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in Stories

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- ▶ SHOPPING
- ▶ YELLOW PAGES

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- News
- Weather

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Regional Satellite  
KENS 5 Skycam  
Weather Wise  
Weather News  
Environment | Water

- Traffic
- Sports
- Spurs
- H.S. Sports
- Business
- Politics
- Entertainment
- S.A. Life
- Health
- Travel & City Guide
- Obituaries
- News Wires

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News Feeds XML

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Gardening

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## Tornado pros offer amateurs the whirlwind tour

Web Posted: 07/05/2005 08:41 AM CDT

**Roy Bragg**  
Express-News National Writer

WICHITA FALLS — The afternoon sun is beating down on North Texas and, in an allegorical sense, beating down the eight guys huddled around a 12-seat Chevy van parked on the far end of a Wal-Mart Super Center parking lot.

Some of them pace the hot asphalt, wolfing down chalupas and nachos. Others are huddled around a pair of laptops that, via wireless Internet connections, flip back and forth between Doppler radar screens and Web pages of fresh weather readings from across the Midwest.

While bad weather makes thousands flee for safety every year, these eight men came here on a storm chasing package tour, looking for tornadoes. For \$350 a day, they are intent on putting themselves as close as they can to harm's way.

If that's the goal, this is the place for it.

Every year, as spring turns to summer, nature unleashes its power on America's Breadbasket, creating a midcontinent version of Whack-A-Mole, with storms popping up without warning on a daily basis in an area that stretches from Canada to Central Texas, bounded by the Rockies and the Appalachians on the sides.

Tornadoes killed 54 people in 2003 and 36 last year. But hundreds of funnel clouds, some lasting only a few seconds in duration, touched down without loss of life or property.

For weather enthusiasts, this is the ultimate thrill ride — in a van, barreling across the Great Plains on state highways and muddy county roads, in search of weather that could kill them.

But right now, on a muggy Friday afternoon, most of the sky over the Red River Valley is a deep, calm blue.

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Corrections

"See that tower over there?" asks Rich Hamel, one of the guides for Silver Lining Tours, pointing at a cloud on the northern horizon. "That's what we came looking for, but it's not showing any action. It's not raining. It's not hot enough yet, so there won't be enough updraft to feed it."

Rick Toracinta, the other guide, answers his wireless phone. David Gold, owner of Houston-based Silver Lining, is back in an Oklahoma City motel room monitoring the same data being fed to the van.

The trip to Wichita Falls, they agree, has been a bust. The closest possible places for severe weather — locations where the mixture of heat, wind, and moisture pose the potential for widespread devastation — are near Austin, 300 miles south, and the Nebraska-Iowa border, which is 600 miles north.

According to radar and weather station readings, the Texas storm is imminent, while the storms to the north won't come together for 24 hours.

Gold, Hamel and Toracinta agree the group should head north and use Omaha as a staging area. They'll try to pick up some local storms along the way.

Taco wrappers are disposed of properly, and the six tourists climb back into the van.

Hamel veers back onto Interstate 44 in search of destruction.

### Recipe for twisters

Storm experts say that if they were creating the perfect environment for severe storms, it would be the Midwest.

"If you're looking for the ingredients for a thunderstorm, this would be the place," said Harold Brooks, a meteorologist at the National Severe Storms Laboratory in Norman, Okla.

"You want warm, moist air at low levels of the atmosphere and relatively cool air aloft," he said. "To make those storms more likely to produce tornadoes, you want winds to increase with height and you want them to change directions, typically from the south at low levels to winds out of the west aloft."

On the Southern Plains, he said, warm, moist winds from the Gulf of Mexico collide with cold air heading east from the Rockies.

"We're roughly equidistant from both," Brooks said. "That's why we have such a proliferation of storms here."

Tornadoes are a way of life in the Midwest and especially in Oklahoma, which recorded 62 tornadoes last year and 78 in 2003.

### Planning the trip

Advances in meteorology and the technology used to measure climate — from networks of automated, ground-based stations that measure the local conditions to satellites that can snap pictures of cloud cover over several states at once — have led Gold to the tiny, '50s-flavored lobby of an Oklahoma City Holiday Inn.

It's 10 a.m. on a recent Friday, a few hours before the parking lot confab in Wichita Falls, and Gold is scrolling through images and data on his Dell laptop computer,

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showing the tour group what they'll be doing and why they'll be doing it.

"This weather trough over Colorado could be good for us," says Gold, a meteorologist who has been chasing storms as a student, researcher and, now, tour company owner.

He points to the screen.

"It could circle behind this system in West Texas and push it our way."

Tornado chasing is an exercise in gathering circumstantial evidence and guessing what it means.

There are no sure-fire signs of an upcoming tornado, but rather dozens of bits of data that, when occurring at the right time, in the perfect locations, and in the right sequence, could produce conditions that might lead to tornadoes.

