

CONTRIBUTION TO THE ANALYSIS AND COMPLETION OF AIR POLLUTANTS' TIME SERIES

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ABSTRACT

Atmospheric pollution data seldom present satisfactory completeness. Apart from missing or erroneous measurements, atmospheric pollution measuring instruments have detection limits below which the measurement of air pollutants' concentration is not possible. In this paper, an attempt is made to identify the statistical distributions that best fit the actual distributions of the concentrations of one inactive (SO_2) and two reactive pollutants (O_3 , NO_2) in three selected stations of the air pollution monitoring network, operated by the Ministry of Environment, in Athens. Subsequently, the question is posed, whether the above defined distributions are the same for all stations or there are differences between the sites. An attempt is made to explain this differentiation. Finally, filling gaps in the times series using the respective fitted probability distributions, was tested against other data completing methods.