

US EPA ARCHIVE DOCUMENT



# Impacts of Climate Change on Air Quality in the Pacific Southwest

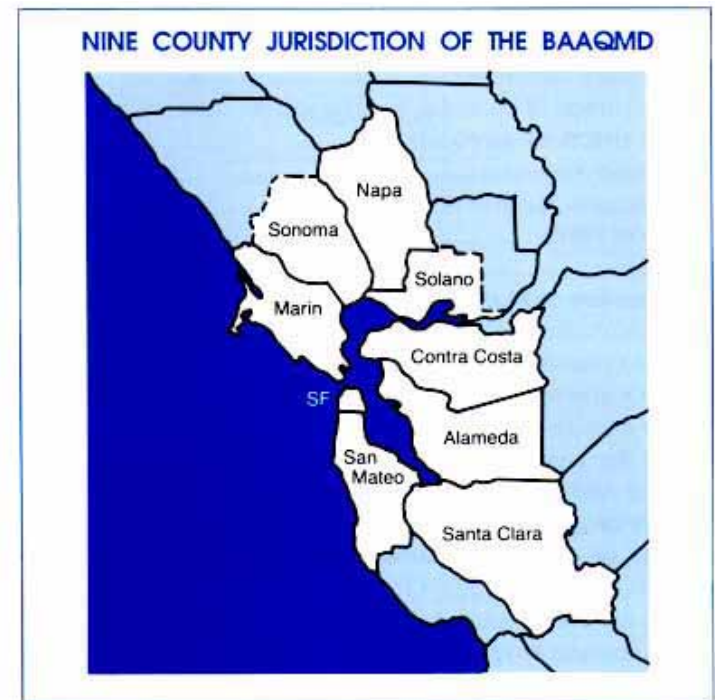
Research Priorities &  
Opportunities for Collaboration

October 11, 2007

Jean Roggenkamp  
Deputy Air Pollution Control Officer  
Bay Area Air Quality Management District

# Bay Area Air District Overview

- Jurisdiction over air quality in 9 Bay Area counties, including 101 cities
- Governed by a 22-member Board of Directors composed of elected officials from each county
- Total Bay Area population close to 7 million
- Approximately 148.6 million daily vehicles miles traveled

