

## Interactive comment on "Emission of biogenic volatile organic compounds from warm and oligotrophic seawater at the Eastern Mediterranean" by Chen Dayan et al.

## Silvano Fares (Referee)

silvano.fares@crea.gov.it

Received and published: 6 February 2020

The authors tried to determine sources of BVOCs emitted from a mixed vegetation site 4 km away from the coast of Levantine Basin. They demonstrate relevant biogenic sources frm inland but also from the ocean, and explained different sources of BVOC species with the help of transport models and emission models. I believe this paper helps understanding the complex synamics of Biogenic emission and transport. There are no language flaws and a good amount of references. Showing measured fluxes would have been beneficial to better understand didirectianal BVOC fluxes at the measuring site. A list of minor comments is reported here:

C1

INTRO Lines 113-115: can you explain why an oligotrophic environment is represented by unicellular organisms and plankton?

M&M Line 173-195: Although the authors cite other previous papers, since the manuscript is all about detected BVOCs, it is important to provide more details on the calibration procedure. Line 208: why are you recording slow sensors at 10Hz?

Results Lines 271-279: Although grouping results and discussion may not be ideal, please insert at least numbers (with SD) while discussing mixing ratios. What does extreme mixing ratios mean?

While reading these interesting seasonal variations of BVOCs the reader wonders why you did not show fluxes considering that you have an Eddy Covariance installation at the site and the PTR-TOF-MS allows very fast measurements. Fluxes, when available, may support understanding of BVOC origin, way better than modelling.

Lines 379-281: although I understood the sense of this sentence, it may be written more clearly to stress that high mixing ratio corresponding to Isoprene + MBO is a proxy of high isoprene emission. Line 446: a lifetime of 3.8 hrs does not really support the possibility that isoprene is only emitted during the day. Considering the light dependency of isoprene emission this may be consumed early in the night.

Line 499: since you are comparing MEGAN results with previous analysis, you should enter more into detail on what species drive emission, assuming that some of the species present at your measuring site and more inland are described and characterized in some papers for their emission capacity. Perhaps MEGAN adopts a wide plant functional type?

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2019-1170, 2020.