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基于3S的城市绿地公园防震避难适宜性评价(PDF)

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Title: Suitability evaluation of urban green park for earthquake disaster prevention and refuge based on 3S technology

作者: [叶明武](#); [王军](#); [陈振楼](#); [许世远](#); [胡蓓蓓](#)
华东师范大学资源与环境科学学院地理信息科学教育部重点实验室, 上海 200062

Author(s): [YE Ming-wu](#); [WANG Jun](#); [CHEN Zhen-lou](#); [XU Shi-yuan](#); [HU Bei-bei](#)
School of Resources and Environment Science, Key Laboratory of Geographic Information Science of Ministry of Education, East China Normal University, Shanghai 200062, China

关键词: [绿地公园](#); [防震避难](#); [适宜性评价](#); [3S技术](#); [上海市](#)

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摘要: 结合当前城市防震减灾任务的紧迫性和绿地公园的避难价值,提出应用3S技术构建绿地公园防震避难适宜性的评价方法体系。基于防震避难的内涵,从安全性、可达性和有效性三方面构建避难适宜性评价指标体系,以RS和GPS作为数据获取途径,以GIS作为数据分析平台,以模糊优选、信息熵和综合指数模型为评价方法,并以上海黄浦区为案例,进行了实证研究。研究表明:构建的方法体系可为城市现有绿地公园防震避难建设方案的制定、城市应急避难场所的优化选址和已建避难场所的效益检验等提供辅助决策手段。

Abstract: Combining the current urgent demand of urban earthquake disaster reduction tasks with the refuge value of green park, this paper establishes the index system of suitability evaluation of urban green park to earthquake disaster prevention and refuge based on 3S technology. Considering the concept of earthquake disaster reduction and refuge, the index system mainly included three senior grade indexes such as security, transport accessibility and validity and eight junior grade indexes. A synthetical evaluation system (SES) with fuzzy optimization theory, entropy and comprehensive index model as core technique was built taking RS (remote sensing) and GPS (global positioning system) as data acquiring method and GIS (geographic information system) as data analyzing platform. Huangpu District of Shanghai Municipality was selected as a case study by using SES. The results show that this system can provide an auxiliary solution to establishing construction project about the urban green parks for the

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参考文献/REFERENCES

- [1] 森田孝夫,上野纯,柏原士郎.阪神淡路大震!避难所研究[M].大阪:大阪大学出版社,1998.
- [2] 何明,蔡卓芳.从九二一地震灾后探讨台湾都市防灾规划与改善对策[EP/O L].http://kb teq. ascc. net/ arch
ive/ nsc/ eidc/ 1/ t2. h mt 1.
- [3] 苏幼坡.城市灾害避难与避难疏散场所[M].北京:科学出版社,2007.
- [4] 马亚杰,苏幼坡,刘瑞兴.城市防灾公园的安全评价[J].安全与环境工程,2005,12(1):50-52.
- [5] 姜乃力,李刚,郑晓非,等.日本城市防灾减灾的经验与启示以城市防灾公园建设为例[J].世界地理研究,2004,13(4):46-50.
- [6] 黄典剑,吴宗之,蔡嗣经,等.城市应急避难所的应急适应能力基于层次分析法的评价方法[J].自然灾害学报,2006,15(1):52-58.
- [7] Li X, Christophe C, Hsiang-te K, et al Adecen tralized and continuity-based algorithm for delineating capacitated
shelters' serviceareas[J].Environment and Planning B:Planning and Design,2008,35:593-608.
- [8] Saadatseresht M, Mansourian A, Taleai M. Evacuation planning using multiobjective evolutionary optimization approach
[J]. European Journal of Operational Research, 2008, 32: 1-10.
- [9] Editorial GIS and disasters: Planning for catastrophe[J]. Computers, Environment and Urban Systems, 2006, 30: 227-229.
- [10] Alparslan E Ince F, Erkan B, et al AGIS model for settlement suitability regarding disaster mitigation, a case study in Bolu
Turkey[J]. Engineering Geology, 2008, 96: 126-140.
- [11] 熊国锋.基于GIS的上海市防震减灾能力评价方法研究[D].上海:同济大学,2007.
- [12] 史同广,郑国强,王智勇.中国土地适宜性评价研究进展[J].地理科学进展,2007,26(2):106-115.
- [13] 黄宇,罗智勇,杨武年.基于GIS的城市居住适宜性评价研究[J].测绘科学,2008,33(11):26-30.
- [14] 包晟平.都市防灾避难据点适宜性评估之研究以嘉义市为例[D].台湾:国立成功大学都市计划研究所,2004.
- [15] 许素毓.邻里公园永续发展特性之分析以高雄市为例[D].台湾:国立成功大学都市计划研究所,2005.
- [16] 张文侯.台北市防灾避难之区位决策分析[D].台湾:台湾大学建筑与城乡研究所,1997.
- [17] 青木信夫.日本东京的防灾规划[J].城市环境设计,2008,4:9-12.
- [18] KASHI HARA S, UENO J, MORITA T. Investigation on the Emergency Shelter after Hyogo-ken Nanbu Earthquake
[M]. Osaka: the Press of the University of Osaka, 1998.
- [19] 清水正之.公园绿地与阪神淡路大地震[J].城市规划,1999(10):56-58.
- [20] Su Youpo, Liu Ruixing. Disaster mitigation role of urban parks for disaster prevention[J]. Journal of Disaster
Prevention and Mitigation Engineering, 2004, 24(2): 232-234.
- [21] 滕五晓,加藤孝明,小出治.日本灾害对策体制[M].北京:中国建筑工业出版社,2003.
- [22] 徐建华等.现代地理学中的数学方法[M].北京:高等教育出版社,2004.
- [23] 曾亮.都市防灾避难据点适宜性评估之研究以嘉义县为例[D].台湾:逢甲大学,2007.
- [24] 陈振楼,王军,刘敏,等.上海市主要自然灾害特点与应对策略[J].华东师范大学学报(自然科学版),2008,5:116-125.
- [25] 肖功建,韦晓.上海城市灾害分析与减灾建设[J].灾害学,2001,16(2):70-75.
- [26] 刘昌森,吕美丽.上海地区地震放大效应的初步探讨[J].上海地质,1998,1:7-13.
- [27] 杨挺.城市局部地震灾害危害性指数(ULEDRI)及其在上海中的应用[D].北京:中国地震局地球物理研究所,2000.

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作者简介:叶明武(1982-),男,博士研究生,主要从事城市灾害风险评估与应急管理研究.Email:yemingwu888@163.com

通讯作者:王军,副教授.E-mail:jwang@geo.ecnu.edu.cn