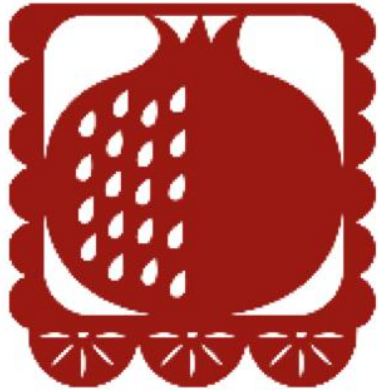




Cultivando AIRE

Air Quality Investigation and Research for Equity




CULTIVANDO

Leadership • Advocacy • Collaboration

Cultivando

Cultivando is an organization that serves the Latino community in Adams County and focuses on community leadership to advance health equity through advocacy, collaboration, and policy change.

Our Values



Our work is based on our organizational values of community-led work, social justice, and collaborative leadership. We firmly believe that all people have the power to maintain fair and equitable systems and to ensure opportunities for their communities to thrive

Our Approach

Our work is rooted in the belief that those most impacted by inequities, lead the most effective community work. The best programs and policies are developed with community members at the table and meaningfully engaged. We work collaboratively to build health equity, and community capacity for positive policy and systems change.

Promotoras are highly skilled and trusted experts in their community who lead our work.

We work with, not for, our community.





**We are fighting for
Environmental Justice...**

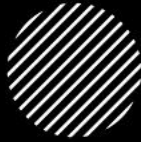
A woman with long dark hair, wearing a grey jacket, is shown in profile from the chest up. She is looking upwards and to the left, towards a bright sunset. The sun is low on the horizon, creating a warm, golden glow and lens flare effects. The background is a soft-focus landscape with trees and a field.

The Earth Heals!

Some benefits

- Better attention
- Reduces Stress
- Better mood
- Less risk of mental health problems
- Improves empathy and collaboration

Cultivando AIRE (Air Quality Investigation and Research for Equity)



- 👉 **Air quality monitoring in Commerce City, Globeville, Elyria, and Swansea to investigate harmful toxics emitted from the Suncor refinery and their effects on the health of our community!**





Cultivando AIRE
(Air Quality
Investigation and
Research for Equity)



