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空气资源评估方法及其在城市环境总体规划中的应用

Air source assessment method and its application in urban environmental master planning

关键词：空气资源 禀赋 分区评估 MM5/CALMET 模拟*A*值

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摘要：从空气污染气候学的角度，提出了空气资源禀赋的概念、评估方法、等级划分及分区管控的理念.同时，以宜昌城市环境总体规划为例，利用MM5耦合CALMET模式对大气环境系统进行解析，计算了宜昌市域范围高时空分辨率（1 km×1 km）通风系数*A*值分布，并作为空气资源禀赋等级分区的依据.在此基础上，将空气资源分区的结果与地理信息系统相结合，给出其空间分布，强化了分区管控政策的空间落地.评估结果表明，宜昌地区空气资源禀赋等级共分为4级，*A*值在8以上的空气资源禀赋充裕的地区，约占市域面积的30.3%；较好和一般的地区，*A*值分别在5~8和3~5之间，约占34.1%和34.8%；*A*值在1~3之间空气资源禀赋稀少的地区，仅占0.8%.本研究提出的空气资源禀赋分区方法具有较强的合理性，预期在城市中长期发展过程中的产业布局与分级调控中具有较好的应用前景.

Abstract：From the perspective of "air pollution climatology", the concept, levels classification, assessment methods and zoning control philosophy of air resource endowments were provided. A case study was conducted for the Urban Environmental Master Planning of Yichang City. The atmospheric system was simulated and analyzed with MM5 and CALMET model. Based on producing the meteorological field with spatial resolution of 1 km×1 km, the *A* values with high spatial resolution were calculated, and levels of air resource were determined subsequently. The spatial distributions of air resource were determined and control policies of partition management were enhanced through combining the results with geographic information system. It was shown that the air resource can be divided into four levels. Areas with abundant air resources, where the *A* values were over 8, covered approximately 30.3% of the total city area. Fine and general areas with *A* values in the range of 5~8 and 3~5 accounted for 34.1% and 34.8%, respectively. Areas with *A* values between 1 and 3 were scarce, only accounting for 0.8%. The results indicated that the method proposed in this study is reasonable for assessing urban air resources.There will be a great application prospect in industry distribution and grading regulation during the long-term planning.

Key words：air resource endowment district assessment MM5/CALMET simulated *A* value

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