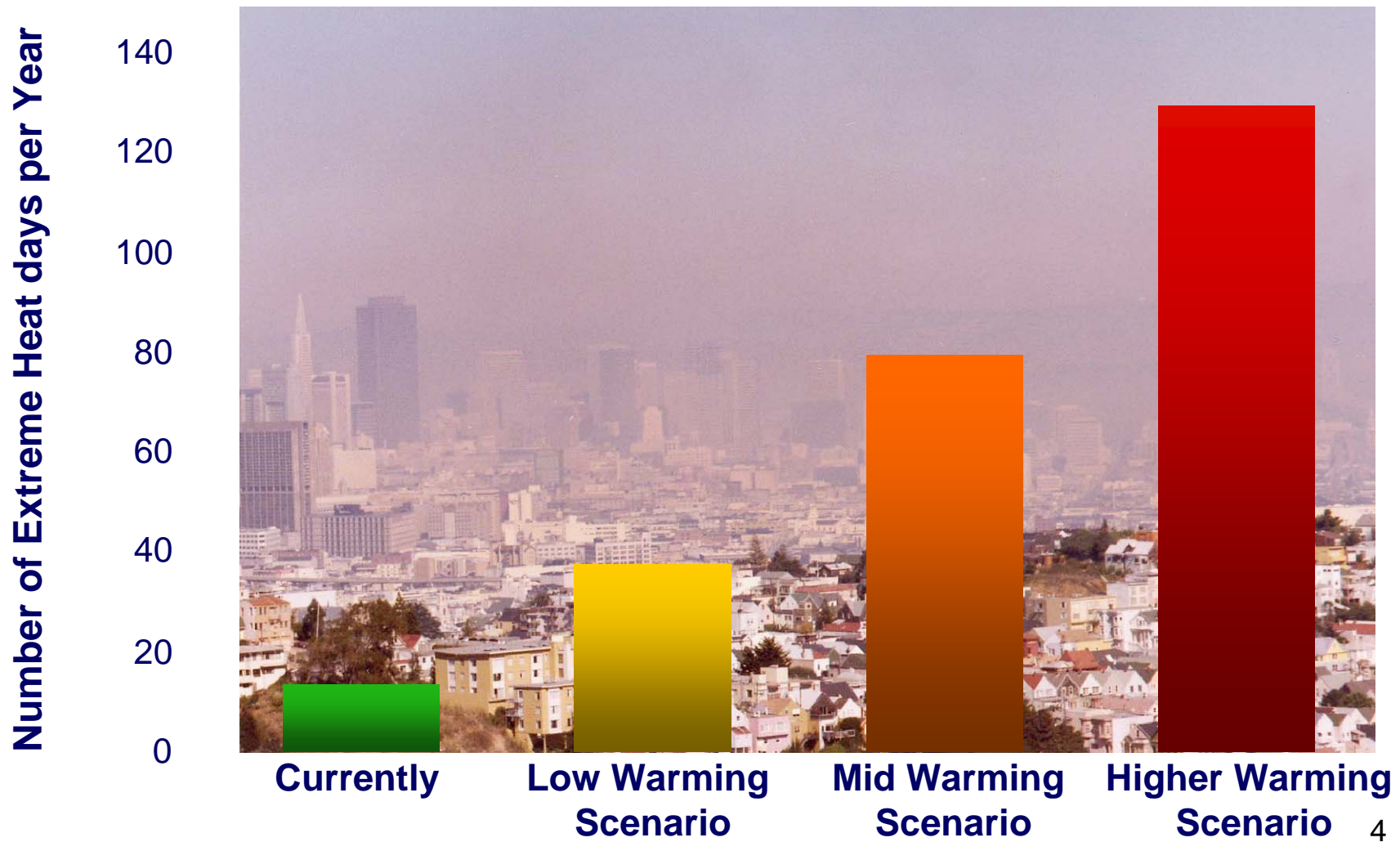


# Why an Air District Climate Program?

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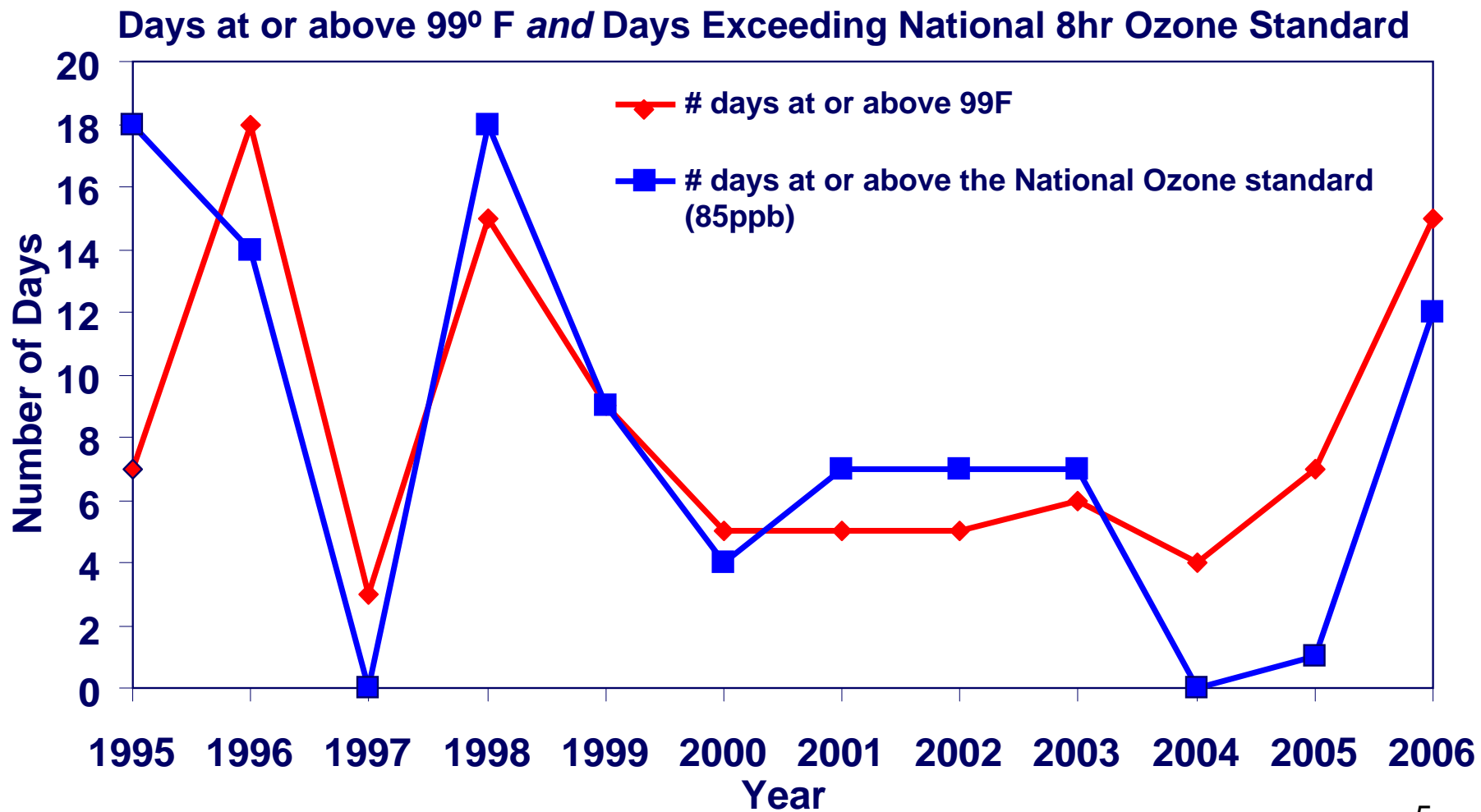
- Regional leadership and action needed on a critical environmental issue.
- Higher temperatures will increase emissions, eroding air quality improvements and harming public health.
- Air District programs allow for co-benefits of GHG, criteria, and toxic air pollutants. Co-benefit programs include:
  - Energy efficiency and renewable energy
  - Low emission vehicles and alternative fuels
  - Transportation control measures
  - Smart growth/transit oriented development