Fixed monitor

Mobile Monitor

Community Air Monitoring

Health Evaluation

Student internship

Boulder AIR Operated Network Stations, Led by Dr. Detlev Helmig



Boulder Reservoir (BRZ) Website



Longmont Union Reservoir (LUR) Website



Broomfield Soaring Eagle Park (BST) Website



Toolik Alaska (TFS) Website



Longmont Lykins Gulch (LLG) Website



Broomfield North Pecos (BNP) Website



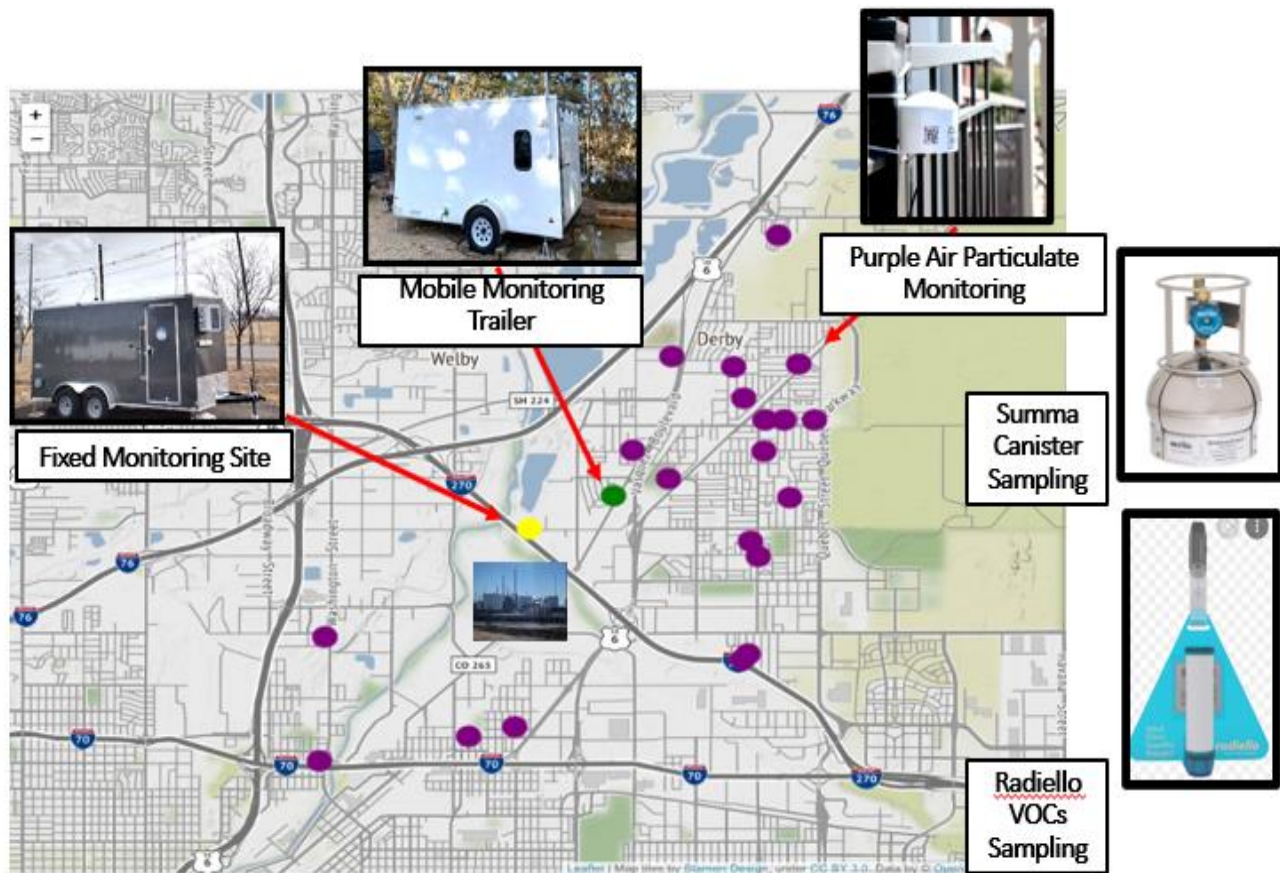
Erie Community Center (ECC) Website



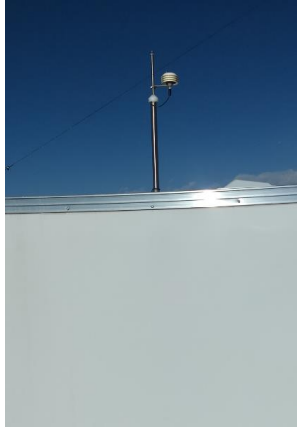
Commerce City Fixed Site (CCF) Website



Commerce City Mobile Site (CCM) Website



Monitoring Equipment - LUR



Roof Inlet for
Particle
Sampling



Tower with
Gas Sampling
Inlets,
Meteorological
Sensors,
Webcam



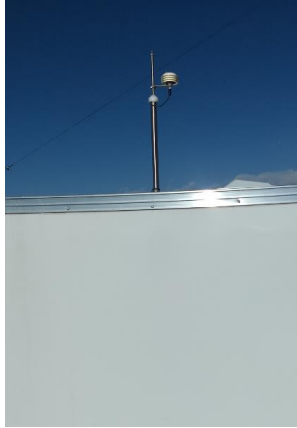
GRIMM EDM-180
Particle Monitor;
PM_{2.5}, PM₁₀



Instruments for

- Ozone
- Nitrogen Oxides
- VOCs (20 species, hourly)
- Methane
- CO₂
- Communication
- Automated Calibration
- Data Logging
- Calibration Gases

