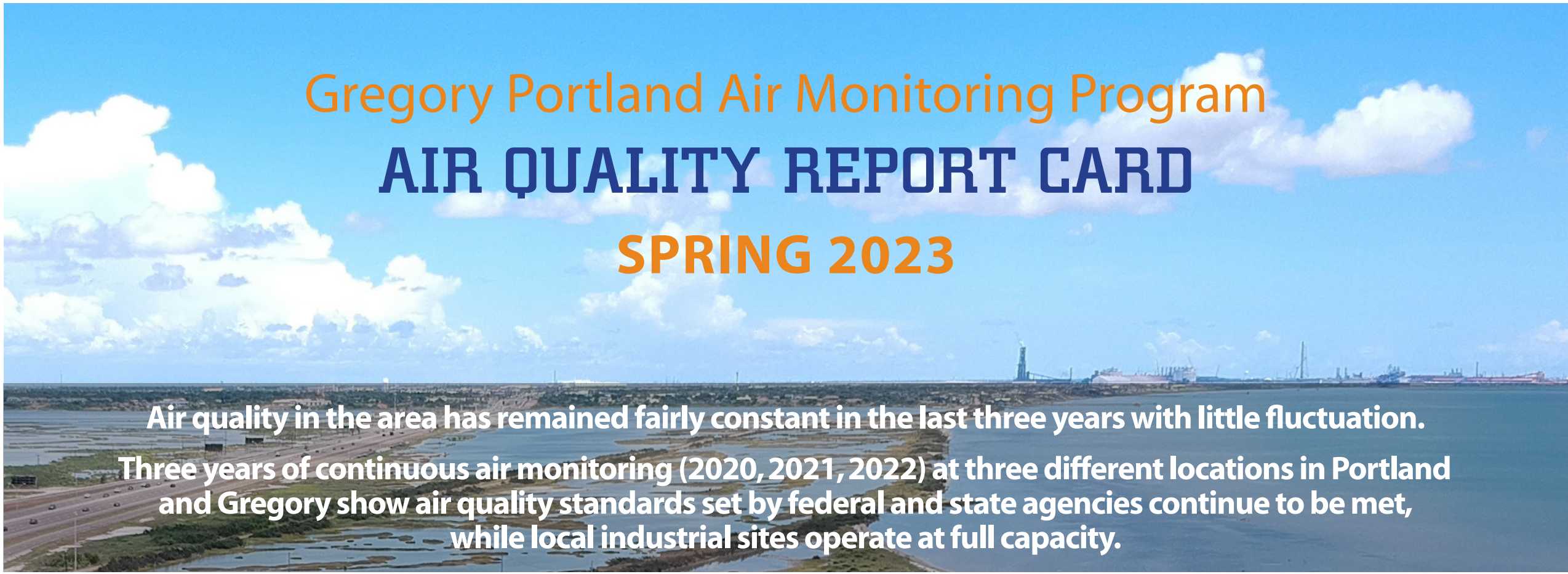


Gregory Portland Air Monitoring Program

AIR QUALITY REPORT CARD

SPRING 2023

Photo credit: Ron Jorgensen, Bay Area, Studios, Inc.



Air quality in the area has remained fairly constant in the last three years with little fluctuation. Three years of continuous air monitoring (2020, 2021, 2022) at three different locations in Portland and Gregory show air quality standards set by federal and state agencies continue to be met, while local industrial sites operate at full capacity.

