

We would like to thank the anonymous referee for the valuable comments.

Responses to specific comments:

*- Introduction: sometimes the impression is that paper references are not very well balanced: many papers are mentioned in the Gray et al. (2010) and are not explicitly pointed out again, but some papers are. Please make sure that this balance is well suited.*

More specific papers are now cited instead of the review paper.

*- Vertical cross sections of some variables (e.g., temperature and wind from 850 to 100hPa) would be very valuable especially for comparison with model results. Even though it might not be possible for all three reconstructions, it would be worth showing it for a few.*

Showing cross sections for zonal means representing the entire Hemisphere would not be very meaningful because over the first part of the analysed period the area covered by observations is small (the oceans, Africa and Asia are mostly or totally uncovered). If we restrict the calculation to our domain (i.e., from North America to Europe) most of the solar influence disappears since the signals have opposite sign at same latitudes over North America and Europe (see e.g. Figs. 5, 7, 10). Nevertheless we consider indeed a good suggestion to show the vertical behaviour of the signal, so we decided to show some profiles for single, particularly significant grid points. We added a new figure (Fig. 12) and a new small section (5.4) describing it.

*- I am missing a more indepth discussion of solar NAO links previously suggested in e.g. Kodera 2002/2003 or Ineson et al. 2011. A brief discussion is done in section 4.2 and in the discussion later on but a more detailed discussion should be included in the last part of the paper.*

A discussion of the NAO modulation suggested by Kodera (2002, 2003) is now presented in the last section. The paper by Ineson et al. (2011) uses almost the same period as Woollings et al. (2010), therefore the large solar influence on the NAO index that both found is probably a statistical artefact (they actually mention it in the paper).

*- The summary of findings regarding smaller (bigger) amplitude of the stationary planetary wave has to be supported by a discussion of the results before – currently it is only briefly mentioned. May be the climatological mean features of stationary waves can be included in the plots as was done for the upper tropospheric winds. The paper would also benefit from a discussion of blockings and their dependence on the solar cycle.*

A few lines were added to section 5.2, moreover the climatology of geopotential height is now shown in the last panel of Fig. 5. We also added a discussion of the results of Barriopedro et al. (2008) on sun/blockings relationship in the introduction.

*- Figure 11a: The colour bar should be extended to positive temperature differences above 1.5K, currently it is gray, resulting in a "hole" in the temperature signal over eastern Europe*

The scale was extended.