Staff Notes
National Center for Atmospheric Research

The High Altitude Observatory: Fifty Years of Progress

climax—the point of greatest intensity in a series or progression of events; culmination.

When Walt Roberts moved to the Colorado Rockies in 1940 to establish the Climax Observatory, he was certainly in for a period of intensity. However, the Climax site was no culmination; it was instead a beginning of research into the sun's workings that would expand far beyond Walt's initial efforts.

The High Altitude Observatory that grew out of Climax celebrates its 50th birthday this month. It is now a 70-member division of NCAR that sits on the top tier of the world's solar research centers in size, depth, and breadth. HAO scientists have taken their work to dozens of countries, most often to gather concentrated data during short-lived solar eclipses. So many of the instruments built at HAO are one of a kind that the preface "world's first" is almost a given. The observations thus taken provide plenty of grist for the mill of HAO theoreticians, who elaborate some mental maps of the sun while overturning others.

In this special issue of Staff Notes, we salute the achievements and people of HAO in text and pictures. The division itself will celebrate its first half-century and kick off the next one in a day-long series of discussions on Tuesday, 30 October, in the Mesa Lab's Main Seminar Room. Scheduled speakers include HAO's Art Hundhausen, UCAR president Rick Anthes, former HAO directors Bob MacQueen and John Firo, and E. N. Parker, of the University of Chicago. The talks will range across HAO's scientific and institutional history. A complete agenda for the day is available from HAO administrator Kathy Strand, ext. 1516. *BH

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Through the Years—An HAO Chronology

1940: Walt and Janet Roberts move to Climax, Colorado, to staff a new observatory founded by Walt and his doctoral adviser at Harvard University, Donald Menzel. The core instrument in HAO’s first years is the Western Hemisphere’s first coronagraph. A modified telescope, it uses an internal disk to block virtually all of the sun’s rays and render the corona visible.

1942: A second coronagraph with a five-inch lens joins the three-inch model.

1945: After years of groundbreaking but sporadic observations, the National Bureau of Standards begins supporting regular solar observations at Climax.

1946: The High Altitude Observatory is incorporated, with Walt Roberts as its first director. In addition to Climax, HAO staff move among several sites at the University of Colorado and in Boulder before occupying a long-term home at CU.

On 4 June, Walt photographs a spectacular solar prominence (masses exploding from the sun’s “surface”). It is the largest one documented to that date and for many years afterward.

1952: The Climax observatory moves to a new home two miles northwest of its namesake town. The desire for a less cloudy site leads to the creation of the Sacramento Peak Observatory and the aptly named town of Sunspot near Alamogordo, New Mexico. The new center’s first director, John Evans, is an HAO alumnus.

A solar eclipse near Khartoum, Sudan, is the focus of HAO’s first major field expedition. It provided the first evidence that the sun’s atmosphere is not in local thermodynamic balance.

1956: HAO’s first K-coronameter is installed. It blocks out the disk of the sun, to allow visible-light photos of the inner corona.

1957: HAO is a primary center for world solar data during the International Geophysical Year.

1960: HAO staff deploy the first balloon-borne coronagraph, accompanied by several other instruments that assess sky brightness and scattering of sunlight. Ascensions to 80,000 feet (24,400 meters) confirm the presence of a stratospheric aerosol layer distinct from the lower atmosphere.

1961: HAO joins NCAR, and Walt Roberts takes the helm of the latter. In the next three years, HAO’s staff grows from 10 to 18.

1964: A magnetograph measuring the two-dimensional magnetic field across the sun’s surface is installed. It will be another decade before a third component—the vertical magnetic field—can be assessed with the first Stokes polarimeter.

1965: The Mauna Loa Solar Observing Station is built at an elevation of 11,400 feet (3,470 meters) on the
Hawaiian volcano. (See accompanying story.)

1967: Mark II, an improved K-coronameter, is installed at Mauna Loa.

1968: Infrared measurements via high-flying aircraft provide new temperature data on the coolest layers of the sun's photosphere.

1970: At Oaxaca, Mexico, HAO mounts its biggest solar eclipse expedition yet. (The floor-to-ceiling eclipse photo in the Mesa Lab lobby was taken at Oaxaca.)

1972: Soaring costs of operation and the threat of worsening visibility lead to the closing of the Climax observatory.

1973–74: Years of preparation culminate with the nine-month journey of Skylab, the world's first manned, orbiting solar observatory. With data that include 35,000 coronal pictures, many theories are confirmed and others born. Even near the lull of the 11-year solar cycle, there is far more activity than expected. Workshops and publications on Skylab continue through the decade.