About this report

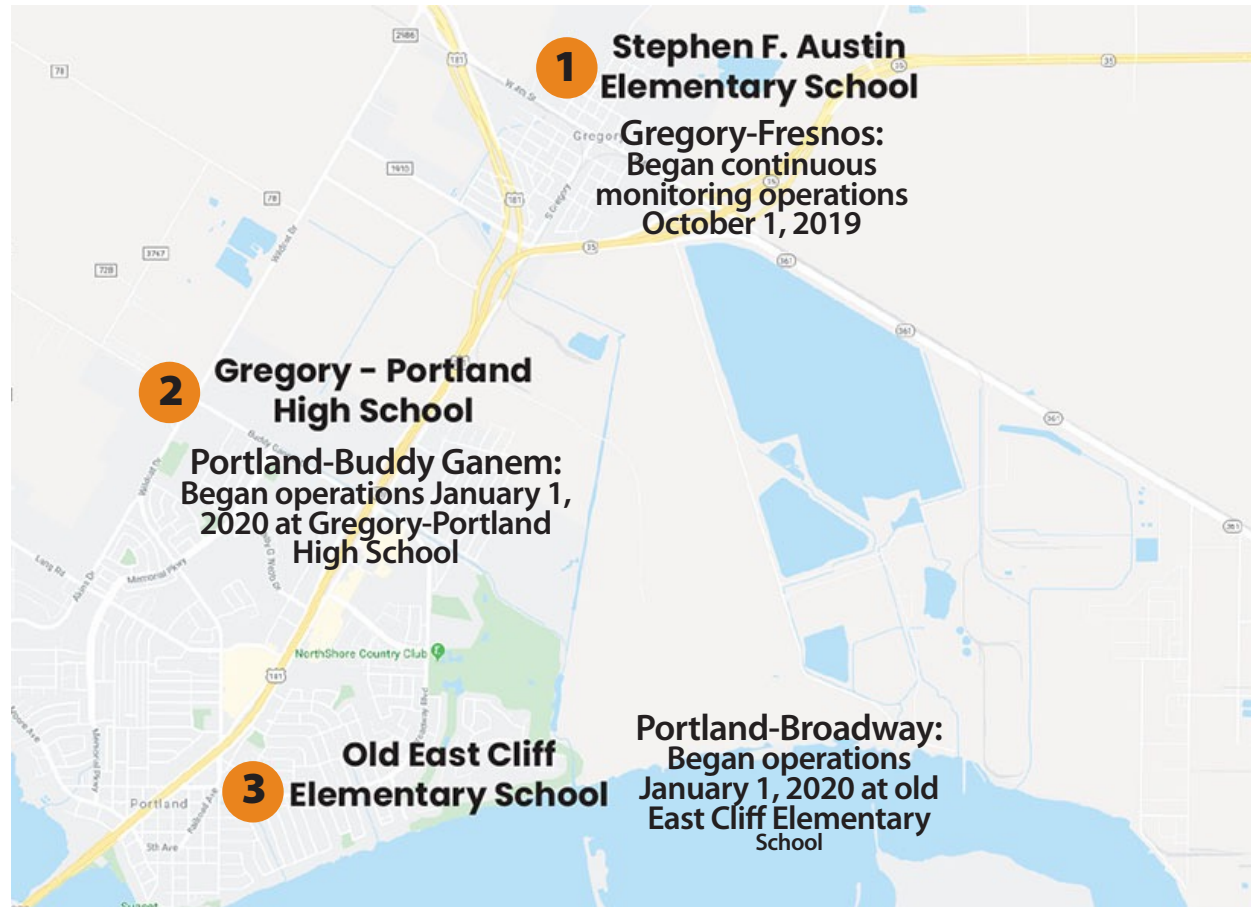
The Gregory Portland Air Monitoring Program was funded by Cheniere Energy and Gulf Coast Growth Ventures at the request of and for the benefit of the Gregory-Portland community. The University of Texas at Austin assembles the data and provides periodic, independent analyses of the air monitoring data.

UT Austin is also responsible for ensuring only quality assured measurement data obtained using U.S. Environmental Protection Agency (EPA) federal reference or equivalent methods and instrumentation approved for air quality monitoring are reported on the website. This includes employing quality assurance protocols that ensure the data meet or exceed EPA's requirements for air quality monitoring.

The U.S. Environmental Protection Agency (EPA) generally uses three years of data collection to assess attainment with the National Ambient Air Quality Standards. This project has now collected data for three years for all three stations, and at this point the project has data from all or most of a year in which all local industrial sites have been in operation. This report provides a summary of findings that can serve as a baseline for future reporting.

Air Monitoring Stations

The Gregory Portland Air Monitoring Program includes three continuous air quality monitoring stations:



What contributes to air quality?

Air quality is affected by several factors. One is the emission of a gas or smoke from an emission source, such as construction equipment, lawn mowers, an industrial plant, cars and trucks on the road, etc. Airborne dust is also a contributing factor.

Another is the weather. Rain can reduce concentrations of several pollutants and temperatures can increase or decrease them. Local winds, or winds near the surface, can reduce or dilute pollutant concentrations and can also affect pollutant concentrations in terms of whether a pollution source is in the upwind direction.

Regional winds, at higher altitudes, can transport dust from other major cities, forest fires, or even other continents across the world.

Measuring the Air Quality to Keep the Community Informed

The objective of the Gregory-Portland air monitoring stations is to measure the ambient (outdoor) air quality 24 hours a day, 7 days a week, and make the air quality data easily available as development continues to occur over time in the area. This is accomplished by continuously monitoring the air in the Gregory-Portland community at the three air monitoring stations for changes in concentrations of compounds typically found in emissions associated with some urban and industrial activities. These stations have not been designed to provide ambient air concentration measurements in real-time even though they are continuously monitoring the air.

