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## ***Interactive comment on “The Mediterranean Sea system: a review and an introduction to the special issue” by T. Tanhua et al.***

### **Anonymous Referee #1**

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This paper constitutes a nice introduction to the special issue devoted to the Mediterranean Sea. I rated the “scientific significance” as good, but the actual rating should have been between excellent and good, excellent for the presentation of new data (the new hydrographic sections carried out in 2011 and presented from Fig. 3 on) but good because it does not introduce new concepts and simply gives an overview of the state of knowledge of the Mediterranean. Section 3 presents a good review of Mediterranean properties and does not need modifications. I have only one comment on the discussion of the EMT in page 594, with all the related references. Actually, the fact that the intermediate/deep waters of the Ionian sea originated from the Cretan sea (Cretan Intermediate and Cretan Deep water out-flowing from the western Greek straits) was first observed in the POEM-BC survey of October 1991, and is reported in DAO, 29,365-395, 1999. I think this should be mentioned. Related to this point, I find

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a conspicuous absence in the references of all the major POEM contributions to the knowledge of the Eastern Mediterranean, which include a special issue of Deep Sea Research ( Vol. 40, 1993) and a bound volume, NATO-ASI series, Kluwer, Vol.419, 1994. The concept of the “ Mediterranean Sea as a laboratory basin for processes of global relevance” was in fact introduced in the latter volume and not in the paper by Bergamasco and Malanotte-Rizzoli.

The introductory sections need some editing and clarifications. Specifically, the words “Mediterranean Sea” are repeated almost in every other line. Only in the Introduction there are 13 ( THIRTEEN) Mediterranean Second seas ! Second, the description of two of the three cruises does not correspond to the station map of Fig.1. The Poseidon cruise 414 is described as following the route Genoa to Messina ( page 586), but there is no track in Fig.1 of stations going from Genoa to Messina. Also, if the cruise stopped in Messina, the survey could not have identified and quantified the “routes and entrainment rates of the Adriatic Deep Water spreading into the Ionian sea “ because, as amply discussed by Roether, the Adriatic Deep water follows the deep isobaths in the western Ionian which do not enter into the Messina strait. It is also stated that “ During the cruise 33 full depth CTD stations were carried out “ : where are these stations in Fig. 1 ? For the Urania cruise EF11 it is stated (page 587) that it went from Bari to La Spezia. Again, there is no cruise track along this route in Fig. 1. Please clarify or correct.

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Interactive comment on Ocean Sci. Discuss., 10, 581, 2013.

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