BOOK REVIEW
597 words

Urban Climate Science for Planning Healthy Cities, by Chao Ren & Glenn McGregor. 2021. Published by Springer Cham: London. 406 pp., 130 figures. £119.99 GBP (Hardback), ISBN 978-3-030-87598-5.

'Urban Climate Science for Planning Healthy Cities' is published by Springer Cham in the book series Biometeorology (BIOMET, volume 5). The book provides an essential reflection on the pressing needs posed by climate change and public health in terms of planning health cities. It is edited by two experts from the fields of architecture and climatology. Written over a decade, it is comprised of 18 chapters spread over three sections. Contributions from 80 researchers and/or practitioners (including the editors who co-author some chapters) from around the world, provides extensive perspectives and approaches of how to plan and manage climate-adaptive urban environments.

The book's introduction discusses how the increasing size and density of cities can exacerbate the risks from climate variability and change. Poor air quality, windstorms, heat waves, droughts and floods can lead to a range of health impacts including physical injury, heat-related illness, vector- and water-borne diseases, mental illness, and death. The editors' aim is to build understanding of the vulnerability of people and infrastructure in cities to climate hazards and disasters, what mitigation and adaptation actions are available, and how to implement them.

The first section "The Rise of Mega-cities and the Concept of Climate Resilience and Healthy Living" (chapters 1-2), sets the scene in terms of terminology, the historical development of the healthy city concept, and laying out the conceptual framework for understanding the complex relationship between urban environments, climate and health and wellbeing. A strength is its extensive draw from the evidence base, across 61 different fields (Fig 2.1), and over 30 years (Fig 2.6) to develop a single, comprehensive source of information.

Section 2 "Urban Climate Science in Action" (chapters 3-13) presents a range of city-based case studies that articulate many theoretical and proven interventions to integrate climate and health considerations into urban planning. These come from cities worldwide, including New York, London, Manchester, Tokyo, Beijing, Hong Kong, Singapore, Melbourne, Stuttgart and four Indian cities. While the established use of modelling is clearly recognised for producing information for planning healthy cities, the city case studies also point to alternative forms of knowledge generation such as citizen science and co-production methods. The authors put forward a range of intervention strategies such as green and blue infrastructure and policies (e.g. private gardens (Fig 5.8) and urban drainage systems (Fig 10.2)), bus stop waiting room design (Fig 6.10), and where to locate at-risk care homes (Fig

4.8). The latter illustrates another strength of the book, its consideration of how urban climates impact on people as well as infrastructure, including factors which affect an individual's vulnerability such as demographics and health needs. Fig 7.1 is of particular interest when considering options and challenges of measuring health impacts.

Finally, the third section "Future Challenges and the Way Forward" (chapters 14-18) presents ways that the knowledge and principles set out so far, can be turned into action. The authors emphasise the importance of interdisciplinary working, including the health sector alongside climate, environmental and urban professions. This includes information sharing to enable further evolution of monitoring and forecasting systems. There is insightful discussion of modes by which information should be conveyed to city leaders and stakeholders, and the importance of ongoing evaluations of interventions.

Overall, this book brings together the thinking on the need to, and ways to achieve healthy cities that can cope with climate change, in a more informed and integrated manner. It will appeal to an international audience of academics and practitioners alike, across the fields of spatial planning, urban planning and design, architecture, medicine, public health, social science, epidemiology, urban climatology and meteorology.

Rachael McClatchey
Centre for Public Health and Wellbeing, University of the West of England, Bristol, UK
rachael.mcclatchey@uwe.ac.uk