# Bay Area Extreme Heat Days



Source: CEC 2006 Report "Our Changing Climate"

# Bay Area Ozone and Maximum Temp Trends



# Climate Change Projected Impacts in Bay Area

- Air quality is not the only reason for climate protection actions
- A one meter sea level rise in the San Francisco Bay will adversely impact:
  - Airports
  - Freeways
  - Waste water treatment and other public facilities
  - Existing residential, commercial, and industrial areas



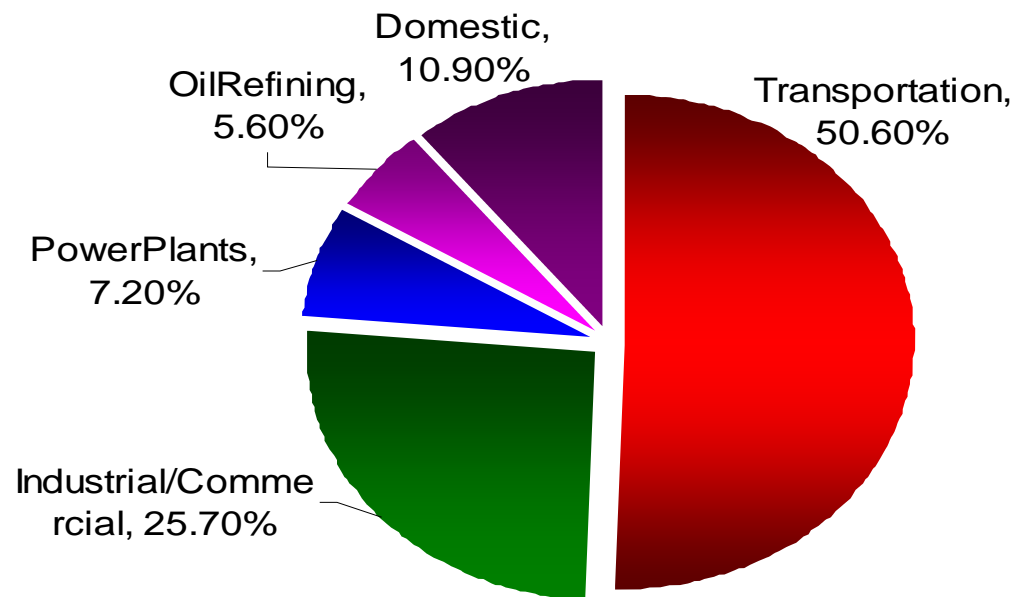
Source: BCDC 2006

# Integrating Climate Protection into District Functions

## Regional GHG Emission Inventory

- Based on criteria pollutant inventory
- Does not account for indirect sources (energy consumption)

