Summary

The paper documents processes adopted by INTERMAGNET to ensure the quality and timeliness of magnetic observatory data, with emphasis on Definitive Data, I believe the key point is that a team of scientists responsible for data processing at their home observatories has been assembled who carefully check data produced by their colleagues at other observatories around the world. Besides helping to ensure data users have access to high quality data this procedure has the great benefit of spreading and building expertise among the scientists responsible for magnetic observatory data quality globally. Timeliness of publication of Definitive Data has also been improved as adoption of the peer review process imposes a timetable for review, feedback, response, agreement and data publication. Importantly the team of data checkers do not correct data; only the originators of the data make changes using feedback and advice from checkers.

Historically it has been difficult for research scientists to judge the quality of data from Individual observatories and difficult to track down the data and metadata required to make a judgement. This initiative by INTERMAGNET provides reassurance to an audience of data users about the uniform assessment procedures applied by INTERMAGNET, which is a substantial benefit for research. The allocation of DOI's to datasets published by INTERMAGNET is another significant step forward.

INTERMAGNET strives to help individual observatories work to standards that serve modern science and applications. This paper provides a good explanation of how INTERMAGNET is designing processes to improve and sustain data quality and timeliness of publication.

Comments

1. The peer review of data described in the paper is new to the magnetic observatory community and is of such significance it and might be worth emphasising by adding "by peer review" to the title?

2. Is there a better word than "delayed" (line 10). The idea is different levels of data scrutiny or quality control; very little for rea-time data; 'some' for QD and a great deal for DD. "delayed" sounds rather negative as if there's a problem, perhaps use 'quality controlled' instead

3. Definitive Data sets are intended to be final, although, very occasionally, circumstances arise where revisions are justified. It would be worth mentioning this

more explicitly, including examples of the circumstances where changes might be

warranted.

4. The authors use the word “homogeneity” (Line 190). It would be helpful for them to explain

clearly what is meant by this term in the context of the paper.

5. The authors abbreviate Definitive Data as DD, whereas Quasi-Definitive Data is referred to as QD. In the manuscript “DD data” is discussed that would mean Definitive Data data (e.g. Line 15). Should Quasi Definitive Data be abbreviated to QDD? Alternatively in instances where “…QD and DD data…” appear the order should be changed to “…DD and QD data … “to remove the duplication of the word ‘data’.

6. The authors refer to the process of “Call for Data” (Line 99). It would be helpful for the reader to explain briefly what this process is.

Minor Comments and Corrections

1. With an acronym DD it could be better to capitalise Data in “Definitive data”?

“Definitive data” is used throughout the text and the authors should check

consistency in their use of “DD” or “Definitive data”.

2. Line 33: “However, while their …”

3. Line 36: Change “Delayed Data “to “Quality controlled …” as suggested above.
It would also make sense to change the order of DD and QD bullet points since QD is available before DD.

4. Line 40: Is “magnetologist” commonly used? I might substitute “scientists”.

5. Line 42: Definitive Data is referred to DD, similarly, should Quasi-Definitive Data be referred to as QDD?

Line 69: “Baseline plots analysis…” change to “Analysis of baseline plots …”

6. Line 74: “… requirements are outlined …”

7. Line 76: “…datasets…”

8. Line 86: “…components and …”

9. Line 95: “…benefiting all …”

10 Line 100: “…Data Checking Task Team members…”

11. Line 110: In “IAF format”, spell out the acronym IAF.

12. Line 111: “…1-minute data series “

13. Line 111: “… K local magnetic activity index…”

14. Line 116: “K9- limit for the local magnetic activity index”

15. Line 121: “K index values”
16. Line 123: “The file with the BLV extension”
17. Line 124: ”…and adopted baselines. The Yearmean file contains …”
18. Line 129: replace “like” by “such as”.
19. Line 130: Incorrect spelling of “magnetometer”.
20. Line 130: “… visually comparing plots of the time …”
21. Line 140: “…tools have…”
22. Line 141: “…converting formats…”
23. Line 156: “…INTERMAGNET-DKA”
24. Line 190. “The Data Checking Task Team (DCTT)…”