



NOAA ARL Monthly Activity Report



April 1999

Bruce B. Hicks, Director
Air Resources Laboratory

Highlights

- 1. *ARL Retreat.*** Senior scientists from all of the ARL Divisions gathered for discussions of ongoing programs and research opportunities at Research Triangle Park, NC in late April. Representatives from NCEP and OAR also attended, and contributed significantly to the success of the meeting. A follow-up retreat is now planned for Oak Ridge in April/May 2000.
- 2. *Commercial Deployment of ARL Aircraft Instrumentation.*** The first FAA-certified Sky Arrow Environmental Research Aircraft manufactured in Italy, was delivered to the United States and passed FAA inspection. It will be transported to the Alaskan north slope for measurements this coming summer. This commercially produced aircraft was specifically designed and certified to carry the Mobile Flux Platform and BAT probe instrument suites developed by ARL scientists at Oak Ridge. (brooks, dumas@atdd.noaa.gov)
- 3. *Solicitation for AMS Nominations.*** The AMS Measurements Committee, chaired by Jerry Crescenti, is seeking nominations for the Robert Leviton Award, the Remote Sensing Lecturer, and the Walter Orr Roberts Lecturer in Interdisciplinary Sciences. Scientists are asked to submit nominations of potential candidates to Jerry Crescenti. Descriptions of these three awards are given below.

The Robert Leviton Award is presented for the best student paper on development or evaluation of atmospheric instrumentation or unique measurement techniques. The paper selected for the award may be chosen either from those given at a designated national meeting or technical conference of the AMS, or from papers appearing in one of its journals. To be considered for the award, an entrant should either be enrolled as a full-time student or be a student who has just completed a degree but has not yet begun employment at the time the paper is given or submitted for publication. The Robert Leviton Award carries a cash prize of \$300. This award honors Robert Leviton, who devoted nearly his entire professional career to endeavors related to the measurement of wind, temperature, pressure, and humidity in the atmosphere. He was one of the pioneers in reducing large datasets from radiosondes using a computer.

The Remote Sensing Lecturer is selected in recognition of sustained, outstanding contributions to passive and active remote sensing of the atmosphere or oceans. The lecture is presented at one of the following conferences: Radar, Satellite, Laser, Atmospheric Radiation, and/or Measurements depending on the Lecturer and topic. The lecture will be published in the Bulletin of the AMS.

The Walter Orr Roberts Lecturer in Interdisciplinary Sciences is selected in recognition of significant contributions to the understanding of atmospheric processes derived from multi disciplinary research activities. The purpose of the lectureship is to foster interchange of knowledge between atmospheric scientists and

persons in other disciplines. The lecture is presented at the AMS Annual Meeting or an appropriate specialized conference and published in the Bulletin of the AMS. (jerry.crescenti@noaa.gov)

4. Outreach. Malcolm Smith, a native American on whose home site the Fort Peck SURFRAD station is located, won this year's NOAA Local Environmental Hero award. This award recognizes local citizens who have volunteered their efforts to "protect and preserve" the nation's environment. Mr. Smith routinely checks the SURFRAD station for malfunctioning equipment and keeps the glass domes of the instruments clean. He will receive a mounted certificate signed by Dr. Baker, and we will also send to him a NOAA sweatshirt and mug. (John Augustine, 303 497 6415)

General

The topics that are presented are sorted according to their contribution to the NOAA Strategic Plan, as follows . . .

