

# Knox Williams

## A PIONEER MOVES ON

Story by Scott Toepfer • Historic Photos courtesy Suz Williams

It was the winter of 1978-79. One of my jobs as a sophomore professional ski patroller at A-basin in Colorado was to gather the morning weather observations and disseminate the information to a host of recipients. The local marketing departments, lift crew, ski area management—they all wanted this information before O-dark-thirty every morning. Another one of the early morning calls went to the Colorado Avalanche Information Center. This routine would start around 5 am when I would pull into the base area, get dressed, jump on the snowmobile and start up the mountain to get the upper-station weather obs.

A-basin sits just off the Continental Divide in central Colorado; it is one of the highest and most exposed ski areas in the country. I would normally arrive at patrol headquarters at the top of the Norway lift about 6 am. That's when the phone calls would start. I'd usually be finished by 7:30, in time for breakfast at the base area before the real day got started. Winds were 20 to 30 miles per hour on one particular day. Within maybe 15 minutes of arrival at Norway, there was a dramatic increase in wind speed. Our Esterline Angus anemometer was located at Norway, the top station of the old Norway Ribblet chairlift. Norway was starting to make some rather disturbing noises as I tried to finish up my morning routine. It was soon after winds started pushing 70 miles per hour that I realized breakfast was going to be a little delayed.

By 6:30 am the old Esterline Angus anemometer was pegged at 110 miles per hour. Hurricane-force winds were a bit out of the ordinary, even for A-basin. It was pretty obvious that we would have trouble running the lifts with winds like this, so I called Clyde Wiessner with the lift department and told him what was happening. Naturally he wanted to know what the forecast was and whether we could get the upper lifts running. My personal concern was whether or not I was going to end up in Kansas without breakfast. The only reliable source for an accurate forecast lay with the Colorado Avalanche Info Center (CAIC).

I had never had an actual conversation with Knox Williams before this day, but I knew he was the weather forecasting guru at the CAIC. Knox answered the phone, and I told him our concerns with the winds at the 12,400-foot top station. Knox was a little surprised when I told him our anemometer was pinging off the top end. He said, "Hang on a minute; I'll call you right back." Within a few minutes he called me back and said he had checked some of the other reporting sites in our area—Berthoud Pass, Keystone, Breckenridge—and said no one had winds anywhere near what we were seeing that morning. He did have a forecast for us though:

"I would not expect these winds to continue; there is nothing to support them—it has to be unique to your site, so I'd think they will decrease in about a half hour or so. And by the way, you'd probably better stay in the building until they do."

Sage advice, from one of the best mountain weather forecasters I have ever known. Within a half hour the winds were back to their steady 20 to 30 miles per hour. It was not the last right-on-the-money forecast I would get from Knox.

Little did I know at the time, but 12 years later I would have a job interview with Knox at the Breckenridge Brewery. A few Avalanche Ales into the interview and Knox became my next boss. Until this season, 14 years later, I was considered the new guy. What follows is just a little bit of the history of our boss, Knox Williams.

This coming spring, Knox will retire from the CAIC. He has worked there for 34 years. A lot has changed in the avalanche community over that 34 years, and Knox has been very fortunate to be part of almost every aspect of those changes. His wife Suz told me, "The guy just doesn't toot his own horn; I can't find much of anything on all the things he's done." What follows is some of the avalanche history that Knox has seen come and go. As you will see, it's been a wonderful story. I would suspect more will surface, once his friends find out he's really headed out onto another path.



A recent photo (above): Knox at the CAIC 3rd annual Avalanche Jam fundraiser on September 10, 2004. *Photo by Rich Marriott*

An earlier photo of Knox (right) confirms a long-term flair for casual, comfortable, yet cutting-edge fashion.



### The Formative Years

Knox's mother Nancye Taquard, of French heritage, grew up in Galveston, Texas. Nancye's mother survived two giant hurricanes of the time, one in 1900 and the other in 1915, events that most likely played a role in Knox's future interest in tropical meteorology.

Knox's father, Timothy Hart (T.H.) Williams was the owner of T.H. Williams Department Store in Austin, Texas, a purveyor of fine women's wear. During college at the University of Texas, T.H. became good friends with Lyndon Baines and Lady Bird Johnson, a friendship that would last his entire life. The Secret Service would deliver a bottle of good scotch to the Williams' door every Christmas.

