

Presentation to the Commerce City City Council

Mike Silverstein, Executive Director
February 3, 2020



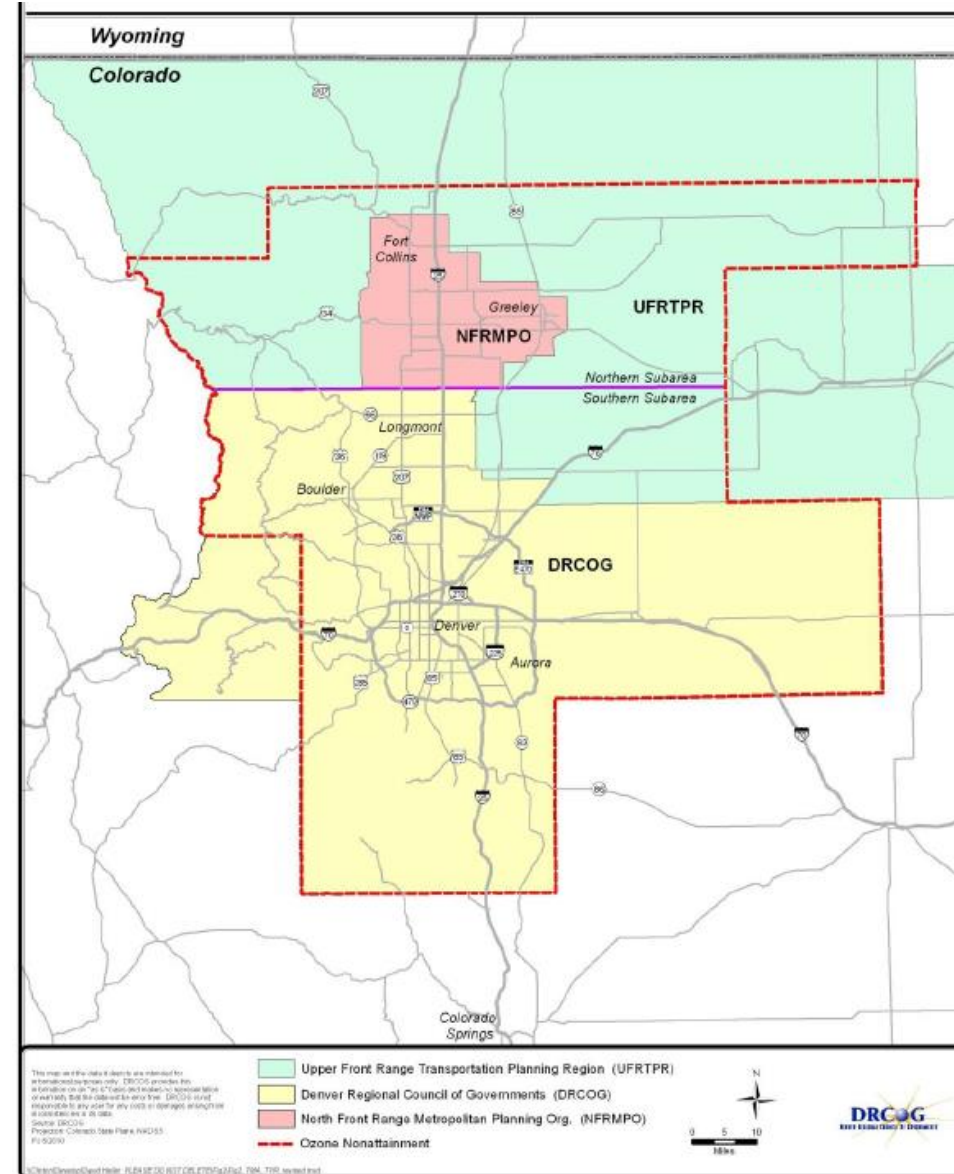
Regional Air Quality Council

RAQC is the lead planning agency for the Denver Metro/North Front Range Ozone Nonattainment Area

Governor appoints the 29 member Board

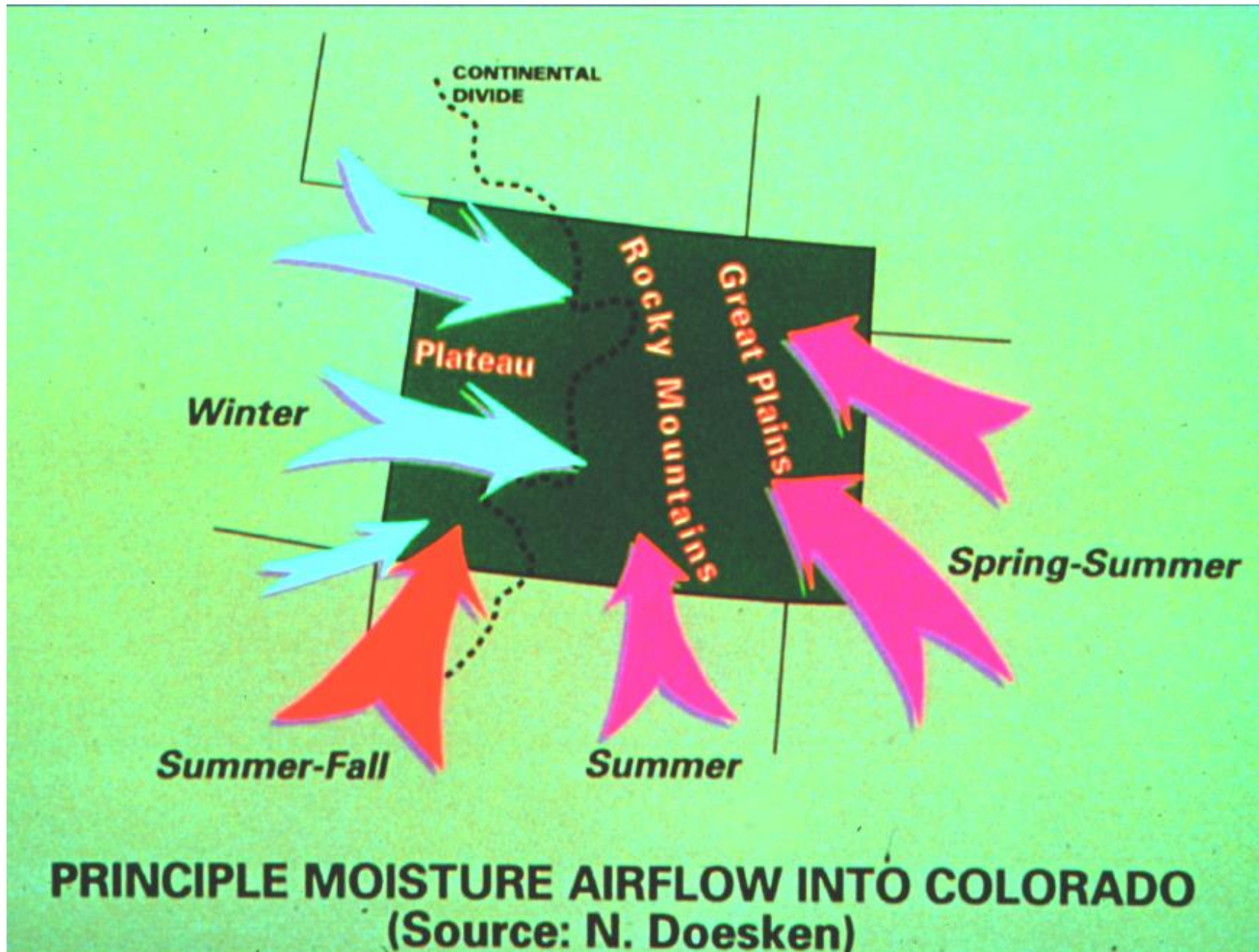
Primary responsibilities:

