



Weld County's Air Monitoring Network

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Weld County is larger than Rhode Island, Delaware, and Washington D.C. combined!



Size: 4,016 square miles

Population: 350,176

31% Hispanic or Latino
(CO is 22.5% Hispanic or Latino)

Given our size, Weld County must consider a wide scope of air quality issues.

A one-size-fits-all approach would not equitably address the needs of our diverse urban and rural communities



To effectively advocate for our diverse communities, the Weld County Board of County Commissioners increased their investment in:

Regulatory development



COLORADO
Department of Public
Health & Environment



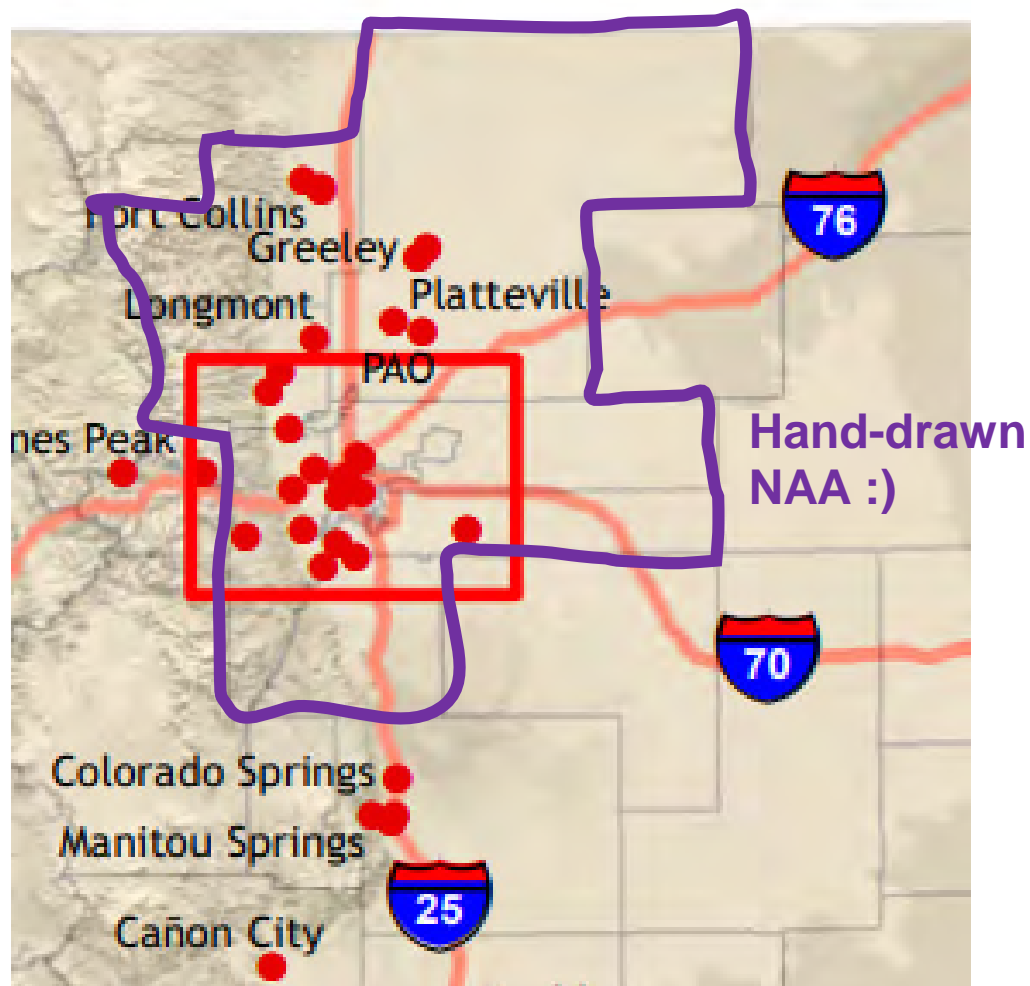
COLORADO
Energy & Carbon
Management Commission
Department of Natural Resources



