

POLLUTION TRANSPORT ASSESSMENT

January 20, 2005



Air Resources Board

California Environmental Protection Agency

Ozone Transport in State Law

- **ARB responsibilities:**
 - **Oversee District compliance with California Clean Air Act**
 - **Assess transport and establish mitigation requirements**
- **Districts' responsibility:**
 - **Mitigate transport emissions under their authority**

Complex and Widespread Phenomenon



Assessment Challenge

- **Transport impacts vary day-to-day**
- **No single “number” or analysis quantifies transport**
- **Need to focus on the effects of reductions not just magnitude of transport**

Transport Activities

- **Transport analyses and triennial assessments since 1990**
- **Mitigation regulation in 1990**
- **Amended in 2003**
- **Northern California Air Quality Coordination Group**

State 1-hour Ozone and Transport

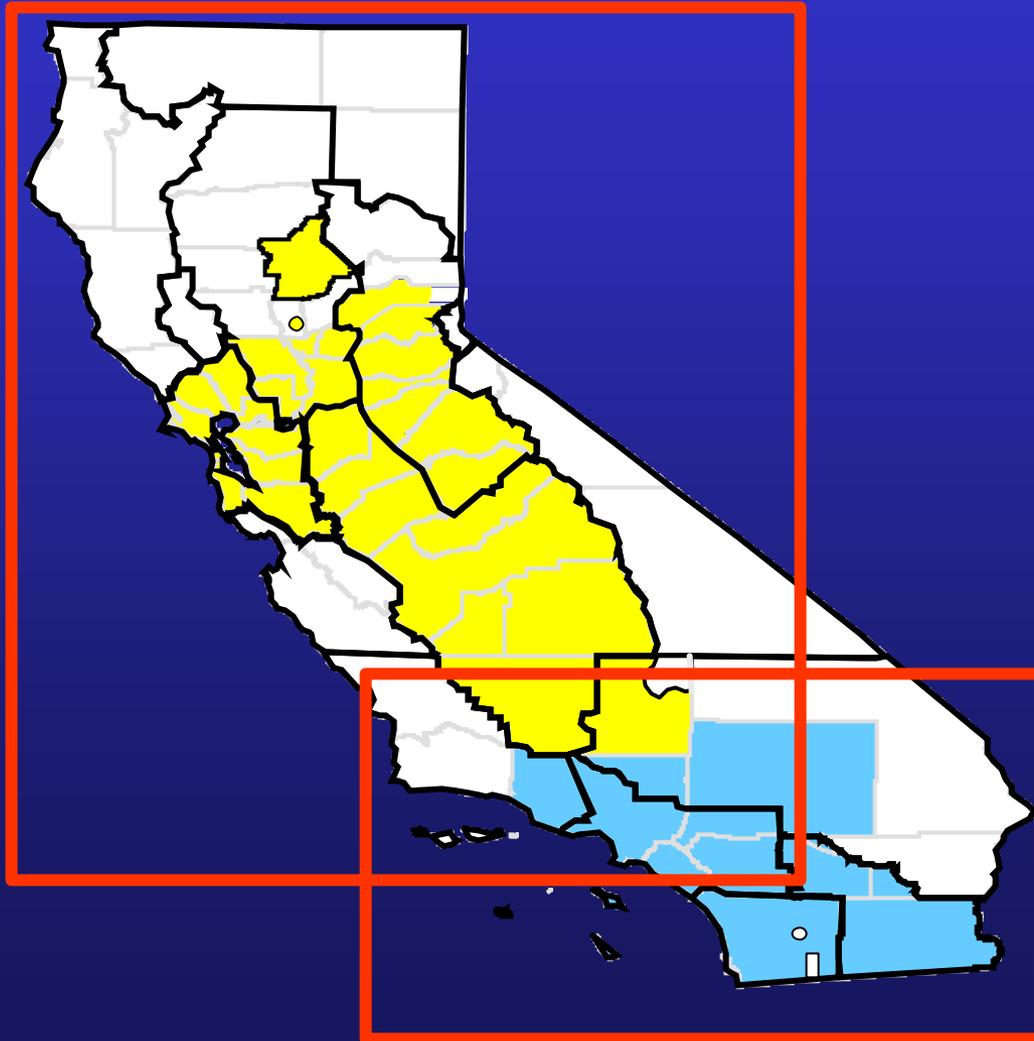
- **Fundamental transport relationships are identified**
- **Structure in place to ensure progress toward State standard**
- **Last triennial transport assessment in 2001**

Federal 8-hour Ozone and Transport

- **Basic 1-hour relationships apply**
- **Sensitivity to impacts related to level of the standard**
- **Impacts of upwind urban emissions extend into downwind rural nonattainment areas**
- **Tools available for next level of analysis**