- **Planning to meet air quality standards and improve climate conditions**
- **Conduct public education and awareness programs**
- **Implement public/private projects to reduce emissions**
- **Represent and assist local governments in the air quality planning process**



Air Pollution: Local Exposure is Definitely a Concern





WHERE WE SOMETIMES ARE AND WHERE WE NEED TO BE



Denver Metro/North Front Range Air Quality Status

Fine Particulates (PM_{2.5})

Never Violated - Occasional Exceedances Do Occur

Nitrogen Dioxide (NO₂)

Denver Attained in mid '80's

Sulfur Dioxide (SO₂)

Never Violated

Lead (Pb)

Denver Area Attained in mid '80's

Carbon Monoxide (CO)

Denver, Longmont, Ft. Collins, Greeley Attained in 1990's - Maintenance Areas

Coarse Particulates (TSP&PM₁₀)

Denver Area Attained in 1993 – Maintenance Area

Ozone (O₃)

1979 1-hour standard: 125 ppb

Region Attained 1987 (Standard Revoked)

1997 8-hour standard: 84 ppb

Region Attained in 2009 (Standard Revoked)

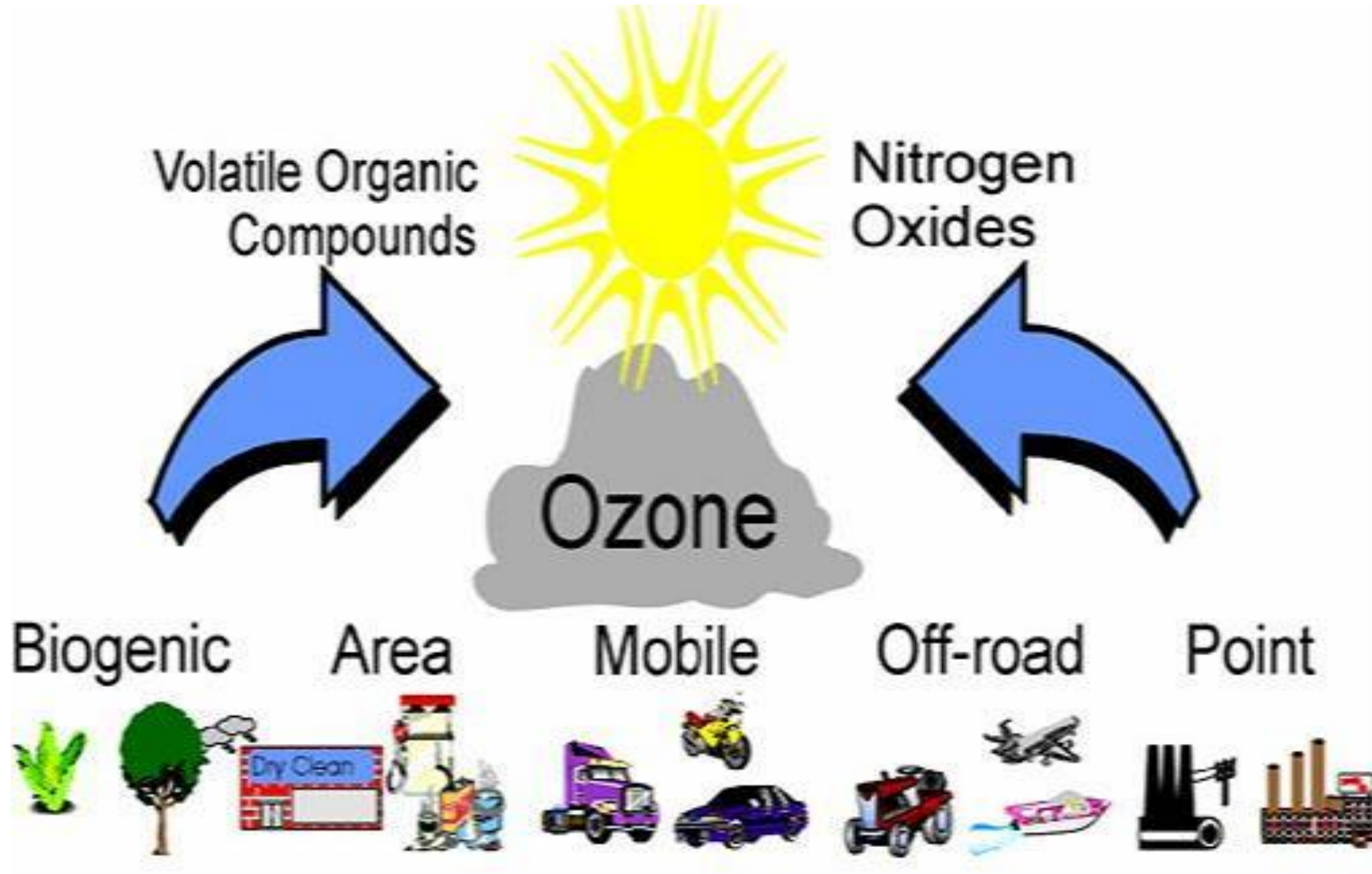
2008 8-hour standard: 75 ppb

Region Out of Compliance

2015 8-hour standard: 70 ppb

Region Out of Compliance

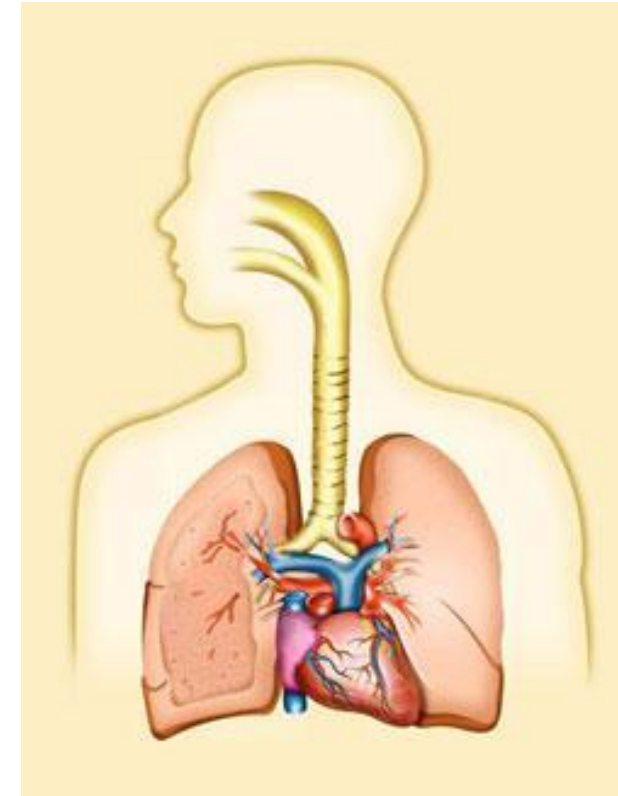