Knox Taquard Williams was born in Austin, Texas, September 6, 1943, the middle of three children. His younger sister is currently the executive director of the Texas Democratic Party, showing that Knox wasn't the only Williams willing to take on a huge challenge in life.

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## KNOX WILLIAMS

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Knox took an interest in meteorology at an early age, keeping daily weather observations through high school; this early interest in meteorology may have come from stories he heard from his grandmother about the big hurricanes of the early 1900s. Austin also gave Knox a taste for both Mexican food and what was to become one of his favorite vices—the margarita. He would later find these tastes useful within the Colorado avalanche community.

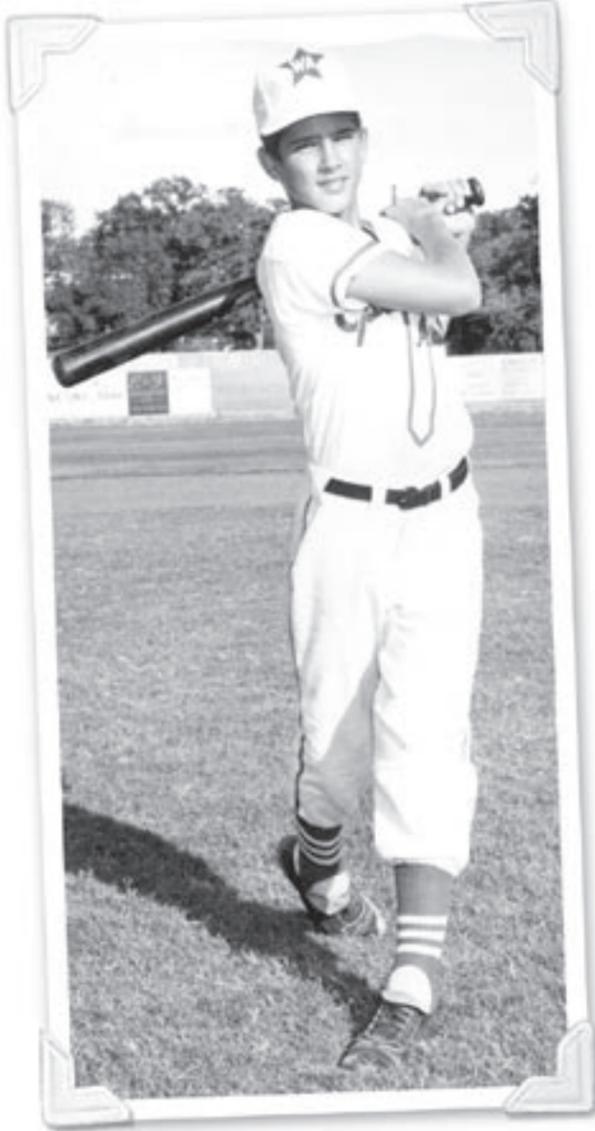
Besides Knox's interest in meteorology, he was a talented shortstop through his high school years, and his passion carried over into signing up for the first draw for Colorado Rockies season pass tickets. He often took the CAIC staff to early season games. We'd usually make it till the seventh-inning stretch before retiring to a local watering hole to warm up. Rockies games are notoriously cold in April.

Knox finished high school in 1961 and then attended the University of Texas in Austin where he majored in math. He graduated from the University of Texas in 1965 and took his degree to the Boeing company in Seattle where it is rumored he first tried his hand at skiing.

## The 1970s

After working for Boeing for about a year, Knox was accepted into the masters program for atmospheric sciences at Colorado State University in Ft. Collins, Colorado. He was to study cloud clusters, hurricanes, and tropical winds in the tropical meteorology program. He earned his masters degree in 1970 and soon found a job as an aspiring young meteorologist at the Rocky Mountain Range and Experiment Station, where he found himself working with Art Judson, Pete Martinelli Jr. (co-author of *Agriculture Handbook 489, The Avalanche Handbook*), Dick Sommerfeld (studying snow physics), and R.A. Schmidt (who was involved with wind-transported snow). These guys were some of the leading avalanche researchers of the time. It was a banquet of knowledge for Knox to feed from.

