Monitoring the urban expansion in Nanchang, China using geospatial techniques

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This study examines the urbanization through the spatial distribution of land use/cover changes for Nanchang during the past 20 years. The classified result indicates that Nanchang's urban land rapidly increased. Furthermore, the urban expansion of Nanchang towards southeast and west was dominant. Spatially growing pattern was a leading type of new urban land expansion for Nanchang. The infill development was in an increasing trend, which indicated that the city became more compact than before. Additionally, most of the urban and suburban built-up happened in the extension pattern of new urban land expansion. Especially during the 2005-2016 period, the losses of both agricultural land and bareland were major contributors to the new urban land expansion. It can be recommended that agricultural land protection be taken into consideration for future urban planning and the infill pattern of urban expansion be improved to achieve the urban sustainability.

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