

StaffNotes

For and about the people of UCAR, NCAR and UCP
50th Anniversary Issue

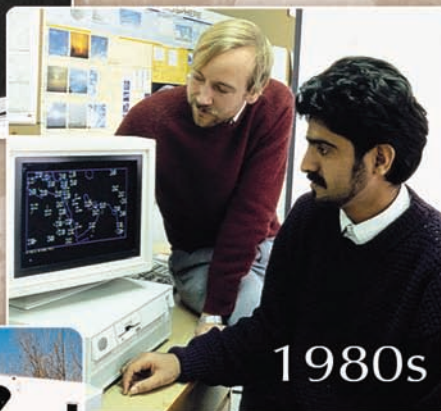
Volume 45 Number 3
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1960s



1970s



1980s



1990s



2000s

A MESSAGE FROM RICK ANTHERS



Above: Rick Anthes


IT IS OFTEN SAID that people are any organization's most important asset. This is most certainly true in UCAR and NCAR's case, and it is important to take this occasion of our 50th anniversary to remind ourselves of this truism. In my slightly more than 25 years here, working for and with our people and our many colleagues around the world, I am continually impressed by their hard work and dedication to the pursuit of truly worthwhile goals—pushing ahead on scientific frontiers that are crucial to the future of our planet, advancing technologies that support the science, and nurturing people of all ages to support their professional and personal growth.

While scientists and engineers get most of the attention in a scientific organization, everyone is essential to the success and health of an institution

“And it’s not just having any people that is essential for success; it’s having the right people.”

like ours. Excellence must be part of our administration and management, support staff, and program managers in our sponsoring agencies, as well as our scientists and engineers. Like the old strings of lights on Christmas trees, every bulb must burn brightly for the rest of the lights to shine; if any one light fails, the entire string fails.

And it's not just having any people that is essential for success; it's having the *right* people. While a complex organization like UCAR and NCAR relies on staff with a huge diversity of perspectives and skills, if I had to prioritize the two most important traits needed for success, I would put integrity first, followed closely by quality. We are fortunate to have so many staff who exemplify both.

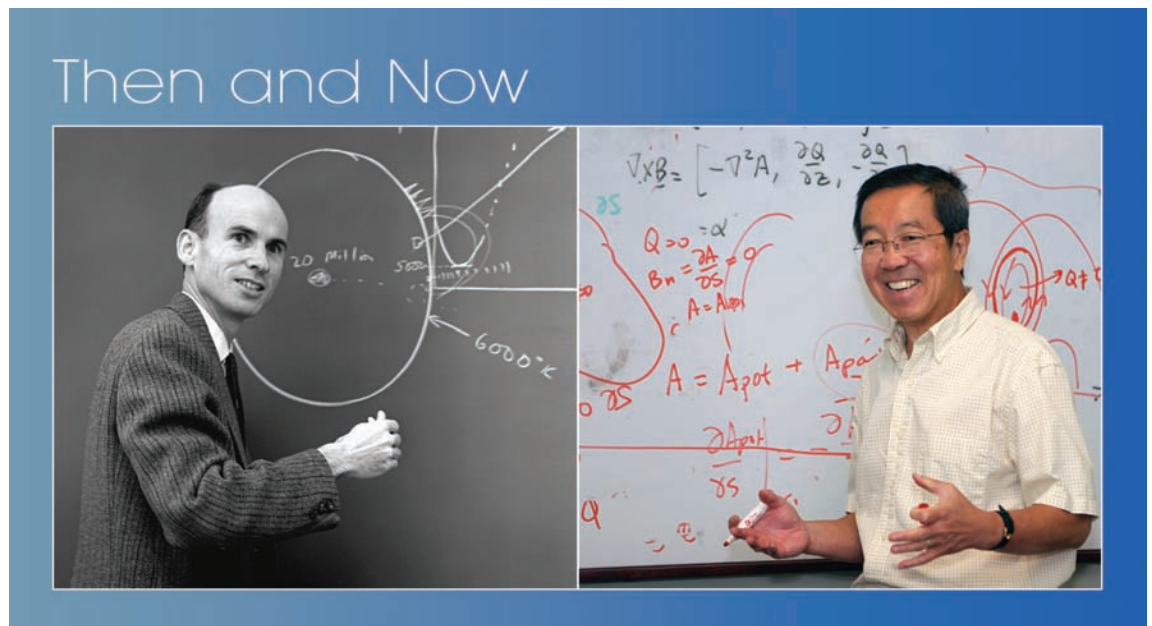
World-class people are the foundation of a world-class institution. I salute all of you, including our colleagues and sponsors, who have worked so hard and contributed so much to UCAR and NCAR over our first 50 years. 

Rick Anthes


Rick Anthes, UCAR President

Left: Former HAO and NCAR director John Firor at the blackboard in 1968. John studied cosmic rays, radio sources in the universe, the Sun's atmosphere, and solar flares.

Right: HAO senior scientist Boon Chye Low at the whiteboard. Boon studies the solar atmosphere, with particular interests in the theory of basic physical processes and in the solar corona as an integral natural system.



TIMES AND TASTES

MANY THINGS HAVE CHANGED at UCAR/NCAR over the decades, technology being one of the most obvious areas of transformation. But change is also evident in the more mundane records of everyday life—such as a cafeteria menu. These days, staff are more likely to find pad thai or tilapia vera cruz in the cafeteria than broiled liver and baked beans. This menu reprinted from the 1960s shows a cuisine heavy on meat and potatoes but very light on the wallet. 

