

## NOVEL STRATEGIES FOR ASSESSMENT OF AMBIENT AIR QUALITY USING GIS AND ONLINE POLLUTION MONITORING TOOLS

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In recent years, research on air quality has increasingly become an issue of critical importance and quite often a heated topic of debate in view of the accumulating evidence showing the adverse effects of pollution on human health, agricultural crops, man-made environments (damage to building materials) and ecosystems. Suitable selection of the representative air pollution sampling sites for the ground based air pollution and meteorological monitoring is of utmost importance to assure that the data generated is representative of the regime to be investigated. The use of appropriate and standardized criteria for site selection and monitoring protocols is critical if the representativeness and comparability are to be met. The data quality objective for representativeness is subjective in nature and therefore can only be achieved through standardization of the protocols for site selection and sampling. The present paper highlights the standardized protocol and applies the criteria to evaluate potential locations for air monitoring site in Hyderabad. The paper also describes in detail the design and development of Web based online pollution monitoring station using TCP/IP protocol and advanced electrochemical sensor systems. As a result, environmental agencies can directly disseminate air quality information through their websites. The online real-time monitoring system at representative site will enable the policy makers to quantify the spatial variability of major air pollutants like SO<sub>x</sub>, NO<sub>x</sub>, SPM, RSPM and heavy metal and to study the contribution of different sources