Air quality monitoring



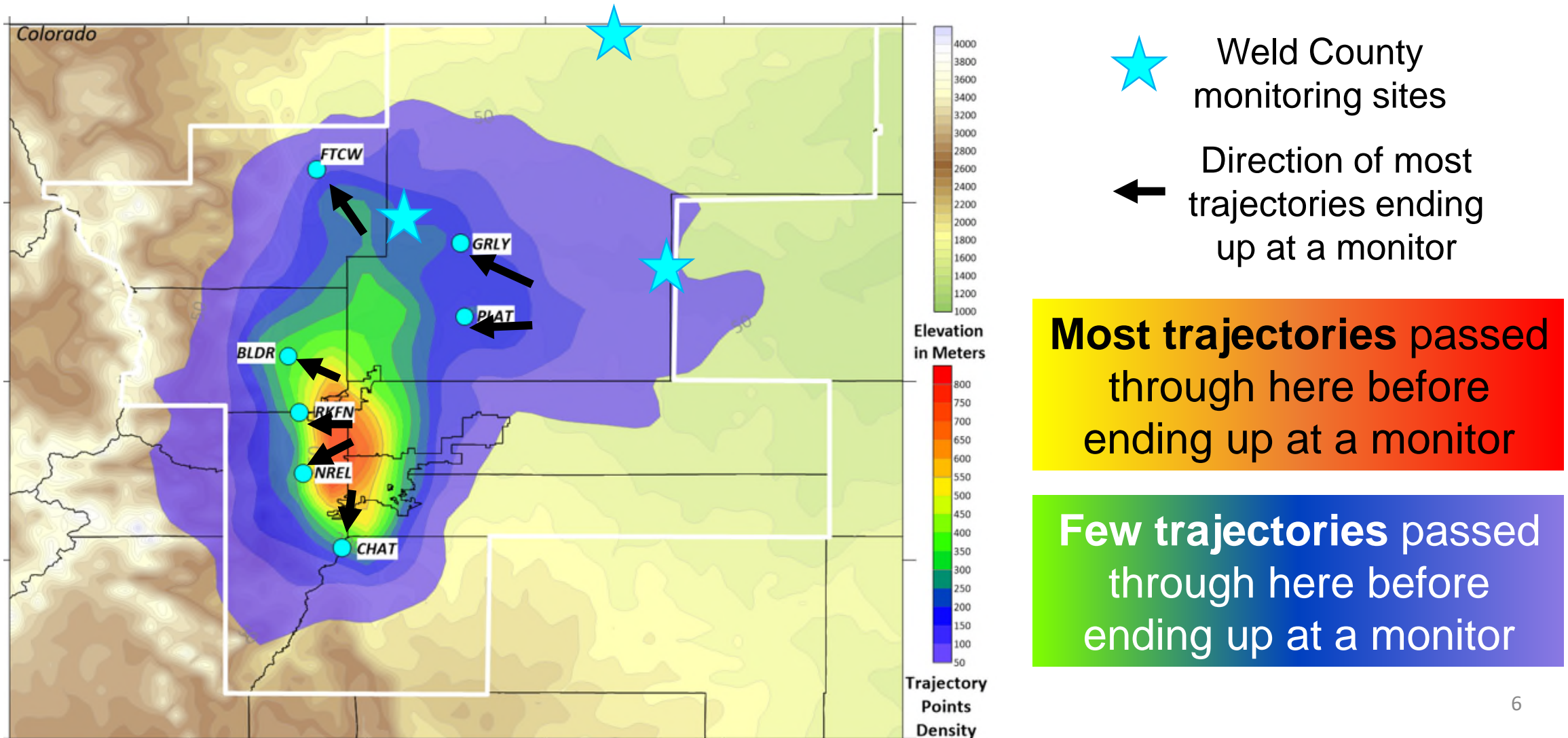
In 2020, the Colorado monitoring network had **spatial data gaps in Weld County.**



Monitoring data are an important tool to inform air quality policy and regulation development and are used to ground model projections and reduce model bias.

So, where should we place our monitors?

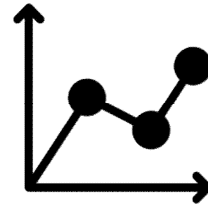
For the 24 hours prior to a high ozone day, we use a back trajectory model to find the path the air took before it reached each monitor. Then, we add up all those paths to show where the air travels from.



