

## عنوان مقاله:

An integrated environmental management approach to industrial site selection by genetic algorithm and fuzzy analytic hierarchy process in geographical information system

## محل انتشار:

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## نویسندگان:

M Ahmadipari - Graduate Faculty of Environment, University of Tehran, Tehran, Iran

H Hoveidi - Graduate Faculty of Environment, University of Tehran, Tehran, Iran

H.R Jafari - Graduate Faculty of Environment, University of Tehran, Tehran, Iran

M Pazoki - Graduate Faculty of Environment, University of Tehran, Tehran, Iran

## خلاصه مقاله:

Environmental planning and management can have positive effects on development of some land uses including industrial areas that have a major effect on economic, social and environmental conditions. Considering the most important problems associated with modeling, the fundamental methods and functions of site-selection laid inside the geographical information system are not accounted for the multi-purpose experimental programs. The main purpose of this study is to present a systematic pattern for environmental management using genetic algorithm and fuzzy analytic hierarchy process in geographical information system in order to reduce uncertainty. Through fuzzy analytic hierarchy process, the weight of criteria was calculated after extracting the criteria by Delphi technique and identifying all the effective criteria and factors involved in site selection. After preparation of intended layers, each map was prepared in the form of raster layers on geographical information system. Information layers were combined after being valued and finally the map of suitable areas was prepared. Finally, the conformity of all the obtained maps was checked out with field conditions. In this study, the genetic algorithm was used as an optimization method applied for natural selection. It was also attempted to find better solutions among others. The results showed the best site for developing industries.

## کلمات کلیدی:

Environmental management; Fuzzy analytic hierarchy process (FAHP); Genetic algorithm (GA); Geographical information system (GIS); Industrial site selection

## لینک ثابت مقاله در پایگاه سیویلیکا:

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