Sustain Health Coasts: 5, 9

Short-term Forecasting and Warnings: 6, 7, 10, 11, 12, 17, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32

Seasonal to Interannual: 14, 15

Decadal to Centennial: 8, 13, 16, 18, 19, 33

Crosscutting: 1, 2, 3, 4

Silver Spring

5. *The Transport and Deposition of Toxic Substances to the Great Lakes.* Work continues on the analysis of atmospheric deposition of dioxin, atrazine, and cadmium to the Great Lakes. A dioxin emissions inventory for the U.S. has been combined with an inventory for Canada, and the HYSPLIT model has been used with the combined inventory to estimate source/receptor relationships for the Great Lakes. Preliminary results for dioxin were presented to the International Joint Commission in Washington D.C. on April 13. Preliminary results suggest that long-range transport is very significant for Lakes Superior and Huron – accounting for the most of the atmospheric deposition -- and significant for Lakes Michigan, Erie, and Ontario – accounting for approximately half of the deposition. Substantial uncertainties exist in the emissions inventories and the fate and transport modeling, and efforts to characterize these uncertainties are underway. The modeling results are currently being evaluated by comparison against ambient measurements.

GIS assistance for this project has been obtained through cooperation with the Ontario Ministry of Environment and Energy, the Ontario Ministry of Natural Resources (MNR). A GIS specialist, Larissa Mathewson, of MNR is on temporary assignment at NOAA to assist with the mapping and spatial analysis aspects of this project.

Work continues on atrazine and cadmium, as well. Extensive atrazine simulations with HYSPLIT have been completed, and now await postprocessing to combine the simulation results with a binational inventory of atrazine emissions. Work continues on the configuration of HYSPLIT to simulate cadmium emissions. (mark.cohen@noaa.gov)

6. *Hysplit Installations.* The Hysplit code was installed at the British Atmospheric Data Center with modifications to access their ECMWF archive and forecast data base. The intention is that the staff there will set up a web site similar to READY to permit user to calculate trajectories on-line, but using ECMWF model output fields rather than the NOAA fields available from our web site. (roland.draxler@noaa.gov)

7. *SE Asia Dust Transport.* A module was developed, tested, and incorporated into the Hysplit code to calculate the resuspension of PM10 particles to predict the formation of dust storms in Saudi Arabia and Kuwait. The intent is to use the model to calculate PM10 air concentrations during the period of Desert Shield and Storm. The next phase will be to test the model against monitoring data and refine the resuspension threshold constants. (roland.draxler@noaa.gov and dale.gillette@noaa.gov).

8. *Tropical Lapse Rate Study.* There is an apparent discrepancy between observations of strong upward trends in global surface temperatures and much smaller trends in the lower-tropospheric temperatures (from radiosonde data and MSU satellite data) since 1979, with the most striking discrepancy in the tropics. One possible explanation for this discrepancy would be increases in the lower tropospheric lapse rate during this period. To look into this possibility, a study of tropical radiosonde data has been initiated, both for the MSU period and the longer radiosonde record. Preliminary results suggest statistically significant increases in tropical lapse rates during the MSU period, but not in the longer record. These observational results will be compared with climate model simulations as part of a collaborative effort involving Lawrence Livermore National Lab. (dian.gaffen@noaa.gov)

9. *Ammonia Intercomparison Experiment.* Ammonia emission from agricultural livestock operations on Maryland's Eastern Shore, and its subsequent deposition in the Chesapeake Bay watershed, may play an important role in N enrichment in these estuarine and coastal waters. Given the difficulty of accurately measuring ammonia, ARL has organized a three-week intensive to compare a variety of techniques for measuring gas-phase ammonia in the atmosphere. The sampling site is located at the Chesapeake Biological Laboratory in Solomons Island, Maryland, at the mouth of the Patuxent River. Gas- and particulate-phase ammonia/ammonium samples are collected at 24h intervals using filterpacks (ARL and University of Maryland/CBL); annular glass denuders (ARL and Clarkson University); honeycomb glass denuders (University of Maryland/CBL); impingers (USDA); Willems badge passive samplers (ARL); and Ogawa passive samplers (University of Delaware). The passive samplers are deployed at weekly intervals. The comparison will last until May 31, and the results will be prepared for publication in the peer-reviewed literature. There are plans to repeat this experiment next year, at a site near USDA in Beltsville, MD, when additional techniques can be compared. (winston.luke@noaa.gov)

