Response to Reviewer #1
Reviewer comments shown as "RC:", author replies as "AR:".

RC: This manuscript presents a dataset of seven meteorological stations in the Khumbu Valley, Nepalese Himalaya. The oldest of these stations dates back to 1994, and as such it is some of the very little data available at high-elevation in the Himalaya, and contains invaluable long timeseries of climate data. I commend the authors on their efforts to archive this data in way that is available to the scientific community. It will be a resource of considerable scientific importance.
As this manuscript is presenting a new geoportal to share this data, some of my comments are in relation to the portal itself, as I believe there are a few technical changes to make before it is ready for publication.
AR: We thank the Reviewer for the constructive feedback and the thorough assessment of the manuscript. All comments have been addressed, providing a point-to-point response to each comment.

RC: Comments on the data and data portal
On the data portal, it is possible to output the data as a table or a graph, but not to download the csv links from here. The Zenodo links in the manuscript do contain the data, so perhaps these could be linked to the data portal? In addition, I think there is a problem with the metadata, as the html link reports an error and is not easily readable. On my screen, the metadata is also written in white text on a white background.
AR: Thank you for pointing out these issues, which have been solved. In the updated version of the Geoportal, the download of the csv file is permitted under registration. The link to Zenodo allows access to the section of the portal with these data. Moreover, the link to the metadata file has been changed (https://zenodo.org/records/15211352).

RC: As the data being presented in this manuscript is the same as that used in Salerno et al., 2023, I have a question from that manuscript relating to this one, namely in Fig. 3 of Salerno et al., 2023, the authors refer to northerly flow as 90°–270° (and later to this degree range as 'southward'). This seems non-standard, so could the authors confirm that the data from the anemometers described in this manuscript are oriented in the standardised setup, with 0° pointing north and representing northerly wind (southerly flow being represented by values 90°–270°)? If not, please list a clear clarification in both this manuscript and with the wind direction data.
AR: Thank you for this comment, which allows us to clarify this point. We confirm that the data stored in the repository of this paper are oriented in the standardised setup, with 0° pointing to the North and representing northerly winds. The caption of Figure 3 in Salerno et al. (2023) "*...downward wind speed among hours of northerly (90°–270°) flow at Changri…*" can be misleading, since the authors wrote "*90°–270°"* in order to indicate the North/South division as hemispheres. However, we agree that reporting "*270°-90°*" would have been more clear. To avoid any confusion, the following sentence has been added in the metadata: "*Wind direction follows the standard definition, with 0° pointing North and representing northerly wind*".

RC: Could the authors please add a timezone to the data (this may be in the metadata, but it is not currently available).
AR: The data are shared in local time (i.e., Nepal Standard Time NPT), defined as UTC+5:45. The information has now been reported in the metadata: "*All times are local time (Nepal Standard Time (NPT), UTC + 5:45)*".

RC: Comments on this manuscript
Line 109-111: The authors refer to strong diurnal katabatic winds, but the windrose shown in Salerno et al., 2023 Fig. 3 suggests predominantly anabatic winds (most strong winds are South Easterly i.e.

up-glacier). Is there some evidence from the data in this manuscript of the strong katabatic winds above 4500 m?
AR: We wrote "*strong diurnal katabatic winds*" referring to the intensity of downwards winds during diurnal hours (as evidenced in Salerno et al., 2023 Fig. 3b), while in terms of frequency, most strong winds are up valley, as those analyses refer to the warm season, under the monsoon influence. Evidence of strong diurnal katabatic winds can be seen from the provided Changri Nup station data. Figure R1 (left panel) shows common downslope direction (indicatively 330°-60°) between nighttime and diurnal time, oppositely to diurnal upvalley winds (indicatively 120°-180°). The frequency of main downslope directions increases during diurnal hours for warmer days. The right panel shows that north east winds (30°-60°) present a peak in intensity during early afternoon (13:00-15:00), that we interpret as diurnal katabatic winds from the glacier north east to the Changri Nup on glacier station. Please note that fig. 3c in Salerno et al. (2023) reports the mean integral of 270°-90° of figure R1 right panel (excluding low wind speed).