How Ozone is Formed



Source: www.montgomerycountymd.gov/DEP/Resources/Images/outreach/air/ozoneformation.jpg

Ozone can:

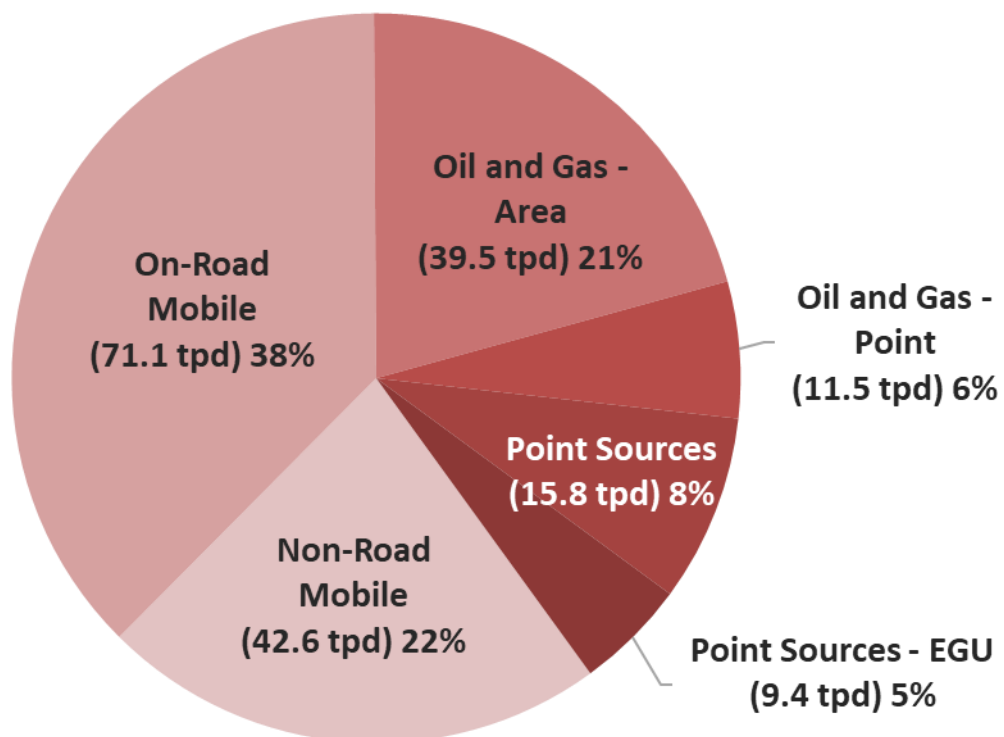
- **Damage crops and vegetation.**
- **Make it more difficult to breathe deeply and vigorously.**
- **Cause shortness of breath, and pain when taking a deep breath.**
- **Cause coughing and sore or scratchy throat.**
- **Inflame and damage the airways.**
- **Cause and aggravate lung diseases such as asthma, emphysema, and chronic bronchitis.**
- **Increase the frequency of asthma attacks.**
- **Make the lungs more susceptible to infection.**
- **Continue to damage the lungs even when the symptoms have disappeared.**
- **Cause chronic obstructive pulmonary disease (COPD).**
- **These effects have been found even in healthy people, but can be more serious in people with lung diseases such as asthma.**
- **High ozone levels lead to increased school absences, medication use, visits to doctors and emergency rooms, and hospital admissions.**
- **Long-term exposures to higher concentrations may also be linked to permanent lung damage, such as abnormal lung development in children.**



