

## **Towards a pan-European assessment of low flow indices**

**CLAIRE LANG DELUS<sup>1</sup>, GREGOR LAAHA<sup>2</sup>, DANIEL KOFFLER<sup>2</sup>,  
KERSTIN STAHL<sup>3</sup>, HEGE HISDAL<sup>4</sup>, CHRISTEL PRUDHOMME<sup>5</sup>,  
MIRIAM FENDEKOVA<sup>6</sup> & WOJCIECH JAKUBOWSKI<sup>7</sup>**

*1 Department of Geography, University of Lorraine, France  
claire.delus@univ-lorraine.fr*

*2 University of Natural Resources and Life Sciences, BOKU Vienna, Peter Jordan-Straße 82, A-1190 Vienna, Austria*

*3 University of Freiburg, Chair of Hydrology, Fahnbergplatz, D-79098 Freiburg, Germany*

*4 Norwegian Water Resources and Energy Directorate, Oslo, Norway*

*5 Centre for Ecology and Hydrology, Maclean Building, Crowmarsh Gifford, Wallingford OX10 8BB, UK*

*6 Department of Hydrogeology, Comenius University, Bratislava, Slovakia*

*7 Department of Mathematics, Wrocław University of Environmental and Life Sciences, Poland*

**Abstract** Water resources are increasingly limited and need to be protected in terms of both quantity and quality. In Europe, the Water Framework Directive sets a legal framework to make water resources management and environmental protection more effective. However, the Directive is not very explicit as to how low flows should be assessed and controlled and the choice of low flow indices remains the responsibility of each country. A working group on “Low flow indices” was launched within the EURO FRIEND-Water Low Flow and Drought Group to collect information on low flow practices in Europe and to achieve pan-European low flow mapping. In this paper we show both the process of the ongoing work and the way forward, and we present first results of the analysis. The paper illustrates how valuable the FRIEND network is to facilitate international cooperation, exchange of knowledge and data sharing.

**Key words** low flow indices; survey; European Water Archive (EWA); climate variability adjustment; streamflow–streamflow model; pan-European map