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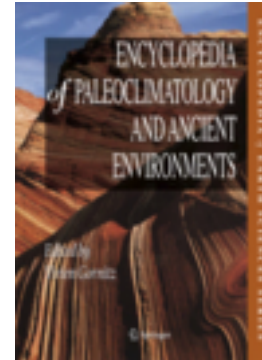
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Encyclopedia of Paleoclimatology and Ancient Environments, edited by Vivien Gornitz, 2009. Encyclopedia of Earth Sciences Series. Springer, P.O. Box 17, 330 AA Dordrecht, The Netherlands. Hardcover, xxvii + 1049 pages. Price USD 539.00, EUR 399.00, GBP 359.00 (printed or online); EUR 499.00 (printed + online). ISBN 978-1-4020-4551-6 (printed); 978-1-4020-4411-3 (online); 978-1-4020-5197-5 (printed + online).



Most sedimentologists know the Encyclopedia of Sediments and Sedimentary Rocks (edited by Gerald Middleton, with Michael Church, Mario Coniglio, Lawrence Hardie and Frederick Longstaffe as Associate Editors), which forms part of the same series as this volume. I was very impressed by the sedimentology encyclopedia, (which I reviewed for JSR in 2004), and I had therefore great expectations of this new title. Although this new volume contains a wealth of information, I was a bit disappointed, however. Where it was obvious that Middleton must have had ample discussions with his associate editors about how to compose a well-balanced work without too obvious hobby horses and with clearly different views regarding topics about which no general agreement existed at the time, the paleoclimate volume is much less subtle. This is, presumably, a consequence of the fact that only one single editor, Vivien Gornitz, is responsible for the entire, huge work.

Paleoclimate reconstructions are a hot topic nowadays, particularly in the context of the present-day discussions about global warming. Discussions about climate and paleoclimate have been practically monopolized for some time by the Intergovernmental Panel on Climate Change (IPCC), a UN-funded network of researchers, politicians and many others. It has become clear in the course of time that the IPCC reports were not always based on sound data (and sometimes even contained conclusions that were in contrast with the contents), and it needs hardly been remembered that the (paleo)climate community became deeply shocked when hacked email messages from an IPCC-subsidized research institute were made public and only manipulative handling could be deduced. I want to emphasize that I have no reason at all to question the scientific integrity of Vivien Gornitz, but I think it highly unfortunate that she is the single editor of this volume, because she was, as mentioned on the backside cover, “a Contributing Author for the IPCC in 1990, 1995, 2001, and 2007.” The publishers should, in my opinion, have avoided the resulting appearance of a scientifically biased presentation.

Having said this, it is time to come to the actual contents of the book. Like in all other volumes of this series, the various topics are dealt with in the form of some kind of review articles, which can take several pages. The advantage is that each topic can be treated in its context, which facilitates the understanding of the problems. A disadvantage is, however, that it is not always directly clear where a specific subject can be found. The 49-page index is therefore of utmost importance. But it remains strange, in my opinion, that entries such as “Paleoclimate” (and “Climate”) and “Ancient Environments” (and “Environments”), being the main subjects of this encyclopedia, have no entry of their own. Several other entries are also dearly missed, such as “Solar Forcing” (which is dealt with distributed over several entries), “Global Warming” and “IPCC.”

Overall, it seems to me that ancient (pre-Pleistocene) environments and climates get unduly little attention, considering that the ancient environments are explicitly mentioned in the volume's title. The volume therefore seems to be more interesting for Quaternary geologists and climatologists than for the majority of earth scientists. Yet, this latter group will also find interesting articles, for instance those about "Coal Beds, Origin and Climate", "Coral and Coral Reefs" and "Plate tectonics and climate change".

This latter chapter is in some way highly representative for the volume: it deals with climate change. One should realize in this context that geological research in the pre-Pleistocene does hardly show clear indications for a gradual climate change (the gradual changes that are indicated by one proxy are commonly not supported by other proxies); rather the results point at different climates in successive rock units. Consequently, it would, in my opinion, have been much more logical to focus on indications that might help to reconstruct paleoclimates than on the topic of climate change that is the "raison d'être" of the IPCC. The IPCC-oriented approach in the book becomes also evident from the choice of topics that deserve a chapter of their own. Not "Paleoclimatology" but "Paleoclimate modeling, pre-Quaternary" (more than 9 pages) and "Paleoclimate modeling, Quaternary" (over 6 pages). Not "Sediments and Paleoclimate" but "Sedimentary Indicators of Climate Change", etc. And it is, in my opinion, an omission that the failure of climate models to "predict" the climate of the geological past correctly, is not detailed.

Taking all together, I must conclude that the volume comprises a wealth of valuable information, and that most chapters are truly useful. Moreover, the commonly long reference lists at the end of almost each chapter provide the opportunity to access additional information on a specific topic in an easy way. Further, the book is well printed, most figures are instructive and well-readable, and the binding has the quality that is required for such a huge work. The price will be too high for most private collections, but for earth-science libraries it may be acceptable. A lot of positive aspects! If only I would not have the feeling that part of the data obtained recently regarding climate change are not (or insufficiently) put forward because of a biased approach ...

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