



Eastern Kern APCD

2023

Attainment Plan

NAAQS

- The Clean Air Act (CAA) requires EPA to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to public health and the environment.
- Ground level Ozone (O₃) is one of the criteria air pollutants identified in the CAA and regulated by the NAAQS.



Ground Level Ozone (O₃)

- ❑ Ground level O₃ is a harmful air pollutant, because of its effects on people and environment.
- ❑ Ground level O₃, is not emitted directly into the air, but created by a chemical reaction between NO_x, VOCs, and Sunlight.
- ❑ O₃ is the main ingredient in smog.
- ❑ O₃ is likely to reach unhealthy levels on hot sunny days.
- ❑ O₃ can be transported long distances by wind.



1997, 8-Hour Ozone NAAQS

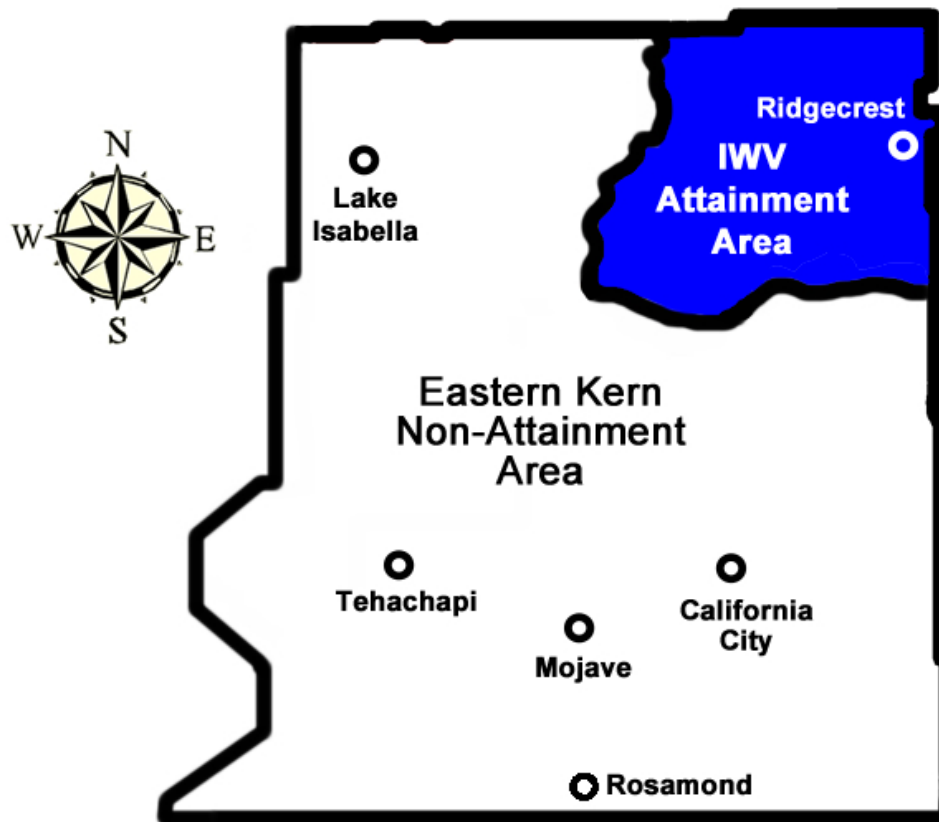
- 1997, EPA established an 8-hour average O₃ concentration limit of 80 parts per billion (ppb).
- Indian Wells Valley (IWV) attained 1997, NAAQS in 2004.
- District's Nonattainment area attained 1997, NAAQS in 2009.



2008, 8-Hour Ozone NAAQS

- ❑ 2008, EPA lowered the 8-Hour O₃ NAAQS from 80 ppb to 75 ppb.
- ❑ Many areas in California fell into the “nonattainment” category due to the more stringent standard.
- ❑ IWV (including Ridgecrest) remained in attainment.
- ❑ The rest of the District was classified nonattainment.

Attainment/Nonattainment Areas





2008, 8-Hour Ozone NAAQS

- District's nonattainment area was initially classified as Serious with an attainment date of 2020.
- District adopted an attainment plan in 2017, but failed to attain 2008, O₃ NAAQS by 2020.
- District's nonattainment area was reclassified to Severe with an attainment date of 2027.

