Reply to J. Martin-Vide (Referee)

General comments
1. The article identifies the pointer years based on numerous tree-ring chronologies of the central Iberian Peninsula range over the last 406 years (1600-2005). The results contribute to improve the knowledge on climate variability on a plurisecular scale, as well as the occurrence of extreme weather along the last four centuries, in central Spain. In general terms the article is very interesting.
2. The article uses a wide database (numerous tree chronologies, 15 sites, broad altitude range, N and S slopes, high number of samples in each site, and a long period).
3. The text is comprehensive, written in a concise way. There is a quite clear discursive line through the text that allows understand as a whole the main ideas.
4. The author demonstrates a good knowledge and understanding of the subject.
5. The statistical methods are appropriated.
Thanks you very much

6. The title is not precise enough. I would prefer 'Extreme Pointer Years in Tree-Ring Records of Central Spain as Evidence of Weather Extremes and other Natural Events', or something like this.
Title is changed by: **Extreme Pointer Years in Tree-Ring Records of Central Spain as Evidence of Climatic Events and the Eruption of the Huaynaputina Volcano (Peru, 1600 AD).**

7. By the way, in my opinion the Huaynaputina volcano relationship with negative pointer years in the beginning of 17th century is quoted but not proved completely. On the other hand taking into account some atmospheric circulation causes, including the effect of low-frequency variability patterns (eg. NAO) will help to explain the occurrence of the pointer years in the discussion.
See replies forward

8. The abstract is OK. No key words?
I don't understand why the Key Words don't are in the text, I sent to CP. They are: Pointer Years, *Pinus sylvestris*, *Pinus nigra*, Central Spain, Dendroecology, Macroclimatic Anomalies

Summing up: The subject of the paper is interesting for Dendroclimatology studies and for improving knowledge on climate variability in Southwest Europe. My decision is that an extended paper version (author should extend Sub-section 3.2. and Discussion) will be acceptable for publishing.
Thanks you very much. See replies forward

Some specific comments
* Page 4225, line 11: Where it says 'our country', it should say 'Spain' or 'Iberian Peninsula'.
Changed

* Page 4226, line 2: Precipitation series longer than one century in Iberian Peninsula are not 'very rare', just 'rare'. Most of the meteorological stations located in the capital of the provinces started their records in the last decades of 19th century.

The qualifiers are always difficult to use but in this case is taken directly from Domínguez-Castro et al., 2010.

* Page 4226, lines 12-13: I would replace ‘macro-climatic events on a global scale, such as volcanic eruptions’ by ‘macro-climatic events on a global scale, such as the effects of big tropical volcanic eruptions’.
The tropical volcanoes are more abundant but I have used the list of Briffa et al. (1998) that include different types of volcanoes; the sentence is changed to “Other authors have related negative pointer years with macro-climatic events on a global scale, such as those derived from the major volcanic eruptions”.

* Page 4226, line 25: Where it says‘ southeast-northeast’, it must say ‘southwest-northeast’. * Page 4227, line 1: Idem
Changed, also I simplify the sentence.

*Page 4228, lines 11-12: Add ‘and’ between the lines.
Done

* Page 4231, lines 13-14: I think it is better to write ‘Frosts can be counted on from the months of November through to April’, instead of ‘Frosts can be counted on from the months of January through to April, in November and December’
Changed

* Sub-section 2.4: It is important for the study to give some information about the pluviometric variability. For instance, add the value of the coefficient of variation of annual precipitation at Puerto de Navacerrada (probably higher than 20%).
Done

* Page 4233, line 4: Justify the use of the 0.32 threshold.
It is the threshold proposed for the author of COFECHA (see Holmes, R.: Users manual for Program Cofecha by Laboratory of Tree-Ring Research, University of Arizona, Tucson, Arizona USA, 1999).