The Rocky Mountain Station was the experimental end of this fledgling avalanche program in Colorado. The associated Colorado Avalanche Warning Center grew out of this as a part of



Knox Williams: doesn't the name have just the perfect ring for a major-league ballplayer? Knox was in fine form during his high school career, on his way to slugging avalanche forecasts out of the ballpark.

the operational end of the program. There was an enormous amount of data being collected to support the research and modeling program. The problem of what and how to deal with the piles of paper fell to a young Knox. One of Knox's responsibilities was to build some order to what was then called Westwide—the data collection and storage aspect of the research program. Knox had to tackle the old garbage-in, garbage-out problem of data collection prevalent even in those days. Bruce Tremper with the Utah Avalanche Center called Knox "...the glue that held the avalanche community together when he ran Westwide, as well as the glue that still holds the Colorado avalanche community together." Another of his jobs was to standardize weather instrumentation from the observation sites and the data recording of avalanche and weather observations. Most ski area and highway observers had their own methods of collecting these data at that time—it was quite a

stew of numbers. Naturally, this proved to be a great opportunity for Knox to get out on the road and visit the various ski areas and highway observer sites around the state. It also gave him some much-needed experience on skis.

Most observers at the time had no structure to their methodology. Knox was instrumental in developing a trained observer base throughout Colorado along with standard methodology to be accepted by the rest of the western U.S. Class A avalanche areas. In the 1970s, computers were less user-friendly than they are today, so storing and accessing the data was a huge project. Knox started out by inventing the Blue and Green Sheets that many avalanche workers of the day used to record their weather and avalanche observations. From these sheets Knox wrote up a month-by-month synopsis of weather and avalanche data from across the western U.S. that he called *Avalanche Notes*. The data from the observers around Colorado were also used on an "as needed" basis to build accurate avalanche warnings for the state.

Art Judson and Knox developed the wording of these nascent avalanche bulletins and warnings during the early years of avalanche forecasting in Colorado. It was challenging to develop the structural format for these bulletins into something that both media outlets and the general public could understand. Amazingly, 30 years later, the format remains essentially the same as that used today by the CAIC

staff to issue avalanche warnings.

Art Judson recalls that Knox was an okay skier when he started his new position in Ft. Collins. He had little choice but to rapidly improve, given the limited options presented while standing on top of 40-degree avalanche starting zones. Even though Knox was never a professional ski patroller, he earned his honorary professional ski patrol jacket at the 1994 Snowbird ISSW.

After working at the Rocky Mountain Station for about a year (1971) with Art Judson and crew, Knox met Suz, his eventual wife, at a party hosted by the atmospheric sciences department, where Suz worked. Suz has recently retired from her job with CSU, though they still pull her back to fill in from time to time. Knox and Suz have a very active life as they both love skiing, traveling, camping and, one of the best aspects of world travel, tasting really good food. Knox was even able to take some of his tropical meteorology skills to the Caribbean on a two-week sailing trip in 1977 with some of the crew from the Rocky Mountain Station. Their next big project is to design and build a new home in Buena Vista, Colorado—right on the Arkansas River. I suspect a number of brown trout will learn about the hazards of flyfishing once Knox and Suz get moved in.

In the early 1970s Mark Moore, at the time a graduate student under Ed LaChapelle at the University of Washington, met Knox for the first time at a *Snow in Motion* conference held in Ft. Collins. He said to himself, "Boy, this guy's really got it together." In 1975 Knox would help Mark Moore set up the Northwest Avalanche Forecast Center in Seattle. Mark has always considered Knox to be one of the main focal points in our avalanche community. He said that one of Knox's best qualities is that he encourages others to take on projects and goals that they may not think they can accomplish and inspires them to succeed.

In August of 1979 Knox and the rest of the Rocky Mountain Station held an international conference of snow and avalanche researchers at Ft. Collins. They held field sessions at Aspen, Vail and the Climax and Henderson Mining concerns around the Fremont and Jones Pass areas near the Continental Divide. Connections that developed with the management at Climax would eventually pay dividends with funding to help keep the Colorado avalanche program afloat in the late 1970s.

While teaching at one of the first two National Avalanche Schools in Reno, Nevada, Art Judson recalled that, while visiting the casinos, Knox used his mathematical background to develop a system reducing the house percentages to 51 percent at craps. Consequently, they won a fair amount of spending money for the rest of the trip. Whether it comes from his craps formula or just memories of those days is hard to tell, but Knox has a



Love must have been in the air at the atmospheric sciences department party where Knox met Suz in 1971. The two tied the knot in 1980 (left) and remain happily married today.

long history of involvement with the National Avalanche School. He's been an instructor from 1971 to the present, Chairman of the Steering Committee from 1986-1999, and he remains on the steering committee at this time.