So that the measurements made and data obtained are representative of the air Gregory-Portland residents breathe and are exposed to daily, the air monitoring stations have been located in well-populated neighborhoods. They have been sited to ensure that the air sampling will not be compromised by obstructions or nearby sources that would or could render the air quality measurements as non-representative of the local air quality.

Reporting the Data

The University of Texas at Austin (UT Austin) was hired to host, report and provide analysis of the data from all three air monitoring stations in the Portland and Gregory area. UT Austin also designed and maintains a public website, which includes periodic analyses of the data. UT Austin is also responsible for ensuring that only quality assured measurement data obtained using Environmental Protection Agency (EPA) federal reference or equivalent methods and instrumentation approved for air quality monitoring are reported on the website. This includes employing quality assurance protocols that ensure the data meet or exceed EPA's requirements for air quality monitoring.

Who is CEER?

The Center for Energy and Environmental Resources (CEER) serves as the central liaison for energy and environmental research, education, and public service at the University of Texas at Austin. It focuses on efficient and economical use of energy and on ensuring a cleaner environment by developing, in cooperation with industry, processes and technologies that minimize waste and conserve natural resources.

CEER is an organized research unit that reports through UT's Cockrell School of Engineering.

CEER research projects are funded from a variety of state, federal, and private sources, including the Texas Air Quality Research Program, National Science Foundation, US Department of Energy, US Environmental Protection Agency, Texas Commission on Environmental Quality, several national associations, and more than 40 private and public corporations.

Gregory Portland Air Quality THREE YEAR REPORT CARD

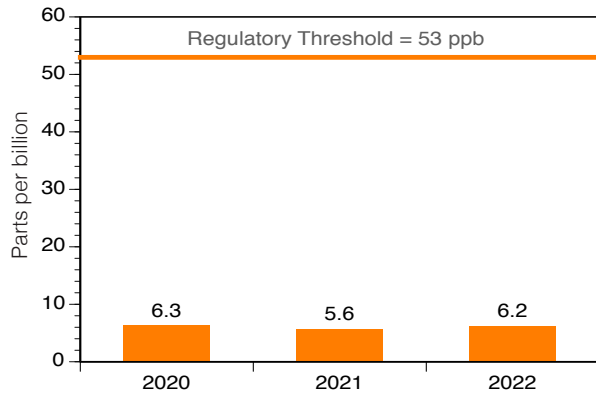
Air Quality Standards

There are two sets of air quality metrics used by the Texas Commission on Environmental Quality (TCEQ) to assess the air quality in Texas. Both are shown in the charts below as reference points for the actual data obtained by the air monitors.

1. The U.S. Environmental Protection Agency's National Ambient Air Quality Standards (NAAQS)
2. The TCEQ's Air Monitoring Comparison Values (AMCV)

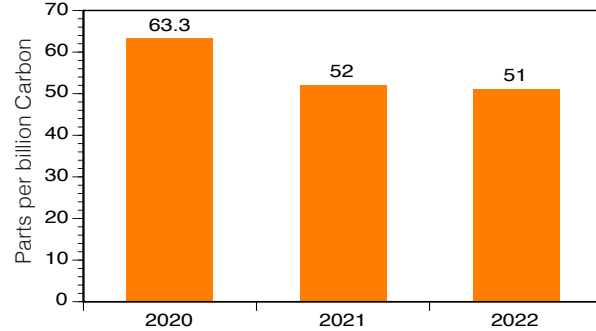
Nitrogen Dioxide (NO₂)

Among 65 NO₂ analyzers, 7 of which are deliberately placed within 20 meters of a major highway, the range of 3-year average 98th percentile daily maxima is from 6 to 61 ppb. The Gregory-Fresnos station averages the lowest 3-year average 98th percentile daily maxima in Texas.



Nitrogen Dioxide levels were measured at the Gregory-Fresnos Air Monitoring Station and compared with an NAAQS of 98th percentile less than 53 ppb.

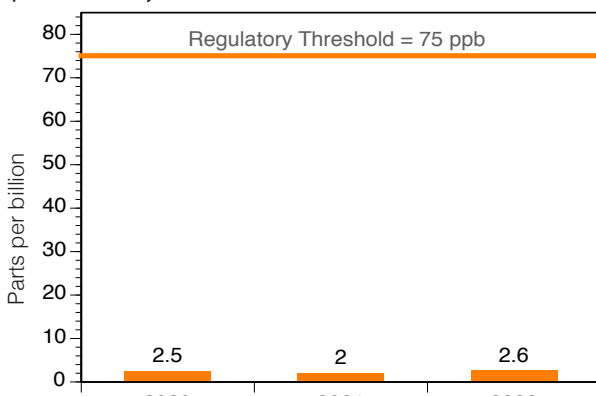
Total Nonmethane Hydrocarbons



Nonmethane Hydrocarbon levels were measured at all three stations and represents a large fraction of the total volatile organic compounds released into the air by human and natural processes. No state or federal standards have been established relative to this group.

