

Book Review

The Global Climate, edited by
John T. Houghton.
(Cambridge University Press 1984)
233 pp, \$A73.00

Among the increasing number of texts, popular expositions, and doom literature which have accompanied the revival of interest in climate in recent years, this volume at last provides an up-to-date and authoritative view of a wide range of climate research. The book is edited by the present Director-General of the British Meteorological Office, with contributions from a number of distinguished scientists. Its appearance coincides with the publication by WMO/ICSU of the long-awaited Scientific Plan for the World Climate Research Programme (WCRP) and this book provides an essential background to a more detailed examination of the Plan. Indeed WCRP is the essential theme of the book and several of the contributors have themselves been associated with the Joint Scientific Committee (JSC) charged with its overall planning and oversight.

The book consists essentially of 13 papers or overviews (each preceded by an abstract) which approach particular elements of climate research from the viewpoint of their specialist authors, review the state of knowledge in a specific field, and provide useful references to recent work. Chapters 1 and 2 set the scene of modern global climate research and the objectives of WCRP. Chapters 3 and 4 then review climatic variability as determined from the observational record and the characteristics of atmospheric general circulation models and their place in understanding the complex interactions which constitute climate. The contentious questions of the importance of clouds and radiation are handled in Chapter 5 and the next three chapters deal with solid surface boundary effects — soil moisture, albedos, seasonal snow and sea ice, and broader-scale consideration of deserts and ice sheets. In keeping with the now widely recognised importance of the oceans Chapters 9 to 11 deal with their interaction with the atmosphere at different time and space scales and in particular geographic locations; the important problem of establishing an effective ocean monitoring system is also covered. The two concluding chapters deal with biospheric and

geochemical effects and the influences of CO₂ and other climatically significant trace gases.

The volume clearly does not constitute a text book in the true sense — it is loosely organised with neither a subject index nor a collected author reference. This approach is, I believe, quite suitable for research workers in climate related fields or scientists from other disciplines, though students or teachers seeking a systematic and integrated treatment might find it unsatisfactory except for an advanced level. However, the book's great strength is to serve as an essential reference to what active researchers in the field believe to be important in 1984 by clearly identifying problems, by outlining our state of knowledge (or ignorance) in particular areas of work, and by indicating what is needed in future observation, analysis, and modelling of climate. This sound scientific approach is in quite marked contrast to some of the more glib recent popular presentations which regard the output of particular numerical models with almost reverential awe so long as they agree with the author's preconceived climatic scenarios.

The approaches of the different authors vary considerably in their task, and the treatment is patchy in part; however, this diversity in presentation is not seen to constitute a major criticism and indeed presents a refreshing variety for the reader. The overall presentation of the book is pleasing but as is now frequently the case the reproduction of computer drawn maps and diagrams in small format often effectively disguises the pertinent features which it is intended to illustrate — Why can't some of the diagrams be redrafted leaving out some of the noise? In the same context one would have to state that the satellite picture reproduced on p. 119 would stand high on the list of more baffling pieces of information in the literature.

Overall *The Global Climate* represents a welcome addition to the literature, but regrettably its price (at approximately 30 cents per page) will not ensure its place on many bookshelves.

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