recreational use, etc.) hierarchically, and where a higher goal cannot be compromised by actions desired for a lower one. In terms of use, significant progress has been achieved on the first step, the integration of ecology into management models, but the integration of weather and climate, ultimately linking models to atmospheric circulation models at a variety of scales, is still in the future. This is understandable, given the size of the task, but more surprising to this reviewer was the low profile accorded in these discussions to insect pests, effects by and on wildlife, and recreational use of forests (virtually ignored). The role of road construction (itself affected by socioeconomic and topographic factors), is alluded to and needs to be more directly considered. Carbon modeling, incidentally, is only explicitly considered in the Rondônia model, in a simplistic form justified by the short duration of model extrapolations, during which time climate conditions and natural perturbations are assumed to remain constant, and by the lack of basic information on the biogeochemistry of tropical forests. The question of integration of the various models into complex multi-scale constructions, as opposed to a ‘toolbox’ approach based on more compatible submodels that could be assembled according to specific needs is raised rather than answered.

The editors express their hope, in the concluding chapter, that models will be increasingly used in environmental impact analysis. The cited challenge to landscape ecology (p. 345), that the real test of these models is measured by the impact they have on managing and planning and that up to now they have had ‘surprisingly little to offer’, is one not unfamiliar to workers in the environmental vineyard. Maybe the vintage harvests have not yet ripened, but this book offers a guided tour through a fascinating array of wild shoots, the diversity of which holds much promise for the future, especially when viewed against a background of rapidly developing local climate and soil–vegetation–atmosphere transfer schemes. It has been a worthwhile tour.

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Climate Revealed

According to the blurb, Climate Revealed (1999) by William J. Burroughs is written for a broad audience, . . . and provides a balanced and accessible analysis of the current debate on climatic change, and its possible past and future impacts on all aspects of human society.

There are many books on weather and climate with a similar title. Is this yet another or does Climate Revealed by Dr. Burroughs stand out in the crowd? I believe that it does. Do I recommend it? It is a colour spectacular that I would recommend to anyone interested in climate and the biosphere, even the expert. Bottom line? Its price too is reasonable — ranging between US$ 24 and 40 (excluding shipping). This is not just another climate book. He has written it in a way that you can get something out of it even if you only have 10 min to spare. It is extremely well written, covering a range of topics, and I congratulate the author for his contribution in taking science to many people. He has taken (very) complicated material from many disciplines and presented non-technical text for all. His style is a very good balance between the science and the simplicity; I believe he has the exact balance. For good measure, breathtaking colour photographs and graphics have been added. It is a book that will sit on my coffee table. I particularly enjoyed the occasional brief historical sketches of groundbreaking scientists. Perhaps there is room for more of these sketches where appropriate? The book is divided into bite-sized chapters — one to two pages with a number of chapters placed under an umbrella topic. The umbrella topics range from Climate in Motion, Climate Records and the Future to topics on the regions of the world: divided into groups such as Mountain Regions, Mediterranean Regions, The Prairies, The Tropics, Desert Regions, Temperate Regions, Polar Regions and Tundra and Taiga.

Unlike other books on climate and environmental issues, he keeps to the facts and presents what appears to be an unbiased (non-emotional) summary of past, present and possible future events. In places he challenges the scientific community by emphasizing where research should be heading.
In his final chapter — The Next 100 Years — he hints that climate change issues should be addressed through issues that touch on health, education and welfare and that it should not be a knee-jerk reaction when new extremes arrive.

My only reservation is that if there were to be a second edition, I would recommend that the Goudy, Helvetica and Helvetica Neue fonts be replaced. They are too thin and too small and not designed for marathon reading sessions. Also, the graphic on page 14 should be corrected to reflect energy density and not energy and also with the correct SI units. There were few typographical and grammar errors — a wonder considering the gigantic effort. The book probably emphasizes aspects of the northern hemisphere more than the southern hemisphere. Perhaps this is to be expected. The order of the chapters under an umbrella topic in some cases could have been different but this is perhaps personal preference. In a few areas, it may have been better to distinguish more clearly between weather and climate — the line gets a bit gray in some sections. While the glossary is useful, there is no mention of it upfront. I also thought that there should have been a graphic on the vertical extent of the atmosphere early on in the book. The lay reader is left to wade through the glossary for some definitions. The long-term variation in carbon dioxide concentration and a graphic of ozone concentration with time are two that I could not find. Some definitions — such as that of moist air — may have made the text more technically correct. The photograph of the inside of a Stevenson screen (page 33) does not allow a layperson to recognize the outside of one in the future. There is white space below this to show a Stevenson screen as part of a weather station. Proxy data is referred to on page 39 before it is first discussed in the next chapter — perhaps the order of these two chapters could be reversed?

The graphics on the life history of a frontal depression on page 110 is better depicted in other books that I have seen. On page 153 (base of first column), he leaves out solar radiation as one of the major contributors to evaporation rate.

In some chapters, the end is abrupt — this is to be expected when the limitations of chapter content and graphic and photographic inclusion are considered.

In some cases, the author appears too optimistic — for example on the issue of food production. In the opening paragraph on Future Food Production (page 176), he starts off saying that we are producing enough food to go around. There should have been other qualifying statements to this opening paragraph. The problem we face is that the distribution of food production does not match population distribution. If the distribution of drought, floods and other hazards overlay the population and food production distributions, the problems of food distribution in time and space are exacerbated. I too take an optimistic view, tempered with the hard reality of suffering peoples, particularly in Africa, in mind.

While there are many acknowledgments at the end (page 192), it is also impossible for me to trace the original information — and I thought to do that in a few cases. This is always a problem since full citing at first mention clutters up the text and cross-referencing is a very time-consuming task.

The bottom line — would I purchase this book? Yes — the price is not excessive and the amount of material it presents is cross-referenced well and I would judge it to be technically correct. Lots of glorious colour photographs. I can now pretend that I do know something about climate!

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