

## **FINE PARTICULATE LEVELS AND HEALTH IMPACTS IN ATHENS BASIN**

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### **ABSTRACT**

The ambient concentrations of fine particulates over Athens basin are estimated through the compilation of an air emissions inventory and the application of a climatological model for the reference years 1989, 1992 and 1998. They are also assessed from the “black smoke” monitoring data and the use of approximate conversion factors. On the basis of the risk assessment information developed by the World Health Organization (WHO) and the above derived annual average and 24-hour maximum PM<sub>2.5</sub> concentrations in central Athens and over the entire Athens basin, the increased mortality and hospital admissions, as well as the reduced longevity of people are assessed. The results show that the existing levels of fine particles in Athens exert a significant impact on health increasing the annual mortality in Athens by 1060, while reducing the average longevity of the people living in central Athens by about 3.1 years and that of the 3.5 million people living in Athens basin by 1.7 years.