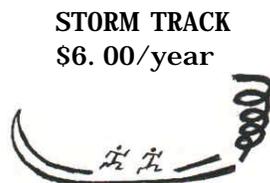


May 31, 1986  
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Vol. 9, No. 4  
(Bi-monthly  
address orders  
and letters to  
Tim Marshall)

## I. COMMENTARY

Storm Track begins a new era with its 52nd issue. As new editor, let me emphasize that ST will remain a newsletter about storm chasers for those persons interested in storm chasing. The newsletter will remain similar to that of previous issues. I would like to express my appreciation to Dave Hoadley, the former editor, for an outstanding job in the preparation and illustration of ST. Like many of you, I find it hard to wait two months to receive each issue. When ST arrives in the mail, it sort of "makes my day". I read it several times during the following week. Dave has assured me that he will continue to draw illustrations for ST.

ST announces Mr. Phil Sherman as assistant editor. Phil is an avid and dedicated storm chaser who works as a computer programmer for XEROX Corporation in Lewisville, Texas. Phil has been interested in severe storms for many years but was unaware until recently that an organized group of storm chasers existed. He will help in editing and publication of ST.

Spring has arrived this year and so has the severe weather season. April has been very active with several "mini" tornado outbreaks. Damaging tornadoes were reported in Texas on February 5th, Indiana and Ohio on March 10th, and Texas on April 19th. With upper troughs moving through the U.S. every four to seven days, enough time was provided for gulf moisture to travel into the plain states to feed the potent storms. The result was an early fourth of July fireworks display. The chase season in May was divided. The first two weeks, a sloshing dryline produced daily supercells in West Texas, the best days being May 7th, 13th, 14th, and 16th. After the second week, a ridge on the west coast developed moving the severe weather threat area up into the Dakota's. Many storm chasers found themselves stranded, and thus, retreated to visiting local museums and amusement parks. More about May in the next issue.

The editor appreciates receiving video tapes from Mr. Roy Britt, Mr. Richard Horodner, and Mr. Jim Leonard. Any subscribers interested in exchanging slides or video tapes with anyone else, please write ST. A list of persons interested in a film exchange will be published in the near future.

## II. CHASER NEWS

(Editors note: This is a new series about news which affect storm chasers.)

There is good news for storm chasers as gas prices plummet in the plain states. Prices for regular and unleaded gas have fallen sharply, almost 50 cents a gallon in some places. Average prices in April for regular are 66.9 in Colorado to 72.9 in Texas. Unleaded gas is a few cents higher. Chasers should be aware of cities like Dallas where oil companies are gouging consumers. The editor noticed 99.9 for self serve unleaded at one Dallas station the other day. Prices between Dallas and Denton (30 miles north) are as much as 30 cents a gallon difference.

A lobbying group in Washington D. C. is trying to push through the House and Senate a bill to extend Daylight Savings time through April and October. A list of companies which support the measure was observed recently. Fast food places support the bill because people would buy more hamburgers. Department stores favor it since this would allow an extra hour of shopping in the evening. However, no mention of storm chasers! Regardless, I believe most chasers would favor this bill as it would allow an extra hour of storm chasing during the spring and fall.

A Delta rocket carrying GOES-7 exploded shortly after takeoff on May 3, 1986. GOES-7 was a \$57 million, 1000 pound weather satellite that was designed to track and report hurricanes and other severe storms from the African west coast to the eastern U. S. GOES-7 was supposed to replace a weather satellite which became inoperative last year. So, there remains only one eye in the sky, GOES-6. Cross your fingers that this one makes it through the summer. NOAA has said that countless lives and millions of dollars in property damage have been saved since GOES began monitoring the weather in 1980.

A. M. Weather has published a travel directory which is excellent for storm chasers. The directory lists all the television stations and broadcast times of the program throughout the nation. To obtain a copy, write to A. M. Weather, Owings Mills, MD 21117

The National Weather Service welcomes each storm report of severe weather such as tornadoes and large hail. If you have observed severe weather, notify the local weather service as soon as you can. Don't wait to see if the event appears in Storm Data, as it may not be there. Also, information of tornado path length, width, and type of damage is helpful to them. With budget cut backs, many weather service personnel are unable to make a field survey of the damage.