All Sampling is Continuous with
1 minute to 1 hour time
Resolution



**Follows EPA and CDPHE
Regulatory Protocols for High
Accuracy and Precision**



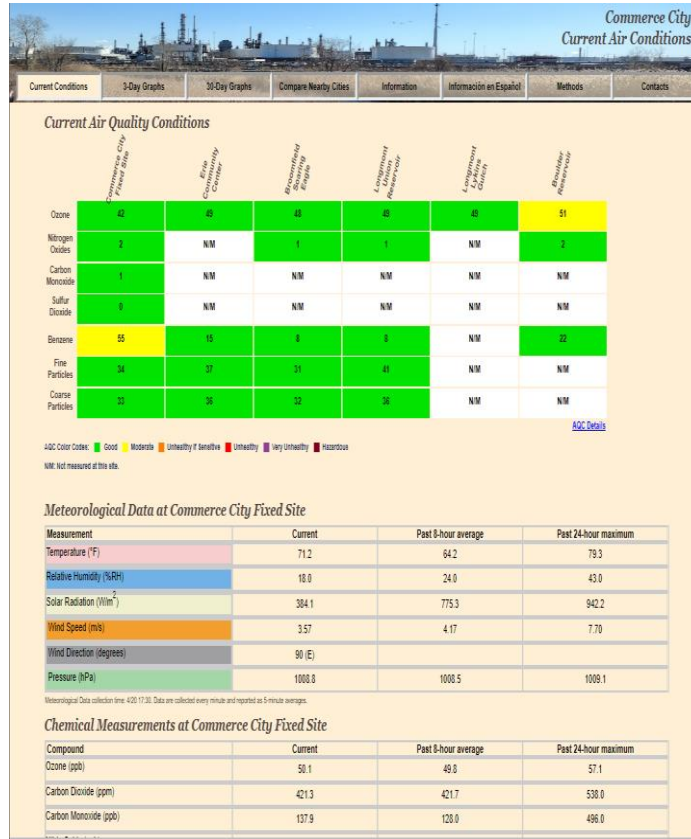
Instruments for

- Ozone
- Nitrogen Oxides
- VOCs (20 species, hourly)
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GRIMM EDM-180
Particle Monitor;
PM2.5, PM10

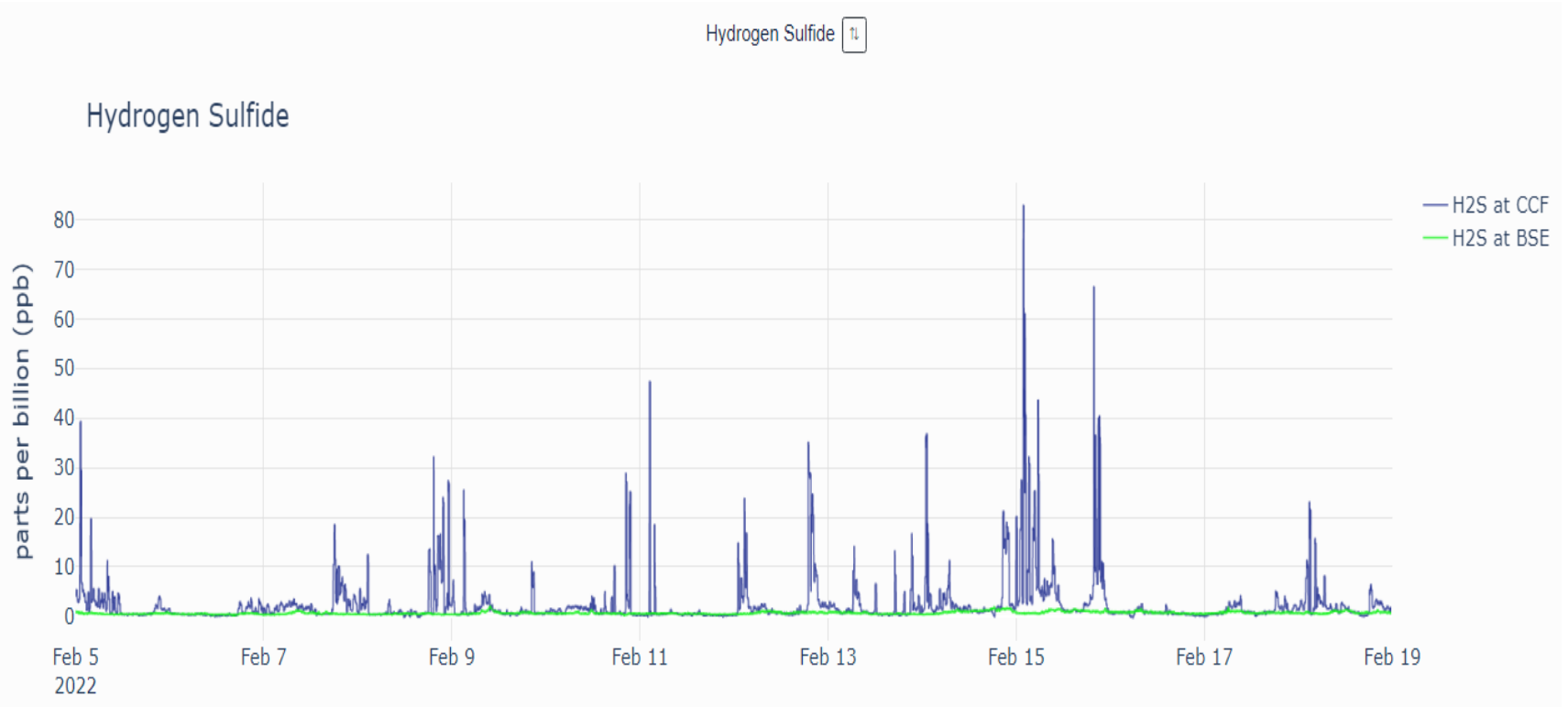
Real Time Monitoring and Real Time Reporting of Air Quality and Oil and Gas Emissions