UCAR EVENT SERVICES			
Café Breakfast Menu Tuesday, April 27 th , 2010			
Special of the Day			
Corned Beef Hash \$4.95			
Breakfast Served 7:30 am – 9:30 am			
One Egg .75	Toast 1.15	Orange Juice .85	
Two Eggs 1.45	English Muffin 1.00	Canned Juice .75	
Ham, Bacon or Sausage 2.30	Bagel 1.25	Bottled Juice 1.00	
French Toast 2.25	Sweet Roll 1.00	Cereal 1.75	
Pancakes 1.50	Donut .75	Milk .75	
Hash Browns 1.50	Muffin 1.50	Bottled Tea/ 1.49	
		Fruit Drinks 1.99	

NCAR			
CAFETERIA MENU			
LUNCHEON – Includes: Entree, Vegetable, Potato, Bread and Butter			
ALACARTE			
<u>Monday, February 17</u>			
Soup: Tomato Rice	.15		
• Hand Carved: Corned Beef	.55	.80	
• Baked Meat Loaf with Spanish Sauce	.50	.75	
• Beef Crust Pie	.45	.70	
<u>Tuesday, February 18</u>			
Soup: Scotch Broth with Barley	.15		
• Hand Carved: Broiled Flank Steak	.55	.80	
• Barbecued Pork Ribs	.50	.75	
• Chicken Tetrazinni	.45	.70	
<u>Wednesday, February 19</u>			
Soup: Cream of Potato	.15		
• Hand Carved: Baked Ham	.55	.80	
★ Complete Luncheon		1.00	
Mexican Beef Stew with Brown Beans		incl.	
Parsley Potato		tax	
Salad			
Roll and Butter			
Chocolate Pudding			
Coffee or Tea			
• Sausage Patties and Apple Sauce	.45	.70	
<u>Thursday, February 20</u>			
Soup: Lima Bean with Ham	.15		
• Hand Carved: Roast Round of Beef	.55	.80	
• Braised Beef Sweetbreads with Rice	.45	.70	
• Hamburger and Shellroni with Tomatoes	.45	.70	
<u>Friday, February 21</u>			
Soup: Clam Chowder	.15		
• Hand Carved: Roast Breast of Turkey	.55	.80	
• Ham Steak with Pineapple Slice	.55	.80	
• Deep Fried Fish Filet with Tartar Sauce	.50	.75	
• Creamy Baked Macaroni and Cheese	.40	.70	
SANDWICHES 25¢ to 55¢			
SALADS 15¢ to 35¢			
SIDE ORDERS			
Vegetable or Potato 15¢			
Bread and Butter 5¢			
DESSERTS 10¢ to 25¢			
Cake Pie Ice Cream			
Puddings & Cobblers			
BEVERAGES			
Coffee, Tea 10¢			
Hot Chocolate 10¢			
Refill Coffee No Charge			
Skim Milk 10¢			
Buttermilk 10¢			
Whole Milk 15¢			
Chocolate Milk 15¢			
CAFETERIA OPEN 7:30 AM			
CONTINENTAL BREAKFAST			
Donut 10¢ Danish Roll 15¢			
Fruit Juices 15¢			
Toast & Butter 10¢			
Fresh or Preserved Fruit 15¢ to 25¢			
Cereal with Milk 25¢			
1 Egg 20¢ 2 Eggs 35¢			
Bacon 35¢			
Ham 45¢			



Left: Today's NCAR cafeteria may not stock as much cream of mushroom soup, but it boasts modern touches such as this electronic menu board. And, of course, our beloved frozen yogurt machines. A temporary breakdown of the Mesa Lab's yogurt machine in 2009 even prompted a Delphi question about the status of its repairs.

DELPHI: A RECORD OF WHAT'S ON OUR MINDS

SINCE 1974, UCAR/NCAR has offered a Delphi Service whereby staff members can anonymously submit questions to management about policy, procedures, and other issues. Nearly 600 such questions have been submitted over the years, covering a wide range of topics: salaries, funding, recycling, smoking, pesticides, snow removal, dress code, drug testing, parking, vacation time, dental coverage, pet care, child care, office temperatures, cafeteria music, fitness center, polyamorous employees, carbon offsets, and much more.

Along with its serious function, Delphi gives an entertaining glimpse into how time and technology have changed our work lives and daily concerns. One notable trend is that very few questions address scientific research, whereas hiring practices, salaries, and funding are routine topics. Some questions, such as repeated queries about a day care center, have borne fruit, leading to changes in facilities or policies. Other subjects, such as offensive office decorations and smoking policies, reflect major social changes working their way into the workplace. Questions focusing on energy use and environmental stewardship have increased in recent years.

Regardless of where Delphi trends go, there's one thing we can say for sure: UCAR/NCAR staff have a deep and persistent interest in prairie dog management, American flags, snow removal practices, and dental coverage.



On the Web

Delphi Service
www2.ucar.edu/staffnotes/delphi

1975: The good ol' days before email, cell phones, texting, videoconferencing.....

