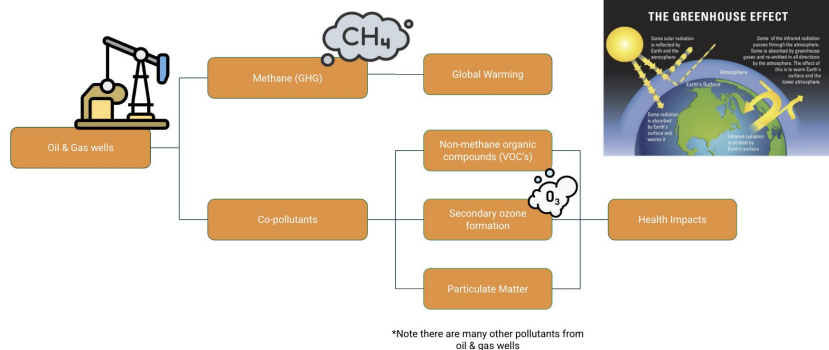


Oil & Gas Pollutants Diagram



Research Question:

- Using methane as a proxy for other harmful copollutants, are specific racial/ethnic communities and socioeconomic statuses in the USA disproportionately exposed to methane emissions from oil & gas sites?

Methods:

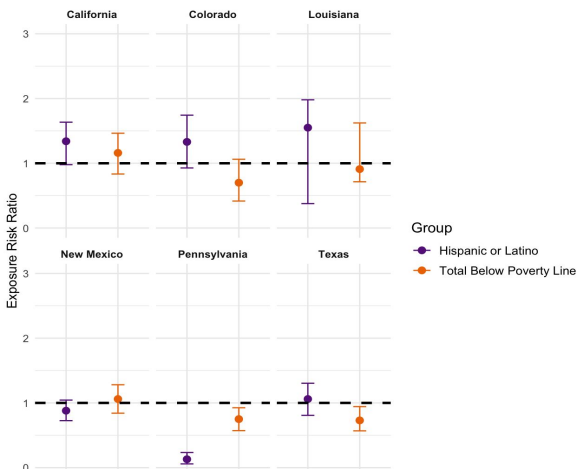
- Datasets: CarbonMapper, ACS census block groups (5-year, 2023)
- Extent: 2016 - Present, 6 states
- Tools: ArcGIS, R

Steps

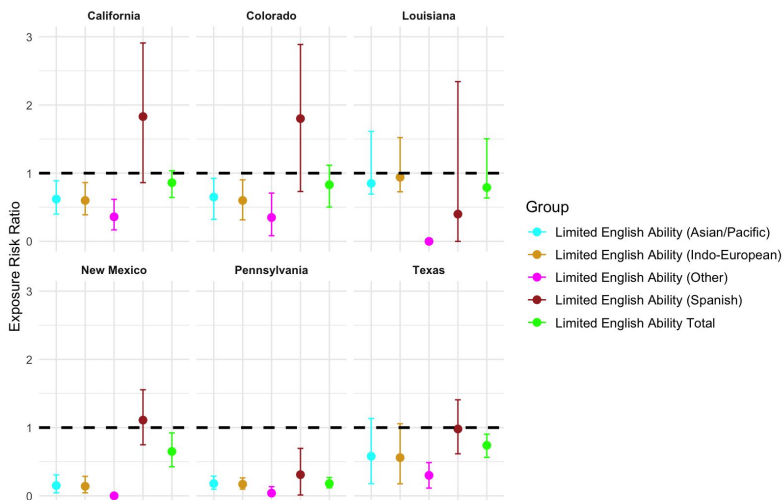
- Proximity Exposure Analysis
- Risk Ratios and Confidence Intervals

$$\text{Risk Ratio} = \frac{\text{Exposed Population (Group)}}{\text{Total Population (Group)}} \div \frac{\text{Exposed Population (Total)}}{\text{Total Population (Total)}}$$

Exposure Risk Ratios for Hispanic or Latino & Poverty Populations (Total)



Exposure Risk Ratios by Language Isolation for All Methane Oil & Gas Leaks



Hispanic populations persistently had disproportionately high exposure to methane leaking oil & gas sites

EX California: Proportion of Hispanic/Latino residents living near oil & gas methane leaks was **34%** higher than the statewide proportion

Spanish speaking household populations with limited english ability consistently had disproportionately high exposure to methane leaking oil & gas developments (**83%** higher than general population of households in California and Colorado)

**** Note** confidence intervals potentially affecting significance of results