Another Art Judson recollection was flying to Washington state to observe a large avalanche cycle taking place in the Cascades. After flying around numerous passes all day long in a floatplane arranged by Ed LaChapelle, they headed to Seattle for some personal refueling. Knox did not have his ID and of course was carded; they would not let him into the establishment until he could prove he was just a youthful-looking 30-years old, which he still closely resembles. Maybe it was the Beatles-style haircut?

Center in Ft. Collins for years. As the current Associate Director of the CAIC, Nick is involved in all the budgeting aspects that help keep the CAIC financially sound; he contributed the following numbers. As a program administrator in 1983, Knox had a budget of \$100,000 that included 10 sponsors. This budget was to support the staff for a season that ran from late October until early May. Compare that to a budget of roughly \$570,000 and 60 sponsors for the 2004-05 season.

Next in the career of Knox Williams was the 1986 ISSW in Squaw Valley. Sue Ferguson and a small group of avalanche professionals, including Knox, came up with an idea to form the AAAP, or American Association of Avalanche Professionals, (today's



## The 1980s

All avalanche forecast centers in the United States have faced at least one critical juncture in their existence. After the 1982-83 season, the CAIC faced a situation that could be thought of as analogous to the typical avalanche-victim's plight. It was either fight for all you were worth to keep on top, or give up and expect to get buried deeply. The USFS was facing severe cutbacks and was no longer able to support the program at the Rocky Mountain Station. By working with Governor Roy Romer and members of the Colorado State Legislature, Knox fought for and found a niche within the State Department of Natural Resources and office space with the National Weather Service in Denver. Interestingly enough, the USFS provided the seed money for this new home, as the CAIC was to receive no state funding. Not only was Knox a meteorologist and avalanche forecaster, he now discovered that he had become a politician, an accountant and PR and marketing director for the state's avalanche program.

Nick Logan has been with the CAIC longer than anyone else, so he has a good idea of some of the hardships and successes that Knox and the CAIC have seen through the last couple of decades. He started with Knox in 1983 after coming to a crossroads in his own avalanche career. Nick was the weather and snow guru at the Breckenridge ski area in the 1970s. He coordinated the flow of information from Breckenridge to Knox at the Avalanche Warning

His future's so bright, he had to wear shades.

AAA). He remained on the governing board until 1999. Although none of the early power figures of the AAAP have been willing to divulge many details about these early years, we do know that Knox was a frequent contributor to TAR in the early days and served as AAAP president from 1994 through 1998.

Knox also earned a speaking role in the rarely performed *Avalanche Acres: the Continuing Saga of the Lives and Loves of Mountain Folk at Snowfall, USA* by Snow Lips. Knox played the role of "Doc" Nilliams, detailed in the character descriptions as, "Previously unemployed since infancy, Doc now chronicles avalanche fatalities in Runout Valley, when he's not out smashing frozen croquet balls on the local miniature pitch 'n' putt, [at] the lovely Debris Dunes Country Club." A couple of his now famous lines were: "Suppose this was not a natural?" and "Hey, where do you suppose they got that snow snake oil?"

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## KNOX WILLIAMS

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In addition to his brief acting career, Knox has written a number of books: two volumes of *The Snowy Torrents*, *The Avalanche Book* with Betsy Armstrong, *Avalanche Wise* with Dale Atkins, and of course our daily bulletins from the CAIC.

April 1987 brought the last big move in the history of the CAIC; the fledgling state agency found a new home with the Colorado Geological Survey—a good fit given that avalanches are considered a natural hazard in Colorado. It wasn't until 1995 that the CAIC finally became a line item in the budget.

(right): Carnak the Magnificent

(below): Knox at ISSW 2004, where he was testing the latestest Weiner Transceiver, which epitomizes Knox's pioneering nature.

