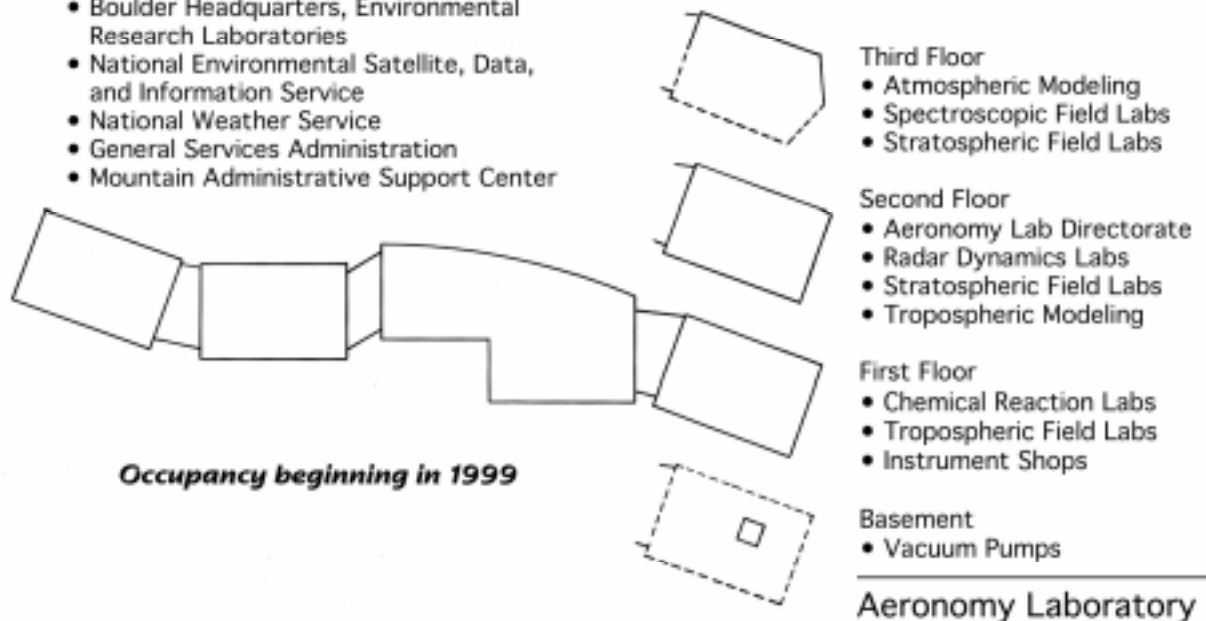


## The New NOAA Boulder Building

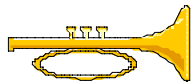
- Aeronomy Laboratory
- Air Resources Laboratory
- Climate Diagnostics Center
- Climate Monitoring and Diagnostics Laboratory
- Environmental Technology Laboratory
- Forecast Systems Laboratory
- Space Environment Center
- Boulder Headquarters, Environmental Research Laboratories
- National Environmental Satellite, Data, and Information Service
- National Weather Service
- General Services Administration
- Mountain Administrative Support Center



## COMING UP: A MOVING EXPERIENCE

Over the past thirty-plus years, the Aeronomy Laboratory has been housed in three separate buildings on the Broadway site. In recent years, this has included temporary trailers. Therefore, it is with high anticipation that we look forward to moving into the Aeronomy Laboratory quarters within the nearly completed new NOAA Boulder building. Over ten years in the planning, proposal, approval, and construction stages, this building will constitute a quantum-level improvement in our carrying out our research aims: (i) all of our groups will be collocated for the first time, which will substantially enhance the effectiveness of interactions; (ii) adequate laboratory space will exist for the first time, along with modern facilities for such activities; and (iii) the proximity to other ERL and NOAA organizations will enhance scientific collaborations.

