

Interactive comment on “Rock magnetic properties, magnetic susceptibility, and organic geochemistry comparison in core LZ1029-7 Lake El’gygytgyn, Far Eastern Russia” by K. J. Murdock et al.

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As with the other referee comments, it was clear that the purpose for this magnetic investigation was not well-defined and needed to be clarified in both the introduction and restated in the conclusion. By revising portions of the introduction and conclusion many of the problems and concerns will mostly be resolved. Specifically, the purpose of the investigation on the short core LZ1029-7 was to measure a number of magnetic properties to see if a more thorough magnetic investigation would be productive. Suggestions as to further ways to investigate the sediment cores from Lake El’gygytgyn

will be considered for future investigations.

The introduction does state the dependence of regional climatic conditions on magnetic susceptibility, but will be changed to include even more local effects, and also include the reference to Tudryn et al (2010). Changes made to the introduction to better explain the purpose of the study will also define LZ1029-7 more thoroughly earlier in the paper.

Many of the comments relating to the geology and hydrology surrounding the lake, the lithology of LZ1029-7, and the geochemical analyses (TiO₂) have either been done by other members of the Lake El'gygytgyn Science Party or were done on an earlier core (PG1351) but not on LZ1029-7. References to the work relating to the geology of the catchment, the hydrology of the basin, lithology/stratigraphy of LZ1029-7, and the permafrost properties are added to the Background. Core PG1351 provided the basis for the chronology, and a better explanation as to how it was obtained is added to that section of the Background.

Susceptibility measurements were mistakenly labeled as “low-frequency” and “high-frequency” to represent χ_{lf} and χ_{hf} , respectively. These two parameters have been changed in the manuscript to correctly represent “low field” and “high field” susceptibility.

Comments referring to the figures have been taken into account. Figures and figure captions have been changed to more clearly reflect the data and/or fix any errors.

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Interactive Discussion

Discussion Paper