*photo by Rich Marriott*



## The 1990s

On March 5, 1992, Eddie Imel and Danny Jaramillo were driving a rotary snowplow down the north side of Red Mountain Pass in southern Colorado. A slide had crossed the highway just on the north side of the avalanche shed, and Eddie and Danny were working to clear it. Unfortunately a chain fell off the plow and both Eddie and Danny were out of the truck trying to get it unraveled when the East Riverside path ran again. (For photos of East Riverside, please see Jerry Robert's article *The Office*, on page 10 of this issue of *TAR*.) Eddie became the third plow driver to die in a slide under East Riverside. Danny dug himself out some 18 hours later. This accident proved to be the straw that broke the backs of many residents along the Highway 550 corridor. A town meeting was called in Ouray to address the dangers faced by Colorado Department of Transportation workers. Both Nick Logan and Knox attended this stressful meeting. Ed Fink, with the Colorado Department of Transportation, approached Knox about a plan that would reduce the risks associated with working under the longest stretch of avalanche-prone highway in the lower 48. From here the successful highway forecasting program was born in Colorado.

Somehow Knox was able to convince Don Bachman and Denny Hogan to head up the virgin program. Both Don and Denny had learned a lot of their avalanche forecasting skills while employed by Knox in the 1970s and '80s. Don and Denny would work with

CDOT crews, providing forecasting skills to reduce the risk of avalanche accidents to both the traveling public and CDOT workers. A savvy Knox knew that both Don and Denny had spent decades hiking and skiing along the Highway 550 corridor. They were the two best people for the job and their skills were needed to make this program a success. Thanks to Knox's diplomatic and administrative skills, the program has grown to include six forecasters around the state who work closely with avalanche-reduction crews from CDOT and the CAIC.

In the fall of 1992 Knox saw the fruit of years of lobbying effort to bring the ISSW to Colorado again after Aspen in 1984. He acted as the coordinator and chief bottle washer for the conference in Breckenridge, Colorado. This conference, as many of us in the United States avalanche community know, is the premier event for avalanche experts across the western hemisphere. Knox and his staff ran the event without a hitch.

Within a couple years he became aware of the increasing costs to host an ISSW, costs which were passed along to attendees. He saw a need, and began to formulate an idea that would allow the average avalanche worker in Colorado to attend a mini ISSW that would remain affordable and be centrally located for avalanche workers around Colorado. Eventually this idea became the Colorado Snow and Avalanche Workshop (CSAW); 2004 will be the third annual event. Considering that

avalanche workers tend to enjoy travel, it has been one of Knox's goals to pull in a learned colleague or two to speak at CSAW, thereby helping reduce up-front costs and present expert speakers in the avalanche world.

It wasn't until 1995, when House Bill 1314 passed, recognizing the Colorado Avalanche Information Center as a true agency within the state Geological Survey, that survival became more than just a hope for Knox and the staff at the CAIC. Knox had been working towards the passage of this bill for many years; now he could finally feel that the financial future of the CAIC was relatively secure. It also meant he was further drawn into accountant/political/marketing roles than he maybe really wanted to be. Knox's next project became to stabilize and diversify the CAIC portfolio.

In the 1996-97 season, the CAIC adopted a "Friends" program—an idea initially and successfully developed by the Utah Avalanche Center. During its first season, the Friends raised \$15,000; last season \$33,000 went directly toward CAIC's operating budget. Knox's influence upon and respect from the people of Colorado made the CAIC a high-quality program citizens were willing to support. He created a perks package that brings value to membership for a small donation: daily e-mail forecasts, an informative *The Beacon* newsletter that comes out three times per season, a pocket book he and Dale Atkins co-wrote called *Avalanche Wise*, and the coolest window sticker in the state.

## The Next Millennium

Back to Nick Logan for a moment for some observations about Knox: as a boss and supervisor Knox has always been fair—consistently—throughout his tenure for the last 20-some years. For example:

- ❄ On top of his duties as state administrator for the avalanche program, he still continues to schedule himself as a forecaster on an equal status with the rest of the staff.
- ❄ During the historic March 16-21 blizzard of 2003, Knox worked six straight days in the Boulder office. When Nick Logan tried to drive down to relieve his shift, Knox told him to stay on the west slope, as it would be too dangerous to try and come down from Breckenridge. Dale Atkins was finally able to get to the office to help Knox with the enormous crush of work that came from this incredible avalanche cycle.
- ❄ As three of the four staff live well away from the Boulder office, we need to rent an apartment each season. Knox has always insisted upon paying more than his fair share of the rent, simply because he makes more money.
- ❄ Knox will always tell you when you are wrong, but he's also the first to commend you for a job well done. He always works with

his staff by providing constructive criticism. A straight shooter—a rare trait in a boss.

❄ He does not just delegate; he will often take on extra workloads so the rest of his staff can get on with their normal duties.

