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Interactive comment on "The Global Energy Balance Archive (GEBA) version 2017: A database for worldwide measured surface energy fluxes" *by* Martin Wild et al.

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This manuscript describes the history and the current content and status of the Global Energy Balance Archive (GEBA); published research results based on GEBA data are presented and summarized.

The GEBA data set has become a widely used collection of surface energy fluxes, mainly for the surface irradiance. The data archive is hosted by the ETH Zürich, the data access has recently been modernized and automatized. The presentation and description of the data set, its access as well as the summary of research applications of GEBA data is timely and appropriate for publication in ESSD. I only have minor

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Discussion paper

comments that the authors might want to consider before publication.

In general the description of the content of the GEBA (Section 3) could be extended. In its current form it focuses on the downward shortwave radiation; i.e., presenting the quality checks, expected accuracy etc. Are quality checks also conducted for the other surface flux components? What is the expected accuracy of the other fluxes in the GEBA? Maybe some more details (and / or references to other published work) could be provided at least for some of these fluxes.

The authors might want to consider adding a statement on possible updated of the GEBA. Are there any plans to include more recent data, once it becomes available? Is it possible for researchers / organisations to contribute their data to the GEBA?

Page 4, line 13; Figure 1: It appears that a substantial number of the 'stations' in the GEBA global irradiance record is derived from ship observations in the Arctic. Figure 1 suggests an extensive coverage of the Arctic with 'observation sites', which are likely mainly data from single cruises in the Arctic region, which are considered as individual 'observation sites', but provide only data for a short period (i.e, one month). I suggest to include in Figure 1 only those stations with a minimum number of monthly data available, e.g., 12, to better characterize the actual data availability in the GEBA. The same hold for the number of 2500 stations given in the abstract and Section 3; maybe the number of stations with available data of more than 12 (or maybe even 24) months could be added.

Page 5, line 1: I suggest not to include an invalid URL in the manuscript, but rather mention that the GEBA can only be accessed under the new URL.

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