As shown above, the Aeronomy Laboratory will be located in Block A on the northern end of the building. Our move commences the week of March 29 and continues through April 9. Colleagues in the Climate Diagnostics Center, the Environmental Technology Laboratory, the Climate Monitoring and Diagnostics Laboratory, the Air Resources Laboratory, the Space Environment Center, and the Office of the Executive Director will already be unpacked when we arrive, with their moves staged over the February 22 to March 26 time period. The dust will finally settle when the Forecast Systems Laboratory, the National Geophysical Data Center, the Mountain Administrative Support Center, and the National Weather Service complete their moves over the mid-April to mid-May time period.



## ANNOUNCEMENTS

**The Aeronomy Laboratory** has received the U.S. Environmental Protection Agency's 1998 Climate Protection Award for achievements in protecting the global climate. In a ceremony that took place in Washington D.C. on 27 October 1998, the Aeronomy Laboratory was honored for its pivotal photochemical-reaction and modeling research on the climate implications of human-produced gases such as perfluorocarbons, sulfur hexafluoride, and hydrofluorocarbons. The research has contributed to the recognition by world leaders that gases in addition to carbon dioxide, methane, and nitrous oxide can alter the Earth's radiation balance. Among the 19 international organizations and individuals recognized along with the Aeronomy Lab were British Petroleum, IBM Corporation, the U.S. Navy, Toyota Motor Company, and Whirlpool Corporation.

**Ravi** has been selected to receive the Robertson Memorial Lecture Award from the National Academy of Sciences. He was chosen "for his fundamental contributions to quantifying atmospheric chemical processes, which have led to dramatic improvements in our understanding of global chemical changes." The award will be presented to Ravi on April 26 at a ceremony in Washington, D.C., during the Academy's 136<sup>th</sup> Annual Meeting, where Ravi will present the Robertson Memorial Lecture on his work and its international implications.

**Jim Meagher** was awarded the Thomas Kuhn Medal at the 11<sup>th</sup> World Clean Air Congress held last fall in Durban, South Africa. The award recognizes excellence in presentations at conferences, in Jim's case a presentation on ozone production efficiency given at a conference in Israel in 1996.

In January, **Paul Johnston** completed the installation of an S-band precipitation profiler on the NOAA ship R/V *Ronald H. Brown*. The instrument will gather data on clouds and precipitation for several months as the ship travels the Indian and Pacific Oceans.

**Two reports** are available on the topic of air quality. *Atmospheric Observations: Helping Build the Scientific Basis for Decisions Related to Airborne Particulate Matter* summarizes the results of a workshop on particulate matter (PM) research that was held in July 1998. A broad spectrum of scientists from the health effects, exposure, and atmospheric science communities worked together to identify the key elements and design parameters for a comprehensive PM research observations program. The *Air Quality Research Subcommittee Strategic Plan* describes the broad elements of an interagency research plan to focus the resources of member agencies of the Committee on Environment and Natural Resources (CENR) Air Quality Research Subcommittee with the aim of addressing the Nation's most pressing air quality issues. Contact Jim Meagher, coordinator of the two publications, if you'd like to obtain copies.



## HOME and AWAY

- The Tropospheric Chemistry and Theoretical Aeronomy groups are conducting a research mission out of Newfoundland as part of an ongoing series of activities of the **North American Regional Experiment (NARE)** of the International Global Atmospheric Chemistry Program. Dave Parrish (who is heading the mission) and colleagues are getting a first glimpse of ozone/carbon monoxide transport from the North American continent during wintertime conditions, a season that has not yet been studied in the NARE missions. Several flights of the NOAA P3 aircraft in February will test a hypothesis that was suggested by data gathered in the April 1996 NARE mission: that ozone destruction, rather than production, might occur in the wintertime continental plume as it is transported across the North Atlantic Ocean. The researchers suspect that more-rapid-than-expected conversion of nitric oxide to nitric acid may be occurring, thus short-circuiting the chemistry that would have produced ozone.
- The Tropical Dynamics and Climate group is, indeed, in the tropics this January and February, in an experiment associated with the Tropical Rainfall Measuring Mission (TRMM). TRMM is a joint satellite project of the U.S. and Japan aimed at deter-

