

WET DEPOSITION OF POLYCYCLIC AROMATIC HYDROCARBONS IN ANKARA

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Wet deposition samples were collected at Middle East Technical University campus, Ankara, between December 2000 and June 2002 by wet only sampler. Sampler was modified for the collection of samples for PAH analysis. Samples were in situ filtrated from glass fiber filter through a filtration apparatus in the field. Fifteen priority Polycyclic Aromatic Hydrocarbons (PAHs) were determined in both particulate and aqueous samples by Gas Chromatography-Mass Spectrometry in Selected Ion Monitoring mode. Phenanthrene, fluoranthene, pyrene and benzo (b+k) fluoranthene were found to be major components in wet deposition samples. Total PAH concentrations in samples ranged from 0.150 to 2,573 $\mu\text{g/L}$. Volume weighted average of PAHs was found to be 0.692 $\mu\text{g/L}$ for the entire sampling period. Seasonal variation of PAHs were observed having higher concentrations in winter period. Winter concentrations are found to be 2 times higher than summer due to increasing fossil fuel combustion. Wet deposition fluxes were calculated and found to be comparable with other urban sites in Europe. Factor analysis results revealed coal combustion, industry and transportation as major contributing sources of observed PAHs.

Keywords: PAHs, dry deposition, wet deposition, snow, PAH ratios, deposition flux.