

Coupled Food-web and Bacterial-loop Modelling of a Lagrangian Experiment off the Iberian Margin

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The size-structure of pelagic communities may to a large extent determine the export of organic matter out of the euphotic zone. We used a 1-D coupled physical-pelagic model to unravel the importance of the various components of the pelagic food chain in the biogeochemical cycling of carbon and nitrogen along the Iberian ocean margin. It is basically a size-based food-web model linked to a description of the DOC-bacterial dynamics, pH, alkalinity and the concentra-

tions of inorganic carbon, nitrogen and oxygen. The model has been applied to a Lagrangian experiment of the OMEX-II programme, which followed a water mass moving offshore in a filament off the Galician coast and provided many constraints. We will discuss (1) the consistency of the model and experimental results, (2) carbon and nitrogen flows and (3) the role of micro-heterotrophs in carbon and nitrogen transfers.