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Interactive comment on “The anomalous low and high temperatures of 2012 over Greece: an explanation from a meteorological and climatological perspective” by K. Tolika et al.

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General Comments. - We believe that there must have been some kind of misunderstanding concerning the way Table 1 was calculated. This table derived by computing the monthly average Tmax and Tmin values for each station under study and then putting them in heraldically order. Thus, if for example January 2012 was the coldest month (from all the Januaries of the period 1958-2012) then in the table it was noted as -1st (the coldest of the examined period). If it was the second coldest then it was noted as -2nd etc. On the other hand if for example June was the hottest of all the Jules of the period 1958-2012 then in Table 1 it is noted as +1st (the hottest of the period). If it was

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found to be the second hottest then it is noted as +2nd etc. So, only the station data were used to do these calculation and not any other reanalysis data. - In the present study we did not aim on proving the relationship between the temperature anomalies (positive or negative) and the teleconnection indices. This was done and proved in previous studies that are included in the reference list (Brunetti and Kutiel, 2011; Hatzaki et al., 2009). Our scope was to associate the monthly temperature anomalies (positive or negative) of the year 2012 to the to specific teleconnection indices that it is proven that they play an important role to the temperature conditions in the domain of study (Greece). From literature it is known that the poles of the positive and negative atmospheric anomalies of the surface pressure and the geopotential level of 500hPa, are located in the geographical borders (longitude and latitude) of the anomalies of the two teleconnection indices under study. We could have chosen another index (such as NAO) if the atmospheric anomalies were found in the geographical boundaries of NAO. However, in order to lift every doubt, under the frame of a new study which is under preparation, we have computed the correlation coefficients between the atmospheric anomalies of the certain period and the corresponding ones of the two teleconnection indices which were found to be statistically significant for every month of the year. - It is a common practice in the scientific papers to include some discussion and describe results from figures that are not shown in the text. We believe that these parts of the texts should remain since they give a more thorough view of the phenomenon analyzed. On the other hand, due to space limitation and more importantly due to our budget limitation for the certain paper we can not extent the length of the paper by including more figures. - We agree with the reviewer's comment and we made the appropriate changes. - We agree with the reviewer's comment that we present phenomena that occur that the same time but we disagree that there is no relation between them, or that this relation is random. The analysis of the temperature values in the Greek area associating them with the sea ice extent in the Arctic Ocean (figure 37 of the TCC-News), has already been done. Unfortunately, we do not have access to the actual data but only to this specific figure in order to calculate a correlation. Nevertheless, we

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do not claim that the summer temperatures in Greece are affected in an absolute way from the minimum ice extent in the Arctic ocean but we wanted to show that there is a relationship between these two phenomena. This relationship is mentioned for the first time from researchers for our country. We would also like to mention that we are trying to get ice extent data for a future detailed analysis. - Finally, following the reviewer's suggestion on the improvement of the English language we gave the text to an English language expert to make the appropriate changes.

Specific comments - It is just a typo mistake. We made the appropriate changes. - See our answer in general comments. - We agree with the reviewer comment and we made the suggested change. - We agree with the reviewer and we made the appropriate changes. - It is consecutive both in space and time. See the changes in the text. - We agree with the reviewer and we moved the sentence to section 3.1. - We agree and we made the appropriate changes. - We added supporting references in the text for that specific page. - We agree with the reviewer's comment and we made the corrections in the references.

Please also note the supplement to this comment:

<http://www.nat-hazards-earth-syst-sci-discuss.net/1/C2092/2013/nhessd-1-C2092-2013-supplement.pdf>

Interactive comment on Nat. Hazards Earth Syst. Sci. Discuss., 1, 4871, 2013.

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