

Unravelling a large methane emission discrepancy in Mexico using satellite observations (10.1016/j.rse.2021.112461)



Science Question

How much methane is emitted by the oil/gas industry in Mexico?

Analysis

We use the 2018-2020 TROPOMI satellite observations to map and quantify methane emissions from eastern Mexico.

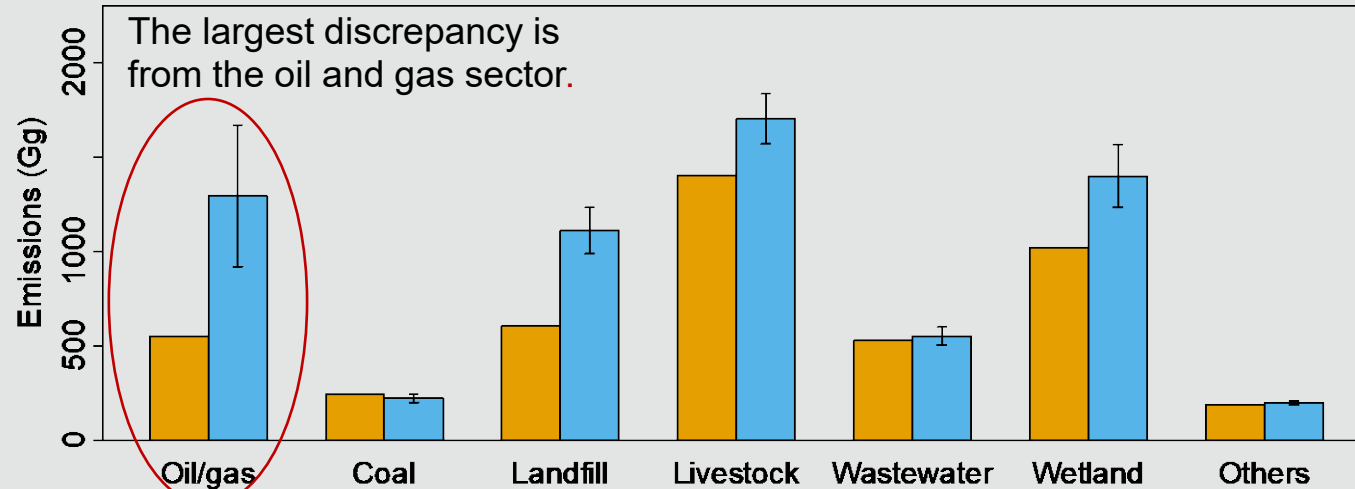
Results

Our results show that emissions from Mexico's oil and gas sector is $1.3 \pm 0.2 \text{ Tg a}^{-1}$, which are higher by a factor of two relative to bottom-up estimates.

Significance

Our findings suggest that stronger mitigation measures are critical to curbing the anthropogenic footprint of methane emissions in Mexico, especially the large contribution from the oil and gas sector.

Bottom-up and top-down estimates of emissions in Mexico from different sectors

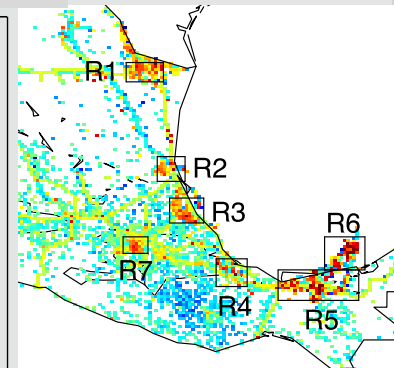
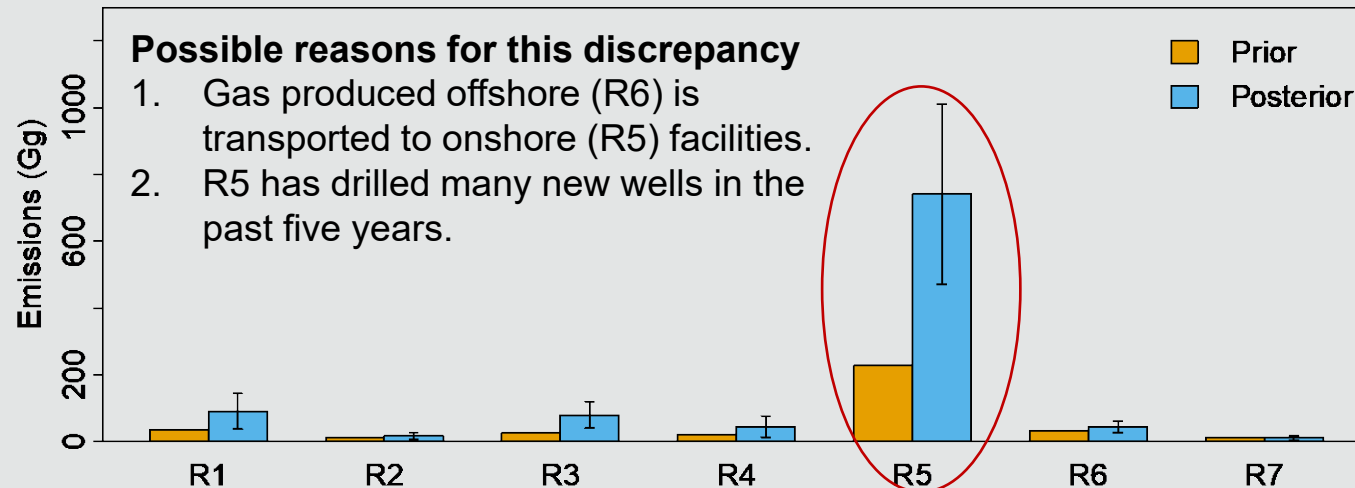


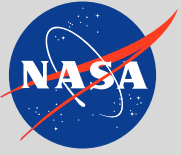
Satellite estimates of emissions in eastern Mexico

Anthropogenic
 $5.0 \pm 0.2 \text{ Tg a}^{-1}$

Natural
 $1.5 \pm 0.1 \text{ Tg a}^{-1}$

Bottom-up and top-down estimates of emissions in major oil and gas basins





Full citation: Shen, L., Zavala-Araiza, D., Gautam, R., Omara, M., Scarpelli, T., Sheng, J., Sulprizio, M. P., Zhuang, J., Zhang, Y., Qu, Z., Lu, X., Hamburg, S. P., Jacob, D. J. **2021**. Unravelling a large methane emission discrepancy in Mexico using satellite observations. *Remote Sensing of Environment*. 260, 112461.
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