

Optimization of the atmospheric pollution monitoring network at Santiago de Chile

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Environmental pollution is a problem affecting many cities in our planet. Santiago de Chile is one with the worst indices. Because of that, local authorities implemented a few years ago an air quality monitoring network with eight monitoring stations located across the whole city. These stations continuously collect information about the presence and level of atmospheric contaminants as well as meteorological indices. As the budget for this activity is limited, to increase the monitoring network as the city grows might be an inefficient decision. To evaluate alternative decisions multiple criteria should be consider. A statistical evaluation of some low cost modifications of the network becomes a valid research topic. This paper attempts to optimize Santiago's atmospheric monitoring network by excluding the least informative stations with respect to the variables under study: carbon monoxide (CO), airborne particulate material (PM10), ozone (O3) and sulfur dioxide (SO2). To accomplish