"I have a complaint about the telephone service. It is my understanding that neither of the regular telephone operators is here today, so a temporary gal is filling in.... Although the replacement is doing her best, she is obviously having a difficult time meeting the demands of the switchboard. I called and the phone rang for a full two minutes. Once it was answered I was asked if I would hold, so I did—for another two minutes. I was again told, "Just a minute," when I asked to be connected to the Colorado FTS operator. I waited—and waited—and waited.... My complaint is with the system—not with the gal who is filling in."

1977: When bikes, mopeds, and horses competed for parking

(Note: This question was prompted by competition at bike racks between bikes and mopeds. As for the reference to horses, our best guess is that it relates to the fact that staff member Gary Aitken was commuting on horseback and "parking" on the mesa during this time.)

"I propose that the way to tell a motorcycle from a bicycle is that the motorcycle has a motor. If it is a motorcycle, it should park with its big brothers. If it is a bicycle (not a horse), it can park in the bike rack."

1979: Why does the Delphi questioner always lose?

(Note: UCAR/NCAR staff are known for thinking about the big picture. Occasionally, we get a Delphi question that tackles philosophical issues.)

"Question: Why does the Delphi questioner always lose?"

Answer: Because he or she is frequently not asking a question but making a suggestion, and the Delphi system is not well set up for dealing with suggestions. The Delphi process severely limits management's ability to find out what the person actually has in mind, what problem is being solved, what alternatives have been considered and rejected, and so on."

Above: Questions about the American flag—when and where to fly it, how it should look—are one of Delphi's recurring themes.

Right: NCAR's switchboard operators in the Communication Center in 1970. These days, the NCAR Operator office, which is based in CISL/NETS, handles about 12,000 calls per year.

1989: Flummoxed over fax machines

“Why is it not possible to send or receive communications by fax at the Mesa Lab after 4:00 p.m. on weekdays?....Is this ignorance on the part of management about what we do at NCAR, a disregard for the importance of communications in NCAR’s role as a national center, or simple neglect of management’s duty to keep the NCAR staff supported for its role?....Why do we have a fax machine which cost many hundred dollars lying unused during business hours and on the weekends?”

2000: Perplexing plumbing

“I’ve been wondering ever since they were installed exactly how the ‘auto-flush’ toilets are supposed to save water . . . or are they? I’ve never seen the advantage in them, but when, recently, and not for the first time, one flushed three times while I was in the stall, I thought they must actually be wasting water.”


2006: Editor’s Choice: “The Dude” speaks up

(Note: It’s great when Delphi questioners have a sense of humor. If you don’t get this one, we suggest watching a certain cult classic film by the Coen brothers about bowling.)

“Our plans to start a UCAR bowling team may be adversely affected if what I hear is true—that the Employee Activities Committee (EAC) is no longer partially funding UCAR employees’ team entry fees.



Left: Gary Aitken and his horse (name unknown) commuting to work at the Mesa Lab in the ‘70s.

In the parlance of our times, what’s the deal? Is the EAC no longer partially funding running, biking, or what-have-you teams?.... Would it be possible to get an EAC team refund if we avoid bowling on Shabbos, Easter, Christmas, or what-have-you? The EAC team refunds were small amounts. It’s not like we ever got a briefcase full of money!.... Did new EAC policies come to light?” 




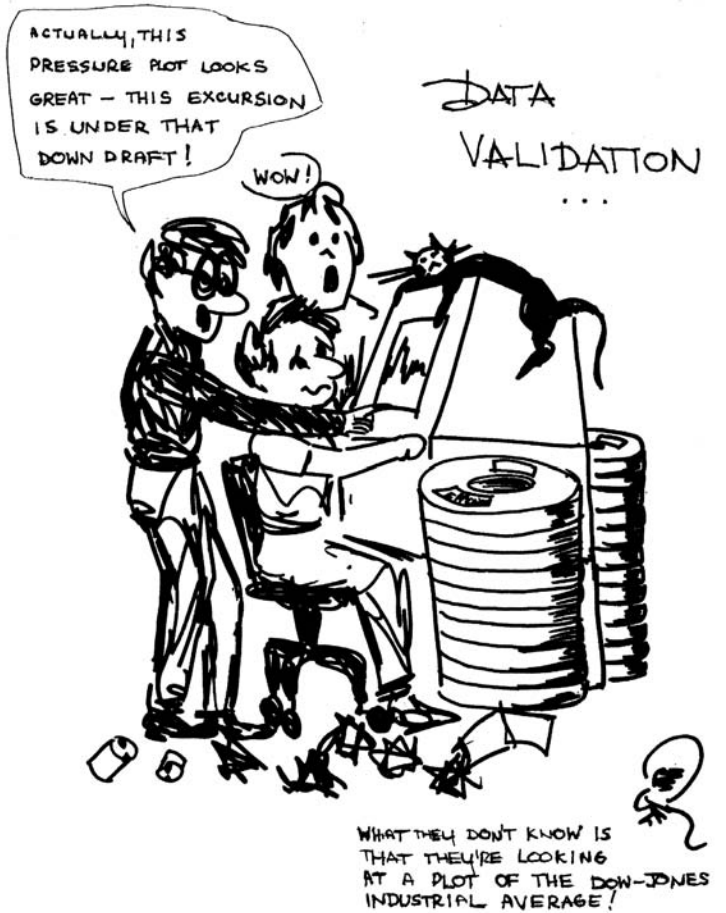
Far left: Visitors tour the Mesa Lab in 1970.
Left: Visitors at the Mesa Lab today, browsing the Climate Discovery display. The display, which was added to the second floor in 2005, focuses on Earth’s future climate.



