

Interactive comment on “Distributions of the carbonate system properties, anthropogenic CO₂, and acidification during the 2008 BOUM cruise (Mediterranean Sea)” by F. Touratier et al.

A. POISSON

apoisson2@sfr.fr

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The two main objectives of this paper are first to present recent data of the carbonate system in the Mediterranean Sea, and second to make an estimation as precise as possible of the penetration of anthropogenic carbon in the deep layer of the two basins of the Mediterranean Sea. These data are a very important contribution in a region, western and eastern Mediterranean basins, where AT and CT data are very scarce. I, like many other scientists, look forward to seeing them published. Their description and their analysis together with other properties are clear and concise.

Concerning the estimation of anthropogenic carbon, since tracer data like CFCs were

C1055

not measured during the BOUM cruise, the authors use geochemical approaches to make these estimations, which are to my point of view the best ones. All the methods used to make that kind of estimations are subject to criticisms and present more or less biases, specially the tracers like CFC which are not related to the biology system. The only way to estimate the validity of the results is to use different methods of calculation and to compare their results. It is what they do here by using the TROCA and MIX methods of calculation. The results obtained show very similar results by these two independent methods, which suggest a good reliability of their conclusion. This paper is a very good contribution to the estimation of the penetration of anthropogenic carbon in the two basins of Mediterranean Sea.

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