

Reply to RC 2

Reviewer: This is a review of “High-resolution hydrometeorological and snow data for the Dischma catchment in Switzerland”. Overall, this is a very well written manuscript. The data are well described, and other than a few points of clarity that need to be added, it is in good shape.

Authors: Thank you for your positive feedback on our study and your valuable comments for improving the manuscript as well as the dataset. Below, we have provided our responses to your comments and outlined the changes we have made to the paper.

Reviewer: My main issue was getting the zip file decompressed. It seems to require a zip64 compliant decompressor (e.g., 7z) as MacOS' Finder or CLI `unzip` could extract the files. I recommend that the authors either explicitly note that the file is in zip64 and requires a decompression program that can handle this format. Or, use a different format (tar.gz). I would also recommend the authors.

Authors: We have added information that the files were compressed using Zip64.

Reviewer: The met netcdf time units appear to be incorrect

```
double time(time) ;  
    time:standard_name = "time" ;  
    time:units = "days since 2016-10-01T00:00:00+01:00" ;
```

I believe this should be "hours since".

Authors: The time units “days since...” are correct in the files for the meteorological data. For example, this is the output (in split days) when reading the time variable for the first file in the dataset using Matlab:

```
time = ncread("METEO_DATA_201610160000.NC","time");  
ans = [0, 0.0417, 0.0833, 0.1250, 0.1667, 0.2083, 0.2500, 0.2917, ..., 0.9583]
```

Reviewer: Neither Panoply nor Paraview (both CF compliant nc loaders) correctly load the time component and cannot produce a xy-time visualization. I think it is because although it is not required, CF recommends Time x Z x Y x X and the data here have time dim last.
<https://cfconventions.org/Data/cf-conventions/cf-conventions-1.11/cf-conventions.html#dimensions>

Authors: Unfortunately, we cannot reproduce the behaviour reported by the reviewer. For us, Panoply Version 5.3.4 correctly visualizes the gridded meteorological data on Windows 11 (see Figure 1 below for an example). We have added information about Panoply version and operating system to the manuscript.

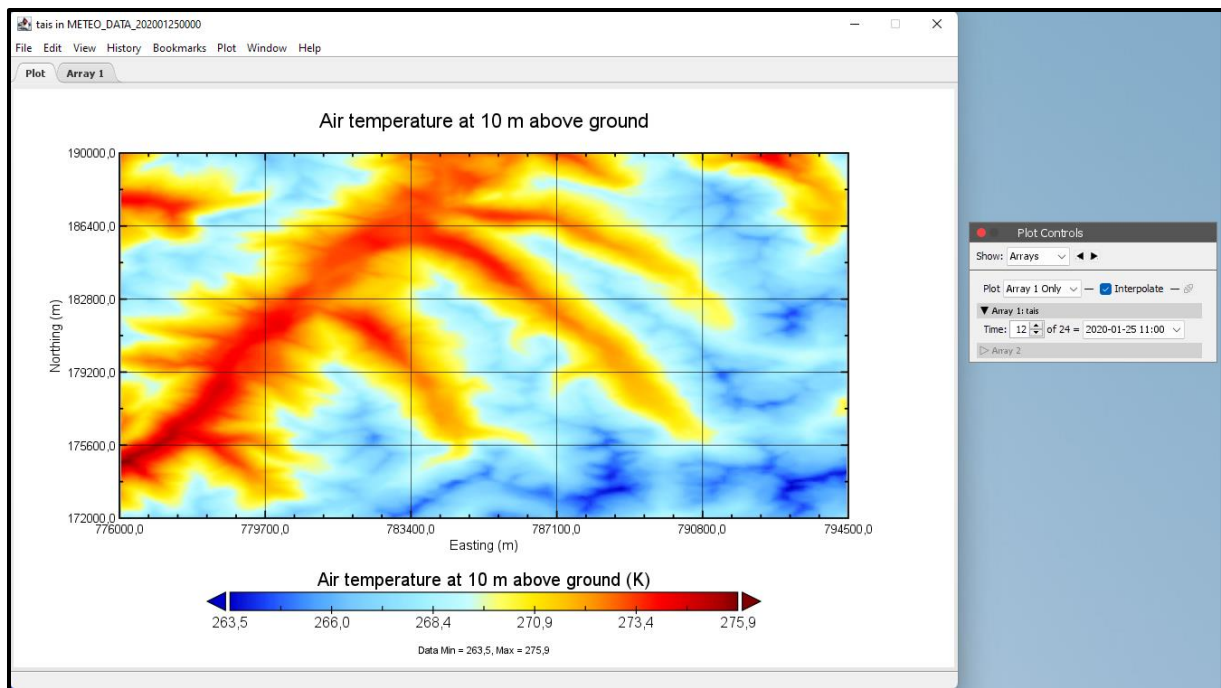


Figure 1. Screen shot showing air temperature for 2020-01-25 at 11:00 using Panoply from the METEO_DATA_202001250000.NC file in the provided dataset.

Reviewer: The CF standards page lists the incoming fluxes (e.g., `downwelling_longwave_flux_in_air`) to have a canonical unit of W m^{-2} – is there a reason the authors deviate from this?

Authors: We have updated the canonical unit to the correct standard (W m^{-2}) in the final dataset. The updated dataset can be accessed using the following link during the review process:
https://wslch365-my.sharepoint.com/:u:/g/personal/jan_magnusson_slf_ch/Ed4CWkkJEG9JqyMdlas5dEBwlnGVfilsinsh8LDM3yOcg?e=qnJP9Q

Reviewer: The GeoTIFFs are missing a no-data value. It is presumed to be -9999 but this should be explicitly set, e.g.,

...

```
gdal_edit.py -a_nodata
```

...

Authors: We have updated the GeoTIFF files in the final dataset to explicitly include a no-data value.

Reviewer: L15: here and throughout, the use of a debiased NWP output needs to be clearly noted to be NWP output and not observations.

Authors: Clarified.

Reviewer: L60 note hourly met data

Authors: Added.

Reviewer: L70 throughout this section with respect to the percentages of land cover: it is not clear if the authors are describing the sub-set area, or the entire basin. For example, on L76 “accounting for 33% of the area” it is not clear if it is 33% of the lower elevations or of the total basin. Please clarify this throughout

Authors: Clarified.

Reviewer: L74 83% being steeper than 15 degrees is not a particularly interesting stat for a steep mountain basin. Perhaps the authors could add some binning or a steeper threshold?

Authors: We have included a additional threshold of 30° to better represent the characteristics for a steep mountain basin.