

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

Received and published: 12 October 2015

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-

C336

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

C337

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.

C338

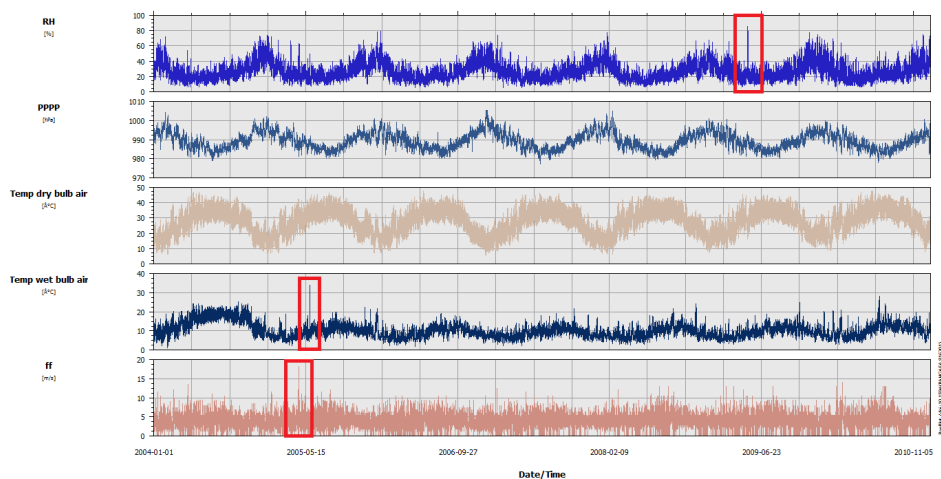


Fig. 1.

C339

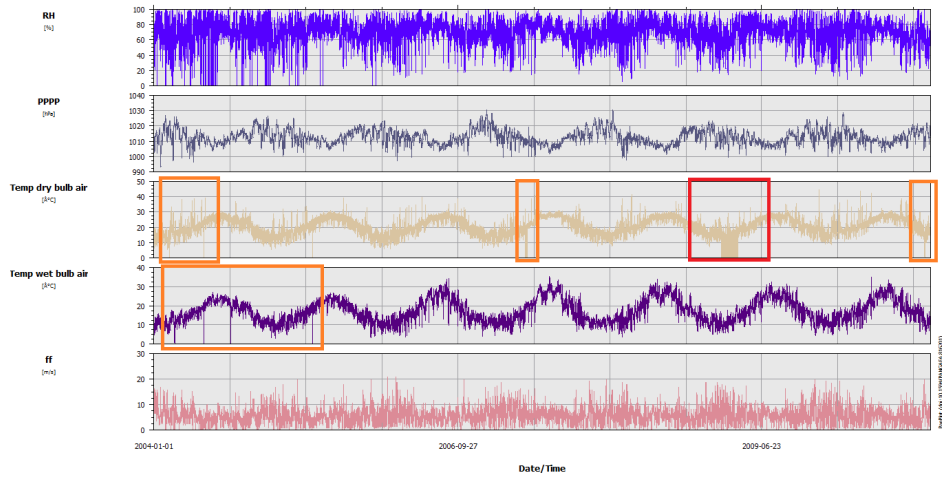


Fig. 2.

C340

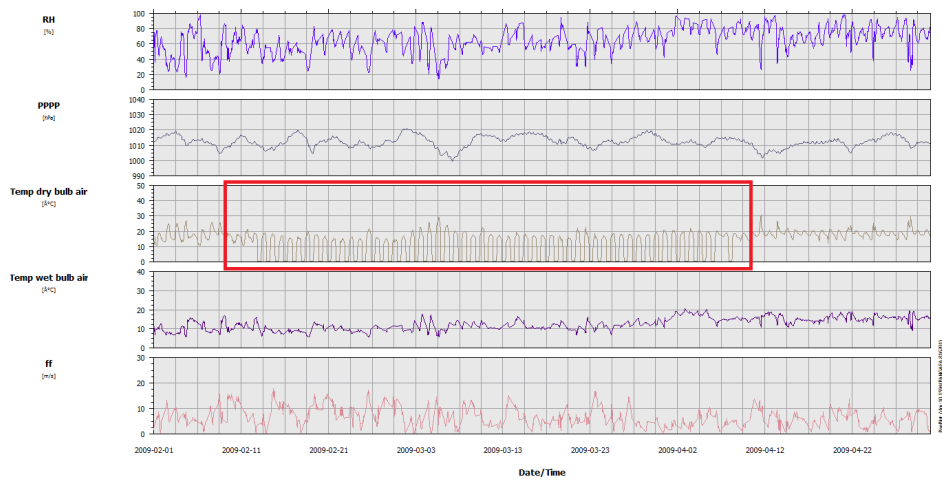


Fig. 3.

C341