mining the climatology of tropical precipitation. The release of latent heat in tropical rainfall is one of the principal energy sources that drive atmospheric circulation; hence, the reliability of global climate models is dependent on an accurate representation of this phenomenon. A series of field missions is in progress to assess the representativeness of the satellite observations, including 1998 experiments in Florida and Texas. In the current **TRMM field mission**, scientists are in the Rondonia Province of Brazil using a collection of observing platforms, including the TRMM satellite, two profiling radars operated by the Aeronomy Lab, and other ground- and aircraft-based instruments, to measure precipitation and properties of convective cloud systems. The suite of measurements will provide the first characterization of convection over Amazonia. Near real-time Aeronomy Lab data can be viewed on the web (<http://www.al.noaa.gov/WWHD/pubdocs/TRMM.html>).

- The **Flatland Atmospheric Observatory** fulfilled its research mission and was retired from operation on September 30, 1998. It leaves a legacy of over 11 years of continuous measurements and 80 research publications in studies of mesoscale motions, such as gravity waves in the troposphere and lower stratosphere. Members of the Atmospheric Dynamics group, directed by Tom Van Zandt, conducted the research. ♣



## WHAT'S UP WITH PEOPLE

**Michael Proffitt** will move to Geneva, Switzerland, to begin a new position with the World Meteorological Organization in March. He will become the Senior Scientific Officer responsible for ozone activities of the WMO's Atmospheric Research and Environment Programme. Mike has been with the Aeronomy Lab/CIRES for over 18 years, developing instrumentation and participating in field missions to study the ozone layer... **Chuck Eubank** is now working in the Middle Atmosphere group in studies of atmospheric chemical composition and its relation to radiative properties of the atmosphere... **Steve Donnelly** has taken a new position in the Atmospheric Chemistry Division of NCAR, where he will work with the whole-air sampling group. He worked for several years on development and deployment of the  $\text{NO}_y$  instrument of the Meteorological Chemistry group... **Lori Del Negro** completed her Ph.D. thesis at CU, which described her research on stratospheric reactive nitrogen conducted in conjunction with members of the Meteorological Chemistry group. She has begun a postdoctoral appointment at the Climate Monitoring and Diagnostics Laboratory... **Elena Teverovskia** began a new position with an imaging company in Boulder, after several years of data analysis and field work with the Meteorological Chemistry program... There are several new (and in some cases, familiar!) faces in the Meteorological Chemistry group. **Erik Richard** will rejoin the program, to develop instrumentation and conduct measurements of trace gases in the stratosphere. He has been on leave at the Georgia Institute of Technology. **Steve Ciciora** is rejoining the group to help with the design and construction of a new chemical ionization mass spectrometry (CIMS) instrument for the WB-57 aircraft. He previously worked with the group doing electronics engineering associated with the reactive nitrogen and airborne chromatograph instruments. **John Holecek**, recently with a Houston-based company called Ionwerks, is joining the group to work on the  $\text{NO}_y$  and nitric acid aircraft instruments. Also joining the Meteorological Chemistry group is **Megan Northway**, a Ph.D. graduate student in chemistry at CU... **Rich Dissly** has joined the Tropospheric Chemistry program, where he will be developing new instrumentation for trace gas measurements. He previously worked at Ball Aerospace and at the Climate Monitoring and Diagnostics Laboratory. **Dan Hereid** has also joined the group, where he is working with Eric Williams on photochemical measurements in upcoming field experiments in Nashville and Houston... **Alison Grimsdell** will continue her work in the Atmospheric Dynamics program under a CIRES Graduate Research Fellowship for the coming year. She was one of eight students selected to receive a fellowship... Rejoining the Tropical Dynamics and Climate group is **Mark Haeg**, who will be involved with the wind profiler measurements of the Trans-Pacific Profiler Network (TPPN). A new member of that group is **Kathy Harris**, a Ph.D.

student at Colorado State University who will work with George Kiladis in studies of tropical convection in the eastern Pacific... We wish everyone the best in their new endeavors, whether here or elsewhere!

