

Interactive comment on “The effect of sensor resolution on the number of cloud-free observations from space” by J. M. Krijger et al.

Anonymous Referee #1

Received and published: 12 July 2006

1 General

The authors present an analysis of the number of cloud free observations as a function of sensor resolution. Knowledge of the dependency of the probability to find a cloud free target as a function of sensor resolution, could help in a trade-off analysis for future satellite sensors. This has been recognised in the past and several studies have been performed. Unfortunately, the paper adds very little new insights to this problem, beyond the fact that they have used a limited amount of MODIS observations for their analysis. I would recommend that the authors concentrate on a more comprehensive analysis for a selected region of their choice before I could support publication.

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2 Specific

The authors claim to present results for an absolute reference for different regions and as a function of time. The content of the paper does not support their claim. An absolute reference can only be established if statistically sufficient data has been analysed, using an accurate methodology. In addition a rigorous error analysis should complete the discussion. None of these points are adequately addressed. Because of hardware constraints, day-time observations for two days per month during a full year are analysed. so in total for an particular geographical location not near the poles, approximately 24 data points have been analysed. Naturally by extending the geographical area, more datapoints are collected, but to label this a statistical representative dataset is not correct. The accuracy of the scenes analysis method adopted by the paper, has been subject of several papers. At least a discussion on the accuracy of this method should have been absorbed in the paper, but even that is missing. What is included is a brief discussion how the method works, but the reader is interested to learn on the accuracy of the data used. e.g. if there is any systematic problem the authors are aware of which could help the audience in the interpretation of the results. Finally, in their graphs the authors show some the standard deviation associated with the average results. This is positive as many papers do not report on these. However, without an understanding of the accuracy of the methodology itself, the standard deviation tells only part of the story.

3 Conclusion

The topic selected by the authors is an interesting one. However the analysis presented is too thin, to warrant a publication. My suggestion would be that the authors concentrate on a particular region relevant to their application and analyse all MODIS

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data for this region collected over e.g. a year. This might more interesting results than what is presented in the manuscript.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 4465, 2006.

ACPD

6, S1737–S1739, 2006

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