This collection of earnest and workmanlike essays has its origins in the 100 Cities Project — formerly the Urban Environmental Monitoring (UEM) Project—at Arizona State University. The purpose of the project was to craft “a series of metrics to characterize the spatial and socio-ecological structure of cities, together with methods to validate inferred patterns.” The book is intended to exemplify applications of remote sensing for urban environmental characterization, monitoring and government decision-making.

An introductory chapter on remote sensing as a tool for urban planning and sustainability is followed by 10 chapters that present applications to Berlin, Buenos Aires, Cairo, Cuzco, Chiang Mai, Delhi, Guangzhou, Los Angeles, New York, Phoenix, Rio de Janeiro and Zhongshan. The authors include professors and research scientists from Arizona State, Chiang Mai University, Chulalongkorn University, Columbia, Humbolt, Jamia Millia Islamia University, Pontifical Catholic University of Rio de Janeiro, Stanford and University of California–Santa Barbara, as well as scientific consultants from high-tech institutes and agencies, such as the Johnson Space Center. Applications include land coverage and vegetation, urban heat, urban-sprawl islands, surface perviousness and new technologies, including cellular automaton models. As perhaps befits an exercise in exemplification, there is no concluding chapter.

What does this book mean to a scholar, like me, in urban geography and planning? In important respects, I am not the target reader for such book. As a planner, I am interested in housing, neighbourhood change, urban structure and the urban economy. However, there is little in this book for readers like me, other than a light treatment of urban sprawl. Instead, the book is aimed mainly at planners whose interest is in the physical environment. In my view, the title of the book should refer to the more-specific “urban environmental management” rather than the more-general “urban planning.”

At the same time, I have some interests in remote sensing, albeit tangential. I first came across remote sensing while a graduate student in Regional Science at the University of Pennsylvania, almost four decades ago. A course on pattern recognition was taught by an applied statistician, who delighted in the “truck in the jungle” problem: a reference to detecting Viet Cong supply convoys on the Ho Chi Minh trail heading to the former South Vietnam. I thought it was a “neat problem” to recover information by comparing pixel variations across a photograph: in this, I see now that I was perhaps a remote-sensing enthusiast at heart.

At the time, however, I did not think that this area of research had a future. After all, I thought, as the resolution of the photographs steadily improved with new technologies, why would we need to continue worrying about the fuzziness of pixels? My next encounter with remote sensing came a few years later when, as a young professor, I supervised a student interested in detecting land-use patterns from satellite data. At the time, the resolution on these images, if I remember correctly, was at the rate of about two pixels per football field. Once again, I thought this was an interesting problem—one that technology would soon outrun with better sensor resolution.

My third encounter with remote sensing came in the early 1990s, when my interests in analyzing neighbourhood change had led me to GIS. At the time, I was hungry for geocoded data on municipal facilities, such as roadways and sidewalks. The local authorities had provided me with vector data sets. When I examined them carefully, I found that a roadside curb, for example, was represented by what appeared to be a sequence of overlaid sketch lines. Upon further investigation, I discovered that these were generated by pattern-recognition software from air-photo images.

Like a good remote-sensing data analyst, my mind immediately turned to validation. Did the vector data from this software accurately capture what was on the ground? Answering this question proved to be a futile exercise. I suspect there will always be a considerable margin of error in pattern recognition, and that there will be people (e.g., planners) willing to accept that in return for the kind of comprehensive large-scale and efficient analysis possible with remote sensing.

For those of us who think that the method is soon to be supplanted by imagery with a better resolution, I contend that there is always an application at a still-finer geographic scale to test that resolution: as, for example, when we use remote sensing to identify curbs, as opposed to roadways. I look forward to the day when remote sensing can be applied to look at a broader range of areas that concern planners today: e.g., housing adequacy, neighbourhood revitalization and the urban economy.