With the West Texas system being nudged northeast by the Colorado trough, the conditions are right in southwestern Oklahoma and northern Texas for severe storm cells.

Gold has been up since 6 a.m. checking minute-by-minute satellite photos of swirling cloud patterns and moisture levels. He also checks readings of the jet stream, taken by weather balloons launched across the country. And finally, he consults the map of Oklahoma's Mesonet, a network of weather stations across the state.

The Mesonet Web page map is a mishmash of dots, hash marks, arrows and numbers that equate to towns, wind velocities, wind directions, dew points and temperatures.

Sitting before him are the tour group — two journalists and four self-proclaimed weather enthusiasts who have signed up for the weekend's tour.

Michael Pare and Bob Wheeler, from Baltimore and Orlando, respectively, are computer system administrators for their companies.

Mark Reed owns a Lansing, Mich., company that installs temporary seating for sporting and concert events.

Vivek Babiwale works for the Jet Propulsion Lab in Pasadena, Calif.

Silver Lining, one of a handful of tornado tour groups, runs six- and 10-day trips — out of either Oklahoma City or Denver — from April through August.

"These tours," Gold said earlier, "are growing in popularity, though storm chasing is still small compared to downhill skiing or hiking."

Gold and a partner founded the company in 1997.

"We were looking to break even on our hobby," he said. "And we wanted to share our passion for storm chasing. We didn't know it would become a full-fledged business."

Twenty years ago, storm chasing was the province of academics, but three major developments, Gold said, turned it into a growth industry.

The 1996 film "Twister," which has grossed more than \$375 million in tickets and rentals, brought the concept to the masses.

The Weather Channel also played a part, bringing daily images of tornadoes into everyone's homes.

And cheaper home video cameras, by now an ubiquitous home appliance, shot many of those pictures.

Now, most of the seats of Gold's tours are booked months in advance. He takes 80-100 tourists out a year.

Gold, Hamel and Toracinta just finished a 10-day tour, putting nearly 5,000 miles on a specially-outfitted van that took them from eastern Colorado to Lubbock to North Dakota.

That group, mainly weather geeks from Australia and the United Kingdom, rolled in to the Holiday Inn parking lot six hours earlier.

Hamel, who teaches at the University of Massachusetts-Lowell, and Toracinta, an Ohio State research associate, are catching a few hours of sleep while Gold sets up the first itinerary for this trip, which had come together in the past 48 hours.

Silver Lining offers these "on-call" trips — two- or three-day tours that are assembled on 48 hours' notice — when bad weather is imminent.

This morning, he's scrolling his laptop between Web pages with names like "500 millibar Wind Crossover," "Storm Cell Composite Parameter," "Significant Tornado Parameter."

As the tour participants lean in, Gold lays out two scenarios for the day — a system on the Kansas border and the West Texas storm.

Gold likes the West Texas storm, which he is confident will create tornadoes between Lawton, Okla. and Wichita Falls.

After thinking about the Texas Panhandle, Gold decides the tour should head south to the Texas border and try to slip in behind storms moving east into Oklahoma.

"This," he says, using a ballpoint pen to point at a green and red cloud on the radar image, "is the big player today."

### **On the road**

Life on a chase is life in the van. Because of the changing conditions, stops are rare and junk food is the diet.

On this trip, Hamel drives and Toracinta maintains a constant watch on the weather, via a live Doppler radar image that's fed from a special, XM Satellite data network known as Baron Mobile Threat Net.

It produces a real-time image on Toracinta's computer, which also is projected on the pull-down television screen on the van's ceiling.

The National Weather Service weather radio plays constantly in the background, with the monotonous tape loops of forecasts turning into a droning theme song for

the adventure.

Except for a brief five-hour period when he flew back to Houston, Gold stays in phone contact with the tour, monitoring other weather Web sites, e-mailing other storm chasers and brainstorming with Toracinta and Hamel.

The tour group watches in awe.

This is the second storm chase for Reed, who participated in an on-call tour in April.

"I just love the mechanics of a storm system," says Reed, explaining his motivation. "I've always had this on my list of things to do. I hope I can watch these guys and learn as much as I can as quickly as I can."

Storm tourists bond on their journey, said Reed, who met Wheeler on that April tour.

"You do a lot of driving, and you're together for a long time, so you get to know each other. I like the camaraderie, too."

Wheeler doesn't say much. This is his fourth tour. He was on a 2003 tour that arrived in Manchester, S.D., at supertime on June 24 as a tornado with 200 mph winds ripped the tiny hamlet off the face of the Earth.

His van got within a few hundred yards of the deadly funnel cloud.

"It was something else," says Wheeler, whose facial expression belies the understatement of his words.

Storm chasers are a common sight in America's Heartland.

