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Titolo	High-Rise Urban Form and Microclimate : Climate-Responsive Design for Asian Mega-Cities // by Feng Yang, Liang Chen
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ISBN	981-15-1714-2
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (220 pages)
Collana	The Urban Book Series, , 2365-7588
Disciplina	307.76
Soggetti	Sociology, Urban Sustainable architecture Climatology Buildings - Environmental engineering System theory Urban Sociology Sustainable Architecture/Green Buildings Climate Sciences Building Physics, HVAC Complex Systems
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	High-rise urban form -- Urban form and urban climates -- Urban high-rise microclimate -- Urban heat island intensity in residential quarters -- Pedestrian wind environment in residential quarters -- Solar radiation in high-rise urban environment -- Cooling effects of urban greenery at three scales -- Developing a thermal atlas for commercial-business.
Sommario/riassunto	The book comprehensively investigates the relationship between critical urban form and fabric parameters and urban microclimate in the high-rise urban environment that prevails in Asian megacitiessuch as Shanghai. It helps readers gain a deeper understanding ofclimate-responsive urban design strategies and tactics for effectively mitigating the negative impacts of deteriorating urban thermal environments on pedestrian thermal comfort, outdoor air quality and building energy

consumption. It also reviews the latest advances in urban climate research, with a focus on the challenges in terms of outdoor space comfort, health, and livability posed by the high-rise and high-density development in emerging Asian megacities, and proposes an integrated framework in response to the pressing need for microclimate research. It then presents a series of studies on high-rise residential and non-residential urban neighborhoods and districts based on instrumented field study, validated numerical simulation, and spatial analysis using a GIS platform. The book includes extensive, valuable experimental data presented in a clear and concise manner. The thermal atlas methodology based on empirical modeling and spatial analysis described is a useful climate-responsive design tool for both urban designer and architects. As such, the book is of particular interest to researchers, professionals, and graduate students in the fields of urban planning and design, building science and urban climatology.