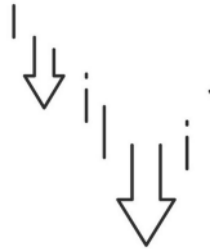
Weld County's monitoring goals



Ensure adequate spatial coverage of data in Weld County



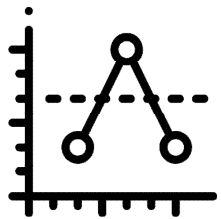
Track ozone trends



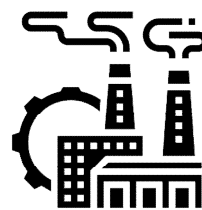
Inform the northern boundary of the ozone NAA



Quantify changes in ozone from regulatory and economic changes



Quantify background ozone concentrations entering Weld County



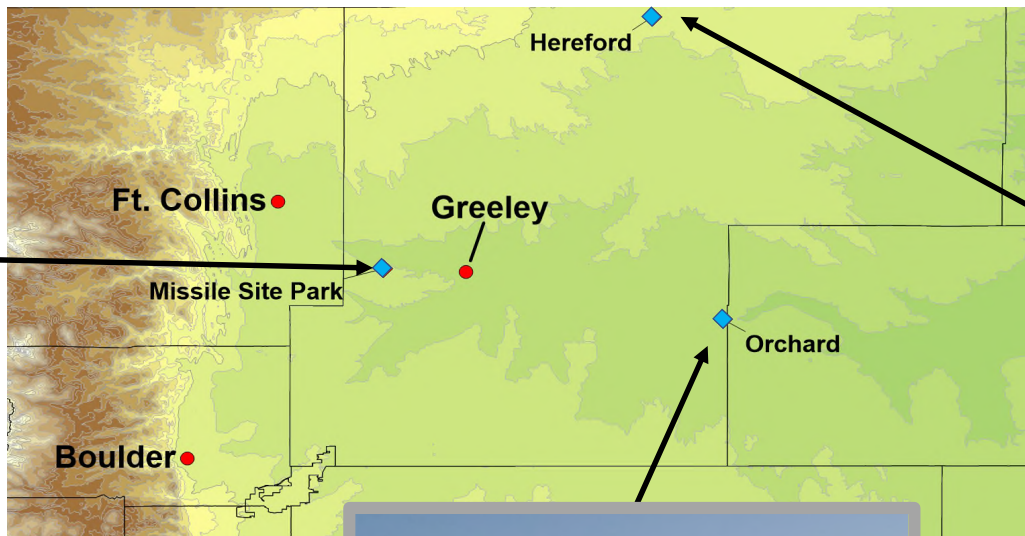
Improve efforts to quantify pollutant sources and transport in the ozone NAA

Weld County monitors use **Federal Reference Methods or equivalent** and have a robust QA/QC program

Missile Site Park*



NO_x, Ozone, Meteorology
Nitrogen/Ammonia
CDPHE collects **VOC** data

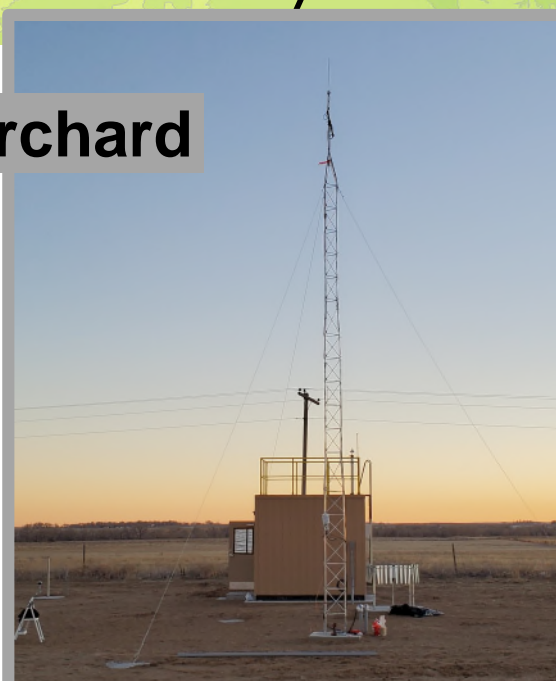


Hereford



Ozone, Meteorology

Orchard



Ozone,
Meteorology
Nitrogen/Ammonia



*MSP is 1 of only 2 monitors in Colorado that collocate measurements of NO_x, VOC, and ozone!

