

Interactive comment on “A database of multi-year (2004–2010) quality-assured surface solar hourly irradiation measurements for the Egyptian territory” by M. Korany et al.

Anonymous Referee #1

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This database created within the framework of the SUSIE project is the result of great efforts from various Authorities and scientists. As solar power in Egypt is apparently set for a massive expansion, this study not only supports meteorological and climate-related research, but also renewable energy projects. The dataset spans from 2004–2010 and is therefore sufficiently large to detect trends and/or prospects of solar irradiation in different types of Egyptian climates.

I checked the data: the structure and allotted metadata are consistent and easily understandable. The data can easily be downloaded and directly used to plot time series. What I do not understand is why the authors erased “obviously erroneous measure-

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ments” but on the other hand data flagged as 2 or 3 (greater than rarely observed and outside the range of extreme values) have been preserved. A short explanation for this approach would be helpful.

After plotting the meteorology data of Aswan and Barrani, I encountered some obvious outliers and a period of seemingly erroneous measurements (Temp dry at Barrani in the first half of 2009) – see attached figures. The authors should maybe add a comment to the datasets to inform users about this.

Specific comments:

- 1) At the beginning you use GHI, DHI and DNI as abbreviations, later on you use G, D and Bn, that is a little confusing.
- 2) Page 739, line 10: “Between 88 and 99%...” I don’t really understand where the 88 and 99% come from. Do you mean 1-12 % of daytime data are missing, or do you mean 1-12 % has not been validated? If it is the latter, then I would like to know why?
- 3) Page 742, line 8: If the instruments are so close to a local airport is there any danger of interferences due to e.g. temporal shading of the sun by an airplane?
- 4) Page 742, line 14+: at the Cairo site is sounds to me as if there could be interferences due to smog or antennae of some kind, maybe briefly explain?
- 5) Page 742: for the desert sites: any danger of sand storms or unusually high errors due to moving sand? Maybe a short sentence on this issue and how this is addressed (more frequent cleaning, see page 743, line 21 etc.)?
- 6) Page 745, line 18 and 23: when you speak of correction, what do you mean – do you adapt the value in some way or remove it?
- 7) Page 747, line 23: One word to the nighttime values: did you just set them to 0 or is this an actual measurement?
- 8) Page 749, line 24: please do not write “available at www.pangaea.de” but “available

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at doi:10.1594/PANGAEA.848804". The journal will provide the hotlink behind the doi. You also don't say: the article is available at Elsevier.

Technical corrections:

- 1) Page 739, line 7: why is there a "...“ after “direction”?
- 2) Page 739, line 10: it should be “described in detail”, without “s”
- 3) Page 739, line 19 (see also page 750 line 2): better “in the near future” and later in this sentence the phrase “to complete regularly” does not make sense, I guess you rather mean “continue with regular measurements” or “update this database regularly”?
- 4) Page 739, line 26: instead of “researches” I would write “studies”
- 5) Page 740, line 6+7: why do you write “Sun” with a capital letter?
- 6) Page 740, line 18: there is a dot missing at the end of the sentence.
- 7) Page 742, line 3 (same in line 29): “located over a small hill” – do you mean “on a small hill”? Or are the instruments mounted high on a pole or a similar object?

Interactive comment on Earth Syst. Sci. Data Discuss., 8, 737, 2015.

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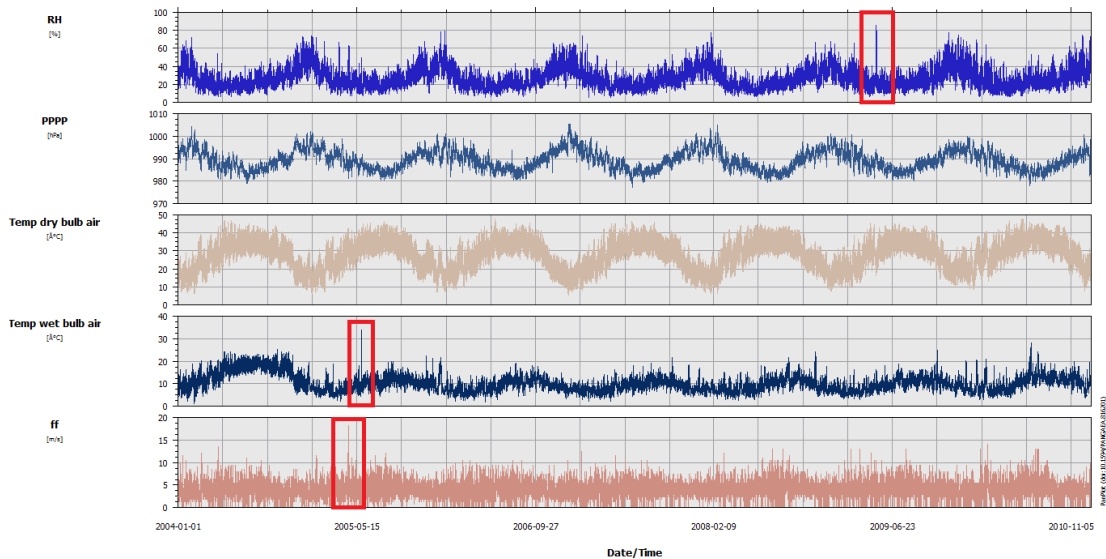


Fig. 1.

