



## **Fluvial deposits and environmental history of some large Romanian rivers**

M.Radoane (1), I.Feier (2), N.Radoane (3), I.Cristea (4) and A. Burdulea (5)

(1) University of Suceava, (2) University of Iassy, (3) University of Suceava, (4) University of Suceava, (5) University of Iassy

Here we present the variability of alluvial sediments and their relation with changes of fluvial architecture on three large rivers from Romania: Prut, Siret (and its main tributaries - Bârlad, Suceava, Moldova, Trotus and Putna) and Somesul Mic. Channel deposits were collected in over 200 cross-sections spaced at 2 to 20 km along the entire length of the rivers and their main morphometric and petrographic characteristics were determined. Topographic maps, spanning the past ca. 140 years (1870-2007), were used to measure the horizontal migration of the channels, while the vertical variability of the channel over the past 50 years was reconstructed using data from the hydrometric gauging stations. Both traditional and modern dating methods were used, in order to extend the study further back in time. The collected data was correlated with the human impact over the area, this being very complex in the case of Prut, Siret, Bârlad and Somesu Mic rivers (channel adjustments, rectifications, large and cascade dams); while Suceava, Moldova, Trotus and Putna rivers suffered only minor human intervention. The results showed that in case of all rivers, the channels have a common trend over the past 140 years, regardless the strength of human impact. Thus, as the response of the alluvial system to anthropic forcing seems to be subsequent to the natural one, we asked our selves what might have been the situation over a longer period of time. Maybe the human role has been overestimated, and it is the “geomorphologic memory” that establish the course of evolution in the alluvial system. More evidence has to be found in order to answer address this issue, and some of these are given in this paper.