Agnieszka Bieda: **Principles of Calculating the Cadastral Value** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 3

The purpose of this paper is the analysis of the Cracow real estate market focusing on the mass appraisal. The author of this paper intends to study the optimum principles of calculating the cadastral value of the real estate, which would allow the real estate value, calculated using the mass appraisal techniques, to be as close to market value as possible. The cadastral value of the representative real estate has been calculated using the modified method of correcting the average price. This method has been described in details in this paper. Each representative real estate has been appraised several times. Every valuation process employed different parameters of a given comparable base, according to which the valuation was made. The obtained values were compared to transaction prices that were paid for these real estate properties in the free market.

Keywords: mass appraisal, statistical analysis, land property/real estate, Cracow

Roberto Fratini, Enrico Marone, Francesco Riccioli, Gabriele Scozzafava: **Green Urban Areas: Evaluation and Analysis of Public Spending for Management. Some Cases Study in Florence** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 3

According to a multifunctionality perspective, green urban areas increasingly play an important role in the improvement of human quality life. The correct management of such areas needs an in-depth analysis of the resource's economic aspects. Therefore the economic value assessment of commodities and non-commodities related to green urban areas is one of the strategic information which is able to influence planning choices according to a sustainable and multifunctional process. The present article focuses on seven different types of urban parks located in Florence in order to define their costs (indirect supply) and their benefits (direct demand): it has been divided into two parts; first one focus on the costs of technical interventions. Normally the costs of maintaining are readily calculated and conspicuous, therefore it would be necessary to realize a data-base that documents public green areas, playgrounds and tree stocks.

The second part focus on the assessment of human wellbeing connect to their green urban areas fruition: a contingent valuation has been used in order to give a value to green areas human fruition. So, the economic evaluation of commodities and non-commodities related to urban parks is one of the strategic information which is able to influence planning choices according to a sustainable and multifunctional process.

Keywords: urban green area, total economic value, multifunctionality of green areas

Maciej Michałowski: **The Occurrence of Phenol Compounds in the Upper Part of the Raba River and the Analysis of Their Sources** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 3

The goal of the paper was to determine the degree of pollution of the upper part of the Raba river with phenol compounds and to find potential sources of the emission of these compounds to the environment. Raba is the main river filling the water reservoir for Krakow. Phenol and its derivative compounds have, until recently, been widely applied as bacteriostatics for disinfection. Phenol and its derivatives are widely applied in industry and agriculture. The change of infrastructure of the modernized road to Zakopane can also make a potential source of the pollution of Raba river, which flows along the new route. In the determination of phenol index tray tests of Hach Lange with the spectrophotometric method were applied.

Keywords: phenol compounds, Raba river

Krzysztof Koreleski: **Soil and Agriclimatic Information Contained in Polish Contemporary Atlases and its Usability for Agricultural Purposes** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 3

The general aim of the paper is to present the range of information and cartographic features of chosen contemporary atlases – thematic maps, scales, graphic techniques applied, etc. Thematic maps provide moderate or high value for agriculture. The high information value for farming is contained in 9 soil maps and 25 climatic maps, for agriculture development in 6 soil maps and 10 agriclimatic maps and for farmland valuation in 3 soil maps and 12 climatic maps. The most useful for agricultural purposes are: *Atlas of Geographical Environment*, *Atlas of Climatic Risk for Crop Cultivation*, *Atlas of Soil Moisture*, regional climatic atlases.

Keywords: atlases of Poland, soil and agriclimatic information, usability for farming, agriculture development and farmland valuation

Zbigniew Kowalewski: **Implementation of *Water Framework Directive* Principles in Polish Legislation** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 3

The article is showing guidelines of the *Water Framework Directive*, a priority Union Directive in water policy in member countries. The particular attention is being attached to the evaluation of the state of surface waters and ground waters, and especially for the evaluation of their ecological status. Article shows methods of evaluation of waters by biological, physico-chemical and hydromorphological elements. Also there is present a *Regulation of Ministry of Environment on 20 August 2008 in the matter of the manner of classifications of the status of uniform body of surface waters*, whom is implementation of basic guidelines of *Water Framework Directive* in process of evaluation quality status of surface waters.

Keywords: water protection, *Water Framework Directive*, surface waters, evaluation and classification of water status, waters ecological status

Andrzej Kwinta: **Outlier Identification Method for Horizontal Strain on the Mining Areas** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 3

Image of the strain on the mining areas is changed by accidental, systematic and gross disturbances (errors). Before analyzing the state of strain, the measurement results should be filtered in order to eliminate outlier errors. A basic problem is to identify if a certain value of strain indicator was changed by accidental dislocation or if it just was an outlier value. The work presents criterion for recognition of the outlier values in case of horizontal strain basing on the theoretical considerations and random distribution of the deformation process course. The considerations are illustrated with practical example.

Keywords: estimating outlier values, horizontal strain

Michał Strach: **Road Route Designing and its Survey Processing with Use of the *Bentley InRoads* Software** • Geomatics and Environmental Engineering 2009, Vol. 3, No. 3

The article presents *Bentley InRoads Suite* software characteristics and shows its potential exemplified by road design. It also describes functions useful for surveyors in the process of designing from terrain realization point of view.

Keywords: road route designing, geodetic road designing, Bentley software, *Bentley InRoads*