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Interactive comment on “Short-scale temporal variability of physical, biological and biogeochemical processes in the NW Mediterranean Sea: an introduction” by V. Andersen et al.

Anonymous Referee #1

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This manuscript provides an informative introduction to the special issue devoted to the DYNAPROC2 cruise. However, the text seems to have had little revision; its structure could be improved and there are a number of minor typing or language mistakes that should be corrected. More specific comments follow.

The rationale behind the organization of the sections is not obvious. Presumably some of the titles refer to the different manuscripts of the special issue, but this is not clear. Some suggestions are, 1) Announce briefly in the introduction what are the subjects (and authors) of the individual papers of the issue, and how they are intended to con-

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tribute to the general aim of the project. This could be included, for example, after the sentence of lines 21-23 of page 5238. 2) Change the titles of the sections so that they better reflect the topics dealt with in each of them. For example, *Phytoplankton* could be *Phytoplankton composition and primary production*. The title *Intrusion of low salinity water* suggests a physico-chemical study, but the corresponding section deals mainly with the associated changes of the organisms. The title could be modified to reflect this.

The conclusion could include a brief synthesis of the contribution of DY NAPROC2 to the PECHÉ aim of assessing the effect of the variability of the pelagic food web on biogeochemistry.

Other comments

Some references are missing, for example Dolan et al. (2008, or is this 2009?), and others are confusing; for example, there are two papers referred to as Marty et al. (2008). They should be distinguished a 2008a and 2008b. (or 2009 for the last one?).

Page 5234 Line 12, *accomplished at*; line 16. *a vertical spatial dimension so far never explored (0-1000m) in the North Western Mediterranean*. Does this mean that this is the first study to gather information down to 1000 m in this region? (obviously not).

Page 5235 Line 14; delete *in*.

Page 5236 Line 1; *principal* instead of *principle*; line 14. *between deep layers and surface waters* (the organisms go up, but also down); line 17, what about bacterivore flagellates? They are also part of the *Rotary pump*; lines 27-30, rewrite this sentence.

Page 5237 Line 1. Explain briefly what may be these *different characteristics*; lines 10-15, Excretion by migrants may also help to reintroduce nutrients into the shallow water layers; lines 21-22, substitute one *briefly*.

Page 5238 Line 3, indicate year of cruise; line 4, *principal* instead of *principle*; lines

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7-8: *to verify that the horizontal gradients surrounding the TTS central point were weak*?; lines 12-15, Explain better what is the rationale here; line 17, when was the first wind event?

Page 5239 Line 4, *as well as subjected to*; line 9, what was the minimum detectable pigment concentration?

Page 5240 Lines 1-8. What about the non-ciliate microzooplankton (e. g., heterotrophic dinoflagellates)?; line 23, *bacterivores*.

Page 5241 Lines 4-5. At what station was the sampling carried out?; line 10, *behind*; lines 22 and 26, *periodically*? With what period? Or, does this mean *intermittently?

Page 5242 Lines 1-5, Zooplankton; What size range and what groups were included here?; lines 21-22, For which depth were these export fluxes and ratios calculated? What method was used?

Page 5243 Lines 9-10. Give more details about the presumed origin of the low-salinity water intrusions; line 11, *microalga* instead of *microalgae*; line 19, *intrusions were probably a minor influence*; lines 24-25; *appears invariant*: hardly surprising, in particular for chlorophyll a, which had the DCM around 50 m.

Interactive comment on Biogeosciences Discuss., 5, 5233, 2008.

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