

New model helps universities map their nitrogen footprint

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The first institution-level model to estimate the amount of reactive nitrogen released into the environment—a contributor to smog, acid rain, and climate change—is enabling the University of Virginia to quantify its nitrogen footprint and take steps to reduce it. A detailed description

of this cutting-edge tool and how it can help improve institutional sustainability is presented in *Sustainability: The Journal of Record*.

James Galloway, Sidman P. Poole Professor of Environmental Sciences, and coauthors from the University of Virginia (UVA) report that utilities usage (48%) and off-campus food production (37%) were the largest contributors to the university's nitrogen footprint in 2010.

In the article "[Toward Institutional Sustainability: A Nitrogen Footprint Model for a University](#)," Allison Leach et al. describe the model they developed and applied to project UVA's nitrogen footprint to 2025. They also used the model to compare potential nitrogen reduction strategies and showed that a scenario of "planned and feasible activities" would decrease the nitrogen footprint by 18% relative to "business as usual"—which would result in a 15% increase by 2025. More intensive nitrogen reduction efforts could reduce the N-footprint by an additional 13%.

"Nitrogen footprints are not being tracked like carbon at institutions even though reactive nitrogen is adversely impacting the environment," says Jamie Devereaux, Editor of [Sustainability: The Journal of Record](#). "The team from University of Virginia has created a model that other institutions can follow to track their N-footprints and, in turn, show the importance of this action to wider society."

More information: The Open Access article is available on the [Sustainability: The Journal of Record](#) website.

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