



NOAA ARL Monthly Activity Report



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Highlights

1. **Plans for 2nd WMO Conference on Women in Meteorology and Hydrology.** Plans were laid out for the 2nd WMO Conference on Women in Meteorology and Hydrology, to be held in March 2003 in Geneva. An international group of 7 women met in Silver Spring April 29-30 to articulate the conference agenda, identify

speakers and participants, and formulate the agenda. This conference will assess progress (or lack thereof) since the first WMO meeting on women's participation in meteorology and hydrology, which was held in December 1997 in Bangkok, and will focus on women's participation in the activities of the WMO. Analysis of a recent survey to member nations indicates, in an overall sense, little change over the past 5 years in the rate of participation of women in the work of the WMO, both at the Secretariat and in its constituent bodies. dian.seidel@noaa.gov

2. Preparations for the Bay Regional Atmospheric Chemistry Experiment (BRACE). This program will focus on the nitrogen budget of Tampa Bay. The NOAA Twin Otter will be a mainstay of the program. It will be carrying more instruments for this study than ever before. Fitting new instrument racks extended the installation period to two weeks, April 15 to 30. The process, though grueling in the hot Tampa climate, went well. BRACE officially began May 1. We are measuring NO, NO_x, NO_y, PAN, HNO₃, CH₂O, H₂O₂, SO₂, CO₂, H₂O, CO, particles, non-methane HCs, and several others. The BRACE website is at <http://hsc.usf.edu/publichealth/EOH/BRACE/Brace.html> (Laureen Gunter, Winston Luke)

A relaxed eddy accumulation site was established in the Tampa area in support of BRACE (Tilden Meyers).

Silver Spring

3. HYSPLIT Developments. A new COAMPS to ARL format decoder has been developed. This should be considered a "beta" version as changes will be required once the COAMPS model becomes operational. At that point it will be decided which fields are best to output for transport and dispersion calculations. The new decoder will handle data on either conformal or spherical grids and on pressure or height surfaces. roland.draxler@noaa.gov

HYSPLIT Presentation to the NWS Eastern Region WCM. Roland Draxler and Glenn Rolph gave HYSPLIT and READY presentations at the NWS Eastern Region Warning Coordination Meteorologist (WCM) meeting held in Harpers Ferry, WV, on April 24. The WCM's are responsible for warning the public in their local areas about severe weather and other hazards and were very interested in the use of HYSPLIT for Homeland Security as well as the availability of HYSPLIT on the READY website. glenn.rolph@noaa.gov

NOAA/NRC/RSMC Exercises. After holding two planning/coordination meetings in April between ARL, NWS and NRC, two exercises were conducted to test the distribution of products between the local NWS forecast office near the plant and the NRC Headquarters protective measures team. One of the exercises was the normal monthly RSMC exercise that RSMC Montreal, RSMC Melbourne and RSMC Washington (NOAA) conduct each month to test their capabilities, but with the additional involvement of the local NWS forecast office. Both exercises had the SDM at NCEP run the HYSPLIT on-demand run using the 12km Eta forecast data. glenn.rolph@noaa.gov

Volcanic Ash Modeling with HYSPLIT. Work continues on developing the components necessary to implement HYSPLIT for volcanic ash modeling at NCEP. Computer programs to plot the output in a format mandated by international standards and to convert HYSPLIT output to GRIB format have been completed. The operational NCEP radiological modeling HYSPLIT scripts used as part of the RSMC (Regional Specialized Meteorological Center for Environmental Emergency Response) are being modified to include the volcanic ash option. barbara.stunder@noaa.gov