10. *International Radiological Exercise.* ARL headquarters participated in the INEX2/CANATEX3 (International Nuclear Emergency Exercise/Canadian National Exercise) April 27-28, 1999. The objectives of INEX2, a simulation of the pre-release and immediate post-release phases of a simulated accident, under the direction of the European-based Nuclear Energy Agency, were the real-time exchange of information, decision-making based on plant conditions (including real meteorology), and the distribution of public information. The simulated accident was at the Darlington Nuclear Power Plant near Toronto, Ontario and was the focus for exercising the U.S. Federal Radiological Emergency Response Plan (FRERP), the analogous Canadian plan, and the U.S.-Canada Joint Radiological Emergency Response Plan. In addition the Regional Specialized Meteorological Centers (RSMCs) in "Washington, DC" (ARL/NCEP) and Montreal participated through the WMO.

At the request of EPA, the Lead Federal Agency for this exercise as defined in the FRERP, ARL sent a representative to the EPA Emergency Operations Center in Washington, DC to support EPA -- primarily to interpret the ARL dispersion forecasts, compare them to the similar DOE/ARAC products, and describe weather conditions and give weather forecasts. In terms of dispersion forecasts, ARL was supporting two "customers," WMO Region III and IV countries (RSMC), emphasizing the longer term (24-hour averages out to 72 hours) and EPA, emphasizing the shorter term (3-hour averages out 12 to 24 hours). The exercise was the most realistic exercise ARL has participated in. All dispersion products were immediately posted to the ARL password-protected web pages on READY (www.arl.noaa.gov/ready/er.html) for access by the "customers." Also, to answer EPA's question of whether released material over the 10-day period would ever reach New York, ARL ran a series of trajectories using the NCEP 12-day MRF model output. With this realistic-type exercise, ARL learned about some limitations to our response capability, prompting a meeting of the NOAA standing committee for nuclear emergencies. (barbara.stunder, glenn.rolph, jeff.mcqueen, and mark.cohen@noaa.gov)

11. Volcanic Ash. During April, 12 VAFTAD forecasts were issued by NOAA for four eruptions of Soufriere Hills, Montserrat, and one eruption each of Popocatepetl, Mexico and Shishaldin, Alaska.

Also during April, the Hawaii NWS Meteorological Watch Office (MWO) hosted a MWO/Volcanic Ash Advisory Center (VAAC) Coordination Meeting. One purpose of the meeting was to strengthen the coordination between the MWOs, who issue the SIGMETS, the official volcanic ash forecasts, and the VAACs, who issue Volcanic Ash Advisory Statements and dispersion forecast guidance (VAFTAD). In attendance at the meeting were representatives from five MWOs (Honolulu, Alaska, Kansas City, Miami, and Guam), NWS/OM, NWS/NCEP, NESDIS, Federal Aviation Administration (FAA), Environment Canada, and an airline representative. (barbara.stunder@noaa.gov)

12. Florida Wildfires. In preparation for an expected bad wildfire season in Florida, forecast trajectories are being computed twice-daily and made available on READY (<http://www.arl.noaa.gov/ready/aq.html>). (barbara.stunder@noaa.gov)

13. Air Stagnation Atlas. An air stagnation climatology for the United States (1948-1998) has been published as a NOAA atlas. Copies are available. A short article to introduce the atlas and to update the results for this year is under preparation. (julian.wang@noaa.gov, and James Angell, 301 713 0295, x127)

Boulder

14. SURFRAD. On April 12, 1999, the new software that transfers the most recent UVB calibration information to SURFRAD field instruments as a function of solar zenith angle and ozone levels, was implemented in the operational processing of SURFRAD data. Following this, the entire record of SURFRAD data for all stations was reprocessed using the new software, thus retroactively improving the accuracy of all historical UVB data from the network.