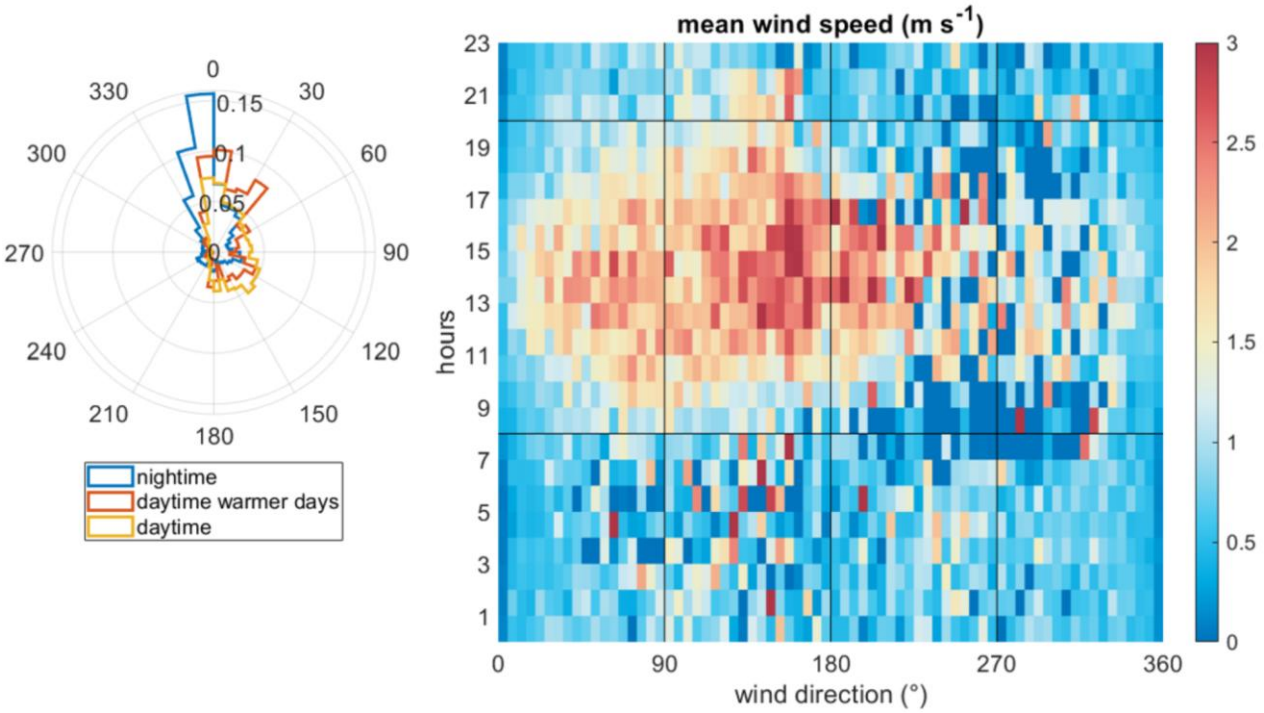

Figure R1. Evidence of strong diurnal katabatic winds during the warm period (MJJASO months). Left panel reports the frequency of wind directions separated between day and night time. The frequency of diurnal distribution is also reported for *warmer days* (intended as ERA 300 hpa air temperature positive anomalies). Right panel reports the mean intensity (wind speed, colorcode) as a function of wind direction and hour of the day.

Evidence of diurnal katabatic winds can be further appreciated by looking at the trends at the Pyramid Station (figure R2), with increasing diurnal northern (270°-90°) winds during the past decade.

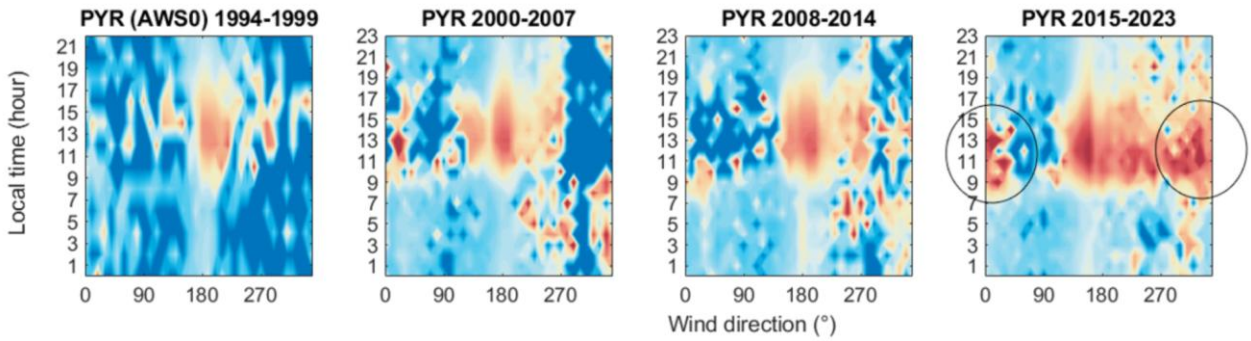

Figure R2 Wind speed means intensity (colorcode) as a function of wind direction and hour of the day for the period 1994-1999, 2000-2007, 2008-2014 and 2015-2023. Black circles highlight the increasing intensity of downward (90°-270°) diurnal winds during the last decade.

