



Impact of high-resolution atmospheric and riverine boundary conditions on Mediterranean Sea biogeochemical dynamics

A key source of uncertainty in the marine biogeochemistry monitoring and predictions is the definition of boundary conditions, which are often included at low temporal frequency and/or low spatial resolution. In particular, regional seas are highly sensitive to riverine discharge and loads and to atmospheric nutrient deposition, which are often modelled using climatological values. We have tested daily riverine discharge and seasonal and spatially resolved atmospheric nutrient deposition in the Mediterranean Monitoring and Forecasting (Med-MFC) model system of the EU Copernicus Marine Service, to improve the assessment of the current state of marine ecosystem and the production of short-term forecasts, especially in coastal areas. The model system employed (MedBFM) consists of a coupled physical-biogeochemical model (OGSTM-BFM) and an ocean-atmospheric spectral irradiance model (OASIM) and reproduces the main biogeochemical processes involving nutrients, plankton, dissolved gases and carbonate system variables.

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