

Abstract

The rapid growth of urbanization over the past four decades has resulted in the physical-physical expansion of cities and the destruction of its peripheral lands, which are often landscaped landscapes and gardens, in their tissues and bodies. The gradual expansion of the city's body to the perimeter of the city and the city's plunge into agricultural lands and gardens imposes certain environmental limitations and losses.

So, in recent decades, the rapid growth of cities has become a serious issue, especially in developing countries. Therefore, the permanent review of urban dynamical processes is inevitable given the development in the past and its future prediction. Particularly, with the development of remote sensing based on multidimensional images of remote sensing and integration, it is possible to draw up urban plans and examine the relevant consequences.

Based on this, the aim of the present research is to model the development of Zabol city using the Beyblang algorithm with remote sensing technology and Geographic Information System (GIS) over the 28-year period of 1988-2018. To this end, the effective measures in this process were collected, analyzed and prepared from relevant organizations and land use maps from Landsat satellite images with a Kappa coefficient of 92 percent were extracted by objective method for each map.

In the next step, verifying the maps and detecting changes took place, with the largest increase in the area in the built areas of 850 hectares and the largest decrease in the area in open land was 720 hectares. Based on these changes, 11 independent variables were selected as inputs of the model and then, the potential for user conversion and prediction for future years were modeled using the Beehive algorithm method. Comparison of prediction results with recent ground data and past studies suggests that the results of this study are closer to ground realities. The projected map also suggests that the greatest amount of future development will occur in the northwestern and western parts of Zabol, respectively.

Key words: land use change, urban development, urban development, Zabol city



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