The entire reprocessed SURFRAD data set is now available from the SURFRAD ftp directories. All of the old files have been replaced. In the process of doing this, all other calibration factors applied over the history of the SURFRAD network have been verified. (John Augustine, 303 497 6415)

15. Umkehr Ozone Retrievals. New aerosol factors to correct Umkehr ozone retrievals for middle-latitude Dobson measurements have been calculated. The factors are functions of aerosol optical depth (time), altitude and latitude. Corrections are applied to monthly mean ozone retrievals in 10 Umkehr layers for the period 1977-1997. Aerosol extinction profiles of 0.01, 0.05, and 0.1 OT used in the sensitivity study are representative profiles from SAGE II data measured over 30-40N latitude band after the Pinatubo eruption in 1991. Ozone profiles are seasonally representative profiles: winter (350 DU), spring (400 DU), summer (300 DU), fall (250 DU).

Comparisons of new aerosol corrections vs. the previous set of corrections show a subtle but consistent difference. The over-correction of Umkehr retrieved ozone to compensate for the stratospheric aerosol effect still remains a problem. A paper has been submitted to JGR, describing the work and its repercussions. As an intermediate solution for Umkehr retrieved ozone trend analysis, it is suggested that about a year of Umkehr data should be discarded after a volcanic eruption that causes elevated stratospheric aerosol levels (if the aerosol optical depth exceeds 0.05).

Data from Tateno, Japan have been used to detect and correct shifts due to the presence of high stratospheric aerosol concentrations in 1974, 1976, 1977, 1979, 1985. For the 1985 case, the errors in individual retrieved ozone profiles can be as large as 20 %, but on the average the error in the derived ozone column appears to be about 2%. A sensitivity study on the effect of correction of raw Umkehr data on the number of years for trend detection would be advisable. (Irina Petropavlovskikh, 303 497 6279, John DeLuisi, 303 497 6824, Amy Stevermer, 303 497 6417)

Oak Ridge

16. Radiation in the Arctic. Airborne radiation measurements, using a Kipp and Zonen CNR1 radiometer mounted on the strut of a chartered Cessna 185, were made at Barrow, AK. The flight patterns covered the ice pack and the main Barrow/Atkasuk transect. The results showed significant albedo differences between the open ice pack and the fast (grounded) ice off the Barrow coast. Albedo also varied significantly between the snow-covered coastal tundra at Barrow and the inland riverine environment near Atkasuk. The aircraft measurements added a vertical and spatial component to fixed ground measurements conducted by the DOE ARM program at Barrow. (brooks@atdd.noaa.gov)

17. Canaan Valley. A joint study involving NOAA/ARL and the Canaan Valley Institute (CVI) has been initiated to assess the air quality and atmospheric deposition regimes of the Canaan Valley, WV region. The CVI, a non-profit, non-advocacy organization, assesses both the environmental and economic well-being of the Mid-Atlantic Highlands. Two parallel studies of local air quality have been initiated: 1) to quantify local air-quality and identify possible sources, using existing data; and 2) to establish a “wet” and a “dry” deposition site on the valley floor for long-term monitoring. C. A. Vogel from NOAA/ARL/ATDD has been assigned to CVI to support this work. A coalition among NOAA/ARL, CVI, and the Timber and Watershed Laboratory, U.S. Forest Service, in Parsons, WV is pursuing the first study. The two deposition sites, in the Canaan Valley Wildlife Refuge, are being negotiated with the U.S. Fish and Wildlife Service. They will be part of NOAA/ARL’s Atmospheric Integrated Research Monitoring Network (AIRMoN), and are planned for eventual integration into the National Atmospheric Deposition Program (NADP) and the Clean Air and Status and Trends Network (CASTNeT). The results from the Canaan Valley will provide an estimator of air quality over the greater Mid-Atlantic Highlands and will help identify future research needs. (vogel, hosker, meyers@atdd.noaa.gov)

