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A budget approach applied to nutrients (N, P, Si) and DIC in the Southern Bight of the North Sea: results from the CANOPY project.

The Southern Bight of the North Sea is strongly influenced by nutrients input giving rise to eutrophication effects. The river and atmosphere inputs are important sources of nutrients and organic matter for the coastal marine waters and directly influence the productivity/respiration of the system and the exchange of CO<sub>2</sub> with the atmosphere.

We studied the global cycling of inorganic nutrients (ammonium, nitrate, silicates, and phosphates) and dissolved inorganic carbon (DIC) using a budget approach. Nutrient, salinity and DIC distribution data were collected during 7 cruises in the framework of the Belgian funded project CANOPY. Budgets were computed for each of the nutrients and DIC and for different periods of the year by using the general Land-Ocean Interactions in the Coastal Zone (LOICZ) recommendations. Major inflows, outflows and transformations are identified and discussed to understand the interactions between nutrients cycling and DIC dynamics in a shallow coastal sea.