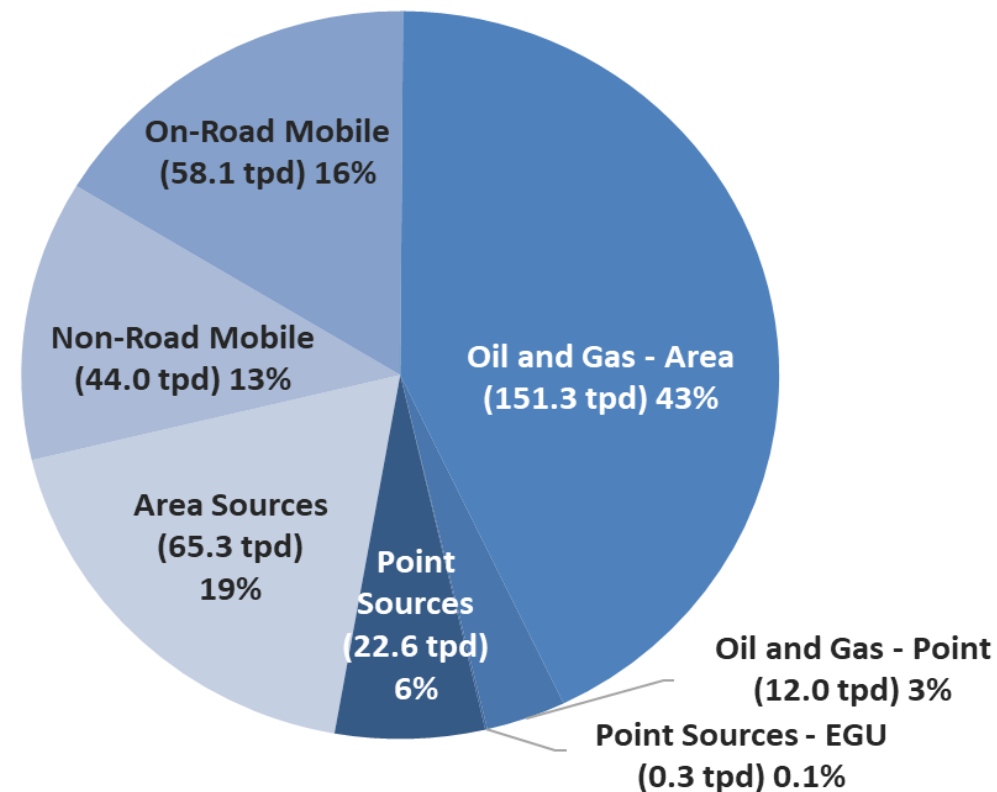
Ozone is a powerful oxidant that can irritate the airways.

