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The paper combining geomorphology, sedimentology, climatology and plant DNA offers an interesting perspective for experts in different fields, and particularly for those studying desert ecosystems both in Atacama and globally. The study shows that there is a correlation between grain size features, fog frequency and growth of plants in the Atacama. I am impressed by the efforts of collecting various kind of data including climate, DSM, sediments and plant DNA in such a remote area from Heidelberg.

Thank you very much for this very supportive statement.

I believe the paper could be better if the authors would consider some level of revisions. Also I think the section of Conclusions is too short. More details should be added to this section. I think the introduction section should be more focused. In its current version the introduction contains some of the general knowledge and it is not needed for a research paper. About five pages for introduction are indeed too long for my taste.

Here we agree - also in line with reviewer 1 and 2 - re-working on the conclusion and focusing introduction.

As the annual precipitation is extremely low in the study areas, it is needed to indicate the duration of the observations for calculating the mean annual precipitation in Fig. 1 and in the text.

We agree that it is important to provide the period for calculating BioClim 12.

As a geomorphologist I do not know much about methods of DNA. I believe the methodologies of sedimentology are fine. Even though I would like to ask about the meaning of sorting. See Lines 365-370: I think sorting degree cannot be directly measured with an absolute range due to general variations of grain size. Within coarse sands 1.27 μm is a little but quite a lot if it is clay type of sediments.

Thank you very much for pointing this out. The note regarding lines 365–370 is correct and needs to be amended. What is meant here is not an absolute deviation in μm , but the geometric Folk & Ward sorting coefficient σ_G , which expresses the multiplier by which the grain sizes outside the central range of the total grains are scaled. The sorting value must be presented as a relative, dimensionless value. We will correct this and also clarify the use of the aforementioned sorting coefficient again in line 366.