

Interactive comment on “A database of water and heat observations over grassland in the north-east of Japan” by Wenchao Ma et al.

Anonymous Referee #1

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General Comment

The database comprising 37 years of data from the EDP observational site is impressive. Various parameters are recorded in different soil depth and instruments heights, and various temporal resolutions are also offered. The data page is clear (in the English version) and the download easy. The description should maybe also contain a little paragraph on instrument calibration and maintenance (e.g. cleaning, which is especially relevant for radiation sensors).

I recommend the publication of this important database, but have a few remarks as well.

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Specific comments

Datafiles ==> The headers of the files have to be copied and inserted into the data files, which themselves do not contain headers. As this is probably done for automatic ingest I am fine with it. However, the last data point in the hourly files is always hour 24:00. E.g. hour 24:00 of day 1, whereas I would have given this datapoint the timestamp hour 00:00 of day 2. Is that Japanese standard maybe? Other than that, the files are in good shape and easily processable.

P4 Line 17 ff ==> I am not sure about the representativeness of this study area for plant/soil studies. If the site was artificially filled this is not representative of the area nor natural conditions. Also, the area around the site looks more of an agricultural/urban/forestry site – how representative is this site of the area? Please comment on that.

P6 Line 17 ff ==> You talk about the averaging process here. I would like to hear more of how you averaged the data for hourly or daily averages, especially for data with large daily courses (shortwave radiation), this is pretty important if serious data gaps exist (or e.g. only nighttime values are available). How is a record marked as incomplete? I did not see any marks in the files I looked at.

P6 Line 20 ==> the maintenance log is a good thing, but I only saw the Japanese version – is there an English version available?

P7 Chapter 2.2 ==> I did not find the downward longwave data, can you specify where it is included? See also Table 2, where it seems that longwave data is included in the 2002-2007 files, but I checked 2004 and there is no longwave included

P9 Chapter 3 ==> maybe you should also talk about the different available versions here. What is the difference between version 1.0, 1.1 and 2 etc.

P11 Line 16 ==> you talk about daily observed values – please clarify here, that it is

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daily averages (e.g. temperature) and daily sums (e.g. precipitation?) respectively.

P12 Line 10 ==> you state here that the average annual precipitation is 3122 mm/a, and in Figure 5 that seems to be true. BUT on page 4 you say that the region has a long-term annual average precipitation of 1200-1600 mm, and in the 2004 file e.g. the sum of all hourly values for that year amounts to around 1520 mm. So the 3122 mm average, and all values in Fig. 5, seem way too high.

P15 Description of Figure 4 ==> Why do you mention soil and dew point temperature, but not air temperature, which is also included in Figure 4? Also other parameters are not mentioned here, why?

Technical corrections

P1 Line 13 ==> If you write "depth", normally the numbers are not negative. I would remove the "-" [minus] signs when you write "at depths of -0.02 m, . . ."

P4 Line 4 ==> in the lat/long the 36.0° can be reduced to 36° (remove ".0")

P4 Figure 1 ==> Please enhance the size of the font a bit, as the X and Y axis is not easily readable

P5 Line 1-3 ==> Please use capital first letter for the genus, e.g. *Imperata cylindrica* (no l in *cylindrica*!), *Andropogon virginicus* (*Andropogon*, not *Audropogon*!) etc.; *Lespedeza cuneata* is with a at the end, not e (probably all automatic spell check errors)

P5 Table 1 ==> The date format is a little weird here. I would maybe use ISO format (2015-12 or 1981-08 etc.)

P18 Line 3 ==> as you give units for all parameter, you should also list "%" for relative humidity

References ==> you list three references as "in review" (Godsey, Kosmos, Makarieva).

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All three have been published in the meanwhile, so you should update the references

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