4. Improvement in Determination of Seasonal Temperature Anomalies. Seasonal temperature anomalies obtained after exclusion of 9 anomalous tropical stations from a 63-station radiosonde network are now available for surface, troposphere, tropopause layer and low stratosphere for tropics, hemispheres and globe. The impact of the exclusions on tropical temperature trend for the period 1958-2000 is considerable, with significant changes

from a cooling of the tropopause layer to a warming, a doubling of the tropospheric warming, and a greater tropospheric than surface warming rather than the opposite. The global changes in trend are more subtle but include a significant change from the surface warming more than the troposphere to the same 0.10K/decade warming of both during the 43-year period. The impact of the station exclusions is much less for the period 1979-2000, indicating that most of the data problems at the radiosonde stations occur before 1979. Comparison with MSU and other radiosonde trends shows better agreement after exclusion of the anomalous stations so that there is now consensus that in the tropics the troposphere has warmed slightly more than the surface during 1958-2000 but that there has been a substantial warming of the surface relative to the troposphere during 1979-2000. Unfortunately, there are still uncertainties, the radiosondes indicating considerably more cooling in the tropical low stratosphere than does satellite MSU. (Jim Angell, 301 713 0295, x125)

Boulder

5. SURFRAD/ISIS. Several of the annual instrumentation exchanges have now been completed for 2002 – recently Desert Rock and Goodwin Creek. During the week before the latter exchange took place, the folks from ATDD installed a sensible and latent heat flux system there, thus making Goodwin Creek the third full surface energy budget station in the SURFRAD network. These three surface energy budget sites also report CO₂ fluxes.

There is interest in putting a SURFRAD station near the EROS Data Center in southeastern South Dakota. Gary Hodges will visit that site in May to discuss requirements for a SURFRAD station and to inspect the prospective location. This site is in an area of desired expansion of the network. (John Augustine, 303 497 6415)

6. Climate Reference Network (CRN). There is interest in placing some of the CRN sites at existing locations in the national parks. These locations are part of the Park Research and Intensive Monitoring of Ecosystems Network (PRIMENet), established by the Environmental Protection Agency and National Park Service in 1996 to monitor UV radiation and other variables at 14 national park sites. Betsy Weatherhead, Patrick Disterhoft, and other SRRB personnel have been very involved with the EPS/NPS network, and continue to provide site-specific information to the CRN team. (Betsy Weatherhead, 303 497 6653; Patrick Disterhoft, 303 497 6355)

7. Central UV Calibration Facility. The various government agencies involved with UV monitoring in the U.S. use instruments that measure global solar UV irradiance that is incident on a horizontal surface. To calibrate instruments of this variety it is necessary to have standards of irradiance that operate with the long axis of their filaments in the horizontal orientation.

The Central UV Calibration Facility (CUCF) is charged with the role of producing horizontal irradiance standards for the U.S. UV monitoring efforts. The CUCF has developed and operates a dedicated system, the Irradiance Scale Transfer System, to produce horizontal standards of irradiance. Recently, the CUCF has been performing tests using other measurement systems to independently verify the horizontal irradiance scale. That is, to verify that the CUCF's horizontal irradiance scale is consistent with the NIST vertical irradiance scale. Since the scale changes by 6-8% depending on wavelength, by rotating the lamps from vertical to horizontal, special instrumentation is necessary to perform this verification. The CUCF has recently been using narrow-band filter radiometers in its lab to perform these tests. The radiometer will measure UV irradiance and is not affected by changes in its orientation. (Patrick Disterhoft, 303 497 6355)

Oak Ridge

8. Canaan Valley. An intensive field project is being planned to study the dry deposition of nitrogen this summer in the Canaan Valley region. Other developments are also in motion. Two new water-quality stations for the

Canaan Valley are being discussed with staff from the Canaan Valley Institute and the USGS. These would help examine the relation between atmospheric deposition and water quality. A suite of Climate Reference Network (CRN) instruments was proposed to the Superintendent of the Canaan Valley State Park in discussions followed by a letter of proposal. This would be the second site in the area, the first being about 5 km away near the current AIRMoN site. Finally, upgrades to the existing energy-balance measurement systems will enhance the integration with other AIRMoN stations. vogel@atdd.noaa.gov, Meyers, Hall

