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Anthropogenic carbon in the eastern Mediterranean Sea.

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We report total dissolved inorganic carbon (DIC) and total alkalinity measurements from a cruise with the research vessel Meteor in October/November 2001 (M51/2) that traversed the Mediterranean Sea from west to east. The sampling programme was focussed on the eastern parts of the Mediterranean Sea and included measurements of O2 and the CFC transient tracers. These data represent the first accurate and precise measurements of DIC and alkalinity for the eastern basin and are thus important for assessing the role of the Mediterranean Sea of the fate of anthropogenic CO2 (Cant). From the measurements, the full carbonate system was determined and the saturation state with respect to calcite and aragonite will be presented. We will present estimates of the Cant concentration based on multiple approaches and include a comparison with simultaneously measured CFC data. The data are used to calculate the Cant inventory of the eastern Mediterranean Sea.