18. Dynamical/Photochemical Modeling. Four more coupled dynamical/photochemical LESchem model simulations were completed and archived to CD-ROM during April. The LESchem simulation with the segregated NO-isoprene emissions, which was outlined in last month's report, finished running at the beginning of April, and its results were presented at the Southern Oxidants Study Modeling Workshop (see the SOS section below). The next LESchem simulation was a repeat of the conditions for the previous run, only this time with NO and isoprene co-emitting homogeneously from the surface. Despite the horizontal homogeneity of the simulation conditions and parameter specifications, highly reactive trace gases still display the effects of the convective eddies and never become "well-mixed" in the convective boundary layer. The next LESchem run was a coupled mesoscale/photochemistry convective simulation (but no large eddies) with a 4 km horizontal grid resolution, hydrostatic pressure, and first-order-closure diffusivity. The last LESchem run of April was another mesoscale simulation, but this time with a specified mean wind of 5 m s⁻¹ instead of the usual calm mean winds. These last two mesoscale simulations will be compared to compatible high-resolution LES-type simulations in order to determine the effect of explicit turbulent eddy modeling on the overall trace gas balance and photochemistry of the convective boundary layer. (herwehe@atdd.noaa.gov)

19. Isoprene Project. Ways of incorporating chemical reactions into the CANOAK model are being explored. Plans are being made for teams from the Universities of Virginia and Colorado to visit Walker Branch this summer, and measure ozone, isoprene, and NO_x fluxes and profiles through the forest to develop a test bed for the model. (baldocchi@ardd.noaa.gov)

20. East Tennessee Ozone Study (ETOS). A team of ATDD scientists, in collaboration with scientists from the National Park Service, the University of Tennessee, and other interested groups have designed a prototype scientific study for eastern Tennessee, the East Tennessee Ozone Study (ETOS), with the ultimate goal of creating an air-quality forecast system. A scientific briefing was held at ATDD on April 22. Local newspapers, television stations, and interested political figures attended and were presented with an overview of the upcoming field study as well as a tour of the ATDD facility.

During April, gear-up efforts began in earnest for ETOS '99. Preliminary studies for placement of proposed sites were completed. Two sites were established on Tennessee Division of Forestry fire towers on the Cumberland Plateau. Previously, data collection has been nonexistent in this area. The new sites are currently measuring meteorological variables (temperature, relative humidity, precipitation, wind direction, and wind speed). Ozone monitors are being placed on the sites and will likely be online by June 1. A meteorological site was established at Melton Hill Lake in Oak Ridge, also. Two additional sites are under construction on Powell Mountain (near Tazewell, TN) and on Clingman's Dome in the Great Smoky Mountains. (pendergrass, meyers, birdwell, white, hall@atdd.noaa.gov)

21. Urban Turbulence. Work continued on the urban turbulence data set. With analysis of the 17 March case largely complete, data from the meteorological sites in the Nashville area are being retrieved and coordinated for the earlier field campaigns. There are efforts to expand the data set beyond the Knoxville/UT Agriculture Campus and Nashville/Lebanon sites, continuing ATDD's traditional interest in the urban environment as one of its primary themes. (gunter@atdd.noaa.gov)

ATDD plans a program of wind tunnel modelling to simulate the generation of kinetic energy by a moving vehicle in a calm wind. The mean wind and TKE components, and the wake perturbations, in the ROADWAY-2 and the updated ROADWAY (with log grid) models will be evaluated. The wake routines of both programs are being checked to improve the agreement of TKE perturbation. (rao@atdd.noaa.gov)

22. Dispersion on Mars. ATDD has put together a work plan to study the short-range dispersion of organic contaminants in the Martian atmosphere. The plan has been sent to NASA's Jet Propulsion Laboratory. It was developed in response to NASA's concern about possible contamination of Martian soil samples by earthly organic material blown off a lander by the wind. (hosker, eckman@atdd.noaa.gov)

Idaho Falls

23. Tracer Tests, and Short-term Forecast and Dispersion Model Testing. Tracers that are both familiar (sulfur hexafluoride and tri-ethyl phosphate or SF₆ and TEP, respectively) and unfamiliar to FRD (di-isopropyl methyl phosphonate or DIMP) have been released from the FRD Grid-3 Tracer Test Facility at the Idaho National Engineering and Environmental Laboratory to test models used (or being considered for use by) the Air Force Technical Applications Center. Mobile real-time analyzers have been used to determine the location and concentration of the SF₆ plume while AFTAC personnel sampled the TEP and DIMP plumes. The MDIFF model has been used in two modes during the tests. It has proven to be valuable in: 1) forecasting wind vector changes up to two hours into the future, and 2) in calculating real-time plume locations.

