

Historical Regional Air Quality Trends in the Arvin-Lamont Community

October 27, 2021


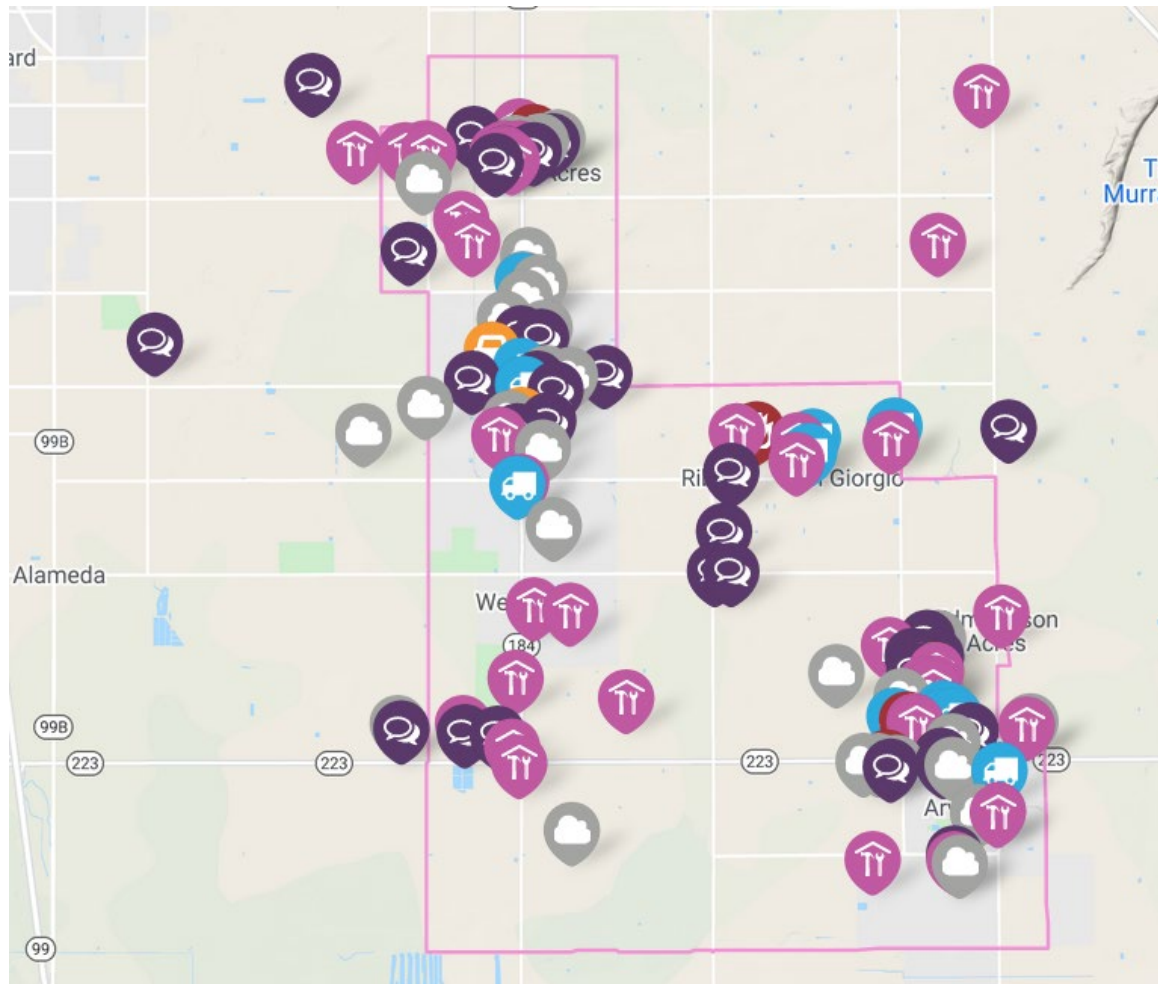
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San Joaquin Valley Air Pollution Control District

