

Anita BOKWA

THE URBAN HEAT ISLAND IN KRAKÓW, POLAND: INTERACTION BETWEEN LAND USE AND THE PROFILES OF THE TERRAIN

Automatic measurements of air temperatures at five points in Kraków in the period from March 2009 to January 2010, were used to study the urban heat island (UHI). Mean seasonal UHI intensity is highest in the street canyon in summer (3.3K) and lowest in urban green areas in winter (0.5K). UHI intensity >3.0K occurs 58.4% of the time at night in summer and 7.9% in winter in the street canyon. In spring and summer, UHI intensity is much higher than in other Polish cities of comparable size, due to the location of Kraków in the Vistula River valley and the resulting occurrence of a cold air reservoir.

Jana KONEČNÁ, Jana PODHRÁZSKÁ, Petr KARÁSEK, Miroslav DUMBROVSKÝ

SOIL AND WATER CONSERVATION WITHIN THE FRAMEWORK OF LAND CONSOLIDATION PROCESS IN THE HUBENOV CADASTRE (CZECH REPUBLIC)

Some possibilities for the implementation of erosion and flood control measures in an agricultural landscape, by means of the land consolidation process in the Czech Republic, are presented in this paper. Soil, water and environmental conservation are important aspects of every complex land consolidation, particularly for public policy purposes. One successful realization of a designed arrangement is presented for the Hubenov cadastre. Measures applied in the Hubenov cadastre in the framework of land consolidation fully meet the requirements of water and soil conservation. Grassed-over areas, cascades of small water bodies and field boundaries planted with trees, fit well into the character of the highland landscape and improve its aesthetic value.

Jan MIKLÍN, Veronika SMOLKOVÁ

LAND USE/LAND COVER CHANGES OF THE PÁLAVA PLA AND THE PROPOSED SOUTOK PLA (CZECH REPUBLIC) IN 1841–2006

The paper deals with land use/land cover (LULC) changes in the Pálava Protected Landscape Area (PLA) and in the proposed Soutok PLA (pPLA). The LULC data were obtained from maps (1841 and 1876) and aerial photographs (1938 and 2006). General trends in the two study areas are as follows: i) distinct decrease in grass-covered areas, ii) increase in forested areas, iii) extensive changes in forest management, iv) agricultural areas forming a mosaic of very small patches in 1938, and v) increase in linear vegetation corridors in 2006. An analysis of the Soutok pPLA forest age structure is presented too. Obtained results show a distinct change in both natural and cultural landscape structures of the study areas and can be used as a basis for the future management of the protected areas.

Leoš PELIKÁN, Vladimír HERBER

AN APPLICATION OF STREAM THERMOMETRY IN SMALL DRAINAGE BASINS

The utility of the thermometry method in small drainage basins (less than 10 km²) is described and has been effectively verified in this paper, for case studies of the Bunčovský and the Sloupečnick streams in the Czech Republic. Using non-parametric Kruskal – Wallis Analysis of Variance (ANOVA) methods and other statistical procedures, the influence of relief and rock type on groundwater flow has been demonstrated. The majority of the points of groundwater stream inflow have been identified in rugged relief and sandstone. Given the factors mentioned above, different types of groundwater flow cycles, characterized by varying depth and velocity, have been detected.

Josef NAVRÁTIL, Stanislav MARTINÁT, Kamil PÍCHA, Jana NAVRÁTILOVÁ
ANGLERS' CHOICE OF FISHERIES IN THE CZECH REPUBLIC

The spatial pattern of anglers' movements among fisheries was analyzed using de-trended correspondence analysis (DCA), canonical correspondence analysis (CCA) and gravity modelling. Anglers choose, on the national level, a destination fishery mainly according to its spatial position, as longitude and latitude are the primary significant factors revealed by the forward selection procedure of CCA (the first two DCA axes explain 5.9% and the first two CCA axes 5.3% of variability). Distance as a spatial attribute is not only the main factor determining travel to all of Czech fisheries but also travel to specific tourist fisheries. Distance travelled is also influenced by the type of fishery – trout fisheries (Beta coefficient = 1.725) and fisheries on reservoirs larger than 80 ha (Beta coefficient =

1.760) are attended by anglers from the more distant local organizations. The mobility of anglers also varies with the number of inhabitants of their domicile – the impact of distance between the local organization and fishery is strongest for the smallest towns (up to 500 inhabitants, Beta coefficient = 2.456) and weakest for large cities (with more than 50 thousand inhabitants, Beta coefficient = 1.923).

Ivan ŠOTKOVSKÝ

A TYPOLOGY OF EU COUNTRIES IN TERMS OF POPULATION GROWTH IN THE PERIOD FROM 1990 TO 2009

Changes in population growth in the EU countries in the last twenty years are presented in this article. Death rates, birth rates and migration were investigated for the period from 1990 to 2009. The role of population growth in this study is directed to all 27 members of the European Union retrospectively to 1990, even though at that time the EU consisted of only twelve member countries. The dynamic spatial typology is presented on the basis of a series of values of the following three basic demographic indices: the crude rate of natural increase (CRNI), crude rate of net migration (CRNM), and crude rate of total population increase (CRTPI).