A storm chase manual for serious storm spotters has been written by the editor. The 62 page text contains chapters on Instrumentation, Personnel, Documentation, Thunderstorm Development, Field Strategy, The Tornado, Photography, Forecasting a Chase, Post-Storm Damage Investigation, and much more. The manual has 18 illustrations and 12 black and white photographs. The manual is available from the editor for \$10.00 post. paid.

### III. ROSTER

The ST Roster lists names, addresses, and brief bibliographies of those persons interested in or willing to correspond with others about storms. Normally, only recent entries since the last issue are included.

Name	Address	Chase country-range
<u>Robin Wyatt</u>	618 Madison Ave. Madisonville, KY 42431	Kentucky, Tennessee, and Indiana

(Bibliography: Age 29, has had some meteorology experience but not chased (yet). Other activities: movie making, model railroading, and square dance caller. Says that ST is "about the best reading on twisters, I have ever read."

Phil Sherman

18081 Midway Rd. #2828 Texas, Oklahoma, and  
Dallas, Texas 75252 Kansas

(Bibliography: Age 25, single and still looking for the big one. Graduated from Duke University in May, 1982, and have been interested in severe storms from early childhood. (Obtained the spotters guide from NSSFC when I was in 3rd grade.) "I find storm chasing the the perfect outlet for my interest. In addition to observing severe storms, I really enjoy forecasting".

Leonard Silvermann Whirlwind Designs  
65 Inman St.  
Cambridge, MA 02139

(Bibliography: Age 39. "For as long as I can remember, I've been enthralled by the sky/weather and particularly storms. Originally, I had enrolled in college in an Aerospace program, but after a couple of years, changed over to the humanities. Whirlwind Designs was born three years ago as a spin-off of my desire to combine Arts with Science." Mr. Silvermann sells fantastic looking T-shirts (T stands for tornado) and artwork. You can write to him for a brochure.

#### IV. LETTERS/PHONE CALLS TO THE EDITOR

John Weaver writes: In last month's ST there was an account of an oil derrick fire that was mistaken for a tornado. I read the account with a strong sense of deja vu, and a lot of irony. We, too, had one of those "one in a million" occurrences in Colorado in June, 1984. In fact, it nearly cost me twice. I'll explain.

In 1984, Colorado State University conducted a storm intercept class for credit. The lab was actually a chase car! On June 13th, we misanalyzed the situation and had gone northward toward Cheyenne, WY, while the primary storm of the day developed over Denver, Colorado. However, we managed to recover early through a combination of visual observation, listening to the radio, and using the automobile to its finest advantage.

Entering the Denver area, we found ourselves approaching a very solid, very dark, rain free base. As we drove further, a small funnel appeared on the northeast edge of the inflow band and almost simultaneously, a dark column of "debris" began rising into the cloud base. I was surprised to find that such a small funnel had produced such a large debris column, but I was not going to look the Storm Gods in the mouth, and thus began the ritual of screaming into my tape recorder. The Weather Service had seen it too and a tornado warning was issued. Shortly thereafter, we learned that a local chemical company had chosen that particular moment to do a "burn off" in one of their cooling towers. Needless to say, this incident was significant since it occurred over a major metropolitan area at rush hour, and was being reported by a half dozen "on the spot" television and radio reporters. Things got worse for our chase team as we ended up getting totally bogged down in a major traffic jam, in the infamous Denver hailstorm.

How did it nearly cost us twice? And now for the rest of the story. On August 6th, our chase team was once again led to the same area. Again we found a very heavy rain shaft with a broad rain free base to the east. We were due north of the activity, and happened to be looking across the sky, when, all of a sudden, a column shaped "debris" cloud rose to cloud base. The column was so cylindrical (like a telephone pole) we nearly decided not to even photograph the event. But, why not a few pictures of another tornado look-a-like. So, for procedure sake, we photographed the smoke phenomenon (ha-ha) with a few 35 mm shots.

