

Interactive comment on “Surface thermal perturbations of the recent past at low latitudes - inferences based on borehole temperature data from Eastern Brazil” by V. M. Hamza et al.

Anonymous Referee #1

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This is well written paper, bringing new and valuable material. However, paper can be substantially shortened. The introduction and chapters 1 to 4 give number of references which substantially describe the topic. The fact that consistent criteria were applied is positive, but then I would suggest paying more description to those 16 holes of total 129. Figs. 1 and 2 can be united in a single illustration. Similarly sets 3abc, 4abc and 5abc can be condensed. All boreholes studied are max 200 m deep, the inversion then does not allow to obtain reasonable information about surface temperature condition (climate) before 1600-1700 A.D., no reason to show the earlier time (Figure 6d) As no relation of either seasonal or monthly surface air temperature variations were discussed, the meteorological records for Rio, Curitiba and Sao Paulo (Figs 6abc) can

be simplified to show only annual means, the linear trend (cooling or warming) can be illustrated. Figures will be more readable. I wonder how much concrete information can be gained from the fact that one-two selected decade(s) 100-150 years ago was cooler or warmer and to be used as a promotional argument for the obtained results of borehole conversion data. This is not a serious criticism, but a sorrow, that there are no more and longer time series meteorological data. Air temperatures are variable and the use of rather short time interval might be misleading. Large urban agglomerations as all three Brazilian cities are, may suffer from what is known as “city island effect”, certain (air) temperature warming due to population growth. Is there any evidence? Or authors should comment. What is really interesting is the “climate” trend of the last one/two decades, visible on most of GST deviations (Figs.5abc), namely certain (inexpressive) cooling, which is in contrary to most reported observations worldwide, that the climate warming has been even accelerating at present. Can the authors comment?

Interactive comment on Clim. Past Discuss., 3, 501, 2007.

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Interactive Discussion

Discussion Paper