Geophysical Research Abstracts, Vol. 7, 09218, 2005
SRef-ID: 1607-7962/gra/EGU05-A-09218

Evaluating nutrient pressure in large European river basins

B. Grizzetti (1), F. Bouraoui (1), D. Mulligan (1), G. de Marsily (2)

(1) Joint Research Centre of the European Commission. Institute for Environment and Sustainability, Soil & Waste Unit, TP 460, I-21020 Ispra (VA), Italy. (2) Laboratory of Applied Geology, University of Paris 6, France. Corresponding author. E-mail: bruna.grizzetti@jrc.it

The implementation of sustainable catchment management, as dictated by the WFD, requires an analysis of the impact of human activities on water bodies. In this context, a modelling approach was developed to identify the major sources of point and diffuse pollution for nitrogen and phosphorus, and to assess the spatial variation of nutrient pressure in river basins. The model relates the in-stream nutrient load to the nutrient sources (fertilizers, atmospheric deposition and point discharges) and the basin physical characteristics (rainfall, topography and stream network). The aim is to provide a modelling tool that can be applied to medium and large river basins using data already available at European scale. This paper presents the results of the model application to the European continental scale, including the nutrient source apportionment and the spatial pressure analysis, and discusses the advantages and the limitation of the approach.