1975: In collaboration with the Sacramento Peak Observatory, a Stokes polarimeter is completed. It measures four components of polarized light to deduce the three-dimensional solar magnetic field.

1980: The Solar Maximum Mission satellite is launched on 14 February, and its cadre of instruments begins making observations across the electromagnetic spectrum. The NCAR coronagraph/polarimeter on board collects 30,000 images before malfunctioning in September. Solar Max itself is disabled the next month by three blown fuses.

A Mesa Lab addition for solar instruments is completed and the 76 HAO employees are united after years of being divided among Boulder sites. One of the addition's first occupants is a unique new instrument that provides daily, fine-scale measurement of the sun's diameter.

1980–84: HAO develops the first Fourier tachometer, designed to measure large-scale, small-amplitude oscillations on the solar surface.

1984: Using tools developed at HAO, two astronauts complete the first-ever repair of a satellite while in space, and Solar Max resumes data collection.

1986: The Terrestrial Interactions Section is formed to study the chain of events connecting solar energy to earth's environment.

1988: Observations begin from HAO's solar-stellar spectrophotometer. The new instrument compares light output and magnetic cycles among the sun and 400 other stars.

1989: Solar Max plummets to earth in November after collecting a quarter of a million images across most of a solar activity cycle. Data analysis will continue well into the 1990s.

1990: The prototype of the advanced Stokes polarimeter is deployed.

The International Symposia on Equatorial Aeronomy

Sadami (Mat) Matsushita of HAO was the primary organizer for a series of international symposia dealing with physical processes in the low-latitude upper atmosphere. An unusual feature of these symposia, held every three or four years, was their venue: all took place at low-latitude sites, most of them in developing countries. Mat was involved with symposia held in Peru, Brazil, Nigeria, Australia, Puerto Rico, and Hong Kong, although his untimely death came shortly before the Hong Kong symposium. After a hiatus of several years, the scientific community realized that these symposia filled an important need in bringing together scientists from developed and developing countries concerned with equatorial aeronomy, and the series was renewed this year with a meeting in Argentina.

Art Richmond, HAO senior scientist
Mauna Loa Celebrates Its 25th

NCAR's most far-flung facility threw a two-day bash last month in honor of its 25th anniversary. The Mauna Loa Solar Observatory (MLSO) is perched at 11,400 feet (3,470 meters) near the top of Hawaii's largest volcano. If measured from the surrounding ocean floor to its summit, Mauna Loa is one of the world's tallest mountains, soaring some 6 miles (10 kilometers). Far from the lights and pollution of urban areas, Mauna Loa is an astronomer's dream.

The Mauna Loa birthday party began Friday night, 14 September, with a retrospective talk by HAO's David Sime for the Mauna Kea Astronomical Society. Saturday opened with a 5-mile (8-kilometer) race on Mauna Loa, followed by an afternoon open house for the public that was "well attended by people from all over the Big Island," according to HAO's Kathy Strand. A party that evening feted MLSO staff, friends, and colleagues.

Mauna Loa's two observers, Charles Garcia and Eric Yasukawa, commute three hours a day from homes near the coastal city of Hilo. On days when skies are sufficiently clear for at least 15 minutes—which occurs on average about 75% of the time—Charlie and Eric take observations, expanding the watch when solar activity is intense. They also help maintain Mauna Loa's instrument array, which includes a K-coronameter and prominence and chromospheric variability monitors. Because of the design of the Mauna Loa K-coronameter, less of the sun needs to be artificially blocked and more of the innermost corona can be viewed than from space-borne coronagraphs. Also, while satellites and balloons may take unique solar observations for limited periods, researchers rely heavily on the long-term data bank made possible by MLSO's longevity.

Dick Hansen (retired HAO staff member), Eric Yasukawa, Dick Fisher, and David Sime gather to celebrate Mauna Loa's anniversary.

HAO's observatory atop Mauna Loa.
Congratulations, HAO!

Fifty years is a long life for a solar or astrophysical institution. Many have come and gone or evolved beyond recognition in that time. In scientific vigor, HAO is really much younger. It has sustained this vigor by continually renewing itself, through outstanding new scientific appointments. At the same time, HAO has dedicated itself to the lofty goal of detailed quantitative understanding of the physics of the sun, a goal that even 50 years is inadequate to achieve. Much progress has been made, and I believe it can fairly be said that HAO has maintained world leadership in the quest for this understanding.