Community Identified Sources of Air Pollution Concern

Top Community-Identified Sources of Concern




Dust in Community and on Roads

- PM10 and PM2.5



Industrial Sources

- PM2.5
- NOx
- VOCs & BTEX



Heavy-Duty Truck Traffic

- Black Carbon
- PM2.5
- NOx



Pesticides

- Toxics



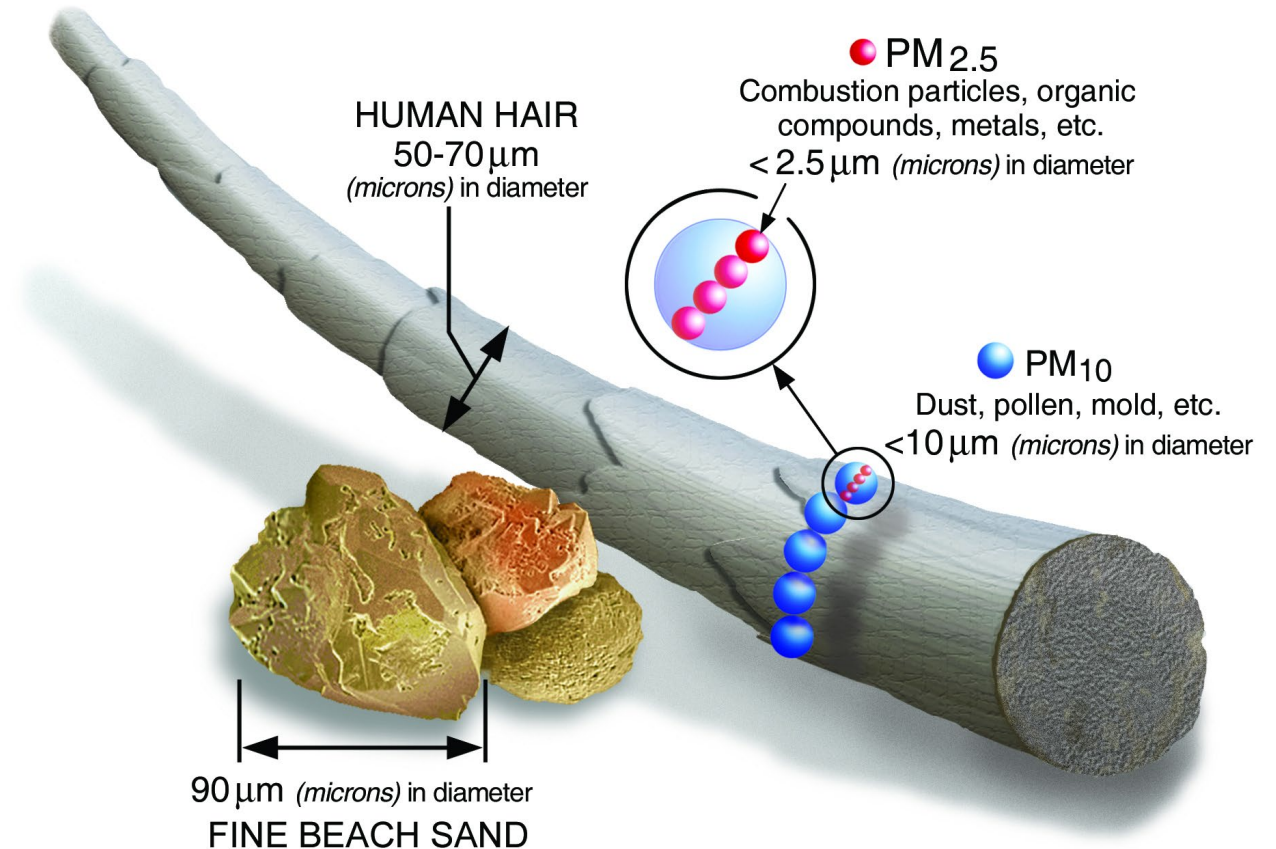
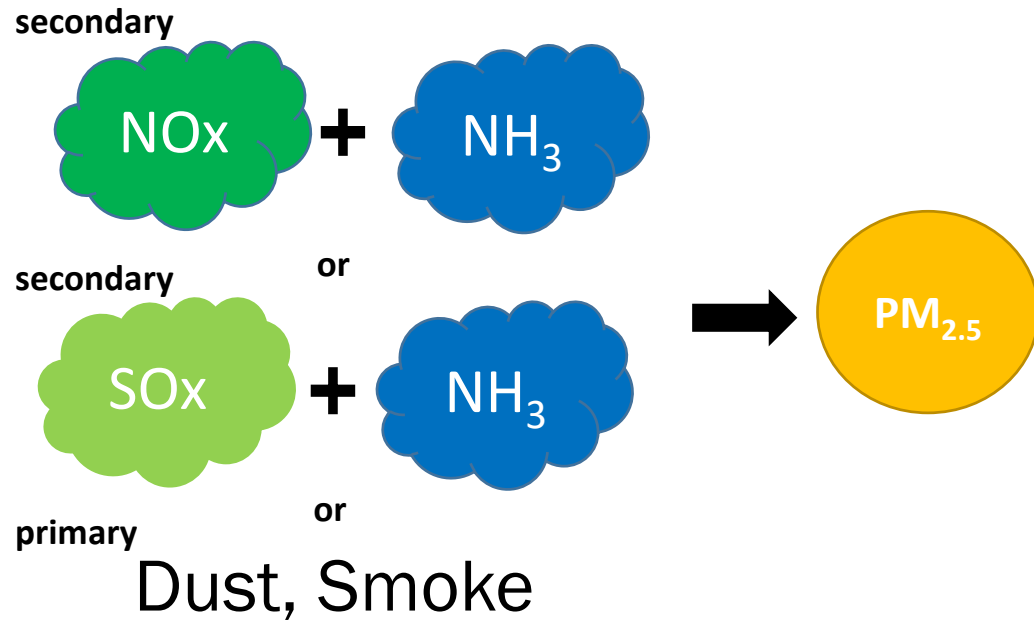
Lack of Green Space

<https://valleyair.mysocialpinpoint.com/arvinlamont-community-engagement#/>

Overview of Pollutants of Concern

PM_{2.5}

Elevated concentrations of particulate matter < 2.5 micrometers in diameter, or PM_{2.5}, can aggravate or create severe cardiovascular conditions, including premature death

