

RESEARCH PROPOSALS

November 16, 2006

California Environmental Protection Agency



Air Resources Board

Summer
Weekday

Using Satellite Measurements to Improve California's Models for Ozone & PM

University of California, Berkeley
Professor Ronald Cohen
\$350,724 (30 months)

Objective: Using current satellite data to map emissions at scales for regional and urban air quality monitoring and modeling.

Expected Results: Spatially and temporally resolved NO_x inventory.

Low-Cost Particle Monitor for California EJ Applications



University of California, Berkeley
Professor Kirk Smith
\$213,088 (36 months)

Objective: To develop an affordable, accurate, and portable PM2.5 monitor.

Expected Results: Inexpensive and sensitive PM2.5 monitor using smoke-alarm technology.

Measurements of Biogenic Precursors to Ozone and PM in the Central Valley

University of California, Berkeley
Professor Allen Goldstein
\$400,003 (24 months)

Objective: To assess agriculture contributions to the biogenic volatile organic compounds emissions inventory.

Expected Results: Data to improve the inventory and the simulation platform.

Development of Updated ARB Solvent Cleaning Emissions Inventory

University of California, Riverside
Professor David Cocker III
\$249,343 (24 months)



Objective: To update the inventory of VOC emissions from solvent cleaning operations.

Expected Results: Updated emissions inventory to evaluate existing regulations and the need for new regulations.

New Organic Aerosol Spectrometer for Chemical Analysis from Mobile Sources

University of Southern California
Professor Denis Phares
\$245,338 (24 months)

Objective: Demonstrate a new instrument that can quantitatively measure organic compounds in the fine and ultra-fine particle size fractions of ambient aerosols in near-real time.

Expected Results: Information for determining chemical composition and evolution of aerosols.



Investigating the Role of Lubricating Oil on PM Emissions from Vehicles

Southwest Research Institute
South Coast Air Quality Management District

Kevin Whitney

\$100,000 (15 months)

Objective: To determine the effect of lubricant in PM emissions under various operating conditions.

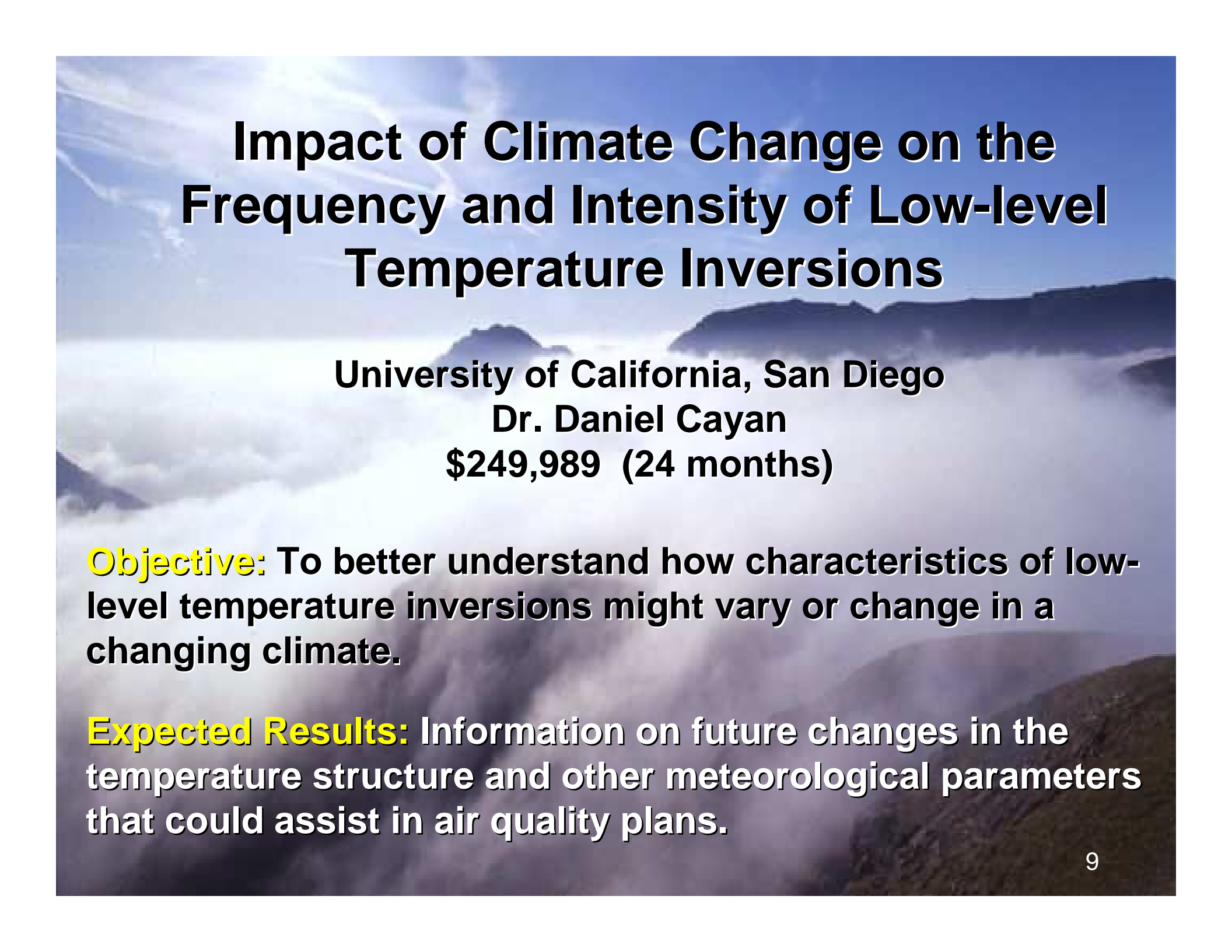
Expected Results: Understanding the impact of commercial automotive lubricants and alternative formulations on PM emissions.

Lifecycle Analysis of Climate-Change Reduction Strategies

University of California, Davis
Dr. Mark Delucchi
\$199,561 (27 months)

Objective: To enhance UCD's Lifecycle Emissions Model for evaluating greenhouse gas emissions impacts of mitigation strategies.

Expected Results: A comprehensive model that will calculate aggregate lifecycle greenhouse gas and criteria pollutant emissions.



Impact of Climate Change on the Frequency and Intensity of Low-level Temperature Inversions

University of California, San Diego

Dr. Daniel Cayan

\$249,989 (24 months)

Objective: To better understand how characteristics of low-level temperature inversions might vary or change in a changing climate.

Expected Results: Information on future changes in the temperature structure and other meteorological parameters that could assist in air quality plans.

RECOMMENDATION

**Approve Resolution Nos.
06-30 through 06-37**