RC: Looking at the precipitation timeseries in Figure 5, the decrease in precipitation appears to be a step change around 2001, when the new AWS was installed. Could the authors comment on whether they consider this trend reliable, or potentially due to the new instrumentation? In the interpretation of precipitation trends on line 250, what is the reference period for the 41% reduction?
AR: We improved the readability of figure 5, so that the errorbar associated with the uncertainty of the reconstruction does not interfere with the readability of the month mean values (see also figure R3). Over the 1994-2001 period, the reconstruction relied almost totally on the AWS0 station. During their common time of observation, AWS0 and AWS1 measured highly similar data (daily total precipitation correlation between the two stations is 0.97, n=2298), but with some differences. In the reconstruction (fig. 5), the systematic bias in the daily precipitation distribution between AWS0 and AWS1 has been corrected with a quantile mapping regression (e.g. Déqué 2007). The uncertainty associated with the quantile mapping is monitored, together with uncertainty of the multiple imputation for further missing data. Details are given in Salerno et al. (2015, supplementary material (https://tc.copernicus.org/articles/9/1229/2015/tc-9-1229-2015-supplement.pdf). We think that the step change impression in 2001 is more a consequence of the visual impact of the uncertainty associated with AWS0 imputation. We are confident in the trend estimation reliability, with a known large uncertainty on the associated intensity (-5.9 mm/y +/- 4.4). It is worth noting that such a result is in line with the impact of increased katabatic winds on the precipitation reduction due to a downward shift of the convergence elevation as described in Lin et al. (2021) and Salerno et al. (2023). The reference period has been added (1994-2023) as suggested by the reviewer.
Furthermore, the manuscript has been corrected adding the uncertainty associated with the precipitation trend.

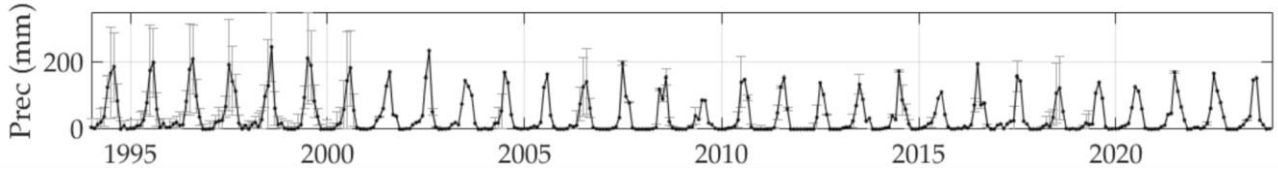

Figure R3 Pyramid monthly precipitation and associated gap filling uncertainty. The visual impact of uncertainty has been reduced to avoid confusion.

RC: Figure 5: This figure is a little hard to interpret due to the many different plots and the very small size. Could the authors please enlarge the figure and label the figure (a, b, c etc, or perhaps a) i), a) ii) etc) so that it is easier to refer to the different plots in the figure caption. The figure caption should refer to temperature for the initial reference to "a) maximum, b) mean, c) minimum". Including colour bar labels and axis labels referring to the variable being shown would also help interpretation. Please also change 'the top graph….shows the monthly trend' to 'the top graph….shows the monthly timeseries'.
AR: Figure 5 and its caption have been edited to improve readability.

RC: Line 223: Should this trend be -0.031 ± 0.015 °C y-1? It seems out by an order of magnitude compared with figure 5.
AR: This was a typo and it has been fixed.

RC: Line 229-230: the authors mention a decreasing trend in the cold months, but in line 224-227 they discuss increases/no trend in the cold months. Please clarify this.

AR: The suggestion has been followed and the text clarified.

RC: Line 238: For the minimum air temperature, fig. 5 shows a positive (rather than negative) trend, statistically significant with $p<0.01$.
AR: It was a typo. Amended.

RC: Figure 1: The location of Changri Nup station does not match the location in the table 1. Could the authors please check all the station locations in figure 1.
AR: The typo was corrected.

RC: Line 262: please clarify in the conclusions that this decreasing trend in air temperature only holds for maximum air temperature in certain months.
AR: The suggestion has been followed and the text clarified.

RC: Minor comments:
103 and figure 4 caption: typo cumulated precipitation -> cumulative precipitation
AR: Done.

RC: Table 3: Please standardise the names of the stations e.g. include the AWS4 etc IDs in table 3. It would also be helpful to explicitly state that the Z naming convention relates to elevation of the AWS, as it's not immediately obvious.
AR: The suggestion has been followed.

RC: Line 212: I think it would be more applicable to reference the minimum temperature being mostly above 0 here, as in principle the mean temperature could be above 0 but precipitation fall as snow during the night.
AR: Done.

RC: 247: typo period -> periods
AR: Done.