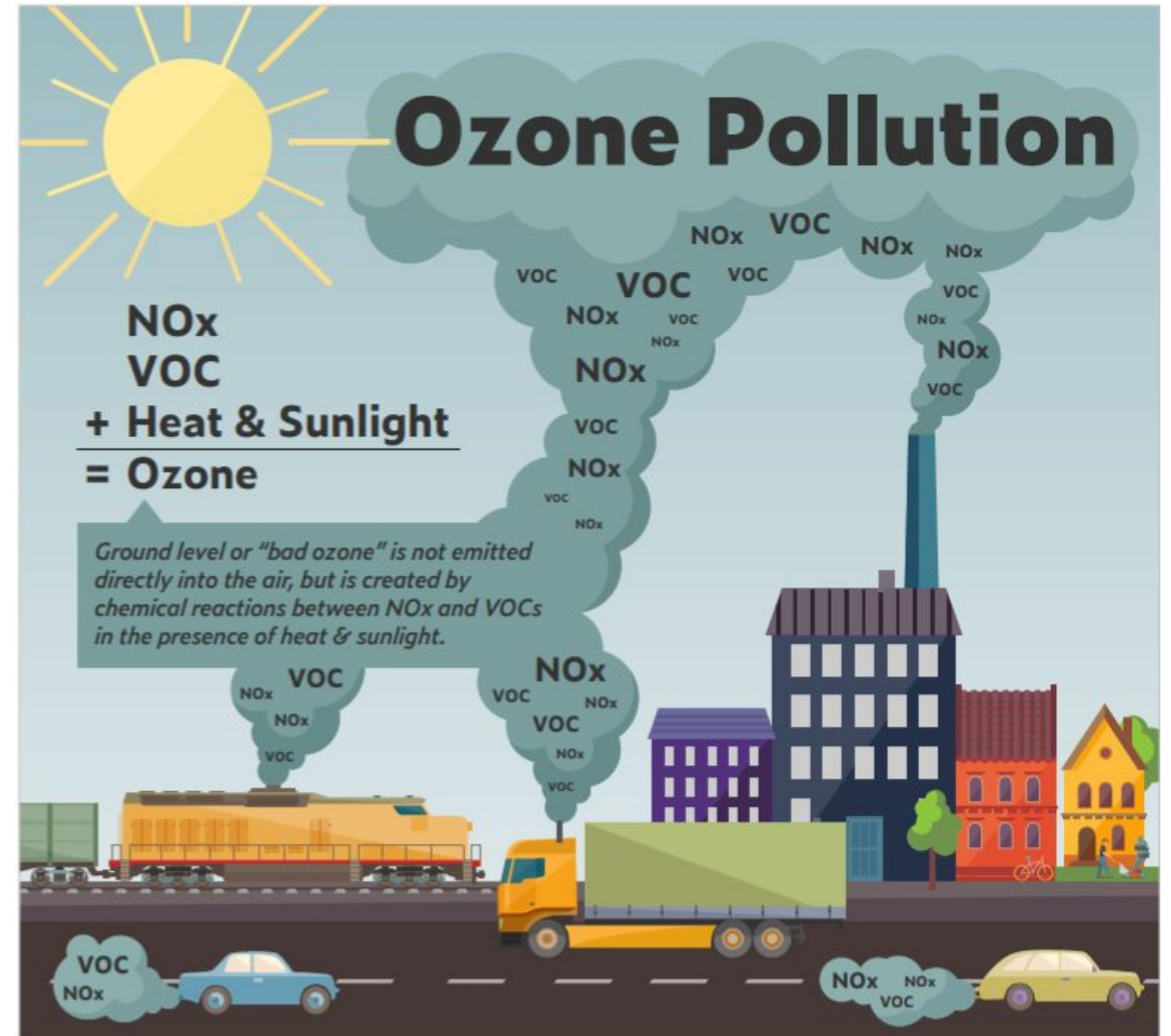


Ozone

- Main component of summertime 'smog'
- Ozone formed from chemicals in the presence of sunlight and heat
- Formed from nitrogen oxides (NO_x) and volatile organic compounds (VOCs)

NO_x and VOC in Arvin/Lamont from:

- Vehicles over 80% percent of NO_x
 - Trucks, other on-road vehicles
 - Heavy-duty off-road vehicles
- Industrial processes
- Consumer products (lawnmowers, paints, etc.)



Nitrogen Dioxide (NO₂)

Description

- NO₂ belongs to a group of gases known as NO_x, which contributes to formation of PM_{2.5} and ozone

Sources

- Burning fuel from cars, trucks, buses, off-road equipment, and power plants

Health Effects

- High concentrations can irritate airways in human respiratory system



Sulfur Dioxide (SO₂)

Description

- SO₂ belongs to a group of gases known as SO_x, which contributes to formation of particulate matter

Sources

- Wildfires, power plants, locomotives, and other vehicles and heavy equipment that burn fuel containing sulfur

Health effects

- Short-term exposures can harm the human respiratory system and make breathing difficult



Hydrogen Sulfide (H₂S)

Description

- Flammable, colorless gas

Sources

- Oil and gas production, petroleum refineries, and natural gas plants

Health Effects

- Eye irritation, dizziness, headache, exhaustion



Benzene, Toluene, Ethylbenzene, Xylenes (BTEX)

Description

- BTEX are volatile organic compounds

Sources

- Motor vehicle exhaust, oil production, petroleum refineries, and petroleum storage and refueling stations