SOURCES OF OZONE FORMING EMISSIONS

2017 NO_x (190.0 tons per day)

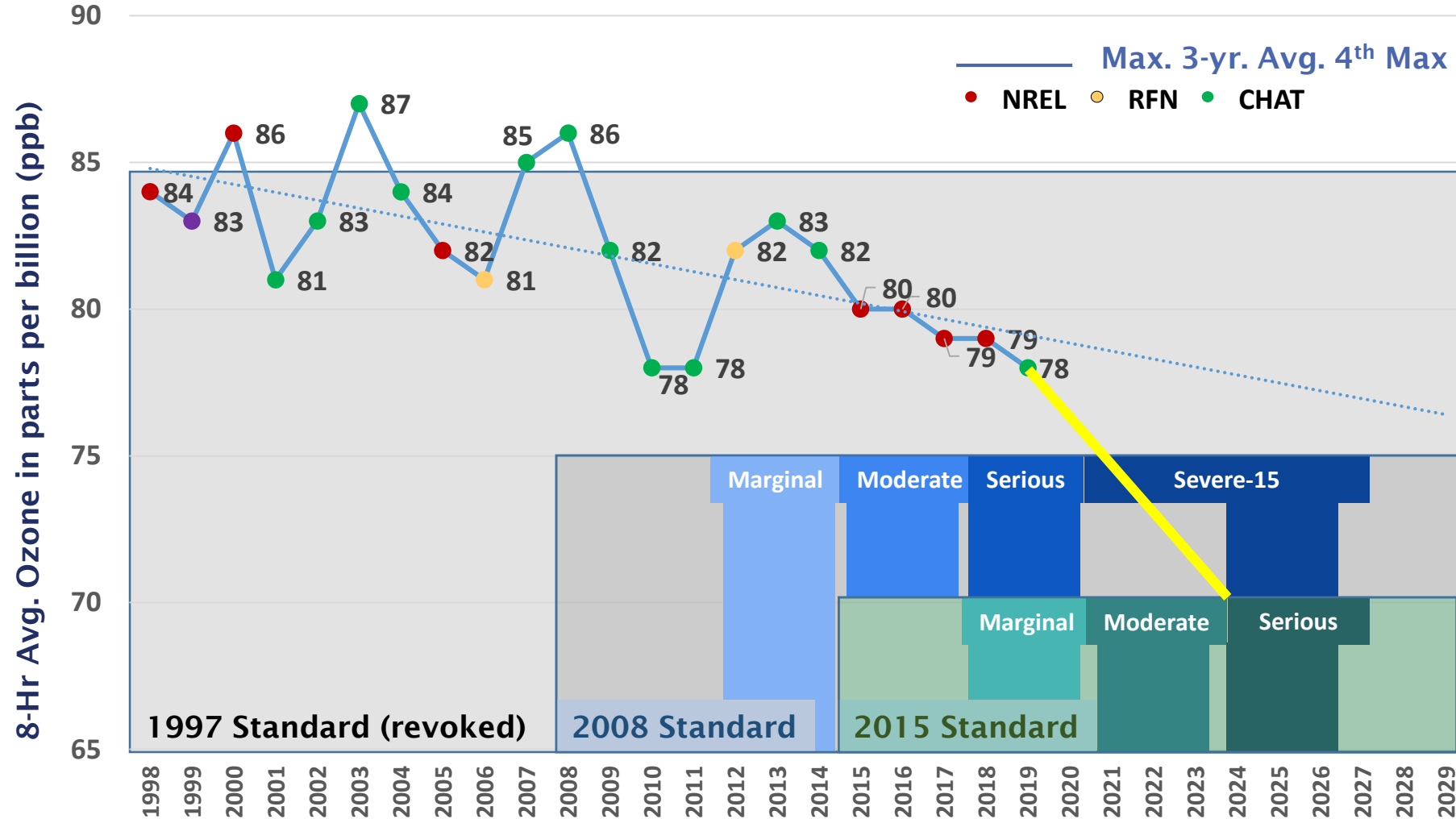


2017 VOC (353.7 tons per day)



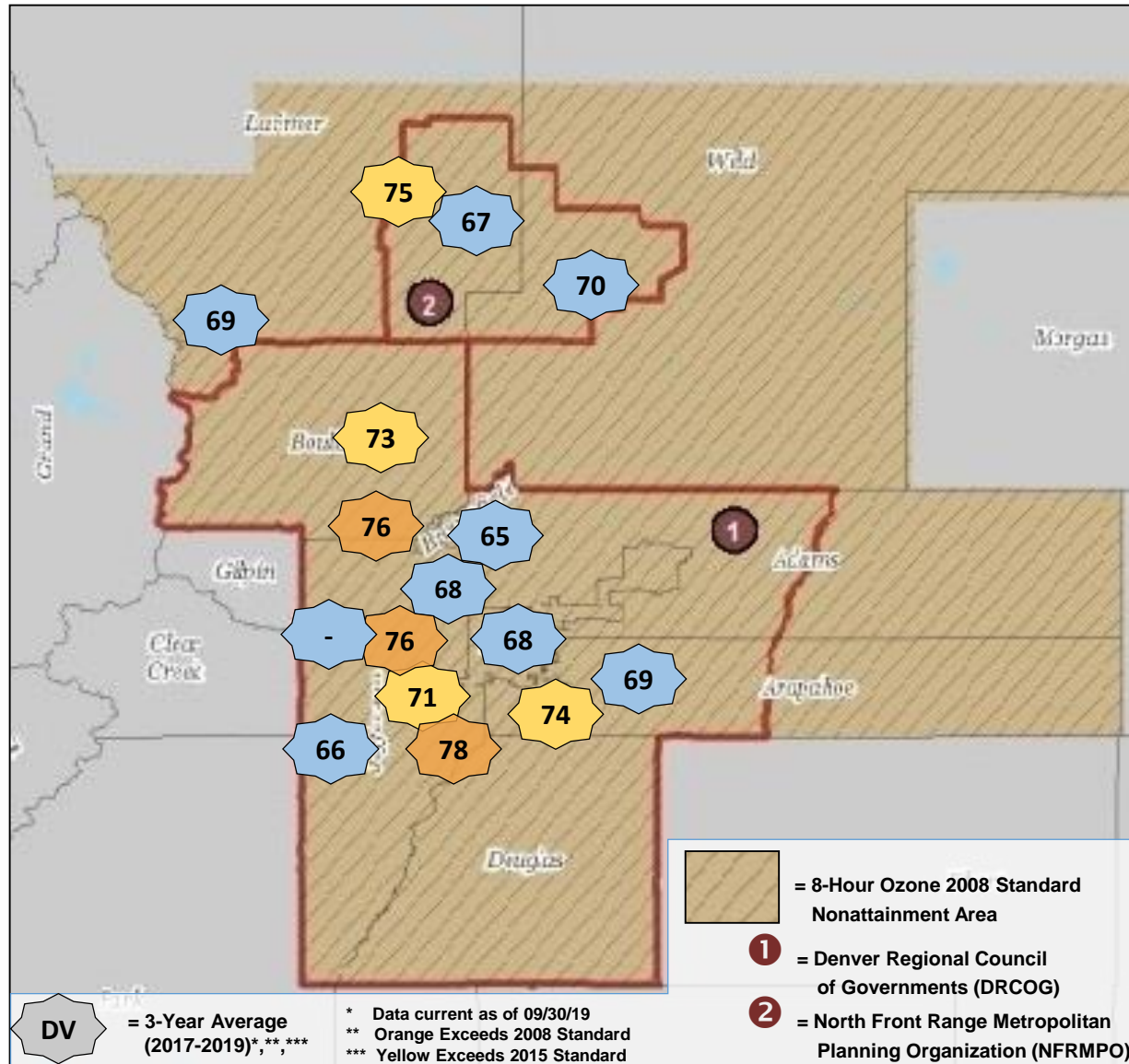
8-Hour Ozone Trends and Federal Standards

3-Year Design Values in the Denver Metro/North Front Range



8-Hour Ozone Standard: Based on a three-year average of the annual fourth-highest daily 8-hour maximum ozone concentration.

2017-2019 Three-Year Average of 4th Max



¹ Blackhawk monitor began operating July 3, 2019, 3 year average not available

2008 Ozone NAAQS (75 ppb)

Marginal: Attaining			16 Areas
Allentown-Bethlehem, PA-NJ	Knoxville, TN	San Luis Obispo, CA	
Baton Rouge, LA	Lancaster, PA	Seaford, DE	
Charlotte-Concord, NC-SC	Memphis, TN	St. Louis, MO	
Cincinnati, OH	Pittsburgh, PA	Upper Green River Basin, WY	
Cleveland, OH	Reading, PA		
Columbus, OH	San Francisco-Oakland, CA		
Moderate: Attaining			3 Areas
Atlanta, GA	Baltimore, MD	Mariposa County, CA	
Marginal: Not Attaining/Incomplete Data			6 Areas
Calaveras County, CA	Philadelphia, PA	Washington-Arlington, DC-VA	
Dukes County, MA	Pechanga Band of Luiseno		
Jamestown, NY	Mission Indians, CA		
Moderate: Not Attaining - 1-Year Extension			2 Areas
Denver/North Front Range, CO	Sheboygan, WI		
Moderate: Not Attaining - Bump-Up to Serious			9 Areas
Chicago, IL	Houston, TX	New York-New Jersey, NY-NJ	
Dallas-Fort Worth, TX	Imperial County (El Centro), CA	Phoenix, AZ	
Hartford, CT	Nevada County (Truckee), CA	San Diego, CA	
Serious and Above: Not Attaining			8 Areas
Kern County, CA	Morongo Band of Mission	Riverside-San Bernardino, CA	
Los Angeles-South Coast Basin, CA	Indians, CA	Ventura County, CA	
San Joaquin, CA	Los Angeles-San Bernardino, CA	Sacramento Metro, CA	

