

“Daily gridded datasets of snow depth and snow water equivalent for the Iberian Peninsula from 1980 to 2014” by Alonso-González *et al.*

General Comments:

Based on Earth System Science Data’s review criteria I consider that the paper presented by Alonso *et al.*, is of great interest to the scientific community, particularly to the ones working in the cryospheric field. Therefore, this paper and the respective dataset is significant, useful and worthy of publication.

The methods used in this work are not entirely new, but they have been appropriately adjusted to the Iberian Peninsula study areas where this methodology has not been applied so far, at least not at the extent presented in this study. The authors show a remarkable effort to combine several sources of input data as well as to create/simulate new data. Thus, I consider that this data set presented for the Iberian mountains is very interesting and unique to a great extent.

Regarding the data quality, I confirm that the data is easily accessible and readable. Concerning the presentation quality, the paper is quite clear and is not too long.

Specific comments:

- The reanalysis and modelling of Snow Depth (SD) and Snow Water Equivalent (SWE) for the Iberian Peninsula mountains presented in this paper is of great interest as mentioned before. However, and as the authors have rightly pointed, there are some limitations related with the applicability of the dataset. From my point of view and experience in snow variability in Sierra Nevada, the coarse resolution of the results (10 Km) would make difficult to use the data set for hydrological or risk management studies, as this topics require a much more detailed approach. However the utility of the data set generated and presented in this paper is not dubious or doubtful, but it should be considered for larger scale analysis and not for local studies.

In this regard, would you consider in the future to use a combination of MODIS images (good temporal resolution) with Landsat or Sentinel imagery (better spatial resolution) (lines 227-229)?

- Concerning the snow energy and mass model balance model, is not clear to me if parameters like emissivity are estimated daily (line 176-179) or hourly (as explained in line 164)? This should be clarified.
- For Sierra Nevada there are available DEM at a better spatial resolution. This is just a suggestion that could help you to improve the quality of the results.
- Regarding the grammatical revision and technical corrections, I would suggest the revision of the same aspects already pointed by other referee. So in this regard I would only add two corrections/suggestions:

- Line 244: The authors duplicate de N_s parameter. I guess the second one should be only N refereeing to the total number of days of the period.
- On the figure 1 (page 20), I would probably add a small table with some details about the Telenivometers and the SD sensors (mountain range, location, altitude, orientation...). Also on figure 3 (page 21) there are 10 different locations with Telenivometers but on figure 1 we can identify only 8-9 Telenivometers. Maybe the Telenivometers location is so close to each other (in some cases) that the symbols are overlapped in map (Fig. 1)?

Finally I would like to greet the authors for this interesting study.