A Unique Opportunity

The timing of this study and the availability of unprecedented resources for atmospheric research in California reflects the conjunction of interests among NOAA, CARB, and CEC in developing a unified understanding of the issues at the heart of coupled air quality and climate change problems. NOAA’s research program embodies a “one atmosphere” perspective that addresses both air quality and climate change issues. This program utilizes state-of-the-art airborne, ship- and ground-based instrument packages, and is effected through regional assessments conducted throughout the U.S. This impels NOAA to seek out regional government and academic researchers to complement its own national-scale research efforts with local understanding of specific problems. California’s evolving regulatory posture, including CARB’s new initiatives focused on climate change and goods movement, demands much greater understanding of processes aloft and offshore to relate California conditions to continental and global processes and trends. CEC, through its Public Interest Energy Research (PIER) program, is charged with developing greater understanding of the effects of global pollution and climate change on California, with special emphasis on the impacts on air quality and water resources. A full investigation of these impacts requires a continental-to-hemispheric perspective. Thus NOAA’s larger-scale perspective, capabilities and experience are an ideal complement to CARB’s and CEC’s deep understanding of local atmospheric issues in California.

This opportunity will not recurr. NOAA field programs, conducted every second year, follow a rotation to provide support to regions across the U.S. Thus their participation cannot be postponed. CARB is embarking on new regulatory activities that arise from Assembly Bill 32—Global Warming Solutions Act of 2006. These activities require scientific support. The timeline of this work makes a 2010 field study much more valuable than deferring to the distant future. The impacts of climate change are growing. CEC has a pressing need to understand these impacts. Together, these participants can generate a uniquely integrated view of atmospheric processes along the western boundary of North America. The cost for any one agency to undertake a field project of this scale would be prohibitive.

ARL/ATDD Supported Measurement

1. Urban Surface Energy Budget: LA Supersite
2. Air-Surface Exchange of Ammonia in the San Joaquin Valley