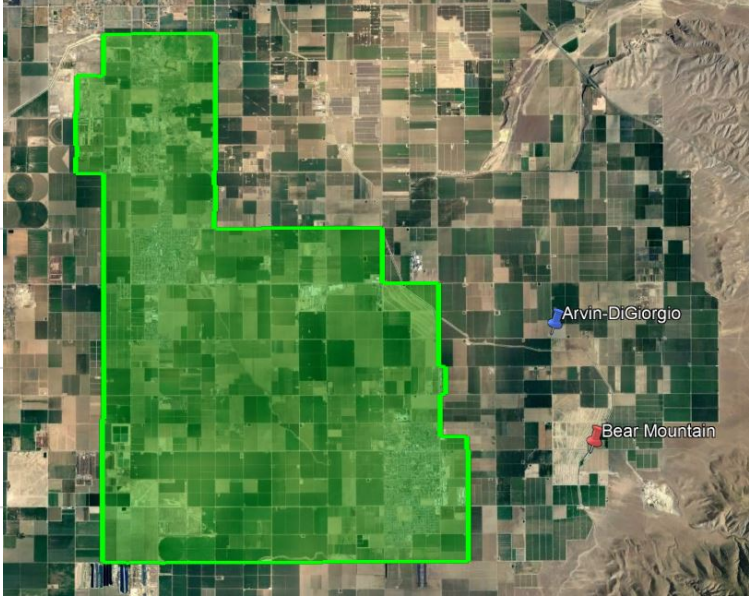
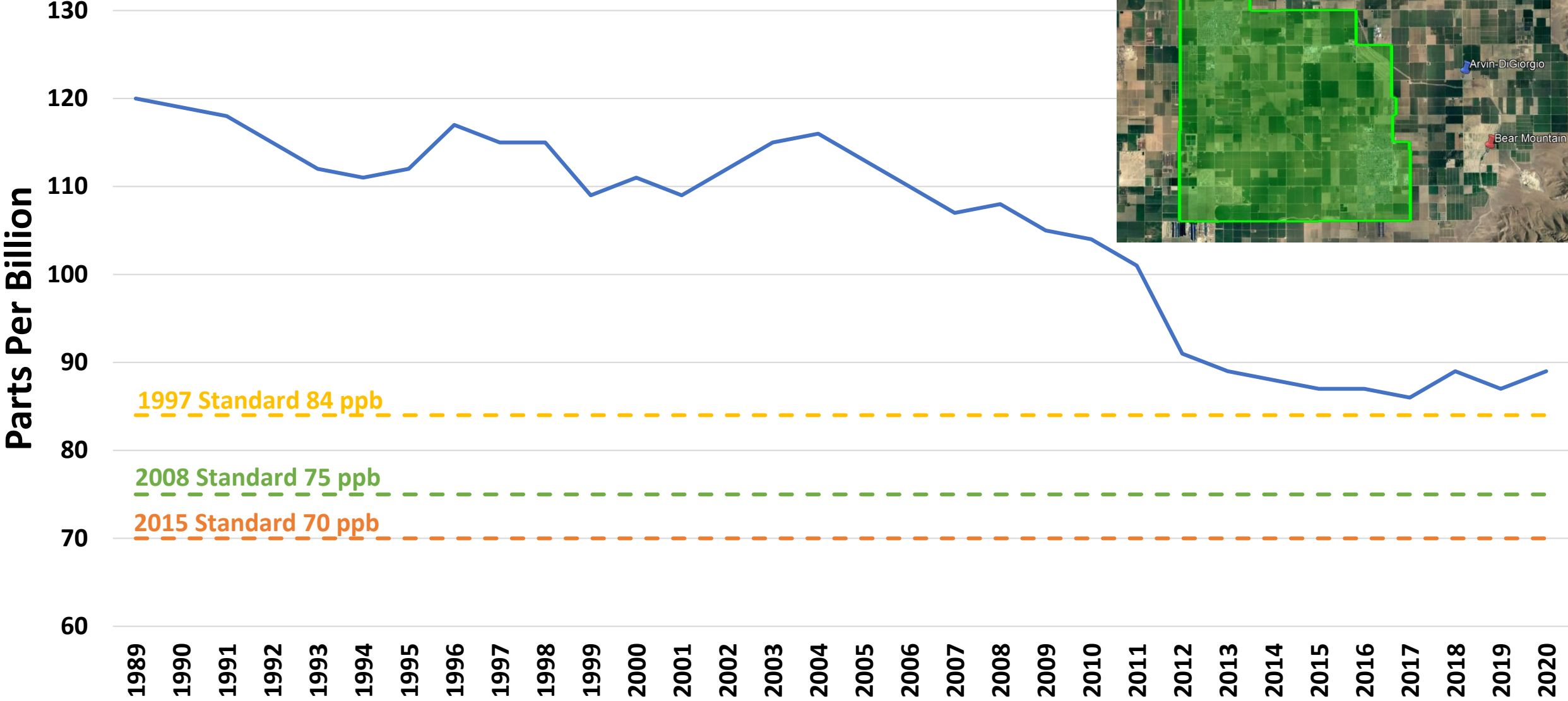
Health effects

- Throat and eye irritation, dizziness, headaches