The stature of HAO has been earned by the quality of its work, and also by its meticulous attention to achieving the best balance among approaches to science: theory and modeling, instrumentation and observation, and, above all, quantitative, scientific interpretation of results, using all available tools. HAO has a reputation for subjecting all research on the sun and its environment to searching criticism. But it has saved its most probing questions for itself, continually looking for ways to strengthen its program. This rigorous self-examination has served it particularly well in times of financial stress, which have been frequent over its history.

Why are the study and understanding of the sun important? In many ways, the sun is the Rosetta stone for understanding the stars and, therefore, much of our universe. At the same time, the sun’s output sustains life and also affects earth in a myriad of more subtle but important ways. Finally, the sun represents a natural plasma laboratory where a great variety of physical processes can be observed that cannot be reproduced on earth. Thus, studying the sun expands our ability to understand fundamental physical laws.

We should all join the observatory in its rededication over the next 50 years to the quest for understanding the sun and its influence on the earth.

Peter Gilman, NCAR associate director and former HAO director

Announcements

Getting Along with the Neighbors: Prairie Dogs at NCAR North

Some staff members have been concerned about the treatment of prairie dogs at NCAR North. Bill Ferguson of Facilities Support Services has been wrestling with the problem of what to do with these cute but troublesome neighbors. A large colony north of the site is already overpopulated and, according to Boulder County rangers, ripe for an epidemic. As the little animals expand their town by digging tunnels, they cut through tree roots, slowly killing some of the large trees on the site. Because winter is just around the corner, the Humane Society wouldn’t relocate the animals until next year.

A 20-inch (0.5-meter) high fabric fence is currently under construction to separate the neighboring prairie dog town from the NCAR complex. When the fence, which will cost NCAR $5,000, is finished in about two weeks, the prairie dogs found on the wrong side will be relocated. For more information, call Bill, ext. 8532.

Departures

Carol Beam  30 September
David Darr  30 September
Solomon Desta  28 September
Karen Miller  30 September
Julie Moses  30 September
Alex White  28 September

NCAR Projector is Still Missing

A 35-millimeter Kodak carousel projector with a remote control, National Science Foundation #4731, is still missing from the Directors’ Conference Room at the Mesa Lab. If you know the whereabouts of this projector, please return it to Photographics in ML room 55B or call ext. 1188 to have it picked up.

New Staff

Sandra Sundquist, maintenance clerk with Facilities Support Services. ML room 033, ext. 1124.
EAC News

The Employee Activities Committee is looking for bands for upcoming parties. If you know of any possibilities, contact Twyla Barrett, ext. 8899, or Searl Brier, ext. 8710. Twyla and Searl are the new EAC cochairs.

Boulder County two-for-one discount cards for dining and shopping are available from Selena Slyter, ext. 1414. The cards, valid through 8 June 1991, cost $20 ($5 off the usual price).

NCAR T-shirt orders for the holiday season must be placed by 31 October. All styles and sizes may be ordered now, but after the deadline only what’s left in stock will be available. Call Ed Ellert, ext. 1484, to place an order.

The City of Boulder Parks and Recreation Department is offering discounts on recreation center cards. Regularly priced at $280 for city residents and $330 for nonresidents, the cards will cost NCAR staff $250 and are valid through 31 December 1991.

Choose Your Benefits

Today from 9:00 to 11:00 a.m. is your last chance to attend an information session about the 1991 benefits offerings; the session is scheduled for RL-6 room W179. The last session to get help with enrollment will be tomorrow, 26 October, from 9:00 to 11:00 a.m., also in RL-6 room W179.

Remember that the deadline for enrolling for 1991 benefits is Friday, 9 November.

Get to Know United Way

On Tuesday, 30 October, NCAR staff are invited to tour two United Way agencies—Boulder County Enterprises, which helps people with physical and mental disabilities find employment, and the Boulder Shelter for the Homeless. Buses will leave Flatirons West at noon for the two-hour trip.

On Tuesday, 13 November, two United Way representatives will speak to staff at a brown-bag luncheon from noon to 1:00 p.m. in the main conference room at Flatirons West. A question-and-answer session will follow the 20-minute presentation by campaign director Pamela Archuleta and Art Palm, an IBM executive on full-time loan to United Way.