❄ He has built the CAIC reputation within the United States as well as internationally to be one of the best avalanche forecast centers in the world. (He was invited to present papers in Davos, Switzerland, in 1996 and St Vincent, Italy, in December 1999.)

❄ He has shaped the CAIC into a reputable and respected avalanche center, which is reflected in the longevity of his staff. Why else would we subject ourselves to 4 am starts and office days that can run to 18 hours?

❄ He always seeks input from his staff, on any and all decisions both minor and major in how the CAIC is run.

If we estimate that Knox has taught an average of 10 avalanche courses per year since 1970, that would be some 340 classes in his career. I learned a lot of what I know about mountain weather and snowpack from listening in on Knox's lectures at classes I have co-taught with him. Bruce Tremper had this to say about Knox's teaching skills, "He is one of the best avalanche instructors I have worked with, as he has a gift for clear, concise explanations of complex phenomenon."

Lest we forget, Knox has his weak moments and will even tell it as he sees it. Take this forecast for example:

This is Knox in the Avalanche Center at 1:00 pm, Saturday, January 4, 2003.

#### DISCUSSION

A lot is going to happen with our weather the next 24 hours. I wish I knew what it was, but here's a shot...

Proof in writing that Knox really could have a sense of humor when it came to his job.

Here's another of his forecast zingers from the snowpack discussion at the end of the Thanksgiving Day forecast from Thursday, November 27, 2003:

The backcountry avalanche danger for all mountains...on NW- to SE-aspects near and above treeline: LOW but with pockets of MODERATE for triggered releases in the new snow layer...while S- through W-aspects are still rated LOW. A flock of 20-lb turkeys, overly exuberant from drinking fermented cranberry juice (because they survived Thanksgiving), might trigger a 1-ft slab on a 35- to 45-degree wind-drifted slope. If they can do it, so can you, so be careful.

Happy Thanksgiving.  
Williams

Here's how I will remember his forecasting—it generally goes more like this:

