



Air, Climate, and Energy Research News

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Climate change may alter water quantity and quality in streams



In a modeling study, researchers simulated what would happen to water flow volume and water quality in 20 watersheds across the United States based on selected climate change and urban development scenarios. They found significant changes in water flow volume (for 30-40% of watersheds) and nutrient loading of nitrogen and phosphorus (for 60% of watersheds). The Rockies and Southwestern U.S. experienced an overall decrease in streamflow, while the Northern Plains and the East Coast had an increase in water flow. Changes in nutrient pollution also followed these regional patterns but showed greater variability than water flow volume.

The article, [Modeling Streamflow and Water Quality Sensitivity to Climate Change and Urban Development in 20 U.S. Watersheds](#), is published in Journal of the American Water Resources Association. An EPA report on [Watersheds, Climate, and Development](#) served as the data source for the analysis.

Indoor air exchange rates and climate change impacts



With outdoor temperatures from climate change rising, there is growing interest in what will happen to indoor air quality. An EPA study evaluated the effects of climate change on residential infiltration in nine US cities, using models for infiltration and climate.

The findings show that the average air exchange through all the studied locations and seasons will decrease by about 5 percent. Despite the average decrease, increased infiltration in the summer months (up to 25%) is likely for southern cities.

Changes in infiltration will have mixed effects on risk from air pollution:

- Decreasing infiltration may lead to lower exposure to some outdoor pollutants, but it could increase exposure to air pollution generated indoors;
- Increasing infiltration may lead to higher outdoor pollutant exposure and lower indoor exposure.

Actual risk will also depend on other factors, such as changes in air pollution over the next decades, or changes in buildings construction.

This research is published in the *Journal of Exposure Science and Environmental Epidemiology* and is titled [The effects of climate change on residential infiltration and air pollution exposure](#).

New podcast on air quality monitoring for citizen science



The National Institute of Environmental Health Effects interviewed EPA scientist Ron Williams to discuss (1) air monitoring technology and (2) strategies for citizen scientists starting projects in their communities.

[Listen to the podcast here.](#)

Key Links

- [EPA's Air Research](#)
- [EPA's Climate Change Research](#)
- [Science Bite Podcasts](#)