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Comment

Interactive comment on “Spatial variability of phytoplankton pigment distributions in the Subtropical South Pacific Ocean: comparison between in situ and predicted data” by J. Ras et al.

Anonymous Referee #1

Received and published: 13 November 2007

The paper presents results from an area of the world's oceans that has been studied very little in the past. This dataset will provide valuable data, not only to researchers studying the Equatorial Pacific ocean, but also for ocean colour validation. I therefore recommend that the paper be accepted subject to minor revisions.

General Comments: The paper is of a descriptive nature and I believe that it would benefit from some of the subsections within the results and Discussion sections being combined. This would combine all data, in situ and modelled, and reduce some of the repetitive text that currently exists due to the separation of the measured and modelled results. Some of the repetition is also due to the subsections referring to

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algal groupings whilst others refer to geographical regions. Combining some of these sections would make the manuscript more concise. There is a tendency to overuse superlatives such as oceanic desert, oasis etc - the results illustrate these concepts well enough, without the need to use such terms. The word particularities is frequently used; however I think it would be better to replace this word with the word characteristics. For example in the abstract "Some regional characteristics have been observed". Figures 4-11 should be bigger, especially figure 4, as they are often hard to read in their current format. Some of the figures need to be renumbered to match the text - see specific comments. The paper is generally well written in English, but there is some sentence structure or usage of words (such as particularities) which could be improved by a "read through" from a scientist whose first language was English.

Specific Comments:

pg 3411, lines 6, 9: Claustre and Maritorena (2001) and Morel et al. (2007) are not listed in the references.

pg 3417, line 10: Morel and Maritorena (2001) is not listed in the references.

pg 3421, line 22: Figs 4 and 7 should be Figs 3 and 7

pg 3422, line 10: Z(subscript)e should be Ze for consistency.

pg 3422, line 15: Fig 8 should be Fig 9

pg 3422, line 24: Fig 8 should be Fig 7

pg 3422, line 26: Fig 9 should be Fig 10

pg 3423, line 14: remove "oceanic desert"

pg 3424, lines 4,5: Moore and Chisholm (1999) and Garczanek et al. (2006) are not in the reference list.

pg 3424, line 21: replace studied with study

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pg 3426, lines 21-22: be careful with this statement as the mixed layer depth in the Southern ocean during the Austral winter can reach approx. 500 m and a DCM can often be observed at depths greater than 200 m

pg 3426, line 27: Morel (2007) is not in the reference list.

pg 3427, line 13: remove comma from 160, m

pg 3427, line 21: Fig 10 should be Fig 8

pg 3427, lines 23-24: Hooker et al. (1999), Claustre (1992) and Kraay and Veldhuis (1996) are not in the reference list.

pg 3427, lines 28-29: change "rather dominate ..." to "dominate the pico..... rather than at the surface".

pg 3428, line 16: change discrete to sparse.

pg 3430, line 9: remove "remarkable"

pg 3430, line 21: sentence should read ".....probably been advected offshore from the upwelling zone".

pg 3432, line 5: change thanks to due

Reference List

Barlow et al (1997), Clustre et al (1994a). Garczanek et al (2006), Goericke and Repeta (1992) and Letelier et al (1993) are in the refernce list, but I don't believe they are used in the text.

Figures

need to be bigger and renumbered to match text.

Interactive comment on Biogeosciences Discuss., 4, 3409, 2007.