

## ***Interactive comment on “Operational climate monitoring from space: the EUMETSAT satellite application facility on climate monitoring (CM-SAF)” by J. Schulz et al.***

**Anonymous Referee #2**

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This well written contribution is not a scientific paper. It is a general article that presents a tool useful for the climate community at large: the climate satellite application facility activity and its products. Usually this kind of paper finds its way in BAMS. Nevertheless I think ACP is well suited for this kind of effort too, especially at the European level and I fully support this type of contribution.

The background for justifying such a Center is well recalled and gives a nice scientific perspective on the usefulness of the products. The presentation of the activity and products is very clear and well organized. A description of the variables, raw measurements and selected algorithms is followed by some elements of validation. Figures

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illustrate here and there the kind of things the end user can expect from the Climate SAF. Perspectives are clearly conveyed and the major improvements and complement expected in the near future well presented.

Positive aspects of the work that need to be underscored are: -The systematic care for a homogenous and quality calibration which, although very technical work, is the major step towards the production of long series. - The systematic care for evaluation of the final product which convey an  $\pm$  error bar; to the end users - The strong willingness to back-process and reprocess the data as the calibration and algorithm improves to deliver a useful long series of geophysical retrieved parameters.

A few miscellaneous comments are listed below, that if accounted for, and in lines with the above should grant the publication of this original contribution.

#### Miscellaneous

-With respect to the validation of the cloud products, there are no mention of the possibility brought recently by the space borne lidar (GLASS, CALIOP,..) and radar (Cloudsat). Would it be possible for the author to comment on the use of other satellite instruments as a complementary way to evaluate their products?

-Krigging is used in the ATOVS water vapour retrieval which is not classical; for these filling gaps in the retrieval of this variable (see for instance NVAP approach). Could it be possible to comment on what this technique brings in with respect to simple average ? to assimilation for instance? Is the error of the Krigging small enough to constrain analyzed water vapour quantity like ERA40, NCEP-rel and II ?

-The radiosondes are used for the validation of the precipitable water for which the uncertainty is not mentioned. What is the accuracy of the radiosondes for such products? Over Europe? Over Africa? Over the other part of the world? What about the RS biases?

-The TOA flux are said to be useful at short time step to evaluate global models at the

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time step basis. I think this statement deserves some explanation because it is not obvious at all. Referring to some papers might be here well suited (e.g., Allan et al., 2007)

-It seems that no clear sky flux products nor CRF is build. Is this correct ? Can the authors expand a bit of the CRF (why they do not produce such a parameter? Etc&#8230;)

-what about the validation of the OLR product ? How does it compare with other OLR products (CERES, NOAA-OLR,etc..)

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Interactive comment on Atmos. Chem. Phys. Discuss., 8, 8517, 2008.

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