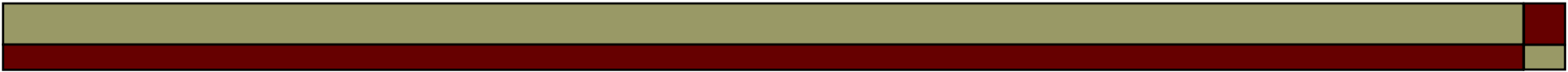


2015, 8-Hour Ozone NAAQS

- ❑ 2015, EPA lowered the 8-Hour O₃ NAAQS from 75 ppb to 70 ppb.
- ❑ IWV (including Ridgecrest) remained in attainment.
- ❑ The rest of the District was classified nonattainment.

2015, NAAQS Bump-up

- District's nonattainment area was initially classified as Serious with attainment date of 2027.
- Modeling showed District would not achieve 70 ppb standard by 2027, but could by 2032.
- 2033, is attainment date for Severe (2015, NAAQS).
- CAA §181(b)(3) allows areas that fail to attain the option to “bump-up” to the next higher classification.
- The Attainment Plan requests EPA “bump-up” EK's nonattainment area to Severe to allow time to attain.



Challenges

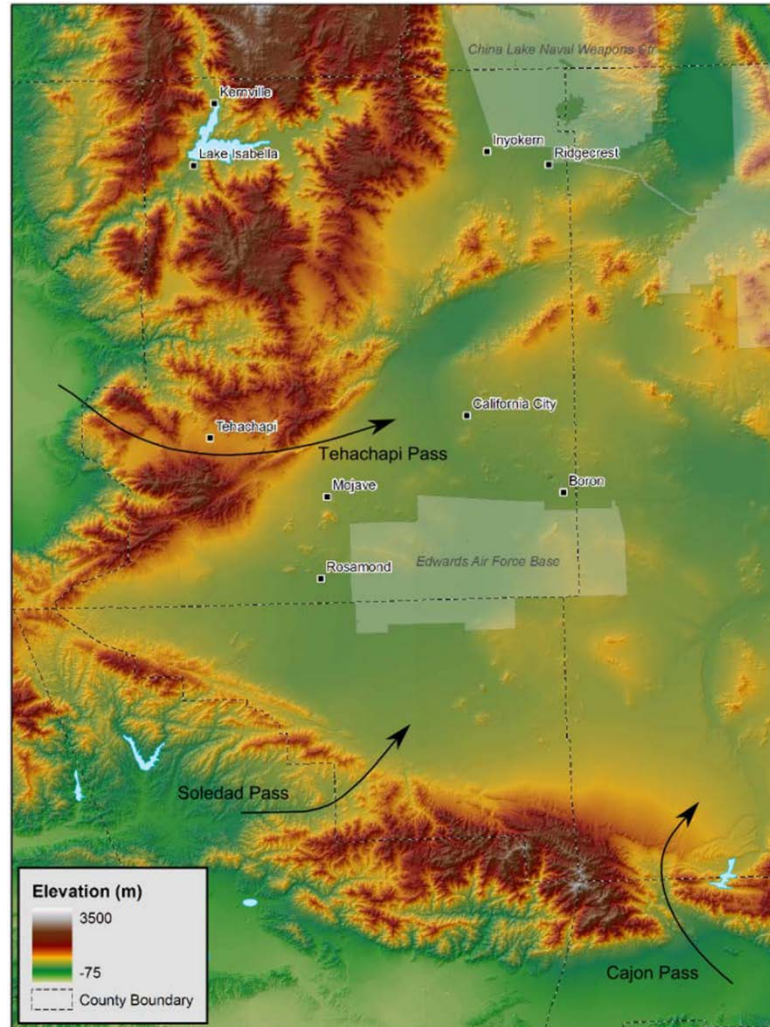
Meteorology

- ❑ Temperatures can exceed 100° F 60-70 days/year with little rainfall (May-September).
- ❑ Average summer humidity is below 10% during the hottest part of the day.
- ❑ This combination of hot dry, clear days results in intense solar radiation that is instrumental in the formation of ground level O₃.

