



Texas Commission on Environmental Quality  
August 5, 2025

# Summary of 2022, 2023, and 2024 Exceptional Event Demonstration for Fine Particulate Matter at Port Arthur Memorial School Monitor in Jefferson County

## Background on Particulate Matter

The U.S. Environmental Protection Agency (EPA) sets health-based standards for the amount of very small particles, also known as particulate matter, allowed in the air. Fine particulate matter is made up of particles that are 2.5 micrometers and smaller (PM<sub>2.5</sub>), much smaller than the width of a human hair. Breathing air with high levels of particulate matter can cause health problems.

## Exceptional Events Caused Elevated Concentrations of PM<sub>2.5</sub>

Exceptional events are unusual or naturally occurring events that affect air quality and are not reasonably controllable or preventable. States can request that EPA not consider air quality data affected by an exceptional event when determining if an area met an air quality health standard. EPA has stated that events that affect air quality such as wildfires, prescribed fires, high winds blowing dust, dust from the Saharan Desert, fireworks to celebrate days such as July 4<sup>th</sup>, etc., can be considered exceptional events. In 2022, 2023, and 2024, air quality at Port Arthur Memorial School monitor in Jefferson County was impacted by PM<sub>2.5</sub> exceptional events on multiple dates. Below is a list of dates and the type of exceptional event that the Texas Commission on Environmental Quality (TCEQ) identified as affecting air quality.

Date	Type of Event
January 17, 2022	Smoke from prescribed fires in U.S.
May 8, 2022	Smoke from fires in Mexico/Central America
June 12-16, 2022	Dust from Saharan desert
July 16-17, 2022	Dust from Saharan desert
September 22-23, 2022	Smoke from prescribed fires in U.S.
February 27-28, 2023	Smoke from fires in Mexico/Central America
March 5, 2023	Smoke from prescribed fires in U.S.
May 22-24, 2023	Smoke from fires in Canada
May 26-27, 2023	Smoke from fires in Canada
June 19-20, 2023	Smoke from fires in Mexico/Central America
July 15-17, 2023	Dust from Saharan desert
July 19, 2023	Smoke from prescribed fires in U.S.

Date	Type of Event
July 26, 2023	Dust from Saharan desert
July 29, 2023	Dust from Saharan desert
August 2, 2023	Smoke from prescribed fires in U.S.
August 24-25, 2023	Smoke from wildfires in U.S.
August 28, 2023	Smoke from wildfires in U.S.
August 31, 2023 - September 2, 2023	Smoke from wildfires in U.S.
October 4, 2023	Smoke from wildfires in U.S.
October 20, 2023	Smoke from prescribed fires in U.S.
December 31, 2023 - January 1, 2024	New Year's Eve Fireworks
May 8-9, 2024	Smoke from fires in Mexico/Central America
May 13, 2024	Smoke from fires in Mexico/Central America
May 15, 2024	Smoke from fires in Mexico/Central America
May 24-25, 2024	Smoke from fires in Mexico/Central America
July 1, 2024	Dust from Saharan desert
July 3, 2024	Dust from Saharan desert
July 6, 2024	Dust due to Hurricane Beryl
July 30, 2024 - August 1, 2024	Dust from Saharan desert
August 6, 2024	Smoke from wildfires in U.S.
August 21, 2024	Smoke from wildfires in U.S.
August 22, 2024	Some from prescribed fires in U.S.
October 10, 2024	Smoke from wildfires in U.S.
October 15, 2024	Smoke from fires in Canada
October 28-29, 2024	Smoke from prescribed fires in U.S.
November 26, 2024	Smoke from prescribed fires in U.S.

Due to these exceptional events, the levels of PM<sub>2.5</sub> at the Port Arthur Memorial School monitor within Jefferson County were not reasonably controllable or preventable. TCEQ plans to submit an exceptional event demonstration to EPA to exclude monitor data from these days.

### Analyses to Support the Demonstration

Analyses of data related to the proposed exceptional events from 2022, 2023, and 2024 at Port Arthur Memorial School monitor in Jefferson County show that the measured PM<sub>2.5</sub> concentrations:

- were not reasonably controllable or preventable,
- were associated with natural events or human activity unlikely to recur at a particular location, and
- exceeded normal historical fluctuations.

### EPA Decides Whether Standards Were Met

If EPA agrees with the demonstration for 2022, 2023, and 2024 days at Port Arthur Memorial School monitor in Jefferson County, the PM<sub>2.5</sub> concentrations on the referenced dates would not be considered when EPA determines whether the affected county met the PM<sub>2.5</sub> health-based standard.