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Impact of the EMT event on the distribution of anthropogenic carbon throughout the Mediterranean Sea.

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At the end of the 80s, the intense formation of the Aegean dense water had deep repercussions on the overall distribution and circulation of the main Mediterranean water masses. This event, known as the Eastern Mediterranean Transient (EMT), is expected to have a direct impact on the carbon cycle and its sequestration due to the sudden sinking of large volumes of young waters down to the bottom of the eastern Mediterranean basin. Until recently however, the poverty of the Mediterranean database concerning the quantity and the quality of the properties used to describe the carbonate system (total dissolved inorganic carbon and total alkalinity) prevented any realistic assessment of this phenomenon. We are now able to present the first distributions of the carbonate system properties throughout the whole Mediterranean Sea since several European scientific communities gathered samples for measuring the carbonate system properties and new computational tools have been developed. The estimated distribution of the anthropogenic carbon concentration is also presented. By looking at the spatial and temporal variability of the later property it is possible to appreciate the strong impact of the EMT on the carbon sequestration.