The forecasting tool of MDIFF has been under development for more than a year. It uses pattern matching of current windfields to past windfields, then retrieves a two-hour segment of archived windfields after the pattern match to predict wind patterns from the current time up to two hours in advance. This has aided both FRD and AFTAC weather forecasters to pinpoint the time of day when the wind direction was expected to be favorable for tracer sampling on pre-determined arcs. Even flow reversals have been accurately predicted. Secondly, the 5-minute automatic update capability of MDIFF has been used in real-time to calculate plume locations and concentrations and to display this information in INELViz. Real-time reports from personnel operating the mobile analyzers have validated both the trajectories and concentration calculations of MDIFF. These validations help to reinforce the utility of the MDIFF model in assisting with emergency radiological and toxic chemical releases at the INEEL. (kirk.clawson, jerry.sagendorf@noaa.gov and FRD staff)

24. Building Wake Study. A proposal to conduct a joint building wake effect study with personnel from Lawrence Livermore National Laboratory (LLNL) at LLNL in June has been accepted. Plans call for SF₆ to be released from a 100-ft line source upwind from two buildings on the LLNL campus. Five of FRD's mobile analyzers will be used to measure SF₆ concentrations. Four vans will be mobile, while the fifth will be stationary and will sample SF₆ from multiple heights in the building wake. LLNL will simultaneously be evaluating SF₆ plume IR imaging cameras in the near wake of the buildings. (kirk.clawson@noaa.gov)

25. Over-Land Along-Wind Atmospheric Dispersion (OLAD) Experiment. Tom Watson completed the co-author's revisions to the OLAD tech memo. He attended a meeting with Dr. Steve Hanna at George Mason University to discuss the OLAD data and other FRD field programs. Collaboration between FRD and Dr. Hanna's research group was explored. Dr. Hanna has reviewed the draft and his comments are now being incorporated into the final version of the tech memo. He has also agreed to work on a joint paper on the LROD and OLAD field programs. (tom.watson@noaa.gov)

26. Shoaling Waves Experiment (SHOWEX 99 Spring). Post-field study calibrations have been determined and applied to data acquired by the LongEZ during the Shoaling Waves Experiment (SHOWEX 99 Spring). These calibrations have been determined for various sensors (e.g., accelerometers, temperature

probes, pressure sensors). Data processing and analysis was a combined effort between FRD (Jerry Crescenti and Tim Crawford) and ATDD (Ed Dumas, Ron Dobosy, and Rick Ekman) personnel. A total of 23 missions (75 flight hours) were flown under various atmospheric and wave field conditions. LongEZ flight legs included parallel and perpendicular runs at various altitudes with respect to the coastline as well as numerous slant and spiral soundings. The LongEZ also acquired meteorological information on the boundary layer structures over Albermarle and Currituck Sounds. Several flights were flown over Lake Mattamuskeet in an attempt to further understand internal boundary layer development. These data will be available in netCDF format on CD-ROM. (jerry.crescenti, tim.crawford@noaa.gov)

27. Model Calculations of the Idaho Nuclear Technology and Engineering Complex (INTEC) MDIFF is being used to calculate annual normalized doses due to operations at the INTEC facility. The results will be used to help plan sampling strategies, leading to the generation of a database of monthly results for a two year period so that seasonal as well as annual impacts can be examined. After the INTEC runs are complete, the same techniques will be used for other facilities. (jerry.sagendorf@noaa.gov)