A few minutes later, the radio blared that a tornado had touched down and minor damage was occurring in the suburb of Aurora. At that point, the tornado was already losing its definition, and it was too late to start the video. We could only snap a couple of more stills, and enjoy the opportunity for visual observing. Live & learn.

(Editors note: This story sort of reinforces the ole adage: Fool me once, shame on you. Fool me twice, shame on me!)

#### V. FEATURE #1

#### MY FIRST CHASE By Phil Sherman

March 11, 1986 began a little too early for me with the internal alarm clock sounding in my head at 3:45 a.m. - a full two hours before A.M. Weather! Adrenaline had been pumping through my veins ever since the previous evenings 10 p.m. weathercast mentioned today would be "an ominous situation". Refreshed, regardless of the lack of sleep, I poked around for some old ST issues to review the major outbreaks that had occurred during the last 6 years, a group which today's events I thought would surely join.

A.M. Weather confirmed my expectations that the stage was set for a major severe weather outbreak. A major upper-air disturbance was approaching with a 195 mph jet max digging into Southern California. On satellite, turbulent wind-torn cirrus and strato-cu heralded the approach of today's guest. A huge MODERATE RISK area for Texas, Oklahoma, and Louisiana peaked my excitement.

Phoning Tim at 7:00 a.m. - "Hello, Tim, I'm ready to chase!.. Oh, I woke you up?.. Well, sorry, I, er, uh.. hmph!" I hardly gave him time to speak, ranting about the great wind shear, and about that jet max. As Tim summarized the morning weather situation, he gave my blood pressure another boost: "SELS upgraded the Dallas area to HIGH RISK." Almost flipping out right then, the first-time chaser charged "Let's go!" to which the veteran replied "I think it's gonna line out."

Anyway, off and running about noon, Dan Zacharias took the helm as navigator while Tim piloted the Chevy F-5 mobile. Driving northwest toward Wichita Falls (T-town), the weather radio suddenly launched into the chasers version of Beethoven's Fifth: Beep, Beep, Beep, Beep. "The National Severe Storms Forecast Center has issued a Tornado Watch for much of central and north-central Texas, parts of south-central and south-western Oklahoma from 1:30 p.m. until 8:00 p.m. this Tuesday afternoon and evening. This is a particularly dangerous situation, with the possibility of very dangerous tornadoes."

Many thoughts engulfed me upon hearing this watch with its especially strong language. How wonderful it felt to be in the middle of the watch box. Ah, maybe another Red River Valley outbreak was in the making. I pondered for a few minutes

with a little less levity: a) Was I really ready to observe a major tragedy befall a local town, watching damage and knowing casualties may occur?, and b) Was it really safe to chase on such a day when violent tornadoes might occur moving at 50 mph with dust and fast-changing situations requiring quick action? But the main question in my mind was: "Am I going to get the "big one" my first time chasing?"

Awakening from this dream, the novice discussed the tornado watch with the other storm chasers. Tim stuck to his original prognostication (having seen so many March squall line days), but backed off ever so slightly, rubbing his chin and saying: "Hmm, SELS must see something. I didn't even bring my video gear. "

We continued west toward Jacksboro finally encountering clear skies and hoped that surface heating would take place long enough to bring out mother natures best. Since we were trying to stay close to the "triple point", I refused to give up to the "line-out" scheme. (Actually, by this time a squall line in West Texas extended from Sweetwater to Vernon.)

West of Olney, we stopped for some mammatus shots under the approaching anvils. As the shelf cloud rolled in, we took more photographs--catching some nice green and white hail shafts and several protrusions along the shelf cloud. Having our fill of pictures and trying to keep ahead of the rain we began retreating to Fort Worth.

Just then the radio sounded "Tornado Warning" for the county just to our south! Tim pressed the pedal forcefully and we raced toward Mineral Wells. Soon we caught up with the storm, paralleling the leading edge of the shelf cloud. Another Tornado Warning was issued for the county just to our east. We couldn't see the southern edge of the line, and I wondered what the next step would be.

