

Variations of Deposition of N species in Delhi in Different Years of the Past Three Decades

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Abstract

Anthropogenic activities such as agriculture, industries, and vehicular traffic contribute to excess reactive nitrogen species (Nr) which affect atmospheric processes, climate, human health, vegetation, soil, and water. Atmospheric deposition of Nr is linked to various direct and indirect consequences for the ecosystem and environment. Out of two deposition processes i.e. wet deposition and dry deposition, the wet deposition is very important to study in a country like India where NO_x and NH₃ sources are increasing due to an increase in fuel and fertilizer consumption. This study investigates the nitrogen deposition patterns along with its associated chemistry at the Jawaharlal Nehru University (JNU) site which is located in South Delhi area. In addition to the application of earlier reported data of different years, samples of rainwater were also collected in this study. These samples were analyzed for various chemical parameters, including pH, conductivity, and concentrations of major ions. Additionally, nitrogen deposition fluxes were estimated. The deposition fluxes calculation indicated a substantial deposition of reactive nitrogen species, highlighting the potential implications for soil fertility, aquatic ecosystems, human health, and atmospheric pollution. The findings of this study might be useful for Nr related policy formulations. The detailed results will be presented during the conference.

Early Career Scientist

YES, I am an early career scientist.

IGAC Activities

ACAM: Atmospheric Chemistry and the Asian Monsoon, CCMi: Chemistry Climate Model Initiative, MAP-AQ: Monitoring, Analysis and Prediction of Air Quality

IGAC Regional Working Groups

ANGA: African Group on Atmospheric Sciences