Runners Wanted for 10K Turkey Trot

The 16th Annual Longmont Turkey Trot, a ten-kilometer foot race, will take place on Saturday, 3 November. Ken Davis, Advanced Study Program, is organizing a number of NCAR teams for the race, and runners of all levels and abilities are welcome. Each team will consist of three men and one woman. Team entries must be submitted before race day, so please call Ken at ext. 8897 or contact him by e-mail at davis@ncar.ucar.edu by 31 October.

Choose Your Benefits

Today from 9:00 to 11:00 a.m. is your last chance to attend an information session about the 1991 benefits offerings; the session is scheduled for RL-6 room W179. The last session to get help with enrollment will be tomorrow, 26 October, from 9:00 to 11:00 a.m., also in RL-6 room W179.

Remember that the deadline for enrolling for 1991 benefits is Friday, 9 November.

Mesa Power to Be Shut Down Saturday

Physical Plant Services will shut down the Mesa Lab’s main electrical power, air conditioning, and all utilities at various times this Saturday, 27 October, between 6:00 a.m. and 6:00 p.m. to conduct semiannual inspections and preventive maintenance. For more information, call Mike Boroviak, ext. 1134.

Temporary Numbers at RL-6

From 23 October through 16 November, the telephone number for Ray Steineck, building proctor for RL-6, will be changed to ext. 8170. The fax number for RL-6 during that period will be ext. 8828.
Visitors

Albrecht, Bruce. Pennsylvania State University. Interest: Boundary-layer clouds and cloud-climate interactions. 16-17 October.
—James Hack, CGD

—John Firor, ASP

—Arthur Richmond, HAO

—Guy Brasseur, ACD

—James Dye, MMM

Marushkevich, Andrei. Shirshov Institute, Moscow, USSR. Interest: Ocean and numerical modeling. 15–30 October. ML room 202, ext. 1398.
—James McWilliams, CGD

Matson, Pamela. NASA Ames Research Laboratory. Interest: Atmospheric chemistry. 1–2 November. ML room 251, ext. 1433.
—John Orlando, ACD

—Byron Boville, CGD

—Guy Brasseur, ACD

—John Firor, ASP

—John Firor, ASP

Seidov, Dan. Shirshov Institute, Moscow, USSR. Interest: Ocean modeling. 15–30 October. ML room 202E, ext. 1393.
—James McWilliams, CGD

Nine people are attending the Hungarian/United States Joint Project on Extreme Meteorological Events from 22 to 25 October. The Environmental and Societal Impacts Group is hosting the meeting. For more information, call Jan Stewart, ext. 1617.

The Climate and Global Dynamics Division hosted the Synoptic Ocean Prediction Workshop on 18–21 June. For further information, contact LeAnne Schamp, ext. 1358.
The following new acquisitions for the Mesa and branch libraries will be displayed in the Mesa Library through the dates listed above. They may be reserved during display for subsequent checkout. NCAR staff located off the mesa may borrow new books by checking the item(s) of interest below and sending this list to Faith Percell. Be sure to include your name, location, and extension. Reference material, however, does not circulate.

**New Books**

**Aeronautics**

TL509 G86 1988 in Ref.

**Astronomy**


**Chemistry**


**Climatology and Meteorology**

QC879.6 I7713 1990.

QC984 N35N49 1990.

QC994.2 K68 1990.

**Engineering (General)**


**Environmental Technology**

TD195.44 H37 1990 in Damon Room.

**Geology**

QE515 F23 1990.

**Management**


HD62.6 W649 1990.

**Library Science**

Z688.5 C66 1989.

**Mathematics and Computer Science**

QA76.5 D36 1989 Vol. 1 in RL6 Copy 2.

QA76.754 V37 1990.

QA279.5 W47 1989.

**Microbiology**

QR1 A5 v.44.

**Physics**

QC6.4 F58N64 1988 v.1.
Nonlinear Waves in Active Media.
Proceedings of the Workshop on
Discrete Kinetic Theory, Lattice Gas
Dynamics and Foundations of Hydro-
dynamics. Monaco, R, editor, World
Progress in Optics. North-Holland
QC351 P7 v.28.
Wave Transmission and Fiber Optics.
QC665 T7D53 1990.

Statistics
The Rating Guide to Life in America's
Small Cities. Thomas, G S, Prom-
HA214 T46 1990 in Ref.

Technology
Inventing for Fun and Profit. Rabi-
T212 R32 1990.

New Reports

Atmospheric Science
The Global Climate System : Climate
System Monitoring June 1986 -
25235.

