Geophysical Research Abstracts,
Vol. 10, EGU2008-A-10154, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-10154
EGU General Assembly 2008

Coupled modelling of the hydrological and biogeochemical functioning of the Loire River (France)

V. Bustillo (1), F. Moatar-Bertrand (1), A. Ducharne (2,3), L. Moulin (2)

(1) Université de Tours, GéEAC, Tours, France (2) UPMC, UMR 7619 Sisyphe, Paris, France, (3) CNRS, UMR 7619 Sisyphe, Paris, France (florentina.moatar@univ-tours.fr)

Long-term surveys provide evidence of significant trends of the physico-chemical and biological parameters of the Loire River (France) since the beginning of the 1990's. They comprise a reduction of eutrophication and a warming of the water column, as a result from both increased air temperatures and reduced hydraulicity.

In order to attribute these trends and explore their potential evolution in the future, which is important to the successful implementation the Water Framework Directive and to guide the possible adaptations to climate change, we are developing an integrated modelling tool of the coupled hydrology and biogeochemistry of the river network and its watershed, following a pioneering work in the Seine River basin.

This poster presents the numerical framework for this study, coupling the hydrological model CSLM and the biogeochemical model RIVERSTRAHLER, as well as the GIS database of historical input data required to validate this modelling tool (geomorphology, geology, meteorological input, land use, point-source input).