CalNex 2010
and Other Major Field Studies in California in 2010

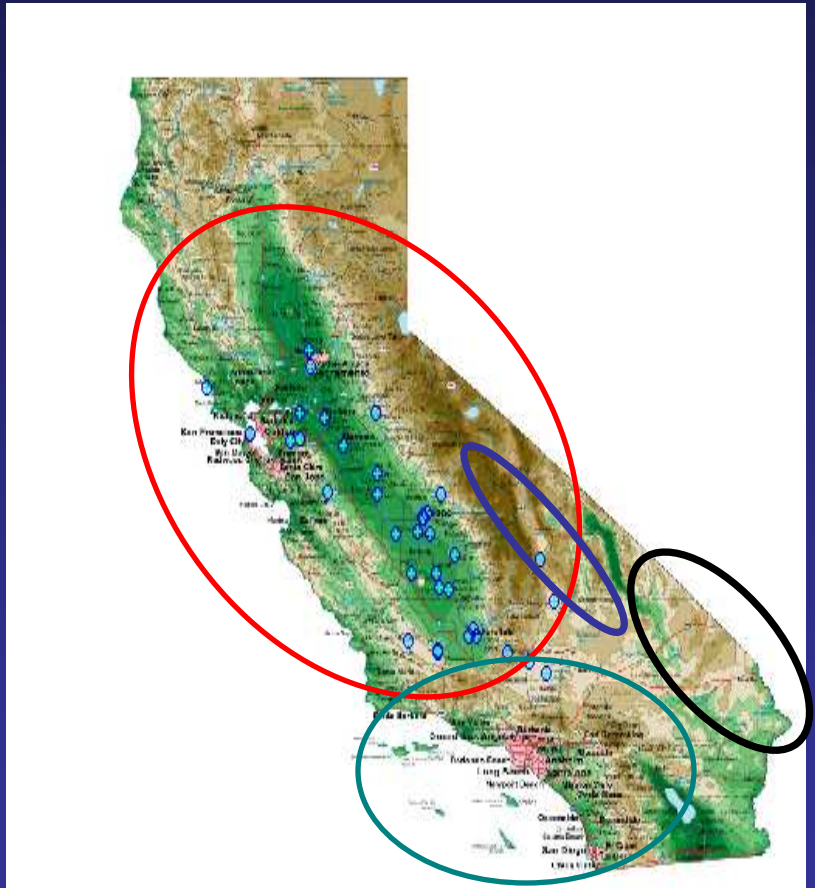
July 23, 2009

Air Resources Board

California Environmental Protection Agency

Air Quality Field Studies in California

- Field studies guide our regulatory program
- Improve understanding of sources & processes that form pollution
- Improvements to inventory and more sophisticated AQ models require additional data
- New focus on GHG & climate science



Source: John Watson

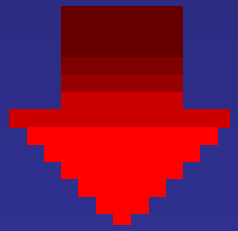
CalNex 2010

"Research at the Nexus of Air Quality and Climate"

- Some species affect both air quality and climate
- Measurements not previously possible
- Address the entire State and over the Pacific
- Answer foundational science issues
- $15 million effort by NOAA

CalNex Science Topics

- Emissions of greenhouse gases, ozone and PM precursors, both natural and anthropogenic.
- Improve understanding of chemical transformation and climate processes occurring in multiple air basins in California and over the ocean.
- Improve our ability to characterize and model air flow in California.



Improved air quality models
More effective regulations

NOAA – Scientists experienced in collecting sophisticated measurements on diverse platforms

NOAA P-3

NOAA *Ron Brown*

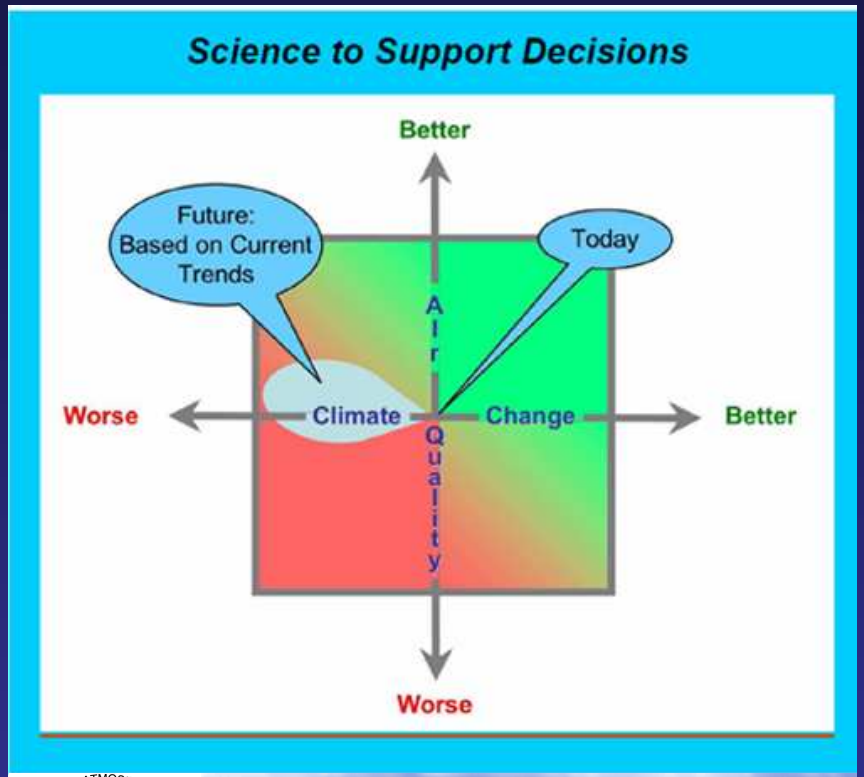
NOAA Twin Otter

CIRPAS Twin Otter

California's Contributions

- Los Angeles Supersite:
  - Focus on Organic PM and Nocturnal Chemistry
  - Significant support by SCAQMD and NOAA
- San Joaquin Valley Supersite:
  - Focus on Multi-day Chemistry for PM and Ozone
- Sulfur in SoCAB:
  - Marine and Terrestrial Emissions
  - Sulfur Chemistry and Transport
- Methane Monitoring:
  - Multiyear effort to measure CH_4 throughout the state
  - Coordinate with CalNex monitoring in 2010

CalNex 2010



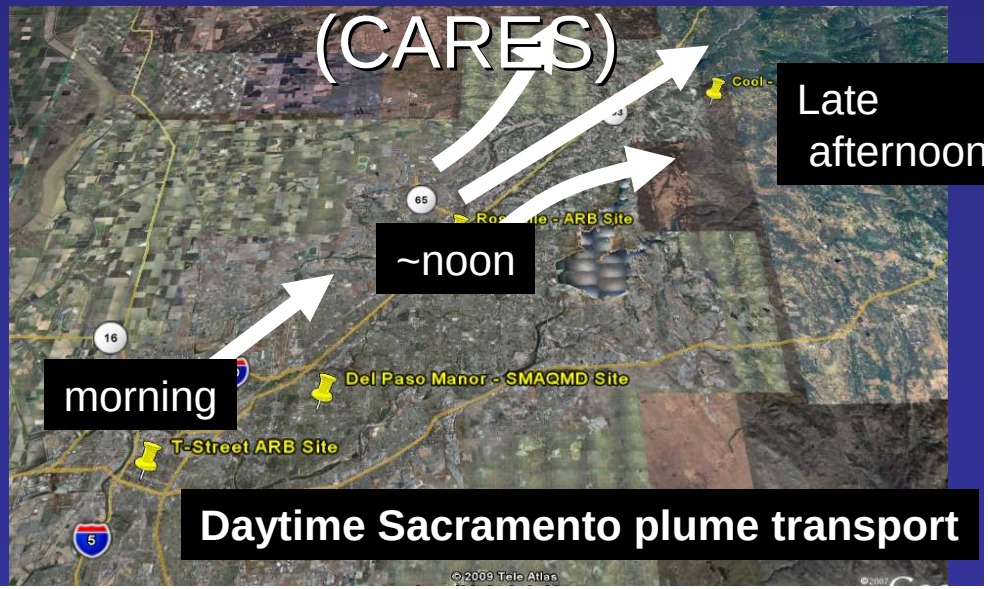
CALWATER

A Field Experiment Addressing Key Uncertainties in Climate Projections of Water Resources for California

Dr. F. Martin Ralph

NOAA/OAR/ Earth System Research Laboratory

9 September 2008

California Energy Commission (CEC) Climate Change Conference
Sacramento, California

Carbonaceous Aerosol and Radiative Effects Study (CARES)