

Interactive comment on “Interannual variability of the Mediterranean trophic regimes from ocean color satellites” by N. Mayot et al.

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My apologies to the authors and editor for the slow review of this manuscript. The work by Mayot and co-authors builds up from a former work on the bioregionalization of the Mediterranean Sea (D’Ortenzio and Ribera d’Alcalà, 2009) to evaluate the interannual variability of phytoplankton phenology in the basin. A refined method is also proposed that allowed new “anomalous” regimes to come out, and that were formerly hidden by the climatology computation, the authors say. The method is clear, even if it forces the reader to autonomously find out what not-very-common metrics do actually mean: see for example the number of indices mentioned in the point 5 of the section 2.2. Despite the authors do provide all relevant references, more details would certainly help the reader. The paper is well structured, the reasoning clear and smooth, and

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the conclusions supported by the results. I thus recommend its publication after minor revision.

Photoacclimation is known to play an important role in regulating the chlorophyll variability at the temporal scale considered in this work. The paper would surely benefit if the authors would mention how much of the observed variability is presumably given by real phytoplankton growth and how much due to the intracellular chlorophyll adjustments to light and nutrients.

Minor comments:

Authors are encouraged to revise the English grammar of the manuscript, which contains several typo-like errors; a non-exhaustive list is provided below.

Since the time series underwent a three weeks moving average, it would be more appropriate if dates throughout the manuscript are replaced with relevant months only (perhaps even with seasons): see for example section 3.1, 3.2 and Table 1.

Page 14947, line 12 - substitute (from of all...) with (from all...)

Page 14947, line 15 - (...which is a criterion based on ...) is unclear and should be rephrased.

Section 3.2 – at the beginning of the section, please add a reference to Table 1 and Figure 2, in the text.

Page 14950, line 2 – substitute compare with compared

Page 14956, lines 19 to 25 – This paragraph is unclear and needs rewording.

Page 14957, line 2 – bimodal? From Figure 2 and throughout the manuscript, except for Coastal #7, and the two “Anomalous” #3 and #4, all regimes show unimodal distributions, including No Bloom.

Page 14958, line 7 – substitute Figure 5, lower panel with Figure 5c

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Page 14959, line 2 (and elsewhere) – substitute associated to with associated with

Page 14961, line 17 – please, eliminate 2007 from the list of maps classified as Bloom #5 in the S. Adriatic, or better add Intermittently #4 in brackets next to 2007.

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