or Edo, were largely inaccessible. Accessibility on the one hand and protection, two seemingly opposing values, have thus shaped the waterfront.

The appearance of a waterfront is unique. From the seaside, it can be seen from afar and serves as a place of memory and identity. Drawings and paintings give evidence, such as the 13 factories in Canton (Guangzhou) (Hein, 2016). The view of the skyline and the waterfront is recognizable worldwide, think of Manhattan or the Shanghai Bund. The water edge offers open views – unless new land is created through land reclamation. Examples of expansion into the sea are visible in Tokyo, where the Hamarikyū garden was originally built with open sea views. Proximity to water is also a social justice question. As Seidensticker (1991) explored for Edo, living in higher, non-floodable, areas was a privilege for more affluent residents, whereas poorer people lived in floodable neighbourhoods near the river.

Tokyo, formerly called Edo, located at the water edge, has been largely built on reclaimed land. So, it may not come as a surprise that new land was created in front of the earlier districts. These processes of land reclamation, reinforced by the disposal of waste, building debris (including after the disasters), have gone so far that new infrastructural functions – infrastructures, airports, ports and entire housing or business districts have been built on reclaimed land. Hongkong, Singapore and many other cities in Asia have similarly expanded into the sea. (<https://oldhkphoto.com/coast/Map.html>; <https://earth.org/land-reclamation-hong-kong/>)

The megastructures imagined by Kenzo Tange for Tokyo Bay, Kiyonori Kikutake's Marine City and other projects by Japanese architects in the 1950s and

1960s were not realized as such, but they served as models for the filling-in of the bay or the construction of underground mega malls (Pernice, Covatta, Zuccaro Marchi). The reorganization of the waterfront that followed containerization provided spaces for the development of new urban sites with maritime heritage, river front promenades and port view lofts in Yokohama (Imai) and Tokyo, as well as in other Japanese cities and globally.

At a time of climate related water system change and extreme conditions, we need to rethink the ways of living with water. Higher and stronger dykes may no longer be the option, buildings on stilts, floating structures can be a solution. Such solutions require recovery of knowledge of water, oceans and rivers and a rethinking of land-water edges, their spatial form as well as their land ownership structures (Alterman & Pellach, 2021). Novel ways of living with water also require a rethinking of social and cultural practices (Hein, 2022). Higher dykes and more grey infrastructure have led to a loss of social structures (Yaguchi, Kurumado).

In line with the Risk Governance Framework (Vanessa Ziegler, 2023) interdisciplinary knowledge is needed for better risk management to create a more resilient risk management practice also among citizens. New forms of capacity building are needed; serious games, for example, can play an important role to increase local disaster preparedness (Galloway). Such solutions also need to engage with novel lifestyles. In his master's thesis, Lukas Hoeller explored floating ports (Hoeller 2021). The future of waterfront transformation requires a rethinking of our ways of living with water (Hein, 2022). This also means a rethinking of the role of ports as key entrance gates, particularly in island countries like Japan. Research by design can help imagine, discuss and test alternative futures, their relation to the past and our heritage as well as their socio-cultural impact.

References

- Alterman, R., & Pellach, C. (2021). *Regulating Coastal Zones. International Perspectives on Land Management Instruments*. Routledge. <https://www.routledge.com/Regulating-Coastal-Zones-International-Perspectives-on-Land-Management/Alterman-Pellach/p/book/9781138361560>
- Breš, J., & Krošnicka, K. A. (2021). Evolution of Edges and Porosity of Urban Blue Spaces: A Case Study of Gdańsk. *Urban Planning Special Issue: Planning for Porosity: Exploring Port City Development through the Lens of Boundaries and Flows*, 6(3), 90–104.
- Connected River. Interreg North Sea. www.interregnorthsea.eu/connected-river
- Couling, N., & Hein, C. (2018). Blankness: The Architectural Void of North Sea Energy Logistics. *Footprint*, 23, 87–104. <https://doi.org/https://doi.org/10.7480/footprint.int.12.2.2038>
- Hein, C. (2016). Port Cities and Urban Waterfronts: How Localized Planning Ignores Water as a Connector. *Wiley Interdisciplinary Reviews: Water*, 3(3), 419–438. <https://doi.org/10.1002/wat2.1141>
- Hein, C. (2022). Water, Culture and the SDGs as Living History. *Blue Papers*, 1(1), 13–23.
- Hein, C. (2023). Toward a Research and Action Agenda on Water and Heritage? A First Attempt at Refining Terminologies, Concepts and Priorities. *Blue Papers*, 2(1), 22–33.

- Höller, L. (2020). *Dynamic Port-City Scapes: From Liminal “Non-Places” to Imaginative and Synergistic Adaptive Ecosystems*. Master thesis, Delft University of Technology. Dynamic Port-City Scapes | TU Delft Repository: <https://repository.tudelft.nl/record/uuid:5bd2f042-74d1-4dc1-903d-dbe2d49f9f79>
- Hoeller, L. (2021). Porous Kirkenes: Crumbling Mining Town or Dynamic Port Cityscape? *Urban Planning*, 6(3), 197–209.
- Linton, J. (2013). Modern Water and Its Discontents: A History of Hydrosocial Renewal. *WIREs Water*, 1(1), 111–120. <https://doi.org/10.1002/wat2.1009>
- Seidensticker, E. (1991). *Low City, High City. Tokyo from Edo to the Earthquake: How the Shogun’s Ancient Capital Became a Great Modern City, 1867–1923*. Harvard University Press.
- Sijmons, D., Feddes, Y., Luiten, E., & Feddes, F. (eds). (2017). *Room for the River: Safe and Attractive Landscapes*. Uitgeverij Blauwdruk.
- SOS Climate Waterfront, <http://sosclimatewaterfront.eu/sos/results>