

***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 #2**

Received and published: 18 December 2009

**General comments**

In this paper, seasonal and interannual variability of hydrogen sulfide ( $\text{H}_2\text{S}$ ), carbonyl sulfide (OCS), methane thiol (MeSH), dimethyl sulfide (DMS) and dimethyl disulfide (DMDS) concentrations and supporting parameters (e.g., phytoplanktonic cells abundance) were investigated in the Bay of Quiberon (Brittany, France). The data appeared to be informative, the overall presentation is well structured and clear, the language is fluent and precise, and the paper is important to understand the biogeochemistry of sulphur compounds. I recommend that the manuscript would be accepted for publica-

C3635

tion after minor revision. Detailed comments are as follows.

1. In 3.2, the authors investigated the variations of the two main algae families (dinophyceae and diatomae) which accounted for more than 92% of the phytoplankton cells present at all seasons. However, other phytoplankton species should also be considered for their possible influences on the sulphur cycles, even though they occupied only about 8% of the total phytoplankton abundances.
2. Although phytoplankton is the main source of DMSP, zooplankton may transform the DMSP from phytoplankton to zooplankton body, fecal material and dissolved DMSP by grazing. Therefore, the biomass of zooplankton should be supplemented into the text to further explain the cause of seasonal variability of DMS and DMSP.
3. Bacteria play an important role in sulphur cycle. The authors should think about the impact of bacteria in the results or discussion, see Jean, N., et al., 2009.

**Suggested reference**

Jean, N., et al., 2009. Plankton origin of particulate dimethylsulfoniopropionate in a Mediterranean oligotrophic coastal and shallow ecosystem. *Estuarine, Coastal and Shelf Science*, 81, 470-480.

Interactive comment on Biogeosciences Discuss., 6, 10057, 2009.