During the 2003 FIS World Cup Downhill and Super G races in Beaver

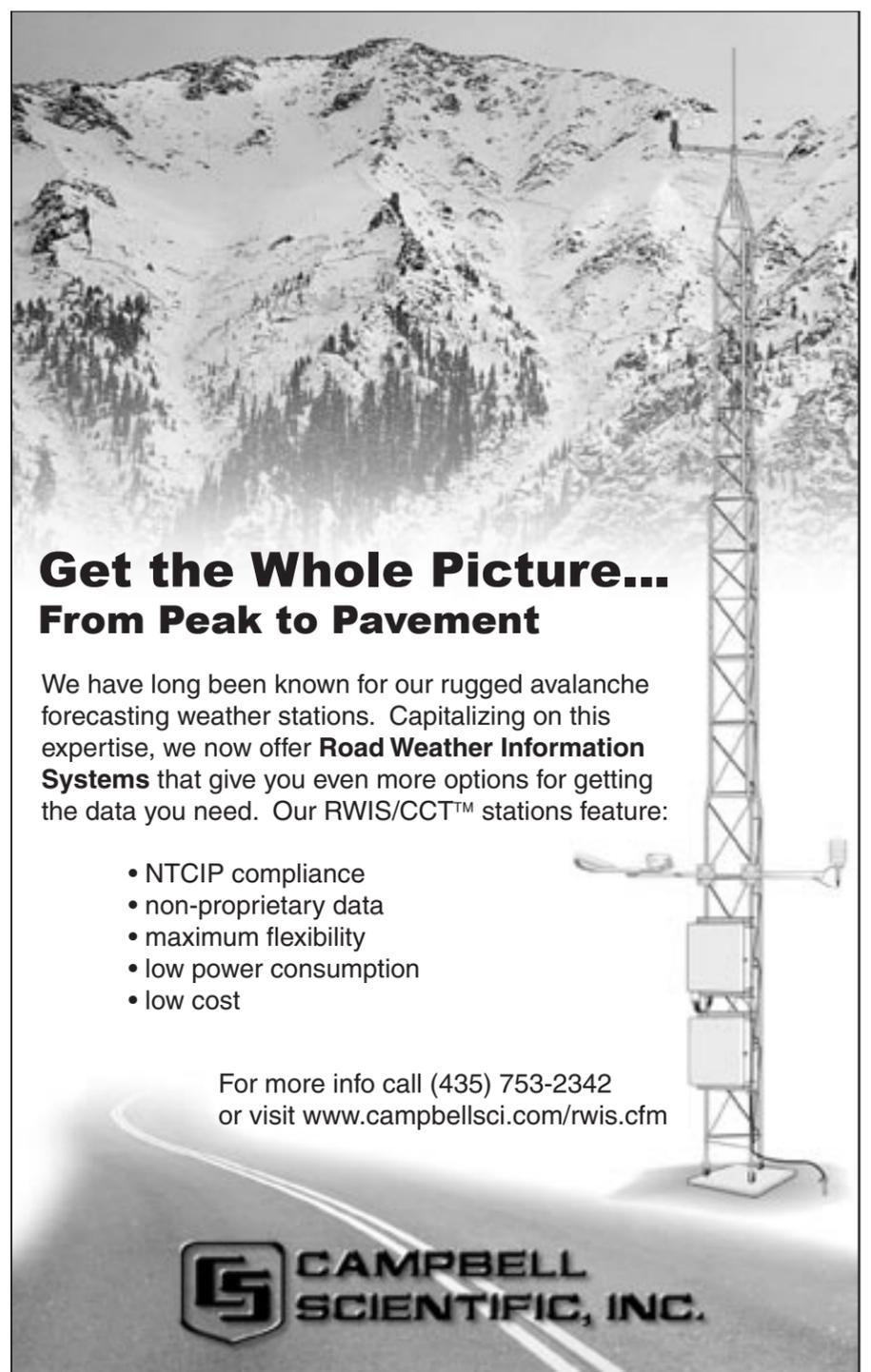
Creek, Colorado, we were asked to provide a site-specific weather forecast. The Beaver Creek downhill is considered to be one of the three hardest courses on the circuit and the Super G is thought to be the top course in the world. Each day I would meet twice with the jury to give a weather forecast. The downhill races were held under fairly safe conditions—safe being a relative term to someone hurtling downhill at 75 miles per hour on a sheet of ice. The Super G weather forecast was another matter. The night before, the Chief of Course was looking over a wide variety of forecasts from other sources: some said clear, some said major winter storm. I was asked what we thought. Knox had told me only minutes before, "...expect very light snow to begin about 6 am. You will see from 1-3 inches during the race. Winds will not be an issue." The safety delegate then asked me what is the percent chance of this forecast being true? I was confused for a moment. I asked, "Do you mean whether it is a 20-, 30-, or 60-percent chance of being right?" He said, "Yes." My response was, "We don't work that way; Knox said snow begins about 6 am, 1-3 inches expected. That's what we'll see." The next morning as we were getting on the lift at 6 am, the first flakes began to fall. By the race's end, 2 inches of snow had fallen and the race went as scheduled. I think there were some very impressed Europeans that day. For me, it was just another forecast from Knox Williams.

Something not quite tangible will be missing for us when the 2005-06 season starts, yet we have been fortunate. The foundations of avalanche forecasting in the United States were laid by some of the best in the world: Monty Atwater, Ed LaChapelle, Norm Wilson, Rod Newcomb, Dick Stillman, Art Judson, Mark Moore, Pete Martinelli, Ron Perla, Sue Ferguson, Richard and Betsy Armstrong, to name just a few. The walls and structure of our house have been hammered together by these folks and others. One of the builders and designers of our small community has been Knox Williams. His professionalism has been an instrumental part of making our chosen profession as avalanche workers a highly respected job. Even as that generation of experts retires to riverfront properties to watch the cycle of water continue, others are stepping in to add the roof and the trim for the next generation.

Who knows, maybe it was luck or possibly destiny that Knox decided to go to school at CSU, and that Art Judson brought a young meteorologist from Austin, Texas, into a field that needed his youth, ideas and energy at just the right time. It's not often people get the opportunity to work with one of the world's acknowledged experts in a given field. I know that everyone who has worked with or taken a class from Knox feels privileged.

Since getting info about Knox from Knox would be impossible, I have gone to other sources: *TAR*, *The Beacon* newsletter, Don Bachman, Art Judson, Nick Logan, Mark Moore, Bruce Tremper, Rich Marriott, Jerry Roberts, his wife Suz, and a host of others.

*Scott Toepfer has worked with snow and avalanches around the world since 1977 and has been with the CAIC since 1991. He lives in Breckenridge, Colorado.* ❄



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