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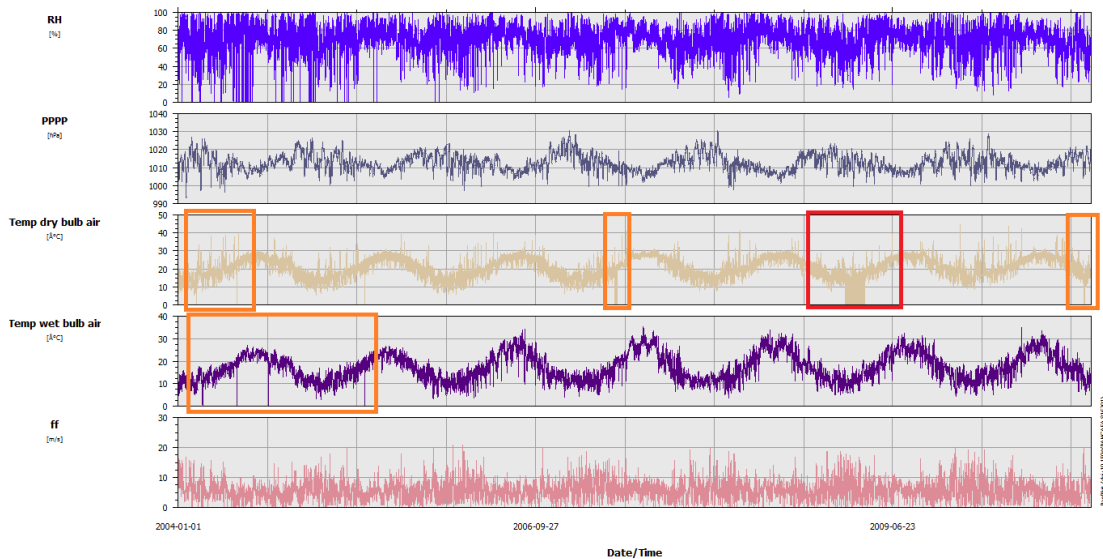


Fig. 2.

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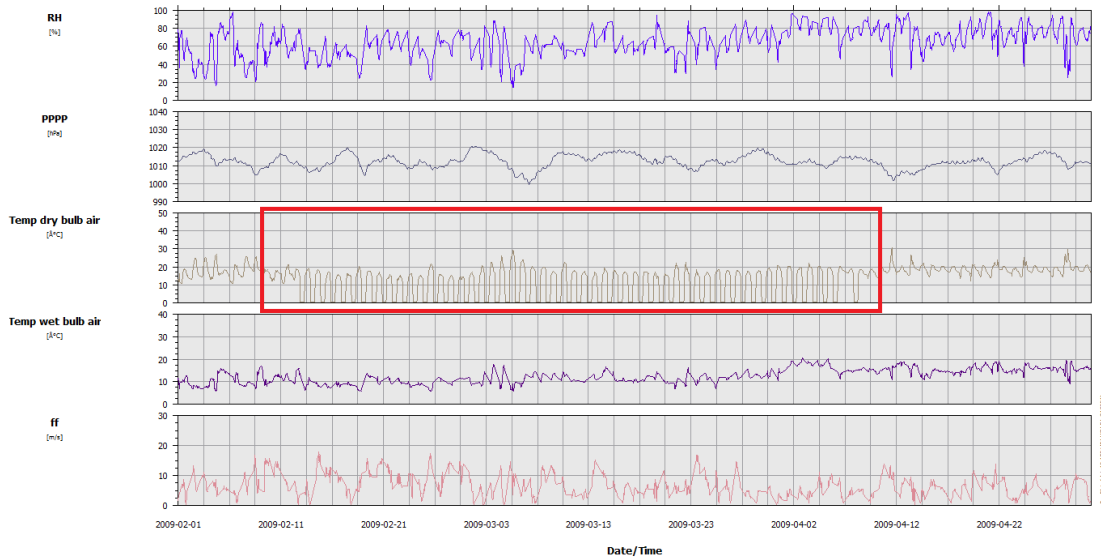


Fig. 3.

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