

Interactive comment on “Late Glacial-Holocene climatic transition record at the Argentinian Andean piedmont between 33–34° S” by A. E. Mehl and M. A. Zárate

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General comments: This reviewer is not personally familiar with the field area or most of the previous literature on Argentinian loess-paleosol sequences, but I've examined the record of the Pleistocene-Holocene transition in a very different setting (perennially frozen colluvium/loess, northwestern Canada), so I was intrigued by this potential comparison. Therefore, I appreciated the good job that this manuscript does of introducing the field sites and their geographical setting. The graphics are well-designed and informative.

The quite thorough comments by the previous reviewer include several specific con-

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structive suggestions regarding the Discussion section, and within the limits of my expertise, I concur with them. Rather than repeat these suggestions, I will concentrate on a number of additional points which are mostly minor corrections.

Technical comments and minor corrections: p. 6127, l. 11-12: “late Quaternary . . . Cordillera” – not really sure what this means – late Quaternary paleoclimates have been expressed in glacier fluctuations?

p. 6127, l. 18: replace “Specially” with “In particular”

p. 6129, l. 4-5: simplify to “The mean annual temperature is 12.8. . .”

p. 6130, l. 2: is it “Polanki” or “Polanski” (as given in reference list)

p. 6130, l. 8: change “at” to “in”

p. 6130, l. 9: change “limit” to “bound”

p. 6132, l. 21: change “resine” to “resin”

p. 6133, l. 7: change to “blocky structure”

p. 6133, l. 19-23 (and elsewhere): It’s not clear why Table 1 is cited in these cases. More generally, is Table 1 necessary? The abbreviations presented in its first column would appear to be part of a legend, but these don’t appear anywhere else in the text or figures. Consider eliminating Table 1, or else make more use of it in the text.

p. 6135, l. 2: change “hipo” to “hypo”

p. 6136, l. 2: delete “a” before “2%”

p. 6137, l. 6: which Kemp et al. 2004 paper?

p. 6137, l. 22: change “sulphurs” to “sulphur”

p. 6138, l. 4-6: reword to “. . . basis of a higher concentration of plant residues, most of them in disturbed positions, but others in growth positions, e.g. roots.”

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p. 6138, l.8: change to “overlying”

p. 6138, l. 9-10: delete sentence “They permit . . . periods.” and instead, change the end of the previous sentence to: “. . . underlying ones, suggesting periods of excess soil moisture and impaired drainage.”

p. 6138, l. 22: change “mildly” to “slightly”

p. 6138, l. 23: change “inferred” to “evident”

p. 6138, l. 25: change “along” to “within”

p. 6140, l. 22: change “have record of” to “contain” or “preserve”

p. 6141, l. 6: change “to” to “with”

p. 6141, l. 16-30: I strongly agree with the other reviewer that this paragraph isn't needed, and that it would be more useful to expand the discussion of the paleoclimatic interpretation of the stratigraphic and pedological evidence.

p. 6142, l. 4-5: change to: “. . . of paleoenvironmental and paleoclimatic conditions . . .”

p. 6142, l. 11: change to “Weak paleosol development . . .”

p. 6142, l. 15-16: change to “which collectively display evidence of alternating episodes of sedimentation and pedogenesis . . .”

p. 6142, l. 18: capitalize “Argentinian”

p. 6143, l. 16: change to “palaeoecology”

References to Firestone et al. and Marlon et al. need to have the authors' names checked – extra letters seem to have been added at the end of surnames. I couldn't find citations for Navarro (2012) and Schaetzl and Anderson (2005) in the text.

p. 6148, l. 23: complete the journal name by adding “Palaeoecol.”

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Table 2 caption: change “radiocarbonic” to “radiocarbon”

Figure 1 caption: Zinck and Sayago (1999) is missing from the reference list.

Figure 2 caption: Should “Zarate (2002)” be “Zarate et al. (2002)”?

Figure 3: change to “morphostructural” in caption. In body of figure, should “Thepra” be “Tephra”? (Also in figure 6?)

Figure 4: In legend of figure, change “Paleosoil” to “Paleosol” (also in fig. 6).

Figure 8 caption: add “(SAAD)” after “. . .Diagonal” and define SACZ in final sentence.

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