101 Ways To Help Heal The Earth : A
25236.

Extreme Values Of Ozone Observed
In The AFCRL Ozonesonde Network.
25237.

Analysis Of Significant Weather On
Meso-Alpha Scales Using Conven-
tional And Remotely-Sensed Data -
Further Studies : Final Report Febru-
ary 1986-February 1988. Forbes, G S,
1990.
25239.

Engineering, Technology
Report Of The Expert Group On
Global Baseline Datasets Asheville,
North Carolina, USA 22-26 January
1990.
25234.

General Publications
Air Resources Atmospheric Turbu-
lence And Diffusion Division Annual
25238.

Recommendation for Library Purchase

Title: ____________________________________________

Author: ________________________ Publisher: ________________ Date: _________

For: Mesa _____ RL6 _____ RL3 _____ MAR _____ RAF _____ (please check one)

Name: _________________________________________________
EMPLOYMENT PROCESS
PLEASE READ!

APPLICATION PROCEDURE: To ensure that you will be considered for the positions for which you feel qualified, an application form should be completed for each. Please indicate the job number and position title on your application. Completing an application is very helpful -- although not absolutely necessary. A resume will be accepted provided it contains all necessary information. You may call our 24-hour jobline, 497-8707, to obtain information about UCAR/NCAR positions.

NOTIFICATION OF APPLICATION STATUS: If you are applying for an exempt position, we will notify you as to the status of your application as soon as it can be determined. If you are applying for a non-exempt position, you will be notified within three weeks after the position closes, only if we wish to interview you. Normally, positions are closed after sufficient applications have been received. When a position closes, it will no longer appear in Staff Notes or be announced on the jobline.

MORE INFORMATION ON SPECIFIC OPENINGS: You may obtain copies of previous "Job Openings" ads at the UCAR/NCAR Human Resources Office, located at 3215 Marine Street, Boulder. UCAR/NCAR EMPLOYEE APPLICATIONS: If you are a UCAR/NCAR employee and wish to be considered for any of the positions listed, please complete an employee application (available from Human Resources, x8713), attach a resume, and return it to Human Resources, RL6.

NOTE TO UCAR/NCAR STAFF: Requests for Staff must be received in the Human Resources Office no later than noon Monday in order for the job to be posted in the following Thursday’s Staff Notes.

The University Corporation for Atmospheric Research has a strong commitment to the principle of diversity in all areas. In that spirit, we are interested in receiving applications from a broad spectrum of people, including women, members of ethnic minorities, and disabled individuals.

ASSOCIATE SCIENTIST II/III - #1309

MMM - STORM Project Office
Exempt Range: 55, $2,487 - $3,730/mo
58, $3,100 - $4,650/mo

DUTIES INCLUDE: Assists in the development of a modern data management program for the National Storm-scale Operational and Research Meteorology Program (STORM). Participates in the implementation of the Convection and Precipitation/Electrification (CaPE) and STORM Data Management Plans with particular attention to data collected from special research observing facilities during field experiments. Coordinates and oversees assembly, quality control, archival, and dissemination of data collected. Investigates data problems and ensures that all available data are collected, processed, and archived.

ADDITIONAL DUTIES: (Level III): Leads the effort to assemble, quality control, archive, and disseminate data collected from special research observing facilities during field experiments such as CaPE. Collaborates with others inside and outside the organization to assemble and interpret special data sets.

REQUIREMENTS INCLUDE (Level II):
-- M.S. in atmospheric science or related discipline OR the equivalent combination of education and experience
-- Demonstrated oral and written communication skills
-- Demonstrated knowledge of meteorology
-- Skill in data management including quality-control and data archival and retrieval
-- Skill in scientific computer programming, data management, and the use of workstations in a UNIX environment
-- Skill in processing and manipulating large data sets collected from field experiments
-- Knowledge of conducting meteorological field experiments and operating meteorological observing systems such as Doppler radar

ADDITIONAL REQUIREMENTS (Level III):
-- Demonstrated skill in preparing budgets, plans and proposals
-- Demonstrated skill in collaborating with others inside and outside the organiza
tion to assemble and interpret special data sets
-- Demonstrated knowledge and experience with processing and manipulating large scientific data sets collected from field experiments
-- Demonstrated knowledge of conducting meteorological field experiments and operating meteorological observing systems such as Doppler radar
Searl Brier