At that point, Dan showed us the best combination of roads going southeast. However, the shelf cloud soon overtook us. The cloud base was so low, the rain so heavy, and the wind so strong blowing across the road that we seemed to be cut off from the rest of the world and left at the mercy of mother nature. We saw cars and trucks stopped along side the road in a ravine. Rain curtains were whipping by. Dan noted that some "debris" such as tree limbs and leaves were blowing overhead. The word "debris" struck me with a more a threatening feeling: "Now, I was hoping we didn't see a tornado." I thought we'd surely be in its path if there was. Softly I said: Oh, please, let this be a regular squall line downdraft. To my relief, Tim chanted the reassuring words, "It's all outflow, an outflow dominant storm".

Just as we neared the suspected area of rotation, we instead find a shelf cloud jutting out several miles in front of the precipitation. We looked around in wonder for an organized rain free base or a tornado. Only low hanging scud below the vaulted underside of the shelf cloud remained. The chase was over. Now granted, an hour before, I would have envisioned today was the "Sherman Outbreak" (look for it in STORM DATA). Anyway, we continued to take some nice shots of the shelf cloud. During the drive home, the radio mentioned that softball-size hail occurred in the vicinity of that ravine. (I wondered what happened to those cars stopped on the side of the road, to wait out the storm). Most of all, I wondered when the next chase would be.

Why are these people so interested in storms? How long will chasers be around? Will storm chasing ever die? These are just few of the questions asked. Although the wonder of the sky has stimulated the minds of many over the course of time, storm chasing is a relatively recent sport. Prior to the 1950's, storm chasing was limited by our road system, and the lack of weather satellites and sophisticated computers. Although, Dairy Queens may have been around, it was a lot more difficult to chase storms in those days.

J.P. Finley may have been the first known storm chaser in the late 1800's, but he was not a very successful chaser. Can you imagine how difficult it would be to chase storms in the plains with a horse! Not to mention additional chase hazards like crossing rivers and the possibility of being scalped by a hostile tribe of Indians. Finley was truly a man before his time.

The era of storm chasing essentially began with the Thunderstorm Project during the mid 1940's (after WWII). The war brought about a quantum leap in the advancement of knowledge of storms. One of the biggest discoveries was the jet stream - a high velocity stream of air which extends around the mid-latitudes. I've heard stories about fighter pilots being blasted out of the sky over Japan as they encountered this strong head wind which reduced ground relative air speed to near zero. These and other flying hazards brought about congressional funding for the Thunderstorm Prospect in 1945. There were plenty of pilots available after the war. The project was the birth of a new era.

Individuals took to storm chasing within the next decade. Dave Hoadley and the Neil Ward were among the first "die-hard" chasers. These people would make a forecast and drive to a remote part of nowhere in anticipation of that big cloud puff in the sky. The second generation chasers arrived in the late 60's and early 70's, and just in time. The organized effort of the NSSL team to chase storms crystallized a phrase to be remembered: "THE STORM CHASER". The Union City, OK Tornado in 1973 proved that chasing could be successful not to mention the great scientific value the chase had.

The third generation chasers arrived on the scene in the late 70's and early 80's. More chasers than ever before were spending their vacation time in Woodward, OK. (Their Chamber of Commerce thanks you.) Now a major tornado outbreak will not go unnoticed and photographs abound.

What does the future hold for storm chasing? Although the future of storm chasing may be guaranteed for the short term, what about in 2086? George Orwell may have written something like this.