On Wheeler and Reed's previous trip, the Silver Lining group arrived in Lubbock with what he euphemistically calls "the parade," a reference to the dozens of weather researchers, amateur chasers, tours and forecasting advance crews that showed up simultaneously.

And late Friday night, as they passed through a toll booth in southern Kansas, the attendant asks, "Have you seen anything today?"

Over the course of three days, the storm tour will run across old friends and competing companies on the back roads. In some instances, groups that are friendly with each other will exchange information.

This is Pare's first weather trip. He watches the roads with his handheld GPS navigational unit and snaps pictures of storm clouds through the van window during the trip up to Kansas.

"I just like weather," he says. "I always have."

That night, at a Wichita motel, drinking from perhaps the only case of Shiner Bock in the Sunflower State, Pare quizzes Hamel about the particulars of storm creation.

Babtiwale has brought along video and still photo cameras. Like Pare, he's a weather fan, but he's got his own business plan.

Babtiwale has an idea for a tornado thrill ride that would recreate, in an enclosed environment, the necessary ingredients for a tiny, manmade tornado.

"Wouldn't you pay to do something like that?" Babiwale asks. "To be able to experience a tornado and be totally safe? I think people would pay for that."

### **Stalking the beast**

Things change quickly and often on a storm chase.

A team will barrel in one direction in search of a storm cell, only to pivot and do an about-face when new, better data come in.

This group, as an example, first was headed to Shamrock, in the Texas Panhandle. The destination then became Lawton, then Wichita Falls, then Lawton again, then Apache, Okla., and Chickasaw, Okla.

In every instance, the weather scenario didn't pan out and a new one came together.

And that explains why the group, 24 hours after the ad hoc forecasting session in the North Texas parking lot, isn't in Omaha on Saturday afternoon.

At breakfast Saturday in Wichita, Kan., where they spent the night, Toracinta announced that new data suggested Topeka would be a better staging area.

And that's what brought the group to a Panera Bread cafe on Topeka's west side, where Hamel and Toracinta tap into the eatery's wi-fi network to monitor weather readings.

It's 11 a.m.

"Let's eat, guys," Toracinta announces. "This will probably be our last meal today."

"Once we start the chase," he adds, "we like to limit eating because we can't make long restroom stops."

Panera Bread's Internet access fails and the group moves to a nearby Kinko's to pick up another Internet signal as clouds marshal on the city's southern and western sides.

Winds pick up. The temperature falls. The weather radio makes a grating buzzing tone, announcing a tornado warning.

It's 3 p.m., four hours since they arrived in Topeka.

"Okay guys," Hamel says, shooing everyone into the van. "Time to roll."

As Hamel races to a specific location called in by Gold, Toracinta is watching the storms and navigating via GPS.

"Alright," Toracinta says as he flips between the GPS screen and the radar screens on his dash-mounted laptop, "we're going to go west on 75 and pick up 24. Or maybe we could go west on 70. The Interstate is faster. So go 470 and then 70."

The cell phone rings as Hamel veers onto Highway 24.

"It's Dave," Toracinta says. "He says we've got to go back to 75. He says the explosive development is on the northeast flank of this cell."

Hamel gets the van turned around and within a half-hour the van is parked on a dirt road north of Topeka, watching one particular, low-hanging cloud.

But within minutes of their arrival, the cloud appears to weaken. Gold calls to confirm the diagnosis and to order a new destination southwest of Topeka. The van takes off.

After 45 minutes heading due west, Hamel turns off Interstate 70 and begins the process of inching closer to the dark clouds in the western sky.

Hamel drives while Toracinta stares intently at two wireless phones, waiting for the instant that one will register a cellular signal so he can contact Gold. Meanwhile, he calls out directions to Hamel and monitors the radar screen.

Just outside of White City, Hamel steers onto a dirt road and pulls to a stop.

In the sky ahead, maybe a mile away, wisps of clouds are forming just below the base of a dark, swirling cloud.

The wisps snake along for a few seconds, then are sucked into the swirling mass.

This happens a dozen times.

"This is it," Pare says as he and others aim their cameras.

And then, within minutes, the wisps stop appearing. The cloud continues to swirl, but the updraft has played out.

There will be no tornado. A disappointed group climbs into the van yet again. Their best chance at seeing a tornado was a wash.

As the sun sets, the group tries to salvage the weekend with some scenic shots of post-storm clouds and, later, of lightning in the distance.

The National Weather Service reports that 16 tornadoes touched down in the Midwest that day. One came from the storm north of Topeka that the Silver Lining group abandoned.

"A lot of storm chasers are scratching their heads today," Toracinta said. "You've got these optimal conditions, but nothing happened. Why didn't these cells take off? We don't know."

The guys who paid for the tour are disappointed, but they understand the nature of the business.

"You can have a lot of data and do everything the right way," Reed says, "but the last 20 percent (of a chase) is a real gamble."

"It sucks," Pare says, "but you can't control the weather."

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