9. Climate Reference Network. ATDD staff returned to the Bondville, IL USCRN test site during the first week of April to install two additional vibrating wire sensors in each of the eight Geonor precipitation gauges that had only one sensor, and to recalibrate the gauges. A site visit was also made to the two Montana USCRN sites in conjunction with a GEWEX site service visit to South Dakota. These two sites are now comparable to the Oklahoma sites. french@atdd.noaa.gov, Randolph, Heuer

Documentation is requiring an increasing amount of time, but is very important to the credibility of the USCRN. ATDD staff worked on site documentation for the Oklahoma installation. A potential photo-naming system was adopted. hall@atdd.noaa.gov, Black, French, Ridenour

10. Coupled Dynamical/Photochemical Modeling. Coupled LESchem idealized flare stack simulations were conducted to address: a “no plume” control simulation with only homogeneous background emissions; a simulation with an added flare stack source co-emitting high amounts of nitric oxide (NO) and low amounts of ethene (ETH); and a simulation with a flare stack co-emitting high-NO and high-ETH. In addition, and at the request of the Texas Natural Resource Conservation Commission, plume simulations were conducted in April using greatly different ETH emissions, to test whether a critical concentration of hydrocarbons is necessary to initiate the rapid near-source ozone production. A quick analysis of the output showed that no particular critical ETH emission rate was revealed. More tests may be performed in the future. herwehe@atdd.noaa.gov

11. GEWEX. A new field computer system was tested this month for GEWEX – the Shuttle “SpaceWalker”, a low cost (about \$200-\$300) machine with a 450 MHZ Cyrix III CPU, 128 MB of RAM, and several interface options (USB, FireWire, Ethernet, and PCI). The box is only 27cm x 19cm x 11cm. A keyboard and monitor are unnecessary in the field except during maintenance and troubleshooting, which greatly reduces the space necessary for housing the equipment. The GEWEX site at Goodwin Creek, MS now has this computer installed. meyers@atdd.noaa.gov, Dumas, Heuer

12. HARM Homeland Security. The first draft of a review of the state of dispersion modeling for emergency response has been completed. Two approaches appear. One applies the past fifty years’ insights in turbulence to the spread of a pollutant cloud. The other seeks simplicity through empirical relations, noting the likelihood of insufficient information in a real emergency. Both approaches are productive. Theoretically-based models in the data-rich environment of, say, a large chemical or nuclear installation provide sophisticated guidance. They also advance fundamental understanding, which helps develop better empirical models. The empirical models, on the other hand are more tolerant of data deficiencies. Facilities capable of maintaining a rich data environment generally also have their own modeling. They would not call the National Weather Service (NWS), as will “ordinary” users who are typically short of data. The empirical approach thus better suits NWS purposes. dobosy@atdd.noaa.gov

13. Mercury in the Arctic. A report on Arctic mercury will soon appear in the Assessment Report of the Arctic Monitoring and Assessment Program (AMAP). Periods of mercury depletion from the atmosphere are clearly correlated with enhanced atmospheric bromine content. During such periods, the atmosphere carries ten times the normal amount of bromine. The ice surface is the source increasing with annual ice coverage. Two candidate mechanisms are in contention. As sea water freezes, its salt is removed from solution to appear on the surface of the ice. Though the salt has 650 times as much chloride (Cl) as bromide (Br), the salt-rich frozen surface is a

plausible source of atmospheric bromine. There are also communities of photosynthesizing ice algae in the open water. Their waste gases include traces of bromoform (CHBr₃). It is not yet clear which source is primary. brooks@atdd.noaa.gov

14. Ozone Instrumentation. A new, compact, fast-response ozone analyzer design has been completed. The reaction chamber for the new chemiluminescent ozone detector has been designed, manufactured, and tested. The new reaction chamber is machined from stainless steel (as opposed to our old design that used black Teflon). The instrument also features the latest advances in photomultiplier technology. Initial tests show results similar to the older instrument, but it has lower power consumption and could be configured to be much smaller. Two prototypes were sent to INRA Bioclimatologie, in France. able@atdd.noaa.gov, Womack