Peggy LeMone.

The lighter side of science

Senior scientist emerita Peggy LeMone (NESL/MMM) has made a hobby of penning cartoons that reflect the trials, tribulations, and successes of the many field projects she's participated in at NCAR since the early 1970s. Here is one that she drew in response to spending a year wading through data from research flights to identify bad data. The cat is sitting on the microfilm reader used to read the data. "I think those data are still somewhere in a box," Peggy says. "They're also on the Mass Storage System, so we could probably find better ways of looking at them these days. Ahhh, progress!" 



Then and Now

Right: NCAR's Cray 1-A supercomputer, installed in 1977. It was the first production model of the Cray 1-A.

NCAR used the machine, which is now on display at the Mesa Lab, from 1977 to 1986.

Far right: NCAR's bluefire supercomputer, installed in 2008, is over a million times more powerful than the Cray 1-A, with a peak speed of more than 76 teraflops (76 trillion floating-point operations per second).



THE MESA LAB: WHAT MIGHT HAVE BEEN

IT'S A BOULDER LANDMARK, sitting upon its mesa with the dramatic Flatirons in the background. But what many people don't know is that the Mesa Lab could have turned out very differently.

Preliminary plans drawn up for NCAR (then being called the National Institute for Atmospheric Research) in the late 1950s featured a building quite unlike the Mesa Lab in design. It did, notably, call for "space for an electronic computer."

NCAR founder Walter Orr Roberts had his eye on the mesa above town, which was made up of privately owned parcels. The organization made an offer to the owners, and in 1961, Boulder voters approved NCAR to build on the mesa, after Walt pledged that the area would remain a nature preserve and the building would be environmentally sensitive.

The young I.M. Pei was selected as architect. His design, a model of which is now on display in the Mesa Lab library, differed from the final product, calling for a third tower on the south side of the mesa and a conference center east of the current parking lot. Construction began in 1964 and took three years.

In early 1989, NCAR began to plan a new building, which was originally going to be on the NIST campus, much like the NOAA Skaggs Building. But discouraged by the expense and logistics of building there, the organization began exploring the idea of expanding on the mesa instead.

A major meeting involving all NCAR's divisions was held in September 1989 to plan the new mesa building. Division delegates and a team of architects devised a plan consisting of several semicircular tiers of office and lab space descending in a terraced fashion from the present lab (see photo). The tiers were located atop the current parking lot; a new lot would have been built closer to the east edge of the mesa. A central corridor would have connected the tiers and provided a covered walkway from the parking lot through the new building and perhaps to the current Mesa Lab.

But by early 1990, it became clear that traffic and other city concerns would make expansion on the mesa challenging. That April, UCAR bought the former NBI building (now Foothills



Lab), resolving these concerns and ending months of uncertainty.

The building was known as NCAR North for about a year until a naming contest was held among staff. Names that made it to the final vote included Prairie, Roberts, Hayden, Cottonwood, North, Mitchell, Plains, and, of course, Foothills. Suggestions from staff ranged from serious to creative to comical, including Valle (the opposite of "mesa" in Spanish), Money Pit, Jewel of the West Lab, World o' Research Lab, I Was a Teenage Were-Lab, Lab of a Thousand Dances, and Fortress of Solitude. ❧

On the Web

To learn more about the history and architecture of the Mesa Lab, visit:
www.ucar.edu/educ_outreach/visit/architecture.html



Above left: An artist's rendering of the 1989 expansion plans for the Mesa Lab.

Above: I.M. Pei visited the Mesa Lab construction site in 1965 to inspect test slabs for the exterior of the building. The exterior's unique look is a result of "bush hammering" the poured-concrete surfaces. Although the lab strikes many as futuristic, ancient Indian cliff dwellings of Mesa Verde National Park in southwest Colorado strongly informed Pei's design.

Left: In February 2008, the UCAR/NCAR Archives obtained this model of Pei's final design of the Mesa Lab. The model, which dates to sometime around 1962–64, is on display in the Mesa Lab library. The tower seen on the left was not built due to financial limitations.

IN THEIR OWN WORDS

IN CELEBRATION of the 50th anniversary, we asked all current staff who were hired in the 1960s to comment on what has—or hasn't—changed at UCAR/NCAR over the decades, and to share some of their memories and stories about the organization's early days. The contributions are posted in full on the *Staff Notes* website at www2.ucar.edu/staffnotes/news/their-own-words. Here are some excerpts.

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"My earliest image of NCAR was a view from the top of the Third Flatiron, looking down into the basement, which was being excavated at the time—June of 1965—just after I had graduated from college. From that distance, it wasn't obvious how large the structure would be. My climbing friend and I concluded that some rich Boulderite had found the ideal location for a new house. I didn't realize what I had seen until I came to HAO a year later as a graduate student assistant and learned about the new Mesa Lab construction. Little did I know how many years I'd be spending in an office in the basement I had first seen from high above."

