

Journal: OS

Title: An integrated open-coastal biogeochemistry, ecosystem and biodiversity observatory of the Eastern Mediterranean. The Cretan Sea component of POSEIDON system.

Author(s): George Petihakis et al.

MS No.: os-2018-3

MS Type: Review article

Special Issue: Coastal marine infrastructure in support of monitoring, science, and policy strategies

General aspects:

The manuscript written by Petihakis et al. describes the components part of the Cretan ecosystem observatory as the coastal and open sea buoys, ferry box, floats, gliders so as the land-based facilities and personnel capabilities. Special interest is given to biochemical measurements and ecosystem modelling. Finally, it gives an overview of future developments in the short term so as in the long one.

The manuscript (hereafter ms) is well written and easy to read. The part concerning the sustainability development is very well addressed, touching important aspects mandatory to maintain the system in the long run, key point of the Observing Systems.

MS deserves to be publishing; however some points I recommend to be reviewed and modified to improve it.

Main parts:

1. Part 2 (A strategic location to study the unknown of the Eastern Mediterranean) should be reduced because it is true that it gives a global idea of the area by touching different aspects but also that it is too discursive and dispersive as regards the real purpose of the ms. I should be synthesized the importance of the Observatory, the role in the East Med, and the benefits the community gains from it measurements. Please reduce the references, it is not a review paper and makes very difficult the read;
2. The Cretan Sea Observatory describes itself as a complex and articulated system. In this context and in MS it is difficult to place it in the Poseidon network. If this is the goal I suggest that the approach used be revised giving a meaning to part 3. The naming of the other two buoys (Pylos and the one in the Athos peninsula) without making any connection between them (Page 9, line 20-25) does not make much sense. Again in this framework, the future vision of the Cretan Sea system would be applied also to the other two buoys?
3. I suggest moving 4.5 after Biochemical Modelling to keep a logical thread in the description of the system components (types of instruments and then

personal and support facilities). Please provide the scheme of the payload of both coastal and open sea buoy.

Specific aspects:

1. Page 8 line 10: please provides some MSFD descriptors as example (useful for those not familiar with the argument)
2. Page 9 line 3: change in ... followed by two other M3A stations in the southern Adriatic (E2) and Ligurian Sea (W1).... This will help to connect this two other sites with what is said in 4.10
3. Page 10 line 18-20: Please rephrase the sentence for better understanding
4. Page 11 (Section 4.7): are any measurements done yet? please indicate an estimate time for the start of the monitoring program
5. Page 13 line 4: the geographical location of the three observatories should be indicated to give more information to the reader.
6. Title 5.2 is not really representative of the section

References:

Please review the reference part since many of them are missing in the text or are in the text and not cited.

Page 3 line 20/28/30 misspelling Theocharis et.al

Correct Cardin et al. 2014 to 2015 in the reference section

Page 4 line 23: Correct Kress et al.2003 to Kress (2003)

Page 5 line 16/line 18: Siokou et al. 2010 ? or Siokou-Frangou et al.2010 or reference is missing?

Page 5 line 39: Turner, 2015? Year does not agree with the reference which state 2002? Misspelling or different paper?

Page 6 line 10: Frangoulis et al. 2005 or 2004? not agree text and reference part

Page 6 line 25: EEA 2015? ---2006???

Page 7 line 26: Ruhl 2001?

Page 9 line 8: Petihakis et al. 2006 --- I'm not sure if Ocean Science Discussion paper can be cited

Page 11 line 26: Baretta et al or Baretta-Bekker?

Missing:

Mentioned in the text and not in the references:

Lascaratatos et al. 1999

Theocharis et al. 2009

Pitta and Giannakourou, 2000

Ruhl 2001

Hoteit et al. 2004

In the references but not in the text:

Balopoulos and Collins, 1999

Danovaro et al. 2004

Krom et al. 2004

Mihalopoulos et al. 1997

