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THE SPATIAL PATTERN OF FOREST COVER CHANGES IN LITHUANIA DURING THE SECOND HALF OF THE TWENTIETH CENTURY

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The trends of forest cover change in Lithuanian municipalities are introduced in the current paper. Two sources of information on the forest cover in 1950s and today (2013) were used in this study: (i) a geographic forest cover database developed using historical orthophotomaps based on aerial photography, which was carried out in the period just after the World War II, and (ii) the information originating from the State Forest Cadaster and referring to the year 2013. These two layers were compared using GIS overlay techniques. The data was made available for the analyses aggregated up to the municipality level. The Global Moran's I statistic and Anselin Local Moran's I were used to identify global and local patterns in the distribution of forest cover characteristics in Lithuanian municipalities, respectively. The main finding of this study was that the proportion of the forest cover in 1950 was 26.5%, i. e. notably differing from the official statistics – 19.7%. The proportion of the forest cover increased in all municipalities during the period 1950–2013. The largest increase in forest cover proportion was in the areas less suitable for agriculture. The

relatively largest areas of new forests were identified in the south-eastern part of Lithuania, the deforestation was relatively slowest around less forested municipalities, while the afforestation was relatively slowest around the agricultural Pakruojis municipality. Deforestation was most commonly associated with the forest transformation into agricultural land, less often into scrublands or waters.

Keywords — forest cover changes, afforestation, deforestation, spatial statistics

Biography

Daiva Juknelienė was a lecture at Institute of Land Management and Geomatics. Her research fields are land law, sustainable land management and spatial planning. She was published more than 20 papers in reputed journals and has been serving as an editorial board member of *repute*.

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