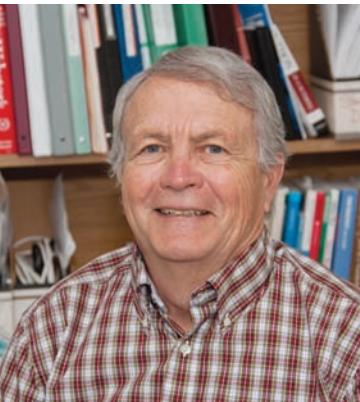
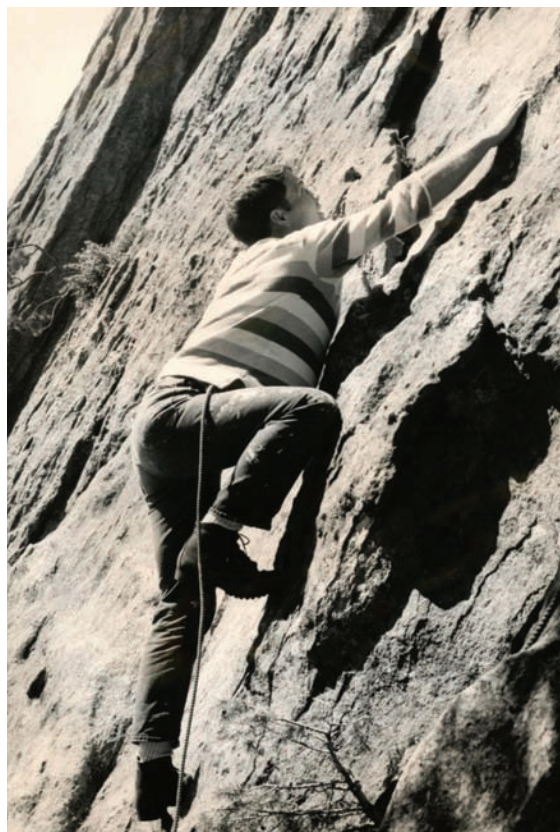
—Ben Domenico (Unidata)

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"Before I started working at NCAR in 1968, I didn't know what the building being built on the mesa was going to be.... I remember that on clear days, I could hear bells or chimes that seemed to come from the mesa and the new structure there. I thought that the new building was going to be a monastery for monks.... When I went for my job interview for NCAR, I learned that the building on the mesa was NCAR and not a monastery as I had once thought.

Instead of computers or laptops, there was a room in the old HAO building on campus that had shelves of these [Monroe desk] calculators, which could be checked out for various projects. The calculators were mechanical wonders. I remember that when we got bored sometimes, we would divide a number by zero on one of the calculators and watch it go crazy trying to do the calculations. We would have to pull the plug before it vibrated itself off the desk."

—Vic Tisone (HAO)



Above and right: Ben Domenico today, and Ben climbing the Third Flatiron in 1965.



Above: Vic Tisone.

"My NCAR adventure began in September 1967. I had only been on the job one week when I saw Robert White, director of the Environmental Science Services Administration (ESSA, which became NOAA in 1970), walking down the hall. I asked someone if that was White and was told that indeed it was. I was flabbergasted that Robert White could be in the building with no fanfare. A few short years earlier my Air Force colleagues and I would have been polishing the floors and cleaning the windows if a visiting colonel was on the way. If it had been the director of ESSA, I think we might have painted the walls.

What a place to work! In the summer of 1968, I was assigned to be Jule Charney's "man Friday" as he spent several weeks at NCAR. Later, we would be eating and hiking with Ed Lorenz."

—Rol Madden (NESL/CGD)

“Especially in my field, 50 years of technology advancements immediately come to mind as profoundly affecting how we work. Map rooms—housing large-bed facsimile machines that printed a fixed, daily schedule of weather maps—have disappeared, their obsolescence forced by computer graphics, where users define the images they view in the moment. Computer graphics also have evolved, from crude contour maps and graphs output from a line printer (using asterisks and other symbols), to animated renderings of three-dimensional color images.

Finally, while string-quartet recitals in NCAR’s lobby became fewer with Walt Roberts’ passing, it has been my recent good fortune to play jazz on special occasions such as the celebration of HIAPER’s arrival!”

—Dave Fulker (Unidata)

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“...during the summer of 1963, my family drove to Boulder from New York City. When I showed up at NCAR there were almost one hundred staff members. The following year NCAR created the Computing Facility with a Control Data Corporation 3600. Soon afterward, I was acquainted with a bright, fresh Ph.D. graduate, Warren Washington, who expressed an



interest in building a general circulation model (GCM) of the atmosphere. I was stunned, but applauded his foresight and courage, and enthusiastically promised my cooperation as I had been thinking the same thing.”

—Akira Kasahara (NESL/CGD)

continued on page 10



Above: Dave Fulker, founding director of Unidata, performs in a jazz quartet as part of Unidata’s 25th anniversary in 2009. Left: Akira Kasahara and Warren Washington relied on the CDC 6600 supercomputer to run the NCAR General Circulation Model that they were developing in the 1960s and ‘70s. The output from the GCM runs was stored on the IBM 9-track magnetic tapes shown in this 1971 picture with Akira.



Far left: A 1965 weather briefing at NCAR. Left: Morris Weisman (NESL/MMM) delivers a daily weather briefing during BAMEX (the Bow Echo and MCV Experiment), held during the spring of 2003 across the Midwest.



Above: Fred Clare.

Right: Charlie Knight studying hail under a microscope in 1971.

“In 1960, HAO started on an adventure in the fields of solar magnetism. Harold Zirin, during a sabbatical at the Crimean Astrophysical Observatory (CAO), discovered the utility of CAO’s magnetograph in measuring line-of-sight magnetic fields of solar prominences. Such structures were believed to be involved in interplanetary-terrestrial weather. Thus by 1964, an HAO-designed magnetograph was fielded at the HAO Climax Observatory.”

