Comment on bg-2020-457

Anonymous Referee #3

Referee comment on "Pelagic primary production in the coastal Mediterranean Sea: variability, trends, and contribution to basin-scale budgets" by Paula Maria Salgado-Hernanz et al., Biogeosciences Discuss., https://doi.org/10.5194/bg-2020-457-RC3, 2021

The manuscript by Salgado-Hernanz et al. describes the costal primary production of the Mediterranean Sea, estimated using satellite data, deepening on its spatial and temporal distribution and analyzing trends and possible link with NAO and/or MOI indexes. In general, I consider primary production an interesting topic, especially in the Mediterranean Sea, but in this paper is particularly interesting since it is analyzed in those areas highly impacted by anthropogenic pressure.

The paper is well organized, quite clear and English is good.

I admit I was amazed to observe that the primary production of the eastern compart of the Mediterranean Sea is higher than the western compart and to the Adriatic Sea. This result it is not only linked to the greater surface of the eastern sub-basin since it is also evident in the productivity per unit of volume. This result should be analyzed in depth by the authors.

About the trends estimated in the paper, I found some inconsistencies and I think the authors should better explain their observations. In general, it should be better defined how the quantities are calculated (i.e. SPP, PP_{annual}, $PPVOL_{annual}$, CV_{PP}, etc.) in such a way as to put the reader in the best conditions to understand the obtained results.

Once these issues I underlined are solved, I think the paper could be considered for the publication.

Detilied comments are in the supplementary pdf file.

Please also note the supplement to this comment:
https://bg.copernicus.org/preprints/bg-2020-457/bg-2020-457-RC3-supplement.pdf