PLUMES OF DATA:
AIR QUALITY AND EMERGENCY ROOM VISITS
DURING RECENT MONTANA FIRE SEASONS

DATA REQUESTED

At the request of Environmental Quality Council, the departments of Environmental Quality and Health and Human Services compiled data on air quality and emergency room visits during the last three fire seasons. The graphics are attached, and agency representatives will make presentations at the January 25 EQC meeting.

FURTHER READING.

- Eastern US Mortality Air Quality report, AGU
- Delayed Effect of Wildfire Season on Influenza Season journal article
- Sustained Effects on Lung Function in Community Members Following Exposure to Hazardous PM2.5 Levels from Wildfire Smoke
Data provided by Montana Department of Environmental Quality.
Health Effect Categories reported at Montana’s air monitoring sites based on PM2.5 concentration during 2021 wildfire smoke events

- Good
- Moderate
- UG
- Unhealthy
- Very Unhealthy
- Hazardous
The Department of Health and Human Services examined emergency room visits during some of the more prominent fires in 2021 and compared those to 2020 and 2019. The data reflect visits where the patient complained of asthma, shortness of breath, wheezing or specifically referenced conditions related to fire or smoke.

During 2020, ED trends nationwide were abnormal due to changes in utilization caused by the COVID pandemic. Total numbers of ED visits decreased sharply between March 2020 and June 2020, as states implemented lockdown restrictions and patients delayed or avoided health care encounters when feasible.

Some COVID respiratory symptoms are like those associated with the inhalation of wildfire smoke, so correlation of smoke with respiratory ED visits may be confounded by underlying rates of COVID infection.
Total Respiratory* ED Visits, Woods Creek Fire: Lewis and Clark, Broadwater, and Meagher Counties