

Interactive comment on “Treeline dynamics with climate change at Central Nepal Himalaya” by N. P. Gaire et al.

Anonymous Referee #2

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This is a very good paper that could be published with minor revisions. Here my view-points.

1. Check all Harsh et al. quotes. If I remember correctly, these papers, or part of them, are for seedlings only and not for trees. But maybe I’m wrong.
2. The confounding of climatic drivers could be discussed more openly. Lower temperatures may coincide with more precipitation and, thus, more clouds and, thus, less light etc. Hence, temperature is unlikely to operate independently, and it is not a given which of these different climatic factors is most influential.
3. The treeline will always lag behind any climatic change, depending on tree definition. So if trees are, for instance, defined by a minimum 3 m height as some

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authors suggest, it takes several decades at treeline to reach that size. Hence the current position of the treeline may refer to temperatures some 30 or 50 years ago, with small seedlings (not yet trees) found at higher elevation?

Perhaps the authors wish to consider these points in improving the discussion of their data. I remember a paper by Paulsen et al. (2000, *Arct. Antarct. Alp. Res.* 32:14-20) that may contain data on treeline dynamics of interest for this paper. Age structures of treeline populations had also been discussed in Korner's 2012 treeline book with Springer.

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