

Comment on essd-2020-395

Anonymous Referee #1

Referee comment on "Intercomparisons, error assessments, and technical information on historical upper-air measurements" by Noemi Imfeld et al., Earth Syst. Sci. Data Discuss., <https://doi.org/10.5194/essd-2020-395-RC1>, 2021

This paper describes the effort to develop a database based on historical radiosonde intercomparison activities. Knowing the instrument and correction information is the key to establishing a reliable upper air time series for long term climate change study. However, information for historical radiondes is often fragment and incomplete. I understand that collecting the data and compiling a database is a tedious task. This is an excellent work. It can be very helpful for the global radiosonde archive, thus for the global change study. I'm looking forward to seeing the database to be published in its final version.

The paper is well organized; data background and database structure have been clearly illustrated. There are a lot more information in the historical upper air observations but I feel the important and necessary information is presented by the authors. I only have some minor points here:

- 1) L39-40: data base--> database

- 2) L42: use of it-->use of them

- 3) L57-58: the transmission of the data and their processing--> data transmission and processing

- 4) L66-67: Were the soundings on International Days and Week launched at the same UTC hours?

5) L74-75: Payerne (Switzerland) --> Payerne, Switzerland

6) L80: Shlyakhov. -->remove the dot at the end

7) L92-93: "GCOS (Global Climate Observing System), the GRUAN (GCOS Reference upper-air network) " maybe changed to: "Global Climate Observing System (GCOS), the GCOS Reference Upper-Air Network (GRUAN)"

8) L93-94: and with this the quality is --> with which the radiosonde quality was

9) L102: amount of studies on radiosondes has been --> number of studies on radiosonde have been

10) L117: "which is useful to determine, were corrections have been applied." , this sentence is not clear.

11) L130: the 1930 and 1990 --> change to "the 1930s and 1990s" or "1930 and 1990"

12) L148: Figure 1: Left: Three types of Väisälä radiosondes --> Figure 1: Three types of Väisälä radiosondes. Left:

13) L226: have been-->were

14) L227: deviate--> differ

15) L230: "resp.", do you want to say "or"?

16) L266-267: "the individual campaign" --> individual campaigns

17) L267: unique identifier (UID)

18) L283: relate-->related

19) L285: have-->has

20) L291: end of line ":"--> "."

21) L335: intercomparison-->intercomparisons

22) L340: report-->were reported