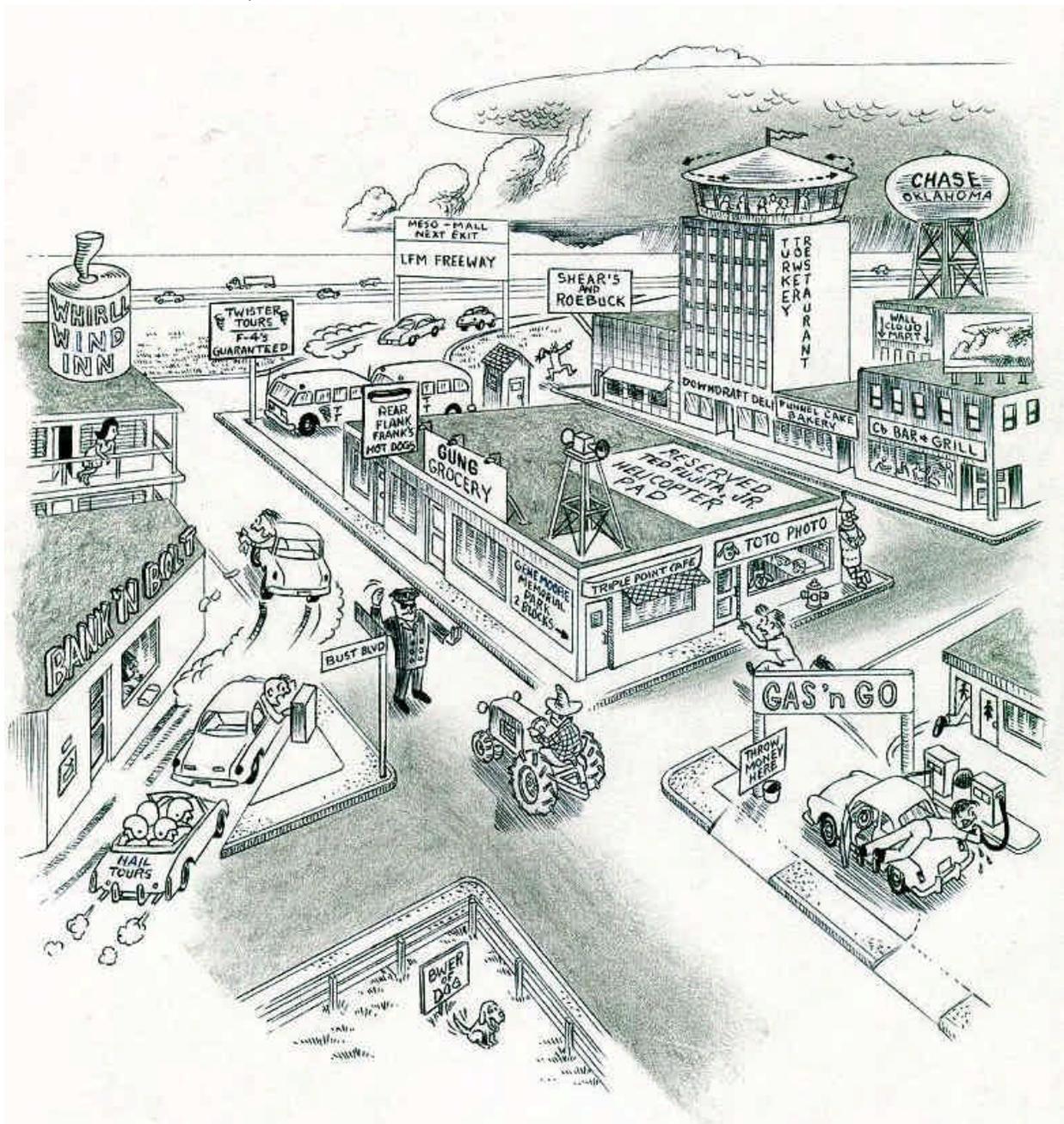
Storm chasing would no longer be as we think of it today. By 2045 cities would be so large, that storm chasing on the ground would be no longer possible. Ardmore and Tulsa may actually be suburbs of Oklahoma City whereas Wichita Falls and Mineral Wells would be suburbs of the Dallas-Fort Worth area. You could expect hours of traffic jams because of the lack of future highway planning. Air traffic would be the same. It would take hours just to get in and out of an airport.

What weather data? There would be no weather service stations since it will all be computerized right down to the observation.

Satellites will do everything. As a severe storm forms on the earth, a shield could be hydraulically maneuvered to shadow the storm below, thereby, inhibit local heating. This plan would have to be called SCUD (Storm Chaser Urban Defense). With the continued growth in population, storm chasing as we know it would cease.