2015 Ozone NAAQS (70 ppb)

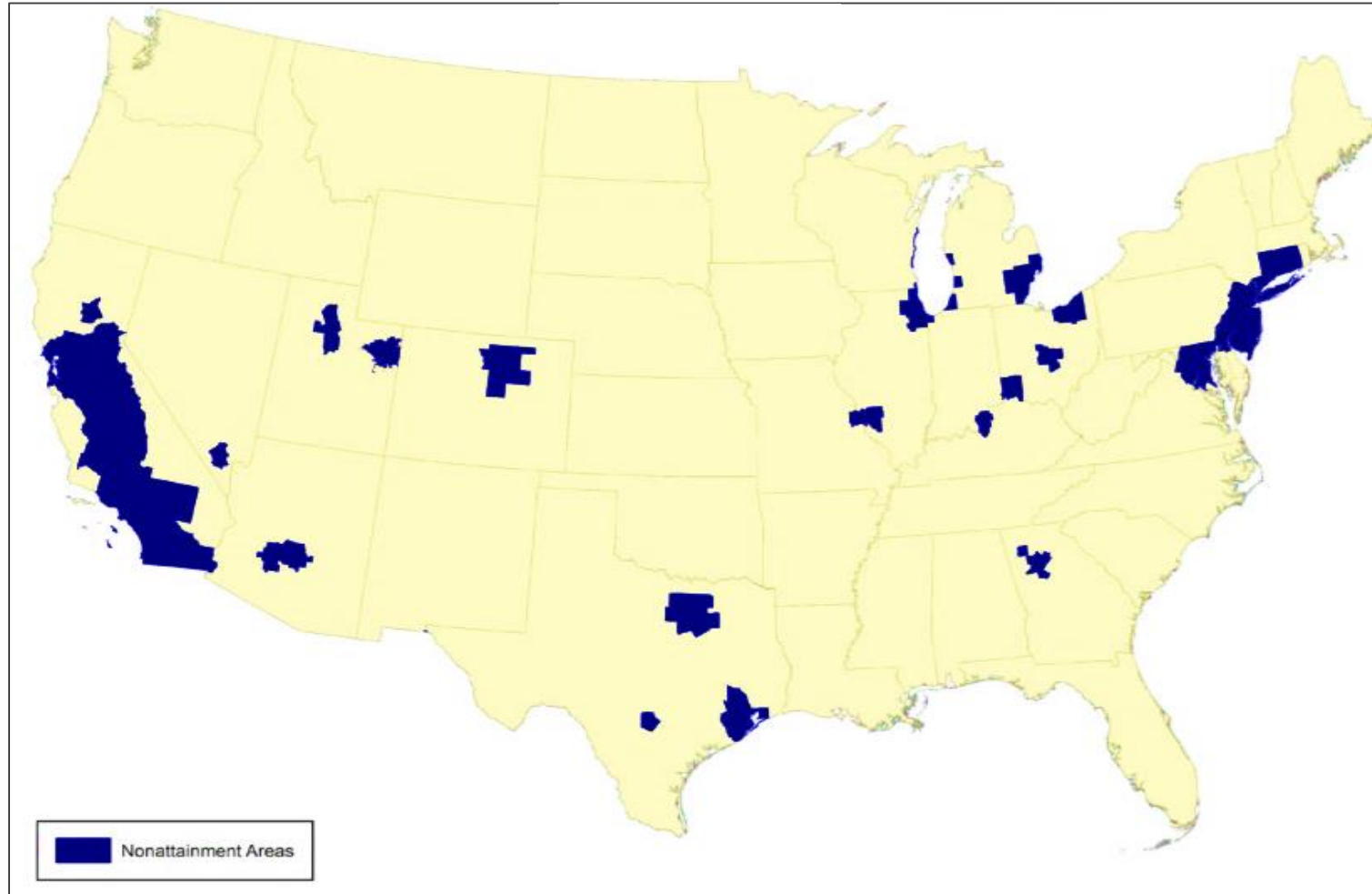
Effective Date:
Aug. 3, 2018

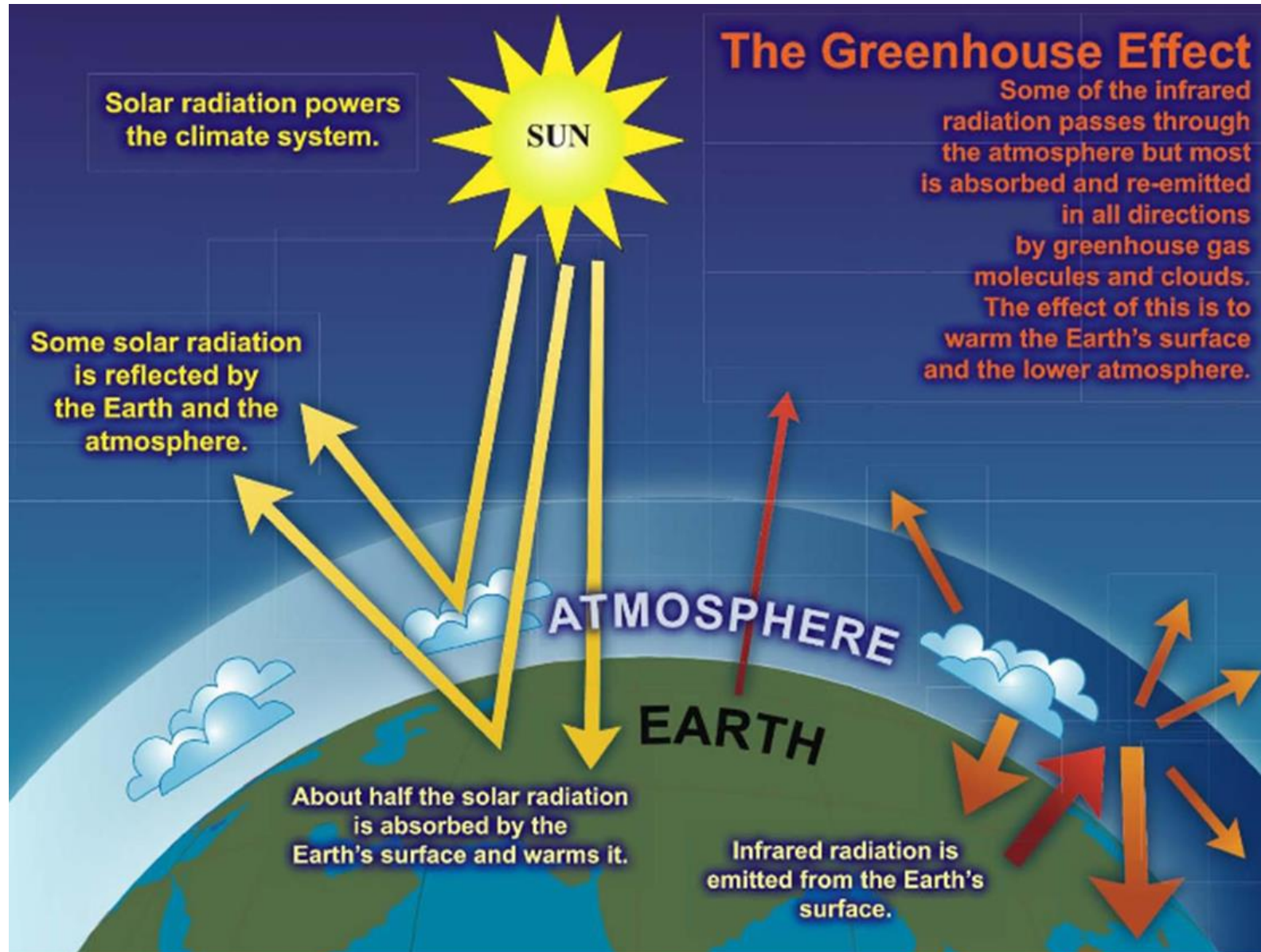
52 Nonattainment
Areas

41 Areas Classified
as Marginal:
