



## **Variability of the partial pressure of CO<sub>2</sub> in the upper Scheldt estuary from 2003 to 2007**

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The variability of the partial pressure of CO<sub>2</sub> (pCO<sub>2</sub>) is investigated at several time scales (diurnal, seasonal and inter-annual) in the upper Scheldt estuary from a time-series from 2003 to 2007 at the Ste Anna fixed station located in Antwerp (51°14'N 4°23'E). The diurnal variations of pCO<sub>2</sub> are dominated by the tidal signal. The seasonal variations of pCO<sub>2</sub> are related to the combination of temperature change, emission of CO<sub>2</sub> to the atmosphere and biological activity. From 2003 to 2006, the annual average of pCO<sub>2</sub> was relatively stable. A very marked pCO<sub>2</sub> decrease was observed from 2006 to 2007 that we attribute to the start of the Bruxelles-Nord sewage treatment plant in early 2007.