So then, how lucky are we to have been born in a geologic time period where storm chasing is possible and successful. The future of chasing storms could be preserved if we start now. A group entitled PFTPOSC (People For The Preservation Of Storm Chasing) should be formed to promote the preservation of this sport. I envision a place, say in southwest Oklahoma where chasers can chase in peace. This "Storm Chaser Reservation" would be about 50,000 square miles centered around Hollis, Oklahoma. The name Hollis could be changed to Chase. Envision this if you will, which brings us to our funnel funny:

FUNNEL FUNNIES: Chase, Oklahoma!



## VII. FEATURE #3

### TOMBALL, TEXAS STORM FEBRUARY 5, 1986

By Tim Marshall

What a day for south Texas! A broken line of severe thunderstorms developed ahead of a fast moving cold front on the afternoon of February 6, 1986. Storms raced northeastward at 40 mph. One storm near Tomball, Texas will go down in history as a "mega- supercell" producing four tornadoes, dozens of microbursts, and an 8 mile wide, 100 mile long swath of golfball-size hail.

The editor spent three days mapping the damage scene. Tornadoes ranged between F-1 and F-3 in damage intensity. The worst damage was from a mile and a half wide microburst which struck Hooks Airport. This was the largest private airport in the country before the storm. Near Rt. 149, eyewitnesses at the Treeline Golf Course reported tennis ball-size hail. The 18 hole course immediately became about a 1000 hole course. Golf greens were dented to the point where accurate putting became impossible. (Par 4 quickly became Par 72.)

Hail sizes and direction of fall were obtained from eyewitnesses and impact marks on fences and trees. Within two miles of tornado, hail whipped by 60 mph mesocyclone winds broke windows, dented mailboxes, damaged vehicles and roofs. One woman told me she arrived home during the height of the storm. Hail pummeled her car; the sound was quite deafening. She decided to run to the front door, only a few feet away. She received three swollen areas on her head when hit by large hail. Gouge marks on fences nearby measured over 2 inches in diameter.

The local power company mentioned that a series of power poles were downed north of Katy. My investigation revealed that this was a 500 ft. wide, 8 mile long tornado path. Only two buildings were in the tornado path. Damaged brick and metal buildings at the Tiffany Marble Company and Westile Brick Company was F-2 intensity. The tornado traversed several miles of open rice fields before dissipating.

The second tornado formed north Cypress, Texas. This tornado downed numerous pine trees and traveled northeastward across Rt. 149. Damage was scattered along a 200 ft. wide, 2.5 mile long path. The most intense damage occurred along Rt. 149 where several metal buildings were demolished indicating about F-2 intensity. A local car dealership to the north of the path had every vehicle on display damaged from hail. The sign in front of the showroom read "Dimpled Darlings- Big Discounts".

The third tornado formed southwest of Hooks Airport and moved northeastward. Pine trees were snapped in a 200 foot wide path. Damage to homes was minor, with some roof shingle and decking loss. As the tornado crossed Boudreaux Road, the path became ill-defined. A nearby mobile home park was heavily damaged with more than a dozen homes destroyed. All the damage in the park was scattered northwest as a powerful microburst occurred. Adjacent to the park was Hooks Airport. The airport sustained heavy damage to hangars and aircraft. Several hundred small aircraft were flipped over or became airborne. A larger DC-3 coasted into a nearby lake. Damage patterns diverged across the airport indicating a powerful microburst, and not a

