

Interactive comment on “Extreme pointer years in tree-ring records of Central Spain as evidence of volcanic eruptions (Huaynaputina, Peru, 1600 AC) and other climatic events” by M. Génova

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General comments

The paper by Mar Génova "Extreme pointer years in tree-ring records of Central Spain as evidence of volcanic eruptions (Huaynaputina, Peru, 1600AC) and other climatic events"

Is, in my opinion, a really interesting research that shows important results about how trees reflect the climatic variability and other phenomena as the volcanic eruption of the volcano Huaynaputina. This geologic event has not been reported before in Spain by the dendrochronologist.

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Regarding the climate variability, the paper is in agreement with previous results from other scientists reporting a higher variability for the 20th century, specially for the second half. This variability is the highest throughout the 4 centuries covered by this study. Even though it was also high for the 17th century (first half) nothing compares to the second half of the 20th as temperatures are much higher than before.

The paper will improve if the English is deeply corrected. But this is not a reason to reject the such an interesting paper. But I am not a native English speaker

Regarding the Title It does not match well with the objectives and with the research.

I suggest a change for the title to reflect better the content of the paper. Extreme pointer years in tree-ring records of Central Spain as evidence of climatic events and volcanic eruptions (Huaynaputina, Peru, 1600AC).

“eruptions” or ‘eruption’? How many years of eruptions were recorded by tree-rings? The eruptions of one single year or several years of eruptions?

Other comments.

Abstract P424 L17 “period” or ‘interval’ ?

Introduction P4225 L3 “the range of knowledge deriving” range??

P4225 L8 “proceeding”???

Material and methods P4228 L1 change “treetops” by ‘crowns’

P4230 L8 change “indicated” by ‘used’ P4230 L11 & L14 change “diminution” by ‘decrease’? P4230 L21 change “a brusque” by ‘an abrupt’?

P4231 L6-7 change “an extensive” by ‘a long’? P4231 L13 change “in the order of” by ‘of’ P4231 L25 change “in” by ‘for’

P4232 L7-8 I do not understand the meaning of that phrase “No value that wwas. . .”

P4234 L3 “individual chronologies,” Does the author mean chronologies established for

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each tree? P4234 L2-6 confusing

Discussion

P4236 L19-21 "Furthermore. . ." Delete, it has been said just some line before

P4237 L13 "The pointer years 1962, 1963 and 1965 could well correspond with the period of dry summers . . ." One way to be sure of that the author can draw a bioclimatic diagram and be sure. Besides the year 1963 was very cold as well. The same with the year 1879 that is also a pointer year in North Africa (*Cedrus atlantica* chronologies).

P4237 L17 damp? I do not understand the meaning of that word here

P4237 L22. The summer of year 1994 was dry and hot over the whole Europe. Was this a good climatic year for the pines studied?

P4238 L5 "storm" Were they storms of snow and rain? Does the author know if there were snow avalanches? The winter of that year, 1996, was one of the most extreme snow avalanche events in the Pyrenees (see Muntán et al. *Nat. Hazards Earth Syst. Sci.*, 9, 1599–1612, 2009).

P4238 L8-9 "– affected the normal development of the cambium in this year." Probably due to the damage and crown reduction?

P4238 L19-20 Change "Our data" by 'our results' and improve the sentence. There always exists variability in tree-ring chronologies. I think that the author means that pointer years are not evenly distributed throughout time.

Figures and Tables Fig 3 not cited in the text Fig 4 labels and tick-labels bigger Fig 5 must be improved Fig 6 improve the graph (Y-scale?) and the legend, it is not clear. The author could split the figures into two or three parts to better see the pointer years. Fig 7 improve, do not use the grey and make clear the labels and tick-labels

Interactive comment on *Clim. Past Discuss.*, 7, 4223, 2011.

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