Research Triangle Park

15. Community Multiscale Air Quality Modeling System. The Administration's Clear Skies Initiative renewed interest in the multi-pollutant performance of CMAQ. The wet deposition evaluation will concentrate on January and June 1990 to address seasonal performance, leveraging available CMAQ simulations. Results will be presented at the Spring 2002 AGU Conference in May in Washington, DC, and to members of EPA's Clean Air Markets Division in Washington and OAQPS. One area of investigation will be the importance of biases in the current CMAQ dry deposition rates for sulfur dioxide (SO₂) on wet deposition predictions. Work by Messrs. Finkelstein, Brashers, and Wu in ASMD suggest the current SO₂ dry deposition rates in CMAQ are roughly a factor of 3 too low. Sensitivity studies with CMAQ to study the impact on wet deposition of tripling the SO₂ dry deposition rates are in progress. Increasing the dry deposition rates is expected to improve the performance of CMAQ on several fronts; the results will be summarized by the end of May. (Robin Dennis, 919 541 2870)

CMAQ's Meteorology-Chemistry Interface Processor (MCIP) was recently updated to accommodate MM5 output from the Gayno-Seaman turbulent kinetic energy (TKE) based planetary boundary layer (PBL) scheme. The improvement to MCIP uses the TKE field in the MM5 output and the algorithms from the Gayno-Seaman PBL scheme to calculate the eddy diffusivity field directly in MCIP; the current public release of CMAQ includes a routine that calculates eddy diffusivities using a generalized formula. This modification to MCIP will allow CMAQ to take advantage of the additional dynamic information in the TKE field, as well as maintain additional dynamic consistency with the input meteorology from MM5. The CMAQ Chemistry Transport Model (CCTM) has been changed to read the eddy diffusivity field from the MCIP output rather than calculate it. This update to MCIP is in a research version of the program that is used to support the Neighborhood Scale Modeling Project. The impact of this change on the CCTM simulation will be evaluated over the next few months. Pending a positive outcome in our testing, the changes to accommodate the Gayno-Seaman TKE field in MCIP and the CCTM will be made available in a future public release of CMAQ. (Tanya Otte, 919 541 7533)

The Biogenic Emissions Inventory System (BEIS3) is being tested with the next version of the Community Multiscale Air Quality (CMAQ) modeling system. BEIS3.09 will be released in the next release of the Sparse Matrix Operational Kernel Emissions (SMOKE) processing system and will serve as the default biogenic emissions processor for regional air quality modeling applications. Meanwhile, Division scientists and their collaborators from DynCorp Inc. and MCNC will continue to examine BEIS3.10. BEIS3.10 improves upon BEIS3.09 by offering emission factors for 33 VOC compounds (rather than only three VOC classes), and by including a soil NO algorithm that considers the effect of soil moisture, crop growth, and fertilizer schedule (rather than simply adjusting for temperature). Initial results from CMAQ/BEIS3.10 look encouraging. For the first time, biogenic methanol emissions are included and regional-averaged concentrations of methanol compare favorably with the observed values on the order of 5 ppbv. Tom will present a summary of this work in Norfolk, Virginia, at the AMS 12th Joint Conference on the Applications of Air Pollution Meteorology with the A&WMA during May 2002. (Thomas Pierce, 919 541 1375)

16. World Trade Center Wind Tunnel Modeling. Preparations for physical modeling of the World Trade Center (WTC) have been progressing well over the past few months. Construction has begun at the Fluid Modeling Facility on the 1:600 scale of all buildings in the lower Manhattan area within approximately a one-kilometer radius of the WTC site. The new Laser Doppler Velocimeter has been fabricated to provide remote measurements of flow and turbulence within the street canyons of the model through optical windows in the tunnel floor. Design of a laser-sheet illumination technique for smoke visualizations is also in progress. The measurement program (smoke visualization, flow measurements, and concentration measurements) is scheduled to begin in late summer of 2002. (Steven Perry, 919 541 1896 or Roger Thompson, 919 541 1895)

