Source apportionment of particulate matter in urban aerosol

Chemical characterization of urban aerosol can provide valuable information in certain species emitted from particular source types. Such species can be used as tracers for these sources. Source apportionment studies include receptor-modeling techniques that are based on the concentrations of aerosol components at a receptor site. The objective of this study was to identify the major pollution sources in the Athens urban area by means of factor analysis. A sophisticated factor analysis method called Positive Matrix Factorization was successfully applied in Athens urban aerosol (Paatero and Tapper, 1993). Motor vehicles and road/construction dust were the major contributors to fine particle mass along with biomass burning, marine aerosol and fuel oil combustion. For coarse aerosol three sources were identified, road, soil dust and marine aerosol (Karanasiou et al., 2007).

References

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