

University of Macau

Abstract

DEVELOPMENT OF ENVIRONMENTAL INFORMATION SYSTEM  
FOR MACAU

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This thesis is to report the establishment of the environmental information system and its application aiming at vehicular exhaust and coastal water pollutant distribution in Macau. Geographical information system (GIS) is the platform to receive and analyze pollutant information. Atmospheric pollutants such as NO<sub>x</sub> and CO are modeled by OSPM that integrated in GIS for automatic operation. Eleven coastal water pollutants and parameters such as TOC, TN, TP, chlorophyll-a, etc. are obtained from field sampling with measurement on site and in laboratory. Finally, spatial analysis of such patterns are performed by the aid of GIS capabilities including classification, 3D visualization, triangular irregular network interpolation etc. and a series of useful impacting pattern are found.