



Links between global meat trade and organic river pollution

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Rising demand of meat boosts livestock farming intensification. Due to international meat trade, the environmental costs of production are becoming increasingly separated from where the meat is consumed. However, little is known about the impact of trade on the environment for both importers and exporters. Combining multi-scale (national, regional and gridded) data, we present a new method to quantify the impacts of international meat trade on global river organic pollution. We computed spatially distributed organic pollution in global river networks with and without meat trade, where the without-trade scenario assumes that meat imports are replaced by local production. Our analysis indicates high potential savings of livestock population and pollutants production at the global scale due to the international meat trade. The spatially detailed analysis shows that current trade contributes to organic pollution reductions in meat importing regions, especially in rich nations. The deterioration of river water quality, especially in developing regions, points to an urgent need for affordable infrastructure and technology development and wastewater solutions.