Modeling & Analysis Regions

Central
CA Study
Domain



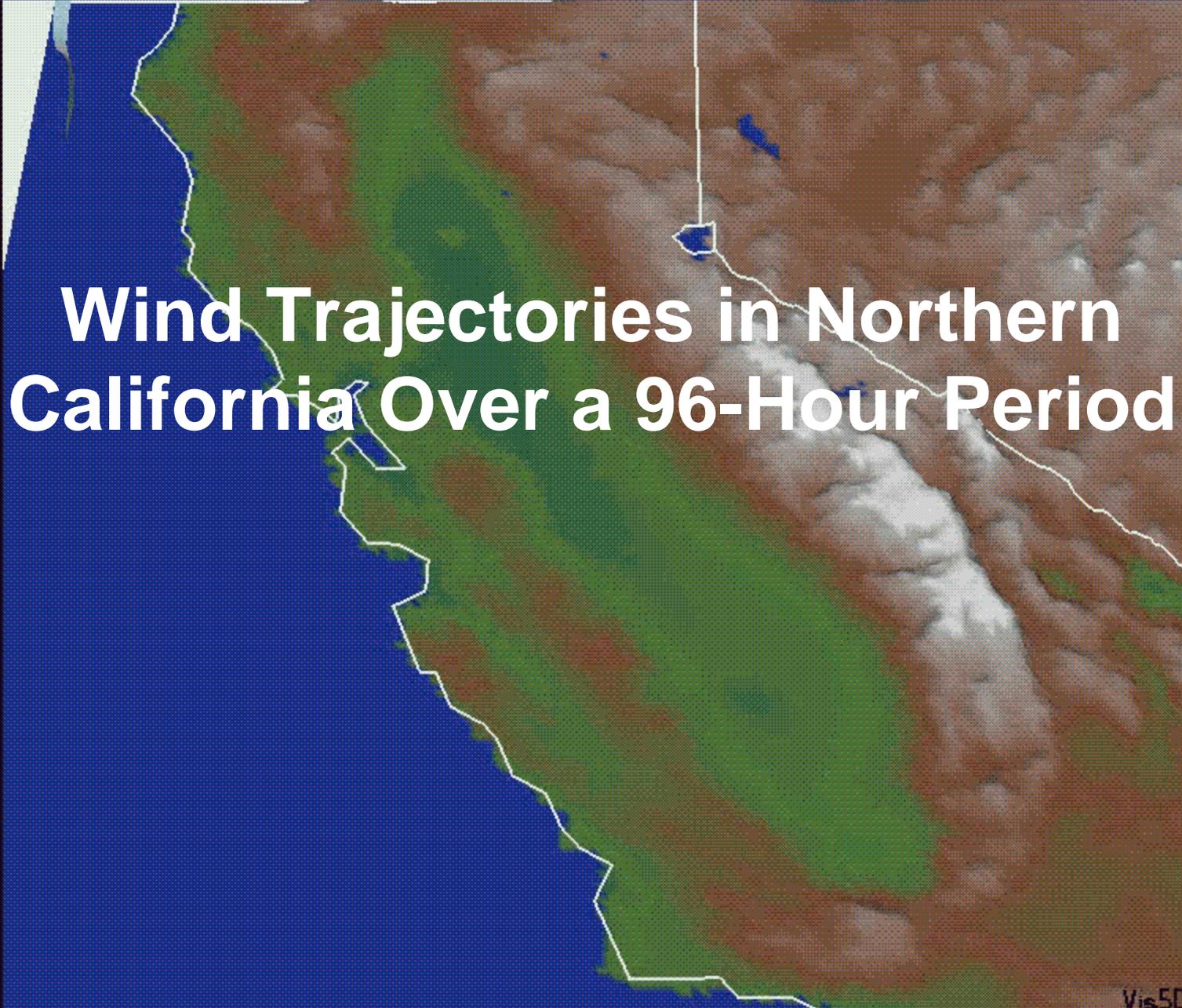
Southern
CA Study
Domain

Northern California Coordination and Outreach

- ARB/District coordination
- Joint technical work on inventory, modeling, and transport analysis
- SIP integration of transport work
- SIP kickoff workshops

Photochemical Modeling Analysis

- **Look at specific episodes with high ozone concentrations**
- **Evaluate ozone episode buildup and dissipation**
- **Quantify impacts of combinations of upwind and downwind emission reductions**

A topographic map of Northern California showing wind trajectories over a 96-hour period. The map uses a color gradient from green (low elevation) to brown (high elevation) to represent terrain. The coastline is shown in white. Several blue lines represent wind trajectories, starting from the coast and moving inland, with some looping around mountain ranges. The text "Wind Trajectories in Northern California Over a 96-Hour Period" is overlaid in white on the map.

Wind Trajectories in Northern California Over a 96-Hour Period

Near-term Modeling Analysis Priorities

- **Preliminary emission reduction targets**
- **Mobile source reduction impacts**
 - **Statewide programs**
 - **Regional strategies**
- **Downwind impacts of BA, SJV, and Sac emission reductions**

Ambient Data Analysis

- **Assess episode representativeness**
 - Regional high ozone conditions
 - Transport conditions
- **Estimate frequency of transport conditions across ozone season**

Expected Assessment Products

- **Relative upwind and downwind contribution on specific days over the 8-hour standard**
- **Impact of upwind and downwind emission reductions**
- **Transport frequency and strength**

Analysis and Planning Timeline

- **Upcoming in 2nd half 2006**
 - **Complete transport modeling and analysis**
 - **Report to Board on results**
 - **Release 8-hour plans with coordinated attainment strategies**
- **Adopt/approve SIPs 1st half 2007**