## COMMUNICATING OUR SCIENCE



**To Decisionmakers:** Dan Albritton presented an update of the scientific understanding about the depletion and recovery of the ozone layer in a Congressional Forum on Capitol Hill on September 23. The talk, which was attended by over 30 Congressional staffers, was part of a monthly seminar series sponsored by the U.S. Global Change Research Program. Dan also served as Science Advisor to the United Nations delegation at the 10<sup>th</sup> Meeting of the Parties to the Montreal Protocol in Cairo, November 23-24.

**To the Scientific Community:** Venues included:

- *Scientific Conferences and Symposia:* In January, Alison Grimsdell presented a paper on the continental convective boundary layer at the 13<sup>th</sup> Symposium on Boundary Layers and Turbulence, a part of the 79<sup>th</sup> AMS Annual Meeting in Dallas. Wayne Angevine gave a talk on modeled versus observed turbulence at that same meeting... Eighteen Aeronomy Lab scientists presented talks and posters at the Fall Meeting of the American Geophysical Union in San Francisco, CA, in December. A special session on the WB-57 Aerosol Mission was among the events at the meeting... Susan Solomon reviewed the science of the ozone layer in a talk at the Earth Technologies Forum in Washington, D.C., in October... Several members of the Tropical Dynamics and Climate group and the Atmospheric Dynamics group participated in the Fourth International Symposium on "Tropospheric Profiling: Needs and Technologies" in Snowmass, CO, last September.
- *Research Workshops:* Fred Fehsenfeld and Jim Meagher participated in the NARSTO Workshop on Fine-Particle Characterization and Atmospheric-Process Research held in Arlington, Virginia, in January... Dan Albritton participated in the NOAA Office of Global Program's Annual Retreat in December... Adrian Tuck, Dan Murphy, and Jeff Hicke presented talks at the Mesoscale Processes in the Stratosphere Workshop in conjunction with the European Commission Environment and Climate Programme last November... In October, George Kiladis presented talks on equatorial waves at the Climate Diagnostics Workshop in Miami... Also in that month, George Kiladis and Ken Gage attended the Principal Investigators' Meeting of the Pan-American Climate Study (PACS).
- *Invited Lectures and Seminars:* In September, Susan Solomon traveled to Melbourne, Australia, to give the Priestly Lecture at the invitation of the Commonwealth Scientific and Industrial Research Organization. She presented a retrospective on stratospheric ozone research... Dan Albritton was invited to present the 1<sup>st</sup> Earl McDaniel Memorial Lecture at the Georgia Institute of Technology in October. Dr. McDaniel was Dan's graduate research advisor at Georgia Tech... Ravi spoke on the

chemistry of the lower stratosphere at the University of Chicago in February... Also in February, Adrian Tuck presented a colloquium at the Chemistry Department of the University of Toronto... Susan Solomon presented a seminar on clouds and radiation at the State University of New York-Stony Brook in January... George Kiladis gave several talks in Australia and New Zealand in conjunction with an extended visit to the National Institute of Water & Atmospheric Research, Ltd. (NIWA) in Wellington, New Zealand, that took place November through January... In December, Dan Albritton presented a seminar at the University of Washington on climate science and its relation to decisionmaking... George Reid gave a seminar at the UCLA Atmospheric Sciences Department on "Solar Variability and the Human Environment" in November... Greg Huey gave an invited talk on "Detection of Trace Atmospheric Species Using Chemical Ionization Mass Spectrometry" at the Environment Institute in Ispra, Italy, in October... Ravi gave a talk at Nagoya University in October on the role of NO<sub>x</sub> in the stratosphere. He also spoke at the National Tsing Hua University and the Institute for Atoms and Molecules in Taiwan that same month... John Holloway gave a talk on vacuum ultraviolet fluorescence measurements of carbon monoxide at Fort Lewis College in October... Dave Fahey presented a seminar on stratospheric ozone at the University of Cambridge in October... Clyde Burnett presented a seminar at NCAR in September, describing the column OH measurements at Fritz Peak Observatory... Dan Albritton presented a decadal retrospective on ozone-layer science and decisionmaking to an atmospheric sciences audience at Pennsylvania State University in September.

