Geophysical Research Abstracts,
Vol. 11, EGU2009-12077, 2009
EGU General Assembly 2009

Study over the precipitation events influence on surface water quality using fluorescence spectroscopy

E. Carstea (1), A. Baker (2), L. Cristescu (1), G. Pavelescu (1), and D. Savastru (1)

(1) National Institute of R&D for Optoelectronics INOE 2000, Magurele, Romania, (2) School of Geography, Earth and Environmental Sciences, University of Birmingham, Birmingham B15 2T, UK

For this study, spectrophotometric (fluorescence and absorption) and physiochemical (nitrates, phosphates, ammonia, total organic carbon, conductivity and pH) measurements have been performed on samples collected hourly, for two weeks, from an urban river. The experiment has been made during a period with daily precipitation. The recorded fluorescence spectra show, approximately two hours after rain events, an evident increase in the content of dissolved organic matter, protein-like and humic-like components. After a snow event only the humic substances have presented high fluorescence intensities, but no changes have been observed at the protein-like component. Significant correlation has been obtained between the content of total organic carbon and dissolved organic matter fluorescence.