DIRECTOR, MESOSCALE AND MICROSCALE METEOROLOGY DIVISION - #1311

Exempt Range: 67, $5,948 - $8,920/mo
DUTIES INCLUDE: Responsibility for the overall scientific productivity, creativity, and excellence of a division concerned with mesoscale and microscale atmospheric phenomena that determine the behavior of weather systems on short time scales and which, in their aggregate, influence the behavior of the climate system on long time scales. The Director has responsibility for the formulation and execution of both long-range and short-range plans within NCAR guidelines; oversees the operation and development of the division; and ensures that MMM actively contributes to national and international programs on the fundamental questions of atmospheric research in mesoscale and microscale meteorology. As a member of the NCAR management team, the MMM Director participates in NCAR strategy, policy and administrative matters; actively participates in MMM research efforts; is involved in the planning and management of budgets and in supervising in ways consistent with NCAR policies and its equal employment opportunity and affirmative action programs. In addition, the Director is responsible for program advocacy in a number of forums, including government agencies, UCAR member institutions, and the scientific community.

REQUIREMENTS INCLUDE:
-- Ph.D. in an area related to MMM research OR the equivalent combination of education and experience
-- International recognition as a scientific leader in areas of MMM interest, as demonstrated by a research record of depth and breadth sufficient for providing long-term scientific leadership for the division
-- Demonstrated understanding of providing effective direction of a complex research organization
-- Demonstrated skills in budget development, resource development, planning and utilization, and related management/administrative functions
-- Demonstrated leadership skills in directing, developing, and evaluating a staff of widely varying backgrounds and experience
-- Skill in the area of scientific advocacy to effectively and persuasively promote goals and strategies for the advancement of MMM's work with NCAR, UCAR, funding agencies and the general scientific community
-- Skill in interacting with peers, both internal and external
Searl Brier

FAA/STORM RESEARCH COORDINATOR - #1310

MMM - National Storm-scale Operational and Research Meteorology (STORM) Project Office Exempt Range: 62, $4,140 - $6,210/mo
DUTIES INCLUDE: Organizes and coordinates Federal Aviation Agency (FAA) participation in the U.S. Weather Research Program Program and assures that STORM planning and implementation activities are consistent with FAA goals and objectives. Insures that the FAA supported STORM research is well-integrated in the STORM Program Plan, and FAA Aviation Weather Program. Serves as the primary liaison between the FAA and STORM Project Office and a focal point for FAA-supported STORM researchers at universities and federal laboratories. Prepares multi-year planning documents and associated scientific, technical, and budgetary strategies in concert with FAA and STORM Project Office Managers. Monitors, integrates, and advises on FAA-supported weather research in the Boulder area, which is part of the Aviation Weather Program. Participates in planning, preparation, and conduct of STORM multi-scale field experiments. Coordinates access to national mesoscale data sets by aviation weather researchers. Prepares and presents briefing materials for scientific and technical working group meetings and Federal agency presentations.

REQUIREMENTS INCLUDE:
-- Ph.D. in atmospheric sciences or engineering OR the equivalent combination of education and experience
-- High level skill in the planning and execution of major weather research programs
-- Demonstrated skill and established record in conducting and directing research in mesoscale meteorology and/or operational meteorology
-- Demonstrated oral and written communication skills with scientific and government agencies
-- Skill in developing and maintaining effective working relationships with scientific, technical, and administrative personnel
-- Skill in planning and conducting field research projects involving complex technology
-- Knowledge of appropriate government regulations, policies, and practices affecting interagency relations, including contracts, Memorandum of Agreements, etc.
-- Willing to travel frequently to Washington, D.C., and elsewhere in conjunction with duties of the position

Searl Brier

SCIENTIST I/II - #1314

RAP - Applied Science Group
Exempt Range: 57, $2,887 - $4,330/mo
60, $3,580 - $5,370/mo

DUTIES INCLUDE: Identifies and conducts original research related to winter storms under the direction of a higher level scientist. Conducts basic and applied research on mesoscale and microphysical aspects of winter storms, with emphasis on the production and depletion of supercooled liquid water in storms occurring during the Winter Icing and Storms Project (WISP). Participates in the 1991 WISP Project. Publishes results of project in refereed journals and participates in national and international meetings on a regular basis. Maintains knowledge of current developments in topics of relevance to the research projects, and conducts reviews of scientific papers and proposals.

ADDITIONAL DUTIES: (Level II): Supervises associate scientists.