17. Fugitive Dust Modeling. Work has begun on the development on algorithms for modeling of windblown and fugitive dust (from on, off roads) from industrial and from agricultural tillage practices. This effort will be used as an emissions processor for the Models-3/CMAQ system. The development of the stand alone prototype version is underway; the initial testing will be conducted this summer. Plans for full implementation of these algorithms into Models-3/CMAQ is scheduled for completion in late FY-2003. (Jason Ching, 919 541 4801)

18. Dust Source Quantification. Three recent studies have helped formulate the dust source term in EPA and NOAA models. The experiments had to do with (1) the US Geological Survey (USGS) Mojave Dust Experiment, (2) a road dust experiment sponsored by the US Army (SERDP), and (3) fieldwork associated with Dale's ongoing Chihuahuan Desert Dust program being carried on at the Jornada Long Term Ecological Research (LTER) program which is sponsored by the National Science Foundation. The three programs are described below.

(1) Mojave Dust Experiment. This experiment was headquartered in Zzyzx, California, and Dale Gillette spent from March 30 until April 6 at this location. Along with USGS scientists Dave MacKinnon and Pat Chavez, Dale spent the week servicing experimental sites and waiting for a dust storm. A meeting on the Salton Sea Dust Problem was being held in Palm Desert, California, and Dale and the USGS scientists were able to spend two days at the meeting because the dust storm did not come that week. The Salton Sea, a large, shallow desert lake fed by water from the Colorado River will soon lose its allotment of water and will consequently shrink, similar to the behavior of Owens Lake after Owens River was diverted into the California aqueduct. Since Dale has worked on dust emission problems at Owens Lake since 1993, he applied his experience to problems presented by the dessication of the Salton Sea, and presented a talk, *Five Lessons on Crusts Learned in Thirty Years Mostly at Owens Lake*, on natural soil crusts formed on the dried lake bed. Following Dale's departure, on April 15 a strong dust storm was observed and measured with the instruments lent to the USGS by Dale, including the Grimm particle spectrometer.

(2) Road Dust Experiment. This experiment was headquartered at Fort Bliss and funded by the US Army. The experiment was partly designed to test Dale Gillette's theory that explains why current dust emission algorithms coupled with transport models like CMAQ give concentrations much too large when compared to the observed concentrations. Dale helped in the measurement program that estimated fluxes of dust from roads and followed those fluxes for distances of about 100 meters.

(3) Jornada LTER Program. On days not suitable for experimentation at Ft. Bliss, Dale Gillette closed down one experimental location at the Jornada LTER and made preliminary steps to establish a new location about 10 kilometers to the south. This activity consisted of taking down a 15 meter meteorological tower, removing electronics and transporting the equipment to the new site. The new site will be finished in October 2002. (Dale Gillette, 919 541 1883)

19. AERMET Version 02081. The new version was made available on March 25; requests for help began showing up the first week of April. Some problems were reported, but, for the most part, they were minor because of thorough testing and debugging prior to the upload. There were 11 action items in April that required code changes; missing data continues to be the primary issue. The one significant technical change involved the

assignment of surface characteristics during calm conditions. Surface characteristics in AERMET are wind direction dependent; this presents a problem in calm conditions. The solution implemented for testing in AERMET involves averaging of surface characteristics across sectors. (Desmond Bailey, 919 541 5248)

20. *Multimedia Integrated Modeling System (MOMS) Framework.* The MIMS framework is software infrastructure or environment for constructing, composing, executing, and evaluating cross-media models. Collaborators include the EPA/OAQPS Clean Air Markets Division, Argonne National Laboratory, MCNC Environmental Modeling Center, and North Carolina State University in Raleigh. MIMS distributed execution capabilities have been designed (to take advantage of remote computers) and an off-the-shelf plotting application has been identified. (Steven Fine, 919 541 0757)

