**Decadal Changes in the Storage of Anthropogenic Carbon in the Atlantic**

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The oceans play a significant role in the storage of anthropogenic carbon (Cant). At present, about 25% of the anthropogenic CO2 emissions are stored in the global ocean, thus mitigating the greenhouse effect and global warming. The North Atlantic shows the highest column inventories of Cant due to the formation of deep water such as Labrador Sea Water and Overflow Waters from the Nordic Seas. In the subtropics, the majority of Cant is found in mode waters, and further south the Antarctic Intermediate Water plays a significant role in the storage of Cant. Here we use 30 years of CFC observations including those from WOCE and CLIVAR to calculate the concentrations of Cant and its variability. Column inventories are computed on decadal intervals, centered around 1990, 2000, and 2010. It is investigated, in how far the changes of Cant inferred from tracer data via the TTD method agree with the changes of total carbon for each water mass. Also the biogenic contribution of carbon changes inferred from oxygen and alkalinity data will be considered.