REQUIREMENTS INCLUDE (Level I):
- Ph.D. in atmospheric science or related physical science OR the equivalent combination of education and experience
- Demonstrated skill and productivity in scientific research in winter storms research as evidenced by publication in refereed scientific journals
- Knowledge of mesoscale meteorology related to extra-tropical winter storms
- Skill in writing scientific papers and making oral presentations
- Skill in establishing and maintaining professional relationships both inside and outside the organization

ADDITIONAL REQUIREMENTS (Level II):
- Advanced knowledge of mesoscale meteorology related to extra-tropical winter storms
- Demonstrated skill in writing scientific papers and making oral presentations

Searl Brier

SOFTWARE ENGINEER II - #1316

UCAR - Unidata Program Center (UPC), User Support Group
Exempt Range: 56, $2,673 - 4,010/mo

DUTIES INCLUDE: As the initial point of user contact for the UPC; consults with scientific users, engineers, programmers, and system administrators to troubleshoot hardware, software, and operational problems. Tests Unidata software distributions by implementing new releases at the UPC and at user sites. Helps maintain an online inquiry tracking system by applying user feedback to the identification of problems and by making suggestions for improvement. Assists in bringing up new Unidata sites, including providing system recommendations and site configurations. Maintains and presents demonstrations of Unidata systems and assists in training new users and site administrators. Designs, codes, tests, and maintains portions of the Unidata application software systems. Assists in developing and updating documentation for users and system administrators. Maintains knowledge of technical developments in the computer industry focusing on scientific workstations, data management, networking, and data communications.

REQUIREMENTS INCLUDE:
- B.S. in meteorology, a related physical science, computer science, math, OR the equivalent combination of education and experience
- Demonstrated oral and written communication skills
- Demonstrated skill in working as a team member on scientific or engineering computing projects
- Demonstrated skill in training and consulting with users on major scientific or engineering software systems
- Skill in pursuing work-related goals with determination and follow-through
- Skill in C or FORTRAN programming
- Working knowledge of UNIX or OS/2 operating system
- Familiarity with the use of workstations in a local area network environment
- Familiarity with national computing networks
- Willingness to travel occasionally

Becky Campbell-Howe

STUDENT ASSISTANTS

All student assistants must be enrolled for credit in an accredited secondary or post secondary school, college or university; or in a trade school which has received a Certificate of Approval from the Colorado State Board for Community Colleges and Occupational Education and must be able to work up to 20 hours/week during periods school is in session, and full-time during breaks.

STUDENT ASSISTANT III - #1308

HAO - Programming Group
Flat Rate: $8.80/hr
Hours: 20 hours/week during school, full-time during breaks

DUTIES INCLUDE: Provides operations and consulting support for the HAO divisional computing system, primarily consisting of a network of Sun Microsystems workstations. Sets up new user accounts and provides consulting support for visitors and other users; performs initial analysis of user
problem reports; installs new hardware and upgrades system software; performs systems backups once per week; develops, documents and maintains system administration software; and performs other operations work as needed.

REQUIREMENTS INCLUDE:
-- Minimum of one year of mathematics, computer science, or related engineering field
-- Familiarity with the UNIX operating system
-- Knowledge of UNIX shell programming
-- Skill in communicating verbally and in writing
-- Skill in working with a wide variety of people
-- Awareness of computer security and privacy ethics issues
-- Willingness to work a regular schedule between 8:00 a.m. and 5:00 p.m.

Anna Reyna-Arcos

STUDENT ASSISTANT IV - #1313

ATD - Eldora Project
Flat Rate: $10.40/hr
Hours: 20 hrs/wk during school, full-time during breaks

DUTIES INCLUDE: Provides support for the data development group. Designs simple digital or analog circuits for support of the Eldora radar development with frequent input from the senior engineering staff; writes drivers and simple software routines in "C" or assembly code in support of the Eldora project; designs printed circuit boards using circuits designed by student assistant or other engineers on the Cadnetix CAD system; researches specification of various devices and radar components during procurement processes; and may involve flying on the NCAR Electra research aircraft for testing before radar installation.