Includes Denver
Metro/North Front
Range Area

All but 1 area with a
higher classification
are in California

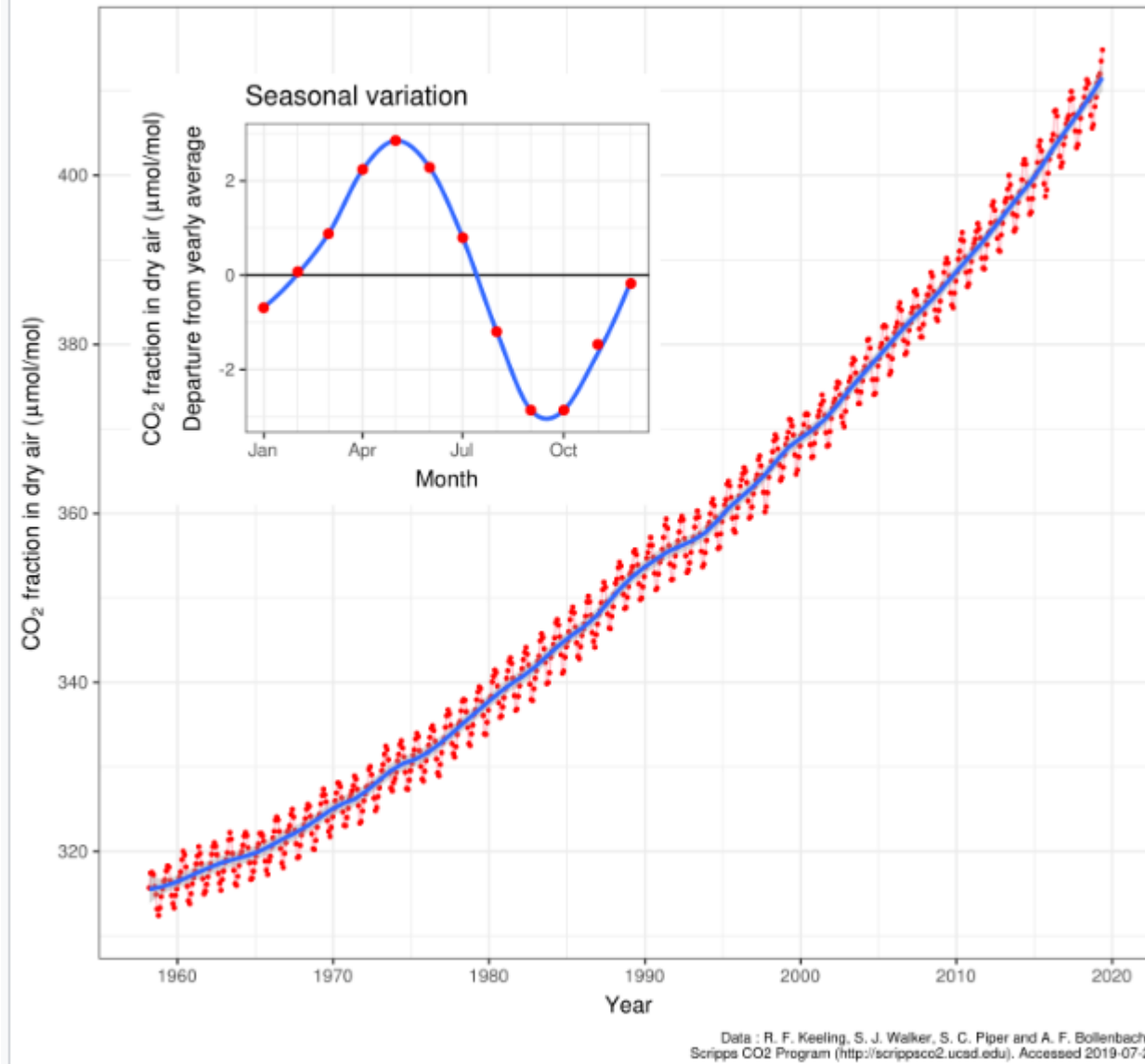
Marginal Attainment
Date: Aug. 2021
(2018-2020 data)