**To the Public:** Wayne Angevine gave a talk on "Thermal Structure and Behavior" to the Colorado Soaring Association in Fort Collins, CO, in January.

**To Media:** David Fahey did an interview in September for The Environment Show, a radio program that airs on National Public Radio, ABC, and other outlets. Dave answered questions on latest findings about the ozone layer and ozone depletion.

**To Students and Teachers:** Cheryl Longfellow was an activity leader in the Earthworks conference for high school science teachers held in Boulder last August... In December, Carl Howard talked to a class at Berthoud High School about careers in atmospheric science.

**To Our Visitors:** Dan Albritton and other NOAA/Boulder Lab Directors and scientists met with NOAA's Chief Financial Officer, Paul F. Roberts, on February 11. Upcoming research and budget issues were among the topics of discussion... Ken Gage presented an overview of the Aeronomy Lab's research to Roxie Allison-Browne, NOAA Office of the General Counsel for Weather, during her visit to NOAA/ERL in October.

**Through Service on Scientific Panels and Boards:** Adrian Tuck is chairing a funding committee for the U.K. National Environmental Research Council for stratospheric research... Carl Howard is a mem-

ber of the National Research Council's committee to review the Environmental Protection Agency's Mobile Source Emissions Factor (MOBILE) Model... Ken Gage attended a November meeting of the NASA Tropical Rainfall Measurement Mission (TRMM) Science Team, of which he is a member... Karen Rosenlof is a chapter lead author for an upcoming assessment of stratospheric water vapor, an activity under the auspices of the SPARC (Stratospheric Processes and their Role in Climate) program. She is also serving on the National Research Council's Panel on Atmospheric Effects of Aviation. Dave Fahey provided expert information at the request of the Panel at their February meeting... Ravi attended the SPARC scientific steering group meeting in Nagoya, Japan, in October, where he discussed the joint laboratory studies initiative of SPARC and the International Global Atmospheric Chemistry (IGAC) program... Dave Fahey serves on the Steering Committee of the NASA Atmospheric Effects of Aviation Project. Dave is also on the organizing committee for the Association of European Research Establishments in Aeronautics (AEREA)-NASA Symposium on Aviation and the Global Environment, which will take place June 23-24. In addition, Dave was a reviewer at the NASA Assessment of the Effects of High-Speed Aircraft in the Stratosphere: 1998 report review meeting in December.

## DOWN THE ROAD



**Throughout February:** North Atlantic Regional Experiment (NARE-99) field mission, out of St. John's, Newfoundland. Members of the Tropospheric Chemistry program are participating.

**March 22-26:** Progress in Electromagnetics Research Symposium (PIERS 99), Taipei, Taiwan. Scientists in the Atmospheric Dynamics and the Tropical Dynamics and Climate programs will attend.

**April 19-23:** Conference on Atmospheric Effects of Aviation, Virginia Beach, Virginia.

**May:** Studies of radiation in clouds, using the NOAA P3 aircraft. Members of the Tropospheric Chemistry and the Middle Atmosphere groups are participating.

**June 15-July 15:** Nashville Field Intensive of the Southern Oxidants Study. Scientists from several groups of the Aeronomy Lab will participate.

**Upcoming AL Seminar Speakers:** Anthony Davis, Los Alamos National Lab (3/3); Theodore Shepherd, University of Toronto (3/10); Dave Parrish, AL (3/24); James Corbett, Carnegie Mellon University (4/7); Casey Hynes, University of Colorado (4/14).

**On the Air!** is a quarterly publication of the NOAA Aeronomy Laboratory. Please send any comments, questions, and suggestions to: Chris Ennis (phone 303-497-7538; email [cennis@al.noaa.gov](mailto:cennis@al.noaa.gov)).