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The application of Yangtze Estuary Tidal Wetlands Geographic Information System

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Yangtze Estuary Tidal Wetlands Geographic Information System (YETWGIS) is a comprehensive software system for environmental management and decision of Yangtze estuary tidal wetlands. Based on MapObjects components technology, Data Mining technology, mathematical modeling method and Visual Basic language, this software system has many functions such as displaying, editing, querying and searching, spatial statistics and analysis, thematic map compiling, and environmental quality evaluation. This paper firstly outlined the system structure, key techniques, and achieving methods of YETWGIS, and then, described the core modules (the thematic map compiling module and environmental quality evaluation model module) in detail. In addition, based on information entropy model, it thoroughly discussed the methods of environmental quality evaluation and indicators' weight calculation. Finally, by using YETWGIS, this paper analyzed the spatial distribution characteristics of Heavy Metal and Persistent Organic Pollutants (POPs) of the Yangtze estuary tidal wetlands in 2002, and evaluated the environmental quality of the Yangtze estuary tidal wetlands in 2003.

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关键词: Yangtze estuary; tidal wetland; geographic information system; components technology; information entropy model doi: 10.1360/gso50204