
BOOK REVIEW

JONATHAN COWIE, 2007. *CLIMATE CHANGE: BIOLOGICAL AND HUMAN ASPECTS*, CAMBRIDGE UNIVERSITY PRESS, CAMBRIDGE, UK. ISBN 978-0-521-87399-4. XVI + 487 PP

Overlapping the disciplines of atmospheric and life sciences, this is the first book on aspects of climate change and biological impacts which I have seen for some years which addresses these issues in a comprehensive manner, by showing the co-evolution of climate and life through geological time. The book provides an up-to-date synthesis of this rapidly-developing field, finally proving that the majority of organisms which will suffer the effects of human-induced climate change are not humans!

In order to understand and assess the future impacts of climate change on biological systems the reader is taken through what is known about the impacts of climate change on life in the geological past. The author has taken the approach of ensuring that each of the eight chapters of the book stands alone: the reader can read each one independently and gain enough information to understand the material. Although it is inevitable (and noted in the text) that there is some duplication between chapters, this approach works because the text is cross-referenced well. Equally, it is readable from cover to cover. Thus, the reader is taken through a discussion of: a general introduction to climate change and the greenhouse effect; indicators of past climates (proxies and climate reconstruction); relationships between past climates and life (pre-mid-Tertiary, then post mid-Tertiary and Quaternary); present climate and biological change (effectively the impact of current climate change on modifying and

influencing life); current warming; human ecology of climate change, and, aspects of sustainability and policy. Each chapter has its own reference list, and there are four appendices providing additional supporting information (a glossary, bio-geological chronology, energy supply and demand information, and a short summary of the findings of the 2007 IPCC Report with reference to the key messages of the book).

My one criticism is that I felt the last chapter was out of place in the book: the text had flowed well until that point and then I struggled. Given the numerous texts available on aspects of policy and sustainability in relation to climate change, maybe a future revision should reduce the content of the chapter, noting that sustainability aspects are important but not presenting so much detail. Also, I felt that separating the material between Chapters 5 (Present climate and biological change) and 6 (Current warming and likely future impacts) was stretching the point: both chapters effectively address present climate change. These criticisms, however, are minor.

The book will make an excellent teaching aid, allowing students from the biological and atmospheric sciences to see the fundamental interaction between climate change and life, and an excellent reference for anybody interested in these interactions.

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