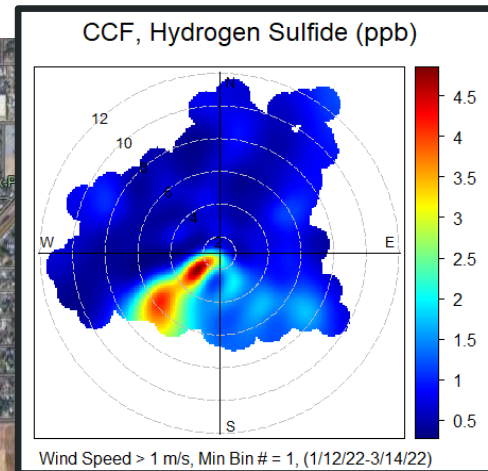
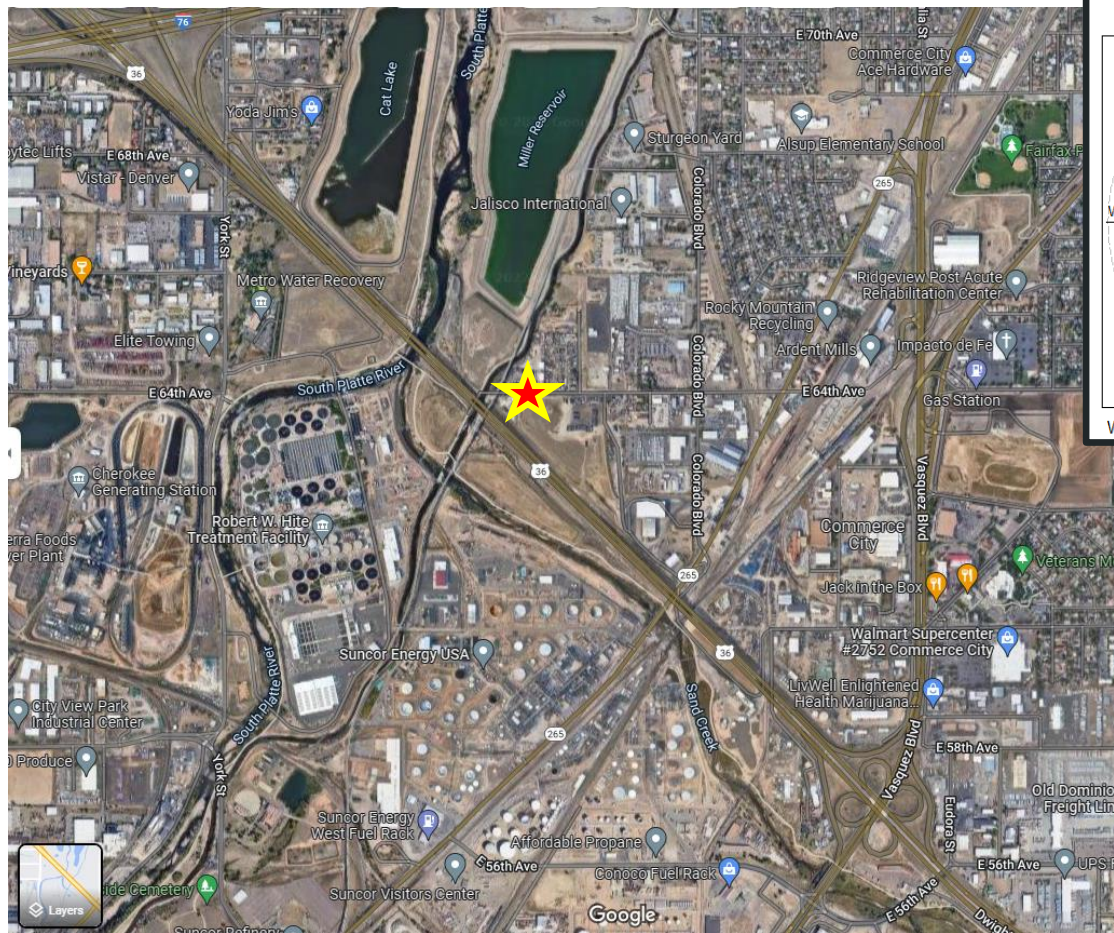
What we are finding....

