Interactive comment on "Meteorological and evaluation datasets for snow modelling at ten reference sites: description of in situ and bias-corrected reanalysis data" *by* Cécile B. Menard et al.

Anonymous Referee #2

This paper deals with the data sets of ten observation sites under different climate conditions, which includs detailed quality information of each sites. It is clear to see that a lot of hard work has been put into the study. I do not doubt this paper should widely contribute to the scientific community for not only comparison and improvement of models but also understanding the response of Cryosphere to climate change. The paper has enough scientific quality, however, some of parts need to be improved because of ambiguous descriptions. Thus, several points as indicated below need to be addressed by authors to improve the quality of the article. For this reason, I concluded

that the status of this paper is minor revisions.

Major comments:

Section 2 is not designed well because the information of each site appears sporadically and description style is not unified. Moreover, the definitions of several terms are ambiguous. Therefore, I recommend to rewrite this section for better understanding.

L139: "Monthly averages" How long period for average? Averaged period depends on the site? Please add the information.

L149 : What is the definition of air temperature in Fig. 2? Is it daily or hourly? Please add the definition.

L170-L172. It should be helpful for understanding if the authors add a figure showing some evidences for discussing in this paragraph.

L217: what is dimension of 1/10 ?

Fig. 7 What is the difference between "daily averaged over time" and "daily climatological averages" ? Please clear the definition.

Line 328-330: It is difficult to understand this sentence. Are the data of soil temperature at OJP and SOD discussed in this sentence? Please clear.

L352: How to calculate snowfall amount in GSWP3? The short introduction of this information is useful for better understanding of not only Fig. 9 but also Fig. 3.

LL371: The result of Sapporo at Fig. 3 also has strange behaviors: Solid traction of precipitation keeps large value (around 0.1) at the area of the higher than 5 degree Celsius. I recommend to check the data of GSWP3 at Sapporo.

Minor comment:

Several numbers of tables or figure in the text are missing (e. g. L 147, L 274, L380). Please carefully check them and add the numbers.

C3