

# A sedimentary archive of atmospheric heavy metal pollution in Central India

NAFEES AHMAD AND SATINDER PAL SINGH

Indian Institute of Science Education and Research Bhopal

Presenting Author: nafees17@iiserb.ac.in

Atmospheric heavy metal pollution is a major environmental concern, particularly in developing countries and downwind regions [1]. The long-term records of atmospheric heavy metal pollution are useful in making a policy to protect humans and our ecosystem [2]. In this study, we present the last-century records of heavy metal (V, Cr, Ni, Cu, Co, Sn, Zn, Cd, and Pb) accumulations in a 38 cm long sediment core retrieved from Upper Lake Bhopal, as well as, its source sediment materials (atmospheric free-fall dust and riverine sediment) collected from the lake periphery. The minor but growing pollution of Zn, Cd, and Pb (EF >1–2) seems to have emerged in the early 1980s, while the overall pollution has remained insignificant (PLI ~1) throughout the core history. The heavy metal abundance patterns in the lake sediment and dust samples indicate atmospheric deposition as the primary source of heavy metal influx into the lake. This study highlights a decadal growth of atmospheric heavy metal pollution in Central India that emerged synchronously with China in the early-1980s but does not yet show any phasing-out pollution trend seen in China and elsewhere.

## References:

1. Ali, M.M., Hossain, D., Al-Imran, M., Khan, S., Begum, M. and Osman, M.H., (2021). *IntechOpen*, 1-20.
2. Meili, M., Bishop, K., Bring mark, L., Johansson, K., Munthe, J., Sverdrup, H. and de Vries, W., (2003). *Total Environ* 304, 83-106.

## A sedimentary archive of atmospheric heavy metal pollution in Central India

*Nafees Ahmad (nafees17@iiserb.ac.in) and Satinder Pal Singh (satinder@iiserb.ac.in)*

*Department of Earth and Environmental Sciences,*

*Indian Institute of Science Education and Research Bhopal,*

*Bhopal Bypass Road, Bhauri, Bhopal 462068, Madhya Pradesh, India*

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