- We have been finding **higher measurements** of **Particulate Matter** and **Hydrogen Sulfide**, compared to other Boulder AIR sites around Colorado
- **Hydrogen Sulfide** Peaked at **81 ppm** in the last month (Air odor thresholds range between 8 – 130 ppb)
- **PM 2.5 peaked** at **93 ug/m³** in the last month (National Ambient Air Quality Standard for PM 2.5 is 12 µg/m³(annual) and 35 µg/m³(24-hour avg.))

Hydrogen Sulfide at Broomfield and Commerce City



Wind Dependency of Hydrogen Sulfide at Commerce City Fixed Site



Why this is important...

These are contaminants that greatly impact our health...

- Exposure to hydrogen sulfide can cause irritations to the eyes, nose, or throat and is highly toxic
- PM 2.5, is small enough to penetrate deep into people's lungs when inhaled, health risks include short-term problems, such as coughing and shortness of breath, and long-term consequences, such as reduced lung function and increased mortality from heart disease and lung cancer.
- **Boulder AIR is seeing much higher values in the Commerce City site than any of their other sites in Colorado**



Resources; Where to Find the Data

- Cultivando's Page (www.cultivando.org)
- Boulder AIR's Page (https://www.bouldair.com/commerce_city.htm)

<u>Air Contaminant</u>	<u>Instrument</u>
Carbon Monoxide	PICARRO G2401
CO₂	PICARRO G2301
Hydrogen Sulfide (H₂S) and Sulfur dioxide (SO₂)	Teledyne T101
Methane	PICARRO G2401
NO and NO₂	Teledyne_T200UP
Ozone	TEI_49
PM2.5 and 10	GRIMM EDM180
Radioactivity	RTS-CCAM-TF
Volatile Organic Compounds (including ethane, ethene, acetylene, propane, propene, i-butane, n-butane, i-pentane, n-pentane, isoprene, n-hexane, benzene, toluene, o-xylene, ethylbenzene, o-xylene, m-xylene, p-xylene, hydrogen cyanide, and identification of other, unforeseen VOCs)	Custom-gas chromatograph; WMO-grade <u>by two channel gas chromatography - flame ionization detection and mass spectrometry detection</u>