



Modelling the benthic-pelagic coupling in the Gulf of Trieste (N. Adriatic)

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A fully coupled 1D physical biogeochemical model has been implemented in the Gulf of Trieste (Northern Adriatic). The biogeochemical component embeds a benthic model of intermediate complexity, providing benthic biology dynamics on nutrient cycling. The benthic pelagic coupling is defined by organic matter sedimentation fluxes, nutrient diffusive fluxes and suspensivores feeding. Numerical experiments were designed to evaluate the role of benthic pelagic coupling processes in defining the water column and the benthic dynamics.

The main focus was on sinking velocity at the water sediment interface and on the role of suspension feeders.

The results highlight the importance of the sinking velocity in defining the benthic fauna composition and in modulating the nutrient diffusive fluxes to the water column.