Historical Regional Air Monitoring Trends in the Arvin-Lamont Community

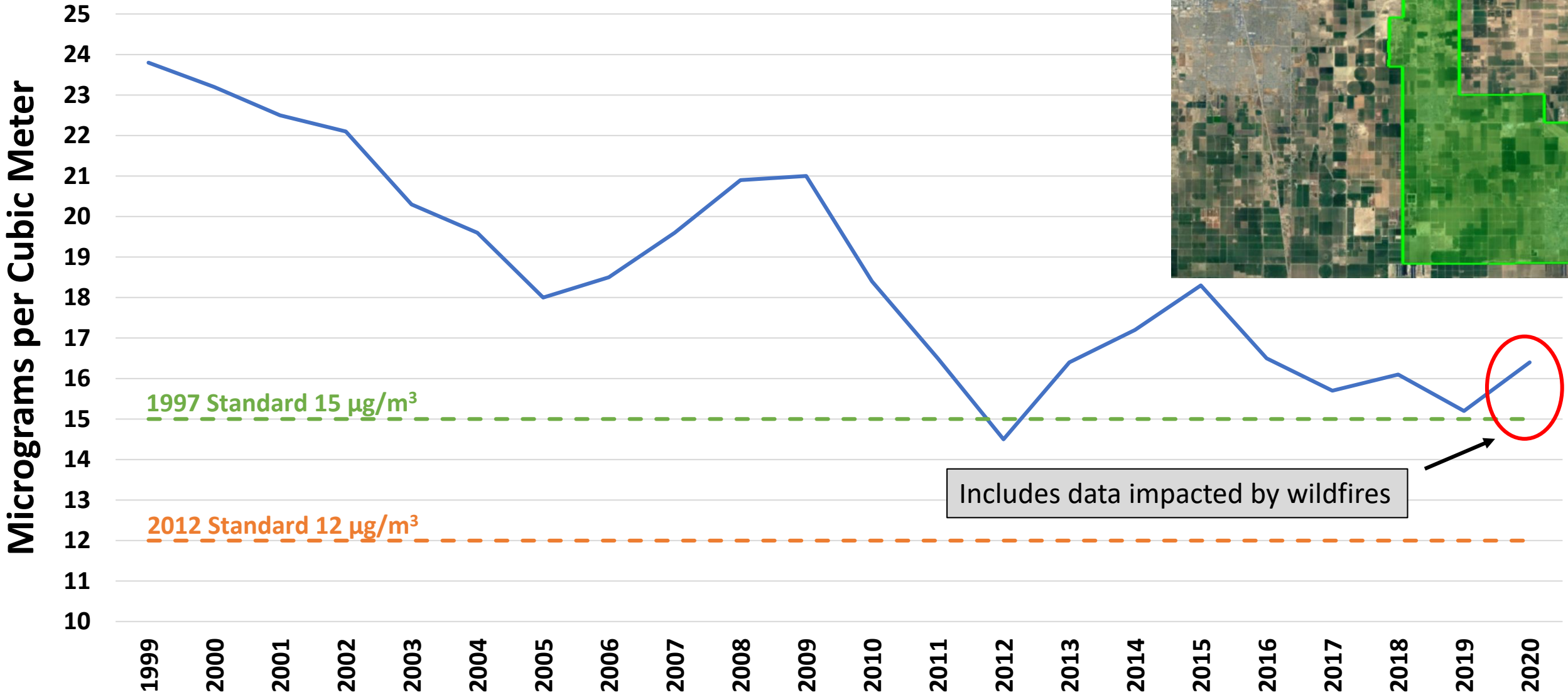
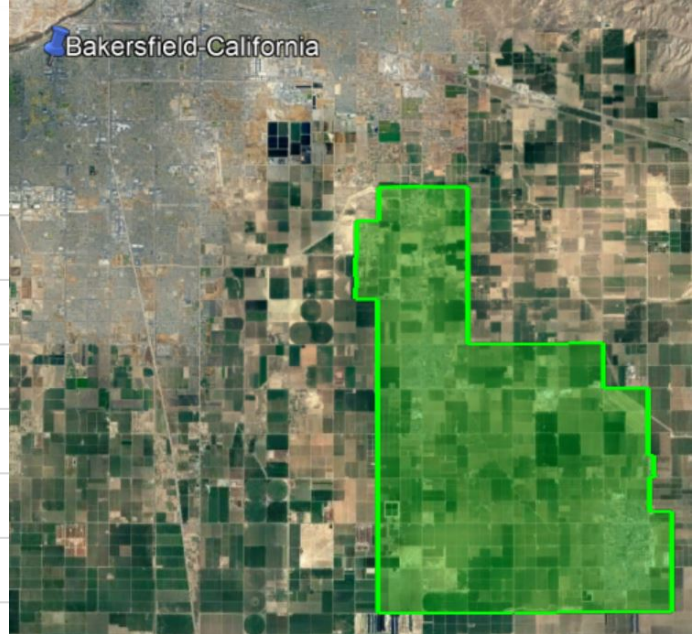
Ozone, 8-hour Average



