Clim. Past Discuss., 2, S384–S385, 2006
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Climate of the Past Discussions

Interactive comment on "Climate-human-environment interactions: resolving our past" *by* J. A. Dearing

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Received and published: 19 September 2006

This an important contribution to the journal issue in that it elucidates the nature of an established component of PAGES science, that of human-climate-environment interactions which formed the old focus 5 and new focus 5 within the PAGES science plan. The interest is largely restricted to the Holocene and particularly the later Holocene, as this is the time of greatest relevance to understanding the present and to future prediction. Although not clearly indicated in the paper, the approach is largely sediment-based although studies can be integrated with historical and instrumental data. The paper is really one of a series that addresses this area of interest, largely by the author, but it is necessary to continually inform and remind us about the complexities of environmental change and how they can be addressed.

A useful theoretical and practical framework for investigation is presented in the first

part of the paper that involves different scales of investigation and synthesis, illustrated by numerous examples that provide a relevant and current review of available literature and guides as to profitable future directions. A substantial part of the paper is devoted to issues related to the Ruddiman theory. It is useful to have the debate over this theory presented so thoroughly yet succinctly. The paper concludes with developments, including modelling, that may eventually lead to prediction of future processes.

All aspects of the paper have great merit although the overall structure and details including terminology can be confusing. I was surprised to read that, at the base of page 565, feature such as soil properties and microclimates are considered not to be parts of ecosystems. The text appears free of many errors although the first reference has been mixed up and freshwater lacks an 'h' on page 591, line 8.

Interactive comment on Clim. Past Discuss., 2, 563, 2006.