—Andrew Skumanich (HAO)

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“HAO was already well established in 1962, but the atmospheric part of NCAR was just starting when I was offered a job and Nancy and I came to Boulder. NCAR was situated in the old CU Armory on University Avenue.... We moved to 30th Street after about a year, and then to the Mesa Lab in about 1967. Discussions about successive designs of the Mesa Lab had been spirited. One of the objectives of the design then, which would be unheard of now, was to afford scientists the seclusion that was deemed necessary for individual, creative research.

It is interesting to me to reflect that the basic problems of cloud physics that were recognized and much discussed at the time we came to NCAR—the interconnected problems of getting a satisfactory, physical understanding of precipitation formation in clouds and of entrainment in cumulus clouds—are still basic




problems today, in spite of considerable progress over the last 50 years. The biggest change in emphasis in this area is a sharp decline in experimental approaches, a more gradual decline in observational efforts, and a great increase in numerical modeling activity.”

—Charlie Knight (NESL/MMM)

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“Of course the most dramatic change I have seen as a computer programmer is the mind-boggling increase in computing power. My personal Macintosh laptop today has about a thousand times the computing power of the CDC 6600 “supercomputer” I worked on when I first came to NCAR, and its memory is about two thousand times as large. This is not to mention its absurdly high internal disk space. Things were a lot simpler in the early days. There was only one computer (the 6600), essentially one programming language (Fortran), and one graphic output device, a Data Display dd-80.”

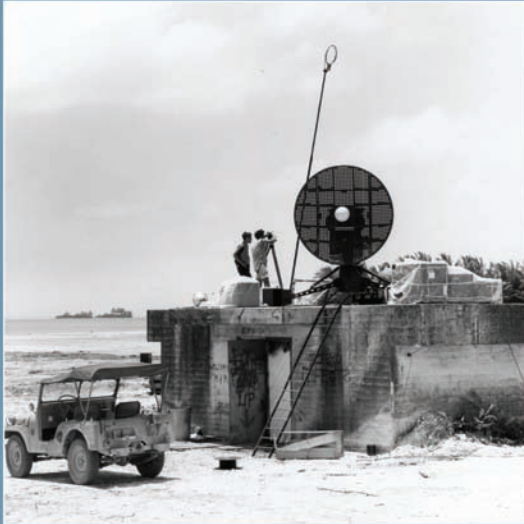
—Fred Clare (CISL) 

Right: NCAR’s King Air over the Colorado Rockies in 1984.

Far right: HIAPER (the High-performance Instrumented Airborne Platform for Environmental Research) over the Colorado Rockies in the mid-2000s.




Then and Now



Far left: NCAR managed its first major field program in 1967, the Line Islands Experiment. Surface, airborne, and satellite data were gathered from the central equatorial Pacific to study the region's role in global circulation. This photo is from Palmyra Island.

Left: The S-Pol radar site on Barbuda during the 2005 RICO (Rain in Cumulus over the Ocean) experiment.

The lighter side of science

The late NCAR associate director and HAO director Gordon Newkirk added his own caption to this depiction of Snoopy in 1964, two years after the book *Happiness is a Warm Puppy*. Gordon came to HAO in 1955 (before UCAR/NCAR was founded) to work on the development of a coronagraph for studying scattered light from the electron corona. The comic refers to the Coronascope II (see photo), a balloon-borne solar telescope used to test concepts that are now used in satellite solar astronomy. 




THE BLUE BOOK THAT STARTED IT ALL

IT'S NOTHING FANCY—a typed, spiral-bound report from the late 1950s with a simple blue cover. But the 300-page document, nicknamed the NCAR Blue Book, carries nearly mythical status when it comes to the organization's history.

In 1956, the National Academy of Sciences appointed a panel of eminent scientists (including Jule Charney, Carl-Gustaf Rossby, Edward Teller, and John von Neumann) to “consider and recommend means by which to increase our understanding and control of the atmosphere.”

For the next year, the committee held a series of meetings and conferences and toured university meteorology departments. After observing the dismal state of atmospheric science research in the country, the committee recommended a 50–100% boost in support for basic research, as well as the establishment of a national institute to be operated by the National Science Foundation.

Before long, a group of 14 department heads dubbed the University Committee on Atmospheric Research was planting the seeds for a National Institute for Atmospheric Research, or NIAR (which, incidentally, is “rain” spelled backwards). The committee held 17 three-day workshops to come up with a plan for NIAR, which became NCAR. The workshop notes were the foundation for Preliminary Plans for a National Institute for Atmospheric Research—a.k.a. the Blue Book.

Today, the Blue Book lives on, and has even kept up with the times by morphing from spiral-bound notebook into an easily accessible pdf (see “On the Web”). Here are a few excerpts. 

