



## **Modelling vegetation patterns in a European wetland area using hydrological parameters**

**B. Boncz** (1,2), Z. Vekerdy (1) and I. Szabó (2)

(1) International Institute for Geo-Information Science and Earth Observation, P.O. Box 6., 7500 AA Enschede, The Netherlands (boncz@itc.nl, vekerdy@itc.nl), (2) University of Veszprém, Georgikon Faculty of Agriculture, Festetics u. 7., 8360 Keszthely, Hungary

Several studies have demonstrated that the hydrological regime plays a crucial role in controlling wetland vegetation distribution. The relative importance of its components, such as the timing, frequency, amplitude and duration of high water levels, the ground water table dynamics varies by wetland types, communities and plant species. A modelling approach based on the differences in these characteristics is presented at a landscape scale; an ecological model for the prediction of wetland vegetation types, which is based on classification tree analyses of field data. The test area is a wetland that is directly connected to Lake Balaton, the largest lake in Central-Europe, Hungary. Hydrological variables are used for calculating occurrence probabilities of vegetation types. The explanatory variables, spatial patterns of the hydrological factors, are constructed with geostatistical methods from field data.

The following issues are discussed briefly:

- To what extent do hydrological variables determine the vegetation pattern of a wetland at landscape scale?
- What is the role of certain variables in determining the vegetation pattern?
- Of which vegetation types' spatial occurrence can be predicted well, of which ones' less?

The model is used for hypothesis testing; the motivation of this study was to quantify/model the relations between vegetation types occurring in this area and the hydrological boundary conditions.