This volume derives from a conference held in mid-2005. Given that three years have passed, and given that techniques rapidly evolve, is the work up-to-date? If the goal of a reader is to gain a basic feeling for how to conduct a non-invasive study and to better understand the problems that are intrinsic to non-invasive work, then yes, this book is a good place to start. However, if the reader is searching for the best technique, a trip to the primary literature and conversations with researchers already applying these techniques would be well advised. For example, researchers new to the field would be hard pressed to find film cameras that generated much of the insights discussed in several chapters. Furthermore, readers will still have to think long and hard about how to analyse the non-invasively generated data. Sophisticated approaches are often necessary, especially where multiple techniques are used, since different techniques result in different detection efficiencies and biases that need to be treated as covariates when modelling the response variable of interest. While the editors and authors recognize the changing nature of these techniques, and go to great effort to emphasize what the future might bring, readers must nonetheless recognize that the application of these techniques and the assessment of the non-invasively generated data are becoming increasingly sophisticated, and as such a reliance on this book alone is not a good idea. Rather, this volume should be treated by readers as a good first step to gaining an overview of the use of these non-invasive techniques.

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doi:10.1017/S0376892909005372

Oil, Water, and Climate: An Introduction

BY CATHERINE GAUTIER

xxi + 366 pp., 25 × 18 × 2.5 cm, ISBN 978 0 521 70919 4 paperback, GB£ 24.99/US$ 49.00, Cambridge, UK: Cambridge University Press, 2008

Catherine Gautier offers an encompassing and integrative text on climate change suitable for a variety of undergraduate courses and non-academic audiences. The first chapters provide a general overview of global warming, its causes and some of the more significant anticipated consequences, particularly those related to water resources. The first chapter ('Understanding Earth's temperature') provides a very good account, not only of the data supporting the conclusions drawn by climate scientists, but also how the data are analysed and the frameworks with which those scientists interpret those data.

Gautier then moves on to more substantive chapters, beginning with population growth and its relationship to environmental wellbeing. This is followed by a detailed descriptive account of the global carbon cycle. Gautier then devotes a set of chapters to global fossil fuel supply and demand, and the implications of a likely peak in oil production for both climate change and society, including a closer look at the transportation sector, the primary consumer of oil. With the exception of a few misnomers, such as the prediction that oil prices will increase dramatically in direct response to Peak Oil (in reality commodity prices of petrochemicals fluctuate wildly, only in part as a response to supply signals), this section provides a very well-informed discussion of oil. This set of chapters then concludes with the obligatory comparative analysis of energy alternatives, which is refreshingly critical and realistic, and lacking in the normative undertones that can infiltrate similar analyses.

The book then moves into a detailed account of the water cycle and its integral relationship with climate, including a valuable overview of global consumption, the distribution of fresh water access and a lengthy discussion of the role of dams in energy production and climate. Gautier's passion for water issues emerges here, with an entire chapter devoted to water pollution, health and treatment mechanisms, followed by an encouraging account of international water governance and opportunities for conservation and efficiency.

The final section of the book returns to climate change and global warming, providing a synthesis of the evidence accumulated to date, and then turning to climate modelling and feedback mechanisms. The author is careful to delineate, and differentiate, areas of confidence, as well as complexity and uncertainty in climate science. The concluding chapter should come as no surprise. Gautier urges immediate action, emphasizes that even under the most optimistic of mitigation scenarios adaptation will still be needed, technology alone will not be sufficient, and calls for leadership and education.

I commend the author's effort to integrate several coincident, but inevitably inter-related factors into climate change analysis, such as, for example, Peak Oil, poverty and fresh water access. The chapters on oil supplies and politics and their relationships with climate change are particularly insightful, drawing links between human addiction to oil and, for example, resource dependence, security, violence and poverty. In other places, however, extensive descriptions of, for example, pollution abatement and water treatment plants have a tendency to be diversionary, with perhaps a paragraph or two at the end on their relevance to climate change. The inclusiveness of the book also means that a number of complex concepts tend to be treated superficially, such as gender, justice and governance. Ultimately, population is given a central place in the analysis, to the detriment of equally relevant causal mechanisms such as emission disproportionality, culture and political process; these are mechanisms that are acknowledged throughout the text but are ultimately treated as secondary to Malthusian drivers.

Oil, Water, and Climate is far more integrative than most texts on global warming, without sacrificing approachability, and for this reason, I would recommend it as a useful read. The writing is a bit clumsy in places, and some graphics are not well integrated with the text, but overall Gautier has a talent for breaking down complex scientific subjects for the non-scientific reader. There is an evident frustration expressed by the author, who is joined by many others, regarding the lack of political response to what is a growing sense of urgency among the scientific community. Rather than simply additional calls for leadership, however, this frustration should inspire greater levels of attention to processes of political decision-making, which I hope defines the future direction of climate scholarship.

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