

## ***Interactive comment on “Thermal characterization of the active layer at the Limnopolar Lake CALM-S site on Byers Peninsula (Livingston Island), Antarctica” by M. A. de Pablo et al.***

**Anonymous Referee #1**

Received and published: 2 April 2014

**General comments** This paper is a useful contribution. It is a workmanlike analysis of the shallow ground thermal regime at a remote sub-Antarctic location. The paper does not break new ground, but provides useful information about a site in a region where few data sets are available. The analysis consists of a series of standard procedures applied to the thermal data. The result is useful for global-change programs such as CALM, and I suggest that the paper and data it is based on should be deposited in the CALM data archive, and possibly other archives.

**Specific comments** The reference to a “transition zone” (it should be transition layer) seems to be inappropriate here. If the position of the permafrost table is at 130 cm, there can be no transition layer above it, because the transition layer is, by definition,

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permafrost. Do the authors mean “former transition layer”?

The section on apparent thermal diffusivity appears near the end of the paper, long after values of diffusivity derived analytically are treated. The two methods should be discussed in the same section. I assume that apparent thermal diffusivity was calculated through a procedure involving iterative numerical methods, but there is no discussion of how A.T.D. was calculated.

The lettering in some of the figures is too small, and should be enlarged.

Although the writing is generally clear, the manuscript is in need of a comprehensive editing job before final publication. There are many instances of misspelled words, sub-optimal verbal constructions, and odd punctuation. Some figures contain misspelled words.

Is the CALM-DAT software (de Pablo et al., 2013b) available online? If so, a link should be given in the reference on page 705.

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Interactive comment on Solid Earth Discuss., 6, 679, 2014.