Ozone Transport

- ❑ EK is located on the western edge of Mojave Desert.
- ❑ Several mountain ranges separate EK from populated valleys and coastal areas south & west.
- ❑ These mountain ranges contain passes that serve as O₃ “transport corridors” from the populated areas.
- ❑ Transport of O₃ precursor emissions from populated areas is a major factor of EK’s O₃ exceedances.

Transport Corridors

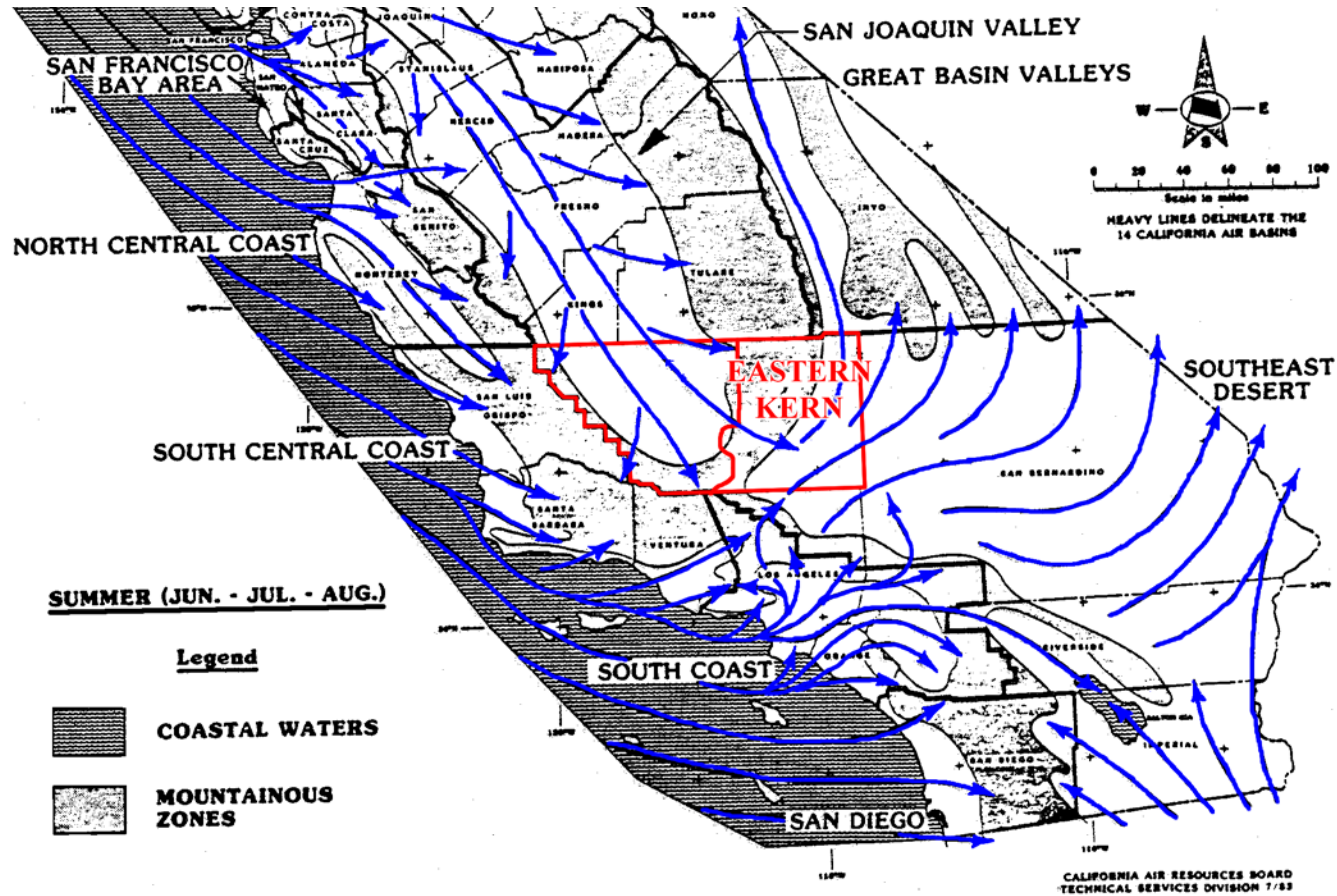




O₃ Transport Patterns in MDAB

- Study of the Mojave Desert Air Basin (MDAB) wind pattern map shows O₃ is transported from the San Joaquin Valley and South Coast into MDAB.
- District concludes O₃ transport greatly reflects the wind flow patterns in California.