**2002 Emissions by Major Categories**

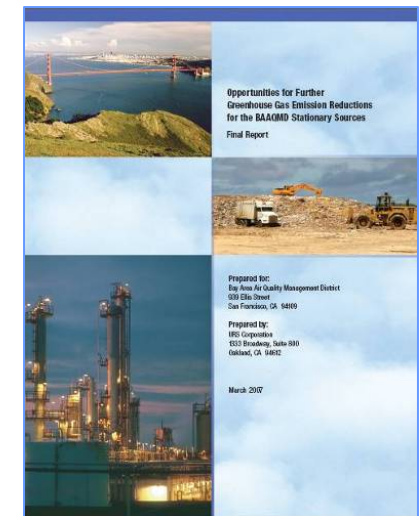


Total 85.4 Million Metric Tons of GHG



# Integrating Climate Protection into District Functions

- Planning
  - Regional GHG Emissions Inventory
  - CEQA comments and guidance
  - Local General Plan guidance for GHG reductions
  - Regional smart growth initiatives and transportation plans
- Stationary Sources
  - GHG Mitigation Technology Study: Phase I, opportunities for further GHG reductions at stationary sources
  - Phase II, feasibility assessment for further GHG reductions at landfills and boilers/process heaters/steam generators
- Regulatory



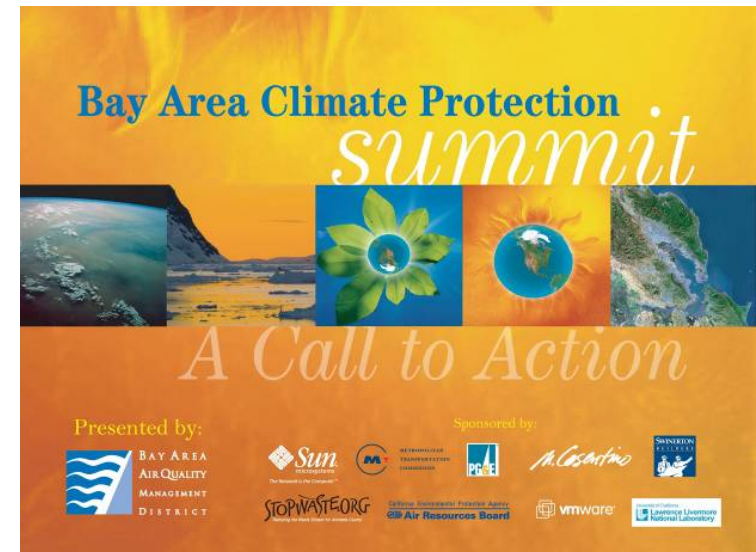
# Integrating Climate Protection into District Functions

- Incentives
  - GHG criteria in TFCA Grant Program
  - \$1.5 million Climate Protection Grant Program
  - Establish Foundation
  - Conoco Phillips: \$7M Offset Program
- Internal GHG Reduction
  - Carbon Neutral
  - Continue energy efficiency efforts
- Outreach and Education
  - Spare the Air
  - Public Outreach Campaign
  - K-12 Curriculum
- Continued Assistance to Local Governments



# Collaboration Activities

- Local Government Assistance
  - GHG emission inventory assistance
  - Local plans and programs
- Regional Collaboration
  - Bay Area Climate Protection Summit
  - Participation in Joint Policy Committee
- AB 32 Implementation
  - ARB
  - CAPCOA



# Local Government Assistance

- Assisting local governments in developing GHG emission inventories
- GHG emission data standardization by sector

- Transportation
- Utility
- Web portal



- Workshops for local government staff

- Assistance in preparing community wide GHG inventory
- Assistance in preparing GHG emission reduction plans
- Partnering with ICLEI, SSV, & others
- First workshop held September 7, 2007 for San Mateo & Santa Clara Cities



# Regional Collaboration

- Regional public agencies taking action
  - BAAQMD, BCDC, MTC, ABAG, JPC
- Local governments making a difference
  - Berkeley, Sonoma, Alameda, Marin, and San Francisco setting targets
  - San Mateo, Santa Clara, Contra Costa, Napa joining ICLEI and conducting inventories
- Businesses collaborating on emission reduction practices
  - BC3, partnership with Bay Area Council, City of San Francisco, and UN Global Compact
  - Sustainable Silicon Valley & Silicon Valley Leadership Group



# Statewide Collaboration

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- California Climate Action Team
- Air Resources Board
  - Statewide GHG Emission Inventory
  - Emission Inventory Protocols
  - Early Action Measures
  - Mandatory Reporting
  - Scoping Plan
- California Air Pollution Control Officers Association
  - ARB: AB32 Implementation
  - Cooperation among air districts
  - CEQA/climate change white paper

# Future Research Priorities

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- Modeling climate change impacts on air quality
- Trade-offs and co-benefits between criteria/toxic pollutants and GHGs
- GHG reduction technology assessment for federal sources: planes, trains, and ships
- Economic opportunities for green technology