

P 26. ATMOSPHERIC DEPOSITION OF AIR POLLUTANTS

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ABSTRACT: Air pollution and its effects are important environmental problems. There are various gas and particulate pollutants that are released into the atmosphere by natural and anthropogenic sources or formed in the atmosphere. These pollutants in gas form (SO₂, NO_x, VOCs etc) and particulate form (PM₁₀, PM_{2.5} etc) can affect human and living lives and cause material damage. The concentration of these pollutants in the atmosphere may decrease forms temporally or spatially according to proximity of the source and meteorological conditions. The removal of pollutants from the atmosphere can take place in two different ways. Pollutants can be transferred from atmosphere to other environmental ecosystems wet deposition when precipitation (rain, snow) is observed and other times by dry deposition, Anthropogenic acidic gases and soil-derived components react with water and return to the ground surface in the form of rainfall and snow by wet deposition. With dry precipitation, it is possible to spontaneously deposited these pollutants without precipitation in periods. Atmospheric deposition has various effects on aquatic and terrestrial ecosystems. It can be effective in decreasing the species and amount of sensitive fish and molluscs by increasing acidity in aquatic ecosystems. In terrestrial ecosystems, degradation and productivity of fertile agricultural lands and forest areas are reduced. It causes soil nutrients such as Ca²⁺, K⁺, Mg²⁺ and Na⁺ to be washed from soil into groundwater. It destroys artifacts made of stones such as marble, limestone and calcareous sandstone and causes crumbs and dispersions. In metallic and iron works, it causes corrosion. The effect of acidic precipitation can be manifested in continental and global dimensions. The effect of acidic atmospheric deposition can be manifested in continental and global scales. In this study, it is aimed to make a review of the researches on the chemical composition and effects of total atmospheric deposition samples in our country and in the world.

Keywords: Air pollutants, wet deposition, dry deposition, atmospheric deposition