California Wind Flow Patterns





2023, Attainment Plan



District VOC Rule Revisions

- District revised the following VOC Rules in 2022 in order to reduce O₃ precursor emissions:
 - 410 - Organic Solvents
 - 410.8 - Aerospace Assembly and Coating Operations
 - 412 - Gasoline Transfer into Stationary Storage Containers
 - 412.1 - Transfer of Gas to Vehicle Fuel Tanks
 - 432 - Polyester Resin Operations



CARB Commitments

- ❑ CARB has committed to reducing statewide O₃ precursor emissions through the adoption and enforcement of numerous mobile source regulations that are being phased-in throughout the next 8 years.
- ❑ This will help reduce local mobile sources O₃ precursor emissions as well as those being transported.

CARB Control Measure Schedule

Measure	Agency	Action	Implementation Begins
On-Road Heavy-Duty			
Advanced Clean Fleets Regulation	CARB	2023	2024
Zero-Emissions Trucks Measure	CARB	2028	2030
On-Road Light-Duty			
On-Road Motorcycle New Emissions Standards	CARB	2022	2025
Clean Miles Standard	CARB	2021	2023
Off-Road Equipment			
Tier 5 Off-Road Vehicles and Equipment	CARB	2025	2029
Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation	CARB	2022	2024
Transport Refrigeration Unit Regulation Part 2	CARB	2026	2028
Cargo Handling Equipment Amendments	CARB	2025	2026
Off-Road Zero-Emission Targeted Manufacturer Rule	CARB	2027	2031
Clean Off-Road Fleet Recognition Program	CARB	2025	2027
Spark-Ignition Marine Engine Standards	CARB	2029	2031
Other			
Consumer Products Standards	CARB	2027	2028
Zero-Emission Standard for Space and Water Heaters	CARB	2025	2030
Enhanced Regional Emission Analysis in State Implementation Plans	CARB	2025	2023
Federally & Internationally Regulated Sources – CARB Measures			
In-Use Locomotive Regulation	CARB	2023	2024
Future Measures for Aviation Emission Reductions	CARB	2027	2029

Reasonable Further Progress (RFP)

- Reasonable Further Progress (RFP) requires O₃ nonattainment area to demonstrate 3% per year reduction of O₃ precursors, averaged over consecutive three-year period until attainment date.
- RFP is met for 2008, NAAQS but not for 2015.
- CAA includes a provision that allows a nonattainment area that cannot meet the 3% annual emission reduction a pathway to an approvable RFP.

Pathway to RFP

- RFP can be approved if:
- The District demonstrates its control measures are at least as stringent as the next higher classification.
- This is Extreme for Eastern Kern.
- EK prepared analysis of its NO_x & VOC rules compared to the two Extreme Districts: SCAQMD & SJVAPCD and determined they are equivalent.

Weight of Evidence

- Photochemical modeling is required to ensure that existing and proposed control strategies provide the reductions needed to meet the NAAQS.
- CARB conducted the modeling for EK.
- The results of CARB's modeling shows EK will attain the 2008, NAAQS by 2026, and the 2015, NAAQS by 2032.



Contingency Measures

- ❑ The CAA requires that the plan include contingency measures in the event attainment is not achieved.
- ❑ EK has limited contingency measures due to the scarcity of finding any new unregulated source.
- ❑ As previously stated, EK's rules are already as stringent as those in Extreme air districts.

Possible Contingency Measures

- ❑ To satisfy the CAA requirement to list a contingency measures in the plan, the District has committed to:
- ❑ Removing the small container exemption from Rule 410.1A, Architectural Coating Controls, and
- ❑ Evaluating the applicability of a §185 Fee Rule.
- ❑ §185 fees would only be applicable if failure to attain is not cause by transport, EK's population is above 200,000, and EPA provides guidance on how to implement the rule.



Attainment Plan Adoption

- Proposed 2023, Attainment Plan is scheduled for adoption at the District's May 4, 2023, Board meeting.
- Board meeting will begin 2 pm at the District's Board room located: 414 W. Tehachapi Blvd., Suite D, Tehachapi, CA 93561.



Questions Comments

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