Geophysical Research Abstracts,
Vol. 10, EGU2008-A-00315, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-00315
EGU General Assembly 2008
© Author(s) 2008

Parameterization of a particulate pelagic detritus model

K. Kulinski, L. Dzierzbicka-GŁ owacka, J. Pempkowiak
Institute of Oceanology PAS, Sopot, Poland
(kroll@iopan.gda.pl)

The paper presents a zero-dimensional particulate detritus model and a comprehensive description of a parameterization processes that influences the dead organic matter (detritus) concentration in the whole column water. Mathematically, the particulate pelagic detritus variable can be described, as the sum of its sources and losses of due to energy fluxes. The temporal changes in the pelagic detritus concentration are affected by dead phytoplankton cells, zooplankton and predators, fecal pellets (as sources), and sedimentation, grazing by zooplankton and pelagic mineralization (as losses).

The aim of the present model study is to calibrate a particulate detritus model at environmental conditions typical for the southern Baltic Sea. The combined effects of temperature, biota (phytoplankton and zooplankton) and the others sources and sinks on the dynamics of particulate dead organic matter concentration have not been established. This is a key statement, since it is the motivation and justification for present study.