*Sub-section 3.2.: Extend it, it is crucial for this study. Readers need more details.
This section presents the significant coefficients of the response function for each local chronology and also for the regional chronology, both in relation to the analysed variables of the growth year (n) and of the previous year (n-1). The results were shown in the text and in the figure. Would you kindly point the other details that readers need?

*Page 4234, lines 15-20: Although the precipitation of Madrid, near the study area, is much lesser than the Puerto de Navacerrada one (only one third, approximately) they are well correlated. As the Madrid precipitation series start in 1859 the author could try to extend the analysis comparison period.
See replies forward

* Page 4234, lines 21-25: Just as complementary information, I checked the Quinn’s list on El Niño events. Here you are the results: - Your biennial 1707-1708 coincides with the 1707-1708 strong El Niño. – The biennial 1715-1716 followed the 1714-1715 strong El Niño. - The biennial 1762-1763followed the 1761 strong El Niño. - The biennial 1793-1794 followed the 1791 very strong El Niño - The biennial 1813-1814 and the

1814-1815 coincide with the 1814strong El Niño. - The biennial 1688-1689 followed the 1687-1688 strong El Niño. – The biennial 1941-1942 followed the 1940-1941 strong El Niño. - The biennial 1958-1959 followed the 1957-1958 string El Niño.
I'm sincerely grateful to you for all this information, even though I think it would be more convenient and interesting to develop in detail this and other relationships that you are suggested in another future paper.

* 4. Discussion: As complementary information, Madrid precipitation series confirm the dry summers of 1962, 1963 and 1965, with 0.0, 0.0 and 5.3 mm in August, respectively, and also in 1985, with 0.0 in the same month. The opposite can be seen in 1957, 1973 and 1976. The summers (July and August) of 1958, 1964, 1980 and 1994 were very dry in Madrid.
I'm sincerely grateful to you for this information. We explored the general climate-growth relationships between some of the chronologies compiled in this paper and meteorological records of Madrid, Segovia and Ávila in my PhD and Fernández et al., 1996. However, from the point of view of the aim of this paper, I think it would be more convenient and interesting to develop in detail your suggested relationships in another future paper.

* 4. Discussion, page 4238, line 10: In the period 1990/92 to 1995 central and SW Iberian Peninsula suffered one of the most severe droughts in 20th century. This is related to strong positive NAO index (This means precipitation higher than normal in regions well exposed to the west winds in North Europe, and different behaviour in tree-rings).
See previous replies

* 4. Discussion, final: It is important to consider that the big tropical volcanic eruptions produce a radiative forcing, as well as a dynamical forcing. This last means that the atmospheric circulation is affected in wide zones. The Marc Prohom's Doctoral Thesis proved that in the winters (+1 and +2) after a big tropical eruptions the precipitation decreases by 30% in many regions of Iberian Peninsula, due to the reinforce of Azores anticyclone and the west circulation in central and north of Europe. The temperature decreases 0.3-0.4 C in the same winters. You can consult PHOHOM, M.J.; ESTEBAN, P.; MARTIN-VIDE,J.; y JONES, P.D. (2003): Surface Atmospheric Circulation Over Europe Following Major Tropical Volcanic Eruptions, 1780-1995. Volcanism and the Earth0s Atmosphere, Geophysical Monograph 139, American Geophysical Union, pp. 273-281.
I'm sincerely grateful to you for this information, however I think it would be better to develop in detail in another future paper.

* Table 1, first row: 'Aspect'?
It means the direction in which a slope faces

* Table 3: Unify 'Climate' in sixth column (top) and 'Climate SG' in caption.
Done

* Figure 3(a): It is a bit confusing because the 12 monthly lines are very close to each other and the vertical scale is not appropriated. You can remove them.
The figure was changed with maintaining the 12 monthly lines in a different scale

* Figure 3, caption: I suggest replacing ‘Oscillations’ by ‘Temporal evolution ’or something like this.
Replaced by Temporal variability

* Figure 4(b): Although the correlation is statistical significant without any doubt, please add the p-value.
Done

* Figure 6: Vertical scale?
Included