We profoundly thank the reviewer for the objective review and the important comments. Here are our point to point answers:

Comment 1. The paper presents correlations between shallow surface temperatures and groundwater depth that suggest a linkage between the two. However, other factors need to be ruled out as potential factors. My immediate reaction was that elevation could be a factor influencing both; lower elevation could be related to higher air temperature and shallow ground-water depth. However, I was able to locate the study site with GoogleEarth and found that the elevation did not vary significantly. Therefore, the authors need to give the elevation range and discount its influence on air temperature. The results would be much more palatable if data on air temperature at each site were available to discount this as potential factor influencing differences in surface temperature between the sites. Could there be a gradient in air temperature between sites and across the study area? The authors need to comment on this.

Reply 1. You are right. The study area is flat, and the difference in elevation among the seven locations is less than 5 meters. Also, the furthest distance among them is less than 7 kilometres. That is why we did not suppose a difference in air temperature at the different locations. However, we should and will comment on that in the discussion.

Comment 2. The results suggest a negative correlation between soil temperature and ground-water depth, which is counterintuitive. More discussion is needed to explore this. Although this is counterintuitive, this observation does agree with the simulation results in Figure 6, which show warmer surface temperatures during the winter the simulation with shallow ground water. The authors fail to make this connection to support the observations. Evaporation during the winter would likely be minimal, which may be why the surface above a shallow ground water is not cooler during this period

Reply 2. Thanks for this helpful comment. We will make this connection in the discussion.

Comment 3. The conclusion (page 2140, lines 16-17) states that the observation obtained from the final day of observation when the soil was wetted the day before "clarifies the direct effect of ground water on skin temperature". I do not necessarily agree. If the soils were wetted to saturation to remove the effect of the shallow ground water, wouldn't one expect no difference in soil temperature between the sites? Again, more information is required to assess the results. It is stated (page 2135, lines 24-25) that the sites were watered until saturation. The amount of water, which could greatly influence results, will depend on the rate applied and the conductivity of the soil. How deeply were the soils saturated? If only the very surface was saturated, then the water would have been redistributed by the following day, resulting in relatively little influence at each site; the effect of the applied water could be very ephemeral

Reply 3. Our answer to the comment includes these three main points:

- Although we neither specified exactly the amount of water applied to the different locations, nor measured the degree of saturation of the soil at

the different depths, we made sure that the soil was totally wetted at least 10 cm deep. Consequently, we observed the wetting incident in the temperature recording of the loggers at both depths where the temperature stream altered clearly. To obtain reliable results, we considered the time when the incident showed in the recordings as the very beginning of the day 5. All time calculations for previous days were considered accordingly.

- Regarding the poor hydraulic conductivity of the soil in the region (silt clay soil) we believe that a single winter day is too short to drastically change the state of the soil in terms of wetness. In other words, within 24 hours after applying the water, it is unexpected that the soil returns to its previous state of wetness.

- Because the soil moisture influences the downward effect of the atmosphere (albedo, emissivity, thermal conductivity, specific heat capacity and evaporation), wetting the soil was a means to having similar conditions of the seven locations concerning the downward effect of the atmosphere on the soil temperature and to maintain, thereby, the upward thermal effect of the groundwater on the soil temperature as the single intact effect which is the historical soil temperature below our loggers. Due to having similar conditions of the downward effect, the upward groundwater effect on soil temperature was the sole effect that determined the differences of soil temperature.

We finally do thank the reviewer for the keen efforts he made to set helpful and valuable editorial comments. We corrected the MS accordingly.