*Environmental Engineering and Management Journal* xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
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# SPATIOTEMPORAL DISTRIBUTION OF THE IMPACT OF ENVIRONMENTAL REGULATION ON ENVIRONMENTAL POLLUTION

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## Abstract

Environmental regulation constitutes a crucial method for control environmental pollution. This study applied Chinese environmental pollution and regulation data from 2005 to 2021, applied waste gas, wastewater, and solid pollution sources, calculated the environmental pollution comprehensive index (EPCI) used the entropy method. The spatially and temporally varying influences were analyzed using the geographically and temporally weighted regression (GTWR) model. The conclusions are as follows: (1) The severity of environmental pollution is ranked in the central, eastern, northeast, and western. (2) The influence factor on environmental pollution has obvious spatial and temporal heterogeneity. Specifically, wastewater investment (WWI), waste gas investment (WGI), total afforestation area (TAA), and number of harmless treatment plants (NOHTP) were positive impacts, and domestic waste clearance volume (DWCV) were negative impacts. (3) The impact of WWI was mainly in the western, while the impact of WGI and DWCV were mainly in the eastern and central.

*Key words*: environmental regulation, environmental pollution, environmental pollution comprehensive index, GTWR

*Received: November, 2023; Revised final: February, 2025; Accepted: March, 2025*

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