21. *Air Quality Forecasting.* A project is underway to help develop city-specific air quality forecasting techniques for 36 major metropolitan areas in the United States. The focus of these forecasting efforts will be on fine particulate matter ($PM_{2.5}$) concentrations. The goal is to develop statistical models relating the increasingly available, continuous, real-time $PM_{2.5}$ ambient data to various meteorological scenarios, with an eye toward generation of next-day public health advisories using EPA's Air Quality Index. (Pat Dolwick, 919 541 5346)

22. *Fire Modeling.* The first step in the implementation of plans for a prototype stand-alone emissions processor that will introduce smoke from fires (prescribed and wildfires) into the Models-3/CMAQ modeling system is scheduled for delivery in late summer. This version will be based on state-of science algorithms developed by the U.S. Forest Service (USFS). The full implementation and testing of the processor call for its incorporation into the generalized SMOKE (Sparse Matrix Operator Kernal) emissions processor, and is scheduled for completion in late FY-2003. This effort is being performed by CIRA (Cooperative Institute for Research in the Atmosphere) and administered by the U.S. Park Service. (Jason Ching, 919 541 4801)

23. *Neighborhood Scale Modeling.* A prototype air quality simulation model at neighborhood scales is being implemented for the Philadelphia Metropolitan Area. MM5, the CMAQ meteorological processor, has been modified to incorporate a set of detailed urban canopy parameterizations for more accurate simulations of the flow and dispersion fields in urban areas. The advances include modification of the governing equations for momentum, turbulent kinetic energy, heat, and moisture in a variety of urban land use categories for fine-scale grid resolutions. This prototype will be completed by late summer 2002. Also, data on building and tree canopies are being obtained and processed to determine the urban canopy parameterization for the Houston, Texas, area, the venue of the next major modeling study using Models-3/CMAQ modeling system. The overall effort will develop the air pathway linkage to models of human exposure. (Jason Ching, 919 541 4801)

24. *Evaluation of Ammonia (NH_3) Emissions.* Inverse modeling analysis of observations and CMAQ model simulations were already completed for January, March, April, May, June, October 1990, and now August 1990 has been added to the list. Assuming that the re-tests of July 1990 will be completed during the next few weeks, sufficient results will be available to develop a journal article. The CMAQ inverse modeling results from 1990 imply that the 1990 annual NH_3 emission estimates from the EPA National Emissions Inventory (NEI) may be higher than needed to optimize model results of $[NH_4^+]$ and $[NH_x]$ against observations. This potential conclusion has substantial policy implications, and several groups from the EPA Office of Air Quality Planning and Standards (OAQPS) are watching the results closely. A meeting has been scheduled with scientists and policy makers from OAQPS to discuss how to represent NH_3 emissions in future CMAQ and REMSAD simulations for the Clear Skies Initiative. (Alice Gilliland, 919 541 0347)

25. *Global Climate and Air Quality Assessment.* The effects of climate change on air quality are being addressed in work now evolving. In this work, climate-modified meteorology will be used to drive CMAQ for air quality assessment. (Alice Gilliland, 919 541 0347)

26. Tropospheric Ozone Residual (TOR) Project. For the past 3 years, the Division has been involved in an interagency agreement with NASA Langley's Jack Fishman and SAIC's Fred Vukovich to test satellite-derived TOR against model-derived CMAQ TOR estimates. Recently, estimates of O₃ from a published climatology of ozonesonde data have been assimilated into CMAQ for initial, boundary, and upper vertical boundary conditions. Comparison of satellite-derived TOR against CMAQ results suggests that the O₃ climatology improves the model results. (Alice Gilliland , 919 541 0347)

Idaho Falls

27. CBLAST-Low. Preparations are underway for the next CBLAST-Low field study which will be conducted in August 2002. The LongEZ research aircraft will be based out of the Hyannis/Barnstable Regional Airport on Cape Cod, Massachusetts. Two additional instruments will augment the LongEZ instrument suite for this upcoming field study. A Licor 6262 gas analyzer will be used as a low-frequency baseline for the fast response CO₂ concentration acquired by the infrared gas analyzer (IRGA). A MicroPac spectrometer will be used to acquire ocean color, to quantify biological productivity and verify satellite-derived color estimates of the surface layer.

