Hydrognomon: A hydrological data management and processing software tool

S. Kozanis (1), A. Christofides (1), N. Mamassis (1), **A. Efstratiadis** (1) and D. Koutsoyiannis (1)

(1) Department of Water Resources, School of Civil Engineering, National Technical University of Athens, Greece. [Contact Email: andreas@itia.ntua.gr /Fax: +30 210 7722832]

Hydrognomon is a software tool for the management and analysis of hydrological data. It is built on a standard Windows platform based on client-server architecture; a database server is holding hydrological data whereas several workstations are executing Hydrognomon, sharing common data. Data retrieval, processing and visualisation are supported by a multilingual Graphical User Interface. Data management is based on geographical organisation to entities such as measuring stations, river basins, and reservoirs. Each entity may possess time series, physical properties, calculation parameters, multimedia content, etc. The main part of hydrological data analysis consists of time series processing applications, such as time step aggregation and regularisation, interpolation, regression analysis and filling in of missing values, consistency tests, data filtering, graphical and tabular visualisation of time series, etc. The program supports also specific hydrological applications, including evapotranspiration modelling, stage-discharge analysis, homogeneity tests, water balance methods, etc. The statistical module provides tools for sampling analysis, distribution functions, statistical forecast, Monte-Carlo simulation, analysis of extreme events and construction of intensity-duration-frequency curves. A final module is a lumped hydrological model, with alternative configurations, also supported by automatic calibration facilities. Hydrognomon is operationally used by the largest water organisation as well as technical corporations in Greece.