

SCIENTIFIC ARTICLES

Authors: Jernej TIRAN, Mitja LAKNER, Samo DROBNE

Title: Modelling walking accessibility: A case study of Ljubljana, Slovenia.

pp. 194-206

Abstract: Walkable access is recognised as one of the most important factors for deciding to walk instead of using other modes of transport. Distance has been less accurately taken into consideration in previous walking accessibility measures, however, as they are often based on an isotropic approach or on a fixed distance threshold. The objective of this paper is to present a method of modelling continuous walking accessibility to different amenities in a city, with an integrated network-based and distance-decay approach. The approach is based on a web survey to obtain data on acceptable walking distances to different types of amenities. Several distance decay functions were analysed for each type of amenity from the cumulative frequency of responses. The best fitting functions were used to model the walking accessibility surfaces for individual amenities in the network, representing five domains (retail, services, recreation, education and transportation) and an overall walking accessibility index. Despite certain limitations and a further need to assess the validity of the methods, our distance-decay network-based approach is more accurate than the isotropic or even network-based modelling of walking distances in continuous or threshold approaches, as it enables the researcher to take into account the differences in propensities to walk to different amenities. The results can be used by city authorities and planners for implementing actions to improve walking accessibility in the most problematic areas of the city of Ljubljana.

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Title: The fate of socialist agricultural premises: To agricultural 'brownfields' and back again?

pp. 207-2016

Abstract: The variety of post-socialist agricultural transitions in four different rural regions located in South Bohemia (Czech Republic), with respect to the utilisation of the older premises, is subject to analysis in this article. A complete database was constructed, containing the identification of agricultural premises in 1989 and their use in 2004 and 2017. From 1989 to 2004, a number of agricultural brownfields emerged, and many sites had been utilised for non-agricultural purposes. After 2004, the acreage of agricultural brownfields was reduced and new land-use utilisation for housing and, especially other non-agricultural activities, significantly increased. The transition in the utilisation of pre-1989 agricultural premises is strongly influenced by the social and economic contexts in which particular sites are located. Proximity to an upper level regional centre is of crucial importance for decisions with respect to how (and if) the site will be reused. The peripheral location of the site also affects the level and the selection of options for the ways in which particular pre-1989 agricultural premises are

used. In the case studies reported here, the marginality of particular regions is increased by their location in the border regions of outer peripheries, where the probability of the presence of agricultural brownfields and the probability of long-term abandonment of agricultural premises is higher. For the traditional developed countryside, we found a typical low level of the share of long-term agricultural brownfields. After 2004, the re-use of pre-1989 agricultural brownfields for agriculture was ascertained, which is complemented by their use for housing.

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Authors: Michal FOREJT, Ralf-Uwe SYRBE

Title: The current status of orchard meadows in Central Europe: Multi-source area estimation in Saxony (Germany) and the Czech Republic.

pp. 217-228

Abstract: Orchard meadows are appreciated as an integrated land use of high cultural and biological value. While such meadows are typical habitats for temperate Europe, they experienced a decline in their total area during the second half of the 20th century, both in Western and Eastern Europe. In this contribution, we compare their current area and status in terms of semantics, law, public support in general, and the efficiency of public support in both Saxony and the Czech Republic. We estimated the area in Saxony on the basis of three public mapping projects. In the Czech Republic, where no recent mapping included orchard meadows as a specific land-use type, we carried out our own mapping. Hence, we mapped 124 randomly selected plots of 1 km². To cross-reference results from both countries, we used the pan-EU project LUCAS (Land Use/Cover Area frame Survey). According to various different sources, the orchard meadows cover 0.09–0.55% of Saxony and 0.01–0.72% of the Czech Republic. Interestingly, the results of the three mapping projects conducted in Saxony vary from each other. Although orchard meadows are supported by financial incentives of the respective governments in both countries, the Saxon approach concentrating more on individual activities (sanitation of old trees, planting, grassland management), seems more focused than the single measure practised in the Czech Republic. One key to a greater public awareness of the orchard meadow problematic can lie in the promotion of a simple expression referring to this specific landscape feature in Czech, similar to the phrase common in the German language: ‘Streubstwiese’. Our suggestion for the Czech language is: ‘luční sad’.

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Authors: Jiří JAKUBÍNSKÝ, Vladimír HERBER, Pavel CUDLÍN

Title: A comparison of four approaches to river landscape delineation: The case of small watercourses in the Czech Republic.

pp. 229-241

Abstract: River landscapes represent key areas of great importance to human society as they perform many functions and provide valuable services. Traditionally, these areas have been perceived as geomorphological phenomena characterised by specific soil conditions, hydrological regimes and unique habitats. Due to the availability of detailed data, it is possible to perform a spatial delineation of river landscapes by interpreting these data using several different approaches. The results of these different approaches

can vary considerably, since it is particularly challenging to define the river landscape along small watercourses for which the availability of suitable data is limited. The main aim of this study is to analyse the various methodological approaches that may be used to define the river landscapes of small streams, and to evaluate the efficiency of those approaches that can be applied in nature and landscape conservation. Two medium-sized catchments in the Czech Republic were selected as the study areas in order to ensure different natural conditions and degrees of anthropogenic pressure. As a result, an approach based on combining soil characteristics and topographic information is considered the most appropriate solution to delineate the river ecosystem.

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Authors: Barbora DUŽÍ, Robert OSMAN, Jiří LEHEJČEK, Eva NOVÁKOVÁ, Pavel TARABA, Jakub TROJAN

Title: Exploring citizen science in post-socialist space: Uncovering its hidden character in the Czech Republic.

pp. 241-254

Abstract: Citizen science is a relatively new phenomenon in the Czech Republic and currently a general overview of existing citizen science projects is not available. This presents the challenge to uncover the 'hidden' citizen science landscapes. The main objective of this paper is to explore the (public) representation of citizen science (CS) projects and to describe their heterogeneity. The study aims to answer the question of what type of projects in the Czech Republic meet the definition of citizen science. Based on a specific methodological data-base search approach, we compiled a set of CS projects (N = 73). During the classification process, two general citizen science categories were identified. The first group (N = 46) consists of "pure" CS projects with a prevalence towards the natural sciences, principally ornithology, and thus corresponding to general European trends. Citizens usually participate in such research in the form of data collection and basic interpretation, and a high level of cooperation between academia and NGOs was detected. The second group of "potential" CS projects (N = 27) entails various forms of public participation in general, frequently coordinated by NGOs. Based on these results, we discuss the position of citizen science in the Czech Republic, including socially-oriented citizen science. Further research is strongly encouraged to achieve a more in-depth insight into this social phenomenon.

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Authors: Jakub TROJAN, Sven SCHADE, Rob LEMMENS, Bohumil FRANTÁL

Title: Citizen science as a new approach in Geography and beyond: Review and reflections.

pp. 254-264

Abstract: Issues related to the evolving role of citizen science and open science are reviewed and discussed in this article. We focus on the changing approaches to science, research and development related to the turn to openness and transparency, which has made science more open and inclusive, even for non-researchers. Reproducible and collaborative research, which is driven by the open access principles, involves citizens in many research fields. The article shows how international support is pushing citizen

science forward, and how citizens' involvement is becoming more important. A basic scientometric analysis (based on the Web of Science Core Collection as the source of peer reviewed articles) provides a first insight into the diffusion of the citizen science concept in the field of Geography, mapping the growth of citizen science articles over time, the spectrum of geographical journals that publish them, and their citation rate compared to other scientific disciplines. The authors also discuss future challenges of citizen science and its potential, which for the time being seems to be not fully utilized in some fields, including geographical research.

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