

A declining trend of methane emissions in the Los Angeles Basin from 2015 to 2020

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Science Question

Assess temporal trends in the CH₄ emissions in Los Angeles (LA) basin?

Why

Mitigation of CH₄ emissions in LA basin is key to California meeting its greenhouse gas emissions reduction targets as it accounted for approximately 20% of CH₄ emissions in California in 2016

Analysis

Data: Concentration data from 9 in-situ sites measuring CH₄ at the cadence of <1 minute.

Model: WRF-STILT and an inverse model

Results

CH₄ emissions in the LA basin have declined by 15 gigagrams, or ~ 7% over five years from January 2015 to May 2020.

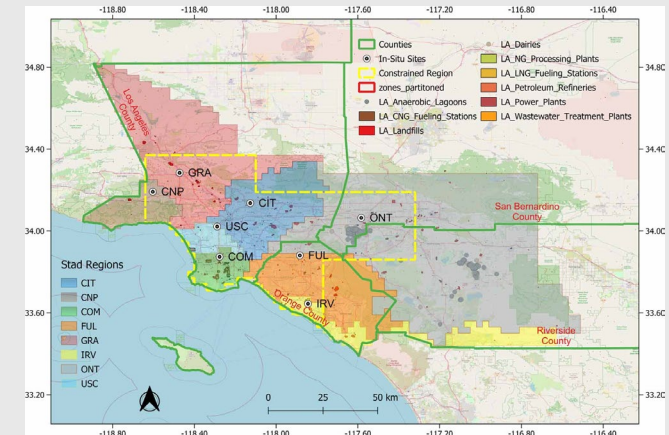
The declining trend is observable in the standard deviation of Concentrations (i.e. no model is required to see this trend)

Significance

Most likely the reduction is due to landfills and fugitive emission from natural gas infrastructure

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(A)



(B)

Figure Caption

(A) Study domain with name and three-letter code of the in-situ measurement sites used in this study.

(B) Total emissions for the inversion domain from 2015 to 2019 with 1 σ uncertainty bounds