Hereford and Orchard values are **much lower** than any other monitoring site in the DM/NFR NAA

Site	2021-2023 Estimated Design Values
Aurora East	73
Blackhawk	75
Boulder Reservoir	75
CAMP	73
La Casa	75
Chatfield	81
Evergreen	75
Fort Collins – CSU	71
Fort Collins West	76
Greeley Weld	71
Highlands	77
NREL	80
Platteville	74
Rocky Flats North	80
Welby	74

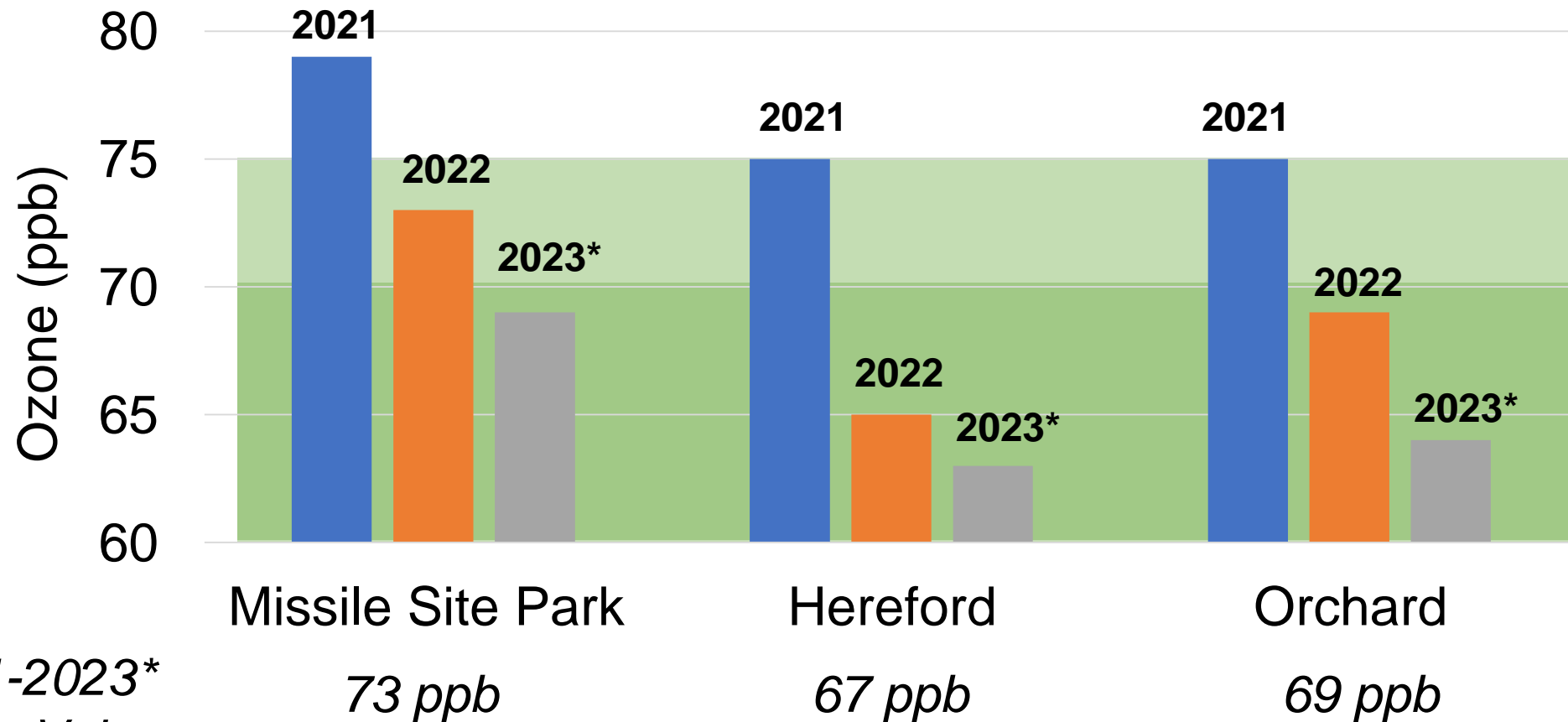
Site	2021-2023 Estimated Design Values
Hereford	67
Missile Site Park	73
Orchard	69

Ozone design values exceed **2008 standard** (75 ppb)

Ozone design values exceed **2015 standard** (70 ppb)

Estimates from the RAQC end-of-year report:
https://raqc.egnyte.com/dl/xsXEiGL5oL/OzoneSeasonEndofYearReport_Presentation100623.pdf

Colorado experienced a high ozone year in 2021. In general, Missile Site Park has higher ozone values compared to the Hereford and Orchard sites.



*2023 data includes Q1-Q3

Weld County is in the process of getting our monitors included in the Colorado ozone network to help in NAAQS assessment



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We plan to submit our *Quality Assurance Project Plan (QAPP)* to the EPA and CDPHE for review

We hope to expand the network to include PM2.5 monitors!

There is still opportunity for local governments to step in and fill in data gaps in the current CO monitoring network!