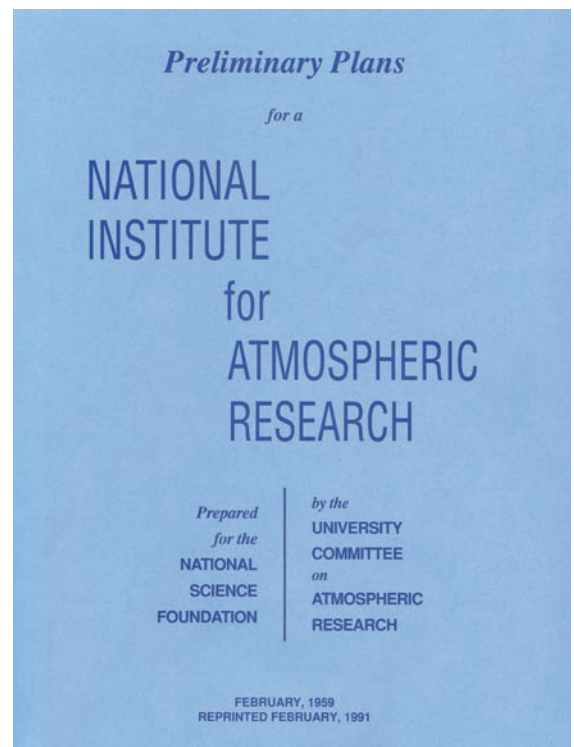
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“There are four compelling reasons for establishing a National Institute for Atmospheric Research:

1. The need to mount an attack on the fundamental atmospheric problems on a scale commensurate with their global nature and importance.
2. The fact that the extent of such an attack requires facilities and technological assistance beyond

On the Web

Publications About NCAR (includes the Blue Book)
www.ncar.ucar.edu/publications/pubsabout.php



those that can properly be made available at individual universities.

3. The fact that the difficulties of the problems are such that they require the best talents from various disciplines to be applied to them in a coordinated fashion, on a scale not feasible in a university department.
4. The fact that such an Institute offers the possibility of preserving the natural alliance of research and education without unbalancing the university programs.”

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“Major facilities at the Institute will include (1) a group of instrumented airplanes consisting of two light twin-engine planes, two medium twin-engine planes, three DC-6's and two B-57's, (2) a scientific library, (3) a large-scale transistorized electronic computer, (4) a spectroscopic laboratory, (5) microwave and optical radars, together with sferics equipment and infrared equipment for probing the atmosphere with electromagnetic radiation and (6) well-equipped electronics and machine shops.”



Above: Many parcels of land were available in Boulder for the construction of the new NCAR headquarters, but NCAR founder Walter Orr Roberts had his eye on the mesa above town. The City of Boulder, however, was concerned about development in the foothills and had amended its charter to include a line beyond which city water would not be supplied.

Walt pledged that the area would remain a nature preserve and that the building would be environmentally sensitive. After much debate, voters passed the NCAR amendment to the Boulder Blue Line by a margin of 3.5 to 1. This image shows one of the posters arguing in favor of the amendment.

“In terms of the level of activity now regarded as necessary to make a material contribution to the atmospheric research effort and the diversity of talent needed to do so, it appears that approximately 108 research scientists may be required in the Institute. About one half of these will have had training in the earth sciences. In the remaining half, the three major disciplines of physics, mathematics and chemistry will be represented. This degree of diversity places a relatively light burden on the existing manpower resources in any one discipline. But since the number of pre-eminent men in any field is small the recruitment of first quality scientists must proceed with careful regard for excellence.”

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“One of the most important tools for atmospheric research to be developed in recent years is the high-speed, large-storage electronic computer.... With the expansion in atmospheric research, and the increasing sophistication of methodology, this need is going to increase substantially.... To meet the needs of scientists at the universities and other meteorological research centers and to constitute an integral part of the research facilities at the Institute, it is essential that a computational laboratory equipped with a large-scale computer of the IBM 7090 or Philco



Left: The first meeting of UCAR's 14 university members took place on April 2, 1959, at the University of Arizona in Tucson. UCAR had been incorporated in Delaware only a few days earlier. The trustees had an immense task—refining and implementing plans for what was to become NCAR. The Blue Book was their guide. To identify individuals in the photo, visit www.ucar.edu/communications/quarterly/winter0809/first14.jsp.

Transac 2000 class be available at the Institute. A computer of this type....would be capable of fulfilling the immediately foreseeable needs. A staff of about forty-four people would be consistent with the estimated work load. Problems that would require an even larger computer were discussed at the research planning conferences. It was felt that arrangements to rent time on bigger computers would be the best way to take care of these occasional requirements until the demand for this scale of equipment is sufficiently great to justify purchase, construction or fulltime rental of a larger machine.”

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“In addition to research space, the Institute is provided with a library, an auditorium seating 550 persons, an adequate cafeteria, seminar and classrooms, space for an electronic computer, special laboratories for research in fluid mechanics, electromagnetic radiation and instrumentation, together with shops, service tunnels and the necessary administrative spaces. These features total some 215,000 square feet.”

Below left: Sailplane pilot Vim Tootenhoofd prepares for research flight in 1972. This Schweizer 2-32 sailplane operated by NCAR flew missions in the early storm experiment phase of the Cooperative Convective Precipitation Experiment (CCOPE) near Miles City, Montana. The sailplane was towed by a Cessna 180 to an altitude of about 3.7 miles (6 kilometers). Upon release, the plane could make measurements during a total flight time of approximately five hours.

Below right: NCAR pilot Ed Ringleman guides the C-130 aircraft on a research flight over Colorado and northern New Mexico during the IDEAS project (Instrument Development and Education in Airborne Science) in 2002.

Then and Now




DID YOU KNOW THAT....



Above: Woody Allen suspended from the Mesa Lab's A Tower during the making of the movie "Sleeper."