Meanwhile, data analysis continues on the CBLAST-Low data acquired by the LongEZ during the pilot study conducted over a three-week period in July and August 2001. On 21 July 2001 between 1300 and 1630 UTC (Flight 01), the LongEZ flew twelve north-south flux legs 10 m above the ocean surface from near the southern shoreline of Martha's Vineyard out into the Atlantic Ocean for a distance of about 30 km. jerry.crescenti@noaa.gov, Tami Grimmett

28. URBAN 2000. Work has begun on a final report for the URBAN 2000 tracer data set. This will likely be a rather large report because of the scope of work included in the project. All 100 bag samplers were deployed as well as 6 mobile SF₆ analyzers. kirk.clawson@noaa.gov and staff

29. Ion Mobility Spectrometer Development. FRD is actively exploring the possibility of using IMS systems as a next generation of detectors for tracer studies. During the past month, one prototype IMS instrument was constructed and a second was started. The first one is very crude and constructed of a length of 2 inch diameter PVC pipe with wire wrapped around the outside. This was intended as a way to test electronic circuitry and experiment with ion generation. Although we really didn't expect it to work, it does detect oxygen ion peaks and has allowed us to gain valuable experience in ion gate design, ion gate driver circuitry, amplifier design, noise suppression, and collector plate operation.

The second prototype IMS is constructed of machined rings of teflon and stainless steel that are stacked together to form the IMS drift cell. The cell is assembled and waiting for an ion gate and collector plate to become operational. The ion gate was designed using testing done with the first prototype. It will be constructed using a commercially produced printed circuit board and will feature 0.6mm spacing between the wires, 0.002 inch diameter wire, and zero axial separation between the two sets of wires in the gate. This design should have less ion leakage than the commercial gates we are aware of. The circuit board for the gate is expected to be complete on May 2. After attachment of the wires, it will be included in the new IMS prototype and we should be able to make our first serious attempts at IMS measurements. roger.carter@noaa.gov, Shane Beard, Debbie Lacroix

30. Idaho Mesonet Displays. FRD operates a number of community meteorological stations, from which local meteorological data are readily available to the public. These are a well known feature of the Idaho landscape. Now, three years of archived Mesonet data and radar profiler sounding data are available on-line through the FRD web site by clicking on the Weather button at the top of the page and selecting Mesonet Data. brad.reese@noaa.gov

31. Idaho Dispersion Modeling. Every year FRD must run a set of annual dispersion estimates for the previous calendar year. These estimates go into the INEEL Annual Site Environmental Report. Estimates for calendar year 2001 were completed in April using a version of the MDIFF puff model. The INEEL contractors who use the model output requested several modifications compared with prior years. The model domain is now expanded so that it extends at least 80 km in all directions from the INEEL facilities. A statistical investigation of dispersion at INEEL based on 9 years of Mesonet data was largely completed in April. richard.eckman@noaa.gov

Las Vegas

32. Test Readiness/Sub-Critical Tests. SORD figured prominently in the Underground Test (UGT) Table Top V Exercise in direct support of Underground Test Readiness activities. The exercise was used to train two employees on the duties and responsibilities of serving as the Meteorological Advisor to the Test Controllers Scientific Advisory Panel (SAP). (Walt Schalk, 702 295 1262)

33. NTS Emergency Preparedness Forecasting. Very strong winds blew across the NTS on April 15, causing damage to property in Mercury and elsewhere. SORD forecasters issued Strong Wind Advisories for the NTS on the evening of April 14. A further Strong Wind Advisory was issued for the NTS at 4a.m. on the 15th and a Strong Wind Warning was issued at 5:30 a.m. Based on data collected by the SORD meteorological monitoring network, the strongest winds appeared to have occurred across the southern half of the NTS. A peak wind speed of 84 mph was measured in Mercury, 70 mph was measured in Frenchman Flat, 60 to 65 mph in Yucca Flat, and 60 mph across Area 25. (Darryl Randerson, 702 295 1231)