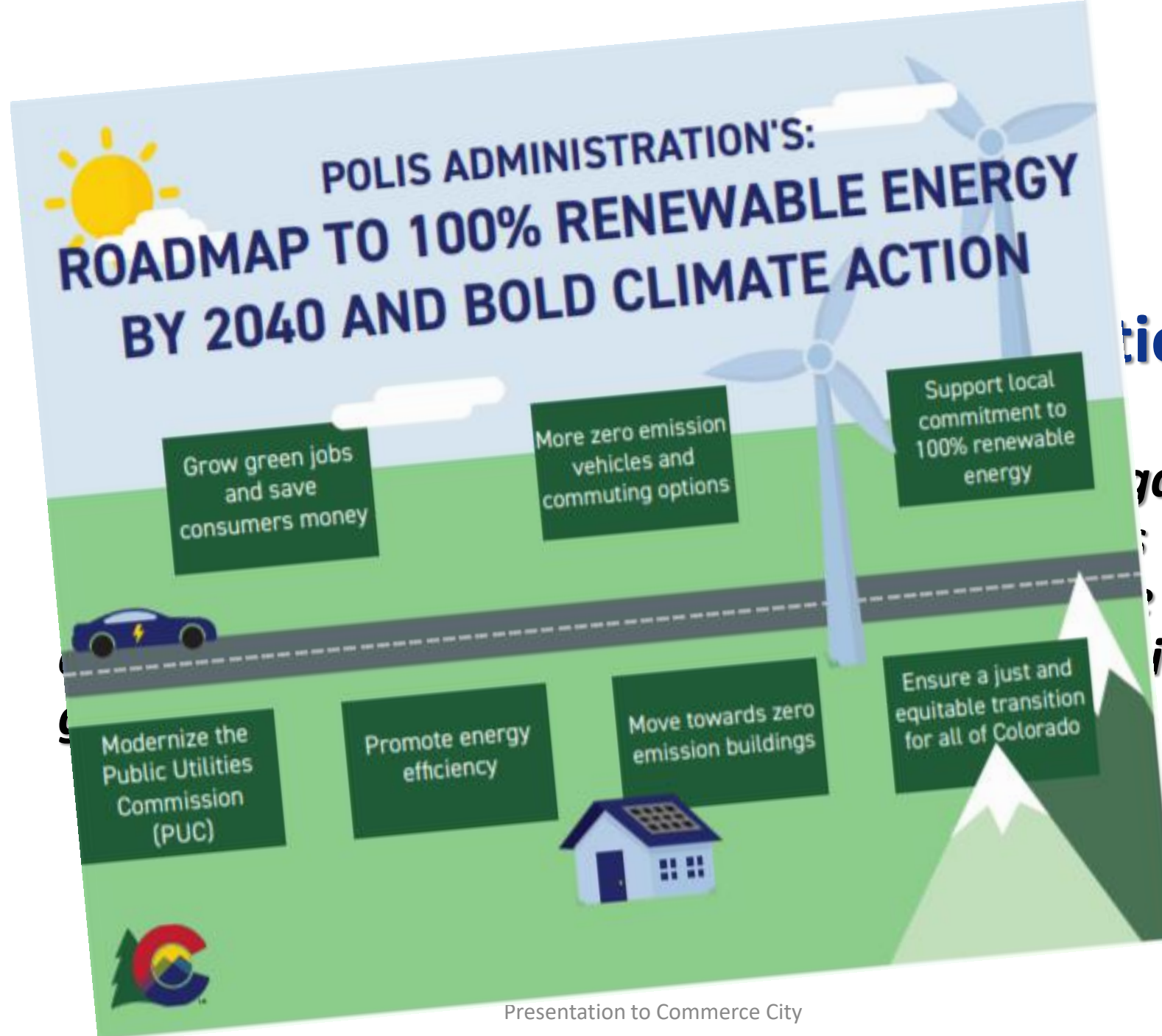
Monthly mean CO₂ concentration

Mauna Loa 1958 - 2019



Atmospheric carbon dioxide (CO₂) concentrations from 1958 to 2018





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gas

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Numerous Emissions Control Programs Already in Place

- **New vehicle emission standards**
- **Inspection and maintenance program**
- **Gasoline and diesel fuel standards and requirements**
- **National small engine, non-road and off-road limits**
- **Industrial source permitting and emission controls**
- **Numerous standards for commercial solvents/paints/coatings supplies and use**
- **Architectural and industrial maintenance coatings and consumer products**
- **Oil and gas industry regulations**
- **Transportation planning and transit**
- **Public education and outreach**

Control Strategies Under Review

STATIONARY SOURCES/OIL AND GAS

Monitoring Air Pollution Control Division's Efforts on:

- Reasonably Available Control Technology (RACT)
- Statewide Hydrocarbon Emissions Reductions (SHER) Team
- Regional Haze NOx Measures
- Pneumatics Tasks Force
- Marijuana Emissions Reduction Research

MOBILE SOURCES

Inspection and Maintenance (I/M) Program Updates:

- Lower Cut Points for Gasoline Vehicles
- Outreach to Drivers Registered Out of Area to Get Inspected
- Diesel I/M Program for NOx
- Regional Emissions Enforcement Program (fictitious tags)

Fuels:

- Low-Reid Vapor Pressure (RVP) Gasoline Fuels Study
- Low-Emissions Diesel (LED) Fuel
- Low Carbon Fuels

Vehicles/Equipment:

- Vehicle Miles Traveled (VMT) Reduction Strategies
- Replacement of High Emitters with Used Electric Vehicles (EV)
- Heavy-Equipment Usage Restrictions
- Motorized Boating Restrictions at Lakes and Reservoirs in Nonattainment Area on Forecasted High Ozone Days

LOCAL GOVERNMENT/LAND USE POLICIES

Engage Local Governments and Metropolitan Planning Organizations to Encourage/Incentivize

Policy Adoption by Local Governments:

- Anti-Idling
- Green Construction Contracting
- Electric Vehicle Charging
- Indirect Source Rule (ISR)

FUNDING

- Development of Dedicated Air Quality Funding Program

OTHER

- Retail Options to Promote Adoption of Electric Lawn and Garden Equipment
- Enhanced Summer Ozone Forecasting Program to Provide More Advance-Notice to Public

Program Updates



- *Simple Steps. Better Air.*
 - *Evaluating past year's education and outreach efforts and planning for 2020*



- *ALT Fuels and Charge Ahead Colorado*
 - *Applications received for \$9.5 million in funding*
 - *\$millions more available for 2020 – funding rounds throughout the year*



- *Mow Down Pollution*
 - *Residential program going retail - \$100,000+ budgeted!*
 - *Retail locations to supply product and area waste facilities to recycle old lawn mowers*



- *Air Quality Planning*
 - *Numerous emission control strategies under development through a Board committee process*
 - *"Serious" nonattainment designation finalized and a new "ozone SIP" will be developed by summer*





TEA BETTER AIR.
**OPERATE CLEANLY
AND EFFICIENTLY!!**
GO STE!!

Take transit to ease
congestion and save our air.

Choose a car over 4



-6-



QUESTIONS?

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