

# ENERGY EMISSIONS MODELING AND DATA LAB

## Emissions Event Duration Tool

In the realm of environmental compliance and emission management, a critical challenge is posed by 'super-emitters.' These sources, though relatively few and intermittent, significantly skew total emission figures due to their disproportionate impact. Recognizing this, the EPA has incorporated a Super Emitter Program in its latest Oil and Gas regulations and proposed amendments to the Greenhouse Gas Reporting Program (GHGRP) to account for such large release events. A key issue is that current detection technologies offer limited temporal data, prompting the EPA to propose monitored process parameters for identifying event start times or, in their absence, a default assumption of 182 days for event duration.

### Emissions Event Duration Tool

#### Objective:

To provide a standardized analysis framework for continuous monitoring data, enabling consistent derivation of emission event durations and relevant statistics across diverse sensor systems.

#### Functionality:

- **Data Analysis:** Leveraging both concentration and wind data from public sources (e.g., TCEQ auto-GC network) and private sensor arrays.
- **Visualization:** Offering clear, intuitive visualizations for individual events and time-space statistical analysis.
- **Adaptability:** Compatible with various sensor systems, ensuring wide applicability and flexibility.

### Use Cases

#### Regional Footprint Analysis:

- Assess event frequency and duration across a defined geographic area, aiding in regional emission management and planning.

#### Super-Emitter Event Analysis (Operator Monitored):

- Utilize operator-installed continuous monitoring systems to track and analyze super-emitter events, whether self-discovered or reported by third parties.

#### Public Data Utilization for Super-Emitter Events:

- Leverage publicly available continuous monitoring data to analyze and understand super-emitter events. (Note: A demo showcasing this functionality is upcoming.)

### Status

#### Demo Development:

- We are currently developing a comprehensive demo of the tool. This demo will showcase the tool's capabilities in real-world scenarios, highlighting its potential in enhancing emission management strategies and compliance with evolving regulatory requirements.