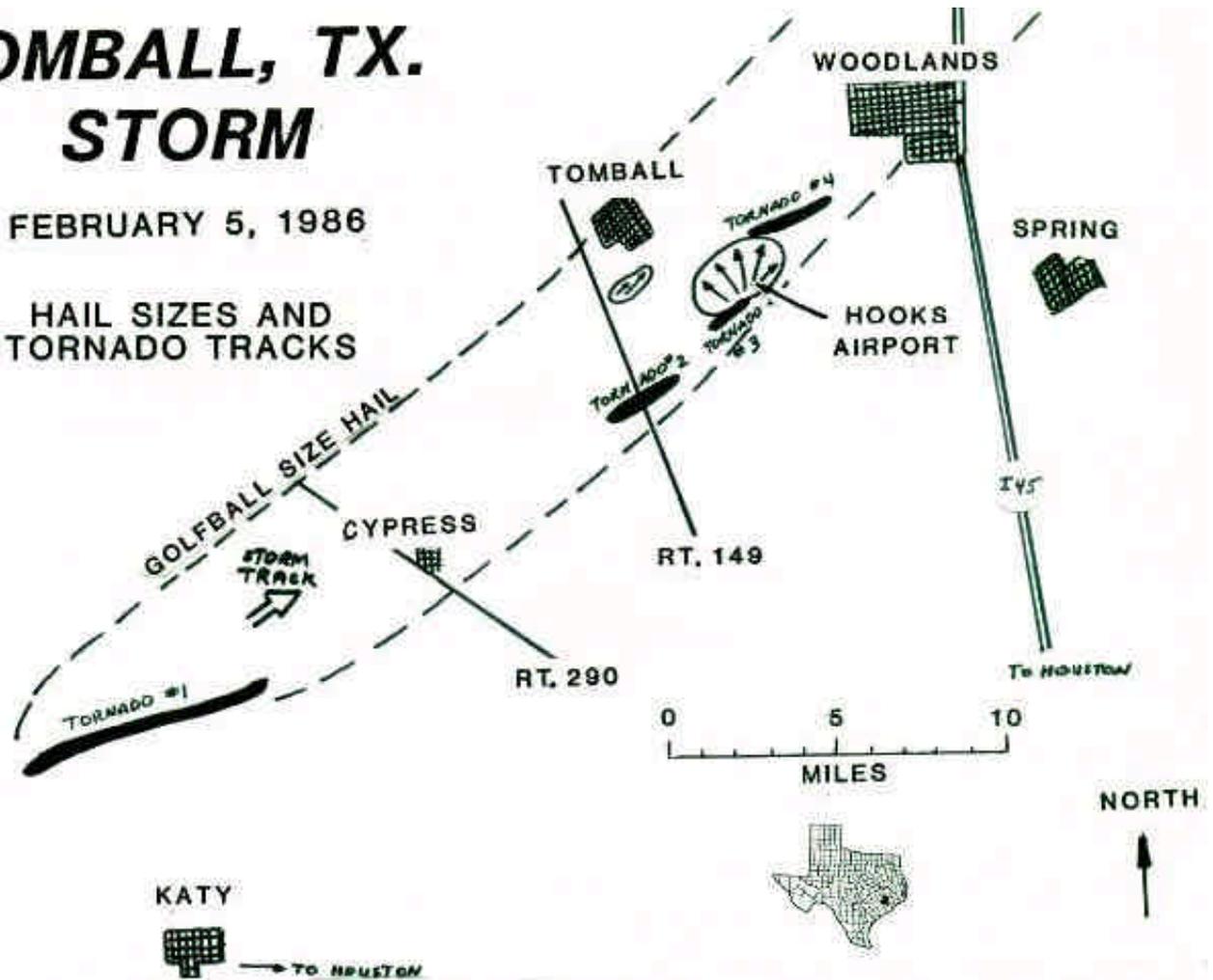
tornado as the media mentioned, caused the damage. Estimated wind speeds from the damage was about 110 mph which fit nicely between the takeoff speeds of the small aircraft which became airborne and larger aircraft which only moved. An eyewitness at the airport reported seeing a wall of precipitation hit just as the wind picked up.

About a mile north of the airport, damage was observed along a 200 ft wide, three mile long path. It was not clear whether this was a continuation of the previous tornado or a separate fourth tornado. Several homes along Boudreaux Road sustained minor roof damage, and a number of detached garages were flattened. Tree and other minor damage was observed all the way to the Montgomery County Line. This was quite a record storm for the Houston area.

# TOMBALL, TX. STORM

FEBRUARY 5, 1986

HAIL SIZES AND  
TORNADO TRACKS



(Editors note: The next issue of ST will wrap up May and June's chase season. ST would like to hear your storm account. Please write!)



*Tomball, TX storm: What is left of Boudreaux Trailer Park.*



*Tomball, TX storm: One of several airplane hangars which collapsed at Hooks Airport.*

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