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Characterising air quality risk in the City of Johannesburg

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ABSTRACT

The City of Johannesburg (CoJ) is characterized by numerous industries ranging from heavy industries to the service provision industry. The aim of this study was to analyse the air quality risk in the CoJ within the context of the implementation of the National Environmental Management: Air Quality Act (AQA). Air quality data that were obtained from the South African Air Quality Information System (SAAQIS) were averaged such that the diurnal, seasonal and annual trends could be identified. Geographic Information Systems (GIS) were used to map the air quality data availability and air quality compliance in the areas that are within a 3km radius of each monitoring station. Specifically, air quality in the city was characterised using the colour schemes of the ambient air quality class zones provided by the National Framework for Air Quality Management (2007). These air quality maps in conjunction with socio-economic data for the CoJ were used to describe the air quality risk of these communities and evaluate the effectiveness of the implementation of the AQA in the city.