

## ***Interactive comment on “A rescued dataset of sub-daily meteorological observations for Europe and the southern Mediterranean region, 1877–2012” by Linden Ashcroft et al.***

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I was the developer of UQC (Universal Quality Control for hourly observations of surface air temperature, air humidity, wind speed and wind direction), a unit of the SAQC software package. Reviewer 2 asks (at point 3c) if aggregating the hourly data to daily would help to identify more errors, and one could run adapted SAQC with aggregated data on daily scale. The concept of developing SAQC was to identify transcription errors, measurement unit errors and systematic errors of relatively large magnitudes. Transcription errors (which are the most frequent) are best appear on hourly scale, as aggregating 1 wrong value with one or more several correct values will result in a sum

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whose deviation from the expected value is much smaller than that of the wrong hourly value. On the other hand, SAQC includes examinations for the detection of systematic errors, they are the control of mean absolute increment between successive data and the control of the frequency distribution of the data (they are explained in Table 3 of the study, together with the other examinations). The Manual (UQC\_manual.pdf), which includes both guide and scientific description and accessible via the webpage indicated in the study (page 7, line 15, it is an answer also to Reviewer 1's, point 2c), does not offer the option to use the software with daily data. However, with the assignment of any arbitrary hour to daily data, the program could be applied to daily data. We did not do this, as we focused on the most frequently occurring errors in a dataset of more than 8 million hourly records. I agree with Reviewer 2 that likely more errors could be identified with widening the scale of quality control examinations, but with respect to the size of the dataset we had to stop the controls at a certain point. I hope that in spite of some unexploited options of possible further QC examinations, the QC procedures accomplished and especially SAQC is a positive contribution to the dataset development described in our study.

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