

## ***Interactive comment on “Hydrodynamic variability based on the multi-parametric POSEIDON Pylos observatory of the south Ionian Sea” by D. Kassis et al.***

### **Anonymous Referee #2**

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The ms is of interest, presenting the data analysis obtained from one of the deep observatories in the Eastern Mediterranean, that of Pylos, part of POSEIDON observing and forecasting system.

General comments: Absent of references in the text of the ms, despite the fact that there is a list with references. Absent of references to previous works related to the hydrological regime of the examined area.

Specific comments: section 3.2: Is not clear what QC processes applied, based on which QC guidelines, those of SeaDataNet??? A table with the QC flags to be inserted. In Figure 3 give the values that were used for the QC.

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section 4.1: On which surface circulation is based the relevant description here, which system the circulation was derived??

section 4.2: What is the assessment of the calibration , inter-calibration??? What is the reason of the salinity increase described in the last paragraph of this section??

section 4.3:Down to which layer the mixed layer appears during Jan-May???

section 4.4: What is the reason of the salinity increase?? The AW does not appears at the intermediate depths!!!, from where the waters characterized as AW coming from in this area??? Last paragraph here: how the surface layer moves "upwards". You are discussing intermediate layer not surface, please correct or clarify, as its now your description is confusing.

Conclusions: please clarify which thermohaline component??? Down to which layers is propagated the surface turbulence?? There is not any evidences from the ms about the outflow from the Antikithira strait. in general the conclusions need to be modified.

Figure 6: at which depth the plots refers for??

Figure 14. Preferable show a comparision of T,S obtained from CTD and the sensors of the Pylos arrays.

Figure 18. Ok, but will be useful if you will superimpose the T,S from the buoy sensors, for each of the period.

Fig. 19. use the word "Intermediate" instead of "Mid". Here is clear that you have an intrusion of LIW in 2010 with high salinity values compared to 2008 and 2009. References to previous works showing similar intrusions in the area is necessary.

Fig. 20. use the word "Intermediate" instead of "Mid".

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