28. INEEL Mesoscale Meteorological Network. Several additions to the INEEL Mesoscale Meteorological Network are planned for this summer. These include Electric Field Mills which will be installed during May, a new meteorological tower that will be installed at Atomic City, and possible inclusion of some remotes sampling data. In preparation for these, software modifications to handle the additional data fields have been completed and were successfully implemented April 1. (roger.carter@noaa.gov)

29. Small Environmental Research Aircraft (SERA). Work has started with the Aircraft Operations Center to obtain a new ARL research aircraft to be stationed at and operated by FRD. The special-purpose SERA will continue the improvement and utilization of our proven, cost-efficient, world-class airborne measurement systems. The new airplane will retain the special characteristics and the low-cost operation of the LongEZ aircraft, while offering increased access to a more capable airplane. Specific research missions include studies of air-surface exchange, air-contaminant dispersion, and remote sensing. The SERA targets a strategic niche by exploiting the low cost and high utility of small aircraft which are ideal to carry the rapidly miniaturizing world-class in-situ and remote-sensor technology. This capability will give ARL scientists a strong scientific advantage by allowing them to efficiently expand the scope and utility of our research and to develop new research programs within ARL's mission. (tim.crawford@noaa.gov, ray.hosker@noaa.gov)

30. Best Aircraft Turbulence (BAT) Flies on WSU Convair. Dr. Peter Hobbs has asked us to help install our Best Aircraft Turbulence (BAT) probe on the Washington State University Convair aircraft. The carbon fiber probe shell, A/D, and electronics system have been assembled and tested. Next month, the probe will be shipped and installed. (tim.crawford, david.auble, randy.johnson@noaa.gov)

Las Vegas

31. OFCM Joint Action Group on Atmospheric Turbulence and Diffusion. Darryl Randerson has taken over as Chair of the OFCM Joint Action Group on Atmospheric Turbulence and Diffusion. (Darryl Randerson, 702 295 1231)

32. Nuclear Emergency Search Team (NEST)/Federal Radiological Monitoring and Assessment Center (FRMAC)/Accident Response Group (ARG) Mission. The SORD mobile emergency response capability is being field tested during April and May. The Handar wind tower with sonic anemometers at the 2-m and 10-m levels was set up and connected to microprocessors that display the data. Also, our three AIR GPS sounding systems are also being tested for readiness and Year 2000 (Y2K) compliance. In addition, two new SORD employees are being trained to set up and operate this equipment. (Ray Dennis, 702 295 1263)

33. Aerosol Monitoring Supersite Program. The Environmental Protection Agency has asked NOAA/ARL to assist in technical oversight of the Aerosol Monitoring Supersite Program. This includes having NOAA establish one of the two initial Supersites at Fresno, CA. Fresno was selected for the location of the site for a number of reasons, including the high concentrations and unique composition of the California Central Valley and the fact that it is an anchor site for a substantial multi-sponsored regional aerosol study. The primary goal of the Supersite program is to bridge the gap between short-term research monitoring and long-term monitoring to comply with federal air quality regulations. Traditionally, research monitoring uses sophisticated instrumentation but is of insufficient duration to investigate many health effects. On the hand, compliance monitoring data records are generally sufficiently long but few parameters are monitored and the data generally represented longer averaging times (24-hour). Supersites will be set up to test sophisticated monitoring methods for routine use, increase our understanding of the atmosphere and provide more appropriate data for use in health and exposure studies. Ultimately there will be about 5 to 10 Supersites across the country. An initial planning meeting for the Fresno Supersite was held in Sacramento, CA, on March 30 with a site visit in Fresno on the following day. Desert Research Institute under the NOAA joint institute with the University of Nevada and Community College System (CIASTA) will operate the Fresno site. More information about the Supersites Program is on the web at <http://www.epa.gov/ttn/amtic/supsites.html>. (Marc Pitchford, 702 895 0432)