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Comment

Interactive comment on “Temporal and spatial variability of extreme snowfall indices over northern Xinjiang from 1959/1960 to 2008/2009” by S. Wang et al.

Anonymous Referee #1

Received and published: 3 January 2014

The paper discusses the temporal trend and spatial variability of extreme snowfall indices in northern Xinjiang. A general increasing tendency for the 5 investigated indices is found. Only a small area in the east shows a downward trend. This paper presents good case study of snow changes in Xinjiang and which should help to provide good reference for regional responses.

The objective and research question is ok, but the English definitely needs improvement. The meaning of the sentences is sometimes hard to understand due to bad English. I recommend to reject the paper mainly for the following reasons:

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(1) The indices are badly defined. What is a "weather process"? (2) The data description is very poor. For example, I have to assume only Dec, Jan, Feb data were used. (3) The authors miss to write anything about the rain gauge type (diameter, height above ground, wind shield), which has serious consequences on the catch rate. (4) Moreover, any change in the setup or design of the gauges over time cause inhomogenities and may make the data unusable for trend analysis.

Other general comments: (A) Table 1 uses indexes, which are only introduced in table 3. (B) According to table 2 a daily snowfall amount between 5 and 10 mm is already a heavy snowfall. It's hard to believe that such amounts can be seen as natural hazard. (C) An analysis of the temperature trends would be large asset for this study and could be used help explaining the causes behind the snow changes.

More detailed comments and technical corrections are directly written in the PDF-File.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/1/C2199/2014/nhessd-1-C2199-2014-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 7059, 2013.

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