Above right: "Old Jake" was transformed into this golden eagle in 2005.

- the first name proposed for NCAR was National Institute for Atmospheric Research? (Incidentally, that's "rain" spelled backwards.)
- NCAR's first major computer was a Control Data 3600. Acquired in 1963, this computer had 256 kilobytes of memory.
- part of the Woody Allen film "Sleeper" (1973) was shot at the Mesa Lab. About a dozen extras were selected from UCAR/NCAR staff and paid \$20 per day.
- NCAR's CRAY-1 supercomputer, which arrived in 1976, weighed 2.25 tons.
- the very first Up-the-Hill Race took place in 1980. Winners of the bike race were Ben Domenico (Unidata) and Alice Lecinski (HAO), while Rick Katz (CISL/IMAGE) and Caryn Wasserman won the foot race.
- interdivisional email and file exchange came to NCAR in 1981, via NCARnet.
- the first-ever *Staff Notes* "Random Profile" ran in March 1989, featuring former RAF staffer Jeff Bogen.
- Margaret Thatcher visited the Mesa Lab in 1990. She is the only head of state to have visited the organization.

- the golden eagle carving in front of the Mesa Lab used to be "Old Jake," a stately ponderosa pine tree named by I.M. Pei and Walt Roberts. Old Jake, who had been slowly dying throughout the Mesa Lab's existence, was carved into the eagle in 2005.
- the NCAR cafeteria underwent a health upgrade in the early '90s, purging tropical oils and monosodium glutamate and introducing cholesterol-free mayonnaise, lard-free beans, and more vegetarian options.
- the organization's first Ethernet link was established in HAO in 1985.
- Peggy LeMone became NCAR's first female senior scientist in 1992.
- Policy 1-1-22, which states that "UCAR is committed to protecting the environment," was added to the Policies and Procedures Manual in 1994.
- the "blue bike" program started in 1999. 



Right: NCAR's Buffalo (top) and Queen Air (bottom) aircraft in RAF's hangar in 1971 at what was then called Jeffco Airport.

Far right: HIAPER in RAF's new hangar, built in 2004, at Rocky Mountain Metropolitan Airport. At 35,000 square feet, the hangar houses both HIAPER and the C-130.

Then and Now



Then and Now



Far left: Researchers launch a balloon for measuring atmospheric gases at UCAR's National Scientific Balloon Facility in Palestine, Texas, in the early 1980s.

Left: A giant launch vehicle dubbed Hercules maneuvers the Sunrise gondola into position at Esrange Space Center in Kiruna, Sweden, in June 2009. The balloon-borne gondola contained a 1-meter solar telescope as well as other instruments for investigating the structure and dynamics of the Sun's magnetic fields.

DIG DEEPER INTO OUR HISTORY

Want to know more about UCAR/NCAR's past? Check out these websites.

NCAR & UCAR 50th Anniversary Timeline
www.50th.ucar.edu/timeline

NCAR Archives
www.archives.ucar.edu

UCAR & NCAR – Our History
www2.ucar.edu/about-us/history

UCAR at 25 (1960–1985)
www.ucar.edu/communications/ucar25

UCAR at 40 - Highlights 2000 (1960–2000)
www.ucar.edu/communications/ucar40

The archaeologist of HAO: Tom Bogdan digs into the early days
www.ucar.edu/communications/staffnotes/0010/bogdan.html

A *Staff Notes Monthly* family album (historic photos)
www.ucar.edu/communications/staffnotes/9912/album.htm

History of the UCAR Community Programs
www.ucp.ucar.edu/history.shtml

History of the High Altitude Observatory
www.hao.ucar.edu/hao/history.php

CISL Supercomputer Gallery
www.cisl.ucar.edu/computers/gallery

UCAR Digital Image Library (click on History)
www.fin.ucar.edu/ucardil

Up-the-Hill Historical Race Results
www.ucar.edu/eac/events/UpTheHill/history.html

Staff Notes Extra! (party coverage, April Fool's, and more)
www2.ucar.edu/staffnotes/extra



Above: The first production model of the CRAY-1 supercomputer was delivered to NCAR in 1977 in two refrigerated electronic vans. More than 30 construction workers, engineers, and helpers were needed to move the five-ton machine into the computer room.



take a look

TAKE ANOTHER LOOK ONLINE: www.ucar.edu/staffnotes

IT'S A BIRD, IT'S A PLANE, it's...a radiosonde! Based at NCAR and conducted in northeast Colorado from 1972 to 1976, the National Hail Research Experiment was one of the largest weather modification experiments up to that time. Researchers used silver iodide seeding techniques to try to reduce the size of hailstones falling from summer storms. Although the experiment failed to confirm any reliable effect from the silver iodide seeding, it was highly successful in giving insight into processes taking place in hailstorms. Here, participants crane their necks to watch a radiosonde ascending over far northeast Colorado near the town of Grover.



History was made on May 4 when UCAR's Joach Kuettner, who turned 100 last fall, received the Officer's Cross of the Order of Merit of the Federal Republic of Germany, one of the nation's highest civilian honors.



Want to see more black-and-white photos from the good ol' days? Visit the UCAR Digital Image Library (www.fin.ucar.edu/ucardil) and search under History.



Just because it's our 50th anniversary doesn't mean that *Staff Notes* has forgotten about the here and now. Visit us online for new research about plants and methane, the Windsor tornado of 2008, and more.

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