

Interactive comment on “Borehole paleoclimatology – the effect of deep lakes and “heat islands” on temperature profiles” by V. T. Balobaev et al.

Anonymous Referee #2

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Review of 'Borehole Paleoclimatology: the effect of deep lakes and 'heat islands' on temperature profiles', V.T. Balobaev, I.M. Kutasov, and L.V. Eppelbaum, Clim. Past Discuss. 4, 415-432, 2008.

This paper alludes to a general treatment of all heat-island sources of non-climatic perturbations to borehole thermal profiles. The authors reason that these heat island effects would manifest themselves in borehole thermal profiles in a manner analogous to the effect of nearby lakes on boreholes, and that these non-climatic effects can be removed from the global borehole data set using one set of calculations.

After a somewhat disjointed review of papers dealing with non-climatic effects on bore-

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hole thermal profiles, the authors derive and solve the heat conduction equation in cylindrical coordinates. This is followed by a single example, and almost no discussion about the sensitivity, significance or generality of the results. The authors failed to show the relevance of these calculations in borehole climatology. The brevity of concluding remarks only reinforces this lack of detail.

There may be some application for this heat island calculation eventually, but its potential is certainly not conveyed to the reader in this short article.

Other points:

Abstract is poorly constructed and uninformative. One cannot get an idea of what the paper's content is about from the abstract nor get an idea of the conclusions or importance of the work.

English in the introduction is poor and I suggest the authors do a heavy editing of the text by a professional. The sections seems composed of sentences that are not connected in a logical flow to one another.

In any case, the introduction does not introduce the reader to the problems encountered in borehole climatology and even myself as a specialist, I have to guess the intended meaning of each sentence. The introduction should have a logical flow. If it is a review of past work that is intended in the introduction, then the effort is lost.

I would suggest to the authors to rethink the problem in a way that addresses the real problems encountered in borehole climatology. That is, show in detail whether these 'lake effects' are possible to simulate, to estimate the magnitude of such perturbations in time and space, and then evaluate whether such corrections are applicable.

Interactive comment on Clim. Past Discuss., 4, 415, 2008.

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