Sulfur Dioxide (SO₂)

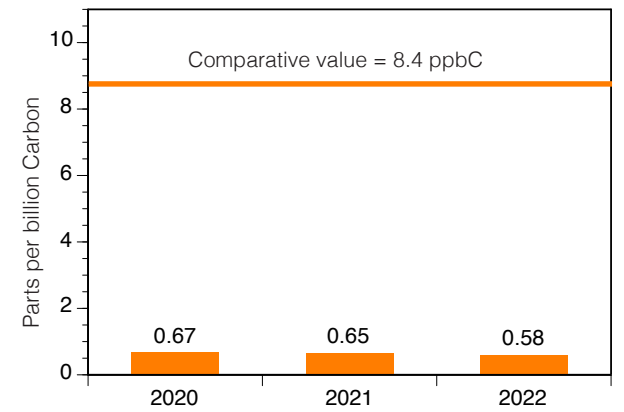
Among 46 SO₂ analyzers, the range of 3-year average 99th percentile daily maxima is from 2.4 to 163 ppb. The Gregory-Fresnos station averages the lowest 3-year average 99th percentile daily maxima in Texas.



SO₂ levels were measured at the Gregory-Fresnos Air Monitoring Station and compared with an NAAQS of 99th percentile less than 75 ppb.

Benzene

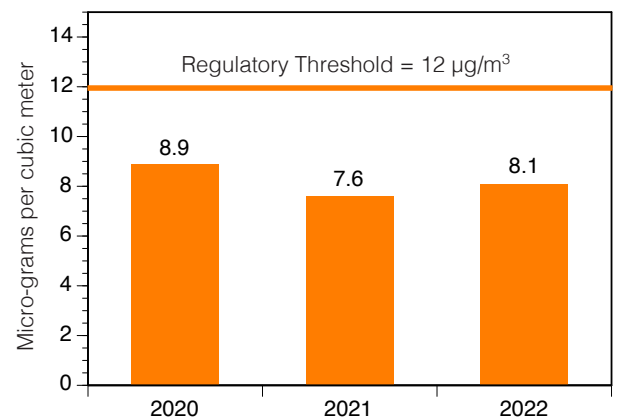
Among 42 auto-GCs measuring benzene in Texas from 2020 through 2022, the three San Patricio County stations are among the lowest in average concentrations. The range of 3-year averages run from 0.25 ppbC to 5.15 ppbC, and the three San Patricio stations average between 0.45 and 0.64 ppbC.



Benzene levels were measured at the Gregory-Fresnos, Portland-Broadway and Portland - Buddy Ganem Air Monitoring Stations and compared with an AMCV of annual average less than 8.4 ppbC.

Fine Particulate Matter (PM 2.5)

Among 56 continuous PM_{2.5} analyzers in Texas, with 3-year average running from 5.5 µg/m³ to 11.8 µg/m³, the three San Patricio County stations are close to the center of that range, averaging around 8.0 µg/m³. Texas coast sites are particularly vulnerable to the effect of transported dust from North Africa and agricultural fires in Central America and Southern Mexico.



Fine Particulate Matter levels were measured at the Gregory-Fresnos, Portland-Broadway and Portland-Buddy Ganem Air Monitoring Stations and compared with NAAQS of annual average less than 12 µg/m³ averaged over three years.



<https://gpair.ceer.utexas.edu/>

The Coastal Bend Air Quality Partnership has many suggestions on how each of us can make small changes in our everyday activities to help local air quality.

Make Clean Air Choices by:

- Considering car-pooling, walking for short errands, bicycling or using mass transit.
- Avoiding idling your vehicle.
- Driving the speed limit and avoiding jackrabbit starts.
- Refueling your vehicle before sunrise or after sunset.
- Finishing your fueling once the pump clicks off.
- Using low VOC paint and solvent products and keeping their containers tightly sealed.
- Keeping your tires properly inflated and your vehicle well-maintained.

Learn more at cbairquality.org

Acknowledgements

This air monitoring program, including the establishment, operation, and maintenance of the air monitoring stations and the public website, is funded by Cheniere Energy and Gulf Coast Growth Ventures at the request of and for the benefit of the Gregory-Portland community. The air monitoring stations are located on Gregory-Portland ISD property through an agreement with Gregory-Portland ISD.