

SOUTHEAST TEXAS AIR QUALITY



A Regional Look at Indoor and Outdoor Air Pollution

WHY NOW?

Jefferson County is home to several petrochemical facilities and in this region, as in many others, the outdoor air is constantly monitored and checked for dangerous concentrations. However, the average American typically spends only about 10% of their time outdoors, so indoor airborne exposures are equally if not more important. This study compares airborne pollutants both indoors and outdoors at several residences across the Beaumont Port Arthur Region.

WHAT WE DID

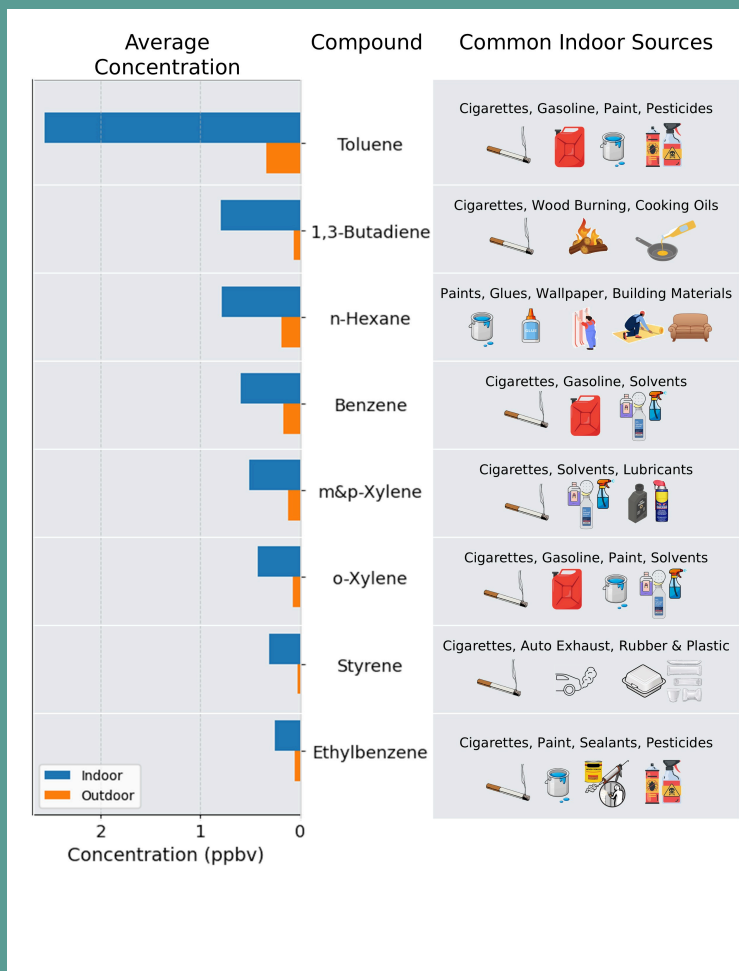
Three community workshops about indoor and outdoor air quality in Southeast Texas were conducted to discuss how fence-line communities in the region manage indoor air quality. Indoor and outdoor air samples were collected at 26 Beaumont and Port Arthur residences to explore differences between indoor and outdoor air and the influence that outdoor air may have on indoor air.

WHO WAS INVOLVED?

The Team partnered with Habitat for Humanity in Beaumont to host the three community focus groups in late 2025 and early 2026. Some participants from these workshops then continued their involvement in the study and allowed us to collect indoor and outdoor air samples from their residences.

FINDINGS

Eight representative chemical compounds were compared between indoor and outdoor samples. These eight chemicals were detected in every indoor sample, however, they were not detected in every outdoor sample. Across the board, these chemicals were found at higher concentrations indoors than outdoors, which is not uncommon given typical modern ventilation practices. Higher indoor concentrations indicate that there are additional sources of these chemicals being emitted indoors from materials and household products.



Airborne concentrations of eight regionally relevant compounds in indoor and outdoor samples and common sources

MORE ABOUT SETX-UIFL

The Southeast Texas Urban Integrated Field Lab (SETx-UIFL) is one of four projects funded in 2022 by the U.S. Department of Energy to study how climate, environment, and urban changes affect cities. A team of over 80 researchers from UT, Lamar University, Texas A&M, Prairie View A&M, Oak Ridge National Lab, and Los Alamos National Lab has collected data and conducted modeling across hazards including flooding, hurricanes, heat stress, and air quality. Our Why: Southeast Texas faces numerous hazards, yet smaller communities like this one have often felt forgotten compared to larger cities. The SETx-UIFL was designed to explore the complex dynamics of disaster vulnerability for this economically and culturally vibrant region. We believe Southeast Texas is a bellwether for the entire Gulf Coast, and an exemplar for strategies that protect people and places. We hope this effort supports your path toward lasting resilience.



KERRY KINNEY

University of Texas at Austin
kakinney@mail.utexas.edu

