

Interactive comment on “Cluster analysis of midlatitude oceanic cloud regimes – Part 2: Temperature sensitivity of cloud properties” by N. D. Gordon and J. R. Norris

Anonymous Referee #3

Received and published: 29 March 2010

This paper is much weaker than its accompanying Part I. Apart from many uninformative figures (e.g., Figs. 1, 4 and 6) and numerous occurrences of self-plagiarism (the text is identical to that in Part I in surprisingly many places), there is in my view a major flaw in the main hypothesis of the paper. It is stated that we can say something substantial about cloud feedbacks in the climate system by studying differences in the cloud regimes for different temperatures holding the dynamical background state constant (i.e., by studying the partial derivative with respect to temperature as a function of regime). While there is technically nothing wrong with doing that, I do not believe that this partial derivative is a major player in cloud feedbacks. It is much more likely that it is the change in the dynamical background that will drive cloud changes in a future

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climate.

Given this, I don't think the paper has a strong message on its own. If the authors insist on conveying the results of the partial temperature derivative then I suggest they add one figure to Part I and strongly tone down the assertion that this is a good surrogate for cloud feedback. This would of course imply resubmission of Part I in its new form.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 1595, 2010.

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