

## **Carbon dioxide dynamics in the tropical Ebrié lagoon (Ivory coast)**

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The partial pressure of CO<sub>2</sub> (pCO<sub>2</sub>) was measured during two different seasons in the Ebrié lagoon (Ivory Coast). Surface-weighted average pCO<sub>2</sub> in the lagoon decreased from 3570 ppm during the rainy season down to 1470 ppm during the dry season. Despite a large westwards decrease of pCO<sub>2</sub>, the whole lagoon was always oversaturated in CO<sub>2</sub> with respect to the atmosphere. pCO<sub>2</sub> dynamics in Ebrié lagoon appears to be dominated by large exchanges between freshwater inputs from the Comoé River and seawater that enters in the central part of the lagoon through the Vridi Canal. Estimated air-water CO<sub>2</sub> fluxes ranged from 71.5 mmol C m<sup>-2</sup> day<sup>-1</sup> during the dry season to 135.1 mmol C m<sup>-2</sup> day<sup>-1</sup> during the rainy season. Ebrié lagoon acted therefore as a source of CO<sub>2</sub> to the atmosphere during the two sampling periods. A more exhaustive investigation of the air-water fluxes of CO<sub>2</sub> in various lagoons is needed particularly at tropical latitudes in order to estimate the potential importance of these ecosystems in the carbon cycle of the coastal ocean.