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Interactive comment on “Seasonal and interannual study of volatile reduced sulfur compounds (VRSC) in coastal environment: the Bay of Quiberon (Brittany, France)” by A. Cozic-Houly et al.

Anonymous Referee #1

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General comments: This manuscript deals with the seasonal and interannual variability of volatile reduced sulfur compounds (VRSC) in a marine coastal environment: the Bay of Quiberon. Concentrations of H₂S, COS, MeSH, DMS and DMDS were measured in this Bay over a large period, ranging from May 2004 to August 2006. Biological parameters, such as phytoplankton abundances (Dinophyceae and Bacillariophyceae), and abiotic parameters, as seawater temperature, salinity, turbidity, and precipitation/insolation were also monitored, so as to link VRSC concentrations variability to phytoplankton, representing the main DMSP-producer community. This study

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generally suffers from a poor-quality presentation of the manuscript. This presentation deserves to be developed by the authors, as suggested by the following specific comments. It's a great shame due to the great amounts of results bad-exploited in this study, what is more, regarding a subject of general interest represented by the link between the DMS cycle and the global warming. I think that a such work would have merit a second reading by the different authors. For all these reasons, I do not recommend this paper for publication in Biogeosciences. After improvement,the authors should resubmit their manuscript to another journal showing a lower IP than BG.

Specific comments: Most of the text has to be rewritten due to the general bad spelling employed and to the confusion of the presented ideas. Many points may be evident for the authors, are bad or not explained, it should be clearer. Besides, I can't mention all the typing and style errors because they are really numerous. Following are the more evident. - The title has to be in accordance with the rest of the text : variability ? Study ? Make clear from the title the specifity of the study site... - Abstract: the authors have to choose between phytoplankton abundance or density in all the text long. For carbonyl sulfide : it's OCS or COS ? In the literature, we generally see COS... - Introduction: the authors should precise how the study of the DMS cycle is important and explain better the objectives of the study in the last paragraph. Role of DMSP-lyase the the DMSP conversion into DMS ? A bibliographic reference missed, that of Knoery and Cutter 1994 does not appear at the end of the manuscript. - 2.1. Section: units of current speed do not appear at line 9 - 2.2. Section: title has to be changed, "ancillary" is inappropriate. Indicate the method employed for the phytoplankton counting (Utermohl ?) - 2.3. Section: the word "inexpensive" has not its place here ! - 3.1. Section: In the title, replace Hydrography by Abiotic. Indeed, precipitation and insolation are not hydrographic parameters. - 3.2. Section: Be careful, replace Diatomae by Bacillariophyceae which is the exact term, and Dinophyceae,Bacillariophyceae are phyroplankton groups and not families... - 3.3. Section: line 25, replace VSRC by VRSC (the second reading!!!!). - 3.5. Section: line 1, the authors postulate that the Bay of Quiberon is eutrophic. This point has to be demonstrated, using bibliographic references. - Reference

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Section: Many references contain typing errors or wrong terms/spelling. For example, for Belviso et al 1990: Rassoulzadega"N", for Jean et al 2004: replace "distribution" by "contribution", for Jorgensen 1977 rewrite "Denmark", for Moret et al, replace "time spanoon" by "lagoon" !!!

Finally, all the figures are impossible to understand or incomplete. The authors have to make a great effort to hold their results clear and legible. Briefly, in Figure 1, it is difficult to read the temperature and the salinity curves. Idem for the Figure 3 where monthly and weekly results are overlapping each other. Where are the "Diatomae" monthly results ??? In Figure 4, I don't understand why the authors begin by the Subperiod B and where is the subperiod D ?

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