

Interactive  
Comment

## ***Interactive comment on “Distribution of micro-organisms along a transect in the South-East Pacific Ocean (BIOSOPE cruise) from epifluorescence microscopy” by S. Masquelier and D. Vaultot***

**Anonymous Referee #2**

Received and published: 4 October 2007

### General comments

This study reported the distribution of different microbial groups (picocyanobacteria, picoeukaryotes, dinoflagellates and ciliates) based on the epifluorescence microscopy work. Although the methodology itself is quite challenging and very labor-intensive, it has its own merits compared to some existing methods like flow cytometer. The idea of differentiating microbes into functional groups is novel. The findings of large proportion of colonial picocyanobacteria in the high nutrient region and large contribution of green fluorescing dinoflagellates are interesting. Unfortunately, all the samples were stored

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for more than one year before the counting took place. The authors discussed the potential artifacts due to the delayed counting. These problems (i.e. using 0.8 um pore-size filter; long storage time; and pre-staining with DAPI) are not trivial and are the main concern for this manuscript. I understand it is unrealistic for them to redo the counting. However, I would recommend to re-stain the samples with DAPI right before counting if they will continue this work. Many nucleic acid stains like DAPI are not very stable in low concentration.

#### Specific comments

P2676, L20-30: Appearance of colonial cyanobacteria here could simply be the adaptation of cyanobacteria to high nutrient waters.

Change “from” in the title to “using”

P2673, L11, add “profile” to “vertical”.

P2673, L14: delete “percent”

P2675, L21: change “estimates” to “estimated”

P2675, L22: change “cells smaller than” to “picocyanobacteria”

P2678, L20: add “This is in agreement. . .” and make this long sentence into two.

P2679, L6: remove “.”

P2679, L11: change “iin” to “in”

P2679, L24: remove “.”

P2680, L8: change “if” to “of”

P2680, L11: remove “up”

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Interactive comment on Biogeosciences Discuss., 4, 2667, 2007.

**BGD**

4, S1589–S1590, 2007

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