

1. Scientific Content

1.1. Added Value of Multivariate EOF (MEOF) Analysis

The authors successfully explain the spatial and temporal dynamics of primary production (PP) using EOF analysis, which helps identify the physical and/or biological drivers of PP variability in the Mediterranean. However, the specific added value of the Multivariate EOF (MEOF) approach compared to univariate EOF analyses is not clearly demonstrated.

1.2. Use of the OASIM Model for PAR

The authors use the OASIM model to estimate PAR, while satellite data are available.
Suggestions:

- Justify the choice of OASIM over satellite data (e.g., longer temporal coverage, higher resolution, specific bias corrections).
- Indicate, in the manuscript, that OASIM description is given in the appendix.
- Add a sentence indicating that further details on primary production calculations (including the use of OASIM) are provided in the appendix.

1.3. Missing References

- Nutrient concentration and primary production: The authors should cite Cossarini et al. (2020) to support their discussion on the impact of nutrients on primary production in the Mediterranean.
- Tropical-like behavior (line 1332): A reference supporting this behavior in the Mediterranean would strengthen the argument.
- Competitiveness of larger cells in high-mixing areas (line 1395): Please add a reference to support this statement (e.g., Margalef, 1978, or more recent work on phytoplankton cell size theory).

1.4. Clarifications Needed

Line 1332: the authors mention a “tropical-like behavior,” please clarify if this behavior has already been observed in the Mediterranean, if this is expected and what the implications are for the Mediterranean.

2. Form and Accessibility

2.1. Figure Accessibility

- Figures should be made accessible to visually impaired readers. This includes:
- Adding detailed captions describing the main content and trends.
- Using appropriate colorpalette for colorblind person.