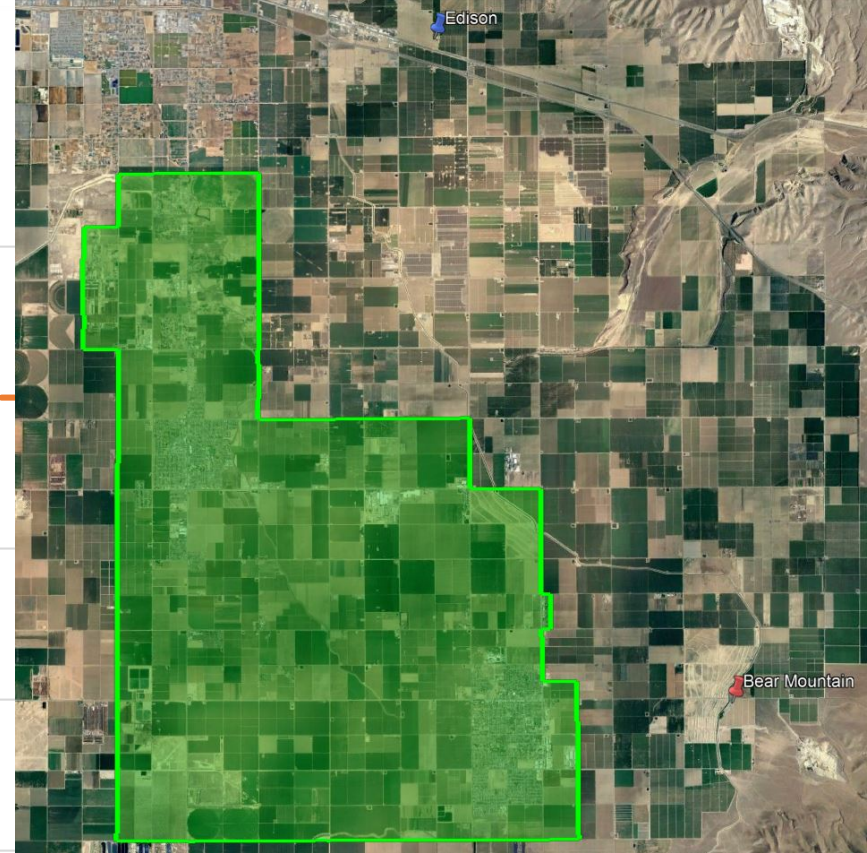
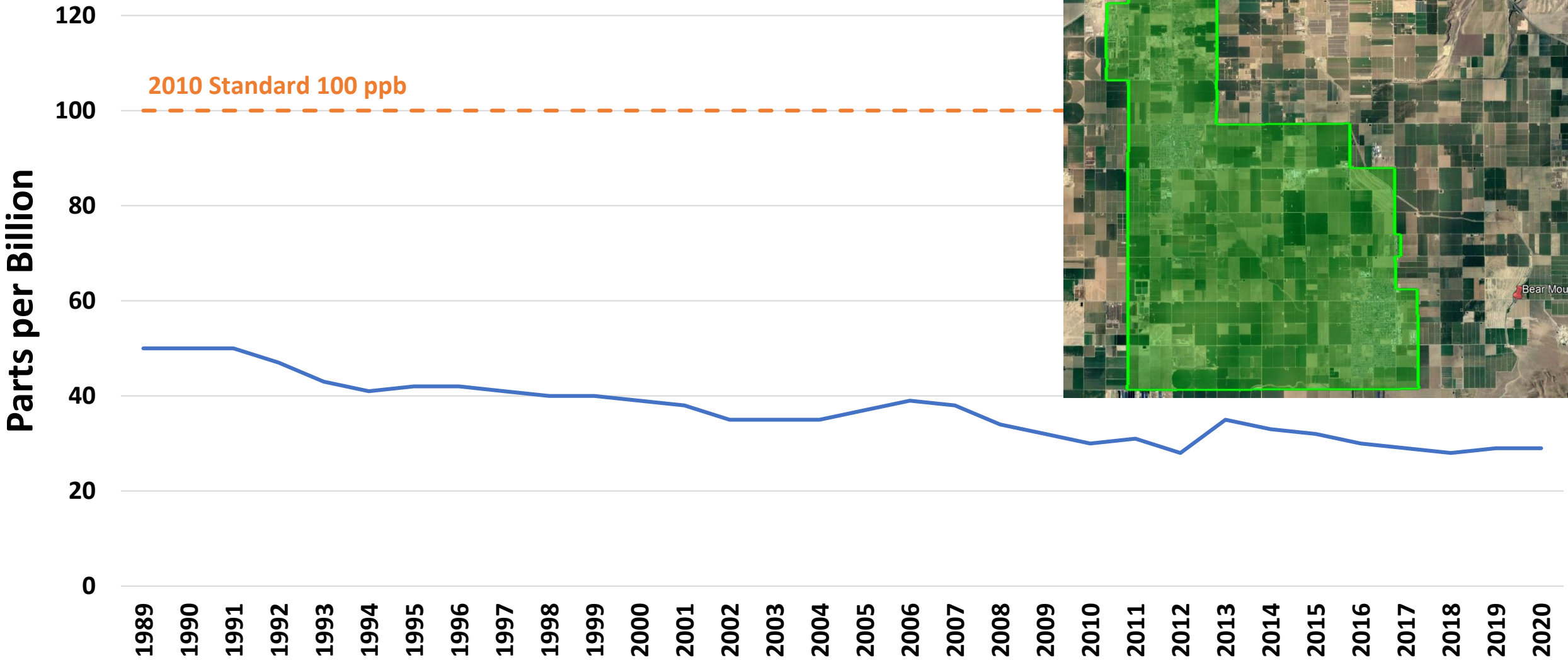
PM2.5, Daily Average



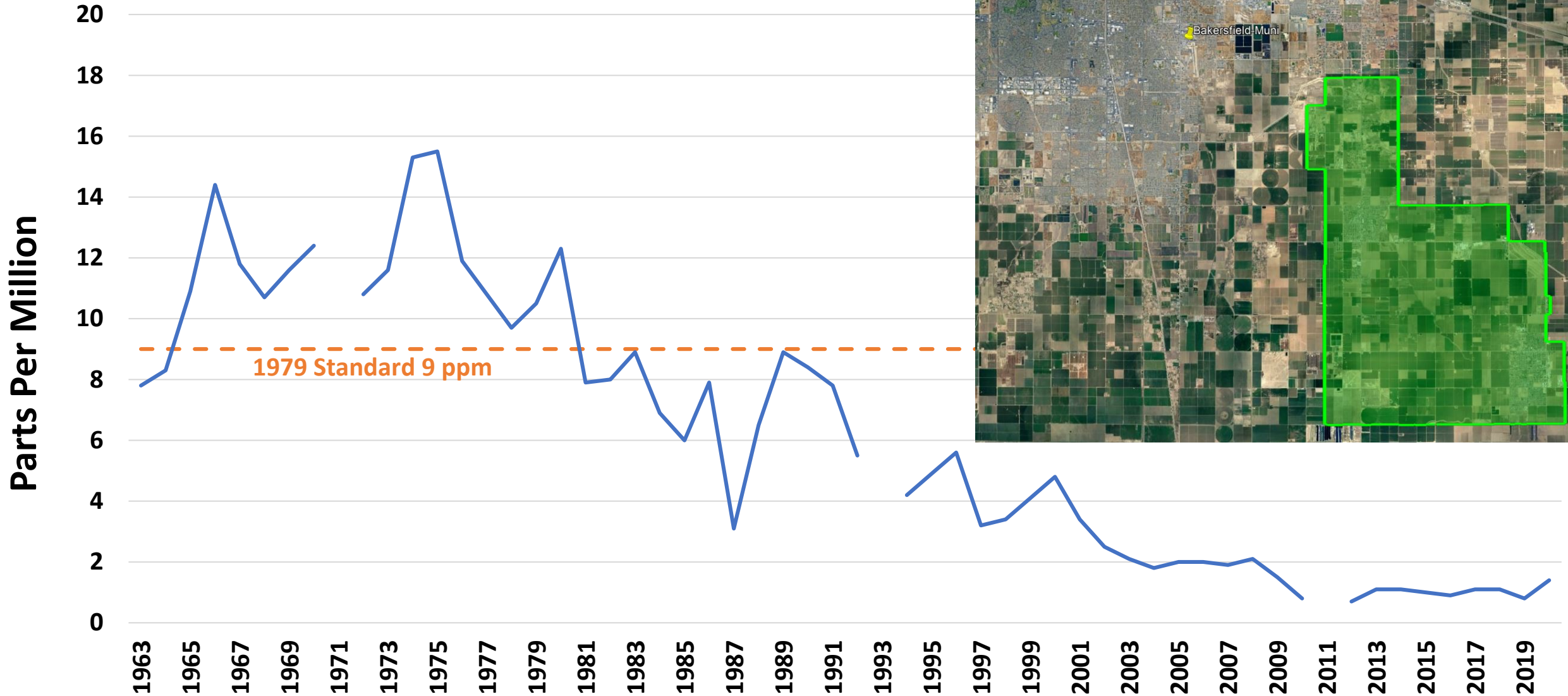
PM2.5, Annual Average



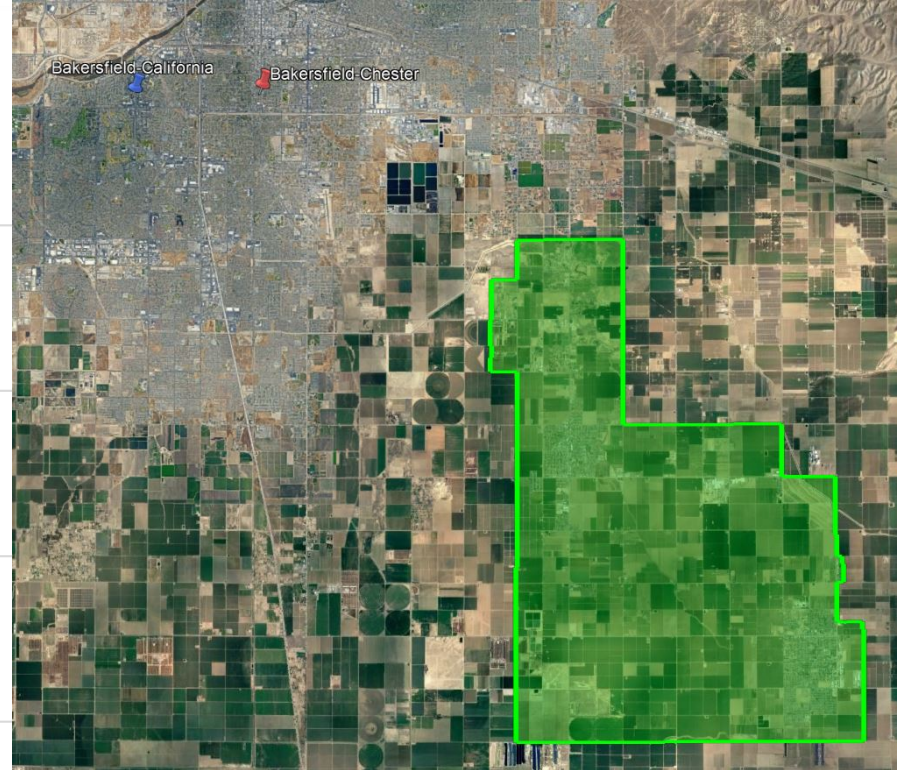
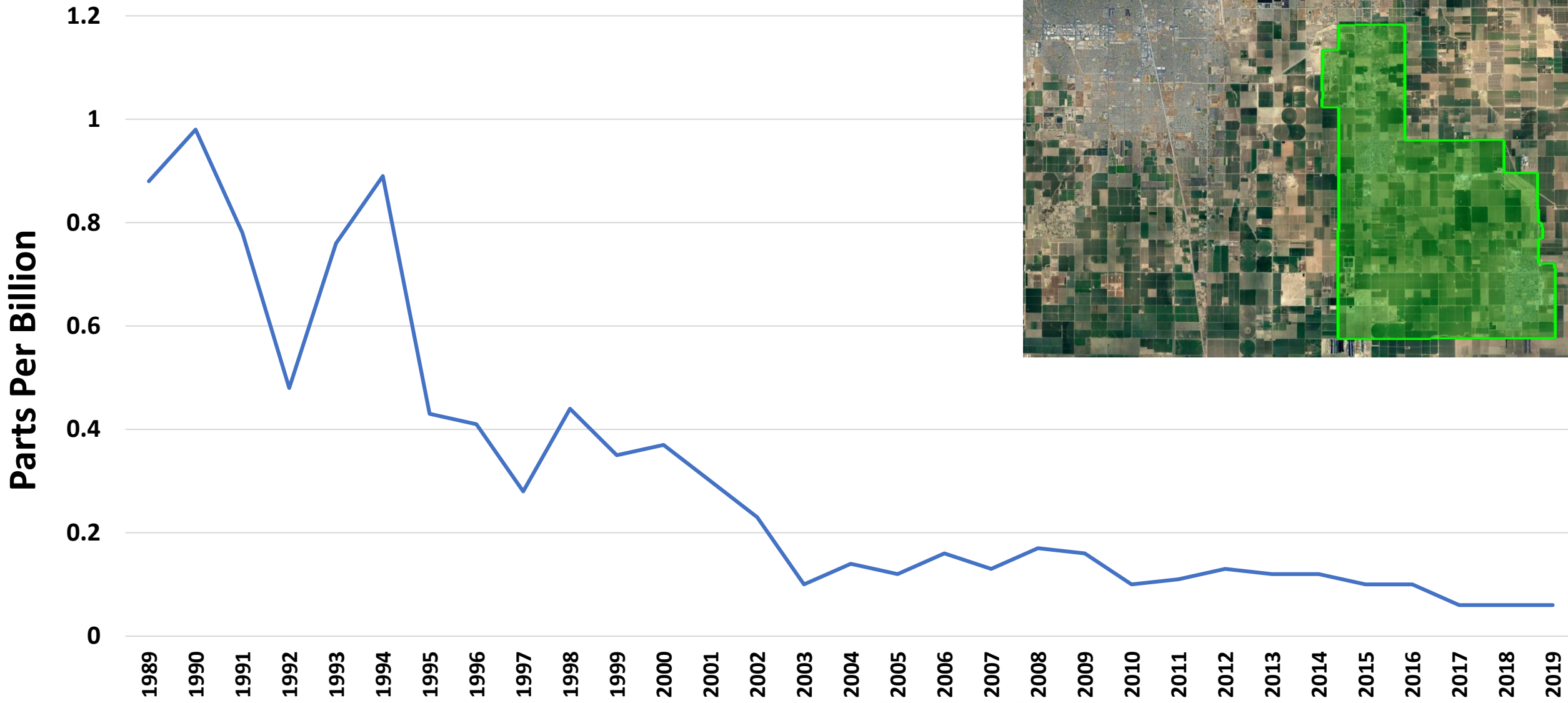
NO₂, Hourly Average



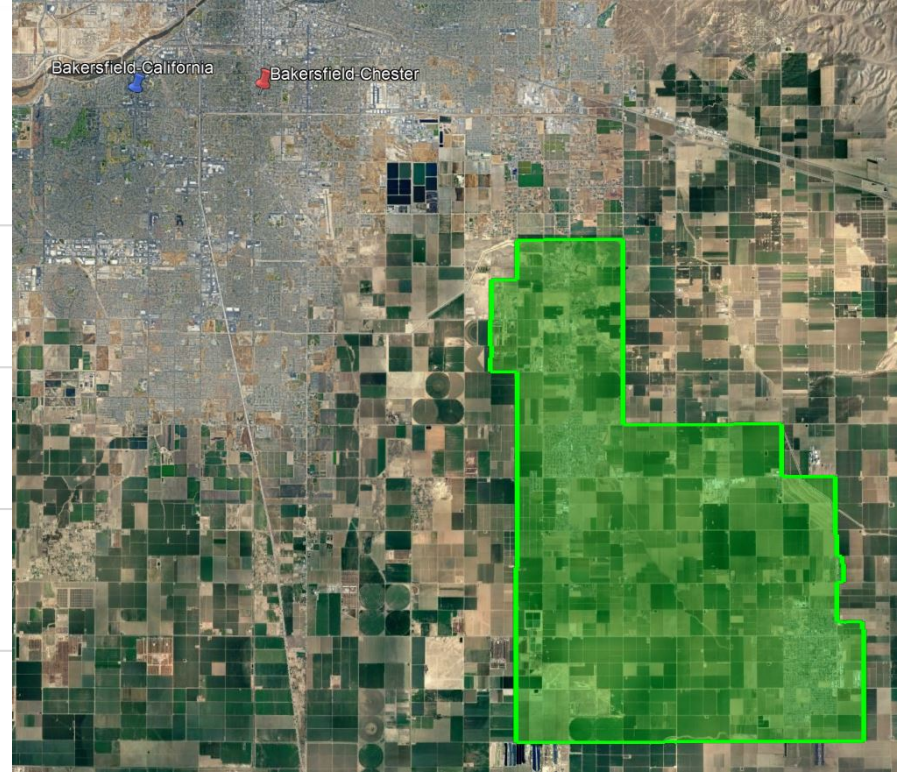
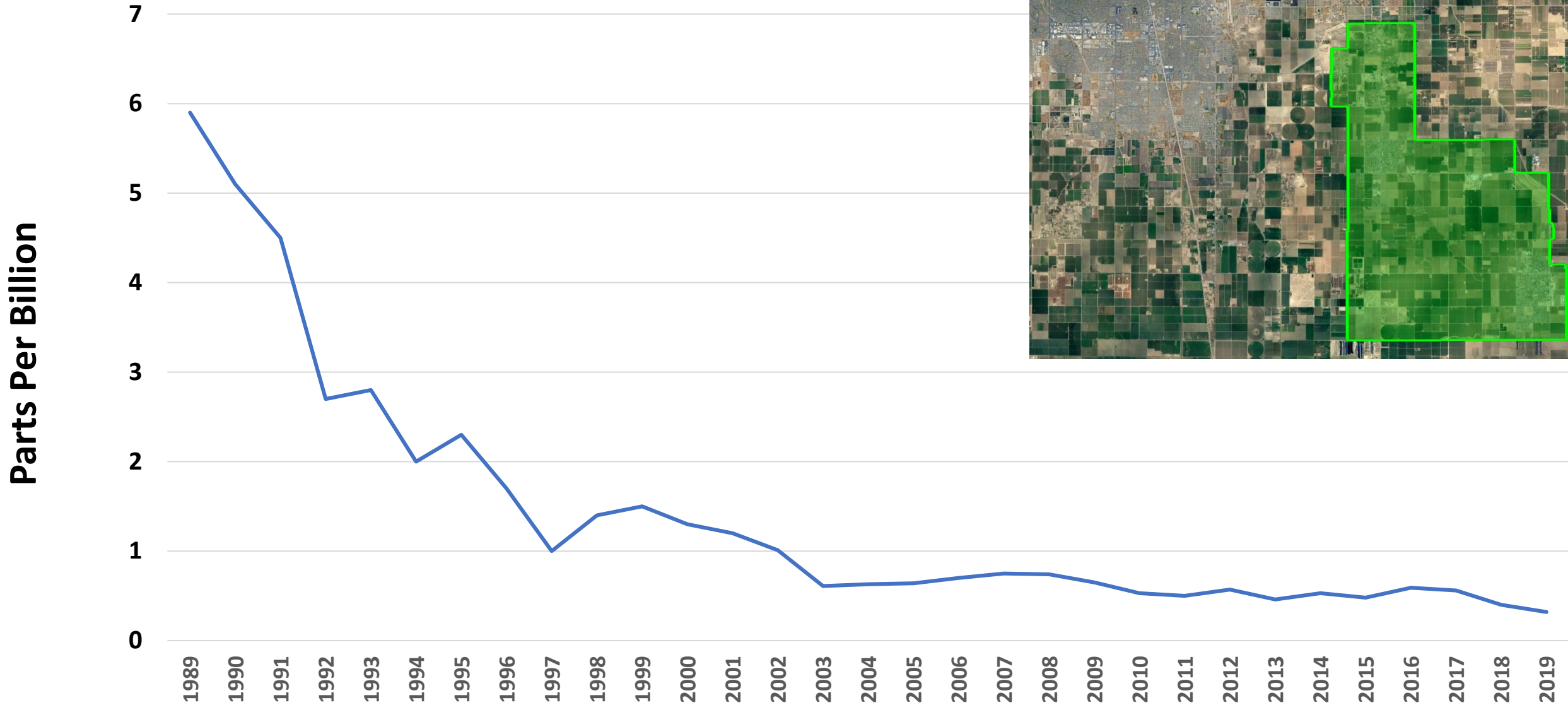
CO, 8-hour Average



1,3 Butadiene, Canister Samples



Benzene, Canister Samples



Ongoing Air Quality Progress

- Decades long air quality trends in Arvin-Lamont region demonstrate continued reductions in concentrations of criteria pollutants and toxics
- Arvin-Lamont regional air quality already in attainment of CO and NO₂ federal standards
 - Continued improvements are needed to meet remaining current federal standards
- AB 617 process to assist in identifying and addressing localized air quality issues through development and implementation of various strategies
 - Efforts will continue to improve air quality across the Arvin-Lamont community

Current Air Monitoring Near Arvin-Lamont Community