REQUIREMENTS INCLUDE:
-- Knowledge of the UNIX operating system (preferably BSD)
-- Skill in designing simple analog and digital circuitry
-- Skill in programming moderately complex programs in the "C" programming language and in assembly code
-- Skill in working with a wide variety of people
-- Skill in working under minimal supervision on a well defined task
-- Good organizational skills
-- Ability to quickly learn and effectively use various editors and compilers
-- Willingness to learn and operate the Cadnetix CAD system

Anna Reyna-Arcos

STUDENT ASSISTANT IV - #1315

UCAR - Unidata
Flat Rate: $10.70/hr
Hours: 20 hrs/wk during school, full-time during breaks

DUTIES INCLUDE: Provides support for the User Support group of the Unidata Program Center in the UCAR Projects office. Uses sophisticated electronic publishing software to help design, produce, and maintain on-line and hard-copy documentation of Unidata software; learns Unidata software products and operations to assist with documentation and training tasks; helps to design and implement templates for on-line and hard-copy documentation using the UNIX editors and the TeX formatting language; analyzes TeX and Texinfo requirements for embedding graphics and proposes solutions for embedding PostScript files; undertakes the bulk of the production of SDM documentation including inserting formatting codes, entering fixes and copy-editing changes to the text, checking screen displays of on-line copy, and printing and collating hard-copy and camera-ready versions; helps maintain hard-copy documentation of the Unidata PC-McIDAS system using Microsoft Word on an Apple Macintosh computer; and provides assistance for workshops and demonstrations of Unidata systems as needed by Unidata User Support.

REQUIREMENTS INCLUDE:
-- Must be enrolled in a Bachelor or Master degree program in technical communications, journalism or computer sciences
-- Knowledge of graphic design principles
-- Knowledge of minicomputer-, workstation-, and/or microcomputer-class hardware
-- Knowledge of editing and printing terminology
-- Demonstrated skill in understanding technical computing terminology
-- Demonstrated skill in analyzing tasks and information needed to complete a task with minimal supervision
-- Skill in typing at 60-70 wpm
-- Skill in oral and written communications
-- Skill in maintaining effective working relationships with other staff members and with the Unidata user community
-- Experience in using computer text editors and the TeX or troff formatting languages

Anna Reyna-Arcos
ADDITIONAL POSITIONS

We are still accepting applications for positions listed below. For information on any of the following previously published job vacancies, please contact the Human Resources Department on extension 8713.

ADMINISTRATIVE SECRETARY - #1306
ATD - Research Aviation Facility
Non-Exempt Range: 28, $1,653 - 2,147/mo
Date first published in "Job Openings:" October 11, 1990

ASSOCIATE SCIENTIST I - #1303
RAP - Applied Science Group
Exempt Range: 52, $2,013 - $3,020/mo
Date first published in "Job Openings:" September 27, 1990

ASSOCIATE SCIENTIST II - #1272
RAP - Applied Science Group
Exempt Range: 55, $2,487 - $3,730/mo
Date first published in "Job Openings:" July 12, 1990

ASSOCIATE SCIENTIST II/III - #1307
MM - Microscale Meteorology Section
Exempt Range: 55, $2,487 - $3,730/mo
58, $3,100 - $4,650/mo
Date first published in "Job Openings:" October 11, 1990

SCIENTIFIC APPLICATIONS PROGRAMMER - #1278
RAP - Engineering Systems Group
Exempt Range: 53, $2,160 - $3,240/mo
55, $2,487 - $3,730/mo
Date first published in "Job Openings:" July 19, 1990

SOFTWARE ENGINEER III/IV - #1279
RAP - Engineering Systems Group
Exempt Range: 58, $3,100 - $4,650/mo
60, $3,580 - $5,370/mo
Date first published in "Job Openings:" July 19, 1990

PART-TIME
SECURITY GUARD - #1305
DIR - Security Services
Non-exempt range: 25, $7.31 - 9.50/hr
HOURS: 0 - 40, on call
Date first published in "Job Openings:" September 27, 1990

*Asterisked positions are appearing in "Job Openings" for the first time.
29 October through 5 November 1990

Monday, 29 October
OPEN

Tuesday, 30 October
OPEN

Wednesday, 31 October
- HAO Seminar -- The Causes of the Coronal Hole and the Active Corona -- Eugene Parker, University of Chicago

10:30 a.m.
NCAR Mesa Lab
Main Seminar Room

- GTP Seminar -- Fast Vortex Methods for the 2-D Euler Equations -- Marie Dahleh, ASP

3:30 p.m.
Fleischmann Building, Walter Orr Roberts Boardroom

Thursday, 1 November
- MMM Seminar -- A TKE-Dissipation Model for the Atmospheric Boundary Layer -- Anders Andren, Uppsala University, Sweden

3:30 p.m.
RL-6, Main Seminar Room, W-179

Calendar announcements may be mailed to the Conference Office, ML 140. Tuesday at 5:00 p.m. is the deadline for items to be included.