***Specific comments:***
***P8, Ln2- Ln5, Eqs. 2 to 3: How was the partition criterion found?***

The referee raises a pertinent question, and we have seen that this issue has not been adequately addressed. The partition was made on the basis of the relationship between CI, Wa, and emissivity that is shown in Fig. (5). Region A for clear skies defines the area in a CI-Wa axes, where the mean value for the emissivity is lower than 0.7. Conversely, region B for completely covered skies delimits the area where emissivity is greater than 0.9. This comment has been included in the corrected version of the paper (see Lines 188-191 in the revised version).

***P8, Ln21, a threshold CI value of 0.83: how was the value found?***

It is the exact value of CI where Eqs. 2a and 2b intersect. Anyway, this threshold has been removed in the reviewed version, where all the parametric expressions have been simplified both in terms and in significant digits, following the suggestion by the Reviewer

***P10, Ln25, an absolute underestimation in measured up to 0.2: The authors should provide for readers the necessary data evidence for reaching the conclusion.***

As it has been pointed out by Referee 2, there is a mistake in that paragraph. According to Fig. (6), in which all the calibration data, both measured and estimated values, are captured, values were "overestimated" and not "underestimated" in the simulation. It was our mistake when writing, and it has been corrected in the revised version. As explained in the text, (lines 301-310 in the revised version), the reader can check in that figure how the lowest emissivity values measured, those between 0.4 and 0.5, are grouped in a scattered cloud of points with an estimated value of between 0.6 and 0.7, which gives us an absolute "overestimation" of 0.2.

***P11, Ln16-Ln18, The long-wave : : : are not correctly estimated by the existing models and frequently used parameterizations: Is Brutsaert's parameterization not an existing one?***

The Brutsaert expression is, of course, an existing one. We meant that there are situations for which this and other expressions do not correctly estimate these components. That is the reason why we propose two different ways to approximate further from local data: obtaining a completely new and locally derived expression, and to correct locally Brutsaert's original expression for cloudy conditions by means of the calculation of $N$ from screen-level measurements as presented in Eq. 8 (in the revised version). This is, in fact, a new parameterization of Brutsaert's model. We apologize again for not having stated this more clearly in the original version. The sentence highlighted by the referee has been modified for clarity (lines 326 and 329-331).

***P19, Fig.2a: Why are the 5-weeks moving average? For example, why is not the 1-month average?***

This moving average line on Fig 2a is included just for informative purposes, and it is not used in the parameterization, or in the calibration of any of the expressions proposed and/or tested in the article. We used a certain number of weeks, five in this case, to have a constant number of values in the moving average, since months can have a different number of days.

***P20, Fig. 3: The figure needs to be revised. It is difficult for readers to draw a clear distinction between three curves in the figure.***

Yes, we agree. To solve this, the Fig. 3 has been colour-formatted.

***P21, Fig. 4: This figure is not a visual representation. A 3-Demension figure will make the relation Wa-Ta- more clear or easier to understand.***

Our first representations of the relation Wa-Ta-Ea were 3-D graphics. They really helped us to understand the generated surfaces as we had the opportunity of rotating and moving them. A single shot of a 3D view in perspective may not be much more clarifying than Fig. (4), when the surface shape may make some kind of virtual shadowing of certain portions of the domain. That is the reason why we chose to represent it as a mapped image with an associated colour map for a virtual Z axis that provides the reader with all the interesting information.