

EDITORIAL

The objectives of the International Specialty Conference entitled "Regional Photochemical Measurement and Modeling Studies," held in San Diego in November, 1993 were to 1) facilitate sharing of scientific findings and organizational experiences among the different study groups who work toward understanding and managing the regional/urban tropospheric ozone problem, 2) provide a forum for the timely exchange of information among scientists and policy makers involved in regionwide ozone air quality management, and 3) develop a preliminary assessment of study results in light of policy and regulations, and vice versa. A summary of the conference is given by Solomon (1995). While the primary emphasis of the conference was technical, two policy sessions were included to place technical results in perspective with policy issues. In these two sessions, authors discussed the interactions between science and policy from either a historical perspective or from the present-and-into-the-future perspective and indicated the technical needs for policy and regulations.

Approximately 500 scientists, engineers, and air quality managers attended the week-long conference. More than 350 papers, (including over 145 from SJVAQS/AUSPEX/SARMAP, SOS, and LMOS)¹ were presented in 41 sessions, including one panel discussion and two poster sessions. Authors represented nearly 30 ozone-related measurement and/or modeling studies from 18 countries. Abstracts for papers presented at the conference are available in the *Abstracts Book* (Solomon 1993) for the conference. Papers from the conference are being published in a variety of journals and books, depending on the technical area covered in the paper. The following journals are publishing special issues: *Atmospheric Environment*, *Journal of Geophysical Research—Atmospheres*, and *Journal of Applied Meteorology*. A formal *A&WMA Conference Transactions* is also being published, as well as a book (Rodgers and Solomon 1995) entitled *Ozone: Science and Policy*. A comprehensive bibliographical listing of the papers presented at the conference by session topics is included in Solomon (1995).

The technical papers presented at the conference provide much insight into a variety of meteorological phenomena and their relationship to air quality issues. For example, the relationship between synoptic-scale variability and surface ozone concentrations in British Columbia was examined as a means of eliminating such variability from studies of air quality trends. In the San Joaquin Valley of California, a dense meteorological network was deployed including 49 upper-air sounding sites. Data from this network were used to examine the relationship of field conditions and data processing to field measurements, to establish transport patterns between adjoining air basins, and to provide data for the first dense-field data assimilation by a mesobeta-scale meteorological model. In a similar study, another mesoscale model was used over the Lake Michigan area with assimilation of only synoptic-scale data. In both the San Joaquin Valley and Lake Michigan areas, mesoscale meteorological modeling showed considerable skill in simulating lake breezes, low-level jets, regional eddies, convergence zones, mixing heights, and slope flows. Meanwhile, studies in the northeastern United States indicate that air quality simulations are sensitive to meteorological fields produced by prognostic versus diagnostic models on the mesoscale. In Atlanta, a comparison was obtained among methods for estimating mixing height. Regional databases and regional meteorological modeling enabled researchers working in the San Joaquin Valley and San Diego areas, and in the Lake Michigan area, to study regional transport

¹ The initial focus of the conference was the San Joaquin Valley Air Quality Study with Atmospheric Utilities Signatures, Predictions, and Experiments (SJVAQS/AUSPEX, the field management program) and SJVAQS/AUSPEX Regional Model Adaptation Project (SARMAP, the modeling and data analysis program); the Southern Oxidants Study (SOS); and the Lake Michigan Ozone Study (LMOS). Many other current air quality studies with emphasis on ozone were also invited.

of pollutants both within and across air basin boundaries. Statistical methods were applied to ozone prediction in Vancouver, Montreal, and Atlantic regions of Canada for the purpose of issuing public advisories. Meteorology was correlated with air pollutants in North Carolina, and the depletion of ozone by convective clouds was studied by French researchers. Clearly, these studies indicate that regional photochemical measurement and modeling studies around the world have produced an abundance of useful meteorological information often unmatched by other sources. It is hoped that this volume will bring such studies and their products to the attention of the meteorological community and will serve to stimulate interest in this complex and fascinating area of research.

The San Diego conference was cosponsored by five professional societies: Air & Waste Management Association (primary sponsor), American Meteorological Society, American Geophysical Union, American Chemical Society Division of Environmental Chemistry, and American Association for Aerosol Research. The conference also had financial sponsorship from over a dozen groups, including Pacific Gas and Electric Company (primary financial sponsor); California Air Resources Board; Electric Power Research Institute; Ontario Ministry of the Environment; Southern California Edison; Southern Oxidants Study; Office of Research and Development, U.S. EPA; Office of Air and Radiation/OAQPS, U.S. EPA; American Petroleum Institute; Chevron Oil Company; Western States Petroleum Association; Air Resources Laboratory, National Oceanic and Atmospheric Administration; IBM; and Silicon Graphics, Inc.

We appreciate the efforts of the two Technical Program Co-Vice Chairs C. S. Kiang and Mike Koerber, the General Conference Co-Chairs Shirley Rivera and Terry Jones, and the Executive Technical Committee members John Wilson, Peter Mueller, Mike Rodgers, Julius Chang